

THE WORLD-WIDE SALES NETWORK



About Gamsco

Gamsco was established in 1979, and specializes in a wide range of electrical components and related products. We have customers in over 50 countries around the globe.

Gamsco is a progressive company and we constantly challenge ourselves to develop new products to better serve our customers. Our certification, and many of our products are also certified by international standards such as UL and CE

Gamsco will endeavor to provide the best products possible at reasonable prices, and is committed to fostering long-term business relationships with our customers.

- NO FUSE BREAKER
- MAGNETIC CONTACTOR & OVERLOAD RELAY
- PUSH BUTTON SWITCH(UL & VDE APPROVAL)
- PILOT LIGHT
- METER (INSTRUMENT)
- CURRENT TRANSFORMER
- TEMPERATURE CONTROLLER
- IC TIMER & SOCKET
- WIRING DUCT
- CABLE TIE & CABLE MARKER
- PANEL KEY
- BUS BAR INSULATOR & SUPPORT
- CABLE LUG & TERMINAL
- AUTO LIGHTER
- BUZZER
- SNAP SWITCH
- FOOT SWITCH
- LIMIT SWITCH



Conte

AUTO LIGHTER	1
AC SOLENOIDS	3
BUZZER AND SIREN	8
BUS BAR INSULATORS	12
CAM SW	19
CONTACTORS	24
BELL	35
FOOT SW	36
FUSE LINK & BASE	37
FLOATLESS SW	42
HOUR METER & COUNTER SERIES	47
HOIST SW	52
HARDWARE FOR INDUSTRY.....	53
METAL WALL MOUNTING CABINETS	107
INDUSTRIAL PLUGS SOCKETS	108
LIMIT SW & MICRO SW	118
METER & C.T.SHUNT	130
PROTECTIVE CURRENT TRANSFORMERS PCT SERIES	159
MULTIMETER	162
NO FUSE BREAKERS	164
PUSH BUTTON SERIES	183
SOCKET SNAP SW & RAIL.....	215
TIMER & RELAY	218
TIME SW	235
TEMPERATURE CONTROLLER	250
TERMINAL BLOCKS	252
TOOL	258
TERMINALS	293
WARNING LIGHT.....	302
WIRING ACCESSORIES	318
AUTOMATIC TRANSFER SWITCHES	343

CHARACTERISTIC

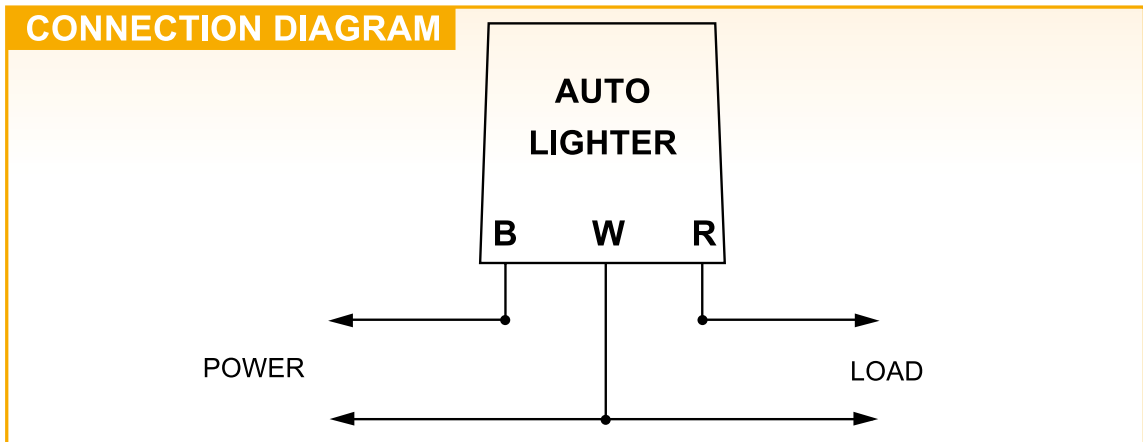
- Standard turn on light level : ≤ 10 Lux
(Under conditions at rated voltage and surroundings temperature 20°C)
- Standard turn off light level : ≥ 100 Lux
(Under conditions at rated voltage and surroundings temperature 20°C)
- Suitable surroundings temperature range: -10°C~+40°C
- Sevice life time: more than 2,000 times.
(Operational conditon: rated voltage, surroundings temperature 20°C)
Maximum operational frequency: 6 Time/Hour.
- Rated frequency: 50Hz/60Hz



SPECIFICATIONS

ORDER CODE NO	RATING
CA-22003	AC 220V 3A
CA-22006	AC 220V 6A
CA-22010N	AC 220V 10A
CA-22015N	AC 220V 15A
CA-11003	AC 110V 3A
CA-11006	AC 110V 6A
CA-11010N	AC 110V 10A
CA-11015N	AC 110V 15A

CONNECTION DIAGRAM



PHS-06A-1
PHOTO ELECTRIC
CONTROLLER

PHS-06A-2
SOCKET



REMARK:

- PHS-06A (PHOTO ELECTRIC CONTROLLER WITH SOCKET)
- PHS-06A-1 (PHOTO ELECTRIC CONTROLLER ONLY)
- PHS-06A-2 (SOCKET ONLY)

Introduction:

PHS-06A is designed for automatic light control. It can be used to turn on streetlights at night and turn off at dawn.

Safety Precaution:

Any improper use of this product can cause short circuit, which can damage product itself or even cause fire.

Please read instruction carefully and make sure:

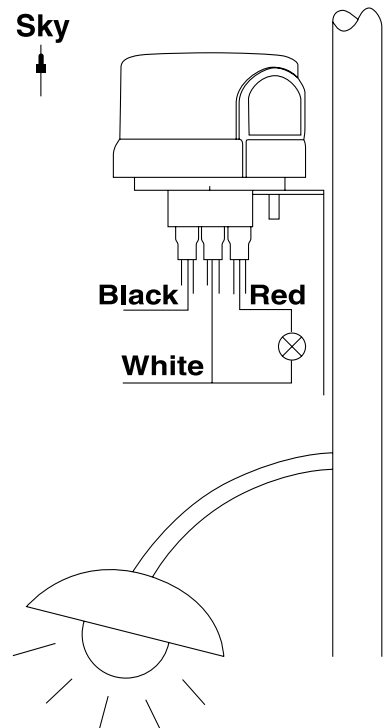
1. Wiring and mounting position are correct according to instruction.
2. Auto lighter must work within rated current and voltage.

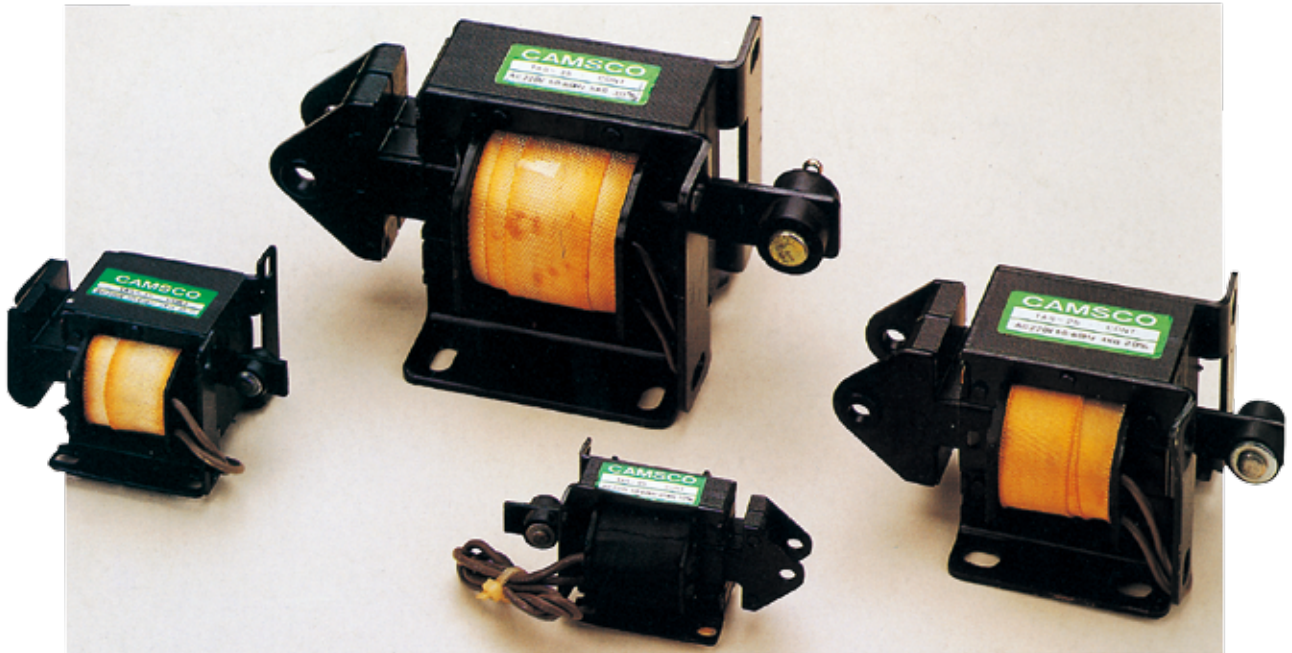
Technical Data:

- 1) Rated voltage: 105-305VAC
- 2) Rated frequency 50-60Hz
- 3) Rated current : 10A
- 4) Max Load: 1000W, 1800VA
- 5) Working Environment: 32-122°F (0°C~50°C)
- 6) Acting time:
 - Turn on in 30 seconds when light level $\leq 10\text{Lux}$
 - Turn off in 2 minutes when light level $\geq 70\text{Lux}$
- 7) Specification:
 - Weight: 220g
 - Size: 110mm x 90mm x 85mm

Installation:

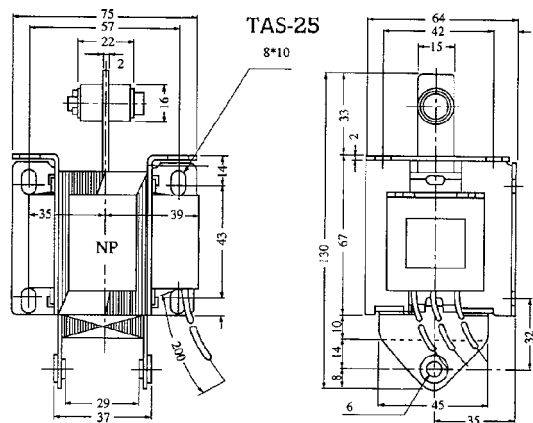
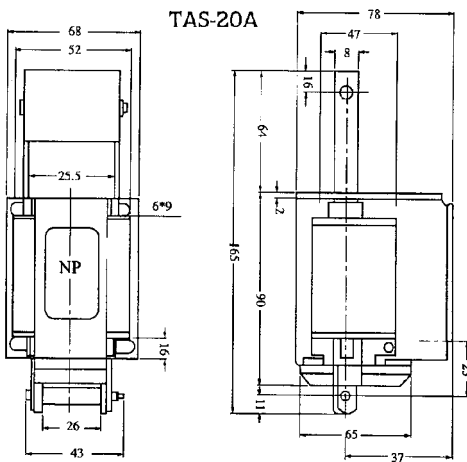
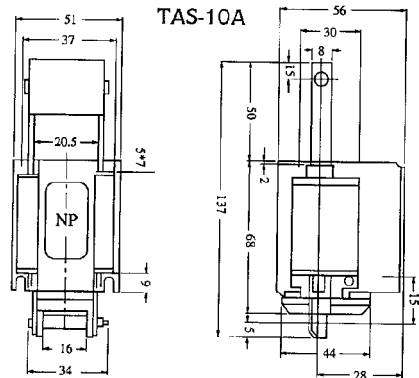
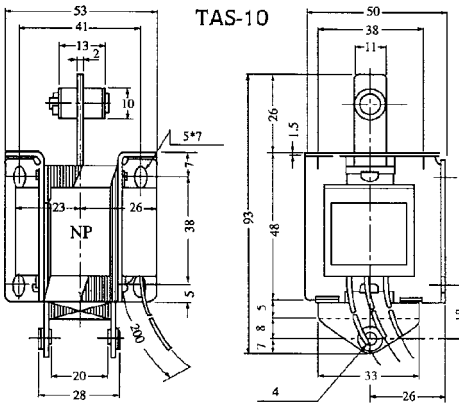
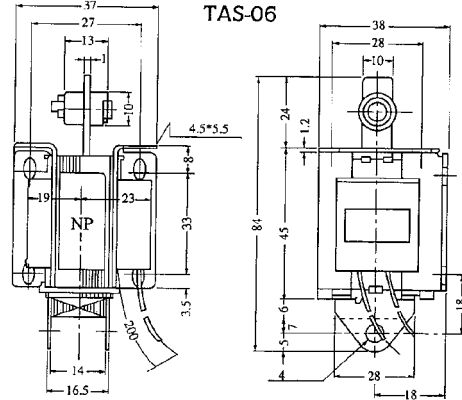
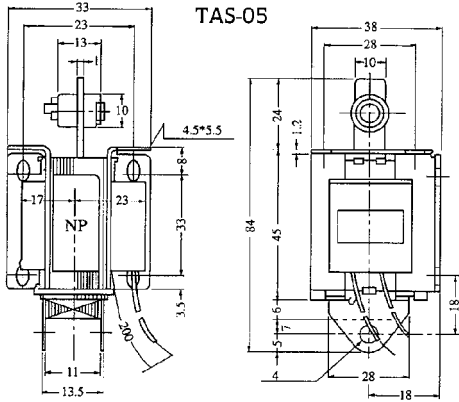
- 1) Install with sensor face up to the sky as show in picture
- 2) Window on the sensor should not face potential light sources
- 3) Connect wires to circuit as following:
 - Load: Red wire
 - Common: White wire
 - Source: Black wire
- 4) Mount light sensor to supporting structure with metal support .

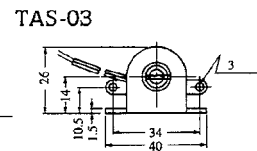
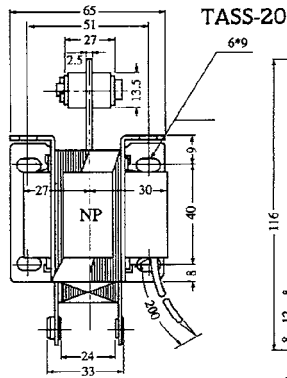
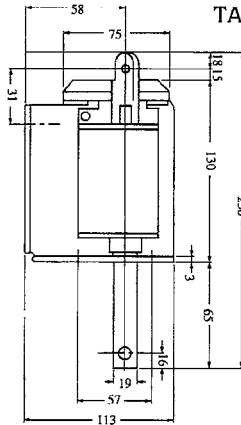
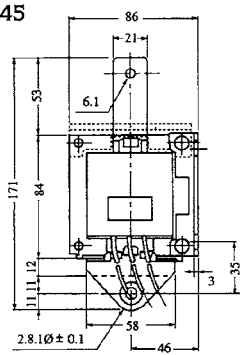
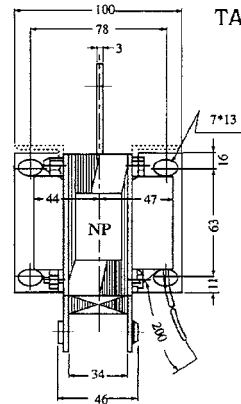
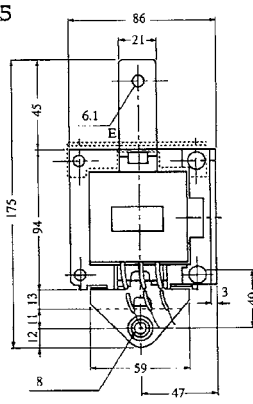
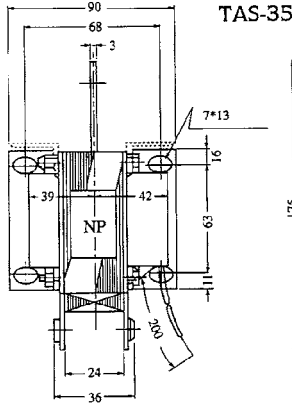


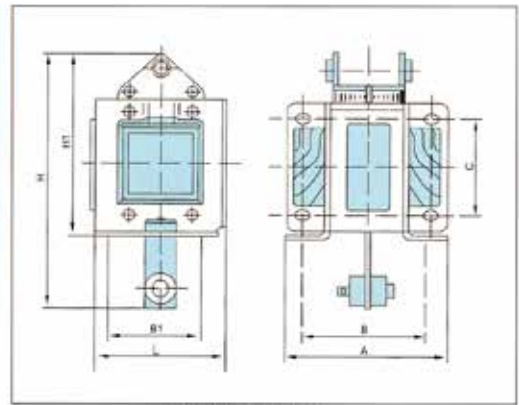


specification

MODEL NO	PUSH OR PULL	RATED STROKE (mm)	RATED PULL (kg)	RATED SERVICE	RATED VOLTAGE (AC)	RATED CYCLES	L*W*H	PLUNGER WEIGHT (kg)	TOTAL WEIGHT (kg)
TAS-05	Push-Pull Combined	10	0.5	Continuous	110 or 220	50/60Hz	84x33x38	Approx. 0.062	Approx. 0.20
TAS-06		10	0.6	Continuous	110 or 220	50/60Hz	84x37x38	0.075	0.25
TAS-08		10	0.8	Continuous	110 or 220	50/60Hz	84x42x38	0.095	0.30
TAS-5		15	1	Continuous	110 or 220	50/60Hz	93x49x50	0.114	0.40
TAS-10		15	1.5	Continuous	110 or 220	50/60Hz	93x53x50	0.138	0.45
TAS-15		15	2	Continuous	110 or 220	50/60Hz	93x57x50	0.153	0.50
TASS-20		20	3.5	Continuous	110 or 220	50/60Hz	116x65x55	0.253	0.80
TAS-20		20	3	Continuous	110 or 220	50/60Hz	130x70x63	0.302	1.15
TAS-25		20	4	Continuous	110 or 220	50/60Hz	130x75x63	0.348	1.30
TAS-30		20	5	Continuous	110 or 220	50/60Hz	130x80x63	0.393	1.45
TAS-35		30	5	Continuous	110 or 220	50/60Hz	170x90x86	0.598	2.30
TAS-40		30	6	Continuous	110 or 220	50/60Hz	170x100x86	0.777	2.70
TAS-45		30	8	Continuous	110 or 220	50/60Hz	170x110x86	0.957	3.10
TAS-50		40	10	Continuous	110 or 220	50/60Hz	230x113x102	1.832	4.80
TAS-10A		20	1.5	Continuous	110 or 220	50/60Hz	136x51x56	0.193	0.68
TAS-20A		30	3	Continuous	110 or 220	50/60Hz	165x68x78	0.437	1.30
TAS-30A		30	5	Continuous	110 or 220	50/60Hz	145x80x78	0.649	1.75
TAS-03		10	0.3	Intermittent	110 or 220	50/60Hz	56x40x27	0.018	0.08







DIMENSIONS

SPECIFICATIONS

ITEM NO.	RATED PULL (kg)	RATED STROKE (mm)	FREQUENCY OF OPERATION per hr	RATED VOLTAGE (AC)
TAS-02N	0.2	10	1500	24. 36. 110. 220. 380
TAS-03N	0.3	10	1500	24. 36. 110. 220. 380
TAS-05N	0.5	10	1500	24. 36. 110. 220. 380
TAS-06N	0.6	10	1500	24. 36. 110. 220. 380
TAS-08N	0.8	10	1500	24. 36. 110. 220. 380
TAS-5N	1.0	15	1200	24. 36. 110. 220. 380
TAS-10N	1.5	15	1200	24. 36. 110. 220. 380
TAS-15N	2.0	15	1200	24. 36. 110. 220. 380
TAS-20N	3.0	20	900	36. 110. 220. 380
TAS-25N	4.0	20	900	36. 110. 220. 380
TAS-30N	5.0	20	900	36. 110. 220. 380
TAS-40N	6.0	30	900	220. 380
TAS-45N	8.0	30	900	220. 380
TAS-50N	10	40	600	220. 380
TAS-56N	12	40	600	220. 380

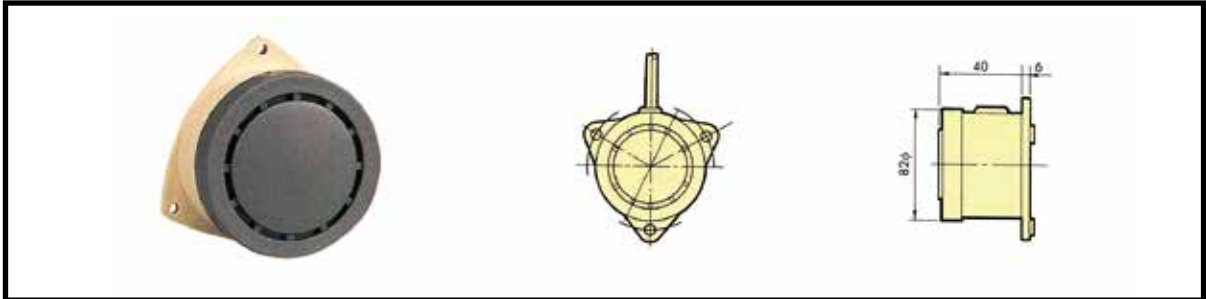
DIMENSIONS

UNIT:mm

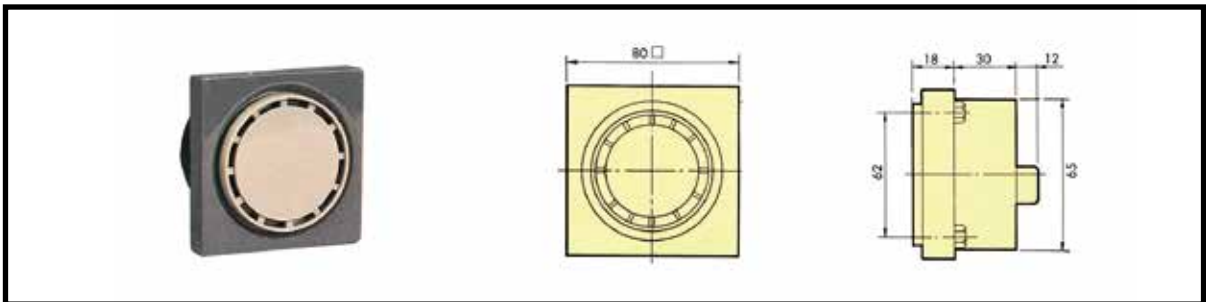
ITEM NO.	SIZE	H	H1	L	A	B1	B	C
TAS-02N		53	48	27	41	24	35	35
TAS-03N		47	47	30	42	25	33	33
TAS-05N		85	62	38	34.5	28	24	33
TAS-06N		85	62	38	37	28	27	33
TAS-08N		85	62	38	43	28	32	33
TAS-5N		93	69	47	45.5	34	35	35
TAS-10N		93	69	47	51	34	41	35
TAS-15N		93	69	47	55.5	34	45	35
TAS-20N		130	96	61.5	71	46	55.5	46
TAS-25N		130	96	61.5	76	46	61	46
TAS-30N		130	96	61.5	82	46	67	46
TAS-40N		171	123	84	102	64	83	64
TAS-45N		171	123	84	112	64	93	64
TAS-50N		201	146.5	100	87	60	70	60
TAS-56N		201	146.5	100	97.5	60	80	60

CBZ-10

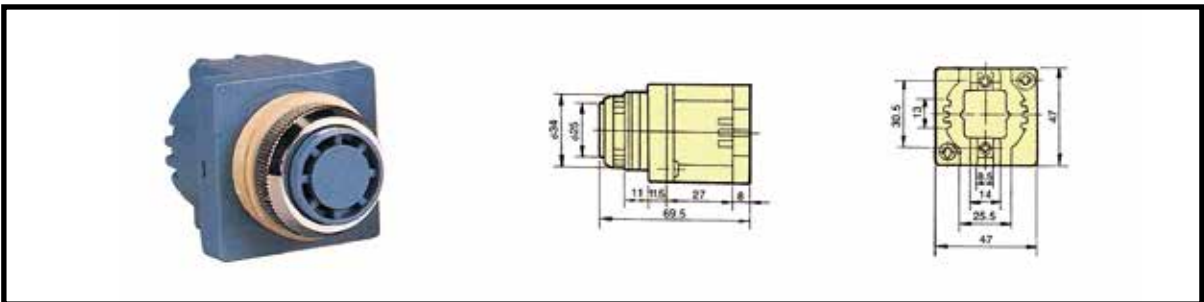
unit: mm



CBZ-20



CBZ-30



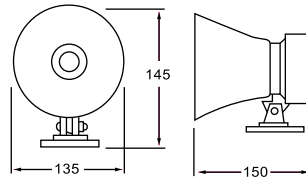
SPECIFICATIONS

TYPE	RATING	MOUNTING-STYLE	VOLUME(D.B)	WEIGHT
CBZ-10	AC 110 • 220V • 380V DV 12V • 24V	SURFACE MOUNTING	85	160g
CBZ-20	AC 110 • 220V • 380V DV 12V • 24V	FLUSH MOUNTING	85	160g
CBZ-30	AC 110 • 220V DV 12V • 24V	FLUSH MOUNTING	80	120g

TCZ-220

ISO 9001: 2000

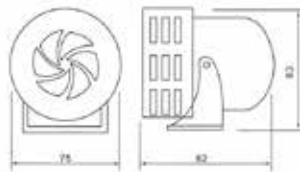
Electronic Siren



RATED VOLTAGE:
AC:110V,220V
DC:12V,24V

TCZ-230

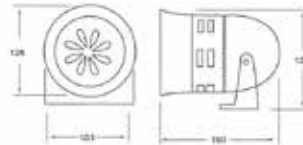
Mini Motor Siren



RATED VOLTAGE:
AC:110V,220V
DC:12V,24V

MS-290

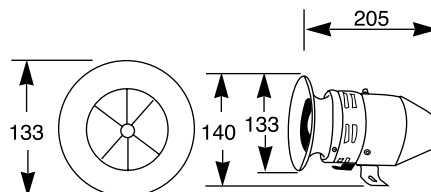
Motor Siren



RATED VOLTAGE:
AC:110V,220V
DC:12V,24V

MS-390

Motor Siren



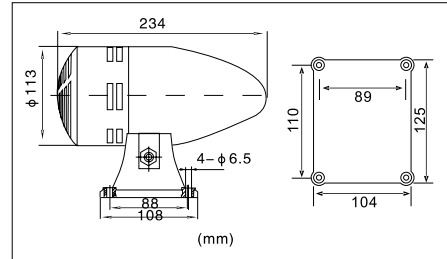
RATED VOLTAGE:
AC:110V,220V
DC:12V,24V

MS-395 Motor Siren



IP44

OUTER SIZE



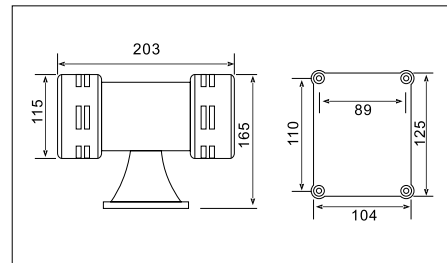
VOLTAGE: AC110, 230V
DECIBEL: 125DB

MS-490 Double Motor Siren



IP44

OUTER SIZE



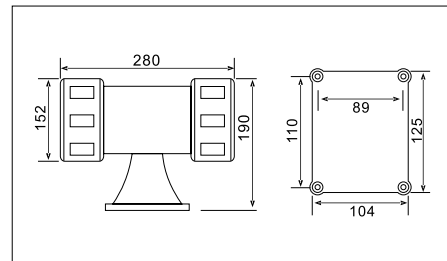
VOLTAGE: AC110, 230V
DECIBEL: 150DB

MS-590 Double Motor Siren



IP44

OUTER SIZE



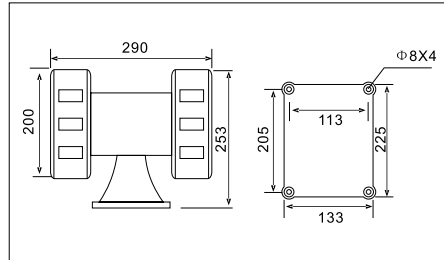
VOLTAGE: AC110, 230V
DECIBEL: 160DB

MS-690 Double Motor Siren



IP44

OUTER SIZE



VOLTAGE:AC110, 230V

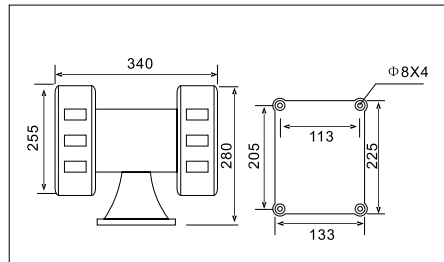
DECIBEL:170DB

MS-790 Double Motor Siren



IP44

OUTER SIZE



VOLTAGE:AC110, 230V

DECIBEL:180DB

BUS BAR INSULATORS

ISO 9001:2000



Bus Bar Insulators mainly made from Bulk Molding Compound, unsaturated polymer with fiber glass. Product itself are with good properties such as electrical resistance, heat resistance, fire resistance, low shrinkage, water resistance.

DIMENSIONS

unit: mm

SM-25	SM-50
SM-35	SM-40
SM-51	SM-401
SM-76	SM-402
SM-70	SM-30
SM-55	SM-20



	■ S525-1	
	Tensile strength(LBS)	400
	Voltage withstand(KV)	5
	Torgue strength(FT LBS)	6
	Screw(mm)	5
	Colour	● ○ ● ●

	■ S842-1	
	Tensile strength(LBS)	700
	Voltage withstand(KV)	8
	Torgue strength(FT LBS)	10
	Screw(mm)	8
	Colour	● ○ ● ●

	■ S525-2	
	Tensile strength(LBS)	400
	Voltage withstand(KV)	5
	Torgue strength(FT LBS)	6
	Screw(mm)	5
	Colour	● ○ ● ●

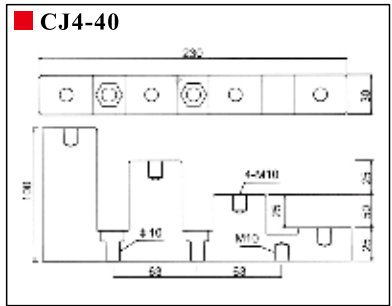
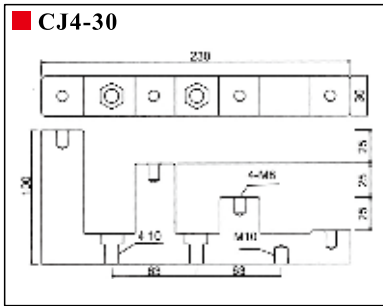
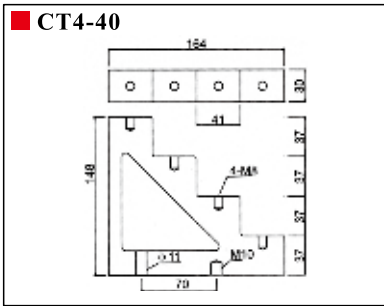
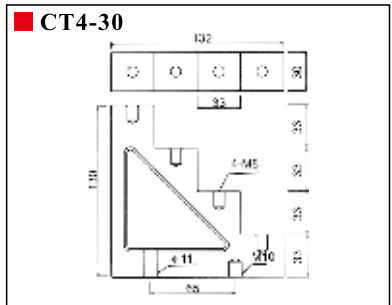
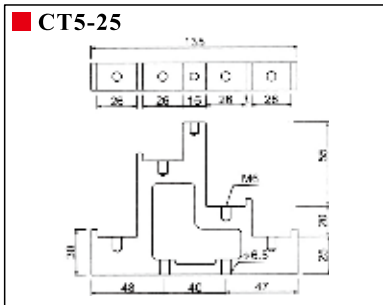
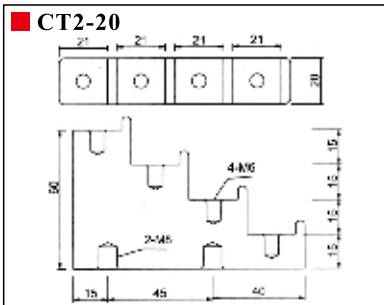
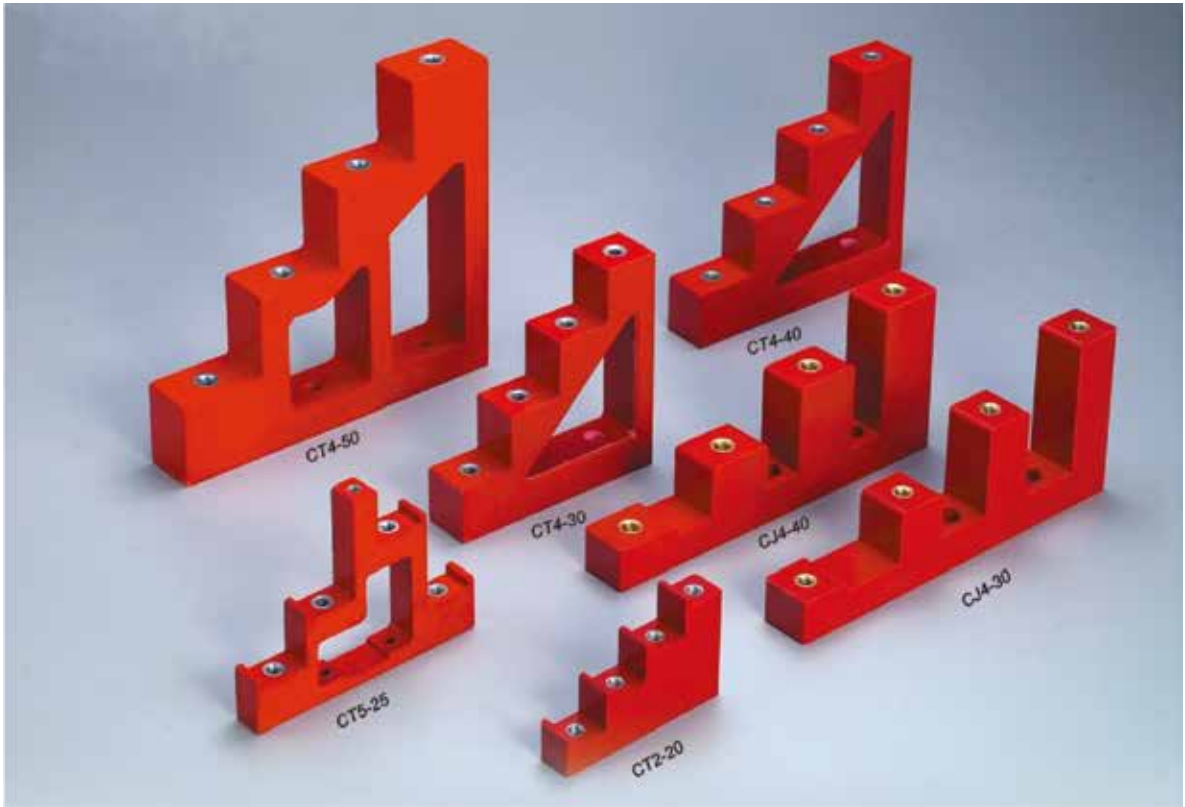
	■ S842-2	
	Tensile strength(LBS)	700
	Voltage withstand(KV)	8
	Torgue strength(FT LBS)	10
	Screw(mm)	8
	Colour	● ○ ● ●

	■ S525-3	
	Tensile strength(LBS)	400
	Voltage withstand(KV)	5
	Torgue strength(FT LBS)	6
	Screw(mm)	5
	Colour	● ○ ● ●

	■ S842-3	
	Tensile strength(LBS)	700
	Voltage withstand(KV)	8
	Torgue strength(FT LBS)	10
	Screw(mm)	8
	Colour	● ○ ● ●

● Standard color is red, if other color, please advice.

● Insert: Brass or Steel with zn coating, Please advice. (Standard: Brass)



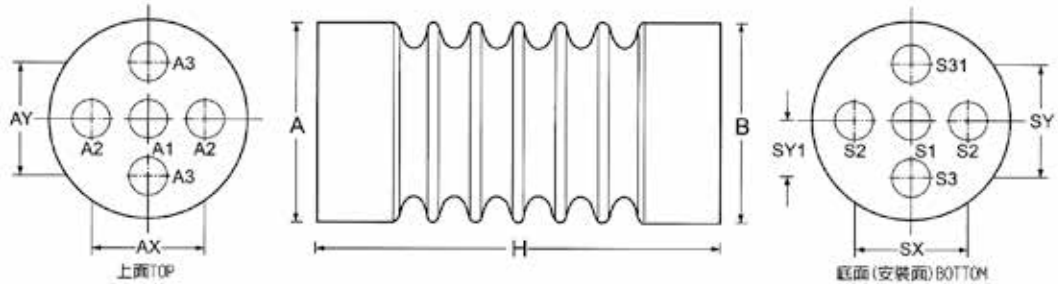
HIGH VOLTAGE INSULATOR 高壓支持碍子



BUSBAR SUPPORT 銅排夾



HIGH VOLTAGE INSULATOR DIMENSION AND CHARACTERISTICS 高壓支持罈子 規格表

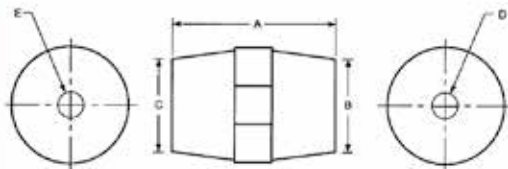


- (1) 材料：BMC/EPOXY 電氣絕緣材料。
- (2) 螺母：黃銅，其規格、數量和位置等可依設計而定。
- (3) 測試規範：JIS C3801 和 JIS C3851。
- (4) 顏色：咖啡色或暗紅色。
- (5) 尺寸和特性：請參考下表。

- (1) Material : Bulk molding compound, unsaturated polyester resin based or EPOXY based
- (2) Nut inserts : Brass, various specifications are available. Arrangement of nut inserts can be designed upon request.
- (3) Test specifications : JIS C3801 and JIS C3851
- (4) Color : Dark brown or dark red
- (5) Dimension and characteristics :

件號	Part. No.	EL-30N	EL-20N	EL-10N	EL-10H	EL-25	EL-24	EL-15	EL-12	EL-6M	EL-3M	EL-6S	EL-3S	
兩端外徑, ϕ (A/B), mm	End diameter(A/B), mm	100	85/90	75/80	75/80	70	70	70	58	70	70	55	50	
高度(H), mm	Height(H), mm	310	210	145	115	230	210	142	130	90	60	90	50	
表面爬洩距離, mm	Surface leakage distance, mm	630	330	240	190	375	356	210	172	125	88	130	65	
定格電壓, kV	Rated voltage, kV	36	22	16.5	12	25	24	15	12	7.2	3.6	7.2	3.6	
低頻耐電壓強度1分鐘, kV	Low frequency dielectric strength, kV	75	50	36	28	60	60	50	36	22	16	22	16	
衝擊耐電壓強度, kV	Impulse voltage resistance, kV	200	125	95	75	150	125	110	95	75	60	60	45	
耐曲折強度1分鐘, kg	Persistent bending strength, 1 min, kg	500	600	600	600	300	300	400	300	400	400	250	150	
拉伸強度, kg	Tensile strength, kg	>3000	>2000	>2000	>2000	>2000	>1500	>1500	>2000	>1200	>1200	>1800	>1000	
扭力強度, kg-m	Torque strength, kg-m	>25	>25	>25	>25	>25	>25	>25	>25	>25	>25	>25	>20	
螺母排列 INSERTS ARRANGEMENT	上面 TOP	A1	M16	M10	M10	—	—	M10	M10	M10	M10	—	—	
		A2	M8	M8	M8	M8	M10	—	M8	M8	M8	—	M6	
		A3	—	M10	M10	M10	M10	M8	M8	—	—	M8	—	
		AX	40	34	34	34	40	—	—	36	40	40	—	32
	AY	—	40	40	40	40	40	40	—	—	—	—	32	
	底面 (安裝面) BOTTOM	S1	M16	—	—	—	—	M16	M16	M10	M10	M10	M10	M8
		S2	—	M10	M10	M10	—	—	—	—	—	—	—	—
		S3	M4	M10	M10	—	M10	M4	M4	—	—	—	—	—
		S31	—	M10	M10	—	M10	—	—	—	—	—	—	—
		SX	—	40	40	40	—	—	—	—	—	—	—	—
		SY	—	40	40	—	40	—	—	—	—	—	—	—
		SY1	30	—	—	—	—	—	—	—	—	—	—	—

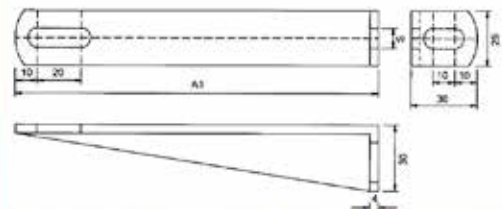
LOW VOLTAGE INSULATOR DIMENSION 低壓支持罈子 尺寸表



單位unit:mm

DIMENSION TYPE	A	B	C	D	E
SM-35/35A	35	32	28	M8	M8
SM-51/51A	51	36	29	M8	M8
SM-76/76A	76	50	36	M10	M10

BUSBAR CLAMP DIMENSION L型鋼排夾具 尺寸表



Dimension 尺寸	S	鋼排固定側 Busbar side $\Delta 1$	適用鋼排寬 Busbar width	備註 Remarks
CP-1	9	75	40-60	每組夾夾板2片及6 螺絲一組 One set contains two pieces and M8 screws.
CP-2		100	60-80	
CP-3		120	80-105	
CP-4		140	105-125	
CP-5		165	125-150	
CP-1A	10.5	75	40-60	
CP-2A		100	60-80	
CP-3A		120	80-105	
CP-4A		140	105-125	
CP-5A		165	125-150	


C32

C63

CA33

CA34

CA-111

CV33

CV34

CAM SWITCH

- SILVER-ALLOY & SLIDING CONTACTS ENSURE RELIABLE & ACCURATE OPERATION.
- COMPLIED WITH EN60947, VDE-0660 IEC-947.
- REAR WIRINGS ALLOW WORK EASY

● **CONTACT RATING : 16A 300VAC**

ISO 9001: 2000

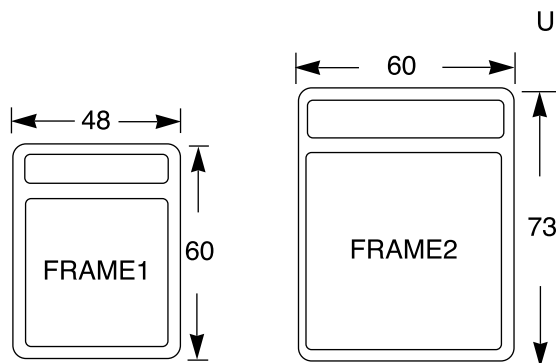
VOLTMETER SWITCHES

Code No.	Function	Stages	Name Plate	Connection diagram	IN/OUT PUT
CV 33	3 phase 3 wire	2	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Voltmeter</p> <p style="text-align: center;">RS ST TR</p> <p style="text-align: center;">○ ○ ○</p> <p style="text-align: center;">plate 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Voltmeter</p> <p style="text-align: center;">RY YB BR</p> <p style="text-align: center;">○ ○ ○</p> <p style="text-align: center;">plate 2</p> </div> </div>		<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="margin-bottom: 10px;">4 <input type="checkbox"/> R <input type="checkbox"/> V1</div> <div style="margin-bottom: 10px;">5 <input type="checkbox"/> S <input type="checkbox"/> V2</div> <div style="margin-bottom: 10px;">7 <input type="checkbox"/> T <input type="checkbox"/></div> <div style="margin-bottom: 10px;">V2 <input type="checkbox"/> B <input type="checkbox"/></div> <div style="margin-bottom: 10px;">V1 <input type="checkbox"/> Y <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> N <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> R <input type="checkbox"/></div> </div>
CV 34	3 phase 4 wire	3	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Voltmeter</p> <p style="text-align: center;">RY RN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">YB YN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">BR BN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">plate 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Voltmeter</p> <p style="text-align: center;">RS RN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">ST SN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">TR TN</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">plate 2</p> </div> </div>		<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="margin-bottom: 10px;">V1 <input type="checkbox"/></div> <div style="margin-bottom: 10px;">V2 <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> B <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Y <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> N <input type="checkbox"/></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> R <input type="checkbox"/></div> </div>

AMMETER SWITCHES

Code No.	Function	Stages	Name Plate	Connection diagram	IN/OUT PUT
CA 33	3 phase 3 wire 2 current transformer	2	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Ammeter</p> <p style="text-align: center;">R S T</p> <p style="text-align: center;">○ ○ ○</p> <p style="text-align: center;">plate 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Ammeter</p> <p style="text-align: center;">R Y B</p> <p style="text-align: center;">○ ○ ○</p> <p style="text-align: center;">plate 2</p> </div> </div>		<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="margin-bottom: 10px;">4 <input type="checkbox"/> R <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A1 <input type="checkbox"/> T <input type="checkbox"/></div> <div style="margin-bottom: 10px;">5 <input type="checkbox"/> 8 <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A2+ <input type="checkbox"/> 7 <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A2+ <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A1 <input type="checkbox"/> N <input type="checkbox"/></div> <div style="margin-bottom: 10px;">Y <input type="checkbox"/></div> </div>
CA 34	3 phase 4 wire 3 current transformer	3	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Ammeter</p> <p style="text-align: center;">B R</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">Y</p> <p style="text-align: center;">○</p> <p style="text-align: center;">plate 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Ammeter</p> <p style="text-align: center;">T R</p> <p style="text-align: center;">○ ○</p> <p style="text-align: center;">S</p> <p style="text-align: center;">○</p> <p style="text-align: center;">plate 2</p> </div> </div>		<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="margin-bottom: 10px;"><input type="checkbox"/></div> <div style="margin-bottom: 10px;">B <input type="checkbox"/> R <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A1 <input type="checkbox"/> Y <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A2+ <input type="checkbox"/></div> <div style="margin-bottom: 10px;">A1 <input type="checkbox"/> N <input type="checkbox"/></div> </div>

NAME PLATE FRAME : 2 SIZES AS FRAME 1 , FRAME2 FOR CHOICE.



● CONTACT RATING : 16A 300VAC

ISO 9001: 2000

CHANGE-OVER SWITCHES WITHOUT "OFF" 90° SWITCHING

Code No.	Function	Stages	Name plate	Connection diagram
CA-001	1 pole	1		
CA-002	2 pole	2		
CA-003	3 pole	3		
CA-004	4 pole	4		
CA-005	5 pole	5		

CHANGE-OVER SWITCHES WITHOUT "OFF" 45° SWITCHING

CA-013	1 pole	1		
CA-014	2 pole	2		
CA-015	3 pole	3		
CA-016	4 pole	4		
CA-017	5 pole	5		

ON/OFF SWITCHES WITH 90° SWITCHING

CA-026	2 pole	1		
CA-027	3 pole	2		
CA-028	4 pole	2		
CA-029	5 pole	3		
CA-030	6 pole	3		
CA-031	7 pole	4		
CA-032	8 pole	4		
CA-033	9 pole	5		
CA-034	10 pole	5		

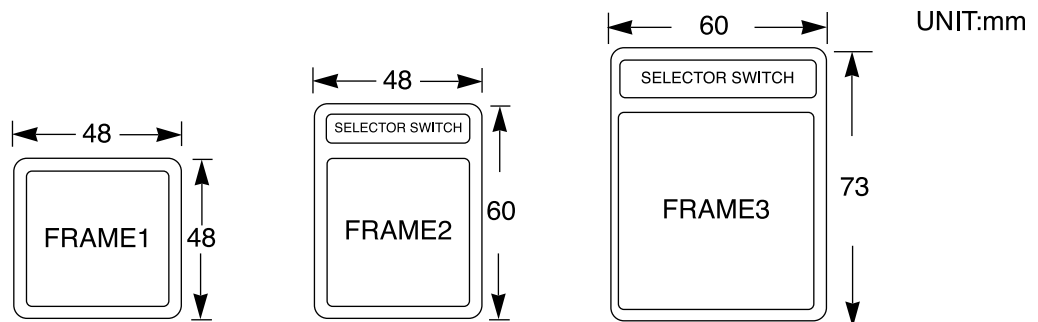
CHANGE-OVER SWITCHES WITHOUT "OFF" 45° SWITCHING

CA-098	2 pole	1		
CA-099	3 pole	2		
CA-100	4 pole	2		
CA-101	5 pole	3		
CA-102	6 pole	3		
CA-103	7 pole	4		
CA-104	8 pole	4		
CA-105	9 pole	5		
CA-106	10 pole	5		

CHANGE-OVER SWITCHES WITH CENTER "OFF" 45° SWITCHING

CA-109	1 pole	1		
CA-110	2 pole	2		
CA-111	3 pole	3		
CA-112	4 pole	4		
CA-113	5 pole	5		

NAME PLATE FRAME : 3 SIZES AS FRAME 1 , FRAME 2 , FRAME 3 FOR CHOICE.



● **CONTACT RATING : 32A 600VAC**

● **NAME PLATE FRAME SIZE: 64 X 64mm**

ISO 9001: 2000

CHANGE-OVER SWITCHES WITHOUT "OFF" 90° SWITCHING

Code No.	Function	Stages	Name plate	Connection diagram
C32-001	1 pole	1		
C32-002	2 pole	2		
C32-003	3 pole	3		
C32-004	4 pole	4		
C32-005	5 pole	5		

CHANGE-OVER SWITCHES WITHOUT "OFF" 60° SWITCHING

C32-013	1 pole	1		
C32-014	2 pole	2		
C32-015	3 pole	3		
C32-016	4 pole	4		
C32-017	5 pole	5		

ON/OFF SWITCHES WITH 90° SWITCHING

C32-026	2 pole	1		
C32-027	3 pole	2		
C32-028	4 pole	2		
C32-029	5 pole	3		
C32-030	6 pole	3		
C32-031	7 pole	4		
C32-032	8 pole	4		
C32-033	9 pole	5		
C32-034	10 pole	5		

ON/OFF SWITCHES WITH 60° SWITCHING

C32-098	2 pole	1		
C32-099	3 pole	2		
C32-100	4 pole	2		
C32-101	5 pole	3		
C32-102	6 pole	3		
C32-103	7 pole	4		
C32-104	8 pole	4		
C32-105	9 pole	5		
C32-106	10 pole	5		

CHANGE-OVER SWITCHES WITH CENTER "OFF" 60° SWITCHING

C32-109	1 pole	1		
C32-110	2 pole	2		
C32-111	3 pole	3		
C32-112	4 pole	4		
C32-113	5 pole	5		

MOTOR REVERSING SWITCHES

Code No.	Function	Stages	NAME PLATE	Connection diagram
C32-117	3 pole	3		

- **CONTACT RATING: 63A 600VAC**
 - **NAME PLATE FRAME SIZE: 64x64mm**
- CHANGE-OVER SWITCHES WITHOUT "OFF" 90° SWITCHING**

ISO 9001: 2000

Code No.	Function	Stages	Name plate	Connection diagram
C63-001	1 pole	1		
C63-002	2 pole	2		
C63-003	3 pole	3		
C63-004	4 pole	4		
C63-005	5 pole	5		
<p>CHANGE-OVER SWITCHES WITHOUT "OFF" 60° SWITCHING</p>				
C63-013	1 pole	1		
C63-014	2 pole	2		
C63-015	3 pole	3		
C63-016	4 pole	4		
C63-017	5 pole	5		

ON/OFF SWITCHES WITHOUT 90° SWITCHING

C63-026	2 pole	1		
C63-027	3 pole	2		
C63-028	4 pole	2		
C63-029	5 pole	3		
C63-030	6 pole	3		
C63-031	7 pole	4		
C63-032	8 pole	4		
C63-033	9 pole	5		
C63-034	10 pole	5		

ON/OFF SWITCHES WITHOUT 60° SWITCHING

C63-098	2 pole	1		
C63-099	3 pole	2		
C63-100	4 pole	2		
C63-101	5 pole	3		
C63-102	6 pole	3		
C63-103	7 pole	4		
C63-104	8 pole	4		
C63-105	9 pole	5		
C63-106	10 pole	5		

CHANGE-OVER SWITCHES WITH CENTER "OFF" 60° SWITCHING

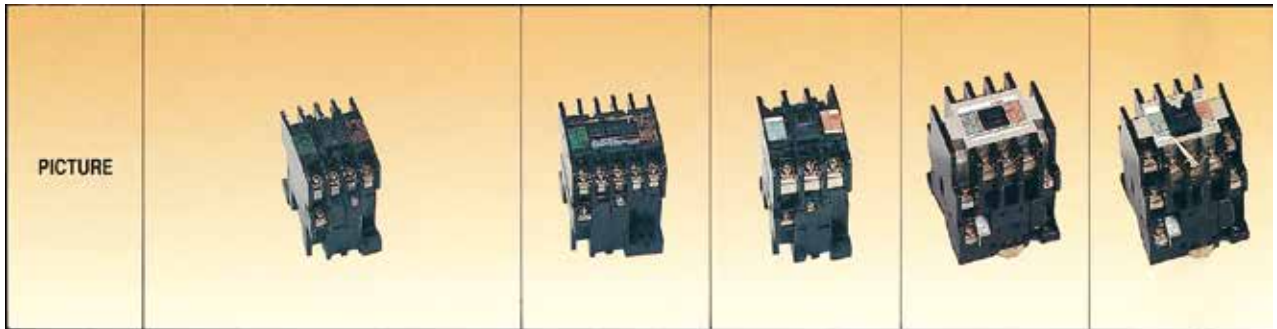
C63-109	1 pole	1		
C63-110	2 pole	2		
C63-111	3 pole	3		
C63-112	4 pole	4		
C63-113	5 pole	5		

MOTOR REVERSING SWITCHES

Code No.	Function	Stages	NAME PLATE	Connection diagram
C63-117	3 pole	3		

MAGNETIC CONTACTORS





ITEM NO.		S-K10			S-K11			S-K12			S-K18			S-K20			S-K21		
3 ϕ MOTOR RATING	V	220	440	500	220	440	500	220	440	500	220	440	500	220	440	500	220	440	500
	KW	2.2	2.7	2.7	2.7	4	5.5	2.7	4	5.5	3.7	5.5	5.5	4	7.5	7.5	4	7.5	7.5
AC-1 & I _n (A)		20			20			20			25			32			32		
NUMBER OF AUX. POLES		1 NO			1 NO			1 NC						1 NO+1 NC			2 NO+2 NC		
WEIGHT (kg)		0.28			0.28			0.9			0.45			1.2			1.2		
DIMENSIONS (mm)		 A = 44 B = 66 C = 50 D = 35			 A = 44 B = 66 C = 50 D = 35			 A = 53 B = 66 C = 50 D = 40			 A = 45 B = 67 C = 50 D = 35			 A = 68 B = 80 C = 60 D = 54			 A = 68 B = 80 C = 60 D = 54		
AUXILIARY CONTACT BLOCK		 UA-AX02 (2NC) UA-AX11 (1NO+1NC) UA-AX20 (2NO) (sk10,11 use only)																	
WEIGHT (kg)		0.1																	



S-K25			S-K35			S-K50			S-K65			S-K80			S-K95		
220	440	500	220	440	500	220	440	500	220	440	500	220	440	500	220	440	500
5.5	11	11	7.5	15	15	11	22	22	15	30	30	19	37	45	22	45	45
50			60			80			100			135			135		
2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC		
0.9			0.9			3.2			3.2			1.8			1.8		
A = 80 B = 89 C = 65 D = 71			A = 80 B = 89 C = 65 D = 71			A = 88 B = 106 C = 75 D = 70			A = 88 B = 106 C = 75 D = 70			A = 100 B = 124 C = 110 D = 80			A = 100 B = 124 C = 110 D = 80		



- UA-AX04 (4NC)
- UA-AX13 (1NO+3NC)
- UA-AX22 (2NO+2NC)
- UA-AX31 (3NO+1NC)
- UA-AX40 (4NO)

(sk10,11 use only)



MS-K10

MS-K20

TH-K60

TH-K12

TH-K20

SPECIFICATIONS

TH-K12	0.24(0.2-0.28), 0.35(0.28-0.42), 0.5(0.4-0.6), 0.7(0.55-0.85), 0.9(0.7-0.11), 1.3(1-1.6), 1.7(1.4-2), 2.1(1.7-2.5), 2.5(2-3), 3.6(2.8-4.4), 5(4-6), 6.6(5.2-8), 9(7-11), 11(9-13)	SK10 SK11 SK12 SK18
TH-K20	0.24(0.2-0.28), 0.35(0.28-0.42), 0.5(0.4-0.6), 0.7(0.55-0.85), 0.9(0.7-0.11), 1.3(1-1.6), 1.7(1.4-2), 2.1(1.7-2.5), 2.5(2-3), 3.6(2.8-4.4), 5(4-6), 6.6(5.2-8), 9(7-11), 11(9-13), 15(12-18)	SK20 SK21 SK25 SK35
TH-K20TA	19(16-22), 22(18-26), 29(24-34), 35(30-40)	SK20,21,25,35
TH-K60	15(12-18), 22(18-26), 35(30-40), 42(34-50), 54(43-65), 29(24-34)	SK50 SK65 SK80 SK95
TH-K60TA	67(54-80), 82(65-93)	SK50,65,80,95

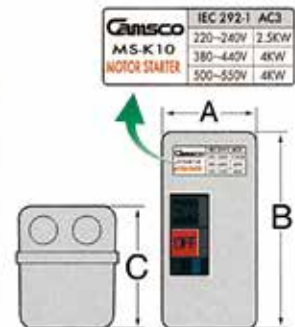
FEATURES

- The overload relays are suitable for overload protection of AC motor operated on 8 hours duty or uninterrupted duty. The overload protected AC motor with frequency 50/60Hz voltage up to 660V. Several functions provided by these relays are phase-failure protection, temperature compensation, ON/OFF indication and manual/automatic reset. The relays comply with IEC292-1 standard.

DIMENSIONS(mm)

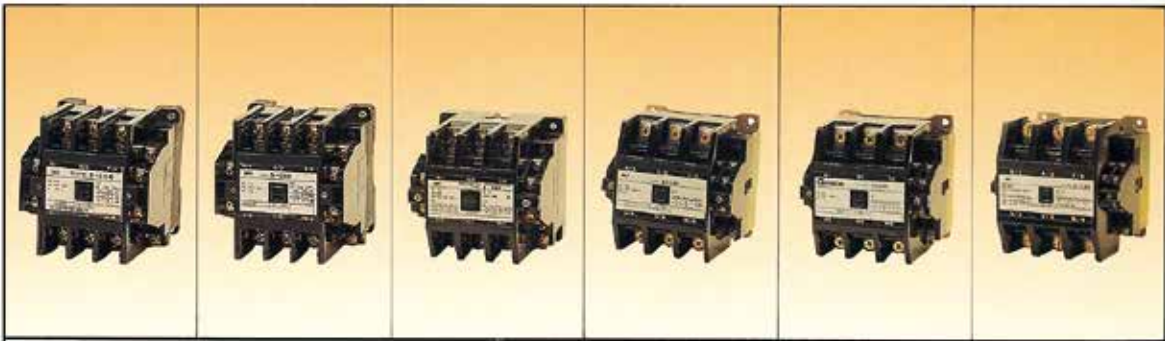
ITEM NO.		MS-K10	MS-K11	MS-K20	MS-K21	MS-K25	MS-K35
Rated operating current(A) AC-3	220V	11	13	22	22	30	40
	380V	9	12	22	22	30	40
Controlled motor power under AC-3 (KW)	220V	2.5	3.5	5.5	5.5	7.5	11
	380V	4	5.5	11	11	15	18.5
	550V	4	5.5	11	11	15	18.5
	660V	4	5.5	7.5	7.5	11	15
Compound unit	CONTACTOR	SK10	SK11	S-K20	SK21	SK25	S-K35
	OVERLOAD	TH-K12		TH-K20,TH-K20TA			

ITEM NO.	DIM.		
	A	B	C
MS-K10 MS-K11	76	159	100
MS-K20 MS-K21	104	170	110
MS-K25 MS-K35	135	225	130



PICTURE																									
ITEM NO.		S-C10			S-C11			S-C12			S-C16			S-C21			S-C35								
3 ϕ MOTOR RATING	V	220	380	440	220	380	440	220	380	440	220	380	440	220	380	440	220	380	440						
	A	12	9	9	12	9	9	12	9	9	16	12	12	22	20	20	35	32	32						
	KW	2.2	4	4	2.2	4	4	2.2	4	4	3.7	5.5	5.5	5.5	11	11	9	15	15						
AC-1 & I _n (A)		20			20			20			25			32			50								
NUMBER OF AUX. POLES		1 NO+1 NC			1 NO			1 NO+1 NC			1 NO+1 NC			2 NO+2 NC			2 NO+2 NC								
WEIGHT (kg)		0.25			0.3			0.35			0.35			0.6			1.0								
DIMENSIONS (mm)		 A=40 B=57 C=49 D=30			 A=44 B=62 C=46 D=34			 A=55 B=60 C=45 D=43			 A=55 B=60 C=45 D=43			 A=68 B=74 C=58 D=54			 A=85 B=87 C=73 D=70								
TYPE TH THERMAL OVERLOAD RELAY	TH-12	 0.6A (0.45-0.75) 0.9A (0.7-1.1) 1.2A (0.9-1.5) 1.7A (1.4-2.1) 2.1A (1.6-2.8) 2.8A (2.2-3.4)						 3.5A (2.6-4.2) 5A (4-6) 6.5A (5.2-7.8) 9A (7-11) 11A (9-13)						 0.6A (0.45-0.75) 0.9A (0.7-1.1) 1.2A (0.9-1.5) 1.7A (1.4-2.1) 2.1A (1.6-2.8) 2.8A (2.2-3.4) 3.5A (2.6-4.2) 5A (4-5) 6.5A (5.2-7.8) 9A (7-11) 11A (9-13) 15A (12-18)						 TH-20T 22A (18-26) 30A (24-36) 35A (28-42)					
	ASSOCIATED CONTACTOR	S-C10, S-C11, S-C12						S-C16, S-C21						S-C35											
WEIGHT (kg)		0.1						0.15						0.2											

Please note—S-C10, S-C11, S-C12, S-C16, S-C21, S-C35 and S-C50 these 7 items are also DIN RAIL TYPE



S-C50			S-C60			S-C80			S-C100			S-C125			S-C150		
220	380	440	220	380	440	220	380	440	220	380	440	220	380	440	220	380	440
50	46	46	60	56	56	80	75	75	100	80	80	125	100	100	150	140	140
11	22	22	15	30	30	19	37	37	25	50	50	30	55	55	45	75	75
60			80			120			150			175			200		
2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC			2 NO+2 NC		
1.2			1.2			2.0			2.8			2.8			4.2		
<p>A=106 B=106 C=98 D=90</p>			<p>A=106 B=106 C=98 D=90</p>			<p>A=116 B=120 C=100 D=100</p>			<p>A=140 B=140 C=124 D=115</p>			<p>A=140 B=140 C=124 D=115</p>			<p>A=155 B=165 C=140 D=130</p>		

TH-60

- 22A [18-26]
- 30A [24-36]
- 35A [28-42]
- 40A [32-48]
- 56A [45-67]
- 67A [54-80]

TH-120

- 80A (72-96)
- 105A (80-130)
- 130A (100-160)

S-C50, S-C60, S-C80

0.38

S-C100, S-C125, S-C150

0.8

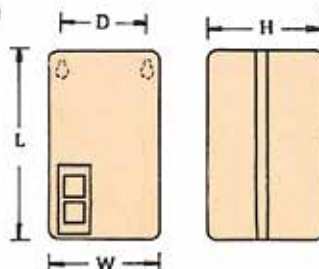


ITEM NO.		MY-C10-PB		MY-C11-PB		MY-C12-PB		MY-C16-PB	
3 ϕ MOTOR CAPACITY	220V	2.2 KW	3 HP	2.2 KW	3 HP	2.2 KW	3 HP	3.7 KW	5 HP
	380V	4 KW	5.5HP	4 KW	5.5HP	4 KW	5.5HP	5.5 KW	7.5HP
	440V	4 KW	5.5HP	4 KW	5.5HP	4 KW	5.5HP	5.5 KW	7.5HP
1 ϕ MOTOR CAPACITY	110V	0.4 KW	0.5HP	0.4 KW	0.5HP	0.4 KW	0.5HP	0.75KW	1 HP
	220V	0.75KW	1 HP	0.75KW	1 HP	0.75KW	1 HP	1.5 KW	2 HP
COMPOUND UNIT	CON-TACTOR OVERLOAD RELAY	S-C10		S-C11		S-C12		S-C16	
		TH-12		TH-12		TH-20		TH-20	
WEIGHT (kg)		0.7		0.9		1.0		1.2	

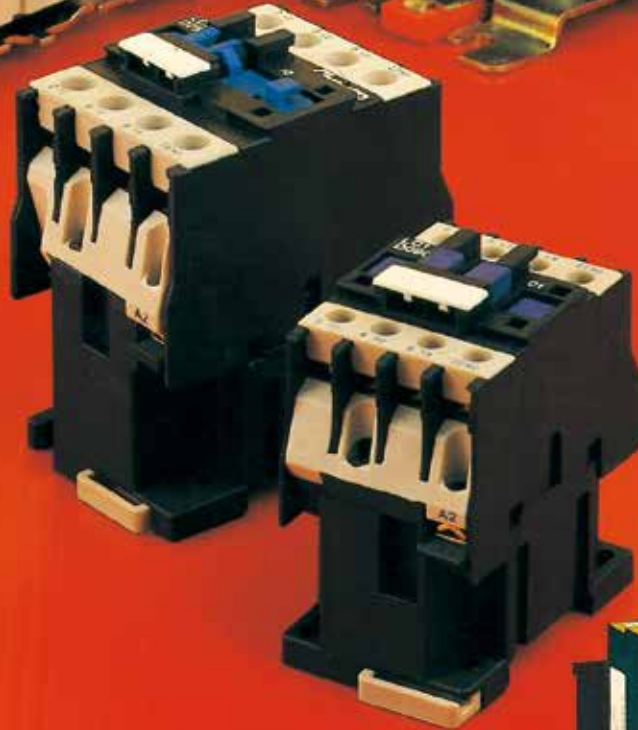


ITEM NO.		MY-C21-PB		MY-C35-PB		MY-C50-PB	
3 ϕ MOTOR CAPACITY	220V	5.5KW	2.5HP	9 KW	12HP	11KW	15HP
	380V	11 KW	15 HP	15 KW	20HP	22KW	30HP
	440V	11 KW	15 HP	15 KW	20HP	22KW	30HP
1 ϕ MOTOR CAPACITY	110V	1.1KW	1.5HP	1.5KW	2HP		
	220V	2.2KW	3 HP	3.7KW	5HP		
COMPOUND UNIT	CON-TACTOR OVERLOAD RELAY	S-C21		S-C35		S-C50	
		TH-20		TH-20T		TH-60	
WEIGHT (kg)		1.4		2.3		3.45	

Dimensions in mm



ITEM NO.	DIM.	L	W	H	D
MY-C10-PB		140	70	85	45
MY-C11-PB		145	92	105	65
MY-C12-PB		145	92	105	65
MY-C16-PB		175	105	120	75
MY-C21-PB		175	105	120	75
MY-C35-PB		240	132	135	95
MY-C50-PB		275	158	152	120



MAGNETIC CONTACTORS

C1-D SERIES AC CONTACTOR



SPECIFICATIONS

ITEM NO		C1-D09	C1-D12	C1-D18	C1-D25	C1-D32	C1-D40	C1-D50	C1-D65	C1-D80	C1-D95	
AC1 DUTY MAX A		25A	25A	32A	40A	50A	60A	80A	90A	125A	130A	
AC3 DUTY 3 PHASE MOTOR RATING	220V	KW	2.2	3	4	5.5	7.5	11	15	18.5	22	25
		HP	3	4	5.5	7.5	10	15	20	25	30	35
	380V	KW	4	5.5	7.5	11	15	18.5	22	30	37	45
		HP	5.5	7.5	10	15	20	25	30	40	50	60
	440V	KW	4	5.5	9	11	15	22	25	37	45	45
HP		5.5	7.5	12	15	20	30	35	50	60	60	
	A	9A	12A	18A	25A	32A	40A	50A	65A	80A	95A	
NUMBER OF AUX. POLES		1A or 1B	1A or 1B	1A or 1B	1A or 1B	1A or 1B	1A1B	1A1B	1A1B	1A1B	1A1B	
PACKING: PCS/CARTON		50	50	50	50	50	20	20	20	15	15	

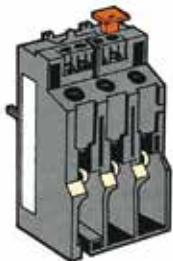
A1-D SERIES AUXILIARY CONTACT GROUP



SPECIFICATIONS

Item No.	A1-D-02	A1-D-11	A1-D-20	A1-D-22	A1-D-40	A1-D-04	A1-D-13	A1-D-31
The number of contact	2NC	NO + NC	2NO	2NO+2NC	4NO	4NC	NO + 3NC	3NO + NC

R1-D SERIES THERMAL OVERLOAD RELAY



SPECIFICATIONS

ITEM NO.	Adjusting range of current (A)	Control power (AC3) (KW)					Plug in contactor
		220V	380V	415V	440V	660V	
R1-D-09301	0.1 ~ 0.16						C1-D09-32
R1-D-09302	0.16 ~ 0.25						C1-D09-32
R1-D-09303	0.25 ~ 0.40						C1-D09-32
R1-D-09304	0.40 ~ 0.63					0.37	C1-D09-32
R1-D-09305	0.63 ~ 1					0.55	C1-D09-32
R1-D-09306	1 ~ 1.6		0.37		0.55	0.7 ~ 1.1	C1-D09-32
R1-D-09307	1.6 ~ 2.5	0.37	0.55 ~ 0.75	1.1	0.75 ~ 1.1	1.5	C1-D09-32
R1-D-09308	2.5 ~ 4	0.55 ~ 0.75	1.1 ~ 1.5	1.5	1.5	2.2 ~ 3	C1-D09-32
R1-D-09310	4 ~ 6	1.1	2.2	2.2	2.2	4	C1-D09-32
R1-D-09312	5.5 ~ 8	1.5	3	3 ~ 3.7	3 ~ 3.7	5.5	C1-D09-32
R1-D-09314	7 ~ 10	2.2	4	4	4	7.5	C1-D09-32
R1-D-12316	10 ~ 13	3	5.5	5.5	5.5	10	C1-D09-32
R1-D-16321	13 ~ 18	4	7.5	9	9	15	C1-D09-32
R1-D-25322	18 ~ 25	5.5	11	11	11	18.5	C1-D09-32
R1-D-40353	23 ~ 32	7.5	15	15	15	22	C1-D40, D50, D65
R1-D-40355	30 ~ 40	10	18.5	22	22	30	C1-D40, D50, D65
R1-D-63357	38 ~ 50	11	22	25	25	37	C1-D40, D50, D65
R1-D-63359	48 ~ 57	15	25	30	30	45	C1-D40, D50, D65
R1-D-63361	57 ~ 66	18.5	30	37	37	55	C1-D40, D50, D65
R1-D-80363	63 ~ 80	22	33 ~ 37	40 ~ 45	40 ~ 45	59 ~ 63	C1-D80, D95

APPLICATION:

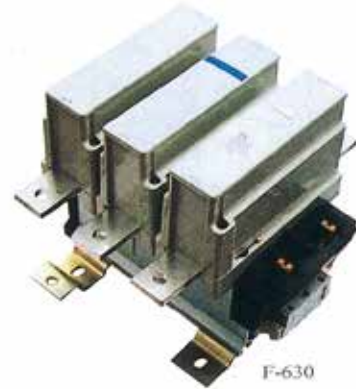
F series AC contactor is applicable to the circuits up to the rated voltage 1000V AC 50Hz or 60Hz, rated current up to 780A, for long distance breaking circuit and frequently starting or controlling the motor. It also can be used for the control of distribution circuits of rated current from 220A to 1600A.



F-115
F-150



F-185
F-225



F-630



F-265



F-500



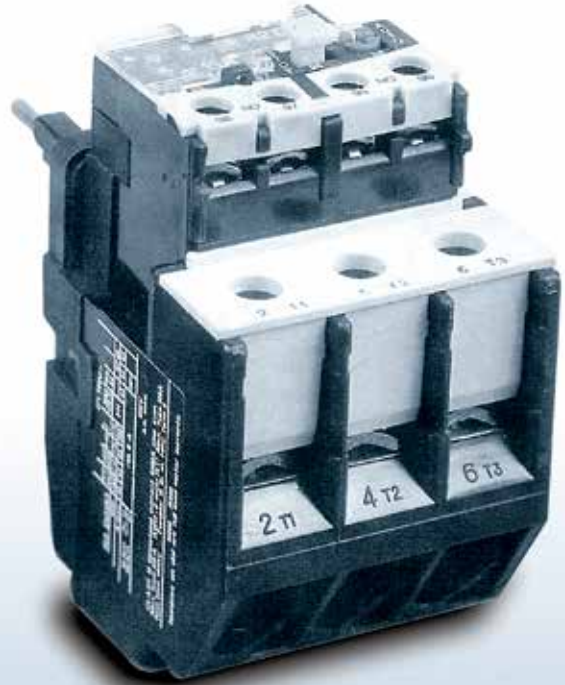
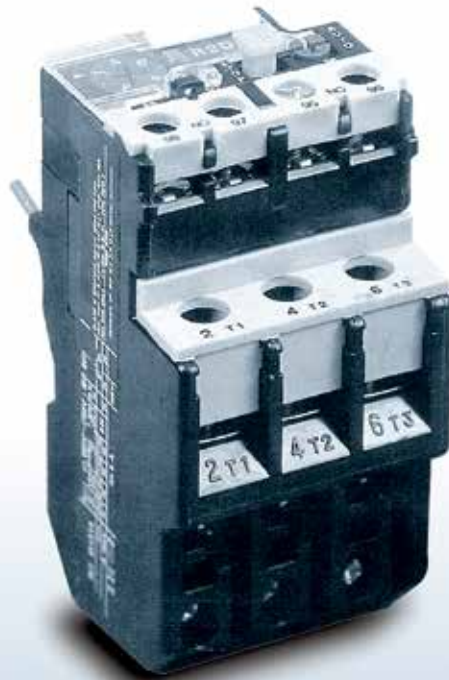
F-330



F-780

TECHNICAL SPECIFICATION:

Type		F-115	F-150	F-185	F-225	F-265	F-330	F-400	F-500	F-630	F-780
Rated operation current(A)	AC-1	115	150	185	225	265	330	400	500	630	780
	AC-3	200	250	275	315	350	400	500	700	1000	1600
Standard power ratings of 3-phase motors AC-3(KW)	220V	30	40	55	63	75	100	110	147	200	220
	380V	55	75	90	110	132	160	200	250	335	400
	415V	59	80	100	110	140	180	200	280	375	425
	440V	59	80	100	110	140	200	250	295	400	425
	500V	75	90	110	129	160	200	257	355	400	450
	600V	80	100	110	129	160	200	280	335	450	475
	1000V	65	65	100	100	147	160	185	335	450	450



R-2D SERIES THERMAL RELAY

CHARACTERISTIC

- a. Fundamental parameter of the main circuit.
 (a). Rated insulation Voltage 690V.
 (b). Rated working current 25, 35, 93A, separately.
 (c). The regulator scale of rated setting current and setting.
 (d). current of the thermal component (see list b).
- b. Auxiliary Circuit
 (a). There are one pair of NO and NC contact with electric insulation.
 (b). Rated insulation Voltage 500V.
 (c). Rated frequency 50/60Hz.
 (d). Use group, rated working voltage, appoint them, current and rated current (see table2).

DIMENSIONS

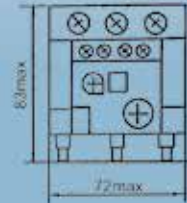
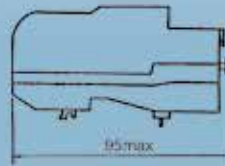
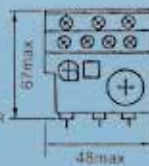


Fig1 Outline and installation for R2-D13

Fig3 Outline and installation for R2-D33

SPECIFICATION		PLUG IN CONTACTOR	
R2-D1301	0.1-0.16A	C1-D08-92	
R2-D1302	0.16-0.25A	C1-D08-32	
R2-D1303	0.25-0.45A	C1-D08-32	
R2-D1304	0.40-0.83A	C1-D08-32	
R2-D1305	0.63-1.00A	C1-D09-32	
R2-D1306	1.00-1.60A	C1-D09-32	
R2-D13X6	1.25-2.00A	C1-D09-32	
R2-D1307	1.60-2.50A	C1-D09-32	
R2-D1308	2.50-4.00A	C1-D09-32	
R2-D1310	4.00-6.00A	C1-D09-32	
R2-D1312	5.50-8.00A	C1-D09-32	
R2-D1314	7.00-10.0A	C1-D09-32	
R2-D1316	9.00-13.0A	C1-D09-32	
R2-D1321	12.0-18.0A	C1-D09-32	
R2-D1322	17.0-25.0A	C1-D32	
R2-D2353	23.0-32.0A	C1-D40-95	
R2-D2355	29.0-38.0A	C1-D40-95	
R2-D3353	33.0-42.0A	C1-D40-95	
R2-D3355	38.0-40.0A	C1-D40-95	
R2-D3357	37.0-50.0A	C1-D40-95	
R2-D3359	48.0-65.0A	C1-D40-95	
R2-D3361	55.0-70.0A	C1-D40-95	
R2-D3363	63.0-80.0A	C1-D40-95	
R2-D3365	80.0-0.93A	C1-D40-95	

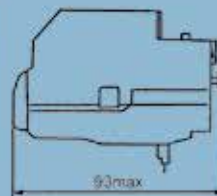
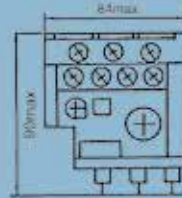
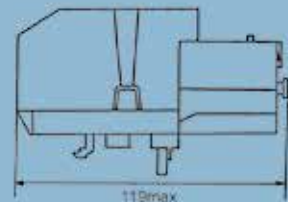
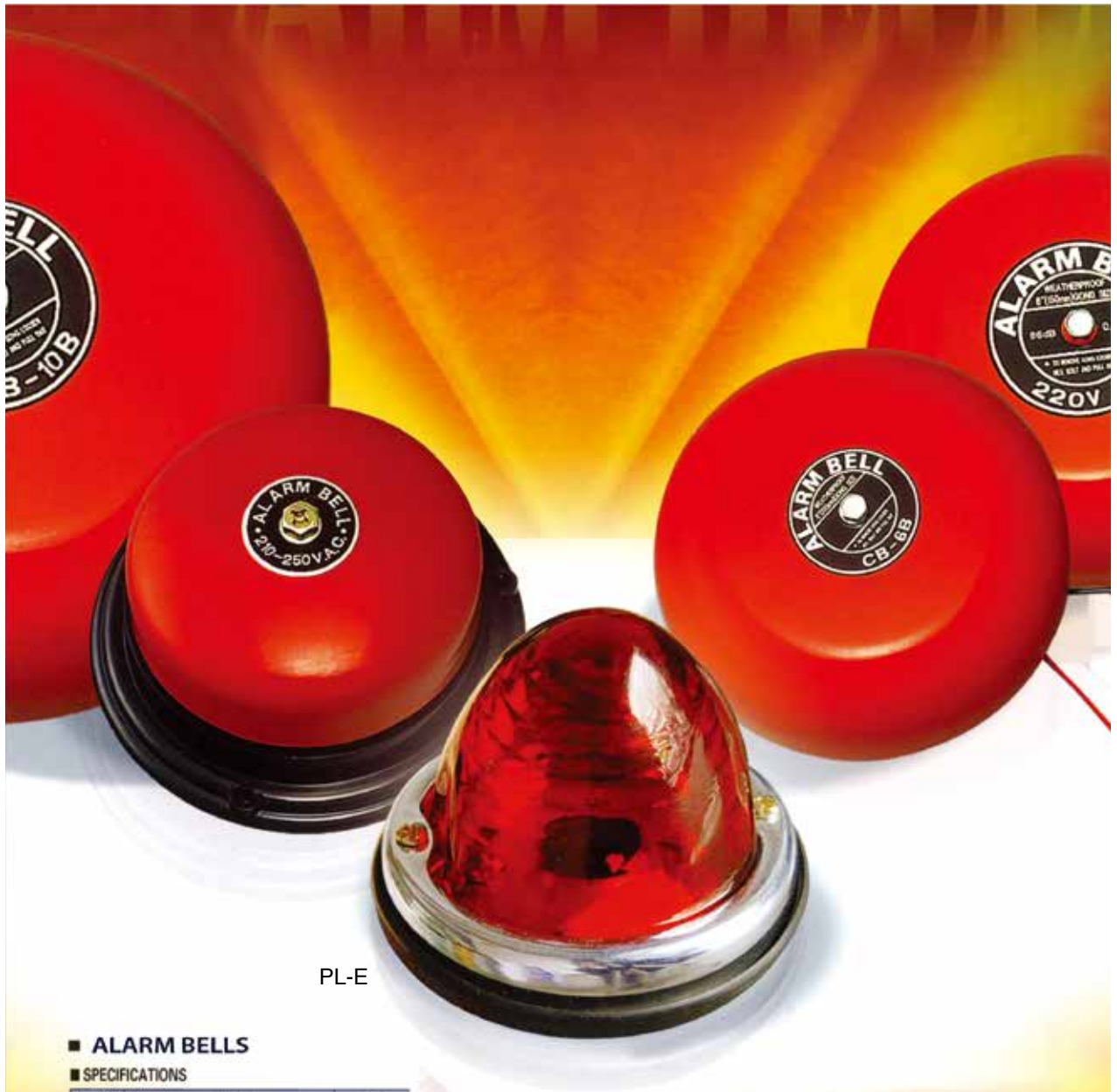


Fig2 Outline and installation for R2-D33





PL-E

■ **ALARM BELLS**

■ **SPECIFICATIONS**

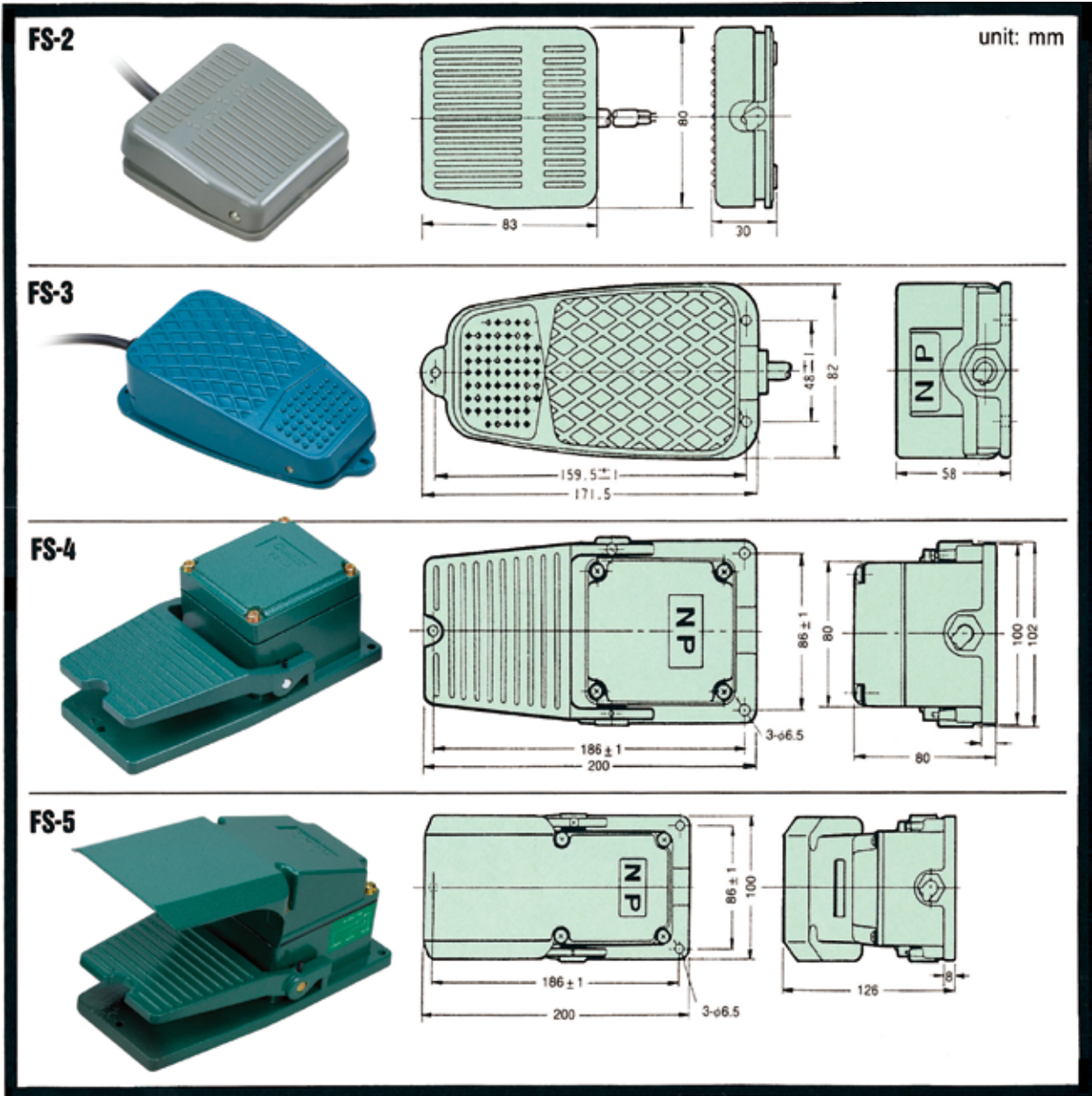
Item No.	Rating	Size
CB-4B	AC 110V • 220V • 380V	4" (100mm)
CB-6B	AC 12V • 24V • 48V • 110V • 220V • 380V DC • 12V • 24V • 48V	6" (150mm)
CB-8B	AC 12V • 24V • 48V • 110V • 220V • 380V DC • 12V • 24V • 48V	8" (200mm)
CB-10B	AC 12V • 24V • 48V • 110V • 220V • 380V DC • 12V • 24V • 48V	10" (250mm)

■ **PILOT LIGHT**

Item No.	RATING
PL-E	AC: 110V, 220V DC: 12V, 24V

● **ALARM BELL**

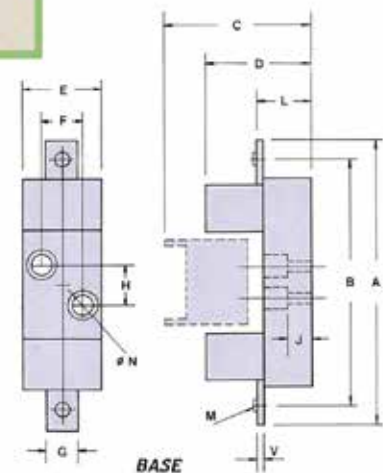
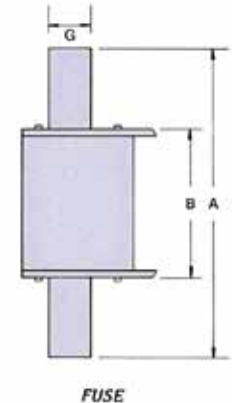
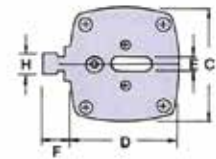
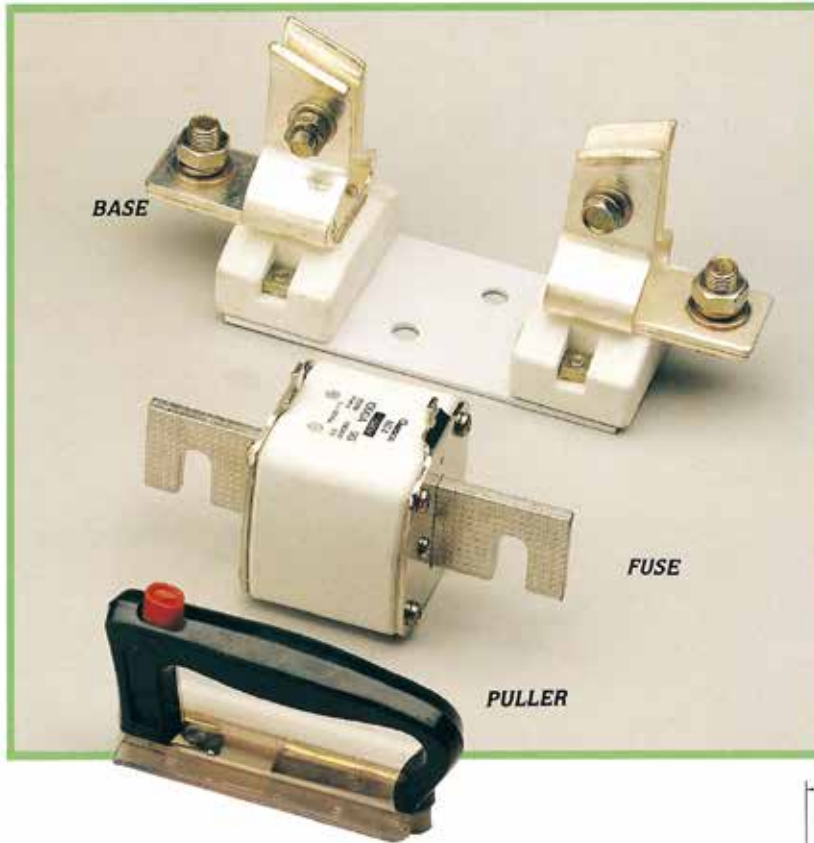
- Comply with UL standard
- Other voltages upon request



TYPE	RATING	CONTACTOR	CORD SPEC.	ENCLOSURE MATERIAL	WEIGHT
FS-2	AC250V 10A	1A 1B	PVC 0.55mm ² • 3C • 1M	POLY-CARBONATE	240g
FS-3	AC250V 10A	1A 1B	PVC 0.75mm ² • 3C • 1M	ALUMINUM	470g
FS-4	AC250V 15A	1A 1B	PVC 0.75mm ² • 3C	ALUMINUM	820g
FS-5	AC250V 15A	1A 1B	PVC 0.75mm ² • 3C	ALUMINUM	1000g

FUSE LINK & BASE





DIMENSION

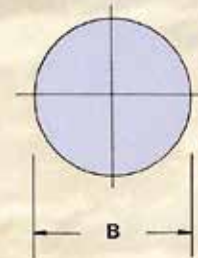
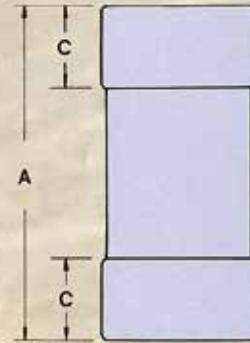
ITEM NO.	MM	A	B	C	D	E	F	G	H	L	M	ØN	V	J
NT00	78.5	49	30	43	6	16	15.5	10	X	X	X	X	X	X
NT0	122	62	27.5	45.5	5.8	13	15	10	X	X	X	X	X	X
NT1	13.5	66	46	46	6	14	20.5	10	X	X	X	X	X	X
NT2	150	67	59	59	6	15	26.5	10	X	X	X	X	X	X
NT3	150	68	70	70	6	15	26.5	10	X	X	X	X	X	X
NT4	198	81	100	100	6	15	50	10	X	X	X	X	X	X
B-0	120	100	85	60	30	0	25	25	25	8	7.5	2.5	8	
B-01	175	155	100	75	X	X	X	X	40	8	X	2.5	18	
B-1	200	175	96	82	58	30	25	25	38	10	10.5	3	15	
B-2	225	200	112	98	64	30	30	25	40	10	10.5	5	17	
B-3	250	210	120	105	64	30	40	25	40.5	12	10.5	5.5	17	
B-4	304	260	174	145	96	45	45	30	47.5	16	13	8.5	4	

SPECIFICATION

ITEM NO.	FUSE						BASE						PULLER								
	NT00	NT0	NT1	NT2	NT3	NT4	B-0	B-01	B-1	B-2	B-3	B-4	FH-1								
RATED VOLTAGE (V)	500 V		500 V	500 V	500 V	500 V	660 V						1000 V								
RATED CURRENT (A)	6, 10, 16 20, 25, 32 36, 40, 50 63, 80 100, 125 160		36, 40, 50 63, 80 100, 125 160, 200 224, 250		80, 100 125, 160 200, 224 250, 300 315, 355 400		315, 355 400, 425 500, 630		800, 1000 1250		160						250	400	630	1000	--
CONNECTED WITH BASE (FUSE)	B-0	B-01	B-1	B-2	B-3	B-4	NT 00	NT 0	NT 1	NT 2	NT 3	NT 4	NT00 TO NT 4								

DIMENSION

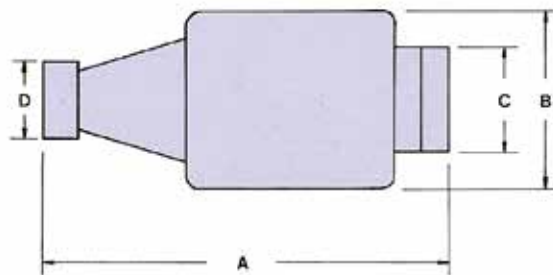
ITEM NO.		RT14-20	RT14-32	RT14-63	RT14-100
RATED VOLTAGE (V)		500V	500V	500V	500V
RATED CURRENT (A)		2, 4, 6, 8 10, 16, 20 25, 32	2, 4, 6, 10 16, 20, 25 32, 40, 50 63	10, 16, 20 25, 32, 40 50, 63, 80 100	63, 80 100, 125
DIMENSION (mm)	A	38	51	58	55
	B	10.3	14.3	22	30
	C	10	12	17	14




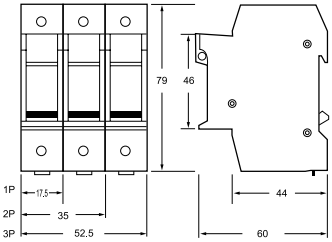

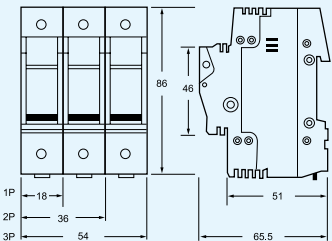

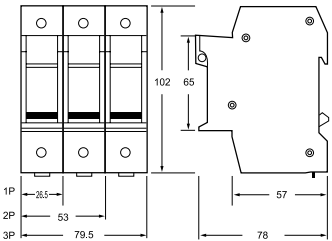

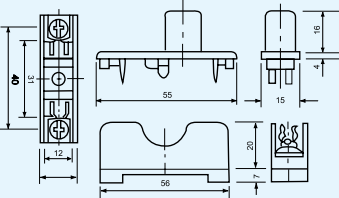

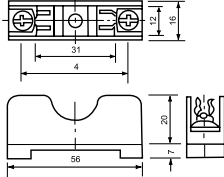

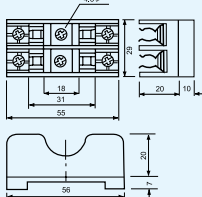


DIMENSION

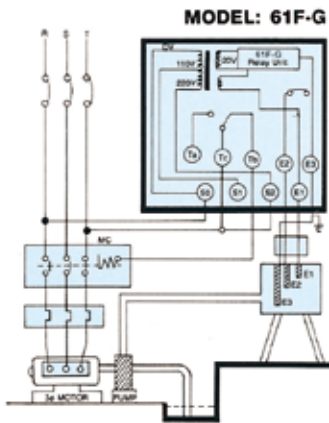
ITEM NO.	mm			
	A	B	C	D
RO-21 2-6 A	50	21	13	6
RO-21 8-10 A	50	21	13	8
RO-21 16 A	50	21	13	10
RO-21 20 A	50	21	13	12
RO-21 25 A	50	21	13	14
RO-22 35-40 A	50	27	20	16
RO-22 50 A	50	27	20	18
RO-22 63 A	50	27	20	20
RO-24 2 A	50	12.5	11.3	6
RO-24 4 A	50	12.5	11.3	6
RO-24 6 A	50	12.5	11.3	6
RO-24 10 A	50	12.5	11.3	8
RO-24 16 A	50	12.5	11.3	10
RO-24 20 A	50	12.5	11.3	12
RO-24 25 A	50	12.5	11.3	12



SCREW TYPE	FUSE			BASE		
ITEM NO.	RO-21	RO-22	RO-24	E16	E27	E33
RATED VOLTAGE (V)	500 V	500 V	500 V	500 V	500 V	500 V
RATED CURRENT (A)	2, 4, 6, 8 10, 16, 20 25	35, 40 50, 63	2, 4, 6 10, 16 20, 25	25A	25A	25A
CONNECTED WITH BASE (FUSE)	E27	E33	E16	RO-24	RO-21	RO-22

ITEM & PICTURE	SPECIFICATIONS	DIMENSIONS (mm)
 <p>RT18-32 RT18-32X (with led indicator)</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 500V AC · RATED CURRENT: 32A · FUSE TYPE: RT14-20 (ø10 x 38) · MOUNTING METHODS: BY DIN RAIL (35mm) · NUMBER OF POLES: 1P, 2P, 3P 	
 <p>RT18-32A RT18-32AX (with led indicator)</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 500V AC · RATED CURRENT: 32A · FUSE TYPE: RT14-20 (ø10 x 38) · MOUNTING METHODS: BY DIN RAIL (35mm) · NUMBER OF POLES: 1P, 2P, 3P 	
 <p>RT18-63</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 500V AC · RATED CURRENT: 63A · FUSE TYPE: RT14-32 (ø14 x 51) · MOUNTING METHODS: BY DIN RAIL (35mm) · NUMBER OF POLES: 1P, 2P, 3P 	
 <p>FS-10</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 250V AC · RATED CURRENT: 10A · FUSE TYPE: ø6 x 30 (GLASS TUBE) · WITH NEON LAMP INDICATOR & FUSE · NUMBER OF POLES: 1P 	
 <p>FS-101</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 250V AC · RATED CURRENT: 10A · FUSE TYPE: ø6 x 30 (GLASS TUBE) · NUMBER OF POLES: 1P 	
 <p>FS-102</p>	<ul style="list-style-type: none"> · RATED VOLTAGE: 250V AC · RATED CURRENT: 10A · FUSE TYPE: ø6 x 30 (GLASS TUBE) · NUMBER OF POLES: 2P 	

FLOATLESS RELAYS



SUS-8
Connecting Nut



PS-38
Electrode Holder



PS-36&
SUS-A
Electrode Rod
(SUS-A)

LIQUID LEVEL RELAYS

MODEL: PD-76AB

Function:
Automatic level control.

Features:

- (1) Applicable to 1 HP and less power rating pumps for water supply and drainage.
- (2) Additional magnetic contactor is not required.

Installation:

- (1) For water supply, connect A1-A2.
- (2) For drainage, connect B1-B2.

Notes:

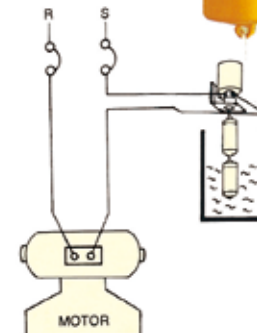
- (1) Do not touch with hand. switch

Notes:

- (1) A1 ⊖ — SUPPLY — ⊖ A2
B1 ⊖ — DRAINAGE — ⊖ B2
- (2) Applicable to 1 HP and less power rating pumps.



CONNECTION DIAGRAM



Function:

Automatic level control.

Features:

- (1) Suitable for water supply and drainage.
- (2) Plug in assembly, compact volume, easy for installation and replacement.
- (3) Probes E1-E3 are live with low voltage (A.C. 8 volts).
- (4) LED are provided to indicate operating condition.

Installation:

- (1) Inter unit wiring should be done according to the illustrated circuit diagram.
- (2) For three phase 220V power source, Connect terminal S2 to feeder T, otherwise connect terminal S1 in stead when single phase 110V power source is used.
- (3) For water supply, connect electromagnetic switch coil terminal A to T_b. For drainage, connect terminal A to T_a.

Note:

Probes E1-E3 are live with A.C. 8 volts, do not test them with an MΩ meter.

Be sure to ground terminal E3.

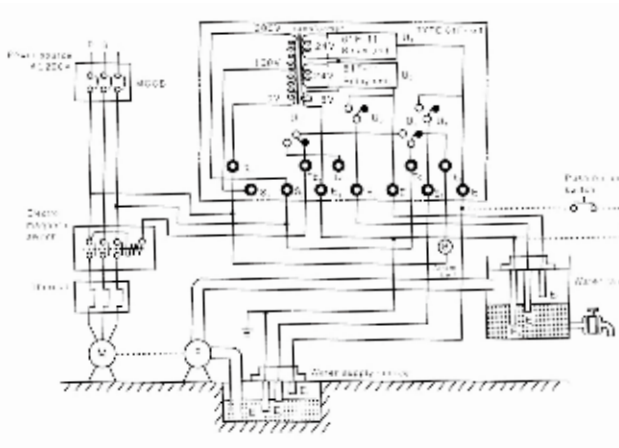


■ **Warning** : Note the difference in the wiring between the automatic water supply control with prevention of pump idling and that with issuance of alarm for abnormal water shortage.

■ OPERATION

- ① For Prevention of Pump Idling : When the liquid level in the water tank reaches E1(high) the motor is turned off, and when the level drops below E2(medium) it is turned on.
- ② For Prevention of Pump Idling : The motor is automatically turned off, when the liquid at the water supply source is in shortage and drops below the level of E2 (medium). An alarm is then sounded.
- ③ Issuance of Alarm for Abnormal Water Shortage : The motor is automatically turned off when for any reason the liquid level in the water tank drops below E2 (low). An alarm is then sounded.
- ④ Liquid level control is conducted within the range between the tips of E1 (high) and E2 (medium) in the water tank. Therefore, by changing the length of electrodes the range of control can be freely adjusted.
- ⑤ However, depending on the type of liquid and voltage variation, a slight difference is noted of the level where the pump resumes operation after the liquid level has reached the tip of the electrode.
- ⑥ Insert a pushbutton switch (NO contact) between E1' and E3 as shown by the dotted line on the light. In starting pump or after recovery from power failure, if water supply source level has not yet reached E1', depress the pushbutton switch to start the pump by momentarily short-circuiting E1' and E3. When the pump stops during normal operation subsequent to an alarm issued for low water level (water level does not reach E2'), do not depress the pushbutton switch.

EXTERNAL CONNECTION EXAMPLE



- With the power supply voltage 100V (110, 120V), the wiring is made between S0-S1 and with 200V (220, 240V) S0-S2.
- Be sure to ground terminal E3

PARTS USED FOR 61F-G1



SUS-S
connecting



PS-3S
Electrode Holder



PS-3S & SUS-A
Electrode Rod
(SUS-A)



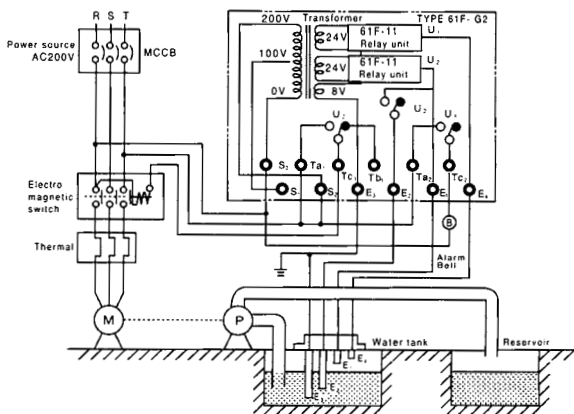
■ OPERATION

- ① When the liquid level in the drainage tank exceeds E_1 (high), the motor is turned on and when the level drops to E_2 (medium) it is turned off. When the liquid surface rises to E_4 (highest), an alarm is sounded warning the abnormally high level of water.
- ② Thus, the liquid level control is conducted within the range between the tips of E_1 (high), and E_2 (medium) in the water tank. There fore, the range of control can be freely adjusted by changing the length of E_1 and E_2 .
- ③ However, depending on the type of liquid and voltage variation, a slight difference is noted of the level where the pump resumes operation after the liquid level has reached the tip of the electrode.

■ FUNCTION

Automatic Drainage Control with Issuance of Alarm for Abnormal Water increase

EXTERNAL CONNECTION EXAMPLE



- With the power supply voltage 100V (110, 120V), the wiring is made between S0-S1 and with 200V (220, 240V) S0-S2.
- Be sure to ground terminal E3

PARTS USED FOR 61F-G2

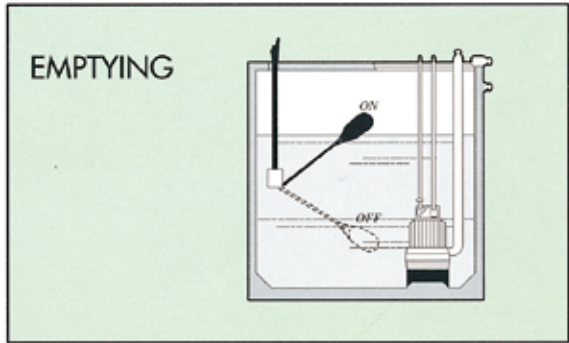
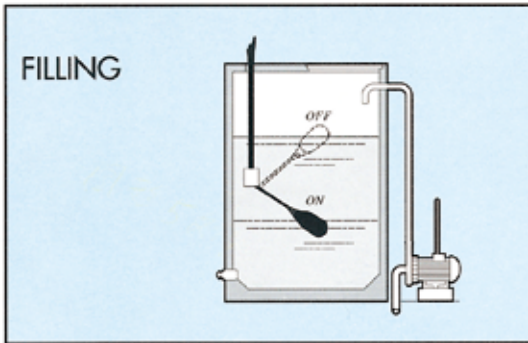




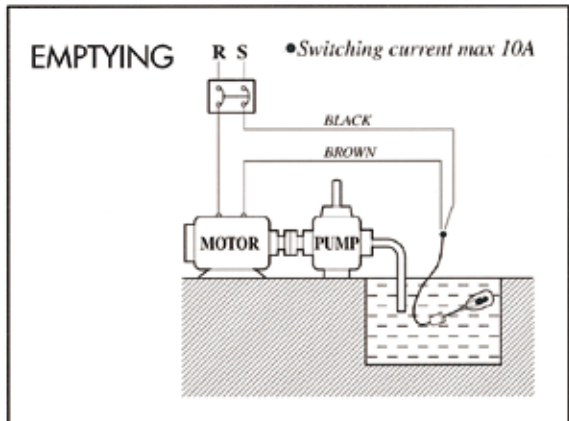
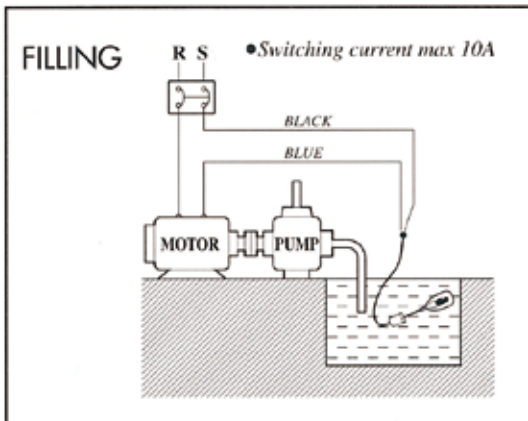
SPECIFICATIONS

Float material	Polypropylene
Cable material	Neoprene cable
Switching current max	10A
Switching voltage max	250VAC
Operating temp	0-60°C
Contact model	1A1B 1C
Cable length	3.3M
If request cable length over 3.3M, Please do advise	

INSTRUCTIONS FOR INSTALLATION



ELECTRICAL CONNECTIONS



Use wires:
 "Black" and "Blue"
 With these contacts the regulator
 Closes when down
 Opens when up

Use wires:
 "Black" and "Brown"
 With these contacts the regulator
 Closes when up
 Opens when down

The wire that is not used must be correctly insulated

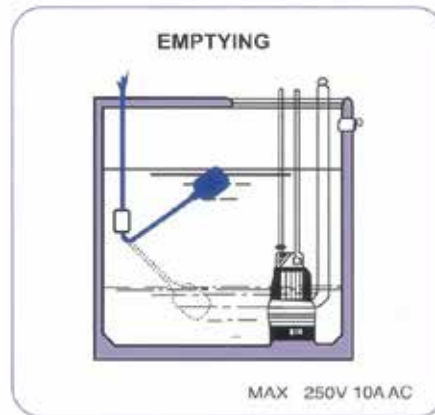
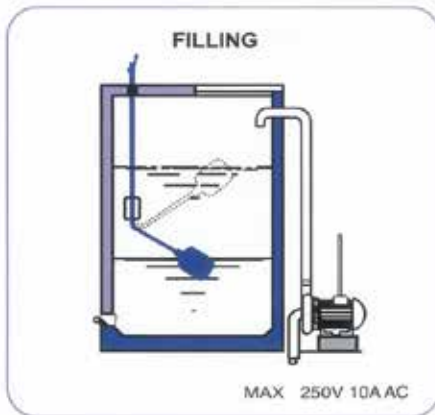
KF-06 LEVEL REGULATOR



May be used for direct level control, in accordance with product electrical specifications.

In the case of approved products, the ground wire will always be included and the ground wire sheath will always be yellow/green. In this case, the two remaining wires are supplied for "high closure" or, specific request, "low closure".

INSTRUCTIONS FOR INSTALLATION



ELECTRICAL CONNECTIONS

Use wires:
"Black" and "Blue"
 With these contacts the regulator
 Closes when down
 Opens when up

Use wires:
"Black" and "Brown"
 With these contacts the regulator
 Closes when up
 Opens when down

The wire that is not used must be correctly insulated

- 1 Insert the cable in the counterweight, from the conical part and rotate it, thus causing the plastic ring inserted in the opening to become detached (if necessary this operation can be facilitated with the use of a screwdriver). The ring should then be positioned in the point where it is desired to block the counterweight.
- 2 Force the counterweight on the ring by rotating it, using a slight pressure.

THE COUNTERWEIGHT IS FURNISHED ONLY ON REQUEST.

**AVOID JOINTS IN THE LEVEL REGULATOR CABLE.
 NEVER IMMERGE POSSIBLE CABLE JOINTS IN THE WATER.**

INSTALLATION OF COUNTERWEIGHT





HM-1

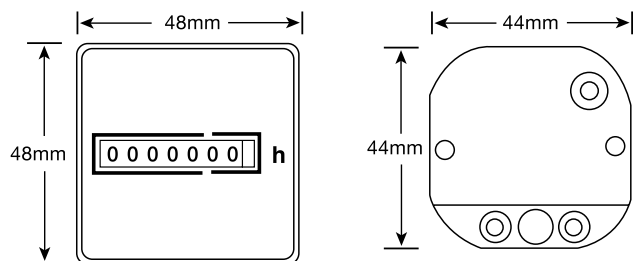


HM-2

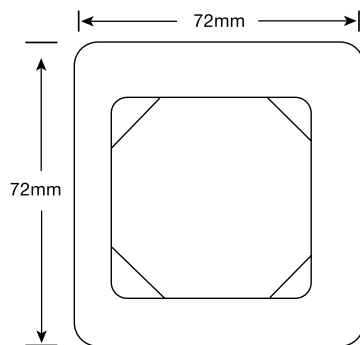
SPECIFICATIONS

- Item No. : HM-1
HM-2 Rail Type (din rail 35mm)
- Time Range : 0 ~ 99999.99 hours
- Supply voltage. : AC. 110V, 220V 50 or 60Hz
DC. 10 ~ 50V

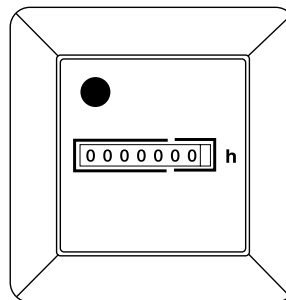
DIMENSIONS (mm)



OPTIONAL ACCESORIES FRAME : HM-C (Used for HM-1 only)



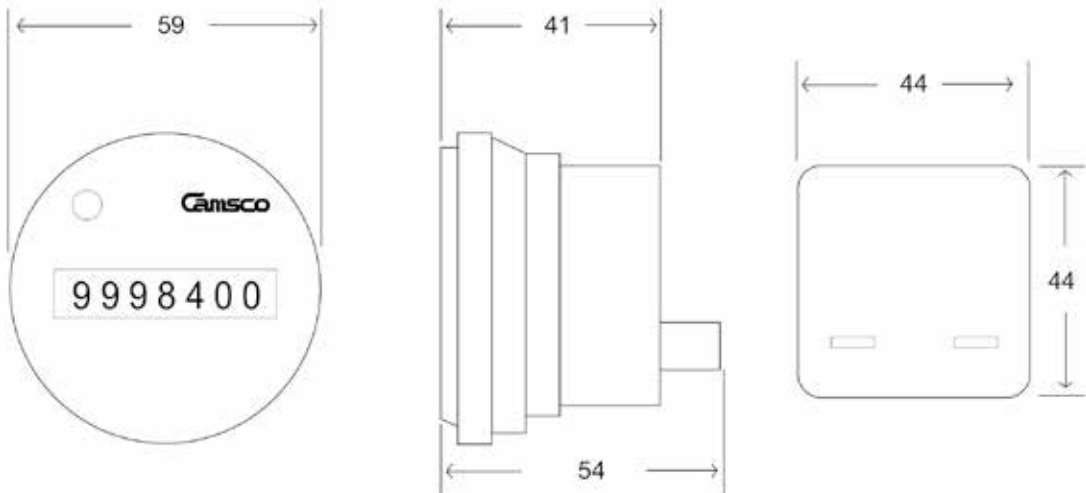
HM-C



Hour meter HM-1
with HM-C



DIMENSIONS/mm



TECHNICAL SPECIFICATION

Item No.	HM-R
Time Range	0-99999.99 hours
Mounting Method	Panel mounting
Connection Method	screw terminals & cable connector 6.4mm common use
Supply Voltage	10V-60V AC/DC 60V-140V AC/DC 150V-250V AC/DC

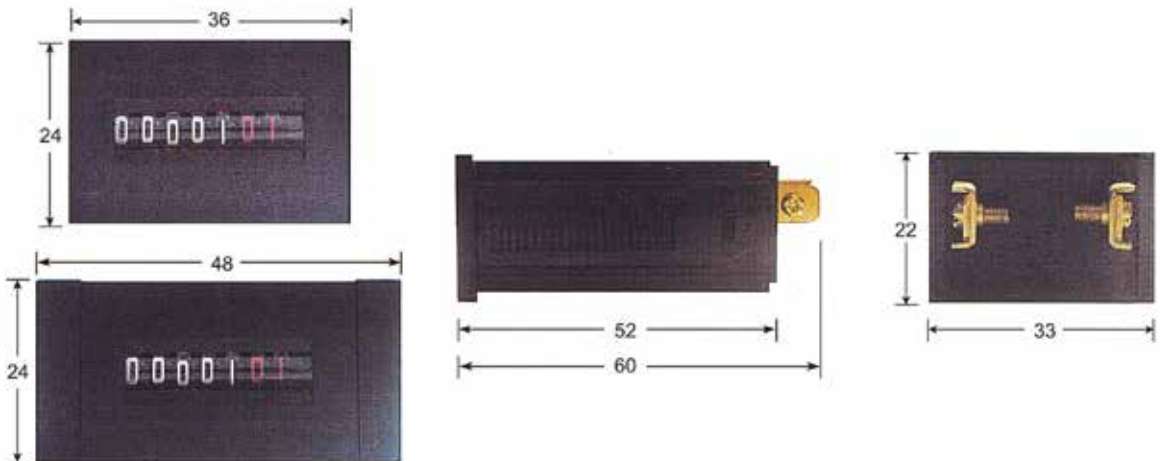
FEATURES

- ITEM NO. : HM-3
- THIS PRODUCTS IS SUITABLE FOR USAGE OF HOUSE, INDUSTRY, AIR CONDITION, ETC.
- TIME SETTING RANGE AVAILABLE FROM 0 TO 99999.99 HOURS.
- POWER : 110V, 220VAC
50 or 60Hz



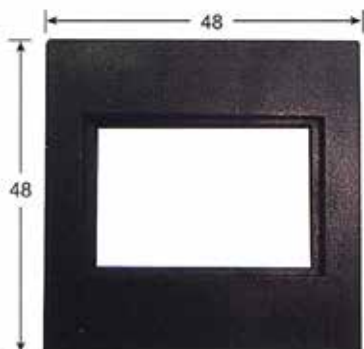
HM-3 HOUR METER.
WITH STANDARD ACCESSORIES FRAME

DIMENSIONS: (mm.)



<WITH STANDARD ACCESSORIES FRAME>


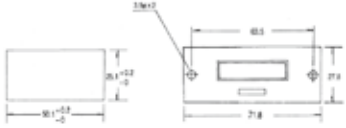

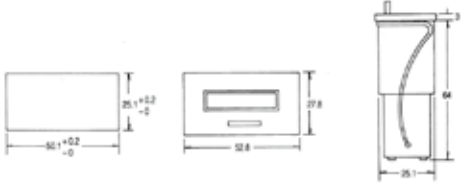

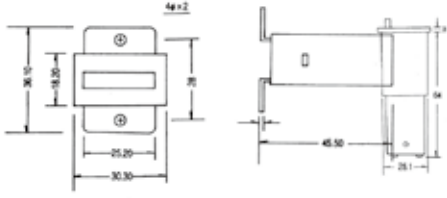

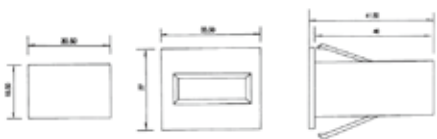
OPTIONAL ACCESSORIES FRAME:



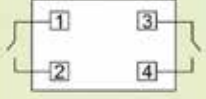



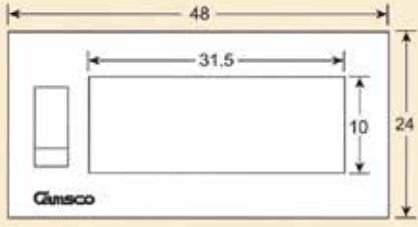
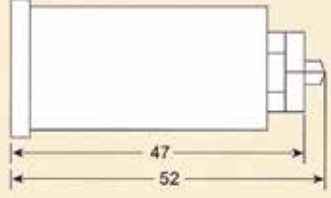
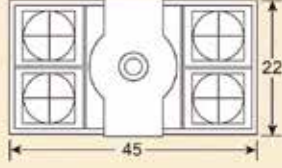


ITEM NO. FR-48



HM-3 WITH FR-48

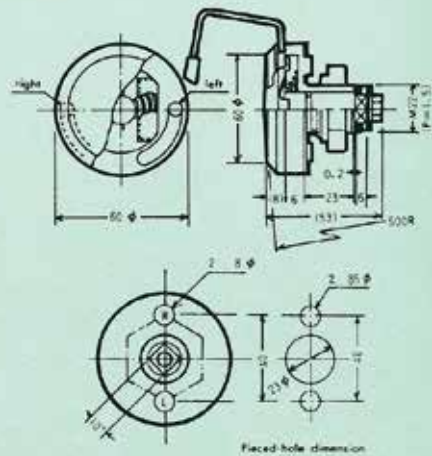
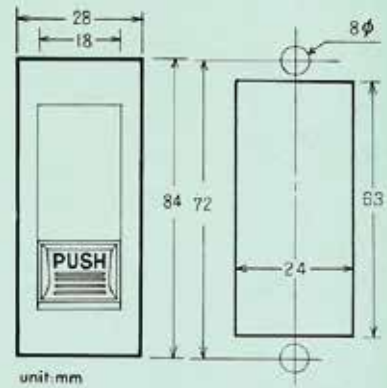
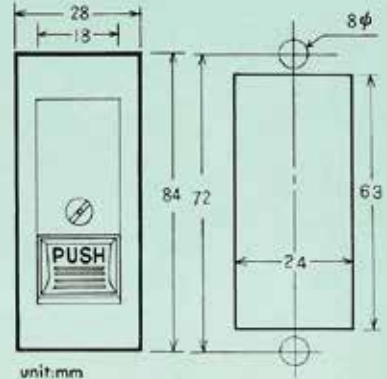
ITEM NO & PICTURES	SPECIFICATIONS	DIMENSIONS
 <p>EC-6R</p>	<ul style="list-style-type: none"> ● VOLTAGE:AC110V,220V DC12V,24V ● TOLERANCE:RATED VOLTAGE -15% ~ +10% ● COUNTING SPEED:AC 10CPS DC:20CPS 	
 <p>EC-6RS</p>	<ul style="list-style-type: none"> ● CONSUMPTION:AC 3VA DC:3.5W ● LIFE:20,000,000TIMES ● TEST:AC1,500V/1MIN ● WITH RESET KEY 	
 <p>EDC-6G</p>	<ul style="list-style-type: none"> ● VOLTAGE:DC12V,6V ● TOLERANCE:RATED VOLTAGE -15% ~ +10% ● COUNTING SPEED:10CPS ● CONSUMPTION:AC 3.5W ● LIFE:10,000,000 ● TEST:AC1,500V/1MIN 	
 <p>EDC-6GS</p>		

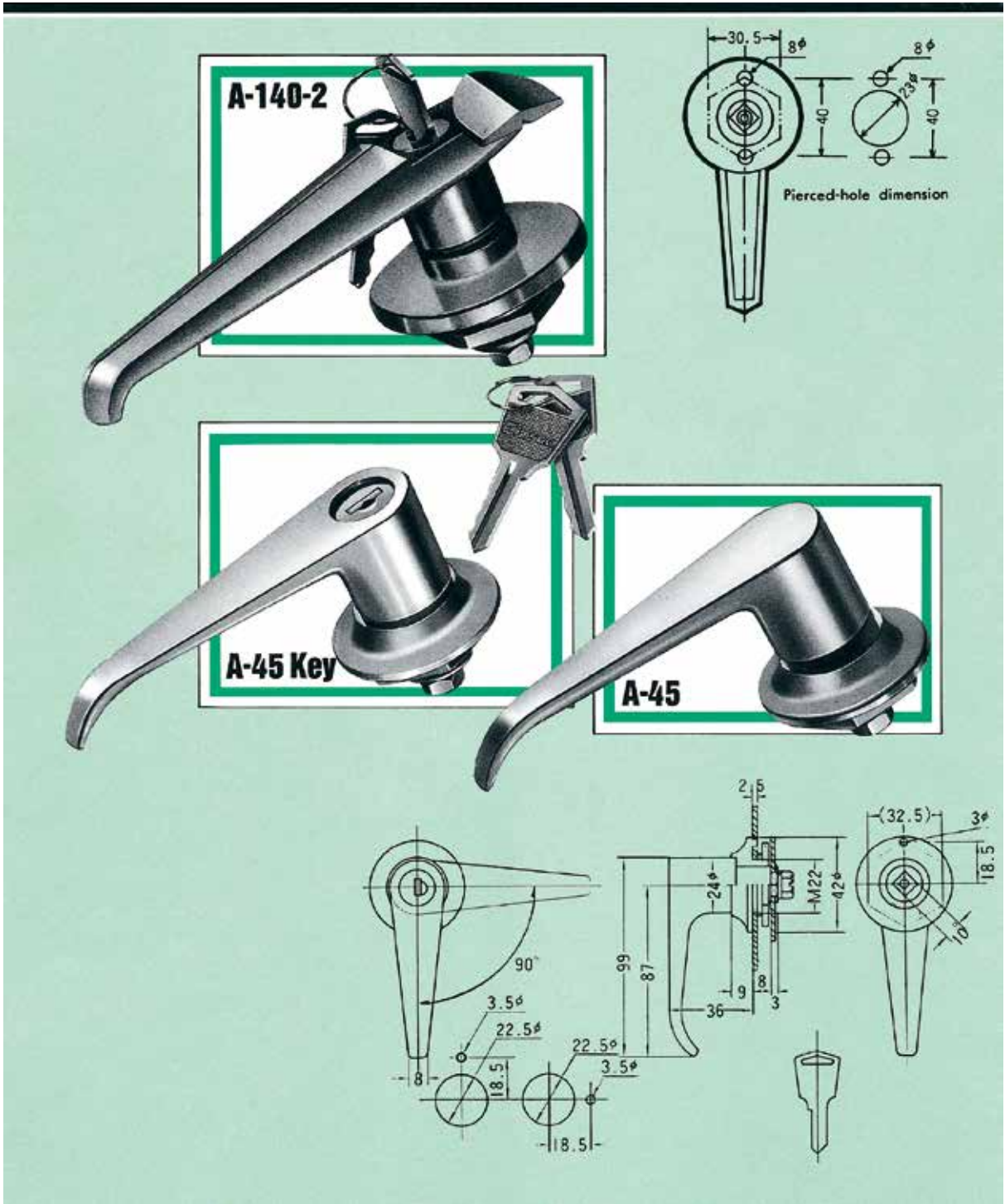
PICTURE SPECIFICATIONS				
	HOUR COUNTER		COUNTER	
ITEM NO.	LH7ET-8	LH7ET-8V	LH7E-8	LH7E-8V
COUNT INPUT	<ul style="list-style-type: none"> • CONTACT INPUT: BY SHORT CIRCUIT • CONTACT RESISTANCE: $\leq 10K \Omega$ (ON) $\geq 500K \Omega$ (OFF) 	<ul style="list-style-type: none"> • VOLTAGE INPUT: 4-30V DC 	<ul style="list-style-type: none"> • CONTACT INPUT: BY SHORT CIRCUIT • CONTACT RESISTANCE: $\leq 10K \Omega$ (ON) $\geq 500K \Omega$ (OFF) 	<ul style="list-style-type: none"> • VOLTAGE INPUT: 4-30V DC
NUMBER OF COUNTS	999999H59M	999999H59M	0-99999999	0-99999999
COUNTING SPEED	SIGNAL WIDTH : ≥ 1 SEC.		10 CPS (SIGNAL WIDTH : 50ms)	
RESET	SIGNAL WIDTH : ≥ 0.2 SEC.		VOLTAGE INPUT : 4-30V DC (SIGNAL WIDTH : ≥ 0.2 SEC.)	
CONNECTION DIAGRAM	 <p>COUNT INPUT : ① - ② RESET INPUT : ③ - ④</p>	 <p>COUNT INPUT : ① - ② RESET INPUT : ③ - ④</p>	 <p>COUNT INPUT : ① - ② RESET INPUT : ③ - ④</p>	 <p>COUNT INPUT : ① - ② RESET INPUT : ③ - ④</p>
DIMENSIONS	<p>UNIT : mm</p>   			

**HARDWARE
for INDUSTRY**

LOCK







HINGES FLAT END

■ MATERIALS

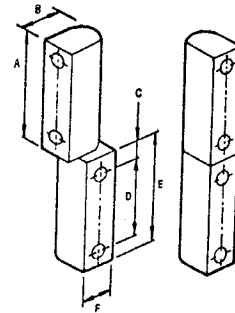
Body: Solid Brass-chrome Plated
 Pin: Dia.6 Stainless Steel
 Screws: M6x8-4 Assembly
 Hexagon Head Pozi Drive

■ DIMENSIONS



HC-80

HC-50



Item No.	mm	A	B	C	D	E	F
HC-50		25	16	6.5	13	25	12
HC-80		40	16	6.5	28.5	40	12



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体、精铸、镀锌钢板钢板、压铸;
- 表面处理: 镀锌、镀铬、抛光、喷砂、喷砂、喷砂;
- 结构功能: 按钮推出式平圆锁, 调整定位件位置及钢轴方向可实现左右开门通用, 具有防水功能, 可配单点、两点、三点钢轴, 钢轴开孔: $\square 10 \times 10$;
- 备 注: 适用门框厚度: 1-6mm, 可配K0200, K1000, K8180, K0550钢轴。
- Material: Zinc alloy body and shaft, cam and fixing material m.s.zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Push button handle lock, left hand and right hand use can be realized by changing the locations and cam position, with sealed and waterproof functions, single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-6mm, the key K0200, K1000, K8180, K0550 are available.

型号	尺寸	L1	L2	L3	B1	B2
AB102-1-1		150	141	140	38	30
AB102-2-1		110	102.5	100	34	27



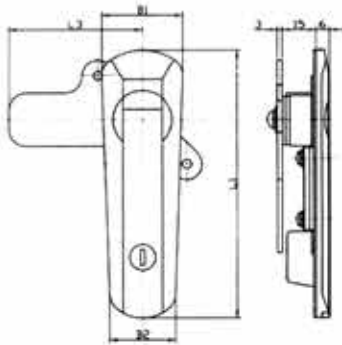
外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体、精铸、镀锌钢板钢板、压铸;
- 表面处理: 镀锌、镀铬、抛光、喷砂、喷砂;
- 结构功能: 按钮推出式平圆锁, 调整定位件位置及钢轴方向可实现左右开门通用, 具有防水功能, 可配单点、两点、三点钢轴, 钢轴开孔: $\square 10 \times 10$ AB301-1-1, $\square 10 \times 10$ AB301-2-1, AB301-3-1, $\square 8 \times 8$;
- 备 注: 适用门框厚度: 1-4mm, 可配K0200, K1000, K8180, K0550钢轴。
- Material: Zinc alloy body and shaft, cam and fixing material m.s.zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Push button handle lock, left hand and right hand use can be realized by changing the locations and cam position, with sealed and waterproof functions, single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-4mm, the key K0200, K1000, K8180, K0550 are available.

型号	尺寸	L1	L2	L3	B1	B2
AB301-1-1		147	117	72	33	26.5
AB301-2-1		120.5	95.6	65	30	23.5
AB301-3-1		87.5	62.5	65	26.5	23.5

专利号(Patent No): 20043002

Dimensions of outline and cut out 外形及安装孔尺寸



型号	尺寸	L1	L2	L3	B1	B2	B3
AB401-1-1		151	117	72	36	30	26.5
AB401-1-2		123	95.5	65	36.5	30	23.5
AB401-2-1		91	62.5	65	30	28.5	23.5
AB401-3-2		91	62.5	65	30	28.5	23.5

- 材 质: 锌合金锁体、转轴, 镀锌钢板锁芯、压板;
- 表面处理: 镀锌板、镀锌轴, 喷光亮黑, 喷沙纹黑;
- 结构功能: 半圆锁, 调整定位件位置及锁轴方向可实现左右开门通用, 具密封防水功能, 可配单点、两点、三点锁芯, 锁轴开孔: AB401-2-1小AB401-3-1小B孔;
- 备 注: 适用门框厚度: 1-4mm, 可配K0200, K1000, K8180锁芯;
- Material: Zinc alloy body and shaft, cam and fixing material in s.zinc pl ;
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Left hand and right hand use can be realized by changing the locations and cam position, with sealed and waterproof functions. Single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-4mm, the key K0200, K1000, K8180 are available

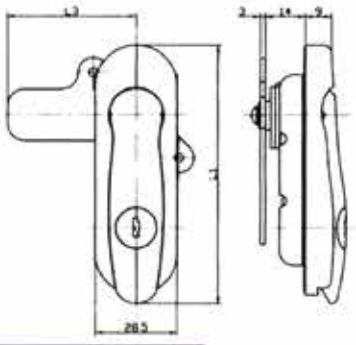


AB401-3-2

AB401-2-1

K0200

Dimensions of outline and cut out 外形及安装孔尺寸



型号	尺寸	L1	L2	L3	B1
AB402-1-1		147	117	72	26.5
AB402-1-2		127	95.5	65	23.5
AB402-2-1		91	62.5	65	23.5
AB402-3-1		91	62.5	65	23.5
AB402-3-2		91	62.5	65	23.5

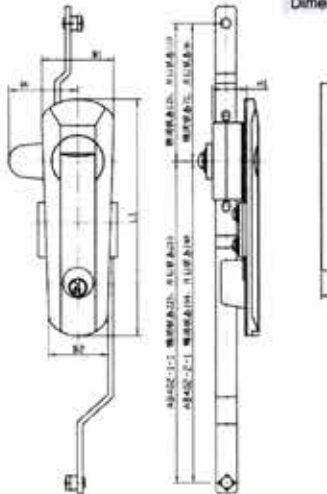
- 材 质: 锌合金锁体、转轴, 镀锌钢板锁芯、压板;
- 表面处理: 镀锌板、镀锌轴, 喷光亮黑, 喷沙纹黑;
- 结构功能: 半圆锁, 调整定位件位置及锁轴方向可实现左右开门通用, 具密封防水功能, 可配单点、两点、三点锁芯, 锁轴开孔: AB402-1-1; AB402-2-1; B孔;
- 备 注: 适用门框厚度: 1-4mm, 可配K0200, K1000锁芯;
- Material: Zinc alloy body and shaft, cam and fixing material in s.zinc pl ;
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Left hand and right hand use can be realized by changing the locations and cam position, with sealed and waterproof functions. single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-4mm, the key K0200, K1000 are available



K0200

AB402-3-1

Dimensions of outline and cut out 外形及安装孔尺寸



型号	尺寸	L1	L2	B1	B2	B3	H1
AB403-1-1		150	131	43	30	27	27
AB403-2-1		121	96	36.5	30	24	17.5

- 材 质: 锌合金锁体, 镀锌钢板锁芯, 传动棒, 压板;
- 表面处理: 镀锌板、镀锌轴, 喷光亮黑, 喷沙纹黑;
- 结构功能: 半圆连杆传动锁, 调整锁轴方向可实现左右开门通用, 具密封防水功能, 可配单点、两点、三点锁芯, 锁轴开孔: AB403-1-1; AB403-2-1; B孔;
- 备 注: 适用门框厚度: 1-4mm, 可配K0200, K1000, K8180锁芯;
- Material: Zinc alloy body and shaft, cam, rod and fixing material in s.zinc pl ;
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Rod control lock, left hand and right hand use can be realized by changing the cam position, with sealed and waterproof functions. single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-4mm, the key K0200, K1000, K8180 are available



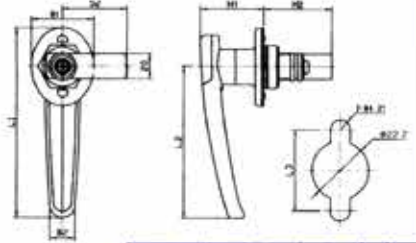
K0200

AB403-1-1



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯。
- 表面处理: 镀锌, 镀亮铬, 喷亮黑, 喷沙纹黑。
- 结构功能: L型把手锁, 锁座旋转60° 安装可实现左右开门通用, 也可配旋转90°, 可配单点, 两点, 三点锁芯, 锁芯开孔AB701-1-1(L1)或AB701-2-1 AB701-3-1(L2)。
- 备 注: 适用门板厚度: 1-8mm, 可配K0200, K1000, K0180, 铜套。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated.
- Structure: L handle lock, left hand and right hand use can be realized by turning the lock base to 60° or 90°, single-point, two-point and three-point cam are available.
- Remark: Applicable panel thickness: 1-8mm, the key K0200, K1000, K0180, K0360 are available.

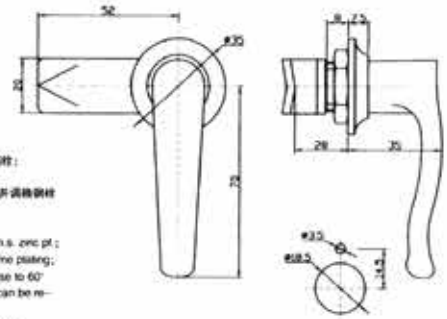


型号	尺寸	L1	L2	L3	B1	B2	H1	H2
AB701-1-1		150	119	40	50	17.5	50	41.5
AB701-1-2								
AB701-3-1		120	96	30.5	40	15	46	31.3
AB701-3-1								
AB701-3-2		101.5	78	32	37	14	45	31.3



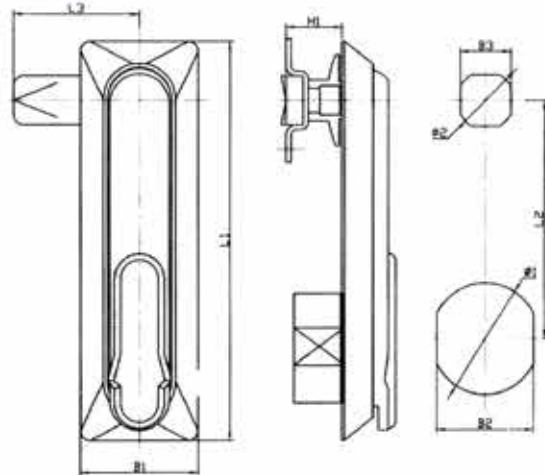
外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯。
- 表面处理: 镀锌, 镀亮铬。
- 结构功能: L型把手锁, 锁座旋转60° 安装并调整锁芯方向可实现左右开门通用。
- 备 注: 适用门板厚度: 1-2mm。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating.
- Structure: L handle lock, turn the lock base to 60° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-2mm.



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: PA-66锁体, 镀锌钢板锁芯, 传动套。
- 表面处理: 黑色。
- 结构功能: 平盖或杆传动锁, 扁形半圆柱锁芯, 带塑料锁芯防空盖, 左右开门通用, 可配单点和三点结构, 锁芯开孔L1。
- 备 注: 适用门板厚度1-4.5mm, 可配K0100, K7030, K7010, K7040锁套。
- Material: PA-66 body, cam and rod m.s. zinc pl.
- Surface color: Black.
- Structure: Rod control lock, double bit intent, plastic dual cover, both left hand and right hand use, two-point and three-point structures are available.
- Remark: Applicable panel thickness: 1-4.5mm, the key K0100, K0700, K7030, K7040 are available.



型号	尺寸	L1	L2	L3	B1	B2	B3	H1	H2	H3
MS100-1-1		162	96.5	41.5	48	40.5	21.5x21.5	26	45.5	25
MS100-2-1		138	96.5	40	37	30	15.5x15.5	18	33.5	17

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: PA-66主体, 镀锌钢板副体;
- 表面处理: 黑色;
- 结构功能: 平通连杆作动锁, 异形半圆柱锁芯, 带塑料锁芯防撬盖, 左右开门通用, 可配两点和三点结构, 锁体开孔18x4;
- 备 注: 适用门框厚度1-4mm, 可配K0100, K7030, K7010, K7040锁芯;
- Material: PA-66 body, cam m.s., zinc pl.;
- Surface color: Black;
- Structure: Rod control lock, double bit insert, plastic outer cover, both left hand and right hand use. Two-point and three-point structures are available;
- Remark: Applicable panel thickness: 1-4mm, the key K0100, K7030, K7010, K7040 are available(see page 82).



Dimensions of outline and cut out 外形及安装孔尺寸

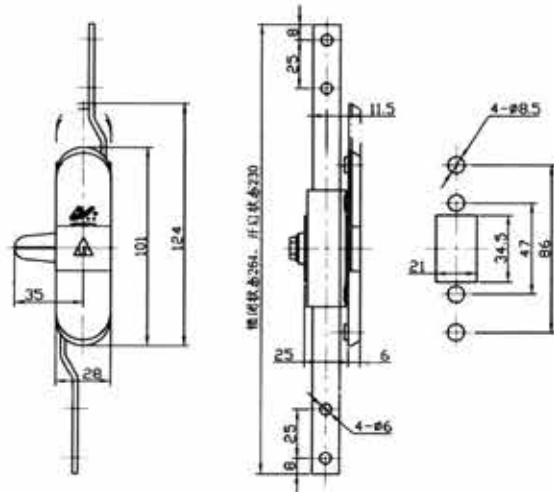
- 材 质: 锌合金主体, 镀锌钢板副体;
- 表面处理: 镀锌板, 粉末涂层;
- 结构功能: 平通连杆作动锁, 调整锁特方向以适连杆位置可实现左右开门通用, 可配两点和三点结构;
- 备 注: 适用门框厚度1-3mm, 可配K0600, K0200, K1000, K1180锁芯;
- Material: Zinc alloy body, cam m.s., zinc pl.;
- Finish: Gray chrome plating, black powder coated;
- Structure: Rod control lock, left hand and right hand use can be realized by changing the rod and cam position, two-point and three-point structures are available;
- Remark: Applicable panel thickness: 1-3mm, the key K0600, K0200, K1000, K1180 are available.

型号	尺寸	L1	L2	L3
MS103-2-1		131	74	49.5





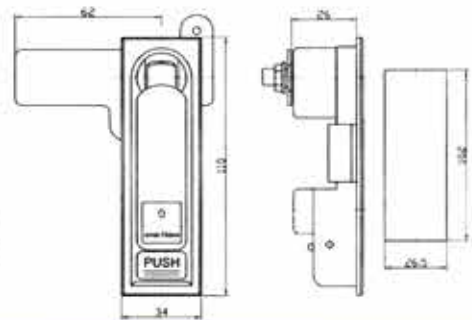
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金壳体, 镀锌钢板衬板;
- 表面处理: 镀锌, 喷沙, 喷光处理;
- 结构功能: 带滑盖式防尘盖, 平面连杆传动, 调整定位位置和控制方向可实现左右开门通用, 锁芯可锁任半周;
- 备 注: 适用门框厚度 1-3mm, 锁芯开孔: $\text{C}7 \times 7$, 可配K7010, K7000, 7040锁匙。
- Material: Zinc alloy body, cam m.s., zinc pl.
- Finish: Gray chrome plating, black powder coated.
- Structure: Sliding dust cover rod control lock, left hand and right hand use can be realized by changing the location and cam position, the key can be used as handle.
- Remark: Applicable panel thickness: 1-3mm, the key k7010, k7000, k7040 are available



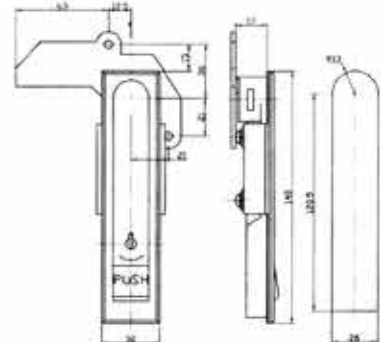
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金壳体, 镀锌钢板衬板;
- 表面处理: 镀锌, 喷沙;
- 结构功能: 密封防水平锁, 可配单点、两点、三点锁芯, 有左右开门之分;
- 备 注: 适用门框厚度 1-3.5mm, 可配K1000, K8180锁匙, 锁芯开孔: $\text{C}3 \times 6$
- Material: Zinc alloy body, cam m.s., zinc pl.
- Finish: Bright chrome plating, gray chrome plating
- Structure: With sealed and waterproof functions, single-point, two-point and three-point cam are available, left hand or right hand use.
- Remark: Applicable panel thickness: 1-3.5mm, the key k1000, k8180 are available



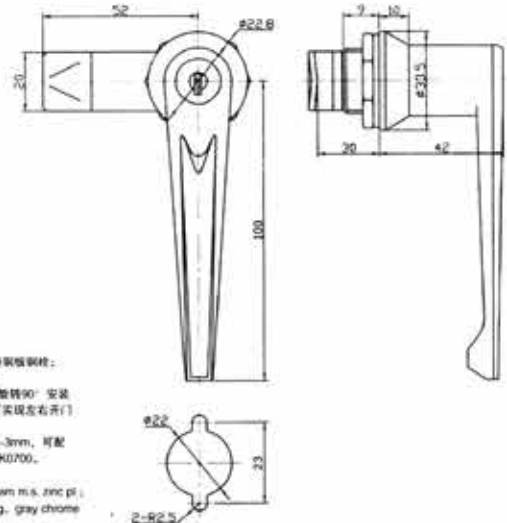
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金壳体, 镀锌钢板衬板, 压铸;
- 表面处理: 镀锌, 喷沙;
- 结构功能: 密封防水平锁, 可配单点、两点、三点锁芯, 有左右开门之分;
- 备 注: 适用门框厚度 1-3.5mm;
- Material: Zinc alloy body, cam and facing material m.s., zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: With sealed and waterproof functions, single-point, two-point and three-point cam are available, left hand or right hand use.
- Remark: Applicable panel thickness: 1-3.5mm



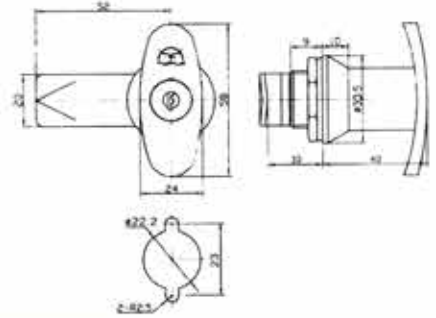
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金铸体, 镀锌钢板铸体;
- 表面处理: 镀亮铬, 磨砂铬;
- 结构功能: L型把手锁, 锁座旋转90°安装并调整锁控方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-3mm, 可配 K0300, K1000, K0700, K8180锁匙。
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-3mm, the key K0300, K1000, K8180, K0700 are available.



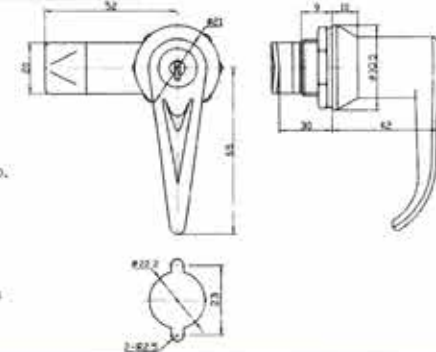
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金铸体, 螺母, 镀锌钢板铸体;
- 表面处理: 镀亮铬, 磨砂铬;
- 结构功能: L型把手锁, 锁座旋转90°安装并调整锁控方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-3mm, 可配 K0300, K0700, K1000, K8180锁匙。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-3mm, the key K0300, K0700, K1000, K8180 are available.



外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金铸体, 螺母, 镀锌钢板铸体;
- 表面处理: 镀亮铬, 磨砂铬;
- 结构功能: L型把手锁, 锁座旋转90°安装并调整锁控方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-3mm, 可配 K0300, K0700, K1000, K8180锁匙。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: applicable panel thickness: 1-3mm, the key K0300, K0700, K1000, K8180 are available.

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体、螺母, 镀锌铜板锁芯;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: L型把手锁, 锁体旋转90°安装并调整锁芯方向可实现左右开门通用;
- 备 注: 适用门框厚度: 1-3mm; 可配K0300, K0200, K1000, K8180锁芯。

- Material: Zinc alloy body and nut, cam m.s.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-3mm, the key K0300, K0200, K1000, K8180 are available.



Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体、螺母, 镀锌铜板锁芯;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: L型把手锁, 锁体旋转60°安装并调整锁芯定位件位置可实现左右开门通用;
- 备 注: 适用门框厚度: 1-8mm, 锁芯开孔: $\varnothing 16 \times 10$, 可配K0200, K1000, K8180锁芯。

- Material: Zinc alloy body and nut, cam m.s.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the lock position.
- Remark: Applicable panel thickness: 1-8mm, the key K0200, K1000, K8180 are available.

型号	尺寸	L1	L2	A	B1	B2	H
MS305-1-1		150	40	22	26	8	45.5
MS305-2-1		107	31.8	15	23	7.2	37.5



Dimensions of outline and cut out 外形及安装孔尺寸

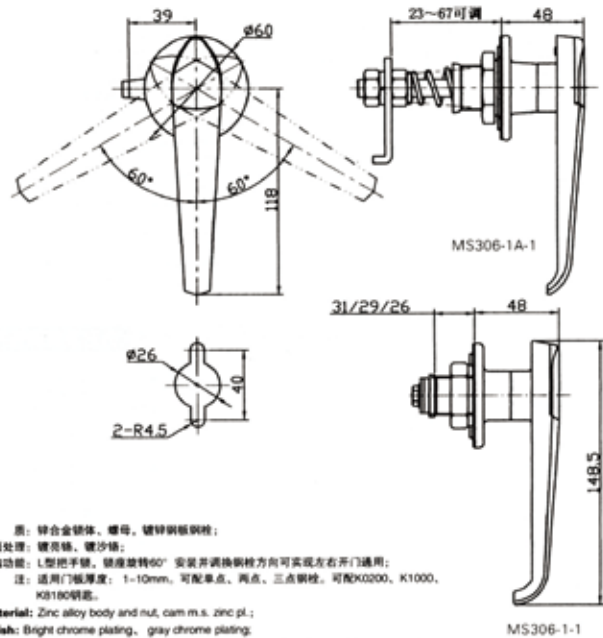
- 材 质: 锌合金锁体、螺母, 镀锌铜板锁芯;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: L型把手锁, 锁体旋转60°安装并调整锁芯方向可实现左右开门通用;
- 备 注: 适用门框厚度: 1-4mm, 可配单点、两点、三点锁芯, 可配K0200, K1000, K8180锁芯。

- Material: Zinc alloy body and nut, cam m.s.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: L handle lock, turn the lock base to 60° when installing, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-4mm, single-point, two-point and three-point cam are available, the key K0200, K1000, K8180 are available.





外形及安装孔尺寸 Dimensions of outline and cut out

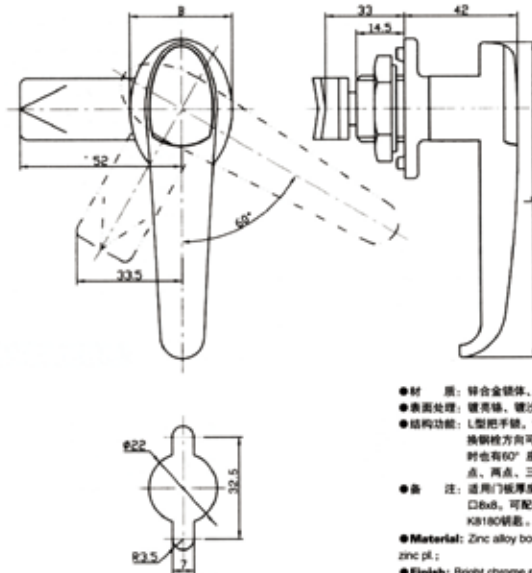


- **材 质:** 锌合金锁体、螺母、镀锌钢板锁芯;
- **表面处理:** 镀铬轴、镀锌轴;
- **结构功能:** L型把手锁, 锁座旋转60° 安装并调换锁轴方向可实现左右开门通用;
- **备 注:** 适用门板厚度: 1~10mm, 可配单点、两点、三点锁芯, 可配K0200、K1000、K8180锁芯。
- **Material:** Zinc alloy body and nut, cam m.s. zinc pl.;
- **Finish:** Bright chrome plating, gray chrome plating;
- **Structure:** L handle lock, turn the lock base to 60° when installing, left hand and right hand use can be realized by changing the cam position;
- **Remark:** Applicable panel thickness: 1~10mm, single-point, two-point and three-point cam are available, the key K0200, K1000, K8180 are available.

专利号(Patent No): 99323456.9



外形及安装孔尺寸 Dimensions of outline and cut out



- **材 质:** 锌合金锁体、螺母、镀锌钢板锁芯;
- **表面处理:** 镀铬轴、镀锌轴;
- **结构功能:** L型把手锁, 锁座旋转60° 安装并调换锁轴方向可实现左右开门通用, 时也有60° 度和90° 度之分, 可1点、两点、三点锁;
- **备 注:** 适用门板厚度: 1~6mm, 锁轴开口8x8, 可配K0200、K1000、K8180锁芯。
- **Material:** Zinc alloy body and nut, cam m.s. zinc pl.;
- **Finish:** Bright chrome plating, gray chrome plating;
- **Structure:** L handle lock, turn the lock base to 60° when installing, left hand and right hand use can be realized by changing the cam position, single-point, two-point and three-point cam are available;
- **Remark:** Applicable panel thickness: 1~6mm the key K0200, K1000, K8180 are available.

型号	尺寸	L	B
MS308-1-1	120	36	
MS308-2-1	102	33	

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体, 镀锌钢板锁芯;
- 表面处理: 硬铬饰, 镀沙铬;
- 结构功能: L型把手连杆传动锁, 有左右开门之分;
- 备 注: 适用门板厚度: 1-2.5mm, 可配 K0200, K1000, K8180锁芯。
- Material: Zinc alloy body, cam m.s., zinc pl.;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: L handle rod control lock, left hand or right hand use;
- Remark: Applicable panel thickness: 1-2.5mm, the key -K0200, K1000, K8180 are available.

K0200

MS308-2A-1

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯;
- 表面处理: 硬铬饰, 镀沙铬;
- 结构功能: L型把手锁, 锁座旋转 90° 安装并调换锁芯方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-6mm;
- Material: Zinc alloy body and nut, cam m.s., zinc pl.;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-6mm.

MS309

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯;
- 表面处理: 硬铬饰, 镀沙铬;
- 结构功能: L型把手锁, 锁座旋转 90° 安装并调换锁芯方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-5mm, 可配K0200, K1000, K8180锁芯。
- Material: Zinc alloy body and nut, cam m.s., zinc pl.;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: L handle lock, turn the lock base to 90° when installing, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-5mm the key K0200, K1000, K8180 are available.

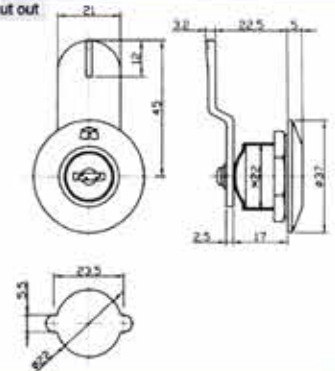
K0200

MS310-1-1



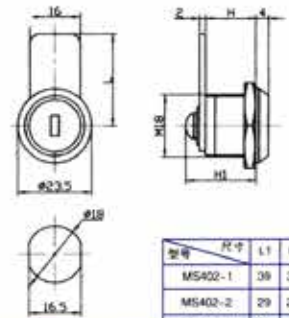
外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 有锌合金和塑料两种结构之分, 塑料部份外表包不锈钢外壳, 锌合金螺母, 镀锌钢板锁芯。
- 表面处理: 镀锌板、镀锌板。
- 结构功能: 圆形平面转舌锁, 左右开门通用, 调换锁柱方向可实现左右开门通用。
- 备 注: 适用门板厚度: 1-6mm, 可配K0400, K0700, K1000, K8180钥匙。
- Material: Available in both zinc alloy and plastic body, plastic body with stainless steel cover, zinc alloy nut, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position.
- Remark: applicable panel thickness: 1-5mm, the key K0400, K0700, K1000, K8180 are available.



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体、螺母, 镀锌钢板锁柱。
- 表面处理: 镀锌板、镀锌板。
- 结构功能: 圆形平面转舌锁, 调换锁柱方向可实现左右开门通用。
- 备 注: 适用门板厚度: 1-10mm, 可配K0400, K0700, K1000, K8180钥匙。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating.
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-10mm, the key K0400, K0700, K1000, K8180 are available.

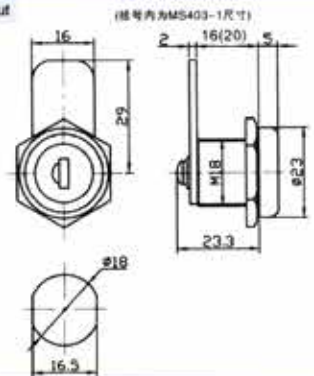


型号	尺寸	L1	H	H1
MS402-1		39	30	37
MS402-2		29	20	27
MS402-3		29	16	23

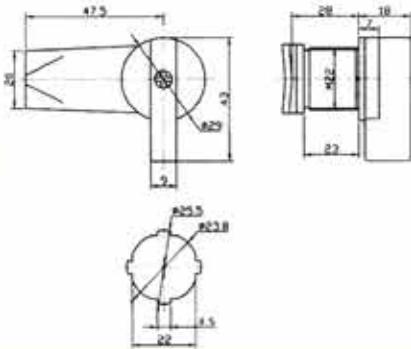


外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体、螺母, 包不锈钢面板, 镀锌钢板锁柱。
- 表面处理: 镀锌板。
- 结构功能: 圆形平面转舌锁, 调换锁柱方向可实现左右开门通用。
- 备 注: 适用门板厚度: 1-10mm, 可配K0400, K0700, K1000, K8180钥匙。
- Material: Zinc alloy body and nut, stainless steel face plate cover, cam m.s. zinc pl.
- Finish: White zinc plating.
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-10mm, the key K0400, K0700, K1000, K8180 are available.



Dimensions of outline and cut out 外形及安装孔尺寸

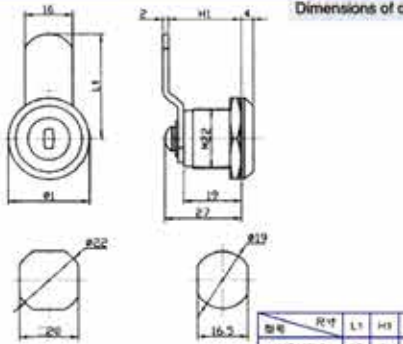


- 材 质: PA-66把手, 锌合金锁体, 螺母, 镀锌铜板铜栓;
- 表面处理: 镀锌锌;
- 结构功能: L型把手锁, 调整锁栓方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-7mm;
- Material: PA-66 handle, zinc alloy body and nut, cam m.s. zinc pl;
- Finish: White zinc plating;
- Structure: L handle lock, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-7mm.



MS406

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 螺母, 镀锌铜板铜栓;
- 表面处理: 喷无光漆, 镀铬轴, 镀锌轴;
- 结构功能: 圆形平盖转舌锁, 调整锁栓方向可实现左右开门通用, 铜栓开孔: □8x8;
- 备 注: 适用门板厚度: 1-8mm, 可配 K0600, K0200, K1000, K8181铜匙;
- Material: Zinc alloy body and nut, cam m.s. zinc pl;
- Finish: Black powder coated, bright chrome plating, gray chrome plating;
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-8mm the key K0600, K0200, K1000, K8180 are available.

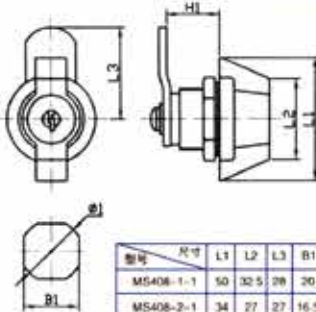
型号	尺寸	L1	H1	ø1
MS407-1		35	24	27
MS407-2		29	18	23



K0600

MS407-1

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 螺母, 镀锌铜板铜栓;
- 表面处理: 喷无光漆, 镀铬轴;
- 结构功能: 翼型手柄锁, 调整锁栓方向可实现左右开门通用, 铜栓开孔: □8x8, 尾柄旋转锁芯180°后, 转动手柄即可打开柜门;
- 备 注: 适用门板厚度: 1-6mm, 可配 K333, K1000, K8180铜匙;
- Material: Zinc alloy body and nut, cam m.s. zinc pl;
- Finish: Black powder coated, gray chrome plating;
- Structure: Wing knob lock, left hand and right hand use can be realized by changing the cam position, the door can be opened by turning the handle when turning the insert to 180°;
- Remark: Applicable panel thickness: 1-6mm the key K333, K1000, K8180 are available.

型号	尺寸	L1	L2	L3	B1	H1	ø1
MS408-1-1		50	32.5	28	20	48.5	22
MS408-2-1		34	27	27	16.5	20	18.5
MS408-3-1		32	21	24	14.2	14	16



K333

MS408-1-1

MS408-3-1

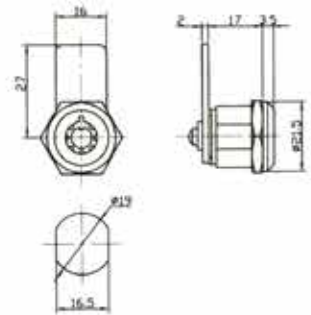


MS409-1

MS409-2

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 镀锌钢板锁芯;
- 表面处理: 镀亮铬, 镀锌粉, 喷光底漆;
- 结构功能: 面板平置时右旋, 调换钢板方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-6mm, 零利率 2500把;
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-6mm, 2500 key combinations available.

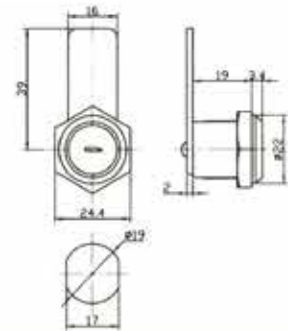


MS410

K0100

外形及安装孔尺寸 Dimensions of outline and cut out

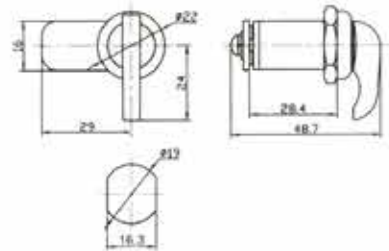
- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯;
- 表面处理: 镀亮铬, 镀锌粉, 喷光底漆;
- 结构功能: 面板平置时右旋, 调换钢板方向可实现左右开门通用, 锁芯旋转90°, 钢板开孔: □6x8;
- 备 注: 适用门板厚度: 1-9mm, 可配K0100, K1000, K8180钥匙;
- Material: Zinc alloy body and nut, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-9mm, the key K0100, K1000, K8180 are available.



MS412

外形及安装孔尺寸 Dimensions of outline and cut out

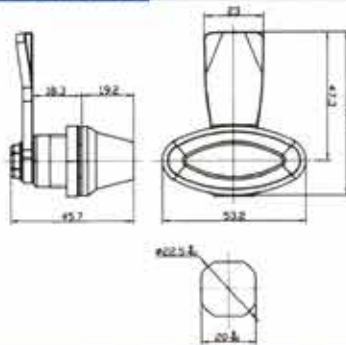
- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯;
- 表面处理: 镀镍, 镀亮铬, 镀锌粉;
- 结构功能: 把手式圆形锁, 调换定位件位置和钢板方向可实现左右开门通用, 钢板开孔: □6x8;
- 备 注: 适用门板厚度: 1-20mm;
- Material: Zinc alloy body and nut, cam m.s. zinc pl.;
- Finish: Nickel plating, bright chrome plating, gray chrome plating;
- Structure: Handle lock, left hand and right hand use can be realized by changing the locations and cam position;



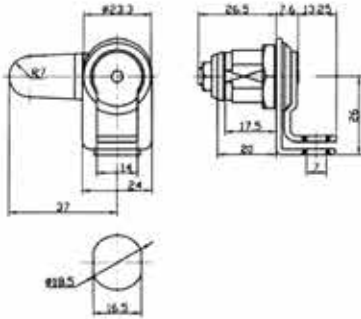
MS414

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, PA-6螺母, 镀锌钢板锁芯;
- 结构功能: 平面转舌锁, 调换钢板方向可实现左右开门通用, 钢板开孔: □6x8;
- 备 注: 适用门板厚度: 1-6mm;
- Material: Zinc alloy body, PA-6 knob, cam m.s. zinc pl.;
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-6mm.



Dimensions of outline and cut out 外形及安装孔尺寸

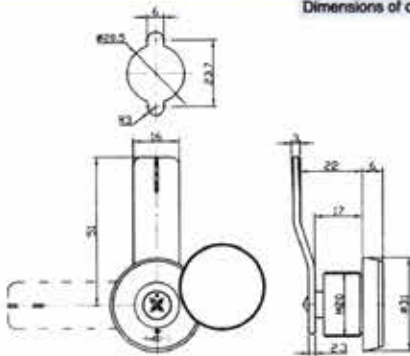


- 材 质: 锌合金壳体, 镀锌钢板锁体;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: L型锁, 可装挂锁装置, 调整锁栓方向可实现左右开门通用;
- 备 注: 适用门框厚度: 1-10mm
- Material: Zinc alloy body, cam m.s. zinc pl;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: L style lock, can be installed with padlock, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-10mm.



MS418

Dimensions of outline and cut out 外形及安装孔尺寸



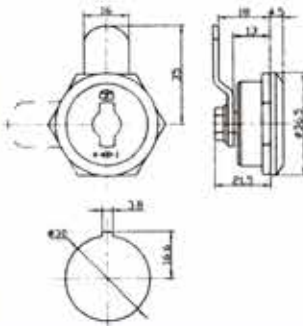
- 材 质: 锌合金壳体, 螺母, 点锁锁芯, 镀锌钢板锁体;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: 圆柱点锁芯锁, 调整锁栓方向可实现左右开门通用;
- 备 注: 适用门框厚度: 1-8mm, 可配K1000, K8060, K8180锁芯, 专用率16把。

- Material: Zinc alloy body and nut, brass insert, cam m.s. zinc pl;
- Finish: Bright chrome plating, grey chrome plating;
- Structure: Cam lock, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-8mm, the key K1000, K8060, K8180 are available.16 key combinations available



MS-A-400

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金壳体, 钥匙, 镀锌钢板锁体, 螺母;
- 表面处理: 镀亮铬, 镀沙铬;
- 结构功能: 带锁芯防尘盖, 调整锁栓方向可实现左右开门通用; 锁栓开孔: 3/8x4;
- 备 注: 适用门框厚度: 1-5mm, 可配K7010, K7030, K7040, K7050钥匙。

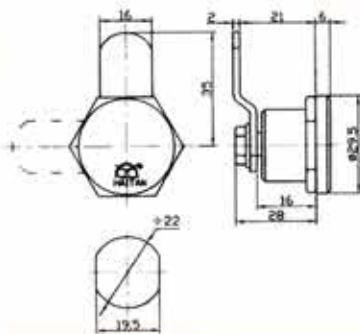
- Material: Zinc alloy body and key, cam m.s. zinc pl;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: With dust cover, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-5mm, the key K7010, K7030, K7040, K7050 are available.



K7010

MS-A-401

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金壳体, 螺母, 钥匙, 镀锌钢板锁体;
- 表面处理: 镀沙铬, 镀沙铬;
- 结构功能: 圆柱点锁芯, 带防尘盖, 调整锁栓方向可实现左右开门通用; 锁栓开孔: 3/16x10;
- 备 注: 适用门框厚度: 1-5mm, 可配K7030, K7040, K7050钥匙。

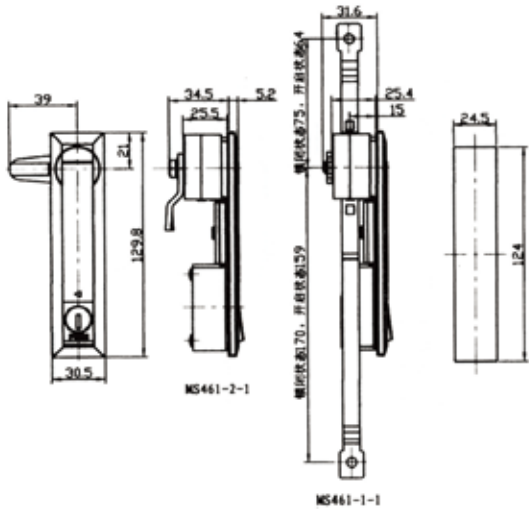
- Material: Zinc alloy body, nut and key, cam m.s. zinc pl;
- Finish: Matt grey chrome plating, gray chrome plating;
- Structure: Cam lock, with dust cover, left hand and right hand use can be realized by changing the cam position.
- Remark: Applicable panel thickness: 1-5mm, the key K7030, K7040, K7050 are available



K7030

MS-A-402T

Dimensions of outline and cut out 外形及安装孔尺寸

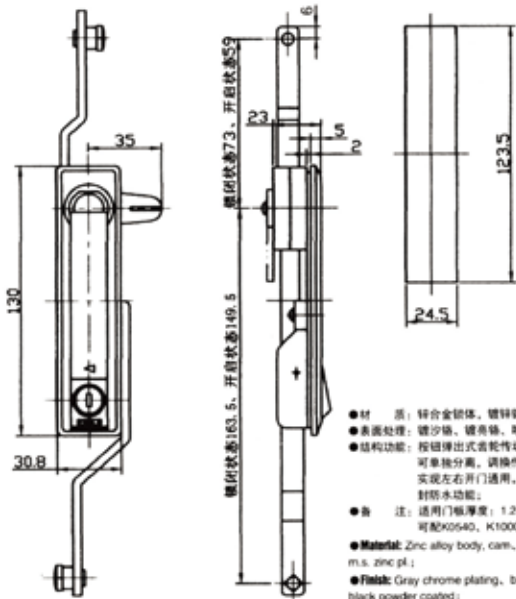


- 材 质: 锌合金锁体, 镀锌钢板锁栓, 压板;
- 表面处理: 镀锌粉, 镀锌铬, 抛光光黑;
- 结构功能: 按钮弹出式或旋转传动平面锁, 传动体与锁体可单独分离, 调换传动体位置和锁栓方向可实现左右开门通用, 传动体做压板用, 具密封防水功能;
- 备 注: 适用门板厚度1.2-3mm, 锁栓开孔: □7x7, 可配K0540, K1000, K8180钥匙;
- Material: Zinc alloy body, cam and fixing material m.s. zinc pl. ;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Push button rod control lock, the rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the rod and cam position, the rod control can be used as fixing material, with sealed and waterproof functions.
- Remark: Applicable panel thickness: 1.2-3mm. the key K0540, k1000, k8180 are available.



MS461-1-1

Dimensions of outline and cut out 外形及安装孔尺寸



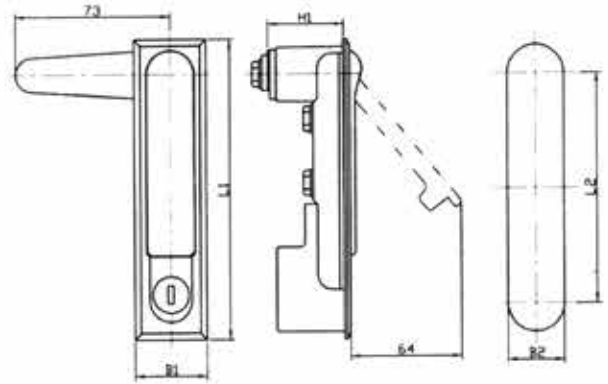
- 材 质: 锌合金锁体, 镀锌钢板锁栓, 传动条, 压板;
- 表面处理: 镀锌粉, 镀锌铬, 抛光光黑;
- 结构功能: 按钮弹出式或旋转传动平面锁, 传动体与锁体可单独分离, 调换传动体位置和锁栓方向可实现左右开门通用, 传动体做压板用, 具密封防水功能;
- 备 注: 适用门板厚度: 1.2-3mm, 锁栓开孔: □7x7, 可配K0540, K1000, K8180钥匙;
- Material: Zinc alloy body, cam, rod and fixing material m.s. zinc pl. ;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Push button rod control lock, the rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the rod and cam position, the rod control can be used as fixing material, with sealed and waterproof functions;
- Remark: Applicable panel thickness: 1.2-3mm. the key k0540, k1000, k8180 are available.



MS462-1-1



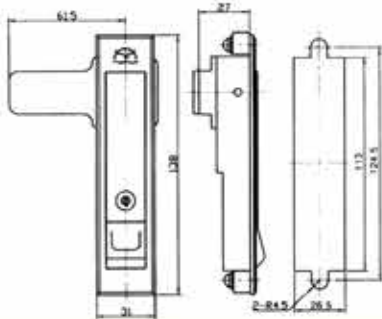
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: 锌合金壳体、转轴, 镀锌钢板锁体;
- 表面处理: 镀锌板, 镀锌板, 抛光光面, 磨砂效果;
- 结构功能: 按钮推出式平锁, 调整定位柱位置可实现左右开门通用, 具有防水功能, 可配单点、两点、三点锁;
- 备 注: 适用门框厚度: 1-10mm, MS480-2-1系列有左开右开之分, 同时也有塑料和锌合金壳体之分, 铜棒开孔: $\varnothing 10 \times 10$, 可配K0200, K0600, K1000, K8180, K0070钥匙。
- Material: Zinc alloy body and shaft, cast m.s. zinc pl.
- Finish: Galv chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Push button lock, left hand and right hand use can be realized by changing the locations, with sealed and waterproof functions, single-point, two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-10mm, the key K0200, K0600, K1000, K8180, K0070 are available

型号	尺寸	L1	L2	B1	B2	H1
MS480-1-1		158	120.5	40	32	37
MS480-1-2						
MS480-2-1		140	108	34	26	34
MS480-2A-1						

Dimensions of outline and cut out 外形及安装孔尺寸

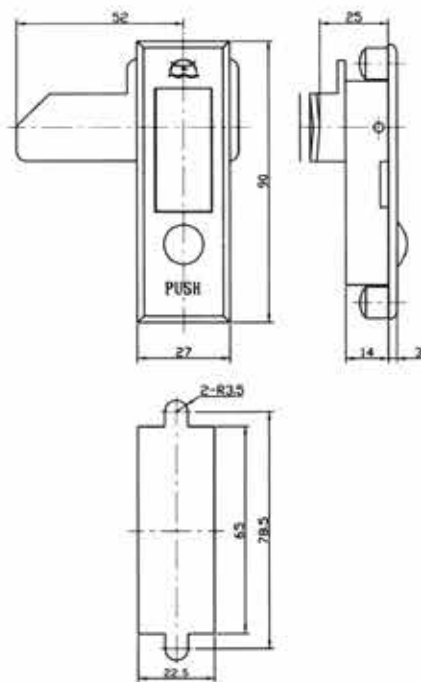


- 材 质: 锌合金锁体, 镀锌钢板锁柱;
- 表面处理: 喷沙镀铬;
- 结构功能: 按钮弹出式平盖锁, 左右开门通用, 锁柱有左右之分;
- 备 注: 适用门框厚度: 1-4mm;
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Matt gray chrome plating;
- Structure: Push button lock, both left hand and right hand use, cam position either on the left or on the right;
- Remark: Applicable panel thickness: 1-4mm.



MS502-1-1

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 镀锌钢板锁柱;
- 表面处理: 喷沙镀铬, 镀铬;
- 结构功能: 按钮弹出式平盖锁, 左右开门通用, 锁柱有左右之分;
- 备 注: 适用门框厚度: 1-4mm;
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating;
- Structure: Push button lock, both left hand and right hand use, cam position either on the left or on the right;
- Remark: applicable panel thickness: 1-4mm.

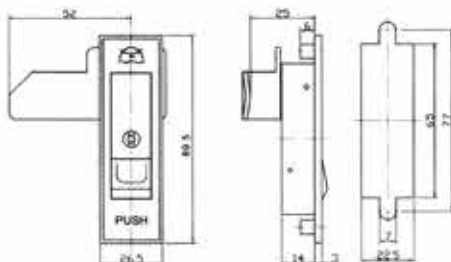


MS503-1-2



MS503-1-2A

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 镀锌钢板锁柱;
- 表面处理: 喷沙镀铬, 镀铬;
- 结构功能: 按钮弹出式平盖锁, 左右开门通用, 锁柱有左右之分;
- 备 注: 适用门框厚度: 1-4mm;
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Matt gray chrome plating, bright chrome plating;
- Structure: Push button lock, both left hand and right hand use, cam position either on the left or on the right;
- Remark: applicable panel thickness: 1-4mm.



MS503-1-1

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金壳体, 镀锌钢板锁芯;
- 表面处理: 磨砂镀铬, 镀锌漆, 喷无光漆;
- 结构功能: 按钮弹出式平面锁, 调整锁芯方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-4mm;
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Matt gray chrome plating, gray chrome plating, black powder coated;
- Structure: Push button lock, left hand and right hand use can be realized by changing the cam position;
- Remarks: Applicable panel thickness: 1-4mm.

A-3 BUTTON: RED
A-3-S BUTTON: SILVER

A-1 KEY BUTTON: RED
A-1 KEY-S BUTTON: SILVER

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金壳体, 镀锌钢板锁芯;
- 表面处理: 喷无光漆, 磨砂喷漆, 镀锌漆, 镀锌粉;
- 结构功能: 按钮弹出式平面锁, 可调节止口高度, 弹起把手即可打开柜门;
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: Push button lock, adjustable stopper height, the handle pops up to open the cabinet door.

MS606-1-2

MS606-1-1

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金壳体, 镀锌钢板锁芯;
- 表面处理: 镀锌漆, 镀锌粉, 喷无光漆, 磨砂喷漆;
- 结构功能: 平面锁, 调整定位位置和锁芯方向可实现左右开门通用, 具有防水功能, 可配单点, 两点, 三点锁芯;
- 备 注: 适用门板厚度: 1-7mm, 面板开孔 MS607-1-1, MS607-2-1, MS607-3-1 均适用; 可配K0200, K1000, K0100 锁芯;
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Handle lock, left hand and right hand use can be realized by changing the lockness, with sealed and waterproof functions. Single-point, two-point and three-point cam are available.

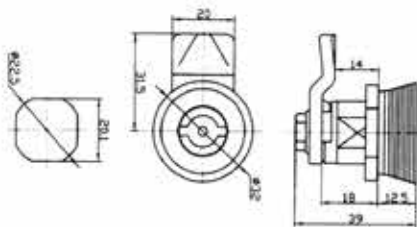
型号	L1	L2	L3	L4	B1	B2
MS607-1-1	147	117	72	13.5	30	27
MS607-2-1	121	96	65	12	30	24
MS607-3-1	86	63	65	12	30	24

MS607-2-1

MS607-1-1

K0200

Dimensions of outline and cut out 外形及安装孔尺寸



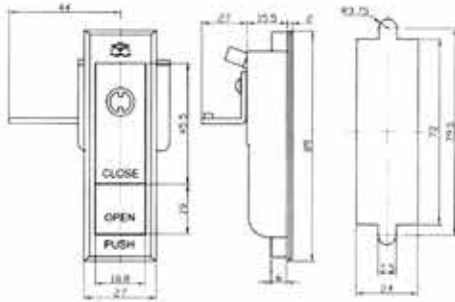
- 材 质: 锌合金壳体, 镀锌铜钢锁芯
- 表面处理: 硬铬轴, 镀锌轴, 抛光亮黑
- 结构功能: 撞锁或内锁, 左右开门通用
- 备 注: 适用门框厚度: 1-8mm, 锁栓开孔: $\varnothing 6.8$, 可配K7010, K7030, K7040, K7050锁芯
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated.
- Structure: Both left hand and right hand use.
- Remarks: Applicable panel thickness: 1-8mm, the key k7010, k7030, k7040, k7050 are available.



K7010

MS702

Dimensions of outline and cut out 外形及安装孔尺寸

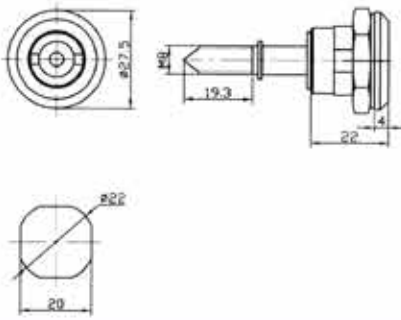


- 材 质: 锌合金壳体, 镀锌铜钢锁芯
- 表面处理: 硬铬轴, 镀锌轴, 抛光亮黑
- 结构功能: 撞锁弹出式平面锁, 手柄弹出即可打开柜门, 有左右开门之分, 锁种可调节开口高度
- 备 注: 适用门框厚度: 1-5mm
- Material: Zinc alloy body cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated.
- Structure: Push button lock, the handle pops up to open the cabinet door, left hand or right hand use adjustable slopper height.
- Remarks: Applicable panel thickness: 1-5mm.



MS703

Dimensions of outline and cut out 外形及安装孔尺寸

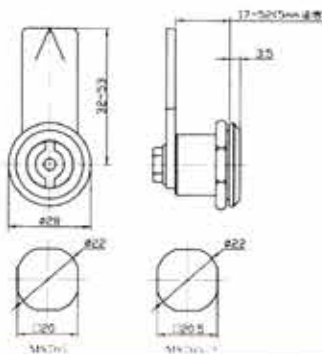


- 材 质: 锌合金壳体, 螺母, 镀锌铜钢锁芯
- 表面处理: 硬铬轴, 镀锌轴, 抛光亮黑
- 结构功能: 内向外平面锁, 左右开门通用, 可调节手柄安装高度
- 备 注: 适用门框厚度: 1-6mm
- Material: Zinc alloy body and nut, insert m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated.
- Structure: Both left hand and right hand use, adjustable cam.
- Remarks: Applicable panel thickness: 1-6mm.



MS704

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金壳体, 螺母, 锁芯, 镀锌铜钢锁芯
- 表面处理: 硬铬轴, 镀锌轴, 抛光亮黑
- 结构功能: 密封防水型内平面锁, 锁芯有四种之分, 左右开门通用
- 备 注: 锁栓开孔LDR可配K7010, K7030, K7040, K7050锁芯
- Material: Zinc alloy body, nut and key, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated.
- Structure: With sealed and waterproof functions, available in four types of inserts, both left hand and right hand use.
- Remarks: The key k7010, k7030, k7040, k7050 are available.



MS705

MS705-2

K7030

K7040

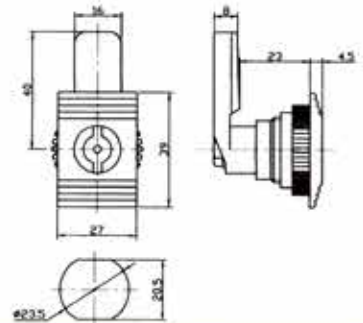
K7010



MS705-3

外形及安装孔尺寸 Dimensions of outline and cut out

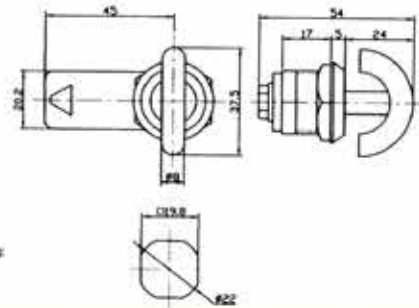
- 材 质: 塑料锁体, 螺母, 钥匙;
- 表面处理: 黑色, 乳白色;
- 结构功能: 方形平面锁, 左右开门通用, 具有防水功能;
- 备 注: 适用门板厚度: 1.5-2mm, 可配 K7010, K7030, K7040, K7050钥匙;
- Material: Plastic body, nut and key;
- Surface color: Black, other colors on request;
- Structure: Both left hand and right hand use, with waterproof function;
- Remark: Applicable panel thickness: 1.5-2mm, the key K7010, K7030, K7040, K7050 are available.



MS706

外形及安装孔尺寸 Dimensions of outline and cut out

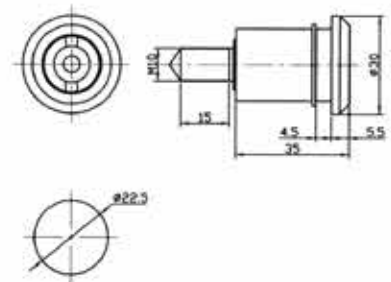
- 材 质: 锌合金锁体, 镀锌铜板锁芯;
- 表面处理: 镀亮铬, 镀锌镍, 喷沙铬;
- 结构功能: 密封防水平面锁, 左右开门通用;
- 备 注: 适用门板厚度: 1-3mm, 铜锁开孔: 13×6 ;
- Material: Zinc alloy body, cam m.s. zinc pl;
- Finish: Bright chrome plating, gray chrome plating;
- Structure: Lock with sealed and waterproof functions, both left hand and right hand use;
- Remark: Applicable panel thickness: 1-3mm.



MS707

外形及安装孔尺寸 Dimensions of outline and cut out

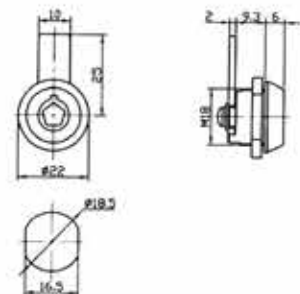
- 材 质: 锌合金锁体, 镀锌铜锁芯;
- 表面处理: 镀亮铬, 镀锌镍, 喷沙铬, 喷无光黑;
- 结构功能: 左右开门通用, 可调节门板锁紧度;
- 备 注: 适用门板厚度: 1-5mm;
- Material: Zinc alloy body, insert m.s. zinc pl;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: Both left hand and right hand use, adjustable cam;
- Remark: Applicable panel thickness: 1-5mm.



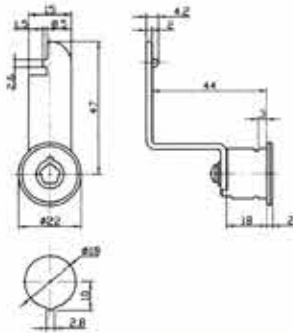
MS708-1-1

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 铜芯, 镀锌铜螺母, 镀锌铜板锁芯;
- 表面处理: 镀亮铬, 镀锌镍, 喷沙铬, 喷无光黑;
- 结构功能: 圆形平面锁, 左右开门通用;
- 备 注: 适用门板厚度: 1-4mm;
- Material: Zinc alloy body and key, cam and nut m.s. zinc pl;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Both left hand and right hand use;
- Remark: Applicable panel thickness: 1-4mm.



Dimensions of outline and cut out 外形及安装孔尺寸

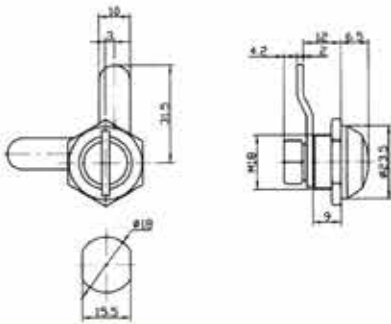


- 材 质: 锌合金锁体, 铜制镀锌螺帽, 镀锌钢板锁芯;
- 表面处理: 镀锌铬, 镀锌铬, 抛光亮面;
- 结构功能: 圆形平面锁, 左右开门通用;
- 备 注: 适用门板厚度: 1-4mm.
- Material: Zinc alloy body and key, cam and nut m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Both left hand and right hand use.
- Remarks: Applicable panel thickness: 1-4mm.



MS708-2-1

Dimensions of outline and cut out 外形及安装孔尺寸

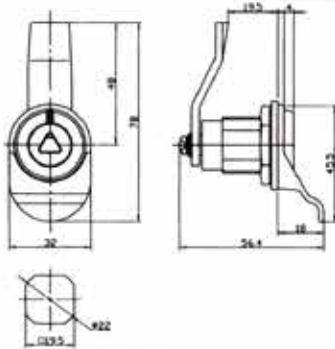


- 材 质: 锌合金锁体, 镀锌螺帽, 铜制;
- 表面处理: 镀锌铬, 镀锌铬, 抛光亮面, 喷沙纹面;
- 结构功能: 圆形平面锁, 调整锁轴方向可实现左右开门通用, 铜制可操作手柄;
- 备 注: 适用门板厚度: 0.5-4mm.
- Material: Zinc alloy body, nut and key m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated, matt black powder coated;
- Structure: Left hand and right hand use can be realized by changing the cam position. the key can be used as handle.
- Remarks: Applicable panel thickness: 0.5-4mm.



MS710

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 铜制, 转轴, 镀锌钢板锁芯;
- 表面处理: 镀锌铬, 镀锌铬, 抛光亮面;
- 结构功能: 拉紧式平面单点锁, 锁轴有收拢功能, 一般用于柜门密封等用, 调整锁轴方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1.5-8mm. 铜制开孔: $\varnothing 6.8$, 适配: K7010, K7030, K7040, K7050锁芯.
- Material: Zinc alloy body and shaft, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Single-point lock, adjustable cam, adapted for sealing, left hand and right hand use can be realized by changing the cam position;
- Remarks: Applicable panel thickness: 1.5-8mm, the key K7010, K7030, K7040, K7050 are available



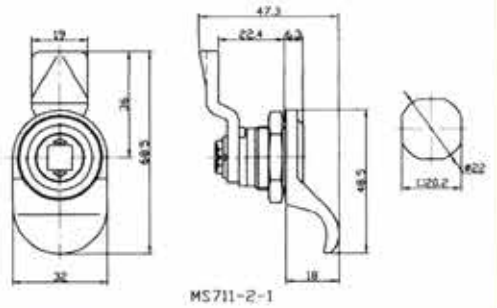
MS711-1-1



MS711-2-1

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, PA-6手柄, 镀锌钢板锁柱;
- 表面处理: 喷无光黑;
- 结构功能: 密封防水平面锁, 左右开门通用;
- 备 注: 适用门板厚度: 1-6mm, 锁柱开孔: $\varnothing 8\pm 0.05$;
- Material: Zinc alloy body, PA-6 handle, cam m.s. zinc pl.;
- Finish: Black powder coated;
- Structure: With sealed and waterproof functions, both left hand and right hand use;
- Remarks: Applicable panel thickness: 1-6mm.



MS711-2-1

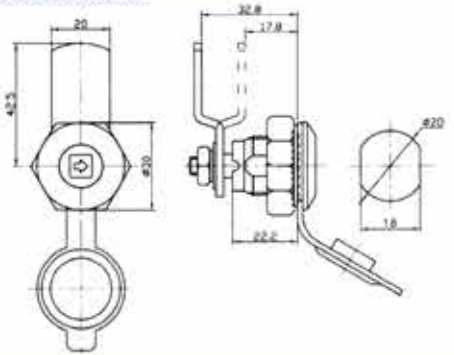


MS717

K7040

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, 螺母, 锁芯, 镀锌钢板锁柱;
- 表面处理: 镀锌镍, 镀锌镍, 喷无光黑;
- 结构功能: 密封防水平面锁, 左右开门通用, 非锁柱锁芯类;
- 备 注: 适用门板厚度: 1-10mm, 可配 K7010, K7030, K7040, K7050 锁芯;
- Material: Zinc alloy body, nut and key cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: Both left hand and right hand use, with weather cover;
- Remarks: Applicable panel thickness: 1-10mm, the key K7010, K7030, K7040, K7050 are available.

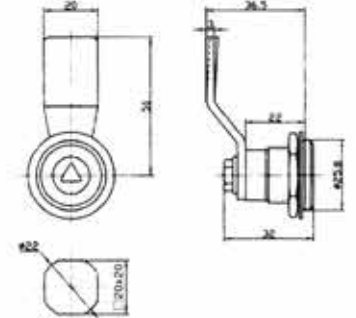


MS718

K7030

外形及安装孔尺寸 Dimensions of outline and cut out

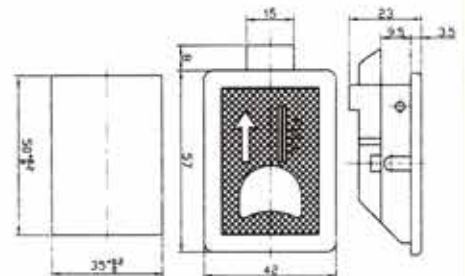
- 材 质: 锌合金壳体, 镀锌钢板锁柱;
- 表面处理: 镀锌镍, 镀锌镍;
- 结构功能: 密封防水平面锁, 左右开门通用, 非锁柱有左右之分;
- 备 注: 适用门板厚度: 1-6mm, 可配 K7030, K7040, K7050 锁芯;
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Gray chrome plating, bright chrome plating;
- Structure: Both left hand and right hand use, cam position either on the left or on the right;
- Remarks: Applicable panel thickness: 1-6mm, the key K7030, K7040, K7050 are available.



MS731

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, 镀锌钢板锁柱;
- 表面处理: 镀锌镍, 镀锌镍, 喷无光黑;
- 结构功能: 平面拉手, 左右开门通用;
- Material: Zinc alloy body, fixing material m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: Handle lock, both left hand and right hand use.

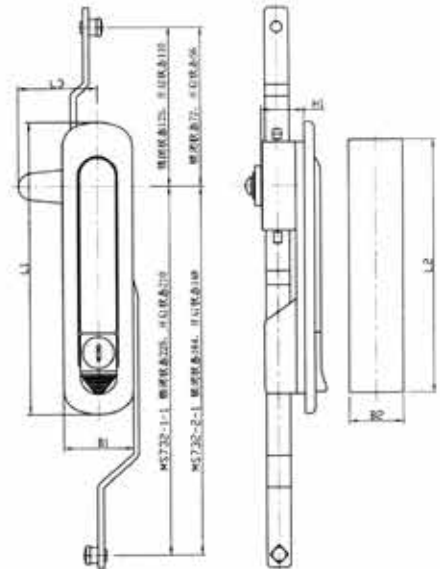


专利号(Patent No): 03368834.6



MS732-1-1

外形及安装孔尺寸 Dimensions of outline and cut out



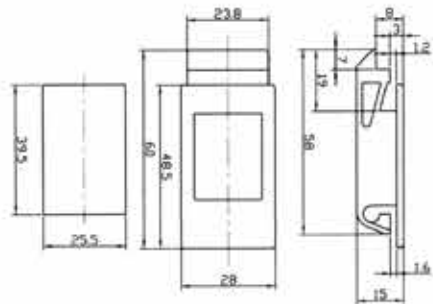
- 材 质: 锌合金壳体, 转轴, 镀锌铜棒锁芯。
- 表面处理: 镀沙铬, 镀亮铬, 喷光亮黑, 喷沙纹黑。
- 结构功能: 按钮弹出式平面锁, 调换定位位置及锁柱方向可实现左右开门通用, 可配单点, 两点, 三点锁柱, 锁柱开孔: □8mm。
- 备 注: 适用门板厚度: 1-4mm, 可配 K0200, K0550, K1000, K0180钥匙。
- Material: Zinc alloy body and shaft, cam m.s, zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated, matt black powder coated.
- Structure: Push button rod control lock, left hand and right hand use can be realized by changing the locations and cam position, single-point, two-point and three-point cam are available.
- Remarks: Applicable panel thickness: 1-4mm, the key K0200, K0550, K1000, K0180 are available.

型号	尺寸	L1	L2	L3	B1	B2	H1
MS732-1-1		148	128	46	33	26.5	27
MS732-2-1		130	113	35	31	24.5	19



MS733-1

外形及安装孔尺寸 Dimensions of outline and cut out

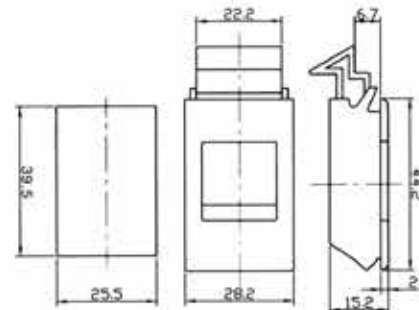


- 材 质: ABS。
- 表面颜色: 灰色, 黑色, 白色。
- 结构功能: 简易塑料门锁, 内有弹簧, 当作用力向前时弹簧收缩, 开启柜门, 松开时复位拉住柜门。
- 备 注: 适用门板厚度: 1-1.2mm。
- Material: ABS。
- Surface color: Gray, black, white。
- Structure: Simple plastic lock, with spring when force back, the spring shrinks to open the cabinet door, the spring resets to lock the door。
- Remarks: Applicable panel thickness: 1-1.2mm。



MS733-2

外形及安装孔尺寸 Dimensions of outline and cut out

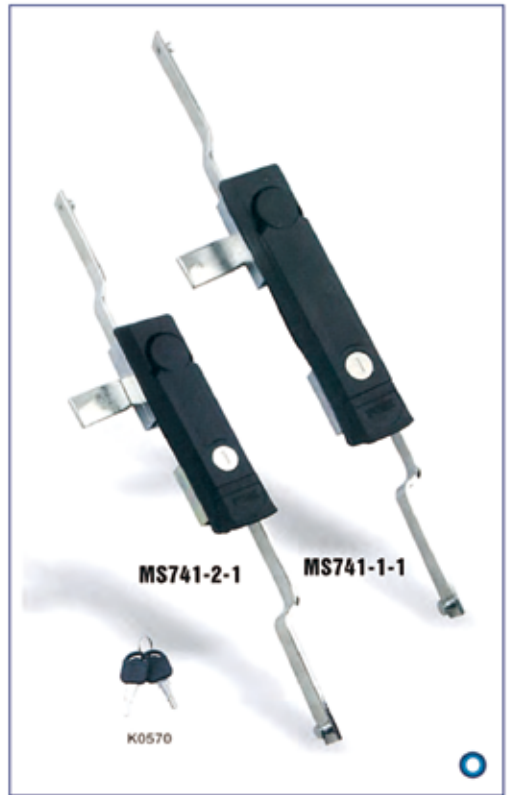


- 材 质: ABS。
- 表面颜色: 灰色, 黑色, 白色。
- 结构功能: 简易塑料门锁, 内有弹簧, 当作用力向前时弹簧收缩, 开启柜门, 松开时复位拉住柜门。
- 备 注: 适用门板厚度: 1-1.2mm。
- Material: ABS。
- Surface color: Gray, black, white。
- Structure: Simple plastic lock, with spring when force back, the spring shrinks to open the cabinet door, the spring resets to lock the door。

Dimensions of outline and cut out 外形及安装孔尺寸

●材 质: 锌合金锁体、转轴, 镀锌钢板钢柱;
 ●表面处理: 镀锌铬、镀亮铬、喷无光黑、喷沙、喷黑;
 ●结构功能: 传动体和锁体可直接分离, 调换定位件位置和钢柱方向可实现左右开门通用, 传动体可作压板用, 具密封防水功能, 可配单点、两点、三点钢柱, 可按要求安装挂锁装置;
 ●备 注: 适用门板厚度: 1-4mm, 钢柱开孔: $\varnothing 8\pm 0.1$; 可配K0570, K1000, K8180钢柱。
 ●Material: Zinc alloy body and shaft, cam m.s. zinc pl.;
 ●Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
 ●Structure: The rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the locations, the rod control can be used as fixing material, with sealed and waterproof functions, single-point, two-point and three-point cam are available, can be installed with padlock;
 ●Remarks: Applicable panel thickness: 1-4mm, the key K0570, K1000, K8180 are available.

型号	尺寸	L1	L2	L3	B1	H
MS741-1-1		162	100.5	50	25	16
MS741-2-1		136	74	49.5	24.5	18



Dimensions of outline and cut out 外形及安装孔尺寸

●材 质: 锌合金锁体、转轴, 镀锌钢板钢柱;
 ●表面处理: 镀锌铬、镀亮铬、喷无光黑、喷沙、喷黑;
 ●结构功能: 传动体和锁体可直接分离, 调换定位件位置和钢柱方向可实现左右开门通用, 传动体可作压板用, 具密封防水功能, 可配单点、两点、三点钢柱, 可按要求安装挂锁装置;
 ●备 注: 适用门板厚度: 1-4mm, 钢柱开孔: $\varnothing 8\pm 0.1$; 可配K0570, K1000, K8180钢柱。
 ●Material: Zinc alloy body and shaft, cam m.s. zinc pl.;
 ●Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
 ●Structure: The rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the locations, the rod control can be used as fixing material, with sealed and waterproof functions, single-point, two-point and three-point cam are available, can be installed with padlock;
 ●Remarks: Applicable panel thickness: 1-4mm, the key K0570, K1000, K8180 are available.

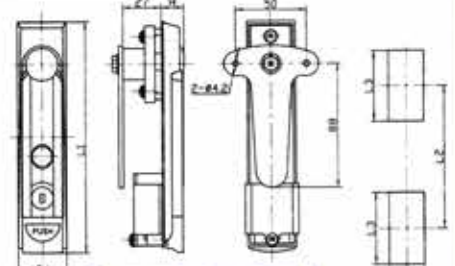
型号	尺寸	L1	L2	L3	B1	H
MS742-1-1		162	100.5	50	25	16
MS742-2-1		136	74	49.5	24.5	18





外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, 镀锌钢板锁栓;
- 表面处理: 镀锌, 硬铬, 喷无光黑, 喷沙纹黑;
- 结构功能: 按钮弹出式平面锁, 调整定位转动位置及锁栓方向可实现左右开门通用; 可配单点、两点和三点锁栓;
- 备 注: 适用门框厚度: 1-4mm, 锁栓开孔: 28x8; 可配K0570, K1000, K8180锁匙;
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Push button lock, left hand and right hand use can be realized by changing the locations and cam position, single-point, two-point and three-point cam are available;
- Remarks: Applicable panel thickness: 1-4mm, the key K0570, K1000, K8180 are available.

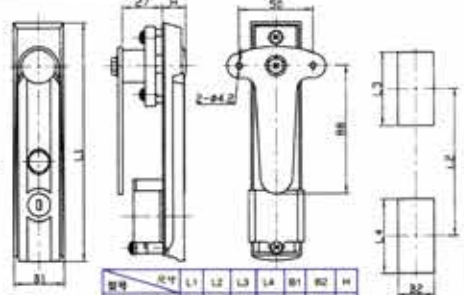


型号	尺寸	L1	L2	L3	B1	H
MS743-1-1		162	100.5	50	25	16
MS743-2-1		136	74	49.5	24.5	18



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, 镀锌钢板锁栓;
- 表面处理: 镀锌, 硬铬, 喷无光黑, 喷沙纹黑;
- 结构功能: 平面锁, 锁芯旋转180°把手会自动弹起, 调整定位转动位置及锁栓方向可实现左右开门通用; 可配单点、两点和三点锁栓;
- 备 注: 适用门框厚度: 1-4mm, 锁栓开孔: 28x8; 可配K0570, K1000, K8180锁匙;
- Material: Zinc alloy body, cam m.s. zinc pl.
- Finish: Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated;
- Structure: Push button lock, the handle pops up when turning the insert to 180°, left hand and right hand use can be realized by changing the locations and cam position; single-point, two-point and three-point cam are available;
- Remarks: Applicable panel thickness: 1-4mm, the key K0570, K1000, K8180 are available.

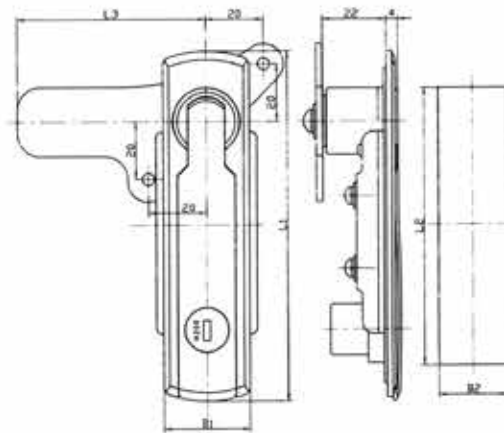


型号	尺寸	L1	L2	L3	LA	B1	B2	H
MS744-1-1		162	100.5	50	34	25	16	
MS744-2-1		136	74	49.5	34	24.5	18	
MS744-3-1		121	88	49.5	34.5	30	24.5	18



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金壳体, 铁轴, 镀锌钢板锁栓;
- 表面处理: 镀锌, 硬铬, 喷无光黑;
- 结构功能: 平面锁, 钥匙开启时手柄起锁栓并转动90°可以开门, 调整定位转动位置及锁栓方向可实现左右开门通用; 可配单点、两点和三点锁栓;
- 备 注: 适用门框厚度: 1-4mm, 可配K0570, K1000, K8180锁匙;
- Material: Zinc alloy body and shaft, cam m.s. zinc pl.
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: The door can be opened by turning the handle to 90° in unlock position, left hand and right hand use can be realized by changing the locations, single-point, two-point and three-point cam are available;
- Remarks: Applicable panel thickness: 1-4mm, the key K0570, K1000, K8180 are available.



型号	尺寸	L1	L2	L3	B1	B2
MS751-1-1		147	117	72	33	27
MS751-2-1		121	96	65	30	24
MS751-3-1		88	63	65	29.5	24

型号	尺寸	L1	L2	L3	B1	B2
MS801-1-1		139	127	115	30.5	26.5
MS801-2-1		103	94	84	27	23

- 材 质: 锌合金锁体, 镀锌钢板锁栓;
- 表面处理: 镀锌板, 镀锌板, 抛光亮面;
- 结构功能: 推出式平舌锁, 有单点和三点锁栓之分;
- 备 注: 适用门板厚度: 1-4mm;
- Material: Zinc alloy body, cam m.s. zinc pl;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Push button lock, either single-point cam or three-point cam;
- Remarks: Applicable panel thickness: 1-4mm



外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 螺母, 锁芯, 镀锌钢板锁栓;
- 表面处理: 镀锌板, 镀锌板, 抛光亮面;
- 结构功能: 圆形平舌锁, 锁舌带伸缩功能, 高度可调节止口高度;
- 备 注: 适用门板厚度: 1-18mm, 可配K7010, K7030, K7040, K7050锁芯;
- Material: Zinc alloy body, nut and key cam m.s. zinc pl;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Flexible dead bolt, the stopper height can be adjusted by the nut;
- Remarks: Applicable panel thickness: 1-18mm; the key K7010, K7030, K7040, K7050 are available

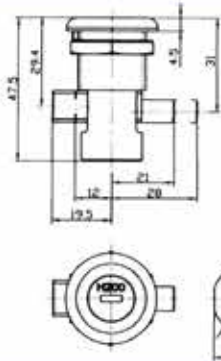


外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金锁体, 螺母;
- 表面处理: 镀锌板, 镀锌板;
- 结构功能: 圆形平舌锁, 左右开门通用, 锁芯有自动回位功能;
- 备 注: 适用门板厚度: 1-8mm, 专用型2500型;
- Material: Zinc alloy body and nut;
- Finish: Gray chrome plating, bright chrome plating;
- Structure: Both left hand and right hand use, the insert has self return function;
- Remark: Applicable panel thickness: 1-8mm, 2500 key combinations available



Dimensions of outline and cut out 外形及安装孔尺寸

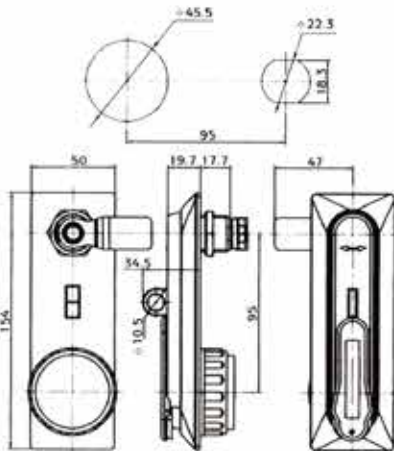


- 材 质: 锌合金锁体, 螺帽;
- 表面处理: 镀锌, 镀铬;
- 结构功能: 复式片开程锁, 锁芯转动180°, 钥匙插不出来, 用于高压开关柜上。
- Material: Zinc alloy body and nut;
- Finish: Gray chrome plating, bright chrome plating;
- Structure: Adapted for high voltage cabinets.



MS819

Dimensions of outline and cut out 外形及安装孔尺寸

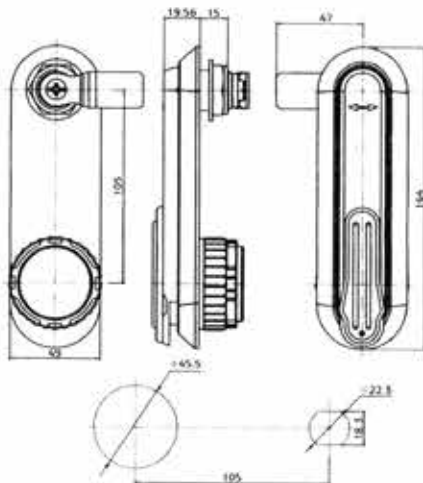


- 材 质: PA-66尼龙, 锌合金锁芯, 铜芯; 镀锌铜板零件;
- 表面处理: 黑色, 其它颜色按要求定做;
- 结构功能: 豪华型半圆锁, 异形半圆柱锁芯, 带防尘盖, 调整锁柱方向可实现左右开门通用, 可配两点, 三点锁芯, 按要求可安装螺柱, 也可安装插销;
- 备 注: 适用门板厚度: 1-8mm, 锁柱开孔: □8x8, 可配K0100, K7010, K7030, K7040, K7050锁芯。
- Material: PA-66 body, zinc alloy insert and key, cam m.s. zinc pl;
- Surface color: Black, other colors on request;
- Structure: Nice appearance, double bit insert, with dust cover, left hand and right hand use can be realized by changing the cam position, two-point, three point cam are available; can be installed with padlock;
- Remark: Applicable panel thickness: 1-8mm, the key K0100, K7010, K7030, K7040, K7050 are available



MS820

Dimensions of outline and cut out 外形及安装孔尺寸



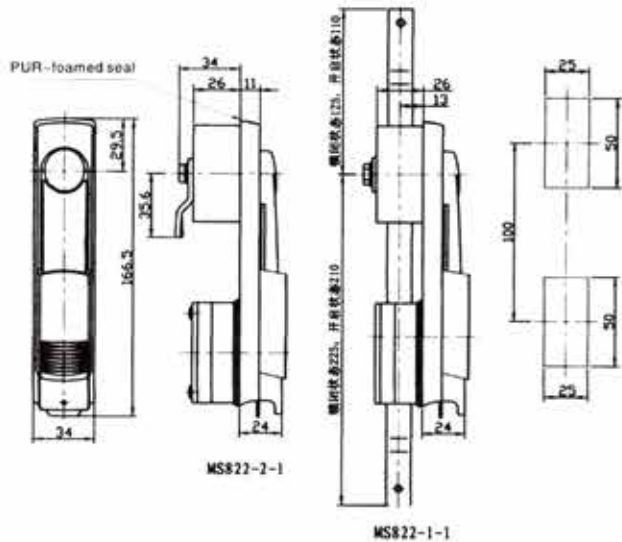
- 材 质: PA-66尼龙, 锌合金锁体, 铜芯; 镀锌铜板零件;
- 表面处理: 黑色, 其它颜色按要求定做;
- 结构功能: 豪华型半圆锁, 异形半圆柱锁芯, 带防尘盖, 调整锁柱方向可实现左右开门通用, 可配两点, 三点锁芯, 按要求可安装螺柱, 也可安装插销;
- 备 注: 适用门板厚度: 1-8mm, 锁柱开孔: □8x8, 可配K0100, K7010, K7030, K7040, K7050锁芯。
- Material: PA-66 body, zinc alloy insert and key, cam m.s. zinc pl;
- Surface color: Black, other colors on request;
- Structure: Nice appearance, double bit insert, with dust cover, left hand and right hand use can be realized by changing the cam position, two-point, three point cam are available; can be installed with padlock;
- Remark: Applicable panel thickness: 1-8mm, the key K0100, K7010, K7030, K7040, K7050 are available



MS821



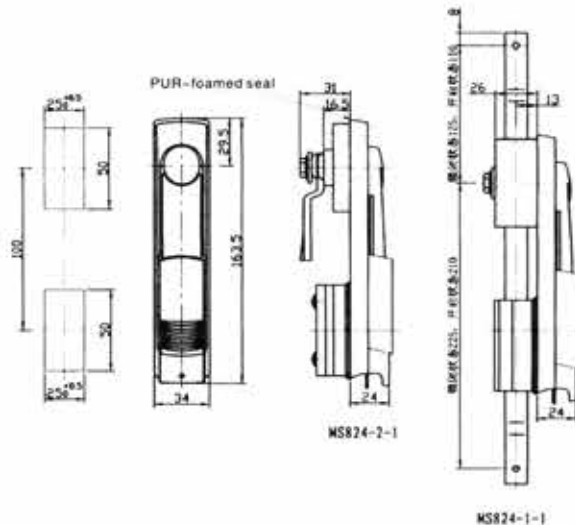
外形及安装孔尺寸 Dimensions of outline and cut out



- 材 质: PA-66锁体, 镀锌钢板连杆。
- 表面颜色: 沙面黑, 其它颜色可根据要求定制。
- 结构功能: 带滑盖的凸轮传动平圆锁, 传动体与锁体可直接分离, 调整锁柱方向可实现左右开门通用, 可配单点, 两点, 三点锁柱。
- 备 注: 带滑盖的凸轮厚度: 1-8mm, 锁柱开孔: □8x8, 可配K0100, K7010, K7030, K7040, K7050锁柱。
- Material: PA-66 body, rod m.s. zinc pl.
- Surface color: Black, other colors on request.
- Structure: Sliding cover rod control lock the rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the cam position, single-point, two-point and three point cam are available.
- Remark: Applicable panel thickness: 1-8mm, the key k0100, k7010, k7030, k7040, k7050 are available.



Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: PA-66锁体, 镀锌钢板连杆。
- 表面颜色: 沙面黑, 其它颜色可根据要求定制。
- 结构功能: 带滑盖的凸轮传动平圆锁, 传动体与锁体可直接分离, 调整锁柱方向可实现左右开门通用, 可配单点, 两点, 三点锁柱。
- 备 注: 带滑盖的凸轮厚度: 1-8mm, 锁柱开孔: □8x8
- Material: PA-66 body, rod m.s. zinc pl.
- Surface color: Black, other colors on request.
- Structure: Sliding cover rod control lock the rod control can be singly separated from lock body, left hand and right hand use can be realized by changing the cam position, single-point, two-point and three point cam are available.
- Remark: applicable panel thickness: 1-8mm.

Dimensions of outline and cut out 外形及安装孔尺寸

- 材 质: 锌合金锁体、螺母、镀锌钢板锁芯、铜钥匙;
- 表面处理: 镀锌、硬铬、抛光亮黑;
- 结构功能: 双弹子圆形平面锁, 调换钥匙方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-12mm, 专用高2000把。
- Material: Zinc alloy body and nut, cam m.s. zinc pl., brass key;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Left hand and right hand use can be realized by changing the cam position;
- Remarks: Applicable panel thickness: 1-10mm, 2000 key combinations available.



Dimensions of outline and cut out 外形及安装孔尺寸

型号	尺寸	H	H1
MS-W400-1	30.5	28	
MS-W400-2	20.5	28	
MS-W400-3	18.5	24	

- 材 质: 锌合金锁体、螺母、镀锌钢板锁芯、铜钥匙;
- 表面处理: 镀锌、硬铬、抛光亮黑;
- 结构功能: 单面弹子圆形平面锁, 调换钥匙方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-10mm, 专用840把。
- Material: Zinc alloy body, cam and nut m.s. zinc pl., brass key;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Left hand and right hand use can be realized by changing the cam position;
- Remarks: Applicable panel thickness: 1-10mm, 80 key combinations available.



Dimensions of outline and cut out 外形及安装孔尺寸

型号	尺寸	L	1.2	1.1
MS-A-172-1	44	25.5	60	
MS-A-172-2	40	20	45	
MS-A-172-3	39	20.5	31.5	

- 材 质: 锌合金锁体、螺母、镀锌钢板锁芯;
- 表面处理: 镀锌、硬铬、抛光亮黑;
- 结构功能: 大型圆形平面锁, 左右开门通用, 具有防水功能;
- 备 注: 适用门板厚度: 1.5-9mm。
- Material: Zinc alloy body and nut, cam m.s. zinc pl.;
- Finish: Gray chrome plating, bright chrome plating, black powder coated;
- Structure: Large size plane lock, both left hand and right hand use with waterproof function;
- Remarks: Applicable panel thickness: 1-10mm, 80 key combinations available.

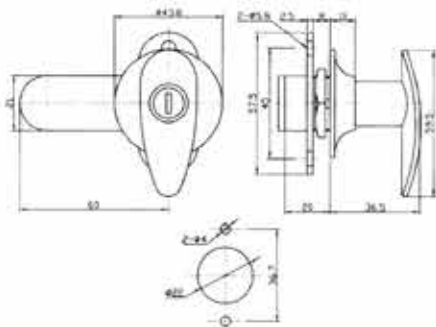


Dimensions of outline and cut out 外形及安装孔尺寸

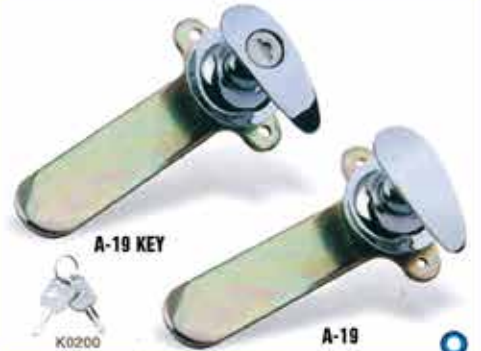
- 材 质: ABS锁壳, 锌合金锁芯和铜芯, 镀锌钢板锁芯;
- 表面颜色: 黑色;
- 结构功能: 四方形平面锁, 左右开门通用;
- 备 注: 适用门板厚度: 0.5-2.5mm;
- Material: ABS housing, zinc alloy insert and key, cam m.s. zinc pl.;
- Surface color: Black;
- Structure: Square style lock, both left hand and right hand use;
- Remark: Applicable panel thickness: 0.5-2.5mm.



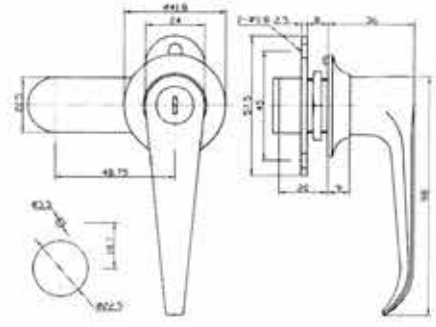
Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 镀锌钢板锁芯;
- 表面处理: 镀锌板, 镀锌板, 抛光光面;
- 结构功能: L型把手锁, 锁座旋转90°, 开孔方向决定左右开门通用, 可配单点, 两点, 三点锁芯;
- 备 注: 适用门板厚度: 1-1.5mm, 可配K0200, K1000, K8180钥匙钢板开孔: 10x30.
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: L handle lock, left hand and right hand use determined by the cut out, single-point/two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-1.5mm, the key K0200, K1000, K8180 are available.



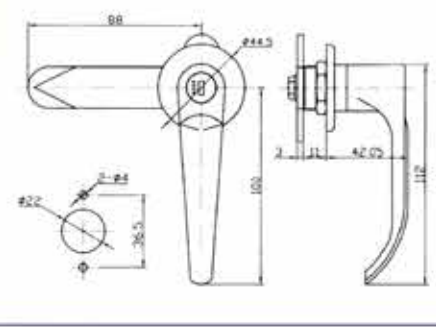
Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 镀锌钢板锁芯;
- 表面处理: 镀锌板, 镀锌板, 抛光光面;
- 结构功能: L型把手锁, 锁座旋转90°, 开孔方向决定左右开门通用, 可配单点, 两点, 三点锁芯;
- 备 注: 适用门板厚度: 1-1.5mm, 可配K0200, K1000, K8180钥匙钢板开孔: 10x10.
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: L handle lock, left hand and right hand use determined by the cut out, single-point/two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-1.5mm, the key K0200, K1000, K8180 are available.



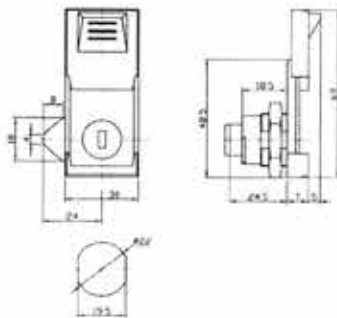
Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 镀锌钢板锁芯;
- 表面处理: 镀锌板, 镀锌板, 抛光光面;
- 结构功能: L型把手锁, 锁座旋转90°, 开孔方向决定左右开门通用, 可配单点, 两点, 三点锁芯;
- 备 注: 适用门板厚度: 1-1.5mm, 可配K0200, K1000, K8180钥匙钢板开孔: 10x10.
- Material: Zinc alloy body, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: L handle lock, left hand and right hand use determined by the cut out, single-point/two-point and three-point cam are available;
- Remark: Applicable panel thickness: 1-1.5mm, the key K0200, K1000, K8180 are available.



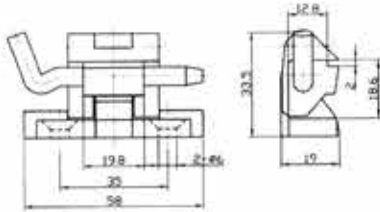
Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金锁体, 螺母, 镀锌钢板锁芯;
- 表面处理: 镀锌板, 镀锌板, 抛光光面;
- 结构功能: 带防尘盖, 调整锁芯方向可实现左右开门通用;
- 备 注: 适用门板厚度: 1-1.5mm;
- Material: Zinc alloy body and nut, cam m.s. zinc pl.;
- Finish: Bright chrome plating, gray chrome plating, black powder coated;
- Structure: with dust cover, left hand and right hand use can be realized by changing the cam position;
- Remark: Applicable panel thickness: 1-1.5mm.



Dimensions of outline and cut out 外形及安装孔尺寸

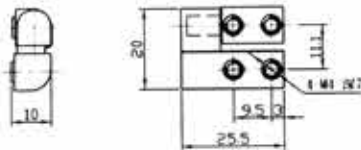


- 材 质: 锌合金壳, 静铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙纹, 镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为180°;
- Material: Zinc alloy body, stainless steel and nickel plating pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



HL001

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金铰链;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙纹, 镀亮铬;
- 结构功能: 明铰链, 有左右之分, 门框转动角度约为180°;
- Material: Zinc alloy body;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, left or right use.

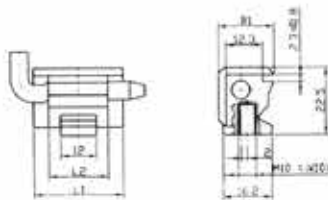


右(right)

左(left)

HL002

Dimensions of outline and cut out 外形及安装孔尺寸



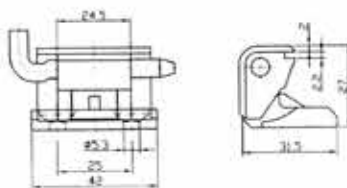
- 材 质: 锌合金壳, 静铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙纹, 镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为180°;
- Material: Zinc alloy hinge, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.

型 号	尺寸	L1	L2	B1
HL003-1		40	26.5	20
HL003-2		30	20	16



HL003-1

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金壳, 静铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙纹, 镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为180°;
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



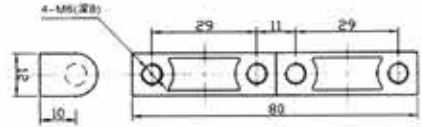
HL004



HL005

外形及安装孔尺寸 Dimensions of outline and cut out

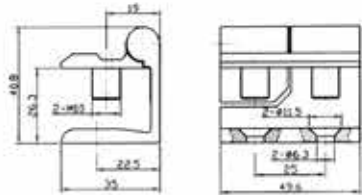
- 材 质: 锌合金压铸, 分不锈钢和镍铬钢两种
- 表面处理: 喷光亮黑, 喷沙纹黑, 喷沙纹, 喷亮铬
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为360°
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating
- Structure: 360° prominent hinge, both left and right use.



HL006

外形及安装孔尺寸 Dimensions of outline and cut out

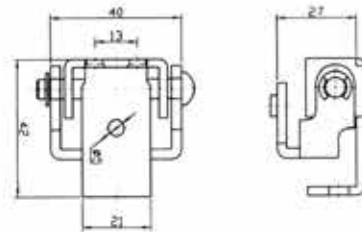
- 材 质: 锌合金, 静铰链, 分不锈钢和镍铬钢两种, 侧视图
- 表面处理: 喷光亮黑, 喷沙纹黑, 喷沙纹, 喷亮铬
- 结构功能: 明铰链, 分左右之分, 门板转动角度约为180°
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available, brass washer;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, left or right use.



HL007

外形及安装孔尺寸 Dimensions of outline and cut out

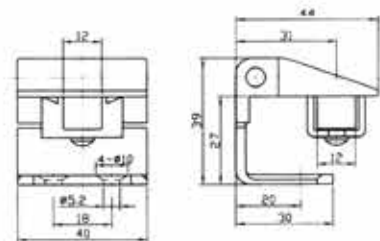
- 材 质: 镀锌钢铰链
- 表面处理: 镀锌, 镀锌
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约120°
- Material: Zinc plating steel body;
- Finish: White zinc plating, color zinc plating;
- Structure: 120° prominent hinge, both left and right use

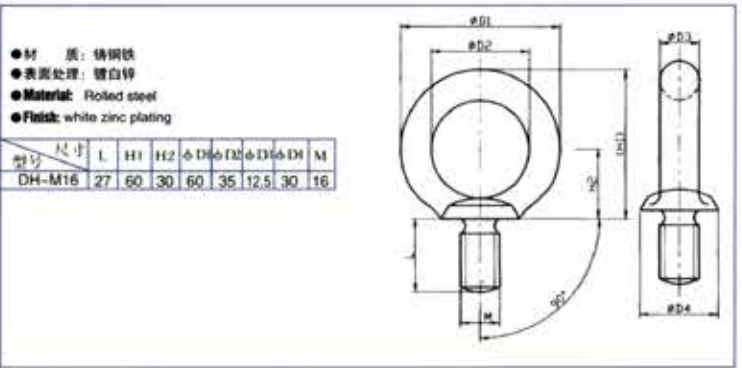
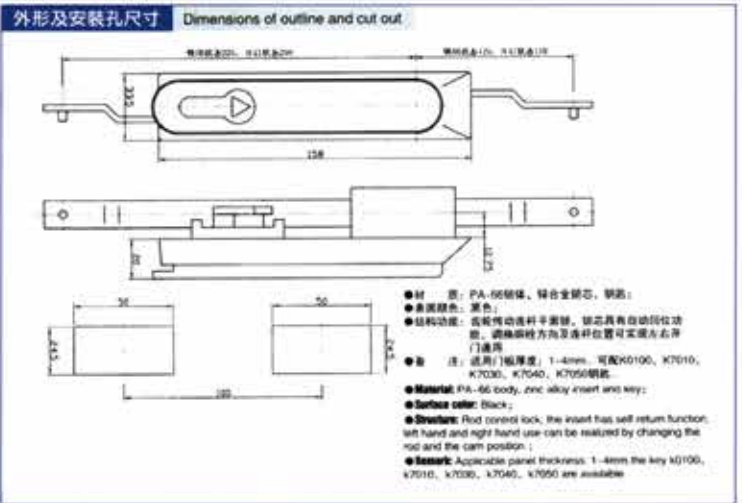
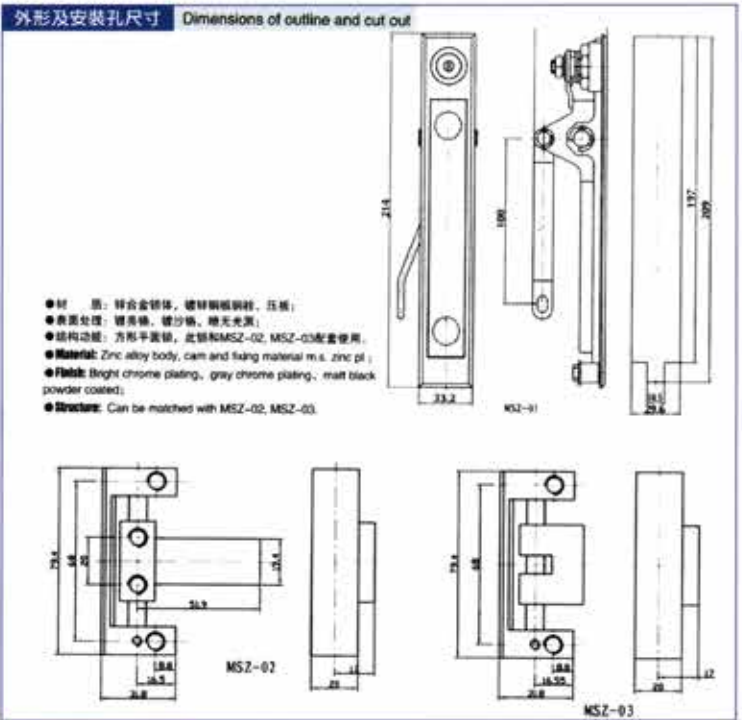


HL008

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金压铸, 镀锌钢铰链和压板, 分不锈钢和镍铬钢两种
- 表面处理: 喷光亮黑, 喷沙纹黑, 喷沙纹, 喷亮铬
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约180°
- Material: Zinc alloy housing, fixed hinge and hinge material in 4, zinc plating, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



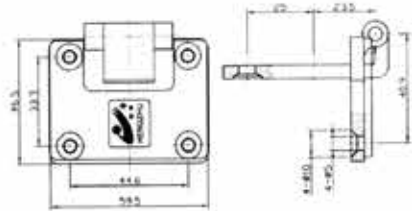




HL013

外形及安装孔尺寸 Dimensions of outline and cut out

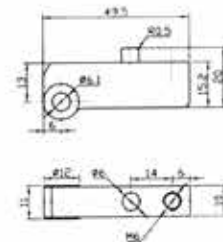
- 材 质: 锌合金体, 静铰链; 分不锈钢和镀锌钢两种。
- 表面处理: 喷丸光面, 喷沙纹黑, 镀锌铬, 镀锌镍。
- 结构功能: 铰链轴, 左右开门通用, 门板转动角度约为180°
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° concealed hinge, both left and right use.



HL014

外形及安装孔尺寸 Dimensions of outline and cut out

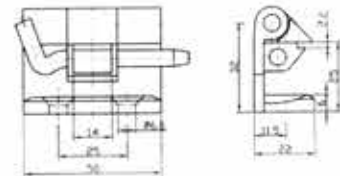
- 材 质: 锌合金。
- 表面处理: 喷丸光面, 喷沙纹黑, 镀锌铬, 镀锌镍。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°
- Material: Zinc alloy body.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° prominent hinge both left and right use.



HL015

外形及安装孔尺寸 Dimensions of outline and cut out

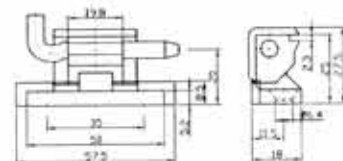
- 材 质: 锌合金体, 静铰链, 分不锈钢和镀锌钢两种。
- 表面处理: 喷丸光面, 喷沙纹黑, 镀锌铬, 镀锌镍。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°
- 备 注: 适用门板厚度: 1.2-2.0mm
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° prominent hinge, both left and right use.
- Remark: Applicable panel thickness: 1.2-2.0mm.



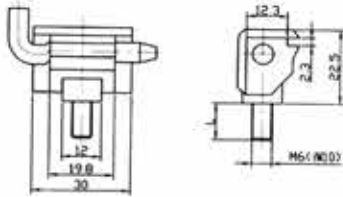
HL016

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金体, 静铰链, 分不锈钢和镀锌钢两种。
- 表面处理: 喷丸光面, 喷沙纹黑, 镀锌铬, 镀锌镍。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°
- 备 注: 适用门板厚度: 1.2-2.0mm
- Material: Zinc alloy body stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° prominent hinge, both left and right use.
- Remark: Applicable panel thickness: 1.2-2.0mm.



Dimensions of outline and cut out 外形及安装孔尺寸



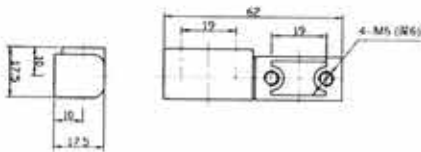
L=15为HL017-1, L=11为HL017-2

- 材 质: 锌合金, 静镀锌, 分不锈钢和镀锌钢两种, 分不锈钢和镀锌钢两种
- 表面处理: 喷无光黑, 喷沙纹黑, 镀锌, 镀镍
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为180°
- 备 注: 适用门框厚度: 1.2-2.0mm.
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available; stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° prominent hinge, both left and right use.
- Remark: Applicable panel thickness 1.2-2.0mm.



HL017

Dimensions of outline and cut out 外形及安装孔尺寸

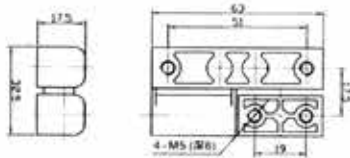


- 材 质: 锌合金
- 表面处理: 喷无光黑, 喷沙纹黑, 镀锌, 镀镍
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为270°
- Material: Zinc alloy body.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 270° prominent hinge, both left and right use.



HL018

Dimensions of outline and cut out 外形及安装孔尺寸

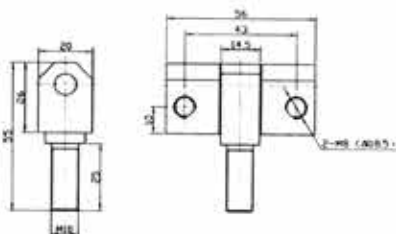


- 材 质: 锌合金
- 表面处理: 喷无光黑, 喷沙纹黑, 镀锌, 镀镍
- 结构功能: 明铰链, 有左右开门之分, 门框转动角度约为270°
- Material: Zinc alloy body.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 270° prominent hinge, left or right use.

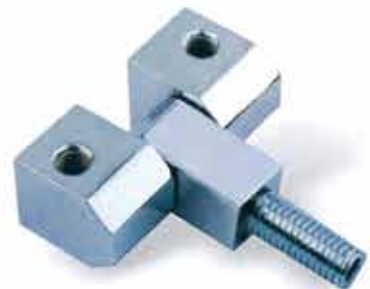


HL019

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金, 静镀锌, 分不锈钢和镀锌钢两种
- 表面处理: 喷无光黑, 喷沙纹黑, 镀锌, 镀镍
- 结构功能: 明铰链, 左右开门通用, 门框转动角度约为270°
- Material: Zinc alloy body/stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 270° prominent hinge, both left and right use.



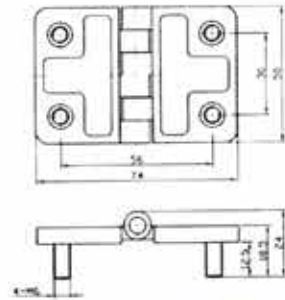
HL020



HL021

外形及安装孔尺寸 Dimensions of outline and cut out

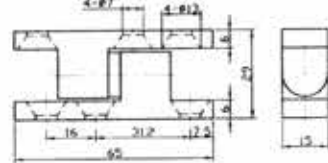
- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢销子两种, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷沙饰, 喷亮铬, 喷无光黑, 喷沙饰, 喷亮铬;
- 结构功能: 静铰链, 左右开门通用, 门板转动角度约为270°
- 适用门框厚度: 12-60mm
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available, stainless steel and zinc plating alloy screw are available
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 270° prominent hinge, both left and right use.



HL022

外形及安装孔尺寸 Dimensions of outline and cut out

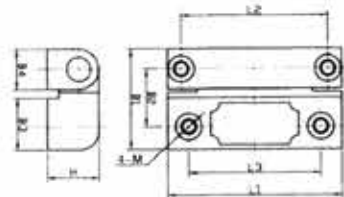
- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙饰, 喷亮铬, 喷亮铬;
- 结构功能: 静铰链, 左右开门通用, 门板转动角度约为180°
- Material: Zinc alloy body stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



HL023-1

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙饰, 喷亮铬, 喷亮铬;
- 结构功能: 静铰链, 可带阻尼功能, 左右开门通用, 门板转动角度约为180°
- Material: Zinc alloy body stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use. Resistant type on request.



型号	尺寸	L1	L2	L3	B1	B2	B3	B4	H	M
HL023-1		59.5	50	45	34	19.5	17.5	13.5	17.5	5
HL023-2		30	22	22	22	13	9	10	13	4



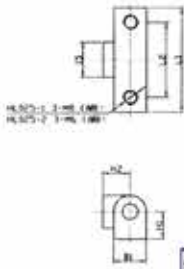
HL024

外形及安装孔尺寸 Dimensions of outline and cut out

- 材 质: 锌合金、动铰链, 分不锈钢和镀锌钢销子两种;
- 表面处理: 喷无光黑, 喷沙饰, 喷亮铬, 喷亮铬;
- 结构功能: 动铰链, 左右开门通用, 门板转动角度约为180°
- Material: Zinc alloy body stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



Dimensions of outline and cut out 外形及安装孔尺寸



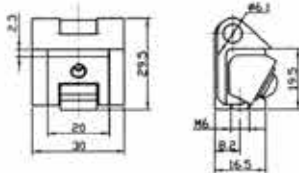
型号	尺寸	L1	L2	B1	H1	H2
HL025-1		63	43	16	13	13
HL025-2		45	32	14	11.8	11.8

- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢铰链两种, 塑料垫圈;
- 表面处理: 喷无光黑、喷沙纹黑、喷沙纹、镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门扇转动角度约为180°;
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available, plastic washer;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



HL025-1

Dimensions of outline and cut out 外形及安装孔尺寸

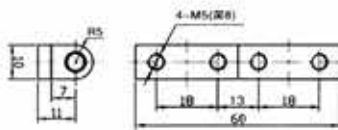


- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢铰链两种, 镀锌铜压板;
- 表面处理: 喷沙纹、镀亮铬、喷无光黑、喷沙纹;
- 结构功能: 明铰链, 左右开门通用, 门扇转动角度约为180°;
- 备注: 适用门板厚度: 12-6.0mm;
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available, fixing material m.s. zinc pl.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.
- Remark: Applicable panel thickness: 1.2-6.0mm.



HL026

Dimensions of outline and cut out 外形及安装孔尺寸

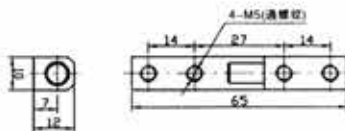


- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢铰链两种;
- 表面处理: 喷无光黑、喷沙纹黑、喷沙纹、镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门扇转动角度约为180°;
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



HL027

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金、静铰链, 分不锈钢和镀锌钢铰链两种;
- 表面处理: 喷无光黑、喷沙纹黑、喷沙纹、镀亮铬;
- 结构功能: 明铰链, 左右开门通用, 门扇转动角度约为180°;
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.



HL028

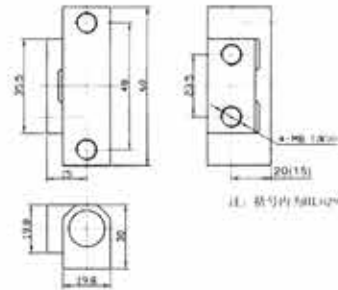
根据客户要求可配安装螺丝MSx12
MSx12 screw is available on request



HL029-1

外形及安装孔尺寸 Dimensions of outline and cut out

- **材 质:** 锌合金体, 静铰链, 分不锈钢和镀锌钢两种;
- **表面处理:** 喷丸光面、喷沙纹黑、喷沙纹、镀锌镍;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度为180°;
- **Material:** Zinc alloy body, stainless steel and nickel plating steel pin are available;
- **Finish:** Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- **Structure:** 180° prominent hinge, both left and right use.



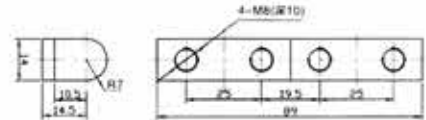
注: 型号内HL029-2尺寸



HL030

外形及安装孔尺寸 Dimensions of outline and cut out

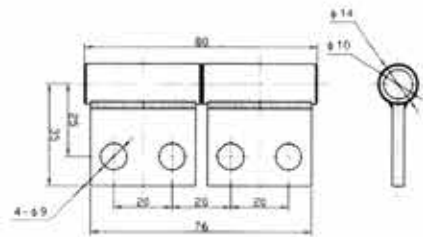
- **材 质:** 锌合金体, 静铰链, 分不锈钢和镀锌钢两种;
- **表面处理:** 喷丸光面、喷沙纹黑、喷沙纹、镀锌镍;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度为180°;
- **Material:** Zinc alloy body, stainless steel and nickel plating steel pin are available;
- **Finish:** Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- **Structure:** 180° prominent hinge, both left and right use.



HL031

外形及安装孔尺寸 Dimensions of outline and cut out

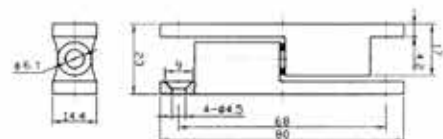
- **材 质:** 镀锌钢铰链;
- **表面处理:** 镀锌镍、镀锌镍;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度为270°;
- **Material:** M.s. hinge zinc pl.
- **Finish:** White zinc plating, color zinc plating;
- **Structure:** 270° prominent hinge, both left and right use.



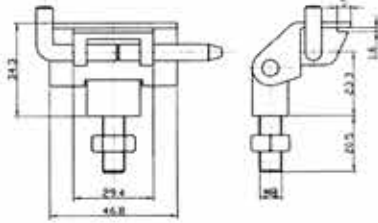
HL032

外形及安装孔尺寸 Dimensions of outline and cut out

- **材 质:** 锌合金体, 静铰链, 分不锈钢和镀锌钢两种;
- **表面处理:** 镀锌镍、喷沙纹;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度为180°;
- **Material:** Zinc alloy body, stainless steel and nickel plating steel pin are available;
- **Finish:** Bright chrome plating, gray chrome plating;
- **Structure:** 180° prominent hinge, both left and right use.



Dimensions of outline and cut out 外形及安装孔尺寸

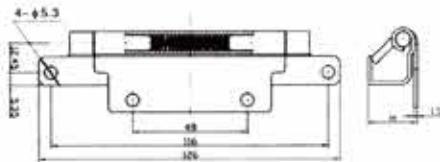


- 材 质: 锌合金, 静铰链, 分不锈钢和镀锌钢两种, 分不锈钢和镀锌钢配件螺钉;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙银, 喷亮银;
- 结构功能: 静铰链, 左右开门通用, 门框转动角度约为180°;
- 备 注: 适用门框厚度: 10-1.5mm
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available; stainless steel and nickel plating inlay screw are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 180° prominent hinge, both left and right use.
- Remark: Applicable panel thickness: 10-1.5mm.



HL033

Dimensions of outline and cut out 外形及安装孔尺寸



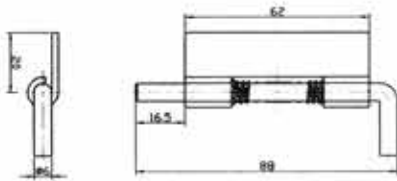
- 材 质: 镜面不锈钢;
- 结构功能: 暗铰链, 左右开门通用, 门框转动角度约为120°;
- Material: Mirror surface stainless steel;
- Structure: 120° concealed hinge, both left and right use.

型号	尺寸	L1
HL034-1	23.4	
HL034-2	20	
HL034-3	17	



HL034-1

Dimensions of outline and cut out 外形及安装孔尺寸

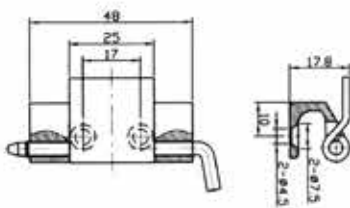


- 材 质: 镀锌钢铰链, 分不锈钢和镀锌钢两种;
- 表面处理: 喷白锌, 喷镀锌;
- 结构功能: 暗铰链, 左右开门通用, 门框转动角度约为180°;
- Material: Zinc plating steel body, stainless steel and nickel plating steel pin are available;
- Finish: White zinc plating, color zinc plating;
- Structure: 180° concealed hinge, both left and right use.



HL035

Dimensions of outline and cut out 外形及安装孔尺寸



- 材 质: 锌合金静铰链, 镀锌钢动铰链, 分不锈钢和镀锌钢两种, 分不锈钢和镀锌钢配件螺钉;
- 表面处理: 喷无光黑, 喷沙纹黑, 喷沙银, 喷亮银;
- 结构功能: 静铰链, 左右开门通用, 门框转动角度约为120° (门框与动铰链铰接);
- Material: Zinc alloy fixed hinge, zinc plating steel moving hinge, stainless steel and nickel plating steel pin are available;
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating;
- Structure: 120° prominent hinge, both left and right use; fix the door and the moving hinge by welding;



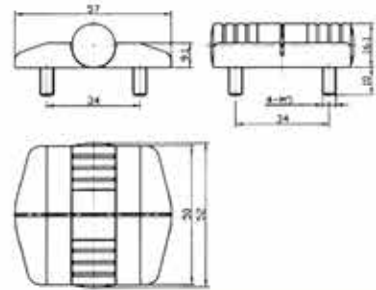
HL036



HLO45

外形及安装孔尺寸 Dimensions of outline and cut out

- **材 质:** 锌合金壳, 静铰链, 塑料仿用装饰盖, 分不锈钢和镀锌钢两种, 分不锈钢和镀锌钢两种。
- **表面处理:** 喷光亮黑, 喷沙纹黑;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度约为180°。
- **Material:** Zinc alloy body, plastic weather cover, stainless steel and nickel plating steel pin are available, stainless steel and zinc plating alloy screw are available.
- **Finish:** Black powder coated, matt black powder coated.
- **Structure:** 180° prominent hinge, both left and right use.



HLO46

外形及安装孔尺寸 Dimensions of outline and cut out

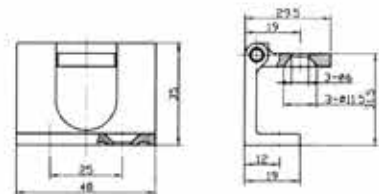
- **材 质:** 锌合金壳, 静铰链, 分不锈钢和镀锌钢两种。
- **表面处理:** 镀锌, 镀亮铬, 喷光亮黑, 喷沙纹黑;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度约为180°。
- **Material:** Zinc alloy body, stainless steel and nickel plating steel pin are available.
- **Finish:** Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated.
- **Structure:** 180° prominent hinge, both left and right use.



HLO47

外形及安装孔尺寸 Dimensions of outline and cut out

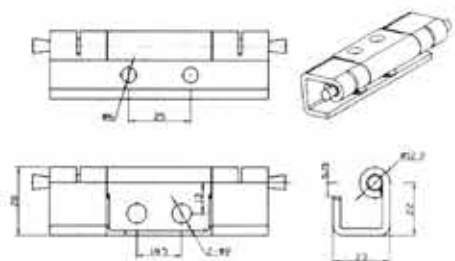
- **材 质:** 锌合金壳, 静铰链, 分不锈钢和镀锌钢两种。
- **表面处理:** 镀锌, 镀亮铬, 喷光亮黑, 喷沙纹黑;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度约为180°。
- **Material:** Zinc alloy body, stainless steel and nickel plating steel pin are available.
- **Finish:** Gray chrome plating, bright chrome plating, black powder coated, matt black powder coated.
- **Structure:** 180° prominent hinge, both left and right use.



HLO48

外形及安装孔尺寸 Dimensions of outline and cut out

- **材 质:** 镀锌钢铰链;
- **表面处理:** 镀锌, 镀锌, 镀锌;
- **结构功能:** 明铰链, 左右开门通用, 门板转动角度约为180°。
- **Material:** Zinc plating steel body.
- **Finish:** Color zinc plating, white zinc plating, nickel plating.
- **Structure:** 180° prominent hinge, both left and right use.



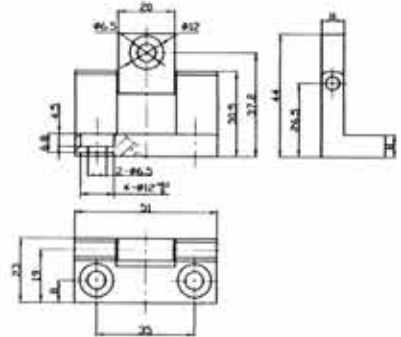


HL053

外形及安装孔尺寸

Dimensions of outline and cut out

- 材 质: 锌合金体, 静铰链, 分不锈钢和镀锌钢两种。
- 表面处理: 镀锌, 喷沙, 喷无光黑, 喷沙纹黑。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°。
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available.
- Finish: Bright chrome plating, gray chrome plating, black powder coated, matt black powder coated.
- Structure: 180° prominent hinge, both left and right use.

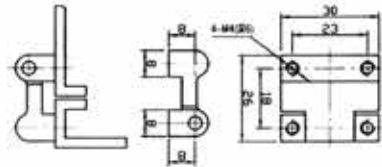


HL054

外形及安装孔尺寸

Dimensions of outline and cut out

- 材 质: 锌合金体, 静铰链, 分不锈钢和镀锌钢两种。
- 表面处理: 喷无光黑, 喷沙纹黑, 镀锌, 喷亮铬。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°。
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available.
- Finish: Black powder coated, matt black powder coated, gray chrome plating, bright chrome plating.
- Structure: 180° prominent hinge, both left and right use.



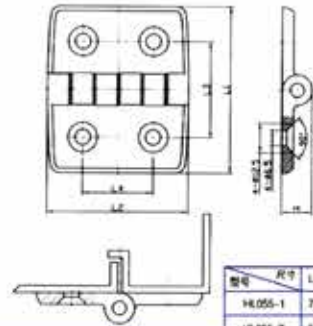
HL055-1

HL055-2

外形及安装孔尺寸

Dimensions of outline and cut out

- 材 质: 全不锈钢铰链。
- 结构功能: 明铰链, 左右开门通用, 门板转动角度约为180°。
- Material: Whole stainless steel body.
- Structure: 180° prominent hinge, both left and right use.

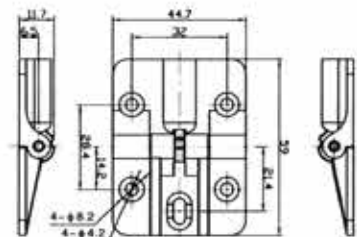


HL056

外形及安装孔尺寸

Dimensions of outline and cut out

- 材 质: 锌合金体, 静铰链, 分不锈钢和镀锌钢两种。
- 表面处理: 镀锌, 喷沙, 喷无光黑。
- 结构功能: 暗铰链, 左右开门通用, 门板转动角度约为180°。
- Material: Zinc alloy body, stainless steel and nickel plating steel pin are available.
- Finish: Bright chrome plating, gray chrome plating, black powder coated.
- Structure: 180° concealed hinge, both left and right use.

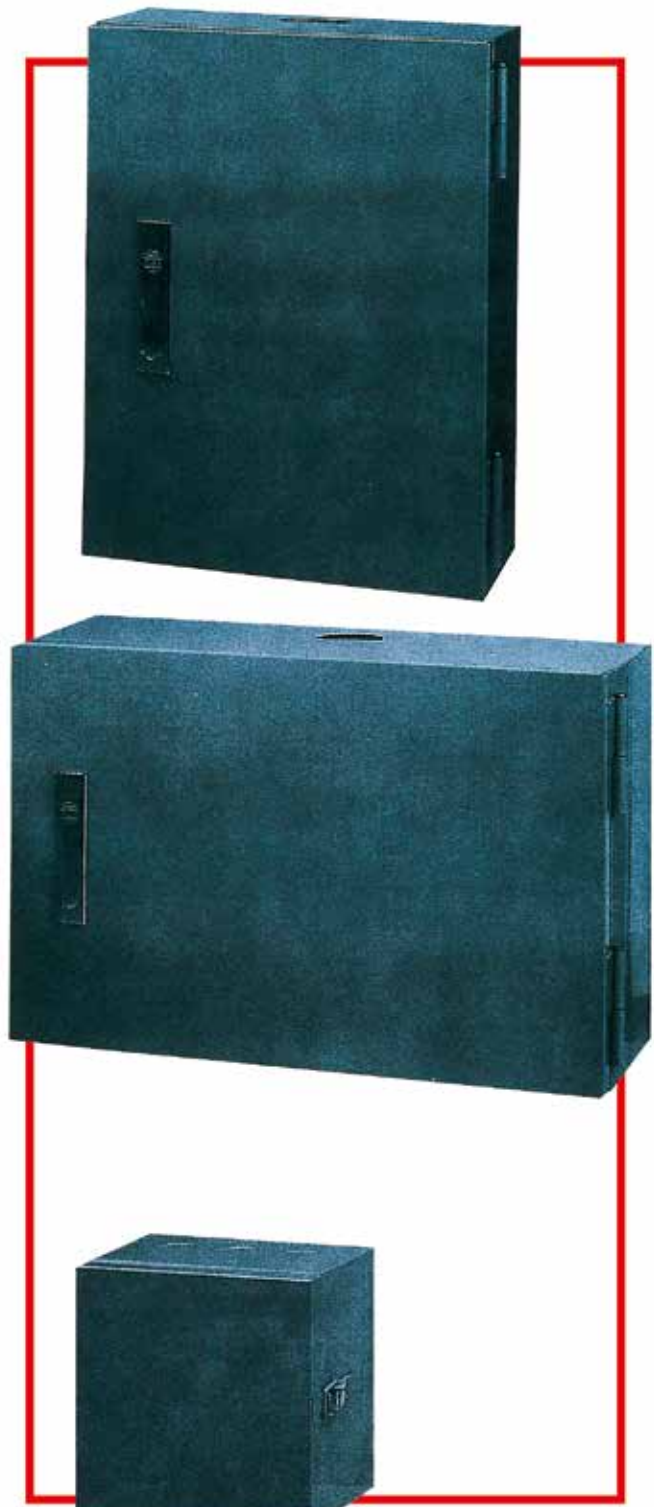


DIMENSIONS

A SERIES	METAL CABINETS	MOUNTING PLATE
TYPE	W x H x D	W x Hmm
A1:	250 x 370 x 150	200 x 300
A2:	300 x 400 x 165	240 x 340
A3:	300 x 460 x 170	240 x 400
A4:	360 x 460 x 185	300 x 400
A5:	360 x 520 x 190	300 x 460
A6:	400 x 550 x 220	320 x 470
A7:	440 x 600 x 220	360 x 520
A8:	480 x 700 x 230	400 x 600
A9:	550 x 850 x 250	470 x 765
A10:	650 x 1000 x 280	570 x 915
A11:	750 x 1150 x 300	670 x 1070
A12:	800 x 1540 x 400	720 x 1440

B SERIES	METAL CABINETS	MOUNTING PLATE
TYPE	W x H x D	W x Hmm
B1:	370 x 250 x 150	300 x 200
B2:	400 x 300 x 165	340 x 240
B3:	460 x 300 x 170	400 x 240
B4:	460 x 360 x 185	400 x 300
B5:	520 x 360 x 190	460 x 300
B6:	550 x 400 x 220	470 x 320
B7:	600 x 440 x 220	520 x 360
B8:	700 x 480 x 230	600 x 400
B9:	850 x 550 x 250	765 x 470

D SERIES	METAL CABINETS	MOUNTING PLATE
TYPE	W x H x D	W x Hmm
D1:	190 x 180 x 120	165 x 155
D2:	270 x 210 x 125	240 x 160
D3:	210 x 160 x 140	180 x 115
D4:	210 x 160 x 105	180 x 115





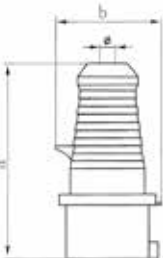






IEC 60309 plugs and socket-outlets for industrial use
STANDARDS.

CAMSCO series industrial plugs and socket-outlets are in compliance with the following international standards : IEC60309-1 & IEC60309-2, EN60309-1 & EN60309-2





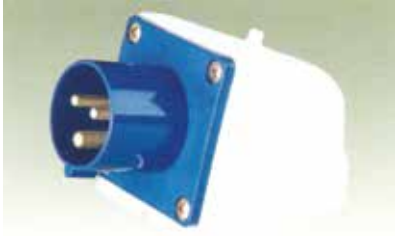

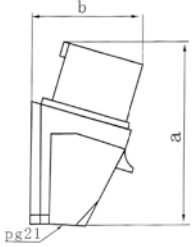




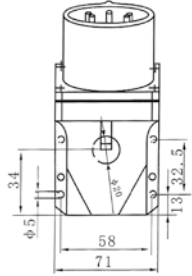
They are also in compliance with the standards : VDE0623, BS4343.



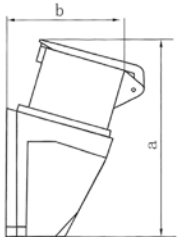




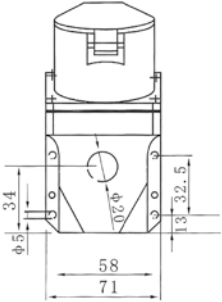




ADVANTAGE.

The base materials are NYLON6, which provides good features for the products, such as good insulating, resistant against most chemicals and salt-water, extremely cold-proof and almost unbreakable. For the advanced design they are suitable to be used in special environment, where IP44 or IP67 protection degree is required.

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A ----- 32A	110-130V~	 2P+E	013-4 ----- 023-4	IP44	Plugs 
	16A ----- 32A	220-240V~	 2P+E	013 ----- 023	IP44	
	16A ----- 32A	380-415V~	 3P+E	014 ----- 024	IP44	
	16A ----- 32A	220-380V~ 240-415V~	 3P+N+E	015 ----- 025	IP44	

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	63A	220-240V~	2P+E	033	IP67	<p>Plugs</p>
	63A	380-415V~	3P+E	034	IP67	
	63A	220-380V~ 240-415V~	3P+N+E	035	IP67	
	16A 32A	110-130V~	2P+E	013L-4 023L-4	IP44	<p>Plugs with long cable seal</p>
	16A 32A	220-240V~	2P+E	013L 023L	IP44	

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A 32A	380-415V~	 3P+E	014L 024L	IP44	
	16A 32A	220-380V~ 240-415V~	 3P+N+E	015L 025L	IP44	
	16A 32A	220-240V~	 2P+E	513 523	IP44	
	16A 32A	380-415V~	 3P+E	514 524	IP44	
	16A 32A	220-380V~ 240-415V~	 3P+N+E	515 525	IP44	



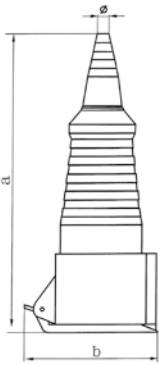


picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A 32A	110-130V~	 2P+E	113-4 123-4	IP44	
	16A 32A	220-240V~	 2P+E	113 123	IP44	
	16A 32A	380-415V~	 3P+E	114 124	IP44	
	16A 32A	220-380V~ 240-415V~	 3P+N+E	115 125	IP44	
	63A	220-240V~	 3P+E	133	IP67	

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	63A	380-415V~	 3P+E	134	IP67	Wall mounted sockets
	63A	220-380V~ 240-415V~	 3P+N+E	135	IP67	
	16A 32A	110-130V~	 2P+E	313-4 323-4	IP44	Sloping pannel sockets
	16A 32A	220-240V~	 2P+E	313 323	IP44	
	16A 32A	380-415V~	 3P+E	314 324	IP44	

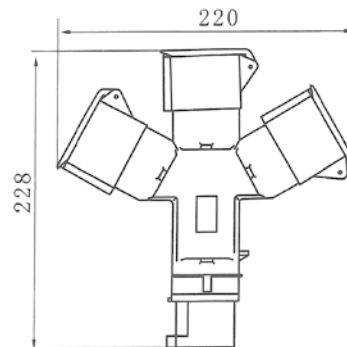
picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A	220-380V~	 3P+N+E	315	IP44	Straight pannel sockets
	32A	240-415V~		325		
	16A	110-130V~	 2P+E	413-4	IP44	
	32A			423-4		
	16A	220-240V~	 2P+E	413	IP44	
	32A			423		
	16A	380-415V~	 3P+E	414	IP44	
	32A			424		
	16A	220-380V~	 3P+N+E	415	IP44	
	32A	240-415V~		425		

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A ----- 32A	110-130V~	 2P+E	213-4 ----- 223-4	IP44	<p>Connectors</p> 
	16A ----- 32A	220-240~	 2P+E	213 ----- 223	IP44	
	16A ----- 32A	380-415V~	 3P+E	214 ----- 224	IP44	
	16A ----- 32A	220-380V~ 240-415V~	 3P+N+E	215 ----- 225	IP44	
	63A	220-240V~	 2P+E	233	IP67	

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	63A	380-415V~	 3P+E	234	IP67	<p>Connectors</p>
	63A	220-380V~ 240-415V~	 3P+N+E	235	IP67	
	16A 32A	110-130V~	 2P+E	213-L-4 223-L-4	IP44	<p>Connectors with long cable seal</p>
	16A 32A	220-240V~	 2P+E	213L 223L	IP44	

picture	Nominal current (A)	Nominal voltage (V)	No. poles	Code	Protection degree	Dimension
	16A	380-415V~	 3P+E	214L	IP44	Connectors with long cable seal 
	32A			224L		
	16A	220-380V~	 3P+N+E	215L	IP44	
	32A	240-415~		225L		

Multiple-outlet Sockets For Industrial Use



CODE	a	b	1 Input	1 Plug 16A 250V 2P+E	Protection Degree
1013	220	228	3 Output	3 Sockets 16A 250V 2P+E	IP44

MAIN FITTING PARAMETER SPECIFICATIONS FOR INDUSTRIAL PLUG SOCKET & CONNECTORS

	Plug					Socket					Connector				
	TYPE	CODE	a	b	Φ	TYPE	CODE	a	b	Pg	TYPE	CODE	a	b	Φ
16A	2P+E	013(-4)	122	59	6	2P+E	113(-4)	131	88	21	2P+E	213(-4)	131	70	6
	3P+E	014	122	65	6	3P+E	114	132	91	21	3P+E	214	130	78	6
	3P+N+E	015	130	72	8	3P+N+E	115	132	98	21	3P+N+E	215	140	92	8
32A	2P+E	023(-4)	139	75	8	2P+E	123(-4)	149	100	21	2P+E	223(-4)	150	92	8
	3P+E	024	139	75	8	3P+E	124	149	100	21	3P+E	224	150	92	8
	3P+N+E	025	143	84	8	3P+N+E	125	151	104	21	3P+N+E	225	154	102	8
16A	2P+E	013L(-4)	141	59	8	TYPE	CODE	a	b	Pg	2P+E	213L(-4)	150	70	8
	3P+E	014L	141	65	8	2P+E	133	270	130	29	3P+E	214L	149	78	8
	3P+N+E	015L	169	72	10	3P+E	134	270	130	29	3P+N+E	215L	179	92	10
32A	2P+E	023L(-4)	178	75	10	3P+N+E	135	270	130	29	2P+E	223L(-4)	189	92	10
	3P+E	024L	178	75	10						3P+E	224L	189	92	10
	3P+N+E	025L	181	84	10						3P+N+E	225L	193	102	10
	TYPE	CODE	a	b	Pg						TYPE	CODE	a	b	Pg
63A	2P+E	033	230	109	36						2P+E	233	240	112	36
	3P+E	034	230	109	36						3P+E	234	240	112	36
	3P+N+E	035	230	109	36						3P+N+E	235	240	112	36

Wall Mounted Plug					
	TYPE	CODE	a	b	Pg
16A	2P+E	513	121	76	21
	3P+E	514	124	76	21
	3P+N+E	515	126	79	21
32A	2P+E	523	131	83	21
	3P+E	524	131	83	21
	3P+N+E	525	142	88	21

Sloping Psnnel Socket									
	TYPE	CODE	a	b	c	d	e	f	g
16A	2P+E	313(-4)	62	68	47	48	36	37	55
	3P+E	314	76	86	60	61	47	37	64
	3P+N+E	315	76	86	60	61	47	37	72
32A	2P+E	323(-4)	80	96	60	70	42	43	75
	3P+E	324	80	96	60	70	42	43	75
	3P+N+E	325	80	96	60	70	42	47	81

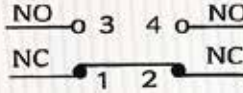
Sloping Psnnel Socket									
	TYPE	CODE	a	b	c	d	e	f	Φg
16A	2P+E	413(-4)	69	69	56	56	30	47	50
	3P+E	414	69	69	56	56	25	51	43
	3P+N+E	415	69	69	56	56	27	50	55
32A	2P+E	423(-4)	71	71	56	56	29	61	55
	3P+E	424	71	71	56	56	29	61	55
	3P+N+E	425	71	71	56	56	29	61	60



Micro Switch & Limit Switch

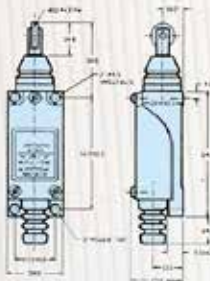
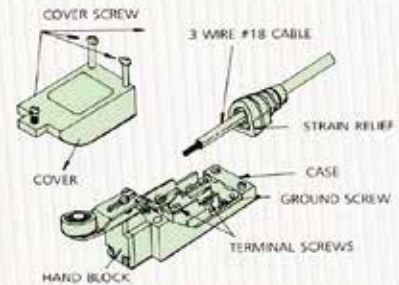
SPECIFICATIONS:

- Contact resistance: 25mΩ maximum (Initial)
- Insulation resistance: 100MΩ minimum (At 500VDC)
- Dielectric strength: 1,000VAC 50/60Hz for 1 minute.
- Contact configuration: $\frac{NO}{NC} \text{---} 3 \quad 4 \text{---} \frac{NO}{NC}$ 5A, 125VAC or 250 VAC.



EASY WIRING

1. Loosen cover screws and remove cover.
2. Remove rubber strain relief from switch cover.
3. Slip strain relief over cable.
4. Fasten terminal screws and grounding screw tightly after inserting cables or terminals.
5. After wiring, insert strain relief into the groove of the switch cover.
6. Fasten 3 cover screws evenly. Do not over tighten.
7. Recommended Cable — #18/3 STO Flexible.



TOP PUSH ROD PLUNGER AZ8122

Operating Force 900g max.
Release Force 150g min.
Pretravel 1.5mm max.
Movement Differential 0.7mm max.
Overtravel 4mm min.
Operating Position 5.5mm min.

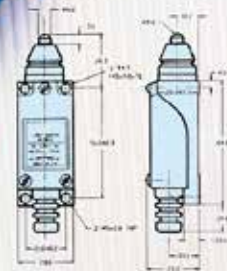
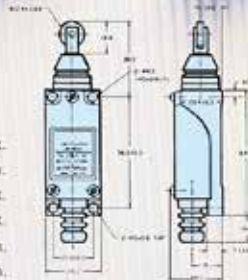
TOP PUSH ROLLER AZ8111

Operating Force 900g max.
Release Force 150g min.
Pretravel 1.5mm max.
Movement Differential 0.7mm max.
Overtravel 4mm min.
Operating Position 5.5mm min.



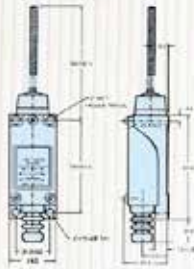
TOP PUSH ROLLER AZ8112

Operating Force 900g max.
Release Force 150g min.
Pretravel 1.5mm max.
Movement Differential 0.7mm max.
Overtravel 4mm min.
Operating Position 5.5mm min.

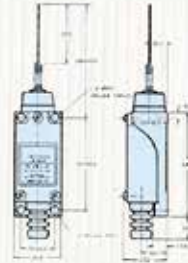


AZ8200, AZ8169, AZ8166

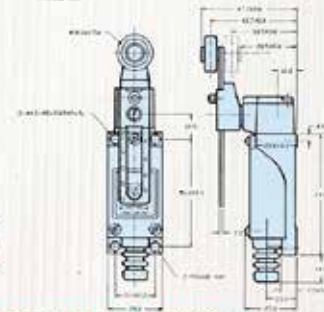
Operating Force 90g max. Movement Differential 20mm max.
 Release Force 150g min. Overtravel 20mm min.
 Pretravel 30mm max. Operating Position 50mm min.



COIL SPRING ROD AZ8200

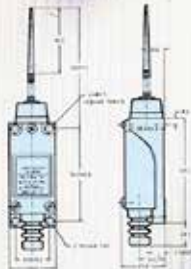


SPRING WIRE AZ8169



ADJUSTABLE LENGTH ROLLER LEVER AZ8108

Operating Force 800-342g
 Release Force 50-21g
 Pretravel 20° max.
 Movement Differential 10" max.
 Overtravel 75° min.
 Operating Position 95° min.



PLASTIC ROD AZ8166



AZ8108

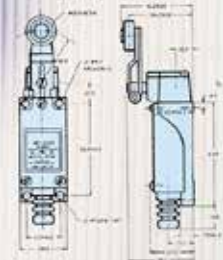
ADJUSTABLE ROD LEVER AZ8107

Operating Force 800-230g
 Release Force 50-12g
 Pretravel 20° max.
 Movement Differential 10° max.
 Overtravel 75° min.
 Operating Position 95° min.



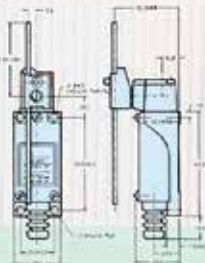
AZ8107

AZ8104



ROLLER ARM AZ8104

Operating Force 600g max.
 Release Force 50g min.
 Pretravel 20° max.
 Movement Differential 10° max.
 Overtravel 75° min.
 Operating Position 95° min.

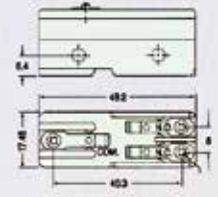


SPECIFICATIONS:

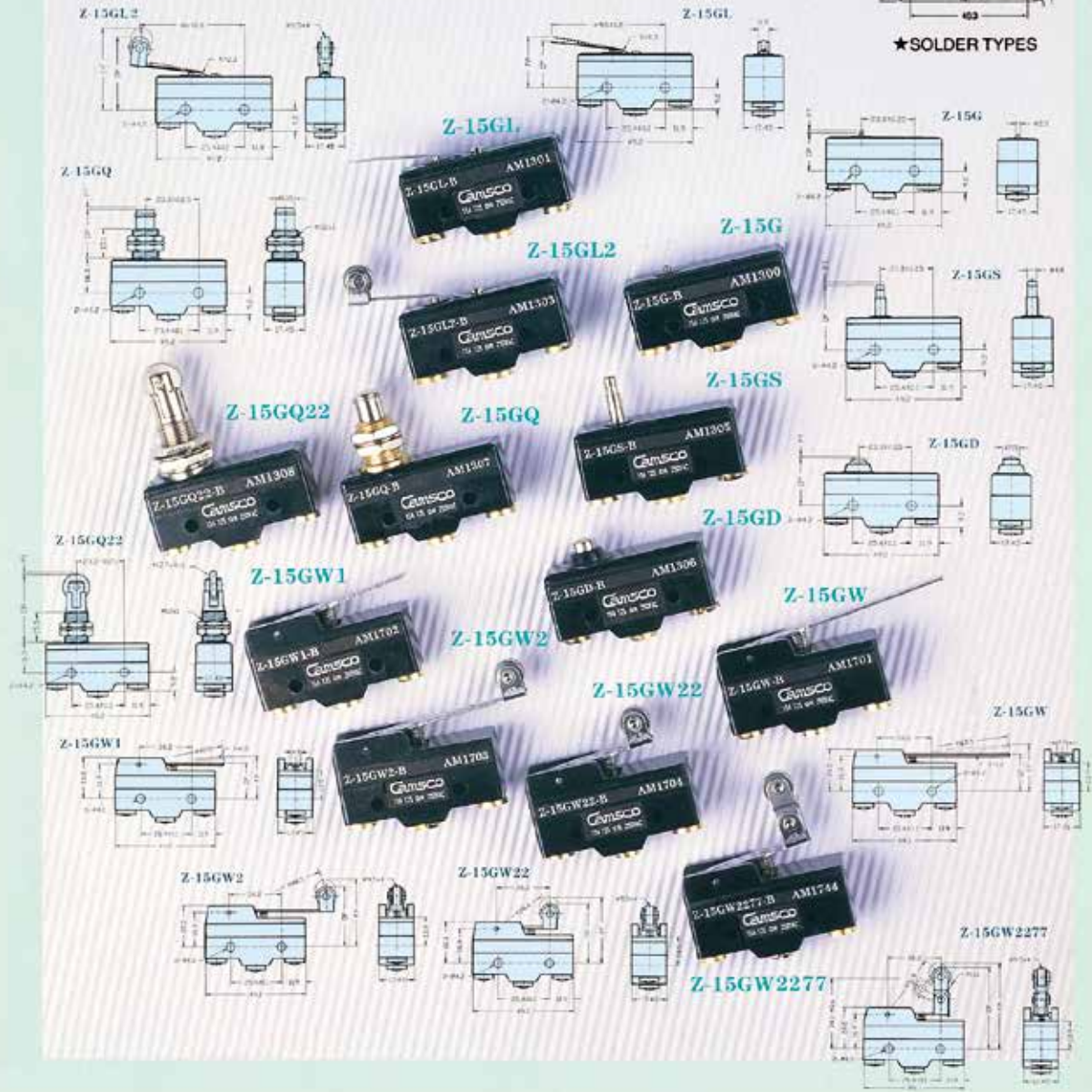
- Terminal: Screw terminal
- Contact resistance: 15 mΩ maximum. (Initial)
- Insulation resistance: 100MΩ minimum. (At 500VDC)
- Dielectric strength: 1,000VAC 50/60Hz for 1 minute.
- Contact configuration:

COM.	●	●	●	NC	15A 125VAC Or 250VAC
	●	●	●	NO	1/2A 125VDC, 1/4A 250VDC
	●	●	●	NO	1/8HP 125VAC 1/4HP 250VAC
- Service life: Mechanically: 1,000,000 operations minimum.
Electrically: 100,000 operations minimum.

Z-15 Series



★ SOLDER TYPES



GENERAL-PURPOSE LIMIT SWITCH

TYPE:LL

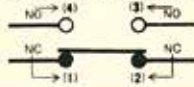
10A 125,250,480VAC AC

1/21-P 125VAC 1 1-P 250V

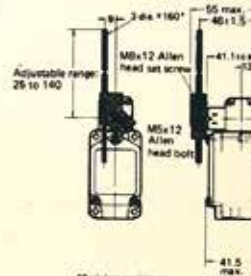
0.8A 125VDC 0.4A 250V DC

0.1A 600VDC

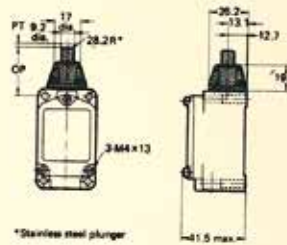
CONTACT CONFIGURATION



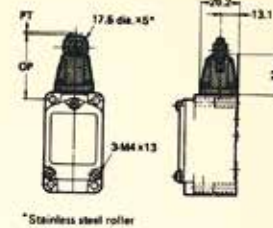
● LL-GL



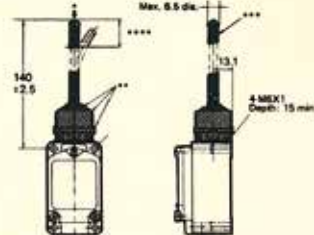
● LL-D



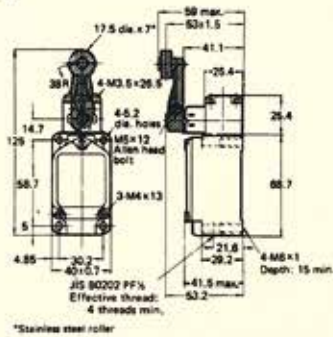
● LL-D 2



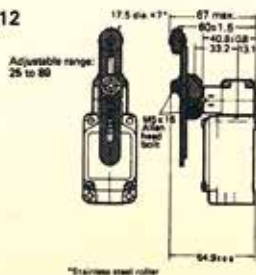
● LL-NJ



● LL-CA2



● LL-CA12



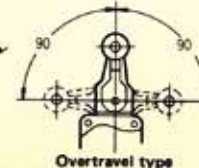
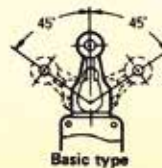
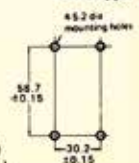
OVERTRAVEL TYPE

The Overtravel Type is a limit switch which is provided with a greater OT to facilitate dog setting. Since this type is identical to the Basic Type in dimensions, both types are interchangeable.

The Overtravel Type is classified into two versions -2 series and -2N series.

Mounting holes

Basic type



SPECIFICATIONS

Contact Rating

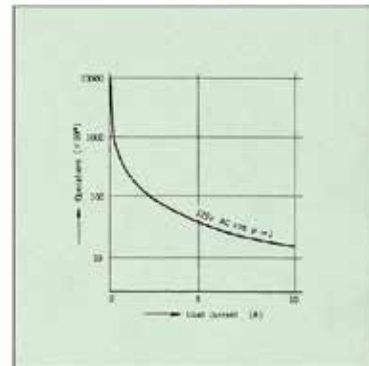
Voltage	Resistive load ($\cos \phi = 1$)	Inductive load ($\cos \phi = 0.4$)	Motor or lamp load	
			N.C. contact	N.O. contact
125V AC	10 A	8 A	3 A	1.5A
250V AC	10 A	4 A	1.5A	1 A
115V DC	0.4A	0.05A	—	—

UL, CSA rating: UL: 10 A 125/250 VAC
CSA: 10 A 125/250 VAC, 600 VAC MAX., 115 VDC MAX. PILOT DUTY

Characteristics

Contact arrangement SPDT
 Expected life (min. operations)
 Electrical (at rated load ON/OFF frequency: 20/min.) 200,000
 Mechanical (ON/OFF frequency: 50/min.) 10,000,000
 Insulation resistance (initial) more than 100 MΩ at 500 V DC
 Dielectric strength
 Between terminals 1,500 Vrms
 Between terminals and other exposed metal parts 2,000 Vrms
 Between terminals and ground 2,000 Vrms
 Shock resistance
 At free position (max.) 10 G
 At operation limit position (max.) 30 G
 Vibration resistance (max.) 55 Hz at 1.5 mm travel
 Contact resistance (initial) less than 15 mΩ at 6-8 V DC
 Allowable operation speed 120 cycles/min.
 Ambient temperature -20°C to +80°C -4°F to +140°F
 Ambient humidity (max.) 95%

Life curve


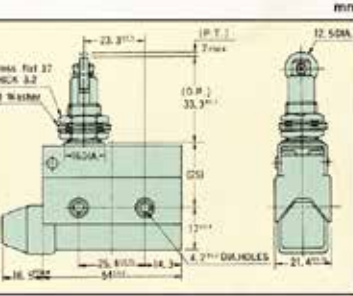

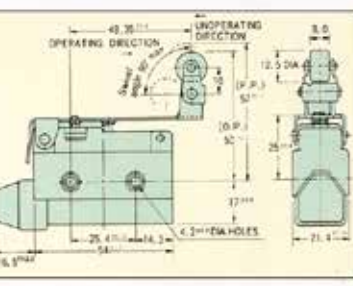

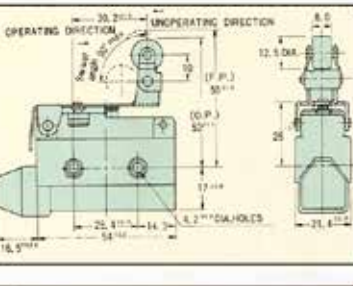

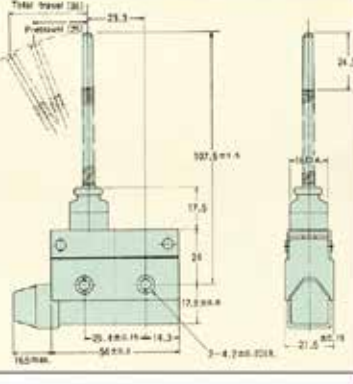

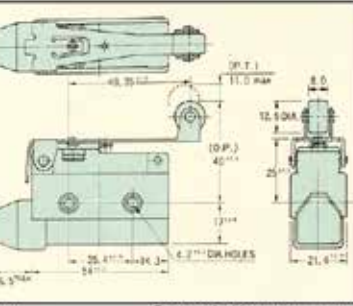


mm

Hinge lever
AZ 7120
 Operating Force 150 g max.
 Release Force 40 g min.
 Pretravel 13.5 mm max.
 Movement Differential 3.2 mm max.
 Overtravel 4.0 mm min.
 Operating Position 25 ± 2.0 mm

Hinge short lever
AZ 7140
 Operating Force 220 g max.
 Release Force 60 g min.
 Pretravel 8.5 mm max.
 Movement Differential 2.0 mm max.
 Overtravel 2.5 mm min.
 Operating Position 25 ± 1.3 mm


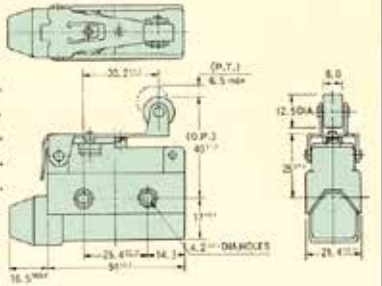

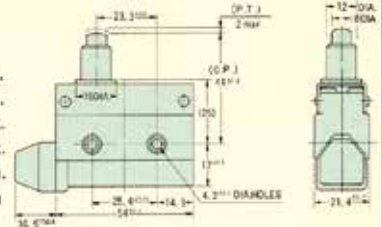

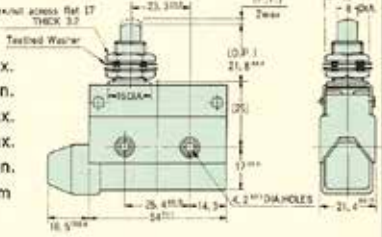

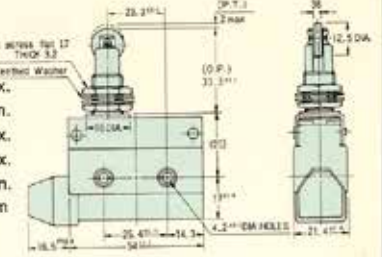

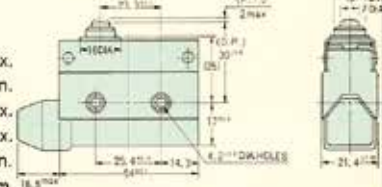
* Epoxy-sealed terminal types ** Neon lamp wired types General tolerance: ±0.4

	<p>Panel mount cross roller plunger AZ 7312 Operating Force600 g max. Release Force100 g min. Pretravel2.0 mm max. Movement Differential0.8 mm max. Overtravel6.0 mm min. Operating Position33.3 ± 1.2 mm</p>	
	<p>One way roller lever AZ 7124 Operating Force200 g max. Release Force60 g min. Pretravel11 mm max. Movement Differential2.4 mm max. Overtravel3.0 mm min. Operating Position50 ± 2.0 mm</p>	
	<p>One way roller short lever AZ 7144 Operating Force280 g max. Release Force100 g min. Pretravel6.5 mm max. Movement Differential1.5 mm max. Overtravel2.0 mm min. Operating Position50 ± 1.6 mm</p>	
	<p>AZ 7166 Operating Force120 g max. Pretravel25 mm max. Overtravel11 mm min. Totaltravel36 mm min.</p>	
	<p>Hinge roller lever AZ 7121 Operating Force180 g max. Release Force50 g min. Pretravel11.0 mm max. Movement Differential2.4 mm max. Overtravel3.0 mm min. Operating Position40 ± 1.9 mm</p>	

* Epoxy-sealed terminal types

** Neon lamp wired types

General tolerance: ±0.4

	<p>Hinge short roller lever AZ 7141 Operating Force 240 g max. Release Force 80 g min. Pretravel 6.5 mm max. Movement Differential... 1.5 mm max. Overtravel 2.0 mm min. Operating Position 40 ± 1.6 mm</p>	
	<p>Overtravel plunger AZ 7110 Operating Force 600 g max. Release Force 100 g min. Pretravel 2.0 mm max. Movement Differential... 0.8 mm max. Overtravel 5.0 mm min. Operating Position 44 ± 1.2 mm</p>	
	<p>Panel mount plunger AZ 7310 Operating Force 600 g max. Release Force 100 g min. Pretravel 2.0 mm max. Movement Differential... 0.8 mm max. Overtravel 6.0 mm min. Operating Position 21.8 ± 0.8 mm</p>	
	<p>Panel mount roller plunger AZ 7311 Operating Force 600 g max. Release Force 100 g min. Pretravel 2.0 mm max. Movement Differential... 0.8 mm max. Overtravel 6.0 mm min. Operating Position 33.3 ± 1.2 mm</p>	
	<p>Compact overtravel plunger AZ 7100 Operating Force 600 g max. Release Force 100 g min. Pretravel 2.0 mm max. Movement Differential... 0.8 mm max. Overtravel 0.8 mm min. Operating Position 30 ± 0.8 mm</p>	

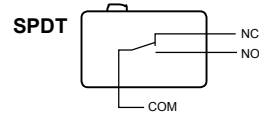
* Epoxy-sealed terminal types

** Neon lamp wired types

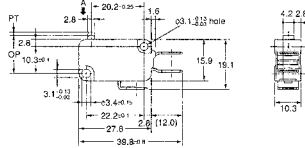
General tolerance: ±0.4

- SWITCH RATING : AC250V 16A RESISTIVE LOAD
DC125V 0.6A RESISTIVE LOAD
DC250V 0.3A RESISTIVE LOAD
AC125V OR 250V 1/2HP

- CONTACT FORM



V-16- □←Terminals



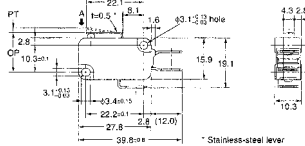
OF max.	200g
RF min.	50g
PT max.	1.2 mm
OT min.	1.0 mm
MD max	0.4 mm
OP	14.7 ± 0.4mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-161- □←Terminals



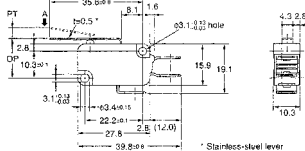
OF max.	200g
RF min.	50g
PT max.	1.6 mm
OT min.	0.8 mm
MD max	0.6 mm
OP	15.2 ± 0.5mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-162- □←Terminals



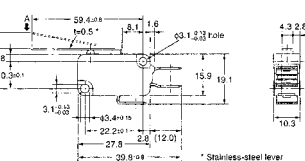
OF max.	126g
RF min.	14g
PT max.	4.0 mm
OT min.	1.6 mm
MD max	1.5 mm
OP	15.2 ± 1.2mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-163- □←Terminals



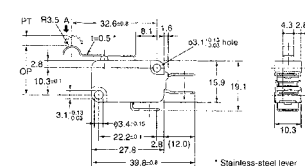
OF max.	72g
RF min.	6g
PT max.	9.0 mm
OT min.	2.0 mm
MD max	2.8 mm
OP	15.2 +2.6 -3.2 mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-164- □←Terminals



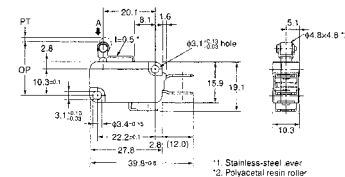
OF max.	126g
RF min.	14g
PT max.	4.0 mm
OT min.	1.6 mm
MD max	1.5 mm
OP	18.7 ± 1.2mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-165- □←Terminals



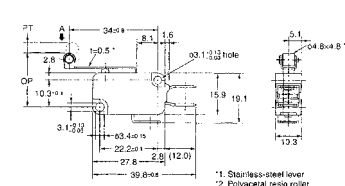
OF max.	240g
RF min.	50g
PT max.	1.6 mm
OT min.	0.8 mm
MD max	0.6 mm
OP	20.7 ± 0.6mm

Terminals

- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals



V-166- □←Terminals



OF max.	126g
RF min.	14g
PT max.	4.0 mm
OT min.	1.6 mm
MD max	1.5 mm
OP	20.7 ± 1.2mm

Terminals

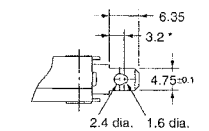
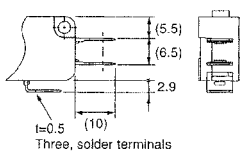
- A : Solder terminals
- C2 : Quick-connect terminals (#187)
- C : Quick-connect terminals(#250)
- B : Screw terminals

Characteristics

Permissible operating speed		0.1 mm to 1 m/s max. (pin plunger models)
Permissible operating frequency	Mechanical	600 operations/min max. (pin plunger models)
	Electrical	30 operations/min
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial Value)		15 MΩ max.
Dielectric strength	Between terminals of the same polarity	AC1,000V 50/60Hz 1min
	Between current-carrying metal parts and ground	AC2,000V 50/60Hz 1min
	Between each terminals and non-current-carrying metal parts	AC2,000V 50/60Hz 1 min
Vibration resistance	Malfunction	10 to 55 Hz. 1.5-mm double amplitude
Durability	Mechanical	10,000,000 operations min. (60 operations/min)
	Electrical	100,000 operations min. (20 operations/min)
Ambient operating temperature		-25°C to +80°C (with no icing or condensation)
Ambient operating humidity		85% max. (for +5°C to +35°C)
weight		Approx. 6.2g (pin plunger models)

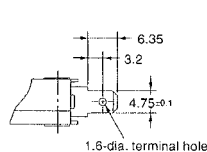
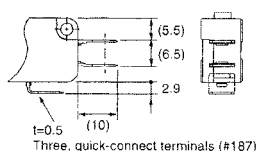
Terminals and Appearance (Unit: mm)

Solder terminals (A)

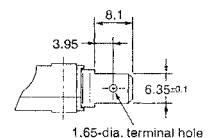
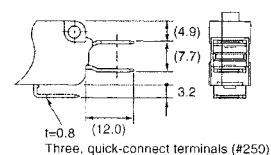


* Indicates the length to the center of the 1.6-dia. holes

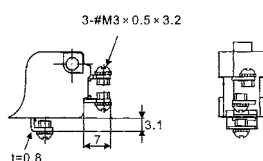
Quick-connect terminals (#187) (C2)



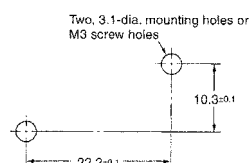
Quick-connect terminals (#250) (C)



Screw terminals (B)

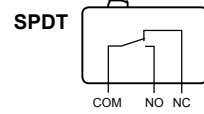


Mounting Holes (Unit: mm)



- SWITCH RATING : AC 125V 5A (RESISTIVE LOAD)
AC 250V 3A (RESISTIVE LOAD)

- CONTACT FORM



Operating Force	OF	Max.	150g
Releasing Force	RF	Min.	25g
Pretravel	PT	Max.	0.5 mm
Overtravel	OT	Min.	0.5 mm
Movement Differential	MD	Max.	0.1 mm
Operating Position	OP		8.4±0.5mm

Operating Force	OF	Max.	70g
Releasing Force	RF	Min.	6g
Overtravel	OT	Min.	1.2 mm
Movement Differential	MD	Max.	0.8 mm
Free Position	FP	Max.	13 mm
Operating Position	OP		8.8±0.8mm

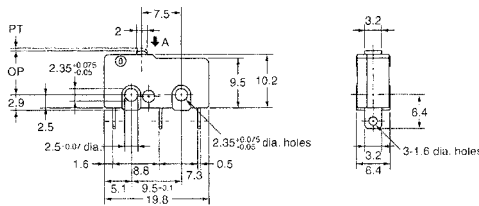
Operating Force	OF	Max.	50g
Releasing Force	RF	Min.	3g
Overtravel	OT	Min.	1.2 mm
Movement Differential	MD	Max.	1.2 mm
Free Position	FP	Max.	16 mm
Operating Position	OP		11±1.5mm

Operating Force	OF	Max.	70g
Releasing Force	RF	Min.	6g
Overtravel	OT	Min.	1.2 mm
Movement Differential	MD	Max.	0.8 mm
Free Position	FP	Max.	15 mm
Operating Position	OP		11±0.8mm

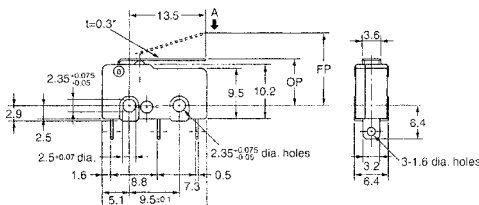
Operating Force	OF	Max.	60g
Releasing Force	RF	Min.	6g
Overtravel	OT	Min.	1.2 mm
Movement Differential	MD	Max.	0.8 mm
Free Position	FP	Max.	19 mm
Operating Position	OP		16±0.8mm



SS-5G



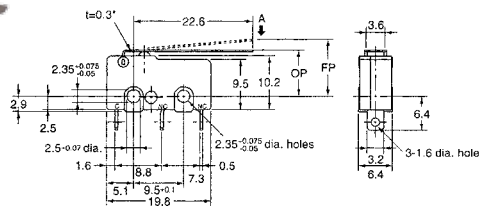
SS-5GL



* Stainless-steel lever



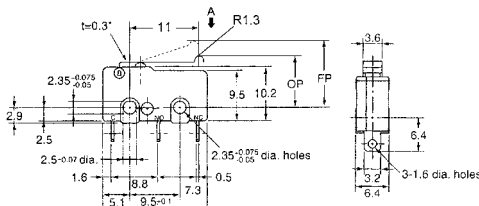
SS-5GL12



* Stainless-steel lever



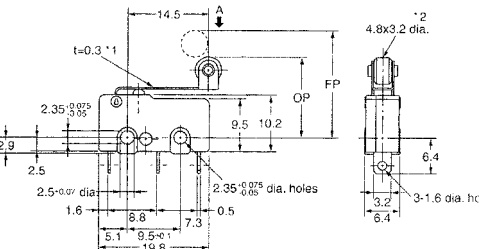
SS-5GL13



* Stainless-steel lever



SS-5GL2S

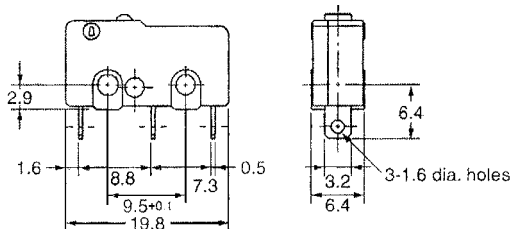


*1. Stainless-steel lever *2. Brass roller

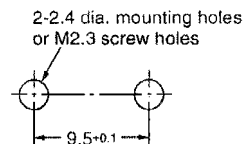
Characteristics

Permissible operating speed		0.1 mm to 1 m/s (for pin plunger models)
Permissible operating frequency	Mechanical	400 operations/min
	Electrical	30 operations/min
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		30 MΩ max.
Dielectric strength	Between terminals of the same polarity	1,000 VAC 50/60 Hz for 1 min
	Between current-carrying metal parts and ground	1,500 VAC 50/60 Hz for 1 min
	Between each terminals and non-current-carrying metal parts	1,500 VAC 50/60 Hz for 1 min
Vibration resistance	Malfunction	10 to 55 Hz. 1.5 mm double amplitude
Durability	Mechanical	30,000,000 operations min. (60 operations/min)
	Electrical	200,000 operations min. (30 operations/min)
Ambient operating temperature		-25°C to +85°C (with no icing or condensation)
Ambient operating humidity		85% max. (for +5°C to +35°C)
weight		Approx. 1.6g (pin plunger models)

● Solder terminals



Mounting Holes (Unit: mm)





SWITCHBOARD INSTRUMENTS

"Gamsco" instruments make use of one of the most advanced instrumentations, Interchangeable Scale.

This offers several advantages to end users, wholesalers and distributors. Advantages like high turn over with minimum stock, more efficient service for customers.

- * The scale is able to be replaced without tool.
- * The housing made of self-extinguishing material.
- * The supporting bracket with guide, easy to operate effectively, allows fastening to panels up to 10mm thick.
- * CM Series: Inner Case is Made of ABS and Enclosed with Outer Metallic Case.
The Metallic Case for Better Protection Against Magnetic Fields.
Scale: Interchangeable
- * CA Series: Inner Case is Made of ABS Resin Contained 10% Fiber Glass.
Scale: Interchangeable
- * CB Series: Inner Case is Made of Bakelite Material.
Scale: Non-Interchangeable

TECHNICAL DATA

- **STANDARD SPECIFICATIONS**
— ACCORDING TO IEC 51 AND VDE 0410 DIN 43780, 43700
- **TEMPERATURE RANGE**
— $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- **ACCURACY**
— GENERAL ACCURACY CLASS 1.5%
- **TEST VOLTAGE**
— 2000V, 1 MIN.
- **DIMENSIONS**
— 72 x 72, 96 x 96mm
- **OVERLOAD**
— AT LEAST 20% CONTINUOUS



CE APPROVAL

Following Specifications are all Available for CM-96, CB-96, CA-96, CA-72

D.C. Ammeters

mA	1
	2.5
A	5
	10
	1
	2.5
	6
above 50A with separate external shunt (70mV)	10
	25
	40
	50
	60
	100
	150
	250
	400
	600

D.C. Voltmeters

mV	60	
	80	
	100	
	120	
	150	
	300	
	500	
	V	10
		15
		25
40		
60		
100		
150		
250		
400		
600		

A.C. Ammeters

A	1
	2.5
Direct	5
	10
	25
	40
	50
	60
	100
	10/5
	15/5
	25/5
40/5	
60/5	
100/5	
150/5	
250/5	
400/5	
600/5	
1000/5	
1500/5	
2500/5	
4000/5	
6000/5	

A.C. Voltmeters

V	100
	150
	300
	500
	600

Pointer Frequency meters

Line supply
110; 220; 380; 440V

Measuring range
45 – 55; 45 – 65Hz
55 – 65Hz

Vibrating Reed Frequency meters

Line supply
110; 220; 380 ; 440V

Frequency spans:

96:
11 Reed: 45 – 55 Hz
55 – 65 Hz

72:
7 Reed: 47–53 Hz
57–63 Hz

Power factor meters

3-phase, 3-wire
balanced line*

110V	5A
220V	5A
380V	5A
440V	5A

Wattmeters

3-phase, 3-wire

110V	5A
220V	5A
380V	5A
440V	5A

3-phase, 4-wire

110v	5A
220v	5A
380v	5A
440v	5A

* Other Specifications upon Request.



CAP & BASE ACRYLIC RESIN FRONT CAP, BAKELITE BASE.

- AC AMMETER—FOR MORE THAN 30A CONNECT TO C.T. X/5A
- AC VOLTMETER—FOR MORE THAN 600V CONNECT TO P. T. X/110V
- DC AMMETER—FOR MORE THAN 30 A CONNECT TO EXT. SHUNT.
- ACCURACY CLASS 2 E

MODEL: SA-100
DIMENSION 100 x 100mm
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V

MODEL: SA-80
DIMENSION 80 x 80
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—30mV, 1—600V

MODEL: SA-65
DIMENSION 65 x 65mm
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V

MODEL: SA-60
DIMENSION 60 x 60
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V

MODEL: YH-670
DIMENSION 60 x 70mm
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V

MODEL: YH-650
DIMENSION 50 x 60mm
MOVING IRON (AC) 5—600V
 0.03—50A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V

MODEL: SA-50
DIMENSION 50 x 50
MOVING IRON (AC) 5—600V
 0.03—30A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V



MODEL: SR-65
DIMENSION ϕ 64.4mm
MOVING IRON (AC) 5—600V
 0.03—60A
MOVING COIL (DC) 50—500 μ A
 1—500mA, 1—50A
 10—300mV, 1—600V





MODEL: SR-45
DIMENSION ϕ 44.7mm
MOVING IRON (AC) 5—600V
 0.03—20A

MODEL: SR-52
DIMENSION ϕ 51.3mm
MOVING IRON (AC) 5—600V
 0.03—30A








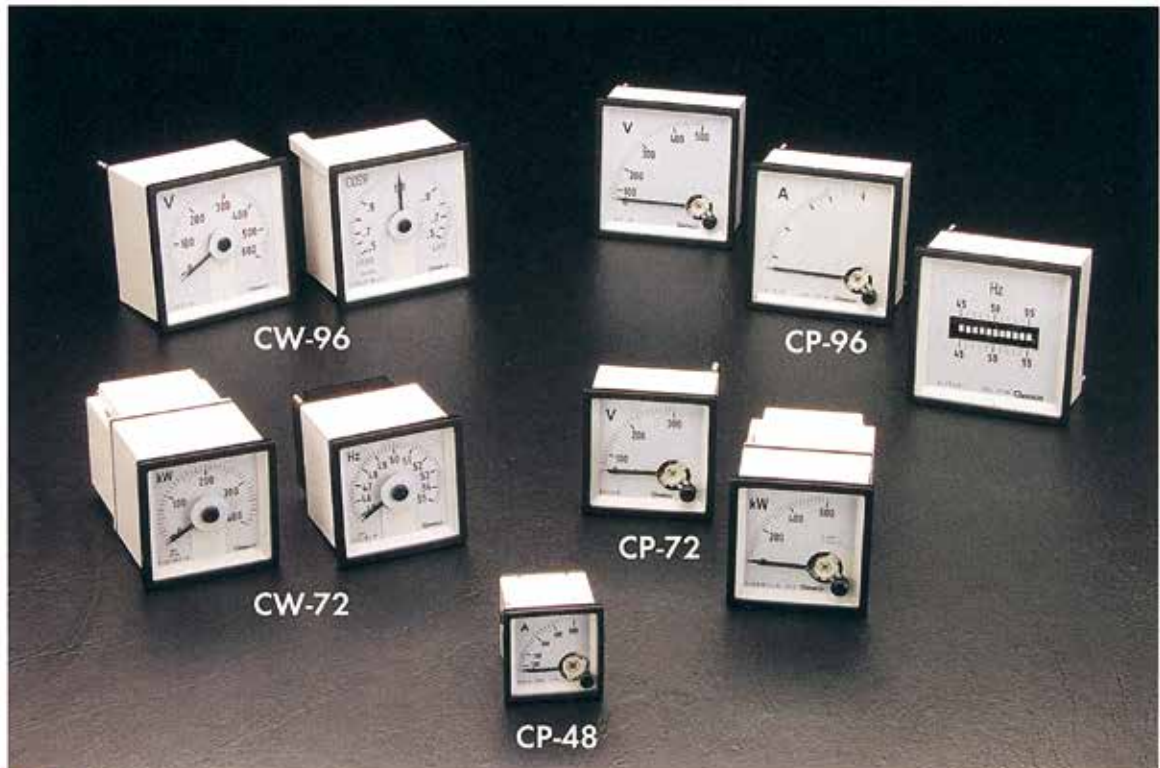
ISO 9001:2000. CE

PANEL METER

PICTURE	APPLICATION	SPECIFICATIONS.
<p>BIMETALLIC MAXIMETER AMMETERS</p>  <p>MODEL NO. CP-96B(96*96mm) CP-72B(72*72mm)</p>	<p>For measuring the long time overloads of any electric equipment. The display corresponds to the maximum RMS average value in periods of <u>15 minutes, optionally 8 and 30 minutes.</u></p>	<ul style="list-style-type: none"> • Input current: 5A • Accuracy Class: $\pm 3\%$ • Temperature <ul style="list-style-type: none"> Reference temperature: 20°C Rated temperature range: 20 \pm 10°C Limits: -25°C ~ +40°C • Isolating voltage: 2KV/1MIN
<p>COMBINATIONS: BIMETALLIC MAXIMETER AMMETER & AMMETER</p>  <p>MODEL NO. CP-96B2(96*96mm) CP-72B2(72*72mm)</p>	<p>For measuring the long time overloads of any electric equipment. The display corresponds to the maximum RMS average value in periods of <u>15 minutes, optionally 8 and 30 minutes.</u> Also incorporate a moving iron system that shows the instantaneous current.</p>	<ul style="list-style-type: none"> • Input current: 5A • Accuracy Class <ul style="list-style-type: none"> Bimetallic system: $\pm 3\%$ Instantaneous system: $\pm 1.5\%$ • Temperature <ul style="list-style-type: none"> Reference temperature: 20°C Rated temperature range: 20 \pm 10°C Limits: -25°C ~ +40°C • Isolating voltage: 2KV/1MIN
<p>SYNCHROSCOPES</p>  <p>MODEL NO. CP-96 (96*96mm) CP-72 (72*72mm)</p>	<p>For the indication of the difference of frequencies and phase angle between two generators, or a generator and a system. When the difference is zero, the instrument pointer remains at the synchronizing mark at the scale center. The pointer starts tuning in the correct sense when the frequency difference is 1.5Hz for three-phase network or 0.5 Hz for single-phase networks.</p>	<ul style="list-style-type: none"> • Input Voltage: 110V, 220V, 380V, 500V • Accuracy Class: $\pm 1.35\%$ electrical degrees in the synchronism mark • Temperature <ul style="list-style-type: none"> Reference temperature: 20°C Rated temperature range: 20 \pm 10°C Limits: -25°C ~ +40°C • Isolating voltage: 2KV/1MIN
<p>PHASE-SEQUENCE</p>  <p>MODEL NO. CP-96 (96*96mm) CP-72 (72*72mm)</p>	<p>This indicator is used for testing phase sequence in 3 phase systems with permissible operating voltage up to 500V. If the phase sequence is correct, the disc rotates in the direction of the arrow on the scale. Otherwise, please exchange two wires in the system, the phase sequence will be back to correct. But any test must be under 5 minutes.</p>	<ul style="list-style-type: none"> • Input Voltage: 150V ~ 500V AC But test must be under 5 minutes. • Isolating voltage: 2KV/1MIN

ISO 9001:2000

TYPE	MODEL NO.	SPECIFICATIONS.
Double Voltmeter 	-CP-96V2(96x96mm) -CP-72V2(72x72mm)	-ACCURACY CLASS: $\pm 1.5\%$ -MOVEMENT AC:MOVING IRON DC:MOVING COIL -MEASUREMENT:0-600V
Double Hz Meter 	-CP-96HZ2(96x96mm) -CP-72HZ2(72x72mm)	-ACCURACY CLASS: $\pm 1.5\%$ -MOVEMENT :MOVING COIL -MEASUREMENT:45-55HZ :55-65HZ :45-65HZ LINE SUPPLY:110V,220V,380V 440V AC.
Double Ammeter 	-CP-96A2(96x96mm) -CP-72A2(72x72mm)	-ACCURACY CLASS: $\pm 1.5\%$ -MOVEMENT AC:MOVING IRON DC:MOVING COIL -MEASUREMENT:0-100A AC ABOVE 100A WITH SEPARATE EXTERNAL CURRENT TRANSFORMER,WHICH SECONDARY CURRENT IS 5A, 0-50A DC ABOVE 50A WITH SEPARATE EXTERNAL SHUNT 50mv, 60mv OR 75mv
AC Ammeter With Switch 	-CP-96A33 (96x96mm) -CP-72A33 (72x72mm) -CP-96A34 (96x96mm) -CP-72A34 (72x72mm)	2 POSITIONS USED FOR 3 PHASE 3 WIRES 2 CURRENT TRANSFORMER SYSTEM 3 POSITIONS USED FOR 3 PHASE 4 WIRES 3 CURRENT TRANSFORMER SYSTEM -ACCURACY CLASS: $\pm 1.5\%$ -MOVEMENT :MOVING IRON -MEASUREMENT:30/5A-5000/5A USED WITH SEPARATE EXTERNAL CURRENT TRANSFORMER,WHICH SECONDARY CURRENT IS 5A A33:2 POSITIONS L1,L2 A34:3 POSITIONS L1,L2,L3
AC Voltmeter With Switch 	-CP-96V33 (96x96mm) -CP-72V33 (72x72mm) -CP-96V34 (96x96mm) -CP-72V34 (72x72mm)	3 POSITIONS USED FOR 3 PHASE 3 WIRES SYSTEM 6 POSITIONS USED FOR 3 PHASE 4 WIRES SYSTEM -ACCURACY CLASS: $\pm 1.5\%$ -MOVEMENT :MOVING IRON -MEASUREMENT:0-600V AC V33:3 POSITIONS L1-L2, L2-L3,L1-L3 A34:6 POSITIONS:L1-L2, L2-L3,L1-L3,L1-N L2-N,L3-N



TECHNICAL DATA

- STANDARD SPECIFICATIONS ACCORDING TO IEC 51 4th EDITION
- TEMPERATURE RANGE -10°C ~ +50°C
- ACCURACY — GENERAL ACCURACY CLASS 1.5%
- TEST VOLTAGE — 45 ~ 65Hz 2KV 1 MIN

SPECIFICATIONS

MODEL NO.	MEASUREMENT	MEASUREMENT RANGE	MOVEMENT	SCALES
CP-96	AMMETERS	AC Direct : 0.1,0.5,1,1.5,3, 5,7.5, 10,15,20,25,30,50,60,100A ★ CP-48 MAX. 50A Above 100A (CP-48 50A) with separate external current transformer, which secondary current is 5A	Moving Iron	90°
CP-72		DC Direct : 100,150,200,300,500 μA,1, 3,5,10,15,20,30,50,75, 100,150,200, 250,300,500mA 1, 3, 5, 7.5, 10, 20, 30, 50A Above 50A with separate external shunt(50 or 75mv)	Moving Coil	
CP-48				

MODEL NO.	MEASUREMENT	MEASUREMENT RANGE	MOVEMENT	SCALES	
CP-96	VOLTMETERS	DC	3, 5, 7.5, 10, 15, 20, 30, 50, 75, 100, 150, 200, 250, 300, 450, 500, 600V	Moving Coil	
CP-72		AC	30, 50, 75, 100, 120, 150, 200, 250, 300, 400, 450, 500, 600V		
CP-48				Moving Iron	
CP-96	FREQUENCIES METER LINE SUPPLY 110V, 220V, 380V, 440V AC	POINTER TYPE	45~55Hz, 55~65Hz 45 - 65Hz	Moving Coil	
CP-72		REED TYPE	CP-96 11 REED 45-55Hz 55-65Hz		
★ CP-48 (POINTER TYPE ONLY)			CP-72 7 REED 47-53Hz 57-63Hz		
CW-96	AMMETERS	AC	Direct : 0.1, 0.5, 1, 1.5, 3, 5, 7.5, 10, 15, 20, 30A Above 30A with separate external current transformer which secondary current is 5A	Moving Coil	
		DC	Direct : 1,3,5,10,15,20,30,50,75, 100,150,200,250,300,500mA 1,3,5,7.5,10,20,30,50A Above 50A with separate external shunt(50 or 75mv)		
	VOLTMETERS	DC	3, 5, 7.5, 10, 15, 20, 30, 50, 75, 100, 150, 200, 250, 300, 450, 500, 600V		
		AC	30, 50, 75, 100, 120, 150, 200, 250, 300, 400, 450, 500, 600V		
CW-72	FREQUENCIES METERS LINE SUPPLY 110V, 220V, 380V 440V AC	POINTER TYPE	45~65HZ		
CP-96	POWER FACTOR METERS	3 PHASE 3 WIRE LINE SUPPLY : 5A L-L : AC 220V, 380V, 415V, 440V	Moving Coil	CP-96 90°	
CP-72	• 3PHASE 3WIRE BALANCED LINE			CP-72 90°	
CW-96	WATTMETERS			3 PHASE 4 WIRE LINE SUPPLY : 5A	CW-96 240°
CW-72	• 3PHASE 3WIRE • 3PHASE 4WIRE			L-N: AC 120V, 220V, 240V	CW-72 240°

★ CP-96 AND CP-72 DOUBLE FREQUENCY METER REED TYPE AVAILABLE.

DIGITAL PANEL METER



DIGITAL PANEL METER


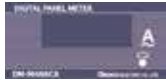






DM-96 SERIES

DM-9648 SERIES




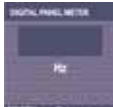




DM-80 SERIES

DM-72 SERIES











DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96ACA	 96X96mm	<ul style="list-style-type: none"> • Function:Ammeter • 0.56 inch LED display • Measurement range: <ul style="list-style-type: none"> *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key " ↻ " to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A,75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A,300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A,1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A,5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.
DM-9648ACA	 96X48mm	
DM-80ACA	 80X80mm	
DM-72ACA	 72X72mm	
DM-96ACV	 96X96mm	
DM-9648ACV	 96X48mm	
DM-80ACV	 80X80mm	
DM-72ACV	 72X72mm	











DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96HZ	 96X96mm	<ul style="list-style-type: none"> • Function:Frequencymeter • 0.56 inch LED display • Measurement range:AC 50V-600V 1-99.99HZ
DM-9648HZ	 96X48mm	
DM-80HZ	 80X80mm	
DM-72HZ	 72X72mm	
DM-96V-A-1	 96X96mm	<ul style="list-style-type: none"> • Function: Voltmeter+Ammeter Press "V.A." key to select A or V display. • 0.56 inch LED display • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.
DM-9648V-A	 96X48mm	
DM-80V-A	 80X80mm	
DM-72V-A	 72X72mm	



DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96V-A-HZ-1	 96X96mm	<ul style="list-style-type: none"> Function: Voltmeter+Ammeter+Frequencymeter Press "V.A.HZ" key to select V or A or HZ display. 0.56 inch LED display Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A,75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A,300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A,1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A,5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Frequencymeter :1-99.99HZ
DM-9648V-A-HZ	 96X48mm	
DM-80V-A-HZ	 80X80mm	
DM-72V-A-HZ	 72X72mm	
DM-96V-A-COSφ-1	 96X96mm	<ul style="list-style-type: none"> Function: Voltmeter+Ammeter+Power factor meter Press "V.A.COSφ" key to select V or A or COSφ display. 0.56 inch LED display Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A,75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A,300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A,1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A,5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Power factor meter:Single phase
DM-9648V-A-COSφ	 96X48mm	
DM-80V-A-COSφ	 80X80mm	
DM-72V-A-COSφ	 72X72mm	



DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96V-A-W-1	 96X96mm	<ul style="list-style-type: none"> Function: Voltmeter+Ammeter+Wattmeter Press "V.A.W" key to select V or A or W display. 0.56 inch LED display Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Wattmeter:Single phase Max.9999KW
DM-9648V-A-W	 96X48mm	
DM-80V-A-W	 80X80mm	
DM-72V-A-W	 72X72mm	
DM-96W	 96X96mm	
DM-9648W	 96X48mm	<ul style="list-style-type: none"> Function:Wattmeter 0.56 inch LED display System:please do advice as below: *3phase 3wires(unbalanced line) *3phase 4wires(unbalanced line) Measurement range:Max.9999kw Input voltage :AC 50V-600V Input current : *For current below 5A,the meter can be used directly. *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.
DM-80W	 80X80mm	
DM-72W	 72X72mm	



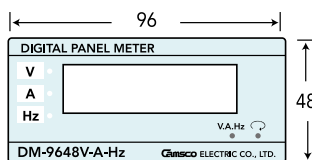
DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96COSφ	<p>96X96mm</p>	<ul style="list-style-type: none"> • Function:Power factor meter • 0.56 inch LED display • System:3 phase 3wires (balanced line) • Input voltage :AC 50V-600V • Input current:AC 5A
DM-9648COSφ	<p>96X48mm</p>	
DM-80COSφ	<p>80X80mm</p>	
DM-72COSφ	<p>72X72mm</p>	
DM-96V-A	<p>96X96mm</p>	<ul style="list-style-type: none"> • Function: Voltmeter+Ammeter • Display V-A simultaneously. • 0.56 inch LED display (2 windows) • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key" ↻ " to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.



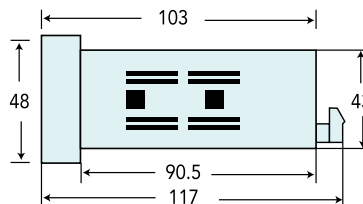
DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96-3V	 96X96mm	<ul style="list-style-type: none"> Function: Voltmeter (system: 3 phase 4 wires) Display 3 phase voltage (L-L or L-N) simultaneously. Press key "↻" to select voltage L-L or L-N. 0.56 inch LED display (3 windows) Measurement range: AC 50V-600V
DM-96V-V-V	 96X96mm	<ul style="list-style-type: none"> Function: Voltmeter (system: 3 phase 3 wires) Display 3 phase voltage simultaneously. 0.56 inch LED display (3 windows) Measurement range: AC 50V-600V
DM-96A-A-A	 96X96mm	<ul style="list-style-type: none"> Function: Ammeter (system: 3 phase 3 & 4 wires) Display 3 phase current simultaneously. 0.56 inch LED display (3 windows) Measurement range: <ul style="list-style-type: none"> *Direct measurement current: AC 5A *For current above 5A, current transformer (C.T.) must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: <ul style="list-style-type: none"> 10A/5A, 15A/5A, 20A/5A, 25A/5A, 30A/5A, 40A/5A, 50A/5A, 60A/5A, 70A/5A, 75A/5A, 80A/5A, 100A/5A, 120A/5A, 150A/5A, 160A/5A, 200A/5A, 250A/5A, 300A/5A, 400A/5A, 500A/5A, 600A/5A, 700A/5A, 750A/5A, 800A/5A, 1000A/5A, 1200A/5A, 1500A/5A, 1600A/5A, 2000A/5A, 2500A/5A, 3000A/5A, 4000A/5A, 5000A/5A, 6000A/5A, 7000A/5A, 7500A/5A, 8000A/5A.

DIMENSIONS:

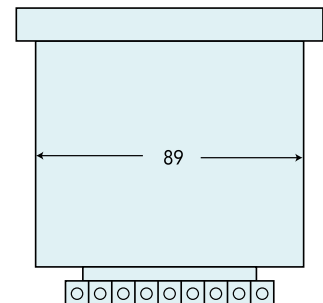
DM-9648 SERIES



Front view



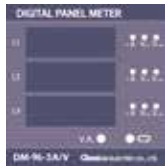

Side view





Vertical view

unit : mm




DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96-3A/V	 <p style="text-align: right; font-size: small;">96X96mm</p>	<ul style="list-style-type: none"> • Function: Voltmeter+Ammeter (System: 3 phase 4 wires) Press key "V.A." to select 3 phase voltag(L-L or L-N) simultaneously display or 3 phase current simultaneously display . • 0.56 inch LED display(3 windows) • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A,75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A,300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A,1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A,5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.
DM-96V-A-HZ	 <p style="text-align: right; font-size: small;">96X96mm</p>	<ul style="list-style-type: none"> • Function:Voltmeter+Ammeter+Frequencymeter • Display V-A-HZ simultaneously. • 0.56 inch LED display(3 windows) • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A,75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A,300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A,1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A,5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Frequencymeter :1-99.99HZ



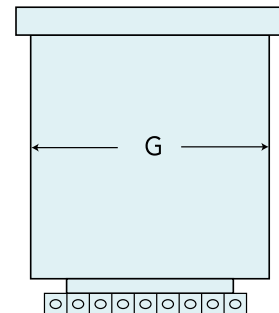
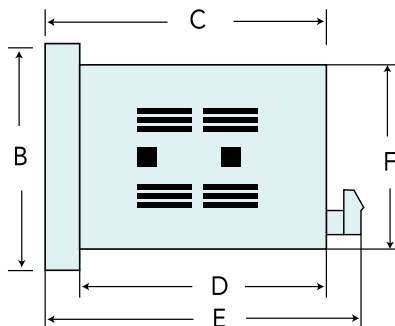
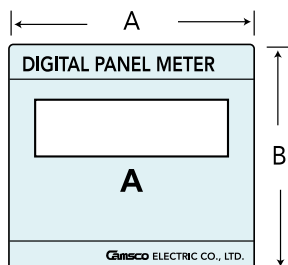
DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96V-A-COSφ	 <p style="text-align: right; font-size: small;">96X96mm</p>	<ul style="list-style-type: none"> Function: Voltmeter+Ammeter+Power factor meter Display V-A-COSφ simultaneously. 0.56 inch LED display(3 windows) Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Power factor meter:Single phase
DM-96V-A-W	 <p style="text-align: right; font-size: small;">96X96mm</p>	<ul style="list-style-type: none"> Function: Voltmeter+Ammeter+Wattmeter Display V-A-W simultaneously. 0.56 inch LED display(3 windows) Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A. Wattmeter:Single phase Max.9999KW



DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96-4M	 <p style="text-align: right;">96X96mm</p>	<ul style="list-style-type: none"> • Function: Voltmeter+Ammeter (System: 3 phase 4 wires) • Display 3 phase current and 1 phase voltage simultaneously. Press key "V-1-2-3" to select V1 or V2 or V3 display. Press key "L-L · L-N" to select voltage L-L or L-N. • 0.39 inch LED display(4 windows) • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A,15A/5A,20A/5A,25A/5A,30A/5A,40A/5A,50A/5A,60A/5A,70A/5A, 75A/5A,80A/5A,100A/5A,120A/5A,150A/5A,160A/5A,200A/5A,250A/5A, 300A/5A,400A/5A,500A/5A,600A/5A,700A/5A,750A/5A,800A/5A,1000A/5A, 1200A/5A,1500A/5A,1600A/5A,2000A/5A,2500A/5A,3000A/5A,4000A/5A, 5000A/5A,6000A/5A,7000A/5A,7500A/5A,8000A/5A.


DIMENSIONS:

ITEM NO.	SIZE	A	B	C	D	E	F	G
DM-80 SERIES		80	80	80.5	68	94	75	75.5
DM-72 SERIES		72	72	80.5	68	94	65.5	66



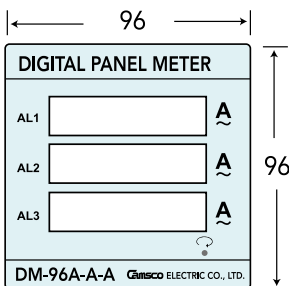
unit : mm



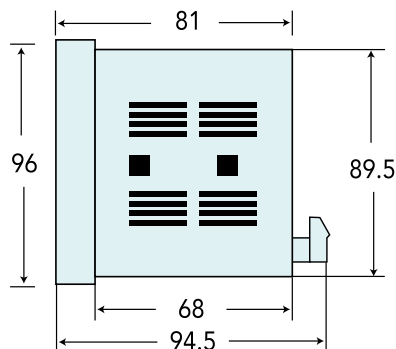
DISPLAY		4 DIGITS LED MAX.9999
ACCURACY		± 0.5% ± 2 DIGIT
OPERATING CONDITION		-10°C ~50°C (20% to 90% RH non- condensed)
DIELECTRIC STRENGTH		AC 2KV / 1min
AUX. POWER		AC 110V / 220V 50 / 60 HZ
ITEM NO.	PICTURE	FUNCTION & DESCRIPTION
DM-96-5M	 <p style="text-align: right; font-size: small;">96X96mm</p>	<ul style="list-style-type: none"> • Function: Voltmeter+Ammeter+Wattmeter+Power factor meter +Frequencymeter • System:3 phase 4 wires • Display 3 phase current and 1 phase voltage and HZ or KW or COSφ simultaneously. Press key "VS" to select V1 or V2 or V3 display. Press key "$\frac{L-L}{L-N}$" to select voltage L-L or L-N. Press key "HZ-KW-COSφ" to select HZ or KW or COSφ display. 0.39 inch LED display(5 windows) • Measurement range: Voltmeter :AC 50V-600V Ammeter : *Direct measurement current:AC 5A *For current above 5A,current transformer(C.T.)must be used. *Press key "↻" to select desirable C.T. ratio. *The following are the available C.T. ratios: 10A/5A, 15A/5A, 20A/5A, 25A/5A, 30A/5A, 40A/5A, 50A/5A, 60A/5A, 70A/5A, 75A/5A, 80A/5A, 100A/5A, 120A/5A, 150A/5A, 160A/5A, 200A/5A, 250A/5A, 300A/5A, 400A/5A, 500A/5A, 600A/5A, 700A/5A, 750A/5A, 800A/5A, 1000A/5A, 1200A/5A, 1500A/5A, 1600A/5A, 2000A/5A, 2500A/5A, 3000A/5A, 4000A/5A, 5000A/5A, 6000A/5A, 7000A/5A, 7500A/5A, 8000A/5A. Frequencymeter :1-99.99HZ Wattmeter:3 phase(unbalanced line)) Max.9999KW Power factor meter:3 phase(balanced line)

DIMENSIONS:

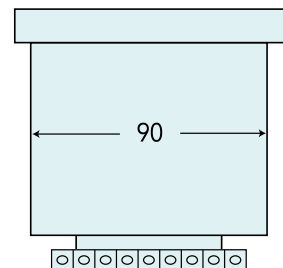
DM-96 SERIES



Front view





Side view



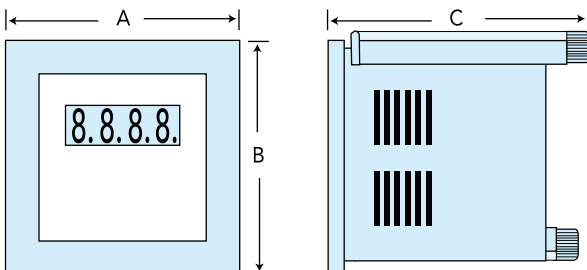
Vertical view

unit : mm






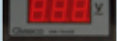
DISPLAY	0.56 inch LED
ACCURACY	± 0.5%
AUX. POWER	AC. 110V or 220V
TEMPERATURE RANGE	-10°C ~ +50°C
DIELECTRIC STRENGTH	AC. 2KV/1 min.
ITEM PICTURE	FUNCTION & MEASUREMENT
 DM-96E  DM-72E	<ul style="list-style-type: none"> ■ AC. VOLTMETER ● MEASUREMENT RANGE: 0 - 600V ■ AC. AMMETER ● MEASUREMENT RANGE: (SINGLE RANGE, SELECT AS BELOW) 10A/5A, 15A/5A, 20A/5A, 25A/5A, 30A/5A, 40A/5A, 50A/5A, 60A/5A, 70A/5A, 75A/5A, 80A/5A, 100A/5A, 120A/5A, 150A/5A, 150A/5A, 160A/5A, 200A/5A, 250A/5A, 300A/5A, 400A/5A, 500A/5A, 600A/5A, 700A/5A, 750A/5A, 800A/5A, 1000A/5A, 1200A/5A, 1500A/5A, 1600A/5A, 2000A/5A. ■ FREQUENCYMETER ● MEASUREMENT RANGE: 0 - 600V 45 - 65 Hz

DIMENSIONS (mm)

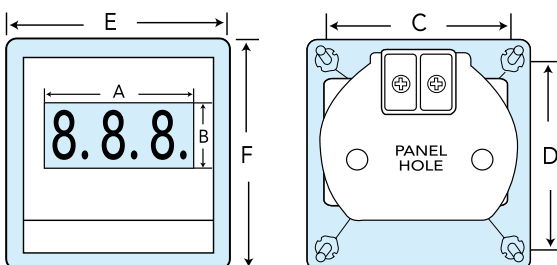


ITEM NO.	A	B	C	PANEL HOLE
DM - 96E	96.5	96.5	64	92 ^{+0.8}
DM - 72E	72	72	80	68 ^{+0.2}



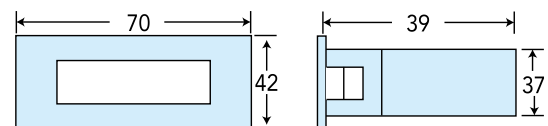
DISPLAY	DM - 80E	0.8 inch LED
	DM - 60E	0.56 inch LED
	DM - 50E	0.4 inch LED
	DM - 7042E	0.56 inch LED
ACCURACY		± 0.5%
TEMPERATURE RANGE		-10°C ~ +50°C
DIELECTRIC STRENGTH		AC. 2KV/1 min.
ITEM NO. & PICTURE		FUNCTION & MEASUREMENT
 DM-80E  DM-60E  DM-50E  DM-7042E		<p>■ VOLTMETER</p> <ul style="list-style-type: none"> • AC. 80V ~ 300V (under AC. 80V can not display or display error) • DC. 2.5V ~ 30V (under DC. 2.5V can not display or display error) • DC. 0V ~ 99.9V (AUX. POWER: 2.5V ~ 30V DC.) <p>■ AMMETER</p> <ul style="list-style-type: none"> • AC. 0 - 60A Direct (AUX. POWER: 110V or 220V AC.) • DC. 0 - 30A Direct (AUX. POWER: 2.5V ~ 30V DC.) <p>■ FREQUENCYMETER</p> <ul style="list-style-type: none"> • AC. 80V ~ 300V 30Hz ~ 99.9Hz

DIMENSIONS (mm)



ITEM NO.	A	B	C	D	E	F	PANEL HOLE
DM - 80E	59	25	65	65	79	79	58
DM - 60E	37.5	18	48	48	60	60	52
DM - 50E	30	12.5	38	38	51	51	45

DM-7042E



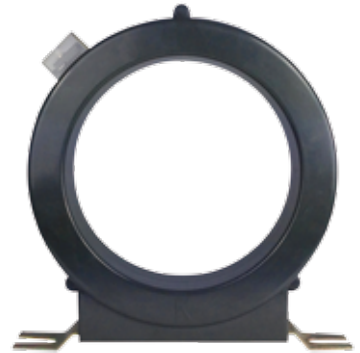
★ PANEL HOLE: 68 X 38 (W X H)



CURRENT TRANSFORMER

CK SERIES

- VOLT : 600V AC
- FREQUENCY : 50/60 HZ



MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
CK-20	10/5A	4T	1.5 VA	1.0		
CK-20	20/5A	2T	1.5 VA	1.0		
CK-20	30/5A	2T	2.5 VA	1.0		
CK-20	40/5A	1T	1.5 VA	1.0		
CK-20	50/5A	1T	2.5 VA	1.0		
CK-29	60/5A	1T	2.5 VA	1.0		
CK-29	75/5A	1T	2.5 VA	1.0		
CK-29	80/5A	1T	2.5 VA	1.0		
CK-29	100/5A	1T	2.5 VA	1.0		
CK-29	120/5A	1T	5 VA	1.0		
CK-29	125/5A	1T	5 VA	1.0		
CK-29	150/5A	1T	5 VA	1.0		
CK-29	175/5A	1T	5 VA	1.0		
CK-29	200/5A	1T	5 VA	1.0		
CK-39	300/5A	1T	5 VA	1.0		
CK-39	400/5A	1T	5 VA	1.0		
CK-39	500/5A	1T	10 VA	1.0		
CK-61	600/5A	1T	10 VA	1.0		
CK-61	800/5A	1T	10 VA	1.0		
CK-85	1000/5A	1T	15 VA	1.0		
CK-85	1200/5A	1T	15 VA	1.0		
CK-105	1500/5A	1T	15 VA	1.0		
CK-105	1600/5A	1T	15 VA	1.0		
CK-105	2000/5A	1T	15 VA	1.0		
CK-105	2500/5A	1T	15 VA	1.0		
CK-125	3000/5A	1T	15 VA	1.0		
CK-125	4000/5A	1T	15 VA	1.0		
CK-150	5000/5A	1T	40 VA	1.0		
CK-150	6000/5A	1T	40 VA	1.0		

SIZE MODEL No.	A	B	C	D	E
CK-20	20	73	90	82	54
CK-29	29	73	90	82	54
CK-39	39	82	100	82	54
CK-61	61	102	120	110	54
CK-85	85	124	142	138	55
CK-105	105	140	160	145	55
CK-125	125	166	190	165	55
CK-150	150	210	235	165	55

CFS SERIES



- VOLT : 600V AC
- FREQUENCY : 50/60 HZ

MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
CFS-20	10/5A	4T	1.5 VA	1.0		
CFS-20	20/5A	2T	1.5 VA	1.0		
CFS-20	30/5A	2T	2.5 VA	1.0		
CFS-20	40/5A	1T	1.5 VA	1.0		
CFS-20	50/5A	1T	2.5 VA	1.0		
CFS-33	60/5A	1T	2.5 VA	1.0		
CFS-33	75/5A	1T	2.5 VA	1.0		
CFS-33	80/5A	1T	2.5 VA	1.0		
CFS-33	100/5A	1T	2.5 VA	1.0		
CFS-33	120/5A	1T	5 VA	1.0		
CFS-33	125/5A	1T	5 VA	1.0		
CFS-33	150/5A	1T	5 VA	1.0		
CFS-33	175/5A	1T	5 VA	1.0		
CFS-33	200/5A	1T	5 VA	1.0		
CFS-43	200/5A	1T	5 VA	1.0		
CFS-43	250/5A	1T	5 VA	1.0		
CFS-43	300/5A	1T	5 VA	1.0		
CFS-43	400/5A	1T	5 VA	1.0		
CFS-63	500/5A	1T	10 VA	1.0		
CFS-63	600/5A	1T	10 VA	1.0		
CFS-63	800/5A	1T	10 VA	1.0		
CFS-83	1000/5A	1T	15 VA	1.0		
CFS-83	1200/5A	1T	15 VA	1.0		
CFS-83	1500/5A	1T	15 VA	1.0		
CFS-103	2000/5A	1T	15 VA	1.0		
CFS-103	2500/5A	1T	15 VA	1.0		
CFS-103	3000/5A	1T	15 VA	1.0		
CFS-123	3000/5A	1T	15 VA	1.0		
CFS-123	4000/5A	1T	15 VA	1.0		

SIZE	A	B	C	D	E
CFS-20	20	96	44	75	X
CFS-33	33	96	44	75	31
CFS-43	43	104	44	82	43
CFS-63	63	124	44	101	63
CFS-83	83	147	44	125	83
CFS-103	103	156	44	141	102
CFS-123	123	192	44	161	123

MFO SERIES

- VOLT : 600V AC
- FREQUENCY : 50/60 HZ



MFO-20
WITH BUSBAR

MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
MFO-20A	10/5A	4T	1.5 VA	1.0		
MFO-20A	20/5A	2T	1.5 VA	1.0		
MFO-20A	30/5A	2T	2.5 VA	1.0		
MFO-20A	40/5A	1T	1.5 VA	1.0		
MFO-20A	50/5A	1T	2.5 VA	1.0		
MFO-30	60/5A	1T	2.5 VA	1.0		
MFO-30	75/5A	1T	2.5 VA	1.0		
MFO-30	80/5A	1T	2.5 VA	1.0		
MFO-30	100/5A	1T	2.5 VA	1.0		
MFO-30	120/5A	1T	5 VA	1.0		
MFO-30	150/5A	1T	5 VA	1.0		
MFO-30	200/5A	1T	5 VA	1.0		
MFO-30	250/5A	1T	5 VA	1.0		
MFO-30	300/5A	1T	5 VA	1.0		
MFO-40	150/5A	1T	5 VA	1.0		
MFO-40	200/5A	1T	5 VA	1.0		
MFO-40	250/5A	1T	5 VA	1.0		
MFO-40	300/5A	1T	5 VA	1.0		
MFO-40	400/5A	1T	5 VA	1.0		
MFO-40	500/5A	1T	10 VA	1.0		
MFO-40	600/5A	1T	10 VA	1.0		
MFO-60	400/5A	1T	5 VA	1.0		
MFO-60	500/5A	1T	10 VA	1.0		
MFO-60	600/5A	1T	10 VA	1.0		
MFO-60	800/5A	1T	10 VA	1.0		
MFO-60	1000/5A	1T	15 VA	1.0		
MFO-100	800/5A	1T	10 VA	1.0		
MFO-100	1000/5A	1T	15 VA	1.0		
MFO-100	1200/5A	1T	15 VA	1.0		
MFO-100	1500/5A	1T	15 VA	1.0		
MFO-100	2000/5A	1T	15 VA	1.0		
MFO-100	2500/5A	1T	15 VA	1.0		
MFO-100	3000/5A	1T	15 VA	1.0		
MFO-20	30/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	40/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	50/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	60/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	75/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	80/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	100/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	150/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	200/5A	WITH BUSBAR	5 VA	0.5		
MFO-20	250/5A	WITH BUSBAR	5 VA	0.5		

★ WITH BUSBAR

JY SERIES

- VOLT : 600V AC
- FREQUENCY : 50/60 HZ

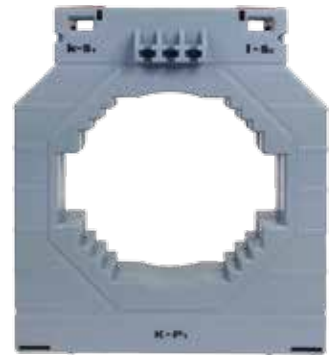


MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
JY-20	10/5A	4T	1.5 VA	1.0		
JY-20	20/5A	2T	1.5 VA	1.0		
JY-20	30/5A	2T	2.5 VA	1.0		
JY-20	40/5A	1T	1.5 VA	1.0		
JY-20	50/5A	1T	2.5 VA	1.0		
JY-30	60/5A	1T	2.5 VA	1.0		
JY-30	75/5A	1T	2.5 VA	1.0		
JY-30	80/5A	1T	2.5 VA	1.0		
JY-30	100/5A	1T	2.5 VA	1.0		
JY-30	120/5A	1T	5 VA	1.0		
JY-30	150/5A	1T	5 VA	1.0		
JY-30	200/5A	1T	5 VA	1.0		
JY-30	250/5A	1T	5 VA	1.0		
JY-30	300/5A	1T	5 VA	1.0		
JY-40	200/5A	1T	5 VA	1.0		
JY-40	250/5A	1T	5 VA	1.0		
JY-40	300/5A	1T	5 VA	1.0		
JY-40	400/5A	1T	5 VA	1.0		
JY-40	500/5A	1T	10 VA	1.0		
JY-40	600/5A	1T	10 VA	1.0		
JY-60	300/5A	1T	5 VA	1.0		
JY-60	400/5A	1T	5 VA	1.0		
JY-60	500/5A	1T	10 VA	1.0		
JY-60	600/5A	1T	10 VA	1.0		
JY-60	800/5A	1T	10 VA	1.0		
JY-60	1000/5A	1T	15 VA	1.0		
JY-60	1200/5A	1T	15 VA	1.0		
JY-100	800/5A	1T	15 VA	1.0		
JY-100	1000/5A	1T	15 VA	1.0		
JY-100	1200/5A	1T	15 VA	1.0		
JY-100	1500/5A	1T	15 VA	1.0		
JY-100	1600/5A	1T	15 VA	1.0		
JY-100	2000/5A	1T	15 VA	1.0		
JY-100	2500/5A	1T	15 VA	1.0		
JY-100	3000/5A	1T	20 VA	1.0		
JY-126	3000/5A	1T	20 VA	1.0		
JY-126	4000/5A	1T	20 VA	1.0		

SIZE	A	B	C	D	E	F	G	H
MODEL No.	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
JY-30CT	78	86	43	22.5	30.5	10	39	56
JY-40CT	78	86	43	30	40	10	39	56
JY-60CT	102	112.5	43	47.5	60	20	56	56
JY-100CT	150	165	45.5	71.5	100.5	20	104	58.6
JY-126CT	190	215	45.5	127	127	58	115	58.6

CP SERIES

- VOLT : 600V AC
- FREQUENCY : 50/60 HZ



MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
CP62/20	10/5A	4T	1.5 VA	1.0		
CP62/20	20/5A	2T	1.5 VA	1.0		
CP62/20	30/5A	2T	2.5 VA	1.0		
CP62/20	40/5A	1T	1.5 VA	1.0		
CP62/20	50/5A	1T	2.5 VA	1.0		
CP62/30	60/5A	1T	2.5 VA	1.0		
CP62/30	75/5A	1T	2.5 VA	1.0		
CP62/30	80/5A	1T	2.5 VA	1.0		
CP62/30	100/5A	1T	2.5 VA	1.0		
CP62/30	120/5A	1T	5 VA	1.0		
CP62/30	125/5A	1T	5 VA	1.0		
CP62/30	150/5A	1T	5 VA	1.0		
CP62/30	175/5A	1T	5 VA	1.0		
CP62/30	200/5A	1T	5 VA	1.0		
CP62/30	250/5A	1T	5 VA	1.0		
CP62/30	300/5A	1T	5 VA	1.0		
CP62/40	150/5A	1T	5 VA	1.0		
CP62/40	200/5A	1T	5 VA	1.0		
CP62/40	250/5A	1T	5 VA	1.0		
CP62/40	300/5A	1T	5 VA	1.0		
CP62/40	400/5A	1T	5 VA	1.0		
CP62/40	500/5A	1T	10 VA	1.0		
CP62/40	600/5A	1T	10 VA	1.0		
CP74/40	150/5A	1T	5 VA	1.0		
CP74/40	300/5A	1T	5 VA	1.0		
CP74/40	400/5A	1T	5 VA	1.0		
CP74/40	500/5A	1T	10 VA	1.0		
CP74/40	600/5A	1T	10 VA	1.0		
CP74/40	800/5A	1T	10 VA	1.0		
CP74/50	400/5A	1T	5 VA	1.0		
CP74/50	500/5A	1T	10 VA	1.0		
CP74/50	600/5A	1T	10 VA	1.0		
CP74/50	800/5A	1T	10 VA	1.0		
CP74/50	1000/5A	1T	15 VA	1.0		
CP86/60	400/5A	1T	5 VA	1.0		
CP86/60	500/5A	1T	10 VA	1.0		
CP86/60	600/5A	1T	10 VA	1.0		
CP86/60	800/5A	1T	10 VA	1.0		
CP86/60	1000/5A	1T	15 VA	1.0		
CP86/60	1200/5A	1T	15 VA	1.0		
CP86/60	1250/5A	1T	15 VA	1.0		

CP SERIES

MODEL NO.	RATIO	CONDUCTOR THROUGH	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.
CP86/60	1500/5A	1T	15 VA	1.0		
CP86/60	1600/5A	1T	15 VA	1.0		
CP86/60	2000/5A	1T	15 VA	1.0		
CP104/80	600/5A	1T	10 VA	1.0		
CP104/80	800/5A	1T	10 VA	1.0		
CP104/80	1000/5A	1T	15 VA	1.0		
CP104/80	1200/5A	1T	15 VA	1.0		
CP104/80	1500/5A	1T	15 VA	1.0		
CP104/80	1600/5A	1T	15 VA	1.0		
CP104/80	2000/5A	1T	15 VA	1.0		
CP140/100	800/5A	1T	10 VA	1.0		
CP140/100	1000/5A	1T	15 VA	1.0		
CP140/100	1200/5A	1T	15 VA	1.0		
CP140/100	1500/5A	1T	15 VA	1.0		
CP140/100	1600/5A	1T	15 VA	1.0		
CP140/100	2000/5A	1T	15 VA	1.0		
CP140/100	2500/5A	1T	15 VA	1.0		
CP140/100	3000/5A	1T	15 VA	1.0		
CP140/100	3200/5A	1T	15 VA	1.0		



- CP62, CP74, CP86, CP104
Can be fixed on the 35mm
DIN RAIL.

PCT SERIES

• FREQUENCY : 50/60 HZ



SPEC. MODEL NO.	RATIO	BURDEN VA	CLASS	DIMENSIONS	UNIT:mm.	
PCT-65	300/5A	5 VA	5P10			
PCT-65	400/5A	10 VA	5P10			
PCT-65	500/5A	10 VA	5P10			
PCT-65	600/5A	15 VA	5P10			
PCT-65	630/5A	15 VA	5P10			
PCT-65	700/5A	15 VA	5P10			
PCT-65	750/5A	15 VA	5P10			
PCT-65	800/5A	15 VA	5P10			
PCT-65	1000/5A	15 VA	5P10			
PCT-65	1200/5A	15 VA	5P10			
PCT-65	1250/5A	15 VA	5P10			
PCT-65	1500/5A	15 VA	5P10			
PCT-65	1600/5A	15 VA	5P10			
PCT-65	2000/5A	15 VA	5P10			
PCT-125	800/5A	10 VA	5P10			
PCT-125	1000/5A	15 VA	5P10			
PCT-125	1200/5A	15 VA	5P10			
PCT-125	1250/5A	15 VA	5P10			
PCT-125	1500/5A	15 VA	5P10			
PCT-125	1600/5A	15 VA	5P10			
PCT-125	2000/5A	15 VA	5P10			
PCT-125	2500/5A	15 VA	5P10			
PCT-125	3000/5A	15 VA	5P10			
PCT-125	3200/5A	15 VA	5P10			
PCT-125	3500/5A	15 VA	5P10			
PCT-125	4000/5A	15 VA	5P10			

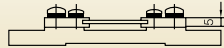
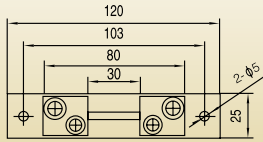


■ SPECIFICATIONS

Item No.	RATIO
ST-10	10-50A/50mv or 75mv
ST-11	60-150-200A/50mv or 75mv
ST-12	300A/50mv or 75mv
ST-13	400A/50mv or 75mv
ST-14	500A/50mv or 75mv
ST-15	600A/50mv or 75mv
ST-16	800A/50mv or 75mv
ST-17	1000A/50mv or 75mv
ST-18	1500-2000A/50mv or 75mv
ST-19	3000-4000A/50mv or 75mv
ST-20	5000A/50mv or 75mv

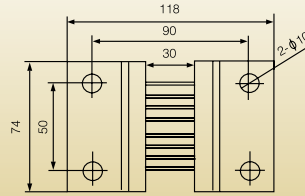


ST-10



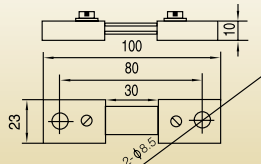
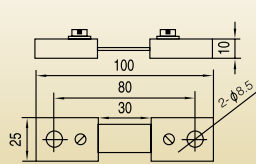
10-50A/50mV

ST-16



800A/50mV

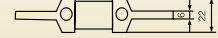
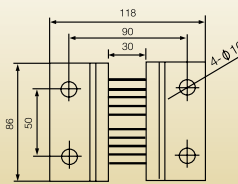
ST-11



60-150A/50mV

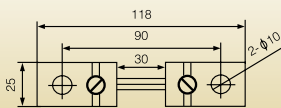
200A/50mV

ST-17



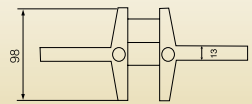
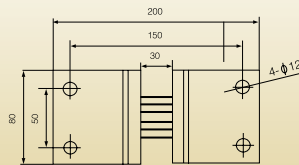
1000A/50mV

ST-12



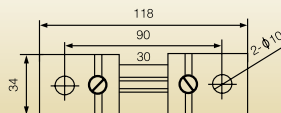
300A/50mV

ST-18



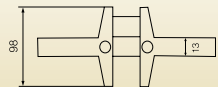
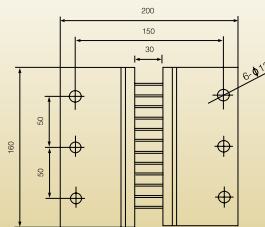
1500A/50mV
2000A/50mV

ST-13



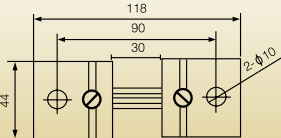
400A/50mV

ST-19



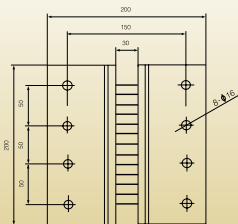
3000A/50mV
4000A/50mV

ST-14



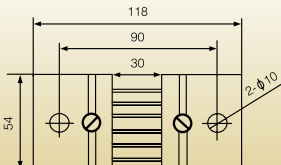
500A/50mV

ST-20



5000A/50mV

ST-15



600A/50mV



CS-360 TRE



• Reading stand Device

MULTIMETER

ACCESSORIES:

- Instruction Manual - 1
- Safety Test Lead - 1
- Spare Fuse (5x20mm) - 1
- Battery UM-3(1.5v) - 2
- 006P (9v) - 1

SPECIFICATION

Measurement	Measurement ranges	Accuracy	Remarks
DCV	0-0.1V-0.5V-2.5V-10V-50V-250V-1000V	Within ± 3% F.S.	Input impedance 20kΩ/V
ACV	0-10V-50V-250V-1000V	Within ± 4% F.S.	Input impedance 9kΩ/V
DCmA	0-50uA-2.5mA-25mA-250mA	Within ± 3% F.S.	Voltage drop 250mV (100mV for 50uA)
Resistance (Ω)	X 1: 0-0.2Ω-2KΩ Center 20Ω X 10: 0-2Ω-20KΩ Center 200Ω X 100: 0-20Ω-200KΩ Center 2KΩ X 1K: 0-200Ω-2MΩ Center 20KΩ X 10K: 0-2kΩ-20MΩ Center 200KΩ	Within ± 3% Of arc	Internal batteries UM-3 (1.5V) x 2 006P (9V) x 1
AF Output (dB)	-10dB - +22dB (for 10VAC) - +82dB 0dB@ 775V (1mW through 600Ω)	Within ± 4% F.S.	9kΩ/V for OUTPUT terminal
Leakage current (I _{leak}) (LI)	0-150uA at x 1k range 0-15mA at x 10 range 0-1.5mA at x 100 range 0-150mA at x 1 range	Within ± 5% Of arc	Current across terminals
Terminal to terminal Voltage (LV)	Common to each Ω range 3V-0V (Reverse of LI scale)	Within ± 5% Of arc	Voltage applied across terminal while Ω is measured
DC current amplification factor (HFE)	0-1000 at x 10 range (H _{FE})	Within ± 3% Of arc	With connector extra (Not including)

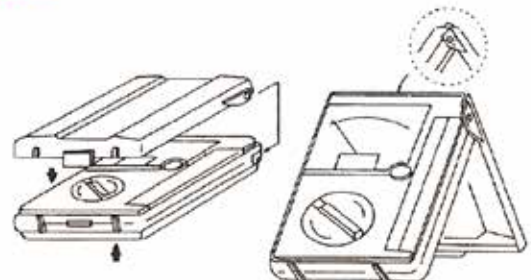


MEASUREMENT RANGE AND ACCURACY

Function	Full scale value	Accuracy	Remarks
DCV $\overline{\text{---}}$	0.1	$\pm 5\%$ against full scale	Input impedance 20k Ω/V
	0.25/2.5/10/50	$\pm 3\%$ against full scale	
	250/1000	$\pm 3\%$ against full scale	Input impedance 9k Ω/V
ACV \sim	10/50/250/1000	$\pm 4\%$ against full scale	Input impedance 9k Ω/V 30Hz~100kHz within $\pm 3\%$ f.s (AC10V RANGE)
DCA $\overline{\text{---}}$	50 μ	$\pm 3\%$ against full scale	•1 Voltage drop 0.1V
	2.5m/25m/0.25	$\pm 3\%$ against full scale	•1 Voltage drop 0.25V
Ω	2k/20k/2M (X1/X10/X1K)	$\pm 3\%$ of arc	Center value 20 Ω Max. value 2k Ω Release voltage 3V
	200M (X100k)	$\pm 5\%$ of arc	
C	10 μ F	---	•2
dB	-10dB ~ +22dB (FOR 10VAC) ~ +62dB	---	
L1	0 ~150mA atX 1 range 0 ~15mA atX 10 range 0 ~150 μ A at X 1k range 0 ~1.5 μ A atX 100k range		Current across test pins
Use the optional probe			
HV (DC high volt)	DC 25kV		
hrc	1000 atx10 range		HFE-6T probe

- 1 Not including the resistance of the fuse.
- 2 Pointer indication of the maximum move by charged current in the capacitor.

INSTALLATION INSTRUCTIONS



STORE OF TEST LEADS

When placing the test leads in the storing space, roll it 3 times, then put in the test pin side first for store in the place (test lead store space) as illustrated.



CAMSCO

NO-FUSE CIRCUIT BREAKERS.



TYPE BH (For Panel) APPROVAL

TYPE		BH			BHQ		
Photo							
Number of poles (P)		1	2	3	1	2	3
 (mm)	a	25	50	75	25	50	75
	b	95					
	c	58.5					
	ca	77.5					
	bb	100					
	aa	0	25	50	0	25	50
Rated voltage (VAC)		110/220 ※	220		110/220 ※	220	
Ampere rating (A) at ambient temp. 40°C		5, 10, 15, 20, 30, 40, 50	10, 15, 20, 30, 40, 50, 60, 75, 100		5, 10, 15, 20, 30, 40, 50	10, 15, 20, 30, 40, 50, 60, 75, 100	
AC Interrupting Capacity (KA)		110V 220V	5		10	10	
Weight (Kg)		0.15	0.31	0.46	0.15	0.31	0.46

※For 1 ϕ 3W (220V btw. wires and 110V btw. wire and ground) connection.

TYPE		BHP			BPQ		
Photo							
Number of poles (P)		1	2	3	1	2	3
 (mm)	a	25	50	75	25	50	75
	b	74					
	c	60.5					
	ca	77.5					
	bb	—					
	aa	0	25	50	0	25	50
Rated voltage (VAC)		110/220 ※		220	110/220 ※		220
Ampere rating (A) at ambient temp. 40°C		5, 10, 15, 20, 30, 40, 50	10, 15, 20, 30, 40, 50, 60, 75, 100, 5		15, 20, 30, 40, 50	15, 20, 30, 40, 50, 60, 75, 100	
AC Interrupting Capacity (KA)		110V 220V	5		10	10	
Weight (Kg)		0.13	0.26	0.39	0.13	0.26	0.39

※For 1 ϕ 3W (220V btw. wires and 110V btw. wire and ground) connection.

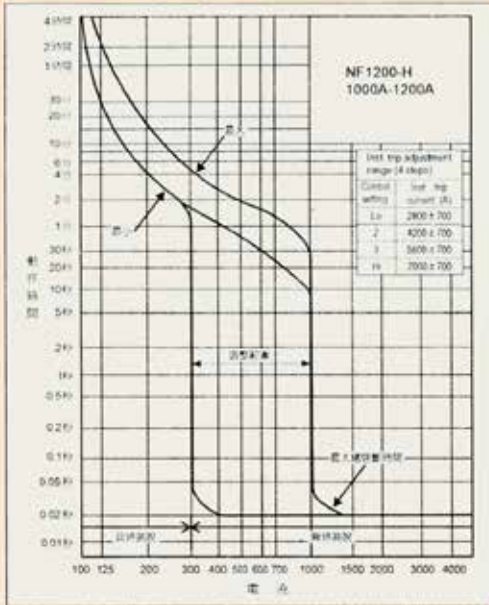
C Series

Frame(A) Type		30 NF30-CB	50 NF50-CS	60 NF60-CS	100 NF100-CS	
Photo						
Ampere rating (A) at ambient temperature 40°C (marine use: 45°C)		10, 15, 20, 30	10, 15, 20, 30, 40, 50	60	(50), 60, 75, 100	
Number of poles		2 3	2 3	2 3	2 3	
Rated voltage (V)		AC 250 DC -	250 600	250 600	250 600	
Interrupting capacity (kA)	IEC (IEC 157-1) (BS4752-1) P1/P2	AC 500V	-	2.5/1	2.5/1	7.5/5
		AC 415V	-	2.5/1.5	2.5/1.5	10/7.5
		AC 380V	-	5/2.5	5/2.5	18/10
		AC 240V	2.5	5/5	5/5	25/20
		DC 250V	-	2.5	2.5	2.5
		DC 550V	-	1.5	1.5	7.5
	JIS	AC 480V	-	2.5	2.5	10
		AC 220V	2.5	5	5	25
		DC 250V	-	2.5	2.5	7.5
		AC 500V	-	2.5	2.5	10
		DC 250V	2.5	5	5	25
		DC 250V	-	2.5	2.5	7.5
NK, LR, BV, AB, GL	AC 500V	-	2.5	2.5	10	
	DC 250V	2.5	5	5	25	
	DC 250V	-	2.5	2.5	7.5	
	DC 250V	-	2.5	2.5	7.5	
	DC 250V	-	2.5	2.5	7.5	
	DC 250V	-	2.5	2.5	7.5	
Dimensions 	a	45	67.5	50	75	
	b	96	130	130	155	
	c	52	68	68	68	
	ca	67	86	86	86	
	ca	67	86	86	86	
Connection		Clamp terminal 			Terminal screw 	

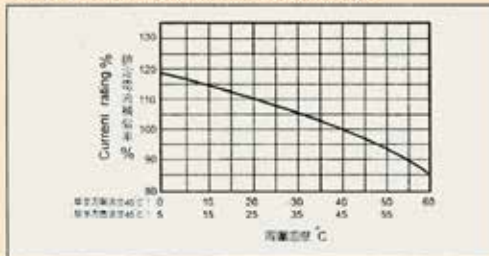
C Series

Frame(A) Type		250 NF250-CS	400 NF400-CS	630 NF630-CS	800 NF800-CS ETR
Photo					
Ampere rating (A) at ambient temperature 40°C (marine use: 45°C)		125, 150, 175, 200, 225, 250	250, 300, 350, 400	500, 600, 630	600-700-800
Number of poles		2 3	2 3	3	3
Rated voltage (V)		AC 600 DC 250	600 250	600 250	600
Interrupting capacity (kA)	IEC (IEC 157-1) (BS4752-1) P1/P2	AC 500V	10/7.5	15/10	18/10
		AC 415V	15/10	25/18	35/25
		AC 380V	18/10	25/18	35/25
		AC 240V	25/20	35/25	50/35
		DC 250V	10	20	20
		DC 550V	10	15	18
	JIS	AC 480V	15	25	35
		AC 220V	25	35	50
		DC 250V	10	20	20
		AC 500V	15	25	-
		DC 250V	25	35	-
		DC 250V	10	-	-
NK, LR, BV, AB, GL	AC 500V	15	25	-	
	DC 250V	25	35	-	
	DC 250V	10	-	-	
	DC 250V	10	-	-	
	DC 250V	10	-	-	
	DC 250V	10	-	-	
Dimensions 	a	105	140	210	210
	b	165	257	275	275
	c	86	103	103	103
	ca	110	132	155	155
	ca	110	132	155	155
Connection		Terminal screw 	Busbar 	Busbar 	Busbar

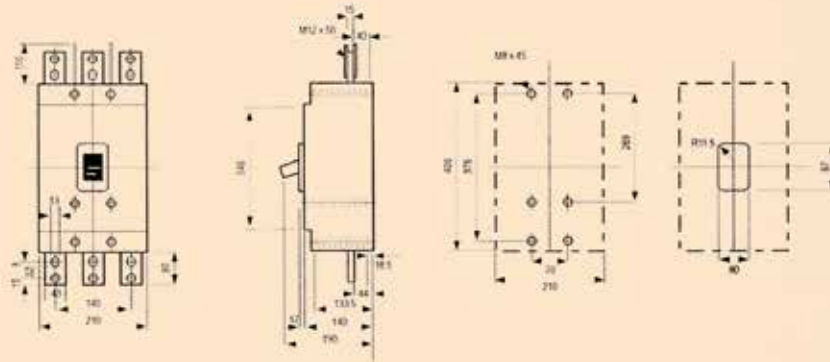
◆動作特性曲線 Operating Characteristics



◆周圍溫度補償曲線 Ambient Compensation



◆外型尺寸圖 Dimensions



TYPE

NF1200-H型



◆ NF 型無熔線斷路器 MCCB Series

極數 (Poles)	1200	1200	
型 式	NF 1200-H	NF 1200-H	
額定電流 (A) - 額定周圍溫度 40°C	1000	1200	
極 數 (P)	3	3	
額定使用電壓 (V)	交流 AC 600	600	
額定斷路容量 (IC KA)	600V	40/55	40/55
	440V	60/50	60/50
併聯極 / 對稱 (ASYM / SYM)	380V	60/50	60/50
	220V	120/100	120/100
斷路容量 (KA)	25	25	
過電流脫離方式	熱動可調槓式		

FRAME SIZE(A)	50	50	50	50	
TYPE	NF50-GP	NF50-GP	NF50-MA	NF50-MA	
PHOTO					
Ampere rating(A)at ambient temp.40°C	10. 15. 20. 30. 40. 50				
Number of pole(P)	2	3	2	3	
Rated voltage(V)A.C	690V				
 (mm)	a	50	75	50	75
	b	130	130	130	130
	c	68	68	68	68
	ca	90	90	90	90
	bb	110	110	110	110
	aa	—	25	—	25
Weight(Kg)	0.5	0.6	0.6	0.7	
AC Interrupting Capacity(I.C)					
CNS (asym/sym)KA	AC 600V	1.5		7.5	
	AC 440V	3		10	
	AC 380V	3		16/15	
	AC 220V	5		30/25	
	DC 250V	2.5		5	
IEC Icu/Ics (sym)KA	AC 690V	1.5/1		5/2.5	
	AC 500V	2.5/1.5		7.5/3.8	
	AC 440V	3/1.5		10/5	
	AC 400V	3/1.5		10/5	
	AC 230V	5/3		25/13	

Standard Features

connection	Terminal screw
Automatic tripping device	Hydraulic-magnetic
Trip button	Equipped

Optional Accessories

Undervoltage trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shunt trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auxiliary switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FRAME SIZE(A)	100	100	100	100
TYPE	NF100-GP	NF100-GP	NF100-MA	NF100-HA
PHOTO				
Ampere rating(A)at ambient temp.40°C	60, 75, 100.		10,15,20,30,40,50,60,75,100.	
Number of pole(P)	2	3	3	
Rated voltage(V)A.C	690V			
 (mm)	a	60	90	90
	b	155		155
	c	68		68
	ca	90		90
	bb	132		132
	aa	—	30	30
Weight(Kg)	1.0	1.6	1.8	
AC Interrupting Capacity(I.C)				
CNS (asym/sym)KA	AC 600V	7.5	12/10	35/30
	AC 440V	10	25/22	60/50
	AC 380V	16/15	35/30	60/50
	AC 220V	30/25	60/50	100/85
	DC 250V	5	10	10
IEC Icu/Ics (sym)KA	AC 690V	5/2.5	10/5	10/5
	AC 500V	7.5/3.8	15/8	40/20
	AC 440V	10/5	25/13	50/25
	AC 400V	10/5	30/15	50/25
	AC 230V	25/13	50/25	85/43

Standard Features

connection	Terminal screw
Automatic tripping device	Thermal, magnetic
Trip button	Equipped

Optional Accessories

Undervoltage trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shunt trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auxiliary switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FRAME SIZE(A)	250		250	250
TYPE	NF250-GP		NF250-MA	NF250-HA
PHOTO				
Ampere rating(A)at ambient temp.40°C	125. 150. 175. 200. 225. 250.			
Number of pole(P)	2	3	3	3
Rated voltage(V)A.C	690V			
 (mm)	a	105		
	b	165		
	c	69		
	ca	91		
	bb	126		
	aa	35		
Weight(Kg)	1.6	1.8	2.0	
AC Interrupting Capacity(I.C)				
CNS (asym/sym)KA	AC 600V	5	12/10	35/30
	AC 440V	10	25/22	60/50
	AC 380V	20/18	35/30	60/50
	AC 220V	30/25	60/50	100/85
	DC 250V	5	10	10
IEC Icu/Ics (sym)KA	AC 690V	5/2.5	10/5	10/5
	AC 500V	7.5/3.8	15/8	40/20
	AC 440V	10/5	25/13	50/25
	AC 400V	18/9	30/15	50/25
	AC 230V	25/13	50/25	85/43

Standard Features

connection	Clamp terminal
Automatic tripping device	Thermal, magnetic
Trip button	Equipped

Optional Accessories

Undervoltage trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shunt trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auxiliary switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>




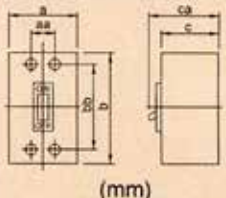
FRAME SIZE(A)	400	400	630	630	
TYPE	NF400-GP	NF400-HA	NF630-GP	NF630-HA	
PHOTO					
Ampere rating(A)at ambient temp.40°C	250. 300. 350. 400.		500. 600. 630.		
Number of pole(P)	3	3	3	3	
Rated voltage(V)A.C	690V				
	a	140	210		
	b	257	275		
	c	103	103		
	ca	134	149		
	bb	195	243		
	aa	44	70		
Weight(Kg)	6.0		9.0		
AC Interrupting Capacity(I.C)					
CNS (asym/sym)KA	AC 600V	20/18	35/30	25/22	35/30
	AC 440V	30/25	60/50	35/30	60/50
	AC 380V	30/25	60/50	35/30	60/50
	AC 220V	40/35	100/85	50/42	100/85
	DC 250V	10	20	10	40
IEC Icu/Ics (sym)KA	AC 690V	10/5	10/5	10/5	10/5
	AC 500V	22/11	40/20	15/8	40/20
	AC 440V	25/13	50/25	25/13	50/25
	AC 400V	25/13	50/25	30/15	50/25
	AC 230V	35/18	85/43	42/21	85/43

Standard Features



connection	Busbar	
Automatic tripping device	Thermal, magnetic	
Trip button	Equipped	

Optional Accessories

Undervoltage trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shunt trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auxiliary switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FRAME SIZE(A)	800	800	1200	
TYPE	NF800-GP	NF800-HA	NF1200-HA	
PHOTO				
Ampere rating(A)at ambient temp.40°C	700. 800.		1000. 1200.	
Number of pole(P)	3	3	3	
Rated voltage(V)A.C	690			
 (mm)	a	210	210	
	b	275	400	
	c	103	105	
	ca	149	158	
	bb	243	360	
	aa	70	70	
Weight(Kg)	10		21	
AC Interrupting Capacity(I.C)				
CNS (asym/sym)KA	AC 600V	25/22	35/30	35/30
	AC 440V	35/30	60/50	60/50
	AC 380V	35/30	60/50	60/50
	AC 220V	50/42	100/85	100/85
	DC 250V	10	40	40
IEC Icu/Ics (sym)KA	AC 690V	10/5	10/5	10/5
	AC 500V	15/8	40/20	40/20
	AC 440V	25/13	50/25	50/25
	AC 400V	30/15	50/25	50/25
	AC 230V	42/21	85/43	85/43

Standard Features

connection	Busbar	
		
Automatic tripping device	Thermal, magnetic	
Trip button	Equipped	

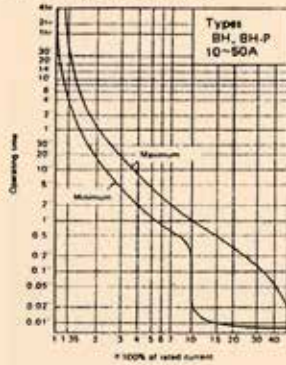
Optional Accessories

Undervoltage trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shunt trip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auxiliary switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm switch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

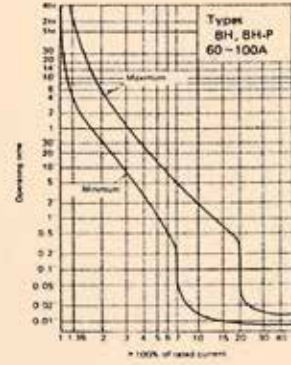
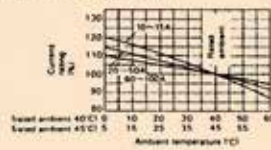
OPERATING CHARACTERISTICS

Type BH, BH-P

Operating Characteristics

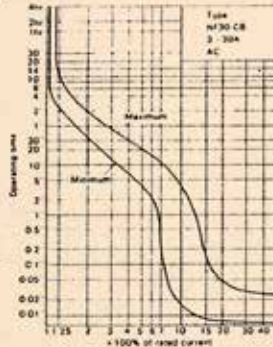


Ambient Compensation



Type NF30-CB

Operating Characteristics

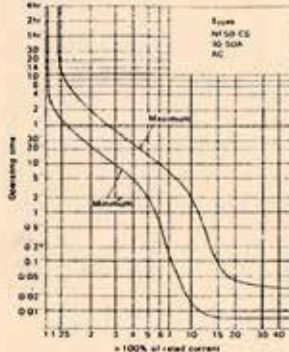


Ambient Compensation

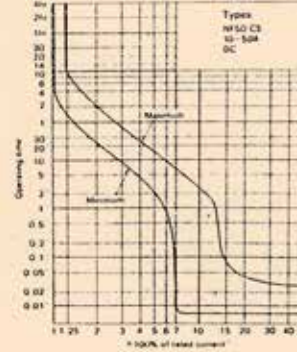


Type NF50-CS

Operating Characteristics

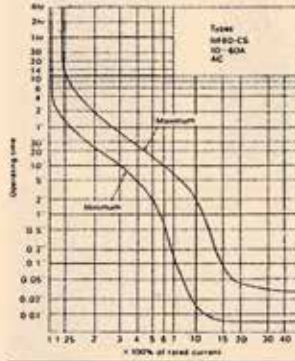


Ambient Compensation

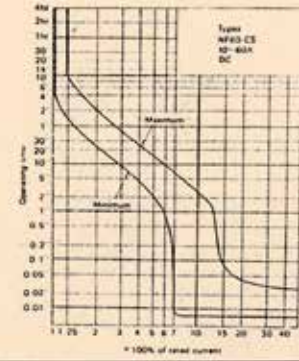
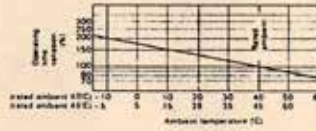


OPERATING CHARACTERISTICS

Type NF60-CS
Operating Characteristics

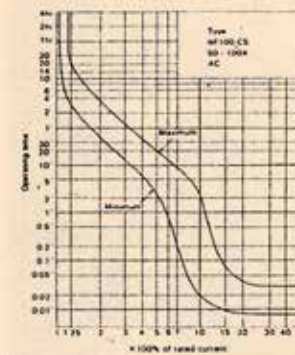


Ambient Compensation

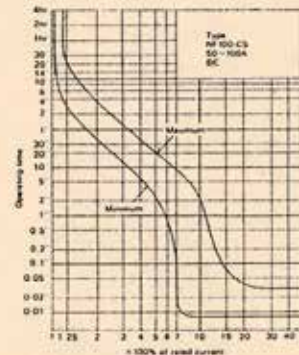


Type NF100-CS

Operating Characteristics

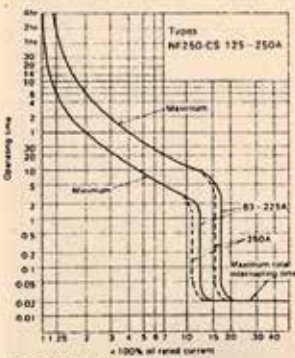


Ambient Compensation

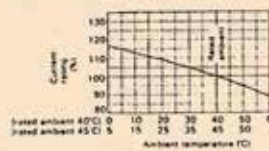


Type NF250-CS

Operating Characteristics

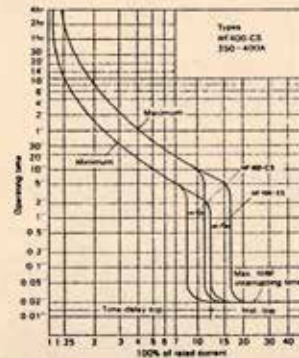


Ambient Compensation

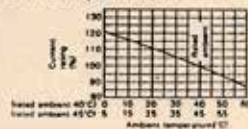


Type NF400-CS

Operating Characteristics



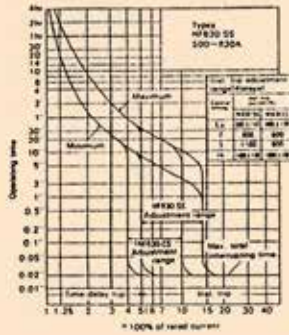
Ambient Compensation



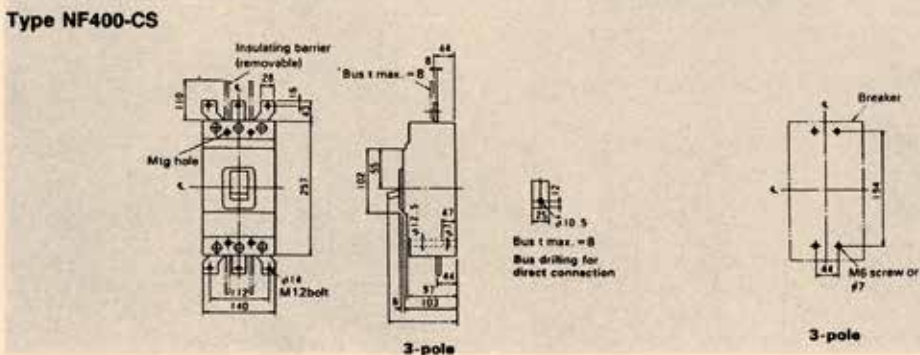
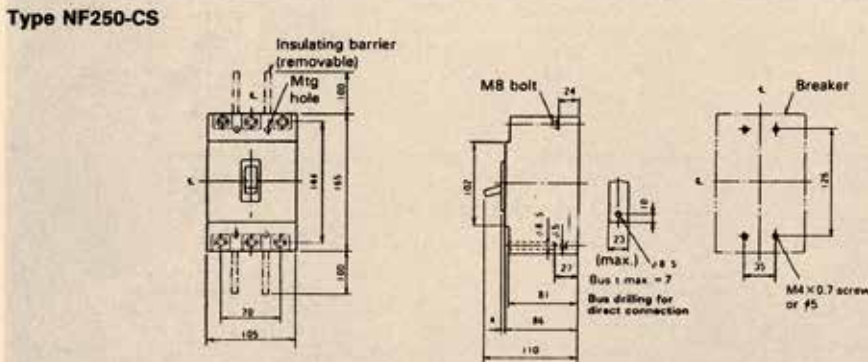
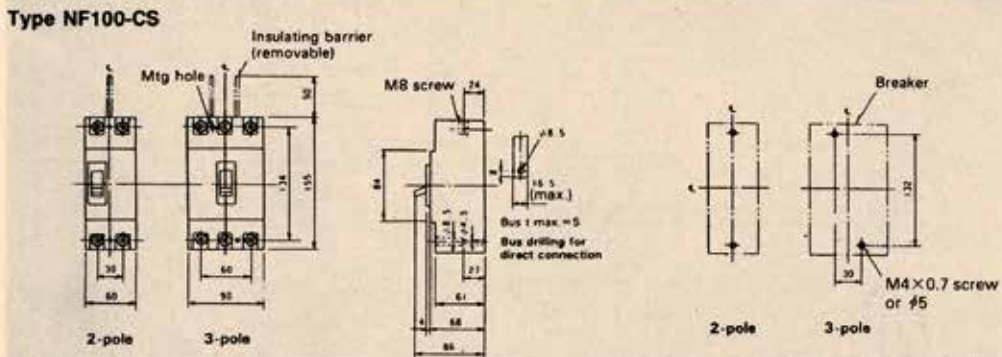
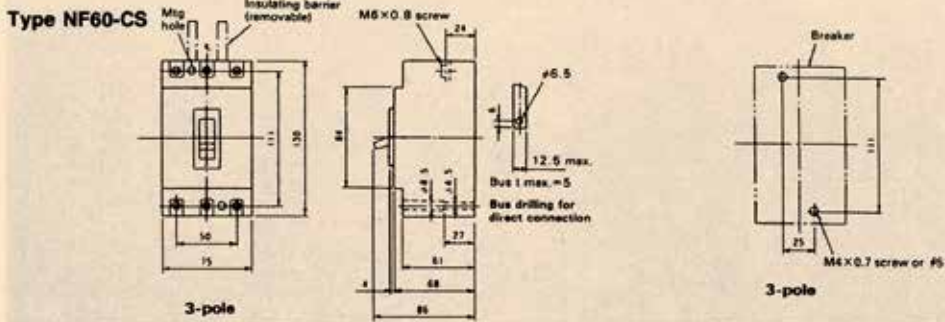
OPERATING CHARACTERISTICS

Type NF630-CS

Operating Characteristics



DIMENSIONS AND MOUNTING DETAILS



F360 EARTH LEAKAGE CIRCUIT BREAKER

ISO9001: 2000



F362

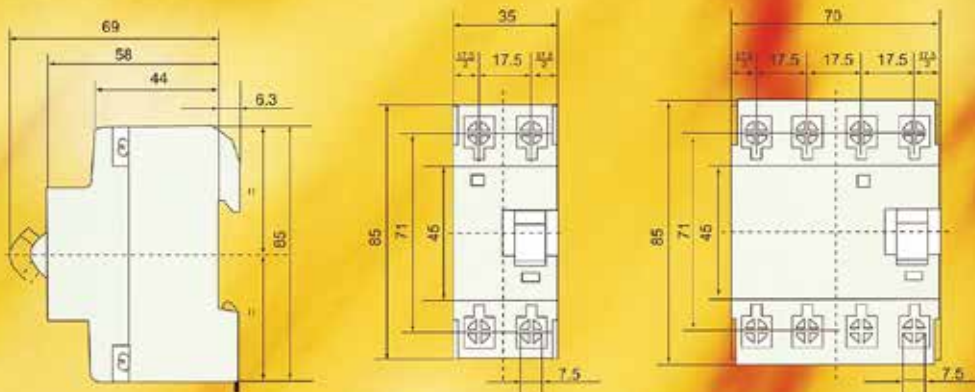


F364

SPECIFICATIONS

Type	Rated current	Rated voltage	Rated operating current	Residual non operating current	Rated conditional short circuit current	Mechanical life
F362	16A	AC230 V	0.03 A	0.5 I _{Δn} ~I _{Δn}	3000 A to 6000 A	10000
	25A					
	32A					
	40A					
	63A					
	80A					
F364	16A	AC400 V	0.03 A	0.5 I _{Δn} ~I _{Δn}	3000 A to 6000 A	10000
	25A					
	32A					
	40A					
	63A					
	80A					
100A						

DIMENSIONS



Selection and Ordering Data



1-pole

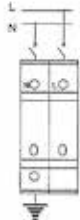


1-pole

TYPE	U _n (V)	Packing (pcs)	U _p (KV)	U _c (V)	I max
SP 65	230	120	2	440	65 KA
	230	120	1.5	275	65 KA
SP 40	230	120	1.8	440	40 KA
	230	120	1.2	275	40 KA
SP 15	230	120	1.8	440	15 KA
	230	120	1.2	275	15 KA
SP 8	230	120	1.8	440	8 KA
	230	120	1.2	275	8 KA



1-pole+N

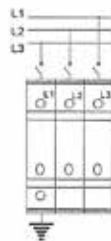


1-pole+N

TYPE	U _n (V)	Packing (pcs)	U _p (KV)	U _c (V)	I max
SP 65	230	60	1.2	440/275	65 KA
SP 40	230	60	1.2	440/275	40 KA
SP 15	230	60	1.2	440/275	15 KA
SP 15	230	60	1.8	440/275	15 KA
SP 8	230	60	1.2	440/275	8 KA



3-pole

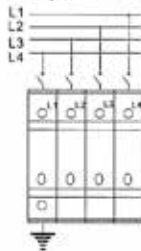


3-pole

TYPE	U _n (V)	Packing (pcs)	U _p (KV)	U _c (V)	I max
SP 65	400	30	1.2	440/275	65 KA
SP 40	400	30	1.2	440/275	40 KA
SP 15	400	30	1.2	440/275	15 KA
SP 15	400	30	1.8	440/275	15 KA
SP 8	400	30	1.2	440/275	8 KA



3-pole+N




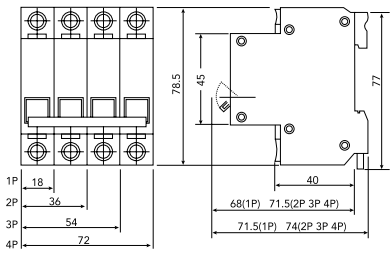

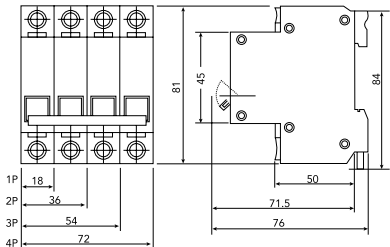

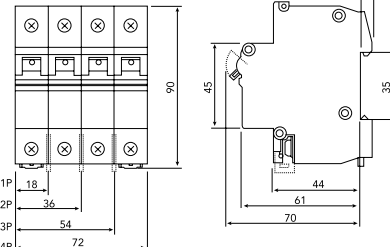

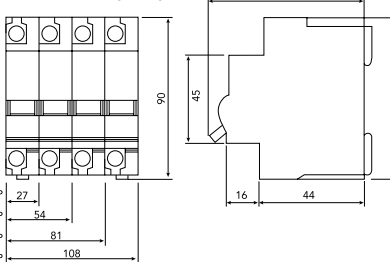
4-pole

TYPE	U _n (V)	Packing (pcs)	U _p (KV)	U _c (V)	I max
SP 65	400	30	2	440/275	65 KA
SP 40	400	30	1.8	440/275	40 KA
SP 15	400	30	1.8	440/275	15 KA
SP 8	400	30	1.8	440/275	8 KA



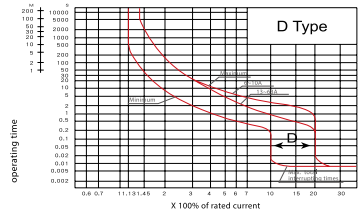
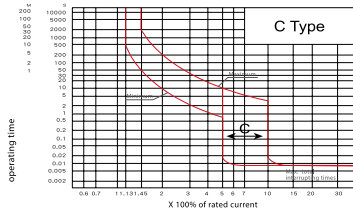
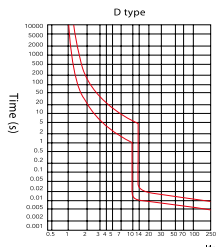
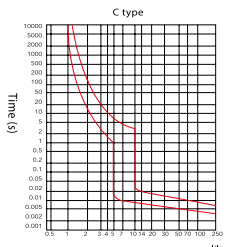
Accessory

TYPE	Packing (pcs)	U _p (KV)	U _c (V)	I max
C65-440	120	2	440	65 KA
C65-275	120	1.5	275	65 KA
C40-440	120	1.8	440	40 KA
C40-275	120	1.2	275	40 KA
C15-440	120	1.8	440	15 KA
C15-275	120	1.2	275	15 KA
C8-440	120	1.8	440	8 KA
C8-275	120	1.2	275	8 KA

 <p>C45N</p>	<p>MODEL NO. : C45N IEC60898 RATED VOLTAGE U_e: 240V/415V FREQUENCY: 50/60HZ NUMBER OF POLES: 1P,2P,3P,4P RATED CURRENT: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A TRIPPING CHARACTERISTICS: C, D</p> <table border="1"> <thead> <tr> <th colspan="3">BREAKING CAPACITY(KA) IEC60898</th> </tr> <tr> <th>RATED CURRENT</th> <th>VOLTAGE</th> <th>BREAKING CAPACITY(KA)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">6A TO 40A</td> <td>PH/N(1P) : 230/240V</td> <td>6KA</td> </tr> <tr> <td>PH/PH(2P,3P,4P) 400/415V</td> <td>6KA</td> </tr> <tr> <td rowspan="2">50A TO 63A</td> <td>PH/N(1P) : 230/240V</td> <td>4KA</td> </tr> <tr> <td>PH/PH(2P,3P,4P) 400/415V</td> <td>4KA</td> </tr> </tbody> </table>	BREAKING CAPACITY(KA) IEC60898			RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)	6A TO 40A	PH/N(1P) : 230/240V	6KA	PH/PH(2P,3P,4P) 400/415V	6KA	50A TO 63A	PH/N(1P) : 230/240V	4KA	PH/PH(2P,3P,4P) 400/415V	4KA	<p>DIMENSIONS (mm.)</p> 
BREAKING CAPACITY(KA) IEC60898																		
RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)																
6A TO 40A	PH/N(1P) : 230/240V	6KA																
	PH/PH(2P,3P,4P) 400/415V	6KA																
50A TO 63A	PH/N(1P) : 230/240V	4KA																
	PH/PH(2P,3P,4P) 400/415V	4KA																
 <p>C60K</p>	<p>MODEL NO. : C60K IEC60898 RATED VOLTAGE U_e: 230V/400V FREQUENCY: 50/60HZ NUMBER OF POLES: 1P,2P,3P,4P RATED CURRENT: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A TRIPPING CHARACTERISTICS: C, D</p> <table border="1"> <thead> <tr> <th colspan="3">BREAKING CAPACITY(KA) IEC60898</th> </tr> <tr> <th>RATED CURRENT</th> <th>VOLTAGE</th> <th>BREAKING CAPACITY(KA)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1A~63A</td> <td>PH/N(1P) : 230/240V</td> <td>6KA</td> </tr> <tr> <td>PH/PH(2P,3P,4P) 400/415V</td> <td>6KA</td> </tr> </tbody> </table>	BREAKING CAPACITY(KA) IEC60898			RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)	1A~63A	PH/N(1P) : 230/240V	6KA	PH/PH(2P,3P,4P) 400/415V	6KA	<p>DIMENSIONS (mm.)</p> 					
BREAKING CAPACITY(KA) IEC60898																		
RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)																
1A~63A	PH/N(1P) : 230/240V	6KA																
	PH/PH(2P,3P,4P) 400/415V	6KA																
 <p>C60C</p>	<p>MODEL NO. : C60C IEC60898 RATED VOLTAGE U_e: 230V/400V FREQUENCY: 50/60HZ NUMBER OF POLES: 1P,2P,3P,4P RATED CURRENT: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A TRIPPING CHARACTERISTICS: C, D</p> <table border="1"> <thead> <tr> <th colspan="3">BREAKING CAPACITY(KA) IEC60898</th> </tr> <tr> <th>RATED CURRENT</th> <th>VOLTAGE</th> <th>BREAKING CAPACITY(KA)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1A~63A</td> <td>PH/N(1P) : 230/240V</td> <td>10KA</td> </tr> <tr> <td>PH/PH(2P,3P,4P) 400/415V</td> <td>10KA</td> </tr> </tbody> </table>	BREAKING CAPACITY(KA) IEC60898			RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)	1A~63A	PH/N(1P) : 230/240V	10KA	PH/PH(2P,3P,4P) 400/415V	10KA	<p>DIMENSIONS (mm.)</p> 					
BREAKING CAPACITY(KA) IEC60898																		
RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)																
1A~63A	PH/N(1P) : 230/240V	10KA																
	PH/PH(2P,3P,4P) 400/415V	10KA																
 <p>NC100H</p>	<p>MODEL NO. : NC100H IEC60947-2 RATED VOLTAGE U_e: 240V/415V FREQUENCY: 50/60HZ NUMBER OF POLES: 1P,2P,3P,4P RATED CURRENT: 50A, 63A, 80A, 100A TRIPPING CHARACTERISTICS: C, D</p> <table border="1"> <thead> <tr> <th colspan="3">BREAKING CAPACITY(KA) IEC60947-2</th> </tr> <tr> <th>RATED CURRENT</th> <th>VOLTAGE</th> <th>BREAKING CAPACITY(KA)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">50A~100A</td> <td>PH/N(1P) : 230/240V</td> <td>10KA</td> </tr> <tr> <td>PH/PH(2P,3P,4P) 400/415V</td> <td>10KA</td> </tr> </tbody> </table>	BREAKING CAPACITY(KA) IEC60947-2			RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)	50A~100A	PH/N(1P) : 230/240V	10KA	PH/PH(2P,3P,4P) 400/415V	10KA	<p>DIMENSIONS (mm.)</p> 					
BREAKING CAPACITY(KA) IEC60947-2																		
RATED CURRENT	VOLTAGE	BREAKING CAPACITY(KA)																
50A~100A	PH/N(1P) : 230/240V	10KA																
	PH/PH(2P,3P,4P) 400/415V	10KA																

• TRIPPING CURVE (C45N, C60K, NC100H)

• TRIPPING CURVE (C60C)



GAMSCO

SINCE 1979



LISTED 8C10
IND.CONT.EQ

RoHS









CK TYPE CONTROL COMPONENTS

GENERAL CHARACTERISTICS







- NOMINAL THERMAL CURRENT : 10A
- NOMINAL INSULATION VOLTAGE : 600V
- MECHANICAL DURABILITY:5 million times
(selector switch 1 million times)
- ELECTRICAL DURABILITY:1 million times
- FREQUENCY OF OPERATION : 1800 times/hr
- AMBIENT TEMPERATURE:-5~40°C



RATED VOLTAGE (V)	CURRENT A		
	AC-15 INDUCTIVE LOAD	DC-13 INDUCTIVE LOAD	DC-12 RESISTIVE LOAD
24	10	6	6
48	10	2	3
110	6	0.7	2
220	4	0.3	1

PICTURE	ITEM NO.	MOUNTING DIA mm	CONTACT CONFIGURATION	COLOR		
 FLAT PUSHBUTTON	CK-22P1	φ 22	1 N/O	●		
	CK-22P2		1 N/C			
	CK-22P12		1 N/O+1 N/C			
	φ 25	CK-25P1	1 N/O	●		
		CK-25P2	1 N/C			
		CK-25P12	1 N/O+1 N/C			
		φ 30	CK-30P1		1 N/O	●
			CK-30P2		1 N/C	
			CK-30P12		1 N/O+1 N/C	
	 EXTENDED PUSHBUTTON	CK-22PF1	φ 22	1 N/O	●	
CK-22PF2		1 N/C				
CK-22PF12		1 N/O+1 N/C				
φ 25		CK-25PF1	1 N/O	●		
		CK-25PF2	1 N/C			
		CK-25PF12	1 N/O+1 N/C			
		φ 30	CK-30PF1		1 N/O	●
			CK-30PF2		1 N/C	
			CK-30PF12		1 N/O+1 N/C	
 MUSHROOM HEAD PUSHBUTTON		CK-22PM1	φ 22 HEAD: 41mm	1 N/O	●	
	CK-22PM2	1 N/C				
	CK-22PM12	1 N/O+1 N/C				
	φ 25 HEAD: 40mm	CK-25PM1	1 N/O	●		
		CK-25PM2	1 N/C			
		CK-25PM12	1 N/O+1 N/C			
		φ 30 HEAD: 41mm	CK-30PM1		1 N/O	●
			CK-30PM2		1 N/C	
			CK-30PM12		1 N/O+1 N/C	
	 PUSH LOCK & PUSH RESET PUSHBUTTON	CK-22PLR1	φ 22 HEAD: 41mm	1 N/O	●	
CK-22PLR2		1 N/C				
CK-22PLR12		1 N/O+1 N/C				
φ 25 HEAD: 35mm		CK-25PLR1	1 N/O	●		
		CK-25PLR2	1 N/C			
		CK-25PLR12	1 N/O+1 N/C			
		φ 30 HEAD: 41mm	CK-30PLR1		1 N/O	●
			CK-30PLR2		1 N/C	
			CK-30PLR12		1 N/O+1 N/C	
 PUSH LOCK & TURN RESET PUSHBUTTON		CK-22PL1	φ 22 HEAD: 38mm	1 N/O	●	
	CK-22PL2	1 N/C				
	CK-22PL12	1 N/O+1 N/C				
	φ 25 HEAD: 35mm	CK-25PL1	1 N/O	●		
		CK-25PL2	1 N/C			
		CK-25PL12	1 N/O+1 N/C			
		φ 30 HEAD: 38mm	CK-30PL1		1 N/O	●
			CK-30PL2		1 N/C	
			CK-30PL12		1 N/O+1 N/C	
	 KNOB OPERATED SELETOR SWITCH, 2 POSITION	CK-22SLS21	φ 22	1 N/O	●	
CK-22SLS22		1 N/C				
CK-22SLS212		1 N/O+1 N/C				
φ 25		CK-25SLS21	1 N/O	●		
		CK-25SLS22	1 N/C			
		CK-25SLS212	1 N/O+1 N/C			
		φ 30	CK-30SLS21		1 N/O	●
			CK-30SLS22		1 N/C	
			CK-30SLS212		1 N/O+1 N/C	

PICTURE	ITEM NO.	MOUNTING DIA mm	CONTACT CONFIGURATION	COLOR			
 <p>LEVER OPERATED SELECTOR SWITCH, 2 POSITION</p>	CK-22SLL21	φ 22	1 N/O	●			
	CK-22SLL22		1 N/C				
	CK-22SLL212		1 N/O+1 N/C				
		CK-25SLL21	φ 25		1 N/O		
		CK-25SLL22			1 N/C		
		CK-25SLL212			1 N/O+1 N/C		
			CK-30SLL21		φ 30	1 N/O	
			CK-30SLL22			1 N/C	
			CK-30SLL212			1 N/O+1 N/C	
 <p>KNOB OPERATED SELECTOR SWITCH, 3 POSITION</p>			CK-22SLS312	φ 22	1 N/O+1 N/C	●	
			CK-22SLS311		2 N/O		
				CK-25SLS312	φ 25		1 N/O+1 N/C
	CK-25SLS311			2 N/O			
				CK-30SLS312	φ 30		1 N/O+1 N/C
				CK-30SLS311			2 N/O
 <p>LEVER OPERATED SELECTOR SWITCH, 3 POSITION</p>	CK-22SLL312	φ 22	1 N/O+1 N/C	●			
	CK-22SLL311		2 N/O				
		CK-25SLL312	φ 25		1 N/O+1 N/C		
		CK-25SLL311			2 N/O		
			CK-30SLL312		φ 30	1 N/O+1 N/C	
			CK-30SLL311			2 N/O	
 <p>ILLUMINATED KNOB OPERATED SELECTOR SWITCH, 2 POSITION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BAYS 6.3V FILAMENT BULB</p>	CK-22SLSN21	φ 22	1 N/O	● ● ●			
	CK-22SLSN22		1 N/C				
	CK-22SLSN212		1 N/O+1 N/C				
		CK-25SLSN21	φ 25		1 N/O		
		CK-25SLSN22			1 N/C		
			CK-25SLSN212		φ 30	1 N/O+1 N/C	
			CK-30SLSN21			1 N/O	
	 <p>ILLUMINATED LEVER OPERATED SELECTOR SWITCH, 2 POSITION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BAYS 6.3V FILAMENT BULB</p>	CK-30SLSN22	φ 30		1 N/C		
CK-30SLSN212		1 N/O+1 N/C					
		CK-22SLLN21	φ 22	1 N/O			
		CK-22SLLN22		1 N/C			
		CK-22SLLN212		1 N/O+1 N/C			
			CK-25SLLN21	φ 25	1 N/O		
	CK-25SLLN22		1 N/C				
	CK-25SLLN212		1 N/O+1 N/C				
 <p>ILLUMINATED KNOB OPERATED SELECTOR SWITCH, 3 POSITION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BAYS 6.3V FILAMENT BULB</p>	CK-30SLLN22	φ 30	1 N/C				
	CK-30SLLN212		1 N/O+1 N/C				
		CK-22SLSN312	φ 22	1 N/O+1 N/C	● ● ●		
		CK-22SLSN311		2 N/O			
			CK-25SLSN312	φ 25		1 N/O+1 N/C	
			CK-25SLSN311			2 N/O	
			CK-30SLSN312	φ 30		1 N/O+1 N/C	
			CK-30SLSN311			2 N/O	

PICTURE	ITEM NO.	MOUNTING DIA mm	CONTACT CONFIGURATION	COLOR	
 ILLUMINATED LEVER OPERATED SELECTOR SWITCH, 3 POSITION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BA9S 6.3V FILAMENT BULB	CK-22SLLN312	φ 22	1 N/O+1 N/C	●	
	CK-22SLLN311		2 N/O		
	CK-25SLLN312	φ 25	1 N/O+1 N/C	●	
			2 N/O		
	CK-30SLLN312	φ 30	1 N/O+1 N/C	●	
			2 N/O		
 EXTENDED ILLUMINATED PUSHBUTTON ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BA9S 6.3V FILAMENT BULB	CK-22PFN1	φ 22	1 N/O	●	
	CK-22PFN2		1 N/C		
	CK-22PFN12		1 N/O+1 N/C		
	CK-25PFN1	φ 25	1 N/O	●	
			CK-25PFN2		1 N/C
			CK-25PFN12		1 N/O+1 N/C
	CK-30PFN1	φ 30	1 N/O	●	
			CK-30PFN2		1 N/C
			CK-30PFN12		1 N/O+1 N/C
 MUSHROOM HEAD ILLUMINATED PUSHBUTTON ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BA9S 6.3V FILAMENT BULB	CK-22PMN1	φ 22 HEAD: 41mm	1 N/O	●	
	CK-22PMN2		1 N/C		
	CK-22PMN12		1 N/O+1 N/C		
	CK-25PMN1	φ 25 HEAD: 40mm	1 N/O	●	
			CK-25PMN2		1 N/C
			CK-25PMN12		1 N/O+1 N/C
	CK-30PMN1	φ 30 HEAD: 41mm	1 N/O	●	
			CK-30PMN2		1 N/C
			CK-30PMN12		1 N/O+1 N/C
 PUSH LOCK & TURN RESET ILLUMINATED PUSHBUTTON ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BA9S 6.3V FILAMENT BULB	CK-22PLN1	φ 22 HEAD: 38mm	1 N/O	●	
	CK-22PLN2		1 N/C		
	CK-22PLN12		1 N/O+1 N/C		
	CK-25PLN1	φ 25 HEAD: 35mm	1 N/O	●	
			CK-25PLN2		1 N/C
			CK-25PLN12		1 N/O+1 N/C
	CK-30PLN1	φ 30 HEAD: 38mm	1 N/O	●	
			CK-30PLN2		1 N/C
			CK-30PLN12		1 N/O+1 N/C
 PUSH LOCK & PUSH RESET ILLUMINATED PUSHBUTTON ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER BA9S 6.3V FILAMENT BULB	CK-22PLRN1	φ 22 HEAD: 41mm	1 N/O	●	
	CK-22PLRN2		1 N/C		
	CK-22PLRN12		1 N/O+1 N/C		
	CK-25PLRN1	φ 25 HEAD: 35mm	1 N/O	●	
			CK-25PLRN2		1 N/C
			CK-25PLRN12		1 N/O+1 N/C
	CK-30PLRN1	φ 30 HEAD: 41mm	1 N/O	●	
			CK-30PLRN2		1 N/C
			CK-30PLRN12		1 N/O+1 N/C
 PILOT LAMP	CK-25TA	φ 25	DESCRIPTION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER 6.3V FILAMENT BA9S BULB	●	
	CK-30TA	φ 30	DESCRIPTION ACV: 110V, 220V, 380V VIA INTEGRAL TRANSFORMER 6.3V FILAMENT BA9S BULB		

PICTURE	ITEM NO.	MOUNTING DIA mm	DESCRIPTION	COLOR
 PILOT LAMP	CK-25TB	φ 25	ACV: 110V, 220V BA9S NEON BULB	
	CK-30TB	φ 30	ACV: 110V, 220V BA9S NEON BULB	
 CONTACT BLOCK	CK-1		CONTACT CONFIGURATION	
			1 N/O USED FOR CK TYPE CONTROL COMPONENTS	
 CONTACT BLOCK	CK-2		CONTACT CONFIGURATION	
			1 N/C USED FOR CK TYPE CONTROL COMPONENTS	
 OPTIONAL ACCESSORIES PROTECTION COVER	CK-P		DESCRIPTION	
	USED FOR CONTACT-BLOCK CK-1&CK-2		 CK-P WITH CK-1	
 WITHOUT UL APPROVAL FLAT ILLUMINATED PUSHBUTTON (SNAP ACTION) ACV: 110V, 220V, 380V V/A INTEGRAL TRANSFORMER 6.3V FILAMENT E-10 BULB	CK-25PFNBT	φ 25	CONTACT CONFIGURATION	COLOR
	CK-30PFNBT	φ 30		
 WITHOUT UL APPROVAL FLAT ILLUMINATED PUSHBUTTON (SNAP ACTION) ACV: 110V, 220V, E-10 NEON BULB	CK-25PFNBD	φ 25	CONTACT CONFIGURATION	COLOR
	CK-30PFNBD	φ 30		

NEW


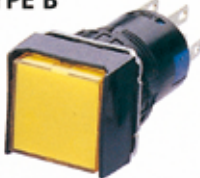



CONTROL COMPONENTS
Ø 16 MOUNTING HOLE

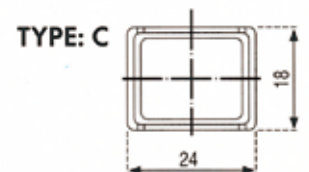
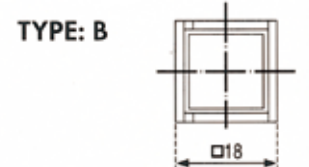
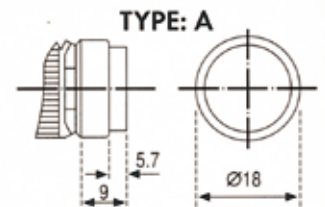
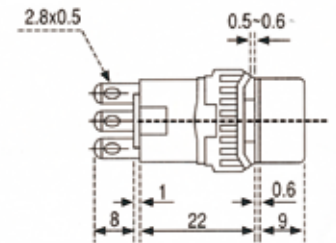


SPECIFICATIONS




RATED VOLTAGE(max)		250V AC/DC		
ACI DUTY max A		3A		
RATED WORKING VOLTAGE	RATED WORKING CURRENT			
	AC		DC	
	INDUCTIVE LOAD	RESISTIVE LOAD	INDUCTIVE LOAD	RESISTIVE LOAD
24V	XX	XX	0.7A	1.0 A
110V	0.7A	1.0A	0.1A	0.2A
220V	0.5A	0.5A	XX	XX
AMBIENT TEMPERATURE		-25°C ~ 55°C		

TYPE	SPECIFICATIONS		
TYPE A 	ILLUMINATED PUSHBUTTON	PUSH LOCK ILLUMINATED PUSHBUTTON	PILOT LIGHT
	ITEM NO.		
	LAL16S	LAL16Z	LAL16D
	BULB SPECIFICATIONS		
TYPE B 	AC/DC 6V; 12V; 24V; FILAMENT BULB		
	AC 110V; 220V NEON BULB		
	CONTACT CONFIGURATION		
	1A1B 1C	:::	
TYPE C 	2A2B 2C		
	COLOR		
	RED; YELLOW; BLUE; GREEN; WHITE		
	MECHANICAL DURABILITY(TIMES)		
1,000,000	100,000	:::	
ELECTRICAL DURABILITY			
100,000	50,000	:::	

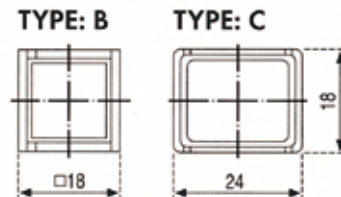
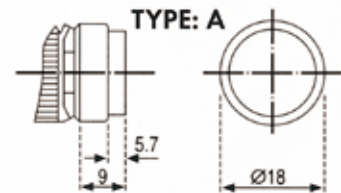
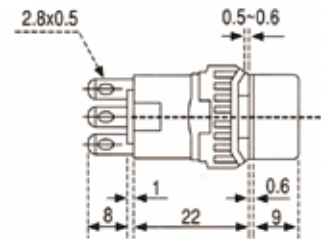
DIMENSIONS(mm)




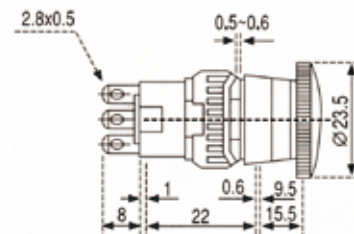


TYPE	SPECIFICATIONS	
TYPE A 	PUSHBUTTON	PUSH LOCK PUSHBUTTON
	ITEM NO.	
	LAB16S	LAB16Z
	CONTACT CONFIGURATION	
TYPE B 	1A1B 1C	
	2A2B 2C	
	COLOR	
TYPE C 	MECHANICAL DURABILITY (TIMES)	
	1,000,000	100,000
	ELECTRICAL DURABILITY	
	100,000	50,000




DIMENSIONS(mm)

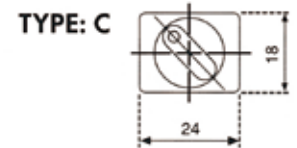
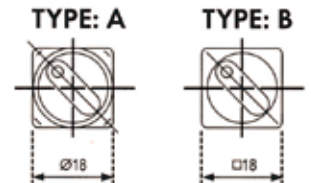
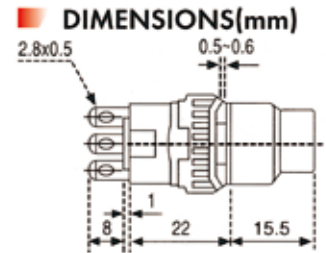





	SPECIFICATIONS	
	PUSHBUTTON LATCH HEAD TURN TO RELEASE	
	ITEM NO.	
	LAB16-V	
	CONTACT CONFIGURATION	
	1A1B 1C	
	2A2B 2C	
	MECHANICAL DURABILITY (TIMES)	
	100,000 TIMES	
	ELECTRICAL DURABILITY	
100,000 TIMES		

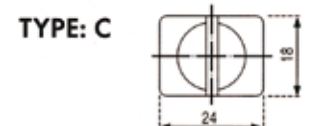
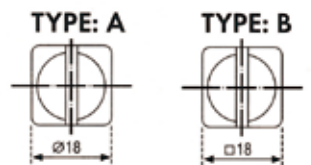
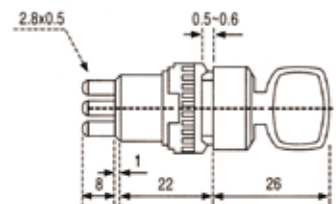




TYPE A 	SPECIFICATIONS	
	SELECTOR SWITCH	
	DESCRIPTION	
	90° 2 POLES	90° 3 POLES
TYPE B 	ITEM NO.	
	LAS16-2	LAS16-3
	CONTACT CONFIGURATION	
	1A1B 1C	2A2B 2C
2A2B 2C		
TYPE C 	MECHANICAL DURABILITY (TIMES)	
	100,000 TIMES	
	ELECTRICAL DURABILITY	
	100,000 TIMES	



TYPE A 	SPECIFICATIONS	
	KEY SWITCH	
	DESCRIPTION	
	90° 2 POLES	90° 3 POLES
TYPE B 	ITEM NO.	
	LAS16-2K	LAS16-3K
	CONTACT CONFIGURATION	
	1A1B 1C	2A2B 2C
2A2B 2C		
TYPE C 	MECHANICAL DURABILITY(TIMES)	
	100,000 TIMES	
	ELECTRICAL DURABILITY	
	100,000 TIMES	













CONTROL COMPONENTS
ECONOMIC TYPE







1. The most peculiarity of this series of push buttons is to avail up-to-date design, Common Contact, by which makes this series economy buy value in money, compared with any other of panel push buttons.
2. This series simplify on-the-job assembly owing to the special design.

SPECIFICATIONS AND RATINGS

Rated voltage and current	AC	125V AC	250V AC	600V AC
		10A	6A	2A
	DC	110V DC	220V DC	600V DC
2 A		1.1A	0.4A	
Rated Insulation Voltage	600V AC, DC			
Operation frequency	1,200 operations/h			
Life expectancy	Mechanical: 5,000,000 operations Electrical: 500,000 operations			
Ambient temperature	- 20 to + 50°C (No freeze allowed)			

PICTURE & DESCRIPTION	COLOR	ITEM NUMBER				
		1A	1B	1A1B	2A2B	
 FLAT PUSHBUTTON	●	φ25	FPB-2510	FPB-2501	FPB-2511	FPB-2522
	●	φ30	FPB-3010	FPB-3001	FPB-3011	FPB-3022
	●					
 MUSHROOM HEAD PUSHBUTTON	●	φ25	MPB-2510	MPB-2501	MPB-2511	MPB-2522
	●	φ30	MPB-3010	MPB-3001	MPB-3011	MPB-3022
	●					
 PUSH-LOCKED PUSHBUTTON	●	φ25	LMB-2510	LMB-2501	LMB-2511	LMB-2522
	●	φ30	LMB-3010	LMB-3001	LMB-3011	LMB-3022
	●					
 ILLUMINATED PUSHBUTTON DIRECT TYPE AC220V E-10 NEON BULB	●	φ25	IDS-2510	IDS-2501	IDS-2511	
	●	φ30	IDS-3010	IDS-3001	IDS-3011	
	●					
 ILLUMINATED PUSHBUTTON WITH TRANSFORMER ACV: 110, 220, 380, 440 E-10 FILAMENT BULB	●	φ25	ITS-2510	ITS-2501	ITS-2511	
	●	φ30	ITS-3010	ITS-3001	ITS-3011	
	●					

PICTURE & DESCRIPTION	COLOR	ITEM NUMBER				
			1A	1B	1A1B	2A2B
 <p>KNOB OPERATED SELECTOR SWITCH, 2 POSITION</p>	  	φ25 SKOS-25210	SKOS-25201	SKOS-25211	SKOS-25222	
		φ30 SKOS-30210	SKOS-30201	SKOS-30211	SKOS-30222	
 <p>KNOB OPERATED SELECTOR SWITCH, 3 POSITION</p>	  	φ25 SKOS-25310		SKOS-25311	SKOS-25322	
		φ30 SKOS-30310		SKOS-30311	SKOS-30322	
 <p>LEVER OPERATED SELECTOR SWITCH, 2 POSITION</p>	  	φ25 LKOS-25210	LKOS-25201	LKOS-25211	LKOS-25222	
		φ30 LKOS-30210	LKOS-30201	LKOS-30211	LKOS-30222	
 <p>LEVER OPERATED SELECTOR SWITCH, 3 POSITION</p>	  	φ25 LKOS-25310		LKOS-25311	LKOS-25322	
		φ30 LKOS-30310		LKOS-30311	LKOS-30322	
 <p>TRANSFORMER PILOT LIGHT ACV: 110, 220, 380, 440 E-10 FILAMENT BULB</p>	    	φ25 CA-25R	CA-25G	CA-25Y	CA-25B	CA-25W
		φ30 CA-30R	CA-30G	CA-30Y	CA-30B	CA-30W

PICTURE & DESCRIPTION				
	<small>225 PUSH BUTTTON WITH NEON LAMP BASE AC110V,220V</small>	<small>225 PUSH BUTTTON WITH NEON LAMP BASE AC110V,220V</small>	<small>225 PUSH BUTTTON WITH NEON LAMP BASE AC110V,220V</small>	<small>300 PUSH BUTTTON WITH NEON LAMP BASE AC110V,220V</small>
ITEM NUMBER	APBB - 22 & 25N	AS - 22 & 25N	AB - 22 & 25N	PPBB - 30N
RATE CAPACITY	10A 600 VAC	10A 600 VAC	10A 600 VAC	10A 600 VAC
PICTURE & DESCRIPTION				
	PUSHBUTTON FOR MAGNETC SWITCHES		PUSHBUTTON FOR MAGNETC SWITCHES	
ITEM NUMBER	BT-2		BT-3	
RATE CAPACITY	AC250V, 3A		AC250V, 3A	

CONTROL UNIT

Ø22mm






NEW





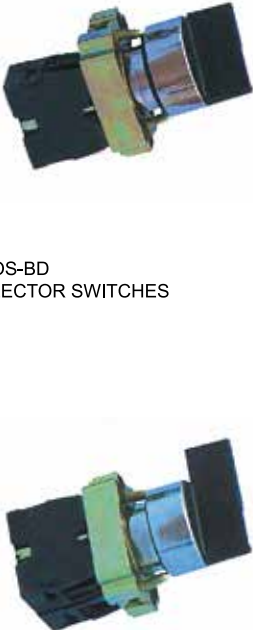
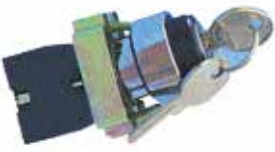
GENERAL CHARACTERISTICS

- CONFORMITY TO STANDARDS : IEC / EN60947-5-1
- NOMINAL THERMAL CURRENT : 10A
- NOMINAL INSULATION VOLTAGE : 600V
- AC-15 INDUCTIVE LOAD : 3A/240V AC
- DC-13 INDUCTIVE LOAD : 0.27A/250V DC
- AMBIENT TEMPERATURE : -25 °C ~ +70 °C
- MECHANICAL LIFE : 1 MILLION OPERATIONS (LATCHING MUSHROOM HEAD
PUSH BUTTONS : 300,000 OPERATIONS)

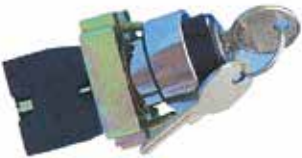

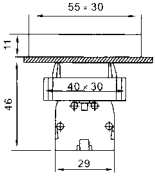

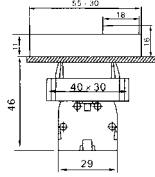
⌀22mm

PICTURE	ITEM NO. & DESCRIPTION	COLOR
 FPB-BA FLAT PUSH BUTTON	ITEM NO. : FPB-BA1 CONTACT CONFIGURATION : 1 N/O	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : FPB-BA2 CONTACT CONFIGURATION : 1 N/C	● BLACK ● RED
 EPB-BL EXTENDED PUSH BUTTON	ITEM NO. : EPB-BL1 CONTACT CONFIGURATION : 1 N/O	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : EPB-BL2 CONTACT CONFIGURATION : 1 N/C	● BLACK ● RED
 MUSHROOM HEAD PUSH BUTTON SPRING RETURN	ITEM NO. : MPB-BC1 ⌀40mm ITEM NO. : MPB-BR1 ⌀60mm CONTACT CONFIGURATION : 1 N/O	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : MPB-BC2 ⌀40mm ITEM NO. : MPB-BR2 ⌀60mm CONTACT CONFIGURATION : 1 N/C	● RED
 LMB-BS MUSHROOM HEAD PUSH BUTTON LATCHING TURN TO RELEASE	ITEM NO. : LMB-BS4 ⌀30mm ITEM NO. : LMB-BS5 ⌀40mm ITEM NO. : LMB-BS6 ⌀60mm CONTACT CONFIGURATION : 1 N/C	● RED
 LMB-BT5 MUSHROOM HEAD PUSH BUTTON PUSH PULL SYAY PUT	ITEM NO. : LMB-BT5 ⌀40mm CONTACT CONFIGURATION : 1 N/C	● RED

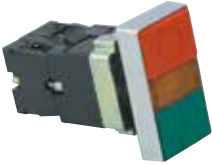
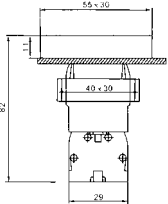

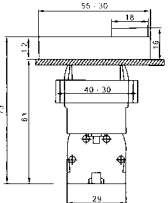
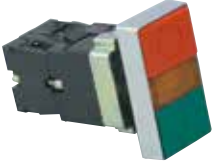
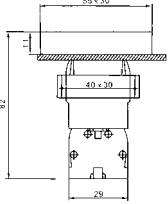

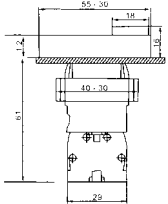
⌀22mm

PICTURE	ITEM NO. & DESCRIPTION		COLOR
 <p>LMB-BX MUSHROOM HEAD PUSH BUTTON LATCHING KEY RELEASE</p>	ITEM NO. : LMB-BX4 ⌀30mm ITEM NO. : LMB-BX5 ⌀40mm ITEM NO. : LMB-BX6 ⌀60mm CONTACT CONFIGURATION : 1 N/C		 RED
 <p>SKOS-BD SELECTOR SWITCHES</p> <p>LKOS-BJ SELECTOR SWITCHES</p>	2 POSITION STAY PUT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-BD21		1 N/O
	ITEM NO. : LKOS-BJ21		1 N/O
	ITEM NO. : SKOS-BD25		1 N/O + 1 N/C
	ITEM NO. : LKOS-BJ25		1 N/O + 1 N/C
	3 POSITION STAY PUT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-BD33		1 N/O + 1 N/O
	ITEM NO. : LKOS-BJ33		1 N/O + 1 N/O
	2 POSITION SPRING RETURN FROM RIGHT TO LEFT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-BD41		1 N/O
	ITEM NO. : LKOS-BJ41		1 N/O
	ITEM NO. : SKOS-BD45		1 N/O + 1 N/C
	ITEM NO. : LKOS-BJ45		1 N/O + 1 N/C
	3 POSITION SPRING RETURN TO CENTRE		CONTACT CONFIGURATION
	ITEM NO. : SKOS-BD53		1 N/O + 1 N/O
	ITEM NO. : LKOS-BJ53		1 N/O + 1 N/O
3 POSITION SPRING RETURN FROM LEFT TO CENTRE		CONTACT CONFIGURATION	
ITEM NO. : SKOS-BD73		1 N/O + 1 N/O	
ITEM NO. : LKOS-BJ73		1 N/O + 1 N/O	
3 POSITION SPRING RETURN FROM RIGHT TO CENTRE		CONTACT CONFIGURATION	
ITEM NO. : SKOS-BD83		1 N/O + 1 N/O	
ITEM NO. : LKOS-BJ83		1 N/O + 1 N/O	
 <p>SKL-BG KEY SWITCHES</p>	2 POSITION STAY PUT		KEY WITHDRAWAL
	ITEM NO. : SKL-BG41		CONTACT CONFIGURATION
	ITEM NO. : SKL-BG45		LEFT AND RIGHT HAND POSITION
	ITEM NO. : SKL-BG21		LEFT HAND POSITION
	ITEM NO. : SKL-BG25		LEFT HAND POSITION
		CONTACT CONFIGURATION	




⌀22mm

PICTURE	ITEM NO. & DESCRIPTION		
 <p>SKL-BG KEY SWITCHES</p>	3 POSITION STAY PUT	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-BG03	ALL POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-BG93	LEFT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-BG53	LEFT & RIGHT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-BG093	RIGHT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-BG33	CENTRE POSITION	1 N/O + 1 N/O
	2 POSITION SPRING RETURN FROM RIGHT TO LEFT	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-BG61	LEFT HAND POSITION	1 N/O
	ITEM NO. : SKL-BG65	LEFT HAND POSITION	1 N/O + 1 N/C
	3 POSITION SPRING RETURN FROM LEFT TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-BG13	CENTRE POSITION	1 N/O + 1 N/O
	3 POSITION SPRING RETURN FROM RIGHT TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-BG83	CENTRE POSITION	1 N/O + 1 N/O
	3 POSITION SPRING RETURN TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-BG73	CENTRE POSITION	1 N/O + 1 N/O
PICTURE	ITEM NO. & DESCRIPTION		DIMENSIONSmm
 <p>DOUBLE PUSHBUTTON 2 FLUSH</p>	ITEM NO. : DB-8325 CONTACT CONFIGURATION : 1 N/O+ 1 N/C		
 <p>DOUBLE PUSHBUTTON 1 FLUSH 1 PROJECTING</p>	ITEM NO. : DB-8425 CONTACT CONFIGURATION : 1 N/O+ 1 N/C		


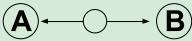
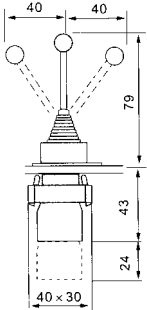

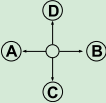

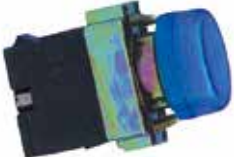
Ø22mm

PICTURE	ITEM NO. & DESCRIPTION	DIMENSIONSmm
 <p>DOUBLE PUSHBUTTON WITH PILOT LIGHT NEON BULB 2 FLUSH</p>	<p>ITEM NO. : DB-8365 CONTACT CONFIGURATION :1 N/O+ 1 N/C ●PILOT LIGHT : AC 110V OR AC 220V BA9S NEON BULB</p>	
 <p>DOUBLE PUSHBUTTON WITH PILOT LIGHT NEON BULB 1 FLUSH 1PROJECTING</p>	<p>ITEM NO. : DB-8465 CONTACT CONFIGURATION :1 N/O+ 1 N/C ●PILOT LIGHT : AC 110V OR AC 220V BA9S NEON BULB</p>	
 <p>DOUBLE PUSHBUTTON WITH PILOT LIGHT LED BULB 2 FLUSH</p>	<p>ITEM NO. : DB-8375 CONTACT CONFIGURATION :1 N/O+ 1 N/C ●PILOT LIGHT : AC 110V OR AC 220V SUPPLY DIRECT THROUGH RESISTOR 24V BA9S LED BULB INCLUDED</p>	
 <p>DOUBLE PUSHBUTTON WITH PILOT LIGHT LED BULB 1 FLUSH 1PROJECTING</p>	<p>ITEM NO. : DB-8475 CONTACT CONFIGURATION :1 N/O+ 1 N/C ●PILOT LIGHT : AC 110V OR AC 220V SUPPLY DIRECT THROUGH RESISTOR 24V BA9S LED BULB INCLUDED</p>	






∅22mm

PICTURE	ITEM NO. & DESCRIPTION	COLOR
 <p>IDS-BW ILLUMINATED PUSH BUTTON NEON BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : IDS-BW ● CONTACT CONFIGURATION : 1 N/O , 1 N/C 1 N/O+ 1 N/C ● ACV : 110V, 220V, 380V BA9S NEON BULB 	<ul style="list-style-type: none"> ● RED ● YELLOW ● GREEN ● BLUE ○ WHITE
 <p>IRS-BW ILLUMINATED PUSH BUTTON LED BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : IRS-BW ● CONTACT CONFIGURATION : 1 N/O , 1 N/C 1 N/O+ 1 N/C ● ACV : 110V, 220V VIA INTEGRAL RESISTOR BA9S 24V LED BULB 	<ul style="list-style-type: none"> ● RED ● YELLOW ● GREEN ● BLUE ○ WHITE
 <p>SKOS-BK ILLUMINATED SELECTOR ACV : 110V , 220 , NEON BULB BA9S</p>	<p>2 POSITION STAY PUT</p>	<ul style="list-style-type: none"> ● CLEAR ● RED ● GREEN ● YELLOW ● BLUE
	<ul style="list-style-type: none"> ● ITEM NO. : SKOS-BK2 ● CONTACT CONFIGURATION : 1 N/O + 1 N/C 	
	<p>3 POSITION STAY PUT</p>	
	<ul style="list-style-type: none"> ● ITEM NO. : SKOS-BK3 ● CONTACT CONFIGURATION : 2 N/O 	
	<p>3 POSITION SPRING RETURN TO CENTER</p>	
<ul style="list-style-type: none"> ● ITEM NO. : SKOS-BK5 ● CONTACT CONFIGURATION : 2 N/O 		





⌀22mm

PICTURE	ITEM NO. & DESCRIPTION	DIMENSIONSmm
 JTB-PA JOYSTICK CONTROLLERS	<p>2 POSITION STAY PUT</p> <ul style="list-style-type: none"> ●ITEM NO. : JTB-PA12 ●CONTACT CONFIGURATION : 2 N/O <p>2 POSITION SPRING RETURN</p> <ul style="list-style-type: none"> ●ITEM NO. : JTB-PA22 ●CONTACT CONFIGURATION : 2 N/O 	
 JTB-PA JOYSTICK CONTROLLERS	<p>4 POSITION STAY PUT</p> <ul style="list-style-type: none"> ●ITEM NO. : JTB-PA14 ●CONTACT CONFIGURATION : 4 N/O <p>4 POSITION SPRING RETURN</p> <ul style="list-style-type: none"> ●ITEM NO. : JTB-PA 44 ●CONTACT CONFIGURATION : 4 N/O 	
 PILOT LAMP NEON BULB	ITEM NO. : CA-BVD ACV : 110V, 220V, BA9S NEON BULB	<ul style="list-style-type: none"> ● RED ● YELLOW ● BLUE ● GREEN ○ WHITE
 PILOT LAMP LED BULB	ITEM NO. : CA-BVR ACV : 110V, 220V, VIA INTEGRAL RESISTOR 24V LED BA9S BULB	


∅22mm

PICTURE	ITEM NO. & DESCRIPTION	COLOR
 FPB-EA FLAT PUSH BUTTON	ITEM NO. : FPB-EA1 CONTACT CONFIGURATION : 1 N/O	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : FPB-EA2 CONTACT CONFIGURATION : 1 N/C	● RED
 EPB-EL EXTENDED PUSH BUTTON	ITEM NO. : EPB-EL1 CONTACT CONFIGURATION : 1 N/C	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : EPB-EL2 CONTACT CONFIGURATION : 1 N/C	● RED
 MPB-EC ∅40mm MUSHROOM HEAD PUSH BUTTON SPRING RETURN	ITEM NO. : MPB-EC1 ∅40mm ITEM NO. : MPB-ER1 ∅60mm CONTACT CONFIGURATION : 1 N/O	● BLACK ● GREEN ● YELLOW ● BLUE
	ITEM NO. : MPB-EC2 ∅40mm ITEM NO. : MPB-ER2 ∅60mm CONTACT CONFIGURATION : 1 N/C	● RED
 LMB-ES MUSHROOM HEAD PUSH BUTTON LATCHING TURN TO RETURN	ITEM NO. : LMB-ES4 ∅30mm ITEM NO. : LMB-ES5 ∅40mm ITEM NO. : LMB-ES6 ∅60mm CONTACT CONFIGURATION : 1 N/C	● RED
 LMB-ET5 MUSHROOM HEAD PUSH BUTTON PUSH PULL SYAY PUT	ITEM NO. : LMB-ET5 ∅40mm CONTACT CONFIGURATION : 1 N/C	● RED

⌀22mm

PICTURE	ITEM NO. & DESCRIPTION		COLOR
 <p>LMB-EX MUSHROOM HEAD PUSH BUTTON LATCHING KEY RELEASE</p>	ITEM NO. : LMB-EX5 ⌀40mm ITEM NO. : LMB-EX6 ⌀60mm CONTACT CONFIGURATION : 1 N/C		 RED
 <p>SKOS-ED</p> <p>LKOS-EJ</p> <p>SELECTOR SWITCHES</p>	2 POSITION STAY PUT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-ED21		1 N/O
	ITEM NO. : LKOS-EJ21		1 N/O
	ITEM NO. : SKOS-ED25		1 N/O + 1 N/C
	ITEM NO. : LKOS-EJ25		1 N/O + 1 N/C
	3 POSITION STAY PUT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-ED33		1 N/O + 1 N/O
	ITEM NO. : LKOS-EJ33		1 N/O + 1 N/O
	2 POSITION SPRING RETURN FROM RIGHT TO LEFT		CONTACT CONFIGURATION
	ITEM NO. : SKOS-ED41		1 N/O
	ITEM NO. : LKOS-EJ41		1 N/O
	ITEM NO. : SKOS-ED45		1 N/O + 1 N/C
	ITEM NO. : LKOS-EJ45		1 N/O + 1 N/C
	3 POSITION SPRING RETURN TO CENTRE		CONTACT CONFIGURATION
	ITEM NO. : SKOS-ED53		1 N/O + 1 N/O
	ITEM NO. : LKOS-EJ53		1 N/O + 1 N/O
	3 POSITION SPRING RETURN FROM LEFT TO CENTRE		CONTACT CONFIGURATION
	ITEM NO. : SKOS-ED73		1 N/O + 1 N/O
ITEM NO. : LKOS-EJ73		1 N/O + 1 N/O	
3 POSITION SPRING RETURN FROM RIGHT TO CENTRE		CONTACT CONFIGURATION	
ITEM NO. : SKOS-ED83		1 N/O + 1 N/O	
ITEM NO. : LKOS-EJ83		1 N/O + 1 N/O	
 <p>SKL-EG KEY SWITCHES</p>	2 POSITION STAY PUT	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG41	LEFT AND RIGHT HAND POSITION	1 N/O
	ITEM NO. : SKL-EG45		1 N/O + 1 N/C
	ITEM NO. : SKL-EG21	LEFT HAND POSITION	1 N/O
ITEM NO. : SKL-EG25	1 N/O + 1 N/C		

⌀22mm

PICTURE	ITEM NO. & DESCRIPTION		
	3 POSITION STAY PUT	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG03	ALL POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-EG93	LEFT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-EG53	LEFT & RIGHT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-EG093	RIGHT HAND POSITION	1 N/O + 1 N/O
	ITEM NO. : SKL-EG33	CENTRE POSITION	1 N/O + 1 N/O
	2 POSITION SPRING RETURN FROM RIGHT TO LEFT	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG61	LEFT HAND POSITION	1 N/O
	ITEM NO. : SKL-EG65	LEFT HAND POSITION	1 N/O + 1 N/C
	3 POSITION SPRING RETURN FROM LEFT TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG13	CENTRE POSITION	1 N/O + 1 N/O
	3 POSITION SPRING RETURN FROM RIGHT TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG83	CENTRE POSITION	1 N/O + 1 N/O
	3 POSITION SPRING RETURN TO CENTRE	KEY WITHDRAWAL	CONTACT CONFIGURATION
	ITEM NO. : SKL-EG73	CENTRE POSITION	1 N/O + 1 N/O

SKL-EG
KEY SWITCHES

	ITEM NO. : PB-XBN VOLTAGE : 110V 220V AC COLOR : RED YELLOW GREEN BLUE		ITEM NO. : PB-XAN VOLTAGE : 1 N/O GREEN 1 N/C RED 1 N/O + 1 N/C BLACK RATE CAPACITY : 250V 3A AC
---	--	---	---




PILOT

PUSH BUTTON

CONTROL UNIT SERIES






⌀22mm

PICTURE	ITEM NO. & DESCRIPTION	PUSHBUTTON HEAD
 <p>DOUBLE PUSHBUTTON</p>	<p>ITEM NO. : DBE-8325 CONTACT CONFIGURATION : 1 N/O+ 1 N/C</p>	<p>2 FLUSH</p>
 <p>DOUBLE PUSHBUTTON</p>	<p>ITEM NO. : DBE-8425 CONTACT CONFIGURATION : 1 N/O+ 1 N/C</p>	<p>1 FLUSH 1 PROJECTING</p>
 <p>DOUBLE PUSHBUTTON WITH PILOT LIGHT</p>	<p>ITEM NO. : DBE-8365 CONTACT CONFIGURATION : 1 N/O+ 1 N/C PILOT LIGHT : AC 110V OR AC 220V BA9S NEON BULB</p>	<p>2 FLUSH</p>
	<p>ITEM NO. : DBE-8465 CONTACT CONFIGURATION : 1 N/O+ 1 N/C PILOT LIGHT : AC 110V OR AC 220V BA9S NEON BULB</p>	<p>1 FLUSH 1 PROJECTING</p>
	<p>ITEM NO. : DBE-8375 CONTACT CONFIGURATION : 1 N/O+ 1 N/C PILOT LIGHT : AC 110V OR AC 220V VIA INTEGRAL RESISTOR 24V LED BA9S BULB</p>	<p>2 FLUSH</p>
	<p>ITEM NO. : DBE-8475 CONTACT CONFIGURATION : 1 N/O+ 1 N/C PILOT LIGHT : AC 110V OR AC 220V VIA INTEGRAL RESISTOR 24V LED BA9S BULB</p>	<p>1 FLUSH 1 PROJECTING</p>

⌀22mm






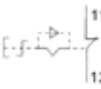

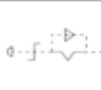
PICTURE	ITEM NO. & DESCRIPTION	COLOR
 <p>IDS-EW ILLUMINATED PUSH BUTTON NEON BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : IDS-EW ● CONTACT CONFIGURATION : 1 N/O , 1 N/C 1 N/O+ 1 N/C ● ACV : 110V, 220V, 380V BA9S NEON BULB 	
 <p>IRS-EW ILLUMINATED PUSH BUTTON LED BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : IRS-EW ● CONTACT CONFIGURATION : 1 N/O , 1 N/C 1 N/O+ 1 N/C ● ACV : 110V, 220V VIA INTEGRAL RESISTOR BA9S 24V LED BULB 	<ul style="list-style-type: none"> ● RED ● YELLOW ● GREEN ● BLUE ○ WHITE
 <p>PILOT LAMP NEON BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : CA-EVD ● ACV : 110V, 220V, BA9S NEON BULB 	
 <p>PILOT LAMP LED BULB</p>	<ul style="list-style-type: none"> ● ITEM NO. : CA-EVR ● ACV : 110V, 220V VIA INTEGRAL RESISTOR 24V LED BA9S BULB 	

∅22mm


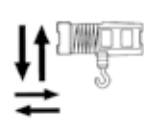





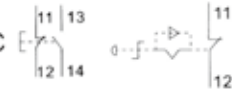





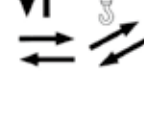
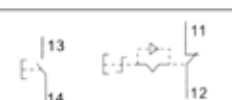
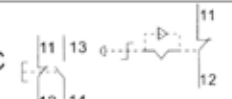




PICTURE	ITEM NO. & DESCRIPTION	COLOR
 ∅16 PILOT LIGHT	<ul style="list-style-type: none"> ● ITEM NO. : AD16-16 D/S ● LED TYPE ● VOLTAGE : AC/DC 6V, 12V, 24V, 36V, 48V, 110V, AC 220V, 380V DC 220V 	<ul style="list-style-type: none"> ● RED ● YELLOW ● BLUE ● GREEN ○ WHITE
 ∅12 PILOT LIGHT	<ul style="list-style-type: none"> ● ITEM NO.:AD212 ● LED TYPE ● VOLTAGE:AC/DC 6V, 12V, 24V, 110V, 220V, 	
 ∅10 PILOT LIGHT	<ul style="list-style-type: none"> ● ITEM NO.:AD210 ● LED TYPE ● VOLTAGE:AC/DC 6V, 12V, 24V, 110V, 220V, 	

PENDANT CONTROL STATIONS




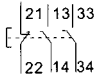
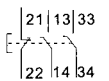



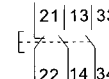
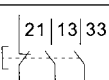



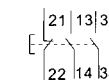
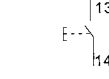



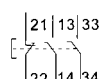
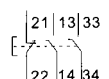
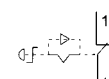
FOR CONTROL OF SINGLE-SPEED MOTORS

	FUNCTION	NUMBER OF OPERATORS	CONTACT BLOCKS AND SCHEME PER DIRECTION FOR "EMERGENCY STOP"	ITEM NO.	
 C-A2713		2 MECHANICALLY INTERLOCKED	1 N/O 	C-A271	
			1 N/O + 1 N/C 	C-A281	
		2 MECHANICALLY INTERLOCKED +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" ∅30mm OPERATOR	1 N/O 		C-A2713
			1 N/O + 1 N/C 		C-A2813

FOR CONTROL OF SINGLE-SPEED MOTORS

	FUNCTION	NUMBER OF OPERATORS	CONTACT BLOCKS AND SCHEME PER DIRECTION FOR "EMERGENCY STOP"	ITEM NO.
 C-A471		4 MECHANICALLY INTERLOCKED BETWEEN PAIRS	1 N/O 	C-A471
			1 N/O + 1 N/C 	C-A481
 C-A4713		4 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR	1 N/O 	C-A4713
			1 N/O + 1 N/C 	C-A4813
 C-A671		6 MECHANICALLY INTERLOCKED BETWEEN PAIRS	1 N/O 	C-A671
			1 N/O + 1 N/C 	C-A681
 C-A6713		6 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR	1 N/O 	C-A6713
			1 N/O + 1 N/C 	C-A6813
 C-A871		8 MECHANICALLY INTERLOCKED BETWEEN PAIRS	1 N/O 	C-A871
			1 N/O + 1 N/C 	C-A881
		8 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR		

FOR CONTROL OF 2-SPEED MOTORS

	FUNCTION	NUMBER OF OPERATORS	CONTACT BLOCKS AND SCHEME PER DIRECTION FOR "EMERGENCY STOP"	ITEM NO.
 C-A291	 	2 MECHANICALLY INTERLOCKED	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A291
		2 MECHANICALLY INTERLOCKED +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø30mm OPERATOR	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A2913
 C-A491	 	4 MECHANICALLY INTERLOCKED BETWEEN PAIRS	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A491
		4 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A4913
 C-A4923	 	4 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR	1 N/C + NO+NO STAGGERED(A) XEN-G1191	 C-A4923
		4 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø40mm OPERATOR	1 N/O	 C-A4923
 C-A691	 	6 MECHANICALLY INTERLOCKED	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A691
		6 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø30mm OPERATOR	1 N/C + NO+NO STAGGERED XEN-G1191	 C-A6913
		6 MECHANICALLY INTERLOCKED BETWEEN PAIRS +1 TRIGGER ACTION LATCHING "EMERGENCY STOP" Ø30mm OPERATOR	1 N/C	 C-A6913

ISO 9001:2000 **POWER
PUSHBUTTONS**

■ **PWN SERIES**

- STEEL CASE
- SURFACE MOUNTING



PWN-10A
3P 10A 1.5KW



PWN-15A
3P 15A
2.2KW



PWN-30A
3P 30A
3.75KW

■ **PWNS SERIES**

- STEEL CASE
- FLUSH MOUNTING FOR PANEL



PWNS-15A
3P 15A 2.2KW



PWNS-30A
3P 30A 3.75KW

φ22-Enclosures Without Control Units



Description	Order Code No
1 Element	CA-BX1
2 Elements	CA-BX2
3 Elements	CA-BX3
4 Elements	CA-BX4

Assembled Control Stations

Type	Push Button Operator Type	Button Color	Contact Arrangement	Order Code No
One Element 	Flush With Legend Plate Engraved "START"	Green	N O	CA-BX101
	40mm Mushroom Head Momentary Action "STOP"	Red	N C	CA-BX102
	40mm Mushroom Head Latch In, Twist To Release	Red	N C	CA-BX103
Two Elements 	"START" Flush P.B.	Green	N O	CA-BX201
	"STOP" Flush P.B.	Red	N C	
Three Elements 	"FORWARD" Flush	Black	N O	CA-BX301
	"REVERSE" Flush	Black	N O	
	"STOP" Flush	Red	N C	
	"UP" Flush	Black	N O	CA-BX302
	"DOWN" Flush	Black	N O	
	"STOP" Flush	Red	N C	
	"STOP" Flush	Red	N C	CA-BX303
	"START" Flush	Green	N O	
	"NEON" Flush	X X		

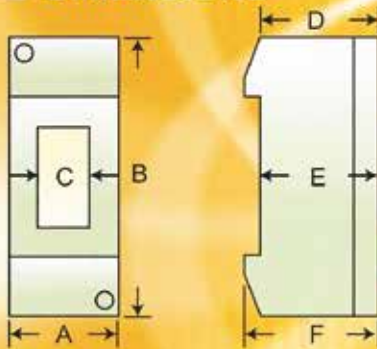
ISO9001: 2000

CONTROL STATION



Item No.	NUMBER OF POLES FOR C-45N, C60N, MCB F360 ELCB, RT18-32 FUSE BASE
CBX-1	1 POLE
CBX-2	2 POLES
CBX-3	3 POLES & 4 POLES COMMON USE

DIMENSIONS



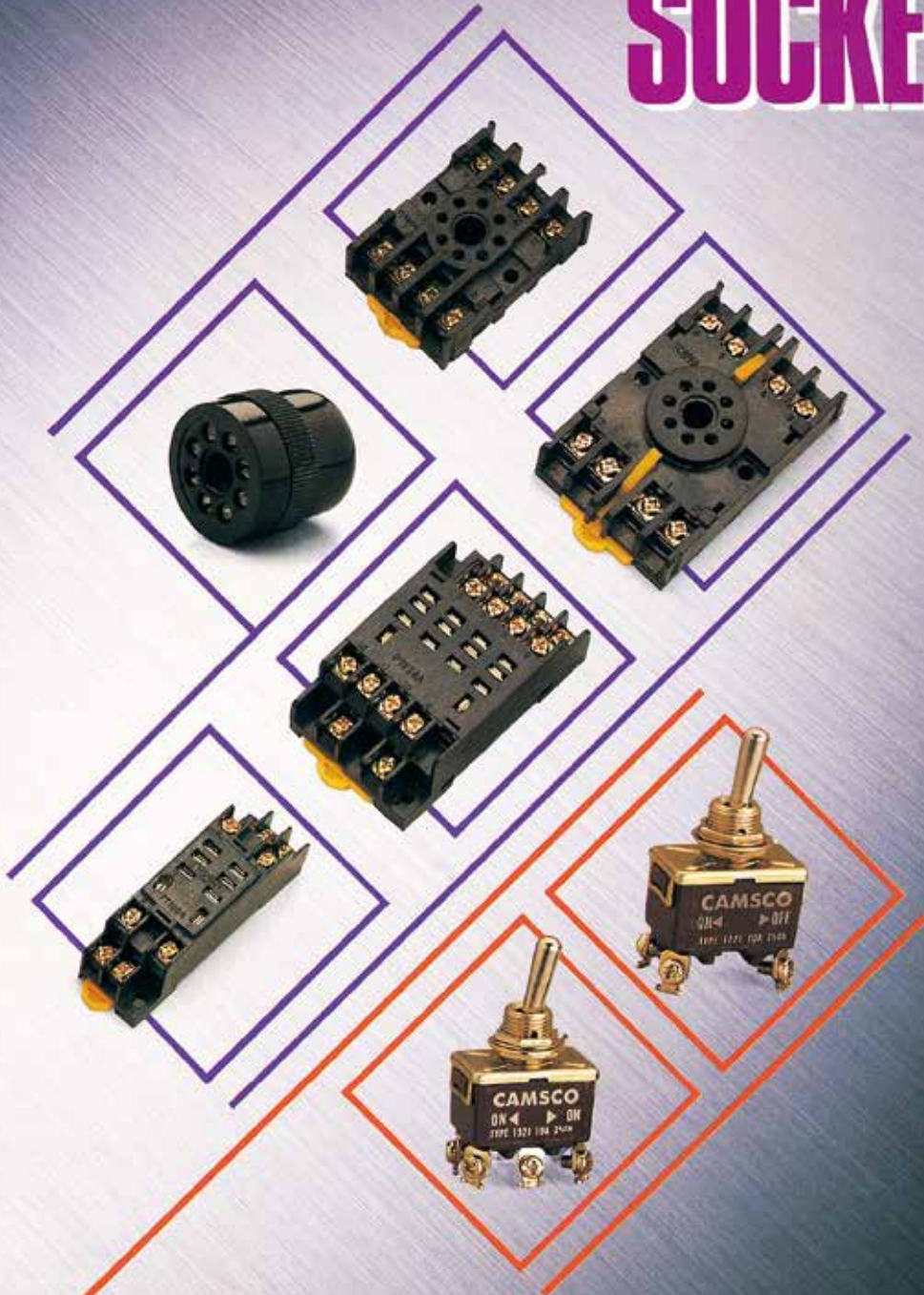
Item No.	Size					
	A	B	C	D	E	F
CBX-1	32	130	18	57	58	60.5
CBX-2	51.5	130	37	57	58	60.5
CBX-3	87	130	54	57	58	60.5

PILOT LIGHT AD16-22D/S (LED TYPE)

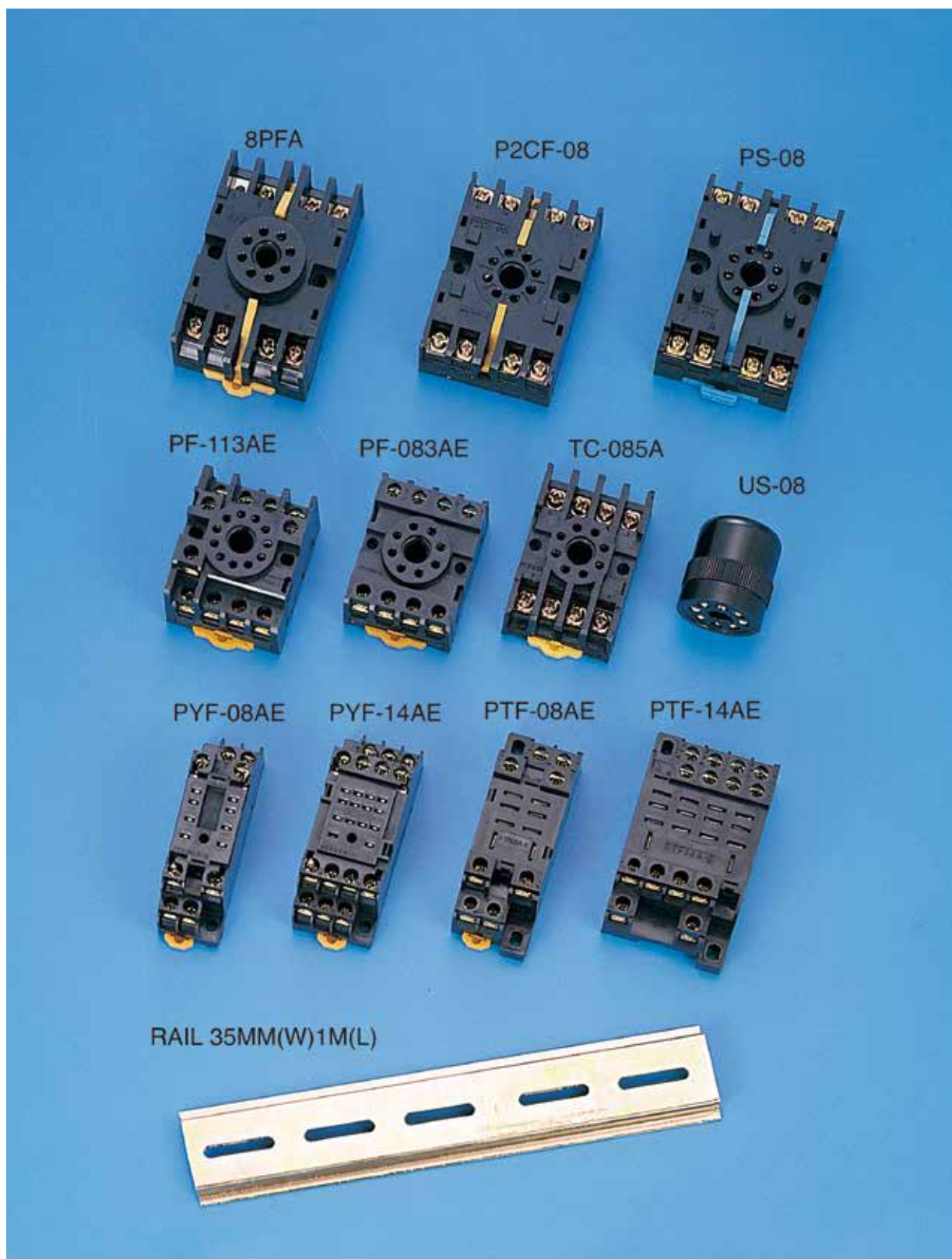
- ITEM NO : AD16-30D/S ϕ 30
AD16-22D/S ϕ 22
AND ϕ 25 common use
- VOLTAGE : AC/DC 6V, 12V, 24V, 36V,
48V, 110V
AC 220V, 380V
DC 220V
- COLOR : RED, YELLOW, BLUE, GREEN,
WHITE



SOCKET



SNAP SWITCH



unit: mm

NAME OF PRODUCT	DIMENSIONS	NAME OF PRODUCT	DIMENSIONS
	ITEM NO. 1021 AC250V 15A ON-OFF 		ITEM NO. 1121 AC250V 15A ON-ON
	ITEM NO. 1122 AC250V 15A ON-OFF-ON 		ITEM NO. 1221 AC250V 15A ON-OFF
	ITEM NO. 1322 AC250V 15A ON-OFF-ON 		ITEM NO. 1321 AC250V 15A ON-ON

WATER PROOF RING



WP-S

NAME PLATE



No. 1



No. 2



No. 3

TIMER



■ Features:

- Using CMOS IC, Accurate and stable operation.
- High repeat accuracy $\pm 1\%$.
- Short resetting time-100 msec. ax.
- Two LED's provides status indication, for power ON and time UP.
- Wide variety of type-14 time ranges. (0.1 sec. to 10 hrs.)
- Standard surface mounting could be easily converted into flush mounting by adding a special adaptor. (Type Y-40)

■ Available Types

MOUNTING	Surface Mounting	AH3-1	AH3-2	AH3-3
	Flush Mounting	with Y-40	with Y-40	with Y-40
CONTROL OUTPUT	Time-limit contact	SPDT (5A)	DPDT (5A)	SPDT (5A)
	Instantaneous contact	—	—	SPST-NO (5A)
Connection & Timing Chart		①	②	③

■ Specifications

OPERATING VOLTAGE	AC: 85-110% DC: 80-110% AC 85-110% of rated voltage. DC 80-110% of rated voltage.
RATED VOLTAGE	AC 110V, 220V, 240V, 50/60Hz. DC 12V, 24V
CONSUMED POWER	AC: 2VA DC: 2W About 2VA for AC. About 2W for DC.
CONTROL METHOD	Time-limit operation Self-resetting.
CONTACT RATING	AC 120V 5A. (p.f. = 1)
AMBIENT TEMP	-10°C ~ +55°C
AMBIENT HUMIDITY	45-85% RH

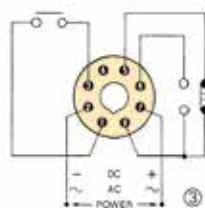
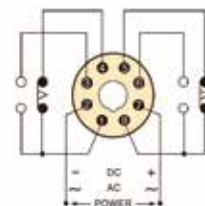
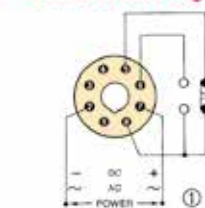
■ Characteristics

REPEAT ACCURACY	Less than $\pm 1\%$ of full scale.	
EFFECT OF VOLTAGE	Less than $\pm 1.0\%$	
EFFECT OF TEMP.	Less than $\pm 2\%$ at 20°C.	
SETTING ACCURACY	Less than $\pm 10\%$ of full scale.	
RESET TIME	Less than 0.1 Sec.	
INSULATION RESIS.	Over 50M Ω (DC500V)	
DIELECTRIC	AC 2000V one Min.	
WEIGHT	Approx. 160G.	
SHOCK RESISTANCE	Incorrect operate 10G.	
LIFE	MECHANICAL	5,000,000 operations.
	ELECTRICAL	100,000 operations at rated load.
VIBRATION RESISTANCE	Incorrect operate 10-55Hz 0.3mm. Durability 10-55Hz 0.5mm.	

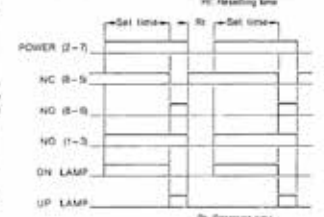
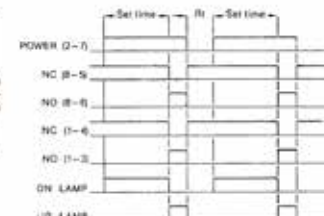
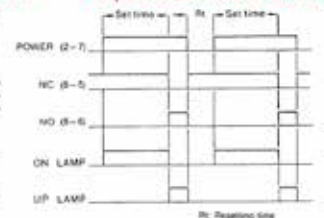
■ Time Range

Rated time	Time setting Range	Operating Voltage
1S	0.15 - 1S	DC 12V
3S	0.35 - 3S	
6S	0.65 - 6S	DC 24V
10S	1S - 10S	
30S	3S - 30S	AC 110V 50/60Hz
60S	6S - 60S	
3M	10S - 180S	AC 120V 50/60Hz
6M	20S - 6M	
10M	30S - 10M	AC 220V 50/60Hz
30M	2M - 30M	
60M	3M - 60M	AC 240V 50/60Hz
3H	10M - 3H	
6H	20M - 6H	30M - 10H
10H	30M - 10H	

■ Type ■ Connection Diagram



■ Operation Time Chart



M+Y RATED VOLTAGE 24V-240V AC/DC AVAILABLE

CHARACTERISTICS

- Exclusive CMOS IC assures high performance stability, and accuracy.
- 4 Time range can be changed with ease by merely exchanging DIP switch.
- Easy - to - monitor DIP switch positions,time series and operation voltage.
Five time series with wide timing ranges from 0.1 sec. to 30 hrs.
- Output contact: Time delay contacts 2C (DPDT) 10A.

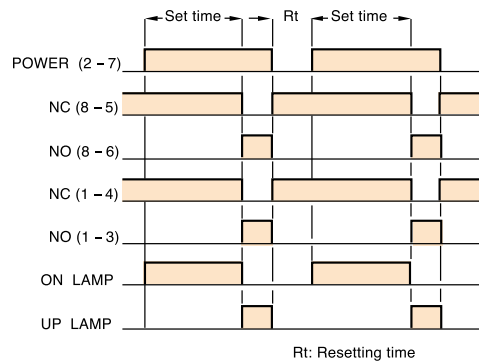


TIME RANGE

Four time are available for each timer by setting the DIP switches to required positions.

Time range series	Position of time range selector			
A	1S (0.05S-1S)	10S (0.1S-10S)	60S (0.5S-60S)	10M (10S-10M)
B	3S (0.05S-3S)	30S (0.5S-30S)	3M (1S-3M)	30M (30S-30M)
C	6S (0.1S-6S)	60S (0.5S-60S)	6M (1S-6M)	60M (30S-60M)
D	60S (0.5S-60S)	10M (10S-10M)	60M (30S-60M)	10H (10M-10H)
E	3M (1S-3M)	30M (30S-30M)	3H (3M-3H)	30H (1H-30H)

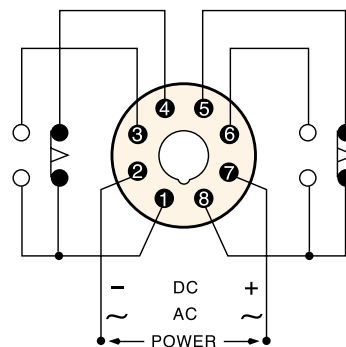
OPERATION TIME CHART



SPECIFICATIONS

RATED VOLTAGE	AC 110V, 220V, 380V, 440V, DC 12V, 24V,
Rated frequency	50/60Hz.
OPERATING VOLTAGE	AC 85-110% of rated voltage. DC 80-110% of rated voltage.
CONSUMED POWER	About 2VA FOR AC. About 2W FOR DC.
CONTROL METHOD	Time-limit operation Self-resetting
CONTACT RATING	250V AC 10A(P.F.=1)
AMBIENT TEMP.	-10°C~+55°C
AMBIENT HUMIDITY	45~85% RH

CONNECTION DIAGRAM



CHARACTERISTICS

- Exclusive CMOS IC assures high performance stability, and accuracy.
- High repeat accuracy $\pm 1\%$.
- Short resetting time-100 msec. ax.
- Wide variety of type-14 time ranges. (0.1 sec. to 10 hrs)
- 2 modes selectable via slide switch: Mode A(2C) for DPDT time-limiting output contacts and Mode B(1A1C) for SPDT instantaneous and time-limiting output contacts

TIME RANGE

Four time are available for each timer by setting the DIP switches to required positions.

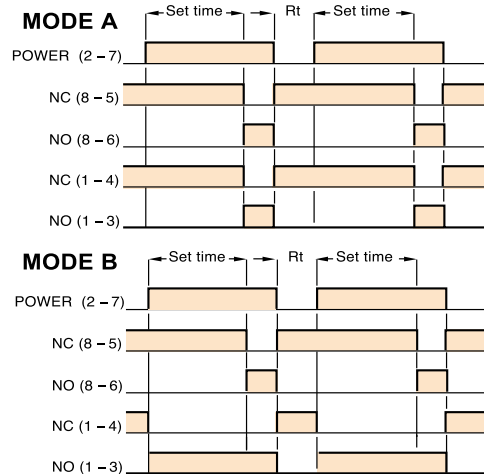
Time range / series	Position of time range selector			
	<input type="checkbox"/> 1 <input type="checkbox"/> S	<input type="checkbox"/> 10 <input type="checkbox"/> S	<input type="checkbox"/> 1 <input type="checkbox"/> M	<input type="checkbox"/> 10 <input type="checkbox"/> M
A	1S (0.05S-1S)	10S (0.1S-10S)	60S (0.5S-60S)	10M (10S-10M)
B	3S (0.05S-3S)	30S (0.5S-30S)	3M (1S-3M)	30M (30S-30M)
C	6S (0.1S-6S)	60S (0.5S-60S)	6M (1S-6M)	60M (30S-60M)
D	60S (0.5S-60S)	10M (10S-10M)	60M (30S-60M)	10H (10M-10H)
E	3M (1S-3M)	30M (30S-30M)	3H (3M-3H)	30H (1H-30H)

SPECIFICATIONS

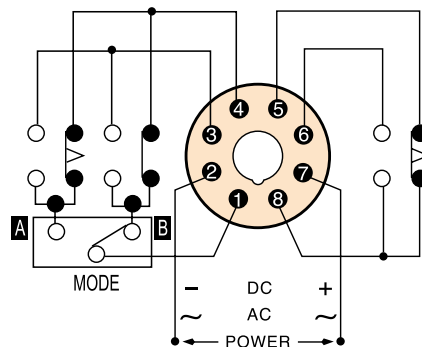
RATED VOLTAGE	AC 110V, 220V, 380V, 440V, DC 12V, 24V,
Rated frequency	50/60Hz.
OPERATING VOLTAGE	AC 85-110% of rated voltage. DC 80-110% of rated voltage.
CONSUMED POWER	About 2VA FOR AC. About 2W FOR DC.
CONTROL METHOD	Time-limit operation Self-resetting
CONTACT RATING	250V AC 10A(P.F.=1)
AMBIENT TEMP.	-10°C~+55°C
AMBIENT HUMIDITY	45~85% RH



OPERATION TIME CHART



CONNECTION DIAGRAM



CHARACTERISTICS

- Specially designed for induction motor starting.
- Change time (0.1-0.5 sec) from star(λ) to delta (Δ) is according to the requirement of the user.
- Short release time, suitable for fast repeat operating.
- Operating voltage optional from AC 110V to AC 440V.
- Two timing ranges: 30 sec. or 60 sec.



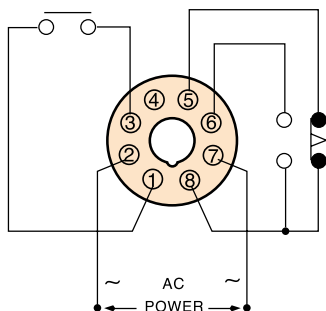
CHARACTERISTICS

REPEAT ACCURACY	Less than $\pm 1\%$ of full scale
EFFECT OF VOLTAGE	Less than $\pm 1.0\%$
EFFECT OF TEMP.	Less than $\pm 2\%$ at 20°C
SETTING ACCURACY	Less than $\pm 10\%$ of full scale
RESET TIME	Less than 0.3 Sec.
INSULATION RESIS.	Over 50 MΩ (DC500V)
DIELECTRIC	AC 2000V one Min.
VIBRATION	Incorrect operate 10-55Hz 0.3mm.
RESISTANCE	Durability 10-55Hz 0.5mm.
LIFE	MECHANICAL 5,000,000 times
	ELECTRICAL 200,000 times

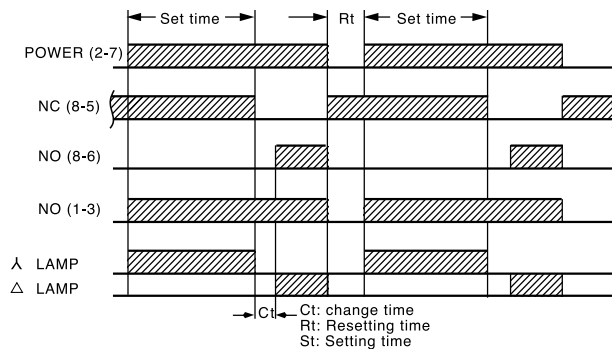
SPECIFICATIONS

RATED VOLTAGE	AC 110V, 220V, 380V, 415V, 440V.
RATED FREQUENCY	50/60Hz.
OPERATING VOLTAGE	AC 80-110% of rated voltage.
CONSUMED POWER	About 3VA for AC.
CONTROL METHOD	Time-limit operator Self-resetting
CONTACT RATING	AC 250V 5A. (p.f. = 1)
AWIBIENT TEMP.	-10°C ~ + 55°C
AMBIENT HUMIDITY	45 ~ 85% RH

CONNECTION DIAGRAM



OPERATION TIME CHART



FEATURES

- Exclusive CMOS IC assures high performance stability, and accuracy.
- 4 Time ranges can be changed with ease by merely exchanging DIP switch.
- EASY-to-monitor DIP switch positions, time series and operation voltage.
Five time series with wide timing ranges from 1 sec to 30 hrs.
- 2C delay or 1C delay with 1C instant combination obtainable by switching MODE A or MODE B

TIME RANGE

Four setting times are available for each timer by setting the DIP switches to required positions

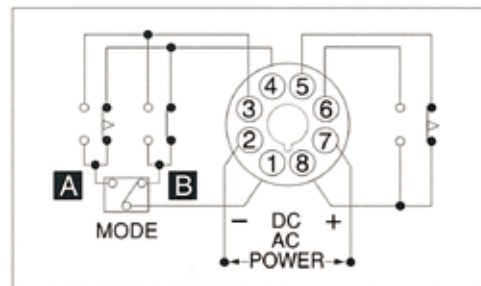
ITEM NO.	TIME RANGES
AH5B--A	1S-10S-1M-10M
AH5B--B	3S-30S-3M-30M
AH5B--C	1M-10M-1H-10H
AH5B--D	3M-30M-3H-30H
AH5B--E	6S-60S-6M-60M

SPECIFICATIONS

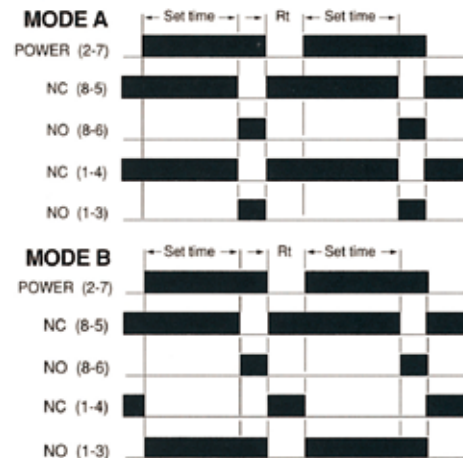
RATED VOLTAGE	A.C. 12V, 24V, 110V, 220V, 380V, D.C. 12V, 24V
MOUNTING & SOCKET	SURFACE : P2CF-08 FLUSH : US-08
CONTACT RATING	250VAC 5A(P.F.=1)
SETTING ERROR	10% max
REPEAT ERROR	1 % max
RESET TIME	0.1sec max
AMBIENT TEMP.	-10°C ~ 55°C
CONSUMED POWER	3VA



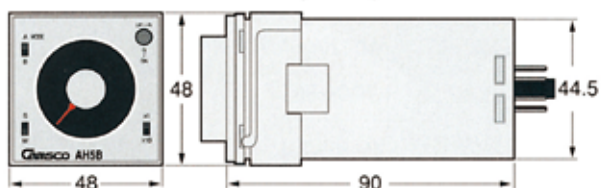
CONNECTION DIAGRAM



OPERATION TIME CHART



DIMENSIONS (mm)



CHARACTERISTICS

- Exclusive CMOS IC assures high performance stability, and accuracy.
- Output contact: Time delay contacts 1C(DPDT) 3A.
- Time setting range 99.99S~99H99M selectable by Front Panel.
- MINIATURE DIN-SIZE (48x48mm).

TIME RANGE

Timing range	Time setting range
Front panel selectable	0.01S~99.99S 1M~99M99S 1M~99H99M

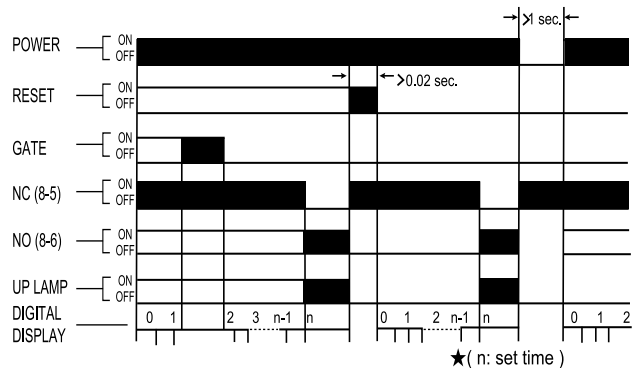
SPECIFICATIONS

REPEAT ACCURACY	Less than $\pm 1\%$ of full scale	
EFFECT OF VOLTAGE	$\pm 0.05\text{sec.}$	
EFFECT OF TEMP	Less than $\pm 2\%$ at 20°C	
SETTING ACCURACY	$\pm 5\%$ \pm Power frequency error	
RESET TIME	Less than 0.5sec.	
INSULATION RESIS	50M Ω . min (at AC 500v)	
DIELECTRIC	AC 2000V one Min.	
WEIGHT	Approx. 250g DC. 300g AC.	
SHOCK RESISTANCE	Incorrect operations 10G.	
LIFE	MECHANICAL	5,000,000 operations.
	ELECTRICAL	100,000 operations at rated load.

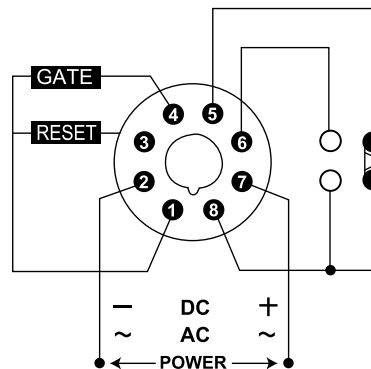
OPERATING VOLTAGE	AC 85-100% of rated voltage. DC 80-110% of rated voltage.
RATED VOLTAGE	AC 110V, 220V, 240V, 50/60Hz DC 12V, 24V
CONSUMED POWER	AC: 3VA DC: 2W About 3VA for AC. About 2W for DC.
CONTACT RATING	AC 250V 3A (p.f. =1)
AMBIENT TEMP	$-10^\circ\text{C} \sim +50^\circ\text{C}$
AMBIENT HUMIDITY	45~85% RH



OPERATION TIME CHART



CONNECTION DIAGRAM



PICTURE	ITEM NO. (OPERATION TIME CHART)	CONTACT RATING	CONTROL OUTPUT		TIME RANGE	SPECIFICATIONS
			TIME-LIMIT CONTACT	INSTANTANEOUS CONTACT		
	EH-5110A (fig.1)	250V AC. 5A (P.F=1)	SPDT	—	1S, 3S, 6S, 10S, 30S, 60S, 3M, 6M, 10M, 30M, 60M, 3H, 6H, 10H.	<ul style="list-style-type: none"> • RATED VOLTAGE: AC 24V, 110V, 220V, 380V DC 12V, 24V • AC/DC 12 - 240V • OPERATION TIME CHART:
	EH-5120A (fig.2)		DPDT	—		
	EH-5130A (fig.3)		SPDT	SPDT		
	EH-5110B (fig.1)	250V AC. 16A (P.F=1)	SPDT	—		
	EH-5120B (fig.2)		DPDT	—		
	EH-5130B (fig.3)		SPDT	SPDT		
	EH-5210A (fig.1)	250V AC. 5A (P.F=1)	SPDT	—	Two time ranges second/minute selectable: 1S/1M, 3S/3M, 6S/6M, 10S/10M, 60S/60M	<ul style="list-style-type: none"> • RATED VOLTAGE: AC 24V, 110V, 220V, 380V DC 12V, 24V • AC/DC 12 - 240V • OPERATION TIME CHART:
	EH-5220A (fig.2)		DPDT	—		
	EH-5230A (fig.3)		SPDT	SPDT		
	EH-5210B (fig.1)	250V AC. 16A (P.F=1)	SPDT	—		
	EH-5220B (fig.2)		DPDT	—		
	EH-5230B (fig.3)		SPDT	SPDT		
	EH-521A□←Time series (fig.1)	250V AC. 5A (P.F=1)	SPDT	—	<ul style="list-style-type: none"> • Time series□: A: 1S/10S/1M/10M B: 3S/30S/3M/30M C: 6S/60S/6M/60M D: 1M/10M/1H/10H E: 3M/30M/3H/30H 	
	EH-522A□←Time series (fig.2)		DPDT	—		
	EH-521B□←Time series (fig.1)	250V AC. 16A (P.F=1)	SPDT	—		
	EH-522B□←Time series (fig.2)		DPDT	—		
	EH-5410A (fig.4)	250V AC. 5A (P.F=1)	SPDT	—	<ul style="list-style-type: none"> • Circulation mode • Two time ranges second/minute selectable: 1S/1M, 3S/3M, 6S/6M, 10S/10M, 60S/60M 	
	EH-5420A (fig.5)		DPDT	—		
	EH-5410B (fig.4)	250V AC. 16A (P.F=1)	SPDT	—		
	EH-5420B (fig.5)		DPDT	—		
	EH-532A□←Time series (fig.2 & fig.3)	250V AC. 5A (P.F=1)	<ul style="list-style-type: none"> • A/B output mode selectable. • A mode: time limit contact DPDT (fig.2) 		<ul style="list-style-type: none"> • Time series□: A: 1S/10S/1M/10M B: 3S/30S/3M/30M C: 6S/60S/6M/60M D: 1M/10M/1H/10H E: 3M/30M/3H/30H 	
	EH-532B□←Time series (fig.2 & fig.3)	250V AC. 16A (P.F=1)	<ul style="list-style-type: none"> • B mode: time limit contact SPDT and instantaneous contact SPDT (fig.3) 			<ul style="list-style-type: none"> • Four time ranges are available for each series

fig.1

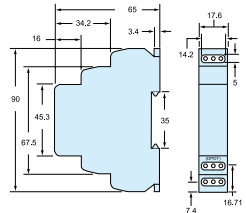
fig.2

fig.3

fig.4

fig.5

• DIMENSIONS (mm)



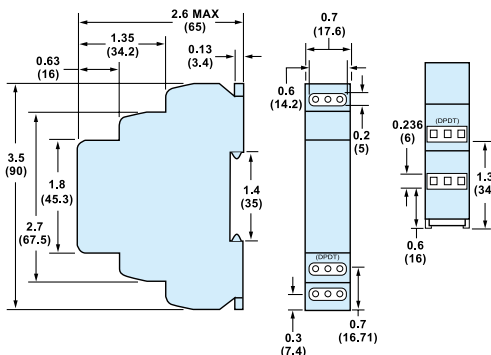
• MOUNTING METHODS:
BY DIN RAIL (35 mm)



FUNCTION

Function	Operation	Timing Chart
A. ON DELAY Power On	When the input voltage U is applied, timing delay t begins. Relay contacts R change state after time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.	
B. REPEAT CYCLE Starting Off	When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t . This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.	
C. INTERVAL Power On	When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelf state. Trigger switch is not used in this function.	
D. OFF DELAY S Break	Input voltage U must be applied continuously- When trigger S is closed, relay contacts R change state. When trigger S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger S is closed before time delay t is complete, then time is reset. When trigger S is opened, the delay begins again, and relay contacts remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.	
E. RETRIGGERABLE ONE SHOT	Upon application of input voltage U , the relay is ready to accept trigger signal S . Upon application of the trigger signal S , the relay contacts R transfer and the preset time t begins. At the end of the preset time t , the relay contacts R return to their normal condition unless the trigger signal S is opened and closed prior to time out t (before preset time elapses). Continuous cycling of the trigger signal S at a rate faster than the preset time will cause the relay contacts R to remain closed. If input voltage U is removed, relay contacts R return to their shelf state.	
F. REPEAT CYCLE Starting On	When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t . This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.	
G. PULSE GENERATOR	Upon application of input voltage U , a single output pulse of 0.5 seconds is delivered to relay after time delay t . Power must be removed and reapplied to repeat pulse. Trigger switch S is not used in this function.	
H. ONE SHOT	Upon application of input voltage U , the relay is ready to accept trigger signal S . Upon application of the trigger signal S , the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger signal S when the delay is not energized.	
I. ON/OFF DELAY S Make/Break	Input voltage U must be applied continuously. When trigger S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger S is opened. If input voltage U is removed, relay contacts R return to their shelf state.	
J. MEMORY LATCH S Make	Input voltage U must be applied continuously- Output changes state with every trigger S closed. If input voltage U is removed, relay contacts R return to their shelf state.	

DIMENSIONS INCHES (MILLIMETERS)



FEATURES

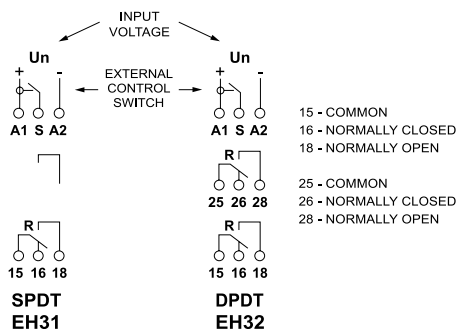
- Up to 10 Functions
- Time Range : 0.1 sec to 10 days
- Contact Configuration : SPDT (EH31)
DPDT (EH32)
- Universal Power Supply : 12V to 240V AC/DC
- 2 LED Status Indicators
- Only 17.5 mm Wide
- Din Rail Mountable

SPECIFICATIONS

OUTPUT CHARACTERISTICS		
Number and type of contacts	SPDT or DPDT	
Contact material	Silver alloy	
Current rating	15 A @ 240 V AC, 24 VDC 240 V 50/60 Hz 24 VDC	
Switching voltage	1/2 HP @ 120 V 50/60 Hz 1 HP @ 240 V 50/60 Hz B300 pilot duty	
Minimum switching requirement	100 mA	
Indication	Red LED	
INPUT CHARACTERISTICS		
voltage range	12 to 240 V 50/60 Hz/VDC	
Operating range (% of nominal)	85% to 110%	
Maximum consumption	3 VA (AC) 1.7 W (DC)	
Indication	Green LED	
TIMING CHARACTERISTICS		
Functions available	10	
Time scales	10	
Time ranges	0.1 sec to 10 days	
Tolerance (mechanical setting)	5%	
Repeatability (constant voltage and temperature)	0.2%	
Reset time (maximum)	150 ms	
Trigger pulse length (minimum)	50 ms	
PERFORMANCE CHARACTERISTICS		
Electrical life (operations @ rated current)	100,000 cycles (resistive)	
Mechanical life (unpowered)	10,000,000 cycles	
Dielectric strength	Input to contacts	2500 VAC
	Between open contacts	1000 VAC
Terminal wire capacity	14 AWG (2.1 mm ²)	
Terminal torque (maximum)	7.1 lbf/in (0.8 Nm)	
ENVIRONMENT		
Ambient air temperature	Storage	-30 to +70 °C (-22 to +158 °F)
	Operation	-20 to +55 °C (-4 to +131 °F)
Degree of protection		IP 20

RELAY CONTACT 15A	LOAD				
		AC1	AC3	AC15	DC1 (24/110/220V)
AgNi	1000W	4000 VA	0.9 kW	750 VA	15 A/0.5A/0.35 A

WIRING DIAGRAMS



CHARACTERISTICS

- Exclusive CMOS IC assures high performance stability, and accuracy.
- High repeat accuracy $\pm 1\%$.
- Short resetting time-100 msec. ax.

AVAILABLE TYPES

TYPE	CONTROL OUTPUT		
	Time- limit contact	Instantaneous contact	
CH3-D1	SPDT	--	
CH3-D2	DPDT	--	
CH3-D3	SPDT	SPDT	
CH3-AB (Two modes selectable)	mode A	DPDT	--
	mode B	SPDT	SPDT

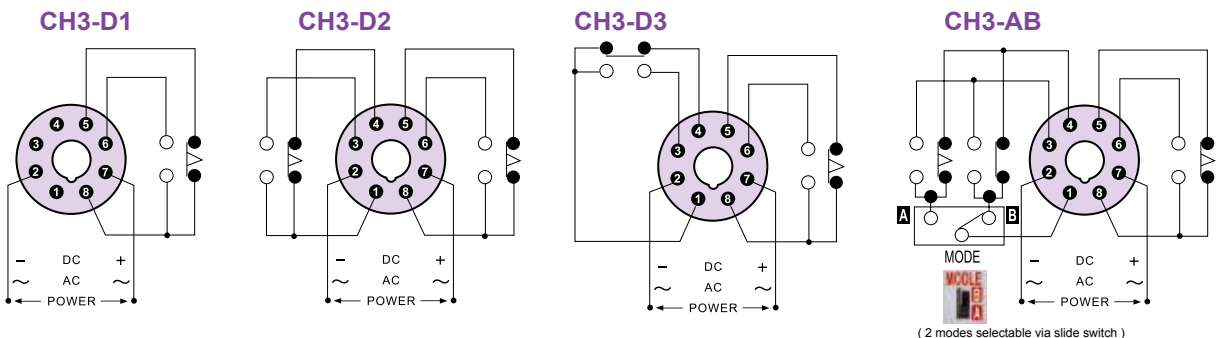
TIME RANGE

TIME SETTING RANGE	
0.01s~990H	(3 push wheel time setting switches)
1~99S	(2 push wheel time setting switches)
1~99M	(2 push wheel time setting switches)
1~99H	(2 push wheel time setting switches)

SPECIFICATIONS

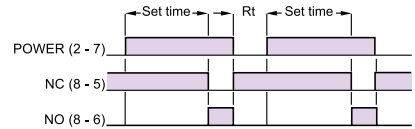
RATED VOLTAGE	AC 110V, 220V, 380V, 440V, DC 12V, 24V,
Rated frequency	50 / 60Hz.
OPERATING VOLTAGE	AC 85-100% of rated voltage. DC 80-110% of rated voltage.
CONSUMED POWER	About 2VA FOR AC. About 2W FOR DC.
CONTROL METHOD	Time-limit operation Self-resetting
CONTACT RATING	250V AC 10A (P.F=1)
AMBIENT TEMP.	-10°C ~ +55°C
AMBIENT HUMIDITY	45 ~85% RH

CONNECTION DIAGRAM

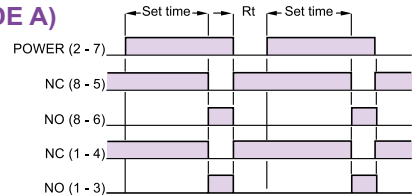


OPERATION TIME CHART

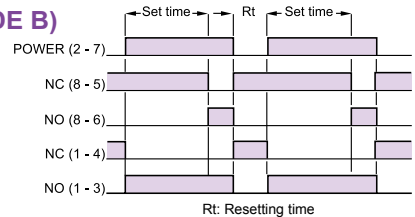
• CH3-D1



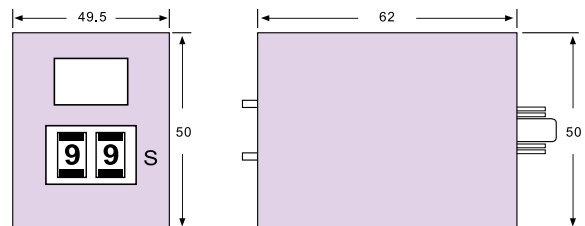
• CH3-D2 • CH3-AB (MODE A)



• CH3-D3 • CH3-AB (MODE B)



DIMENSIONS (mm)



MAIN FEATURES

- The VP-002 is a range of phase failure/phase sequence/under voltage/overvoltage protection relays to continuously monitor AC power supplies both single phase and three phase.
- Output relay will operate to ON (pin 1 & pin 3 close) when power is applied to the unit normally, and simultaneously detect if supplied power voltages (single or three phase) are within the set voltage range, and phase in correct sequence for three phase type.
- 5% to 20% Knob-adjustable separately for over voltage and under voltage. If voltage is over or under than the setting voltage for over 3 second, then the output relay will be released to its original position (pin 1 & pin 4 close).

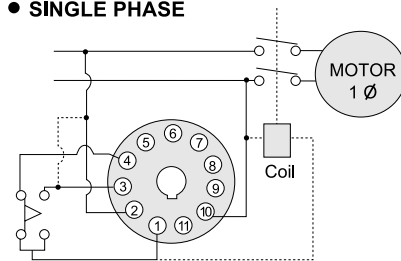


SPECIFICATIONS

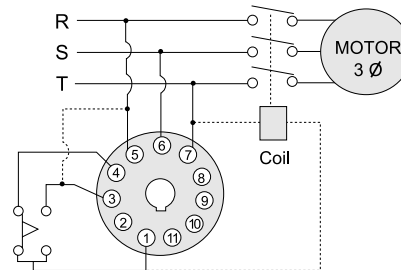
ITEM NO.	VP-002-1 SINGLE PHASE	VP-002-3 THREE PHASE
RATED VOLTAGE	AC 110V, 220V, 230V 380V, 415V, 440V	AC 220V, 230V, 380V 415V, 440V
FREQUENCY	50 or 60 Hz	
RESPONSE TIME OF RELAY	DELAY ON : 0.5 Sec DELAY OFF : 3 Sec	
CONTACT RATING	250V AC 5A (P.F. =1)	
MOUNTING & SOCKET	SURFACE : PF-113AE	
RESET TIME	0.2 Sec Max.	
AMBIENT TEMP.	-10°C ~ -55°C	
SETTING ERROR	±10% MAX.	
REPEAT ERROR	± 2 % MAX.	
VOLTAGE ERROR	± 2 % MAX.	
TEMP. ERROR	± 2 % MAX.	

CONNECTION DIAGRAM

● SINGLE PHASE

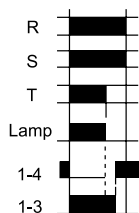


● THREE PHASE

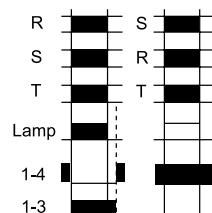


OPERATION CHART

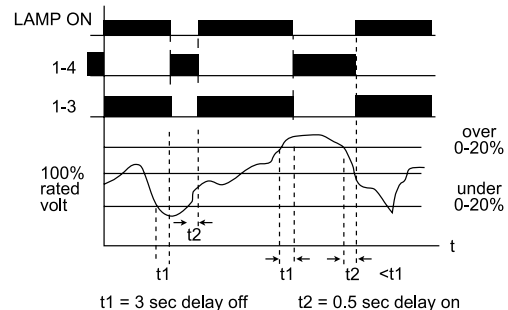
A. Phase Failure



B. Phase sequence



C. Over & under voltage



CHARACTERISTICS

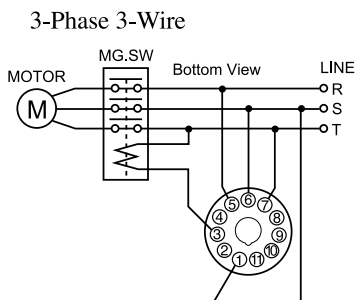
- Only operational with correct power source voltage and phase sequence
- Suitable for main power source and motor starter circuit to prevent damage from insufficient phase or phase reversal
- Out-of-phase detection while the motor operating



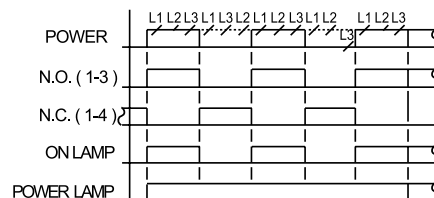
SPECIFICATIONS

Operating voltage	AC(V) : 110, 220, 240, 380, 415, 440
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50°C
Ambient humidity	MAX 85%RH

CONNECTION DIAGRAM



TIMING CHART





■ MAIN FEATURES

The VP-001 is a range of voltage protection relays to continuously monitor AC power supplies both single phase and 3 phase. When the voltage moves outside either of the adjustable set limits, the internal relay is operated.

This, therefore, enables a single unit to give voltage protection for a particular application.

The VP-001 series is available in different models and are supplied in DIN standard cases which mount directly onto DIN rail.

The VP-001 series of Voltage Protection relays is available in the following models:

Item No. **VP-001/1** Over and under voltage protection - 3 phase 4 wire
The internal relay is energised only when the supply is within the adjustable limits which are settable between - 5% and + 20%. This unit provides both

Item No. **VP-001/2** Over and under voltage protection - 3 phase 3 wire
The internal relay is energised only when the supply is within the adjustable limits which are settable between - 5% and + 20%. This unit provides both

Item No. **VP-001/3** Over and under voltage protection - single phase
The internal relay is energised only when the supply is within the adjustable limits which are settable between - 5% and + 20%. This unit provides both

■ CHARACTERISTICS

Burden:	4 VA at nominal volts
Difference:	Approx. 2%
Contact rating (max):	5A 250V (non inductive)
Contact life:	10 ⁸ at full load rating
Temperature range:	0°C to 60°C
Dielectric:	AC 2000V one Min
Change over contacts:	1A1B or 2A2B
Fixing:	To standard 35mm DIN rail

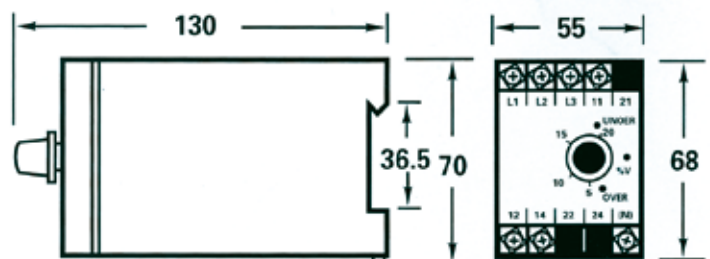
■ SPECIFICATION

Nominal Voltage	1ph inputs 120, 220, 240, 50/60Hz 3ph 3w inputs 380 or 415v L-L 3ph 4w inputs 120, 220, 240. L-N.
Max. voltage temperature dependence	nominal + 30%. Less than 1% change of setting for 10°C change.
Calibrated speed	±5% to ±20% of nominal volts.

■ ORDERING INFORMATION

1. Item No.
2. Nominal input voltage and frequency.
3. Input system - 1ph, 3ph3w or 3ph4w.
4. Single or double pole change-over contacts

■ DIMENSIONS/mm





■ MAIN FEATURES

The PF-001 relay is designed to continuously monitor 3 phase power supplies and protect against—

- * Phase failure
- * Incorrect phase sequence (rotation)
- * Symmetrical undervoltage
- * Asymmetrical undervoltage

The internal relay remains energised and the LED is illuminated only when the power system is satisfactory for connection to 3 phase motors or other 3 phase equipment. The internal relay will also de-energise on asymmetrical undervoltages which often occur when a fuse goes open with a motor or transformer on line, providing that the "ghost" voltage does not exceed 75% of the nominal.

■ CHARACTERISTICS

Burden:	4 VA at nominal volts
Difference:	Approx. 2%
Contact rating (max):	5A 250V (non inductive)
Contact life:	10 ⁴ at full load rating
Temperature range:	0°C to 60°C
Dielectric:	AC 2000V one Min
Change over contacts:	1A1B or 2A2B
Fixing:	To standard 35mm DIN rail

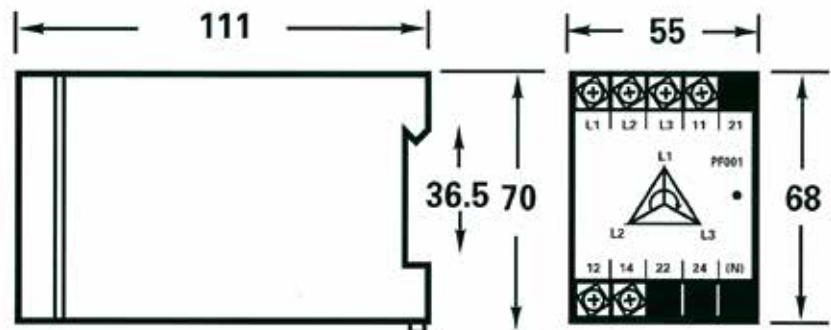
■ ORDERING INFORMATION

1. Item No.
2. Nominal L-L volts and frequency
3. Single or double pole change-over contacts.

■ SPECIFICATION

Nominal Voltage	380V or 415V L-L, 50 or 60Hz
Max voltage	Nominal + 15%
Min voltage	Factory pre set to de-energise at 85% nominal

■ DIMENSIONS/mm





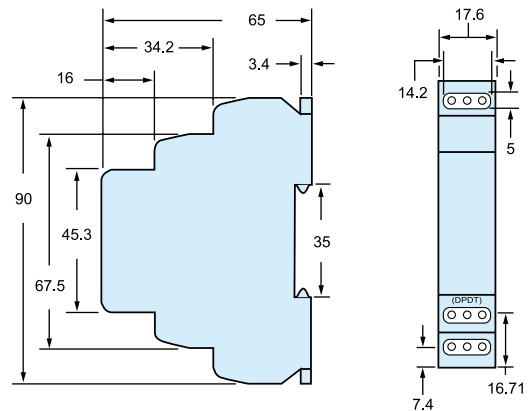
TECHNICAL DATA

- The VP-003 is a range of phase failure/phase sequence/under voltage/over voltage protection relays to continuously monitor AC power supplies both single phase and three phase.
- Output relay will operate to ON (terminal 25 & terminal 28 close) when power is applied to the unit normally, and simultaneously detect if supplied power voltages (single or three phase) are within the set voltage range, and phase in correct sequence for three phase type.
- 5% to 20% Knob-adjustable separately for over voltage and under voltage. If voltage is over or under than the setting voltage for over 3 seconds, then the output relay will be released to it's original position (terminal 25 & terminal 26 close).

SPECIFICATIONS

ITEM NO.	VP-003-1 SINGLE PHASE	VP-003-3 THREE PHASE
RATED VOLTAGE	AC 110V, 220V, 230V, 380V, 415V, 440V	AC 220V, 230V, 380V, 415V, 440V
FREQUENCY	50 or 60Hz	
RESPONSE TIME OF RELAY	DELAY ON: 0.5 Sec DELAY OFF: 3 Sec	
CONTACT RATING	AC15: 250V AC 3A	
RESET TIME	0.2 Sec Max.	
AMBIENT TEMP.	-10°C ~ -55°C	
SETTING ERROR	± 10% MAX.	
REPEAT ERROR	± 2% MAX.	
VOLTAGE ERROR	± 2% MAX.	
TEMP. ERROR	± 2% MAX.	

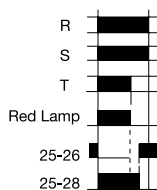
DIMENSIONS (mm)



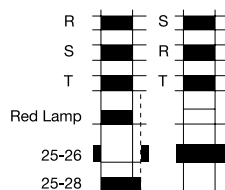
★ MOUNTING METHODS: BY DIN RAIL (35mm)

OPERATION CHART

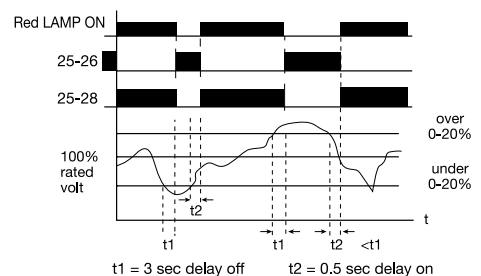
A. Phase Failure



B. Phase sequence



C. Over & under voltage



★ Green Lamp: Power Supply On



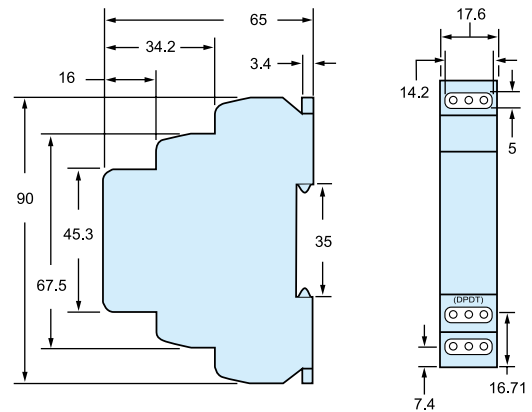
TECHNICAL DATA

- The VP-005 is a range of phase failure/phase sequence/under voltage/over voltage protection relays to continuously monitor AC power supplies both single phase and three phase.
- Output relay will operate to ON (terminal 25 & terminal 28 close) when power is applied to the unit normally, and simultaneously detect if supplied power voltages (single or three phase) are within the set voltage range, and phase in correct sequence for three phase type.
- 5% to 20% Knob-adjustable separately for over voltage and under voltage. If voltage is over or under than the setting voltage for over 1-10 sec (adjustable), then the output relay will be released to it's original position (terminal 25 & terminal 26 close).

SPECIFICATIONS

ITEM NO.	VP-005-1 SINGLE PHASE	VP-005-3 THREE PHASE
RATED VOLTAGE	AC 110V, 220V, 230V, 380V, 415V, 440V	AC 220V, 230V, 380V, 415V, 440V
FREQUENCY	50 or 60 Hz	
RESPONSE TIME OF RELAY	DELAY ON: 0.5 Sec DELAY OFF: 1~10 Sec adjustable	
CONTACT RATING	AC15: 250V AC 3A	
RESET TIME	0.2 Sec Max.	
AMBIENT TEMP.	-10°C ~ -55°C	
SETTING ERROR	± 10% MAX.	
REPEAT ERROR	± 2% MAX.	
VOLTAGE ERROR	± 2% MAX.	
TEMP. ERROR	± 2% MAX.	

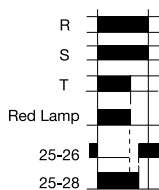
DIMENSIONS (mm)



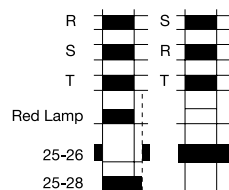
★ MOUNTING METHODS: BY DIN RAIL (35mm)

OPERATION CHART

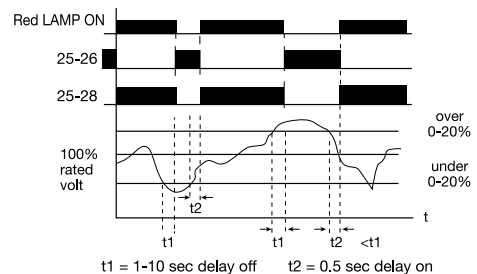
A. Phase Failure



B. Phase sequence



C. Over & under voltage



★ Green Lamp: Power Supply On

TECHNICAL DATA

- The VP-006 is a range of phase failure/ under voltage/ over voltage protection relays to continuously monitor AC power supplies both single phase and three phase.
- Knob-adjustable separately for over voltage and under voltage. If voltage is over or under than the setting voltage for over 0.1-10 sec (adjustable), then the output relay will be released.
- Indicators

Power supply ON(Un)	Green indicator
Output ON	Red indicator
Under voltage limit(U<)	Red indicator
Over voltage limit(U>)	Red indicator

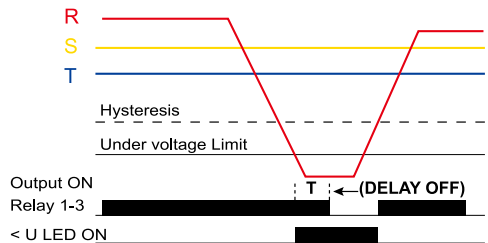
SPECIFICATIONS

ITEM NO.	VP-006
RATED VOLTAGE	THREE PHASE / SINGLE PHASE 220V/127V AC, 380V/220V AC, 400V/230V AC, 415V/240V AC
FREQUENCY	50/60HZ
SETTING RANGES	UNDER VOLTAGE LIMIT 78%-98% OVER VOLTAGE LIMIT 102%-122% DELAY OFF T 0.1 sec. ~ 10 sec.
HYSTERESIS	<1% of rated voltage
CONTACT RATING	AC 250V 5A (P.F.=1)
SETTING ERROR	± 10%
AMBIENT TEMP.	-5°C ~ 55°C
AMBIENT HUMIDITY	MAX 85% RH
DIMENSIONS (mm.)	34 (w) x 80 (h) x 90 (d)
MOUNTING & SOCKET	SURFACE MOUNTING SOCKET: PF-113AE

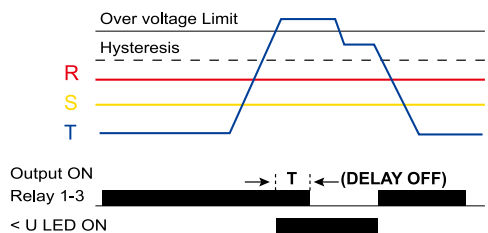


OPERATION CHART

Under Voltage function

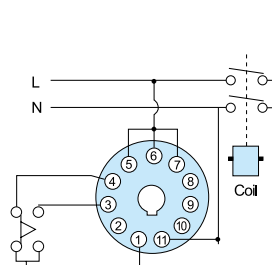


Over voltage function

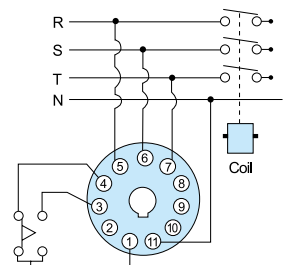


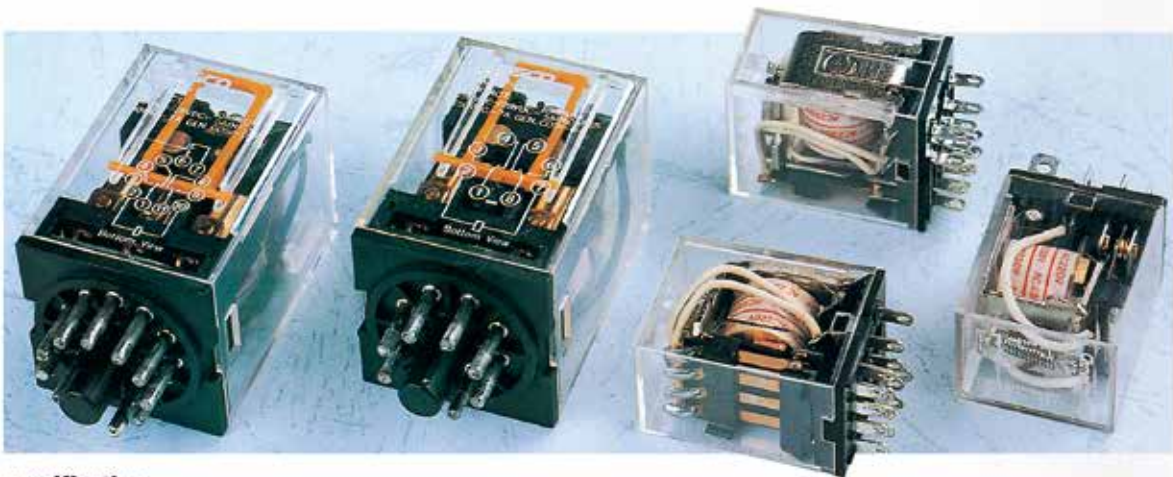
WIRING CONNECTION DIAGRAM

• SINGLE PHASE



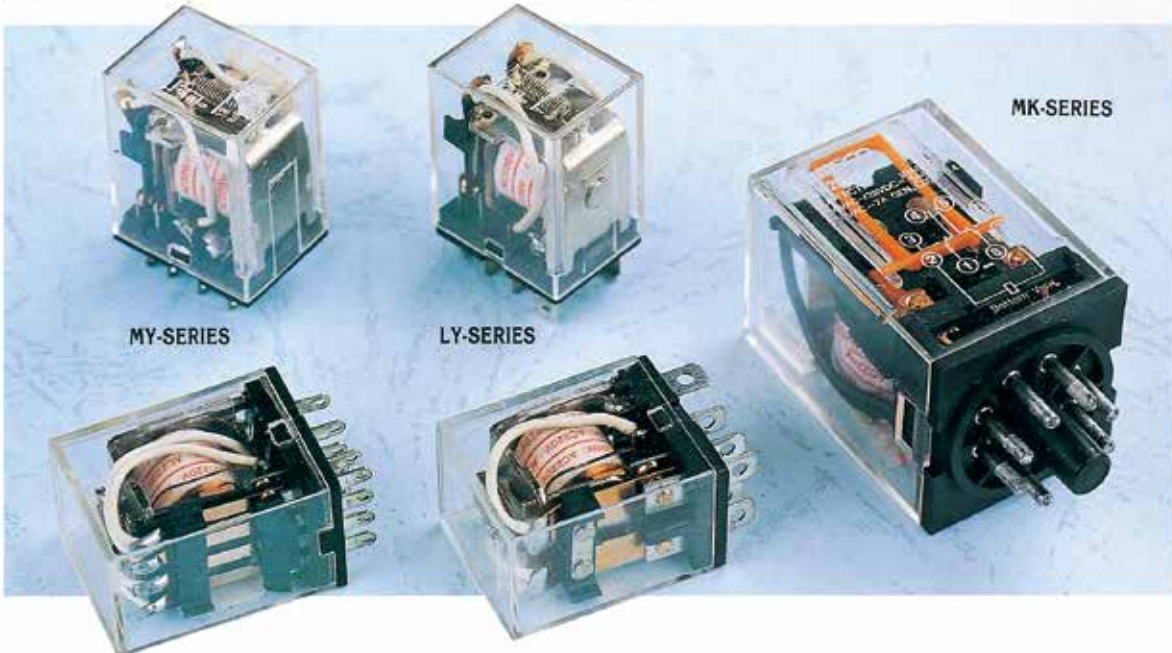
• THREE PHASE





specification

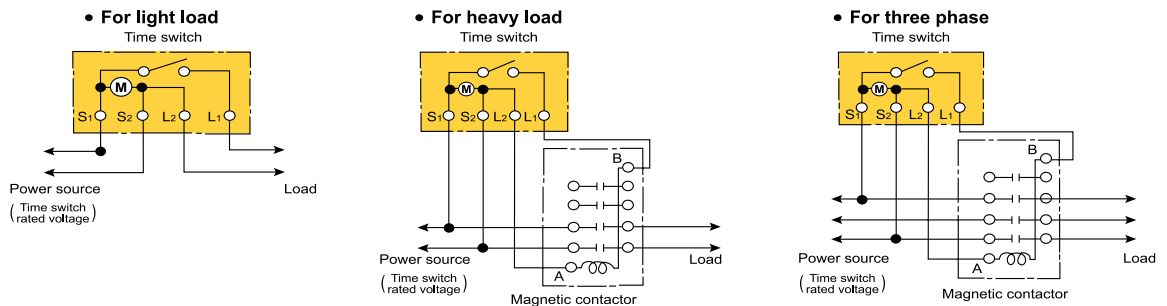
MODEL		MY SERIES			LY SERIES			MK SERIES	
		MY-2	MY-3	MY-4	LY-2	LY-3	LY-4	MK2P1	MK3P1
EXTERNAL DIMENSION (mm)	L		276		276		276		347
	W		215		215		215		347
	H		34		36		36		52
CONTACT FORM		2A2B	3A3B	4A4B	2A2B	3A3B	4A4B	2A2B	3A3B
CONTACT CAPACITY		28V DC 220V AC			28V DC 220V AC			28V DC 220V AC	
		5A		3A	15A10A		10A	10A 5A	
COIL VOLTAGE	DC	6,12,24,36,110 V			6,12,24,36,48,110V			6,12,24,48,60,110,220V	
	AC	6,12,24,36,110,220V			6,12,24,36,48,110,220V			6,12,24,36,48,110,127,220,380V	
CONTACT RESISTANCE		$\leq 50m\Omega$			$\leq 50m\Omega$			$\leq 50m\Omega$	
INSULATION RESISTANCE		$\geq 1000M\Omega$			$\geq 1000M\Omega$			$\geq 500M\Omega$	
DIELECTRIC STRENGTH		1000V AC 50/60Hz			1500 AC 50/60 Hz			1500V AC 50/60Hz	
SERVICE LIFE	MECHANICAL	10,000,000			10,000,000			10,000,000	
	ELECTRICAL	100,000			100,000			100,000	
TERMINAL		OUTLET AND PRINTED-CIRCUIT BOARD			OUTLET AND PRINTED-CIRCUIT BOARD			OUTLET SOLDER	





WIRING CONNECTION DIAGRAM

When the time switch is used for loads exceeding the rated capacity, it is imperative that time switch be used in combination with one or more magnetic contactors according to each load.



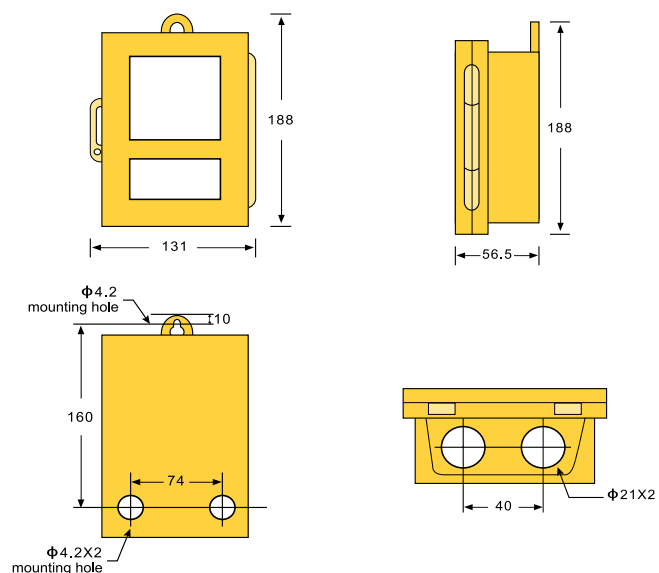
When the time switch is used with a heater, it is imperative that the load circuit be protected by a thermo-switch.

Item No.	TB35-RP		TB35N-RP	TB330-RP	
Picture					
			Back up battery for 100 hours when power failure.	Back up battery for 150 hours when power failure.	
Rated Voltage	110V/AC	220V/AC	100-240V/AC	100-240V/AC	
Voltage tolerance	85-120V	170-240V	85-264/AC	85-264/AC	
Frequency	50/60Hz (selectable)		50/60Hz (common use)	50/60Hz (common use)	
Driving method	Synchronous motor		Quartz controlled stepping motor	Quartz controlled stepping motor	
Cycle	24 hours		24 hours	24 hours	
OUTPUT	Circuit Quantity	1 circuit	1 circuit	1 circuit	
	Switch construction	SPST (— σ —)	SPST (— σ —)	SPST (— σ —)	
	Manual ON/OFF	ON/AUTO/OFF switch	ON/AUTO/OFF switch	ON/OFF switch	
	Contact Capacity	Resistive load	250V AC 20A	250V AC 15A	250V AC 30A
		Incandescent lamp	10A	10A	25A
		Inductive (cos $\phi \geq 0.7$)	12A	12A	12A
Motor(cos $\phi \geq 0.7$)		110V AC 750W, 220V AC 1500W	110V AC 750W, 220V AC 1500W	110V AC 1500W, 220V AC 3000W	
Operation time setting	Present time setting	Turn the Minute control knob in the center clock	Turn the Minute control knob in the center clock	Turn the Minute control knob in the center clock	
	Minimum unit	15 Minutes / unit	15 Minutes / unit	15 Minutes / unit	
	Minimum interval	15 Minutes	15 Minutes	30 Minutes	
	No. of ON/OFF operations	96 operations	96 operations	Standard 6 operations Maximum 48 operations are possible	
Working reserve time	--		100 hours	150 hours	
Ambient temperature	-10°C ~ +50°C		-10°C ~ +50°C	-10°C ~ +50°C	

CAUTIONS

- For the first time, please charge battery first for till running (hear DI DA sound) before setting time. (TB35N-RP, TB330-RP only)
- To set the correct time, turn the dial in the direction of the arrow (clockwise) and set the present time.
- Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
- If the load capacity exceeds the rating, an electromagnetic switch is required.

DIMENSIONS (mm)





TB-35N NON POWER FAILURE 24 HOURS TIME SWITCH

FEATURES

1. Back up battery for 100 hours when power failure
2. Direct Reading Clock Type with Minute Adjust Knob to Set Time Precisely to the Minute
3. Handy ON/AUTO/OFF select switch
4. Improved load capacity
5. Attractive design
6. 1.5-Minute-Interval, 24-Hour Dial with Built-in (Embedded) Time Set Pins



SPECIFICATIONS

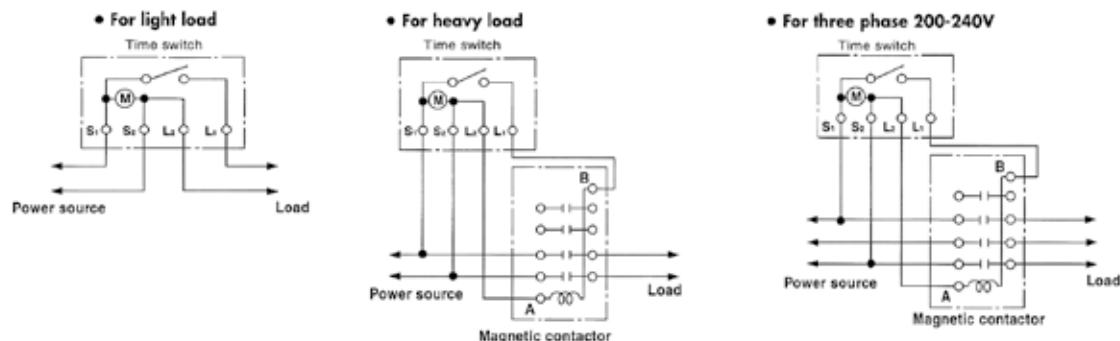
Model No.	TB - 35N
Movement type	AC - type
Rated Voltage	100 - 240V
Voltage Tolerance	85 - 264V
Frequency	50/60Hz Common Use
Movement	Quartz
Power Consumption	110VAC 1W, 220VAC 2W
Back up Power	100 Hours
Ambient Temperature	-10°C ~ +50°C
Resistive Load	250V AC 1.5A
Lamp Load	10A
Inductive Load	12A (cos ϕ =0.7 or more)
Motor Load	110VAC 750W, 220VAC 1500W
Minimum Setting Unit	15 minute units
Minimum Setting Interval	15 minute
No. of ON-OFF Operations	96 operations
Net Weight	250g

CAUTIONS

1. For the first time, please charge battery first for 10 minutes before use.
2. To set the correct time, turn the dial in the direction of the arrow (clockwise) and set the present time.
3. Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
4. If the load capacity exceeds the rating, an electromagnetic switch is required.
5. Do not use the time switch where:
 - the ambient temperature goes below -10°C or above +50°C
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration

WIRING CONNECTION DIAGRAM

When the time switch is used for loads exceeding the rated capacity, it is imperative that the time switch be used in combination with one or more magnetic contactors according to each load.



When the time switch is used with a heater, it is imperative that the load circuit be protected by a thermo-switch.



FEATURES

- 15-minute-Interval, 24-Hour Dial with Built-in (Embedded) Time Set Pins**
The embedded time-set pins permit switching on and off in 15 minute intervals (max 96 operations a day) for more precise control of loads. There are 96 pins built into the dial, thus eliminating the danger of misplacement and the need to store or re-order time-set pins.
- Direct Reading Clock Type with Minute Adjust Knob to Set Time Precisely to the Minute**
The time can be set precisely to the minute by simply turning the minute adjust knob. This feature, combined with 15 minute interval operation settings, permits more precise load control.
- Handy ON/AUTO/OFF select switch**
Allows selection of "MANUAL ON" or "MANUAL OFF" as desired, irrespective of the program. Very convenient for use on a test run or continuous operation for a long period of time.
- Improved load capacity**
By the adoption of the highly reliable contact mechanism, the incandescent lamp load has substantially been improved from 3A on the current product (TB33) to 10A to eliminate such cases of trouble as fusing of the contact, etc.
- Attractive design**
The sense of high quality and precision is expressed with the simple yet very attractive design.
- Power supply indicator lamp**
The condition of power supply to the time switch can be seen at a glance by means of the lamp.
- The thinner case strong steel**
Outer dimensions: 105.5(w) x 150.5(H) x 44(D)mm

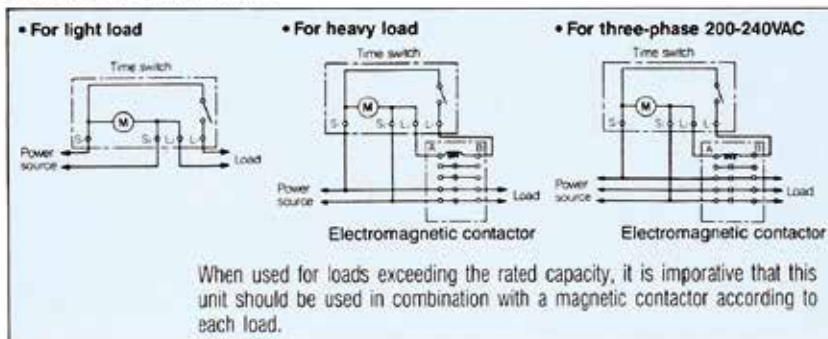
SPECIFICATIONS

Item No.	TB-35		
Movement type	AC type		
Rated voltage	110V AC	220V AC	240V AC
Voltage tolerance	85 - 120V	170 - 240V	220 - 260V
Frequency	50/60Hz (Selectable)		
Power consumption	1.5W		
Time precision	Same as AC current frequency		
Manual ON/OFF	ON/AUTO/OFF switch		
Ambient temperature	110°C ~ +50°C		
Resistive load	250V AC 15A		
Lamp load	10A		
Inductive load	12A (COSφ=0.7 or more)		
Motor load	110V AC 750W	220V AC 1500W	
Switch construction	SPST		
Minimum setting unit	15 minutes/unit		
Minimum setting interval	15 minutes		
No. of On/OFF operations	96 operations		
Weight	480 g		

OPERATING PRECAUTIONS

- The precision and life of Time Switch are affected by the environmental conditions. Please do not use it in the following areas:
 - The ambient temperature is below - 10 C or over 50 C
 - The humidity is high
 - There is dust or gas
 - There is vibration or shock
 - There is exposure to direct sunlight
- Turn the knob in the direction (clockwise) indicated by the arrows. It cannot be turned in the opposite direction.
- When a heater is connected to the load circuit, a thermostat switch must be included.
- The Time Switch must be grounded when used in the conditions as follows:
 - The input power supply is 220V AC or more.
 - High humidity is expected in the place.

CIRCUIT DIAGRAMS





FLUSH MOUNTING

FEATURES

- Direct Reading Clock Type with Minute Adjust Knob to Set Time Precisely to the Minute
- Handy ON/AUTO/OFF select switch
- Improved load capacity
- Attractive design
- 15-Minute-Interval, 24-Hour Dial with Built in (Embedded) Time Set Pins

SPECIFICATIONS

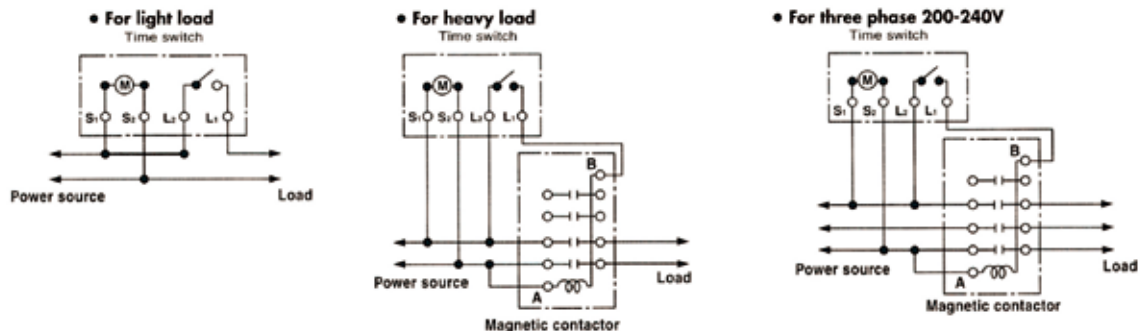
Model No.	TB - 37	
Movement type	AC - type	
Rated Voltage	110AC	220AC
Voltage Tolerance	85~120V	170~240V
Frequency	50/60Hz Common Use	
Mounting Style	Flush Mounting	
Ambient Temperature	-10°C ~ +50°C	
Resistive Load	250V AC 15A	
Lamp Load	10A	
Inductive Load	12A (cos ϕ =0.7 or more)	
Motor Load	110V AC 750W, 220V AC 1500W	
Minimum Setting Unit	15 minute units	
Minimum Setting Interval	15 minute	
No. of ON-OFF Operations	96 operations	
Net Weight	190g	
Dimensions	71.5X43X71.5(mm)	

CAUTIONS

1. To set the correct time, turn the dial in the direction of the arrow (clockwise) and set the present time.
Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
2. If the load capacity exceeds the rating, an electromagnetic switch is required.
3. Do not use the time switch where:
 - the ambient temperature goes below -10°C or above +50°C
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration

WIRING CONNECTION DIAGRAM

When the time switch is used for loads exceeding the rated capacity, it is imperative that the time switch be used in combination with one or more magnetic contactors according to each load.



When the time switch is used with a heater, it is imperative that the load circuit be protected by a thermo-switch.



SPECIFICATIONS

Item No	TB50	
Rated voltage	V	AC110-240±10%
Contact type		1NA/NC
Contact capacity		
resistive load	[A]	16
inductive load	[A]	3
Rated frequency	[HZ]	50-60
Time base		Quartz
Cycles		Daily
Minimum switching time	[min]	20
Max. programs per cycle		72
Running reserve	[h]	200
Power dissipated	[VA]	0.5
Max. switching power	[W]	1000
Max. terminal section	[mm ²]	1...6
Mounting		on DIN rail/Wall/panel
Working temperature	[C°]	-10...+50
Ambient temperature	[C°]	-20...+60
Standards		EN60730

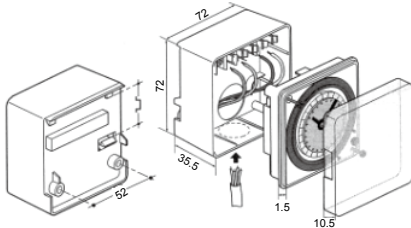
FEATURES

- Back up Battery For 200 Hours When Power Failure (just for clock running not for output on/off switching)
- 10-Minute-Interval, 24 Hours Dial With Built In Time Set Pins.
- Direct Reading Clock Type With Minute Adjust Knob To Set Time Precisely To The Minute.

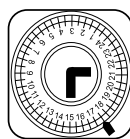
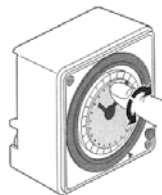
CAUTIONS

- Please charge battery before use, and ensure the hear DI DA sound before setting
- Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
- If the load capacity exceeds the rating, an electromagnetic switch is required.
- Do not use the time switch where :
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration

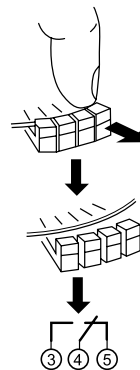
MOUNTING



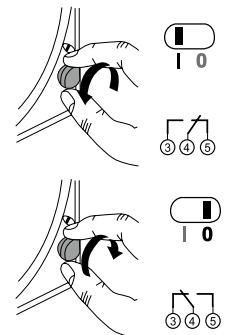
TIME AND DATE SETTING



PROGRAMMING

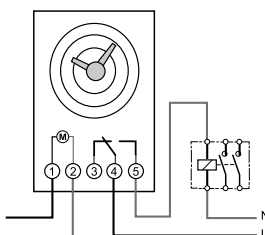


MANUAL OVERRIDE



–Switch back to automatic mode at the next switching action.

CONNECTIONS

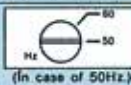




TB-17 TIME SWITCH

■ OPERATION INSTRUCTIONS

Before operating this set, please adjust the selector located at the front left side of the body to the adequate frequency.



(1) Set the time-setting pins at the desired times

Push the time-setting pins onto the dial position indicating the selected time.

- To turn the load on, use a red pin.
 - To turn the load off, use a white pin.
- Push the time-setting pin firmly into place.

(2) Set the present time

Turn the dial to the right in the direction of the arrow until the present time position on the dial is aligned with the present time arrow.

(3) Set the manual ON-OFF switch

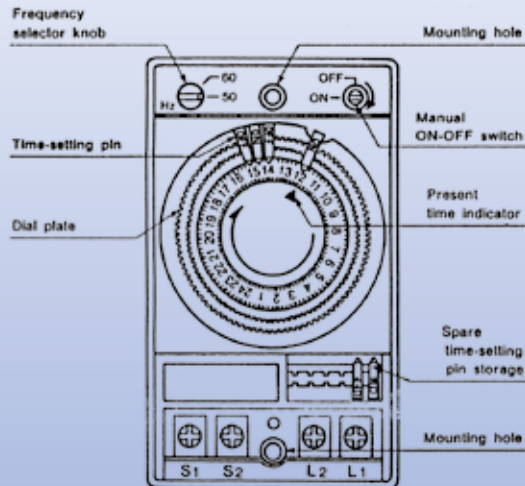
Turn the manual ON-OFF switch to the right in the direction of the arrow to turn the load ON or OFF



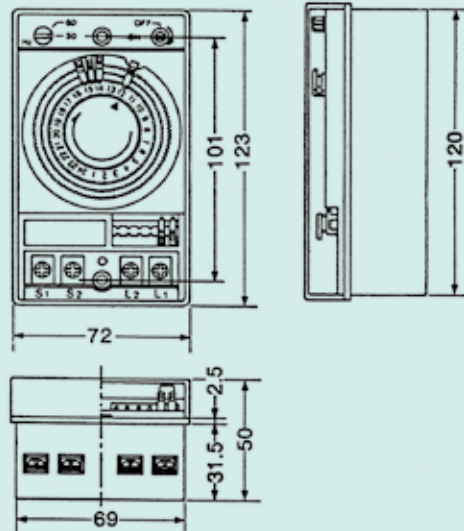
- When the load circuit continues ON or OFF for a long time, please operate manual ON-OFF switch after you have removed all time-setting pins.
- When the time-setting pin is within 1 hour of the present time, the manual ON-OFF switch should not be turned.

■ SPECIFICATIONS

Model No.	TB-17		
Movement type	AC-type		
Rated Voltage	110V	200-220V	240V
Voltage Tolerance	85-120V	170-240V	220-260V
Frequency	50/60Hz(selection type)		
Power Consumption	1.5W		
Time precision	Same as AC frequency		
Ambient Temperature	-10°C~+50°C		
Resistive Load	250VAC 15A		
Lamp Load	100VAC 1500W 200VAC 3000W		
Inductive Load	10A (cosφ=0.7 or more)		
Motor Load	100VAC 750W 200VAC 1500W		
Minimum setting unit	15 minute units		
Minimum setting interval	30 minutes		
No. of ON-OFF operations	Standard 6 operations Maximum, 48 operations are possible		
Weight	270g		

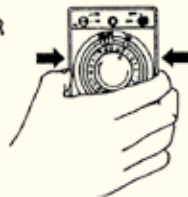


DIMENSIONS



REMOVING THE COVER

Pull out the cover pressing both side.

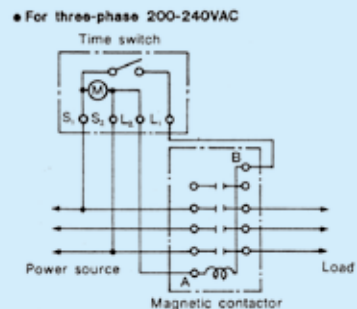
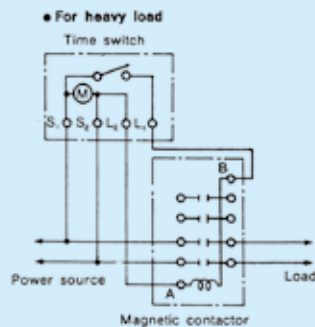
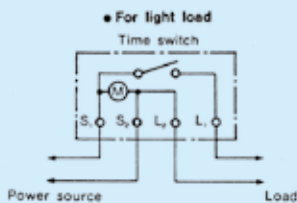


CAUTIONS

- To set the correct time turn the dial in the direction of the arrow (clockwise) and set the Present time.
- Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
- If the load capacity exceeds the rating an electromagnetic switch is required.
- Do not use the time switch where:
 - the ambient temperature goes below -10°C or above $+50^{\circ}\text{C}$
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration
- Do not forget to set to the correct time in case of lost time due to the suspension of electric current.

WIRING CONNECTION DIAGRAM

When the time switch is used for loads exceeding the rated capacity, it is imperative that the time switch be used in combination with one or more magnetic contactors according to each load.



When the time switch is used with a heater, it is imperative that the load circuit be protected by a thermo-switch.

ISO 9001: 2000



FEATURES

- Back up Battery For 150 Hours When Power Failure (just for clock running not for output no/off switching)
- 15-Minute-Interval, 24 Hours Dial With Built In Time Set Pins.
- Direct Reading Clock Type With Minute Adjust Knob To Set Time Precisely To The Minute.

SPECIFICATIONS

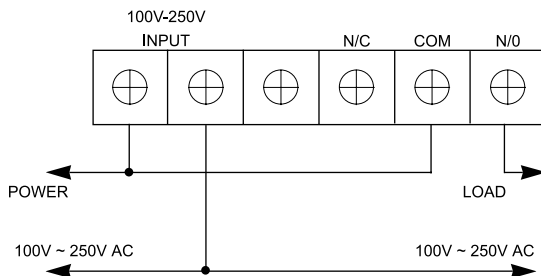
Model No.	TB-370
Rated Voltage	100-250V
Voltage Tolerance	85-264V
Frequency	50/60Hz Common Use
Movement	Quartz
Power Consumption	110VAC 1W, 220V AC 2W
Back up Power	150 Hours
Ambient Temperature	-10°C ~ +50°C
Resistive Load	250V AC 16A
Lamp Load	10A
Inductive Load	12A (cos φ = 0.7 or more)
Motor Load	110V AC 750W, 220V AC 1500W
Minimum Setting Unit	15 minute units
Minimum Setting Interval	15 minute
No. of ON-OFF Operations	96 operations
Net Weight	180g

CAUTIONS

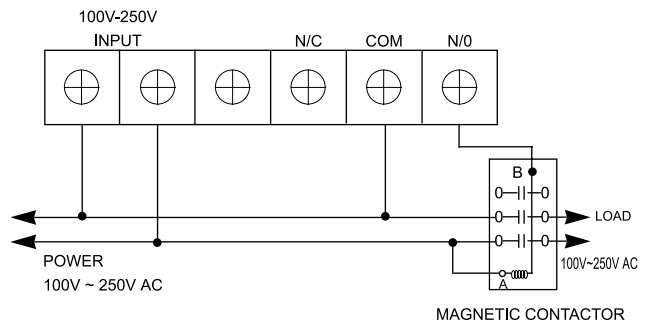
1. For the first time, please charge battery first for till running (hear DI DA sound) before use.
2. To set the correct time, turn the dial in the direction of the arrow (clockwise) and set the present time.
3. Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
4. If the load capacity exceeds the rating, an electromagnetic switch is required.
5. Do not use the time switch where:
 - the ambient temperature goes below -10°C or above +50°C
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration

WIRING CONNECTION DIAGRAM

FOR LIGHT LOAD



FOR HEAVY LOAD

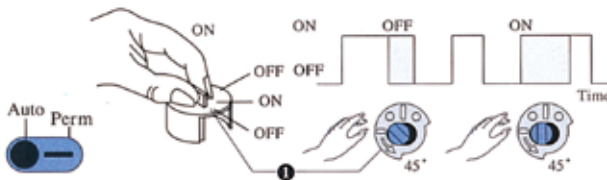


SPECIFICATIONS

Model No.	TB-380
Movement type	AC - type
Rated Voltage	110V, 220V
Contact Configuration	1A1B 1C
Frequency	50/60Hz Common Use
Movement	Quartz
Power Consumption	110VAC 1W, 220VAC 2W
Back up Power	150 Hours
Ambient Temperature	-10°C ~ +50°C
Resistive Load	250V AC 16A
Lamp Load	10A
Inductive Load	12A (cos φ=0.7 or more)
Motor Load	110VAC 750W, 220VAC 1500W
Minimum Setting Unit	30 minute units
Minimum Setting Interval	30 minute
No. of ON-OFF Operations	48 operations
Net Weight	200g

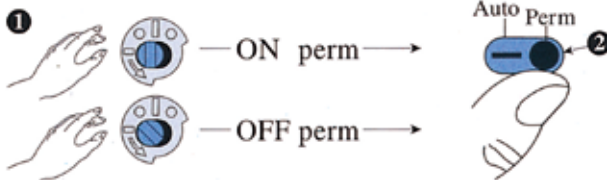


MANUAL



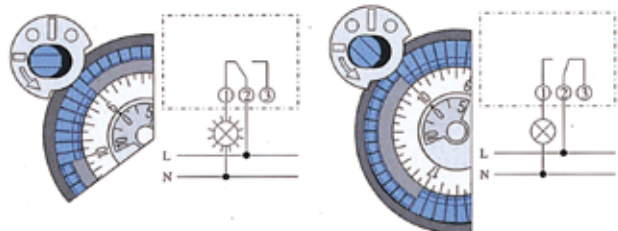
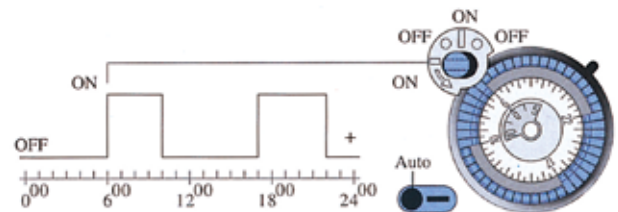
Manual Control ON/OFF (override Control)
 Turn the control axis ① in direction of arrow by one notch; ON=♣- / ♣- or OFF=♣ / ♣. The manual control is automatically annulled by the following counteracting command of the automatic program sequence.

PERMANENT



Permanent Control ON/OFF
 Set the hand lever ② to >>Perm<<= permanent control; turning the control axis ① in direction of arrow, the required, permanent control ON or OFF can now be adjusted. Turning the hand lever to >>Auto<< = Automatic Control, the permanent control is terminated. The actual switch position is maintained until the next counteracting command of the automatic program sequence is triggered. An immediate correction can be carried out by means of the manual control(override control).

24H PROGRAM



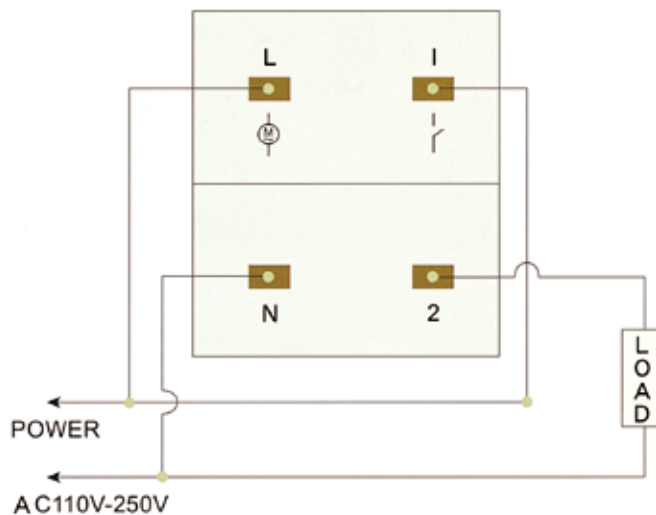
FEATURES

- Back up Battery For 100 Hours When Power Failure (just for clock running not for output on/off switching)
- 15-Minute-Interval, 24 Hours Dial With Built In Time Set Pins.
- HANDY O/I SELECT SWITCH
 O : 24H PROGRAM AUTO CONTROL
 I : PERMANENT CONTROL ON

SPECIFICATIONS

Model No.	TB-45
Movement Type	AC Type
Rated Voltage	110-250V
Frequency	45-60Hz
Movement	Quartz
Back up Power	100 Hours
Resistive Load	250V AC 16A
Lamp Load	2A
Inductive Load	10A(cos ϕ = 0.7 or more)
Motor Load	4A
Minimum Setting Unit	15 minute units
Minimum Setting Interval	15 minute
No. of ON-OFF Operations	96 operations

WIRING CONNECTION DIAGRAM



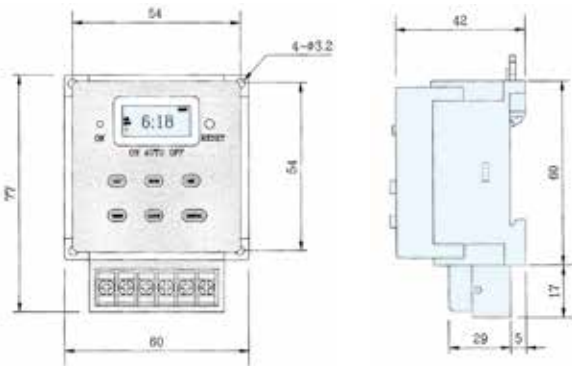
TB-45

CAUTIONS

1. For the first time, please charge battery first for 10 minutes before use.
2. To set the correct time, turn the dial in the direction of the arrow and set the present time.
3. Please observe the rated voltage and voltage tolerance of the time switches for adequate use.
4. Do not use the time switch where:
 - there is much dust
 - there is much moisture
 - outdoors or where it will be exposed to rain or water
 - there is much vibration
5. When the time switch is used for loads exceeding the rated capacity, it is imperative that the time switch be used in combination with one or more magnetic contactors according to each load.
6. Mounting methods : BY DIN RAIL (35mm)



DIMENSIONS



FEATURES

- Offering 6 on/off programmable setting available to switch inside contacts to be closed or opened whenever on each day or Week day or weekend separately.
- Press day key to select the day of week, various choice for 10 : ①MO ②TU ③WE ④TH ⑤FR ⑥SA ⑦SU ⑧SA+SU ⑨MO+TU+WE+TH+FR ⑩MO TO SU
- Back up battery for 7 days when power failure

SPECIFICATIONS

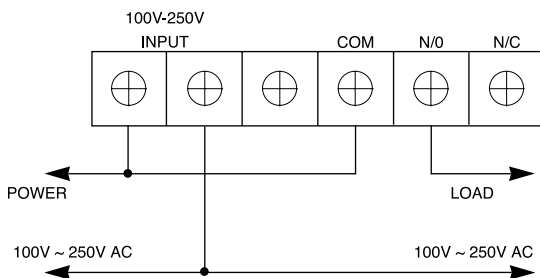
- Rated Voltage : AC 100 ~ 250V
- Frequency : 50/60HZ
- Contact rating : AC 250V 5A AC 120V 7A
- Mounting style : flush mounting
- Back up power : 7 days (just for colock running not for output on/off switching)

CAUTIONS

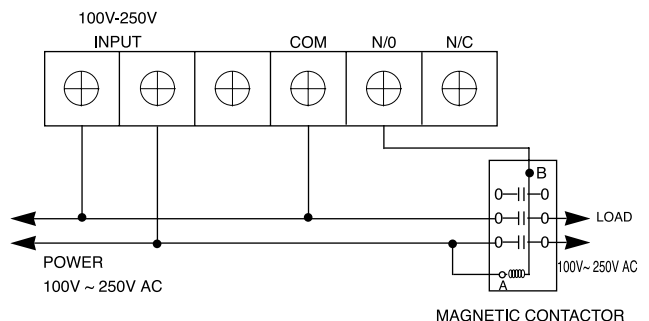
- On.off setting should be in sequence of on 1, off 1, on 2, off 2, on 3, off 3, on 4, off 4, on 5, off 5, on 6, off 6 clockwise and logicity.
- If the load capacity exceeds the rating an electromagnetic switch is required.
- Please observe the rated voltage and voltage tolerance of the time switch for adequate use.

WIRING CONNELTION DIAGRAM

FOR LIGHT LOAD



FOR HEAVY LOAD



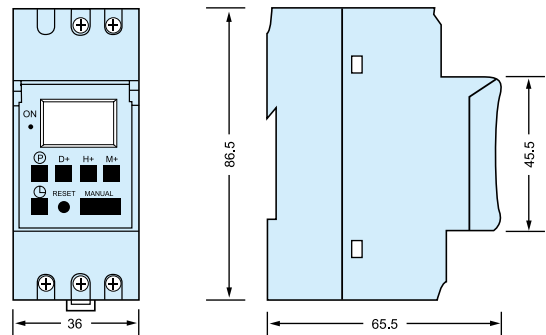
TECHNICAL DATA

- Item No.: TH-192
- Operation Voltage: 110-240V AC
- Frequency: 50/60Hz
- Resistive Load: 16A/250V AC
- Ambient Temperature: -10°C ~+60°C
- Battery Backup: 60 days
- Minimum Programmable time: 1 Minute
- Maximum Programmes: 17 ON + 17 OFF
- Mounting Methods: By din rail (35 mm)
- 15 Combination of daily-programs:

1.	MO	TU	WE	TH	FR	SA	SU
2.	MO	TU	WE	TH	FR	SA	
3.	MO	TU	WE	TH	FR		
4.						SA	SU
5.	MO		WE		FR		
6.		TU		TH		SA	
7.	MO	TU	WE				
8.				TH	FR	SA	
9.	MO						
10.		TU					
11.			WE				
12.				TH			
13.					FR		
14.						SA	
15.							SU



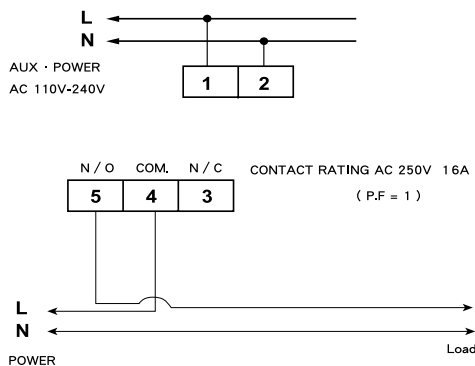
DIMENSIONS (mm)



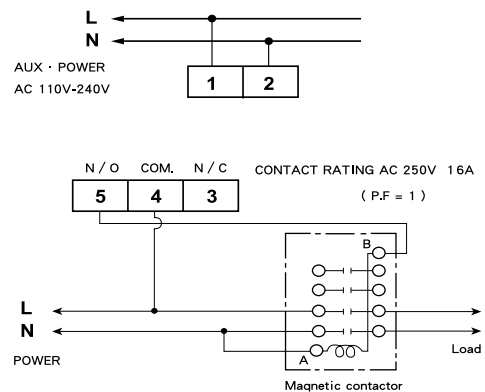
WIRING CONNECTION DIAGRAM

When the time switch is used for loads exceeding the rated capacity, it is imperative that time switch be used in combination with one or more magnetic contactors according to each load.

• FOR LIGHT LOAD



• FOR HEAVY LOAD



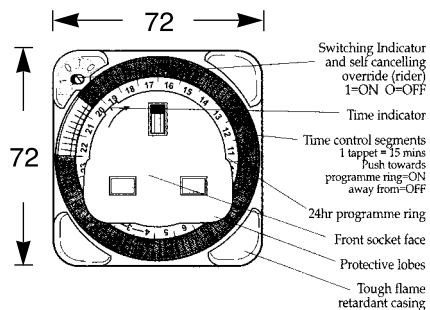
ISO 9001 : 2000



SPECIFICATION

- Operating Temp : 0°C to 40°C
- Switch Rating : 15amp resistive
2amp inductive
- Switch Voltage : 110V~125V
220V~240AC
- Frequency : 50HZ or 60HZ
- Switching Load : 3kw max
- Minimum setting intervals = 15 minutes
- Minimum time between settings = 15 minutes

DIMENSIONS (mm)



FEATURES

- Easy to use
- Plugs straight into socket
- Simple 70 programme
- Controls plug in electrical appliances up to 3kw

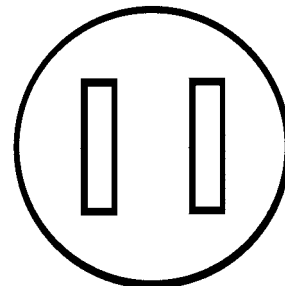
POINTS TO NOTE:

- The segment dial can be turned even when the time controller is operating.
- In case of power failure, readjust the time controller to the correct time of day, turning the dial in a clockwise direction.

IMPORTANT

This time controller is recommended for general domestic appliances up to 13 amp resistive or 2 amp inductive rating. Certain washing machines eg. those with built-in-timers and some electronic machines require permanently connected power and they cannot use this time controller.

AVAILABLE PLUG TYPE





- Model No. TC-3 full deviation indicator temperature controller.
- TC-3 din size (96x96mm) temperature controller with P.D. function.
- Indicator knob setting.

■ SPECIFICATIONS

- <1> Supply voltage: 110/220V AC 50/ 60Hz
- <2> Operating voltage: 90% to 110% of rated voltage.
- <3> Power consumption: Approx <2VA
- <4> Temperature sensor: K, E, J, T, PT-100
- <5> Standard scale range: 0-400 (DEGREE C)

■ CHARACTERISTICS

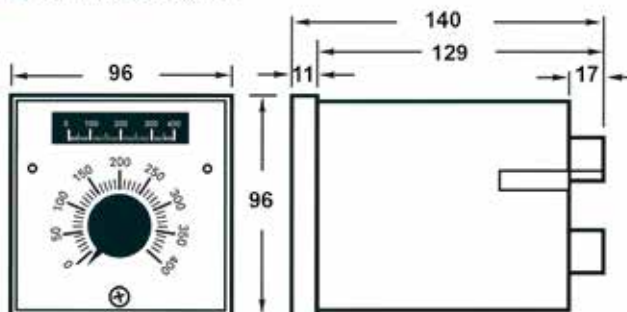
Setting accuracy	±1.5% max. of full scale	
Indication accuracy	±2.5% max. of full scale	
Hysteresis	Control output	0.2% of full scale (fixed)
PD setting range	Proportional band (P)	1-3% of full scale
	Rate time (D)	30 ± 10S

■ STANDARD ACCESSORY

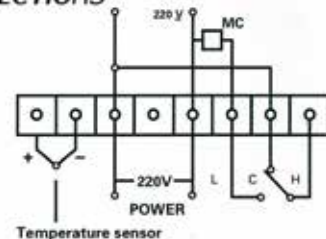
- 1 Piece Thermocouple Wire When Temperature Under 600 Degree C CA (K) Type.
- Thermocouple Wire Length: 2M.

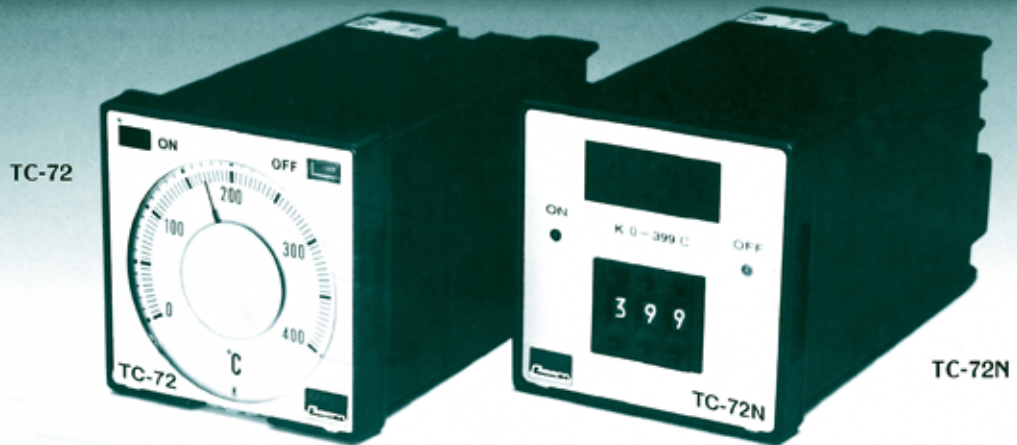


■ DIMENSIONS/mm



■ CONNECTIONS





- MODEL NO. TC-72 NON DEVIATION INDICATOR TEMPERATURE CONTROLLER.
- MODEL NO. TC-72N FULL DEVIATION TEMPERATURE CONTROLLER. (DIGITAL DISPLAY).
- TC-72 & TC-72N DIN SIZE (72x72mm) TEMPERATURE CONTROLLER WITH P.D. FUNCTION.

■ SPECIFICATIONS: TC-72 & TC-72N

- <1> Supply voltage: 110/220V AC 50/ 60Hz
- <2> Operating voltage: 90% to 110% of rated voltage.
- <3> Power consumption: TC-72, Approx <2VA
TC-72N, Approx <5VA
- <4> Temperature sensor: K, E, J, T, PT-100
- <5> Standard scale range: TC-72: 0-400 (DEGREE C)
TC-72N: 0-199, 0-399, 0-999 (DEGREE C)

■ STANDARD ACCESSORY

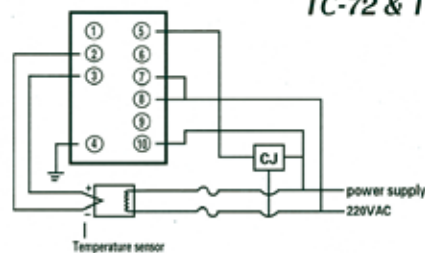
- 1 Piece Thermocouple Wire When Temperature Under 600 Degree C CA (K) Type.
- Thermocouple Wire Length: 2M.



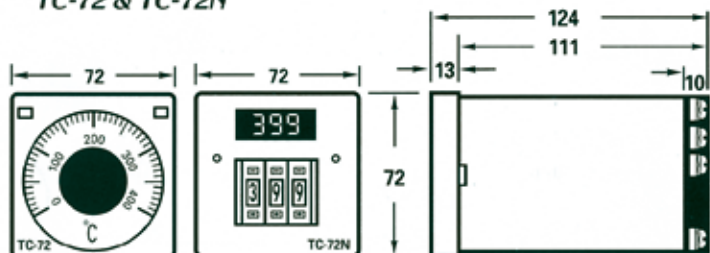
■ CHARACTERISTICS

Setting accuracy	±1.5% max. of full scale	
Indication accuracy	TC-72N: ±1.5% max. of full scale TC-72: ±2.5%	
Hysteresis	Control output	0.2% of full scale (fixed)
PD setting range	Proportional band (P)	1-3% of full scale
	Rate time (D)	30 ± 10S

■ CONNECTIONS: TC-72 & TC-72N



■ DIMENSIONS/mm: TC-72 & TC-72N

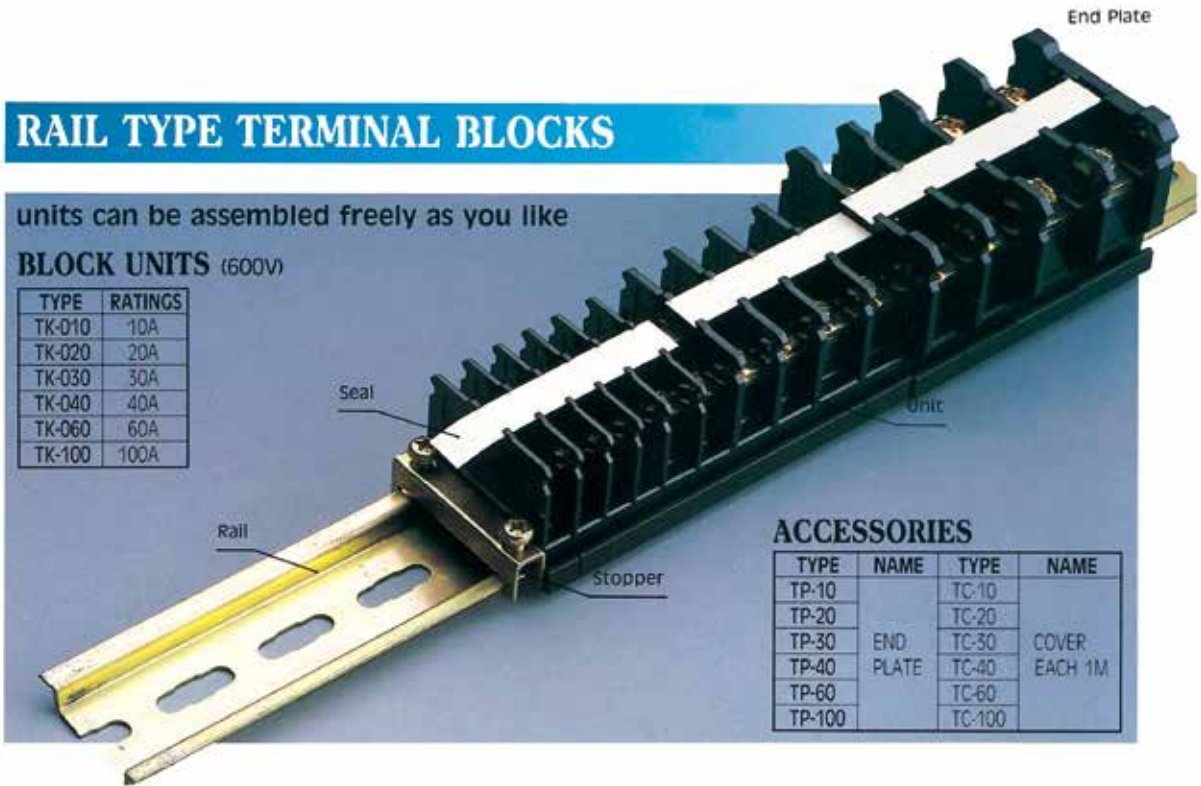


RAIL TYPE TERMINAL BLOCKS

units can be assembled freely as you like

BLOCK UNITS (600V)

TYPE	RATINGS
TK-010	10A
TK-020	20A
TK-030	30A
TK-040	40A
TK-060	60A
TK-100	100A



ACCESSORIES

TYPE	NAME	TYPE	NAME
TP-10	END PLATE	TC-10	COVER EACH 1M
TP-20		TC-20	
TP-30		TC-30	
TP-40		TC-40	
TP-60		TC-60	
TP-100		TC-100	

TERMINAL BLOCKS

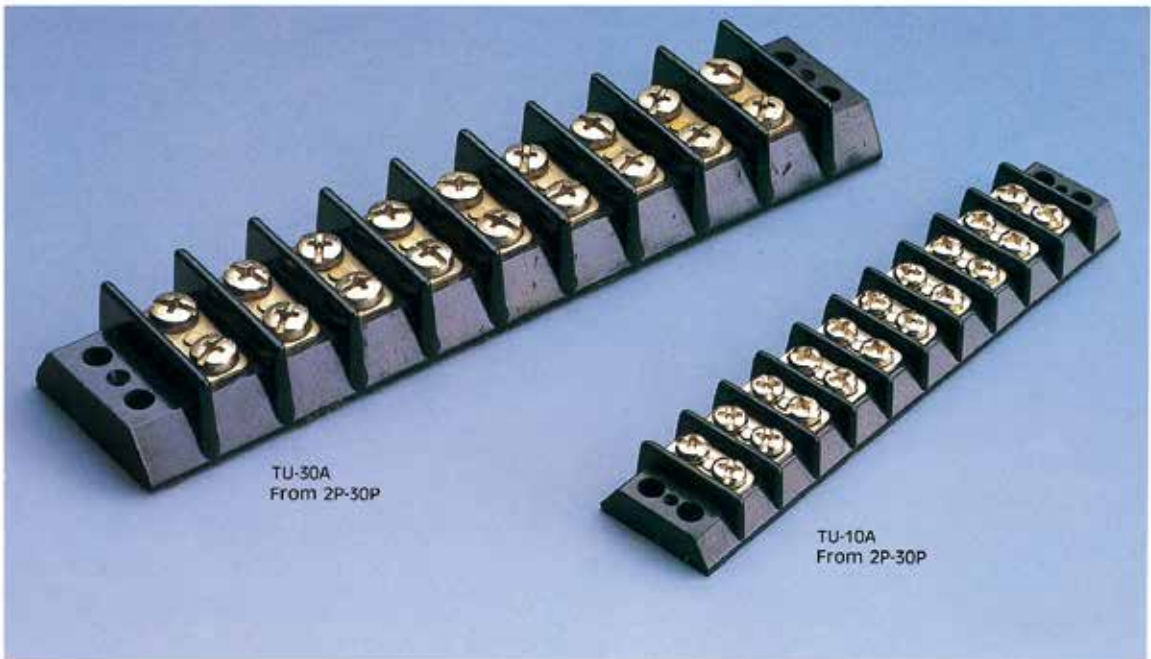
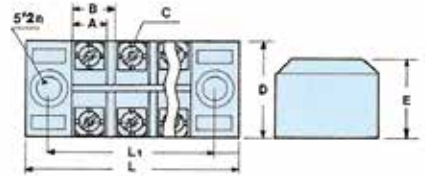


TYPE	RATING	NUMBER OF POLES
TB-60	60A	3P-4P
TB-100	100A	3P-4P
TB-150	150A	3P-4P
TB-200	200A	3P-4P
TB-300	300A	3P-4P

MOLDED TERMINAL BLOCKS WITH COVER

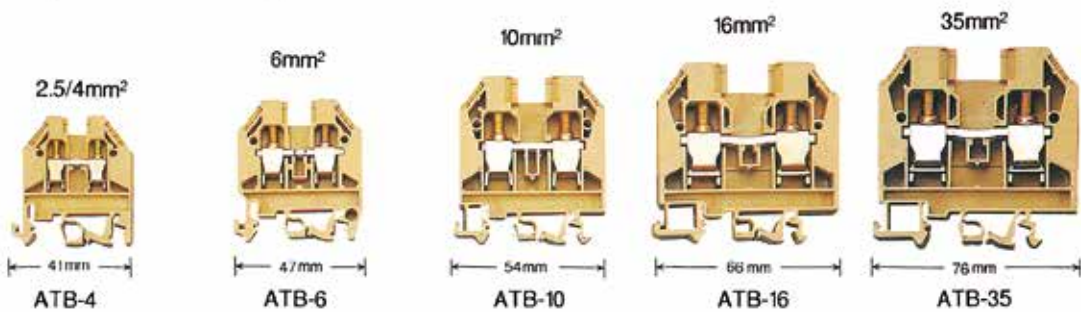


TYPE	RATINGS	NUMBER OF POLES	DIMENSIONS (mm)							PACKING	
			L	L ₁	A	B	C	D	E	Inner Box	Inner Carton
TB-1503	600V 15A	3	46.5	36.5	7	9	M3	22	17.5	150PCS	6 BOXES
TB-1504		4	55.5	45.5	7	9	M3	22	17.5	120PCS	
TB-1506		6	73.5	63.5	7	9	M3	22	17.5	100PCS	
TB-1512		12	128.5	118	7	9	M3	22	17.5	50PCS	
TB-2503	600V 25A	3	50.5	40	8	10.5	M4	28	19	120PCS	4 BOXES
TB-2504		4	61.5	51	8	10.5	M4	28	19	100PCS	
TB-2506		6	82.5	72	8	10.5	M4	28	19	70PCS	
TB-2512		12	147	136	8	10.5	M4	28	19	40PCS	

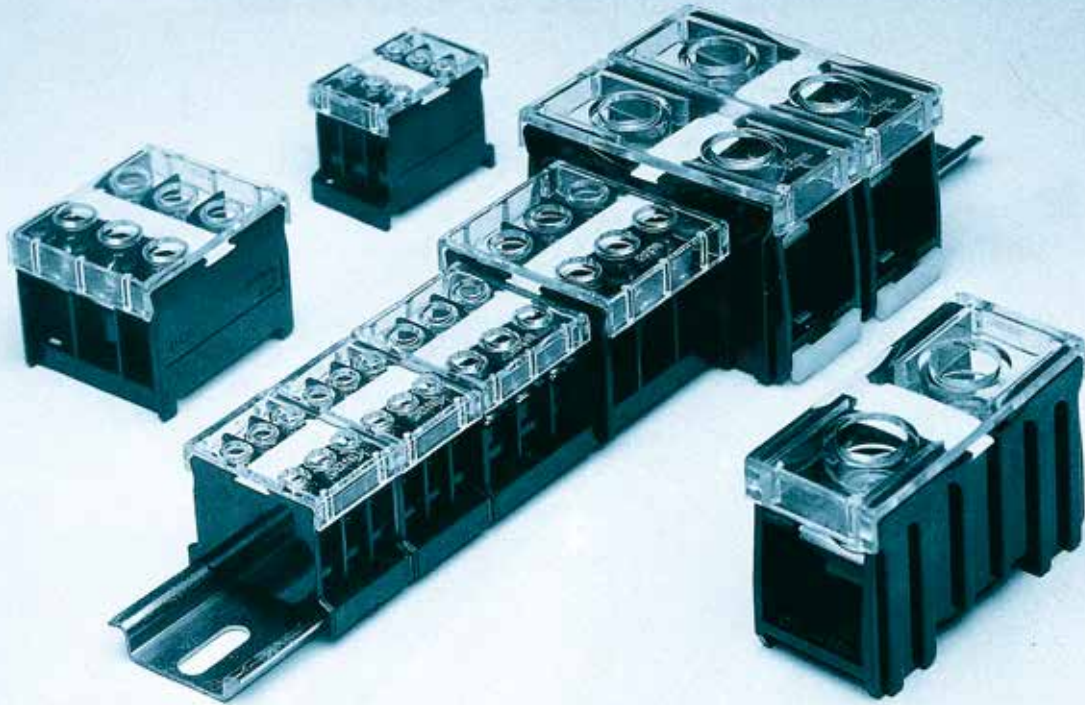




Clip-on mounting rails



6mm pitch	8mm pitch	10mm pitch	12mm pitch	16mm pitch
750V~900V 4mm ² 34Amp	750V~900V 6mm ² 44Amp	750V~900V 10mm ² 61Amp	750V~900V 16mm ² 82Amp	750V~900V 35mm ² 135Amp
AWG No. 22 To 10 40A	AWG No. 22 To 8 55A	AWG No. 18 To 6 600V 75A	AWG 16 To 6 600V 100A	AWG No. 2 600V 140A



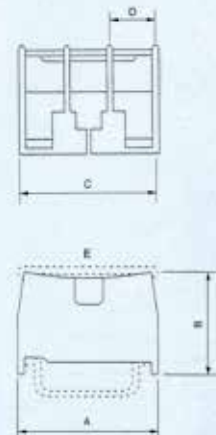
RAIL TYPE TERMINAL BLOCK IN SERIES

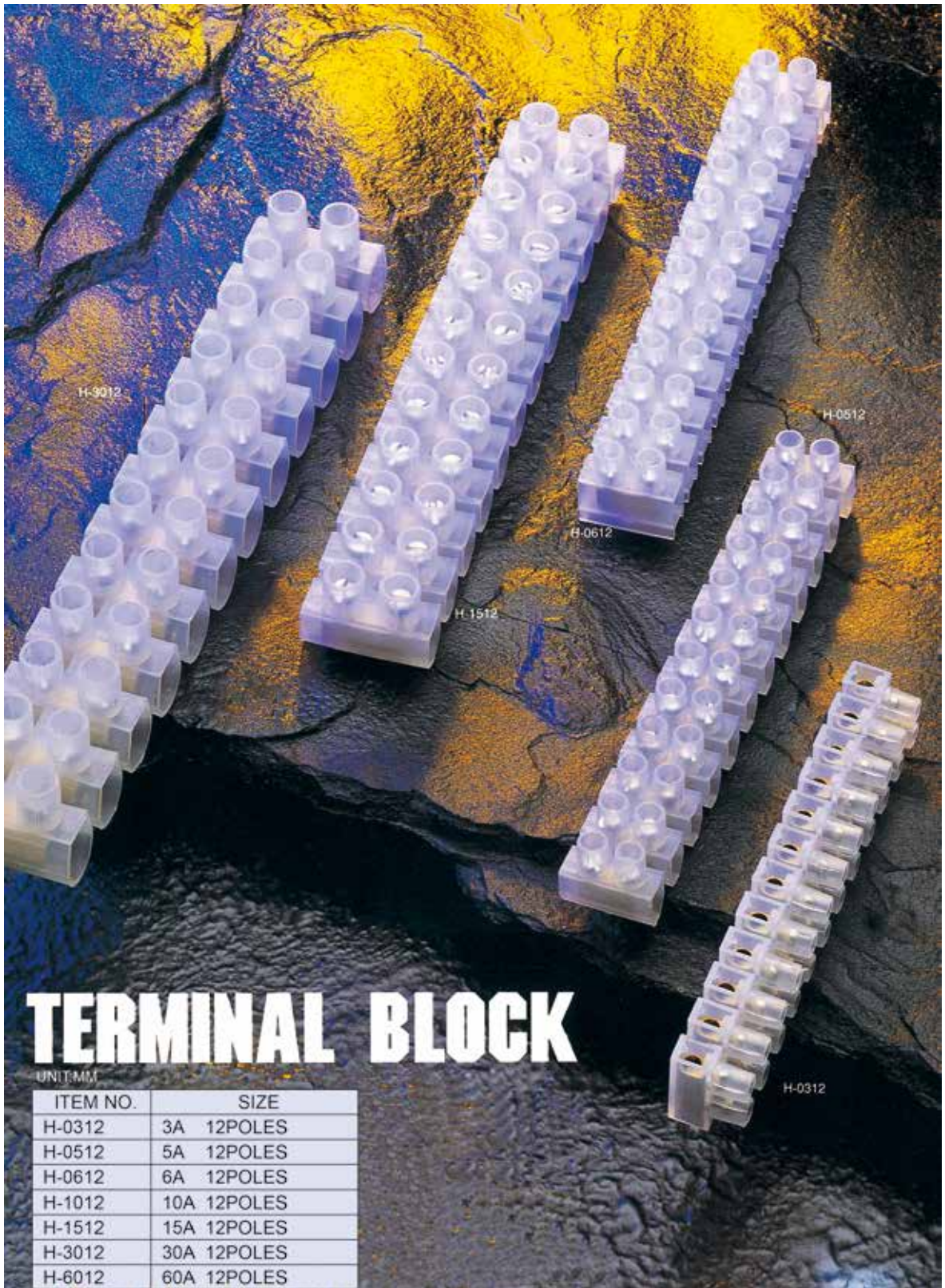
- THIS TERMINAL BLOCK CAN BE MOUNTED TO THE RAIL BY SINGLE FINGER OPERATION
- RATED VOLTAGE: 600V
- DIELECTRIC STRENGTH: 2500V, 1MIN
- INSULATION RESISTANCE: 100MΩ MIN

■ SPECIFICATIONS

UNIT: mm

Item No.	RATINGS	DIMENSIONS					PACK
		A	B	C	D	E	
IN12	2P 2mm ² max 20A	40	30	20	8	37	30 PCS
IN13	3P 2mm ² max 20A	40	30	25	6.7	37	20 PCS
IN20	3P 3.5mm ² max 30A	40	30	35	9.7	37	20 PCS
IN30	3P 8mm ² max 50A	45	34	43	12.2	48	10 PCS
IN411	1P 14mm ² max 60A	45	34	15.5	13.5	48	30 PCS
IN60	1P 22mm ² max 90A	56	38	22	17	56	10 PCS
IN100	1P 38mm ² max 130A	75	45	32	24	73.5	6 PCS
IN200	1P 100mm ² max 240A	86	57	39	31	86.5	3 PCS
IN400	1P 200mm ² max 370A	125	73	62	52.3	126	2 PCS





TERMINAL BLOCK

UNIT:MM

ITEM NO.	SIZE
H-0312	3A 12POLES
H-0512	5A 12POLES
H-0612	6A 12POLES
H-1012	10A 12POLES
H-1512	15A 12POLES
H-3012	30A 12POLES
H-6012	60A 12POLES

CABLE CRIMPING TOOL & CABLE CUTTER



HD-10L TERMINAL CRIMPING TOOL



APPLICABLE RANGE						
NON INSULATED RING TERMINAL	AWG/MCM	#22-16	#16-14	#12-10	#8	
	mm ²	1.25	2	5.5	8	
COPPER TUBE TERMINAL	DIN	0.4-1.0	1.1-2.6	2.7-6.6	6.7-10.5	

HD-16L TERMINAL CRIMPING TOOL



APPLICABLE RANGE						
NON INSULATED RING TERMINAL	AWG/MCM	#22-16	#16-14	#12-10	#8	#6
	mm ²	1.25	2	5.5	8	14
COPPER TUBE TERMINAL	DIN	0.4-1.0	1.1-2.6	2.7-6.6	6.7-10.5	10.6-16.7

HD-25L TERMINAL CRIMPING TOOL



APPLICABLE RANGE						
NON INSULATED RING TERMINAL	AWG/MCM	#12-10	#8	#6	#4	
	mm ²	5.5	8	14	22	
COPPER TUBE TERMINAL	DIN	2.7-6.6	6.7-10.5	10.6-16.7	16.8-26.6	

CT-38 TERMINAL CRIMPING TOOL



APPLICABLE RANGE					
NON INSULATED RING TERMINAL	AWG/MCM	#8	#6	#4	#2
	mm ²	8	14	22	38
COPPER TUBE TERMINAL	DIN	10-16	25	36	50

CT-80 TERMINAL CRIMPING TOOL



APPLICABLE RANGE						
NON INSULATED RING TERMINAL	AWG/MCM	#6	#4	#2	#1/0	#3/0
	mm ²	8	14	22	60	80
COPPER TUBE TERMINAL	DIN	10	16	25-35	50	70

CT-100 TERMINAL CRIMPING TOOL



APPLICABLE RANGE						
NON INSULATED RING TERMINAL	AWG/MCM	#4	#2	#1/0	#3/0	#4/0
	mm ²	22	38	60	80	100
COPPER TUBE TERMINAL	DIN	25-35	50	70	95	120

HD-150S TERMINAL CRIMPING TOOL



APPLICABLE RANGE		
NON INSULATED RING TERMINAL	AWG/MCM	#8-300MCM
	mm ²	8 - 150
COPPER TUBE TERMINAL	DIN	10 - 150

HD-109S TERMINAL CRIMPING TOOL



APPLICABLE RANGE		
NON INSULATED RING TERMINAL	AWG/MCM	#8-250MCM
	mm ²	8 - 80
COPPER TUBE TERMINAL	DIN	10 - 120

HD-951 TERMINAL CRIMPING TOOL



APPLICABLE RANGE		
NON INSULATED RING TERMINAL	AWG/MCM	#8-250MCM
	mm ²	8 - 80
COPPER TUBE TERMINAL	DIN	10 - 95

RYC-22 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
160g	25	#4

RYC-38 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
260g	38	#2

RYC-60 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
430g	60	#1/0

RYC-100 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
730g	120	#3/0

RYC-400 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
1540g	400	500

RYC-500 CABLE CUTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
2930g	500	1000

RYC-624 STEEL WIRE COTTER



SELECTION CHART

WEIGHT	AWG/MCM	
	DIN mm ²	AWG
4500g	STEEL WIRE	3/4", 19.2MM



Item No:YQK-70

crimping range: 4-70mm²
 crimping force: 8T
 crimping type: hexagon crimping
 stroke: 10mm
 length: approx.310mm
 weight: approx.2.80kg
 package: plastic box
 weight of box: approx. 0.56 kg

Accessories:

crimping dies: 4, 6, 8, 10, 16, 25, 35, 50, 70mm²
 Sealing O-ring: one set



Item No:YYQ-120

crimping range: 10-120mm²
 crimping force: 12T
 crimping type: hexagon crimping
 stroke: 14mm
 length: approx.425mm
 weight: approx.4.00kg
 package: plastic box
 weight of box: approx.0.77kg

Accessories:

crimping dies: 10, 16, 25, 35, 50, 70, 95, 120mm²
 Sealing O-ring: one set



Item No:YYQ-120A

crimping range: 10-120mm²
 crimping force: 12T
 crimping type: hexagon crimping
 stroke: 14mm
 length: approx.425mm
 weight: approx.4.20kg
 package: plastic box
 weight of box: approx. 0.81kg

Accessories:

crimping dies: 10, 16, 25, 35, 50, 70, 95, 120mm²
 Sealing O-ring: one set



Item No:YQK-240

crimping range: 16-240mm²
 crimping force: 16T
 crimping type: hexagon crimping
 stroke: 22mm
 length: approx.480mm
 weight: approx.5.20kg
 package: plastic box
 weight of box: approx. 1.20kg

Accessories:

crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240mm²
 Sealing O-ring: one set



Item No:YQK-300

crimping range: 16-300mm²
 crimping force: 16T
 crimping type: hexagon crimping
 stroke: 22mm
 length: approx.500mm
 weight: approx.6.30kg
 package: plastic box
 weight of box: approx.1.21kg

Accessories:

crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300mm²
 Sealing O-ring: one set

Head design.

Flip top style closed crimping head. Rotates 360



Item No: HT-300

for interchangeable dies.
Flip top style closed crimping head, rotates 360
Automatic retraction when crimp is complete
Manual retraction in case of need.

Crimping range: 16-300mm²
crimping force: 60KN
crimping type: hexagon crimping
stroke: 17mm
length: approx.460mm
weight: approx.3.30kg
package: steel case

Accessories:
crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300mm²

Hand-load button

Relax during press
Quick restoration

High tensile aluminum alloy
Handiness

Prevent-slip handle



Item No: KYQ-300

safety system inside
crimping range: 16-300mm²
crimping force: 16T
crimping type: hexagon crimping
stroke: 22mm
length: approx.500mm
weight: approx.6.80kg
package: steel case
weight of case: approx. 3.30kg
Accessories:
crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300mm²



Item No: KYQ-300B

safety system inside
crimping range: 16-300mm²
crimping force: 16T
crimping type: hexagon crimping
stroke: 22mm
length: approx.500mm
weight: approx.6.80kg
package: steel case
weight of case: approx. 3.30kg
Accessories:
crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300mm²



Item No:KYQ-300C safety system inside
 crimping range: 16–300mm²
 crimping force: 16T
 crimping type: hexagon crimping
 stroke: 20mm
 length: approx.500mm, weight: approx.6.80kg
 package: steel case
 weight of case: approx. 3.30kg
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300mm²



Item No:KYQ-400 safety system inside
 crimping range: 50–400mm²
 crimping force: 20T
 crimping type: hexagon crimping
 stroke: 25mm
 length: approx.540mm, weight: approx.8.30kg
 package: plastic box or steel case
 weight of case: approx. 4.00kg
Accessories:
 crimping dies: 50, 70, 95, 120, 150, 185, 240, 300, 400mm²



Item No:KDG-150 safety system inside
 open crimping head, rotate the die to choose crimping size.
 crimping range: 16–150mm²
 crimping force: 16T
 crimping type: indent crimping
 stroke: 20mm
 length: approx.500mm, weight: approx.4.60kg
 package: steel case
 weight of case: approx. 3.00kg
Accessories:
 Female dies: 16, 25, 35, 50, 70, 95, 120, 150 mm²
 Male dies: 16–25–35, 50–70–95, 120–150mm²



Item No:KDG-200
 open crimping head, rotate the die to choose crimping size.
 crimping range: 16–200mm²
 crimping force: 16T
 crimping type: indent crimping
 stroke: 20mm
 length: approx.510mm, weight: approx.4.90kg
 package: steel case
 weight of case: approx. 3.00kg
Accessories:
 Female dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 200 mm²
 Male dies: 16–25–35, 50–70–95, 120–150, 185–200mm²



Item No:KDG-150A
 open crimping head, rotate the die to choose crimping size.
 crimping range: 16–150 mm²
 crimping force: 16T
 crimping type: indent crimping
 stroke: 20mm
 length: approx.470mm
 weight: approx.3.50kg
 package: steel case
 weight of case: approx. 3.00kg
Accessories:
 Female dies: 16, 25, 35, 50, 70, 95, 120, 150 mm²
 Male dies: 16–25–35, 50–70–95, 120–150mm²



Item No:KDG-200A
 open crimping head, rotate the die to choose crimping size.
 crimping range: 16–200mm²
 crimping force: 16T
 crimping type: indent crimping
 stroke: 20mm
 length: approx.470mm, weight: approx.4.90kg
 package: steel case
 weight of case: approx. 3.00kg
Accessories:
 Female dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 200 mm²
 Male dies: 16–25–35, 50–70–95, 120–150, 185–200mm²

HAND HYDRAULIC COMPRESSION TOOL

- ※ Design to accommodate hexagonal dies for applying compression fittings to copper, aluminum conductors.
- ※ Two stage pumping action for rapid ram advance to the connector hold position with minimum pumping action.
- ※ Automatic retraction when the pressure reaches 700kg/cm² (12T) reached.
- ※ The glass fiber operation insulates the stick, can bear the electric voltage 200KV, keeping on the minute.
- ※ 180° rotatable head.
- ※ The pressure outside the body adjusts to press the valve, don't need the whole structure to lie down.



Item No:CYO-410

safety system inside

crimping force: 13T

crimping range: 250mm² max. Copper conductor size

stroke: 30mm

oil capacity: 145cc

weight: approx. 6.20kg

package: plastic box

weight of box: 1.80kg

Accessories:

crimping dies: 50, 70, 95, 120, 150, 185, 240, 300, 400mm²



HYDRAULIC Crimping Tool



Item No:CYO-430

safety system inside

crimping force: 13T

crimping range: 250mm² max. Copper conductor size

stroke: 30mm

oil capacity: 145cc

weight: approx. 6.40kg

package: plastic box

weight of box: 1.80kg

Accessories:

crimping dies: 35, 50, 70, 95, 120, 150, 185, 240, 300, 400mm²



Item No:CYO-510B

safety system inside

crimping force: 13T

crimping range: 380mm² max. Copper conductor size

stroke: 38mm

oil capacity: 200cc

weight: approx. 7.80kg

package: plastic box

weight of box: 1.80kg

Accessories:

crimping dies: 50, 70, 95, 120, 150, 185, 240, 300, 400mm²



Item No: FYQ-300

crimping Range: 16-300 mm²
 crimping force: 20T
 crimping type: hexagon crimping
 Stroke: 22mm
 Weight approx. 11kg
 Package: steel case
 Weight of case: approx. 4.45kg
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300 mm²

HYDRAULIC CRIMPING TOOL

Item No: FYQ-300C

crimping range: 16-300 mm²
 crimping force: 20T
 crimping type: hexagon crimping
 Stroke: 22mm
 Weight approx: 11.50kg
 Package: steel case
 Weight of case: approx. 4.45kgs
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300 mm²



Item No: FYQ-400

crimping range: 16-400 mm²
 crimping force: 22T
 crimping type: hexagon crimping
 Stroke: 22mm
 Max Pressure: 22T
 Weight approx: 14.50kg
 Package: steel case
 Weight of case: approx. 4.50kgs
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400 mm²



Item No: CO-400B

crimping range: 16-400 mm²
 crimping force: 20T
 crimping type: hexagon crimping
 stroke: 22mm
 height: approx. 240mm. weight: approx. 6.50kg
 package: plastic box
 weight of box: approx. 1.00kgs
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400mm²
 Note: it can match hand pump CP-700.
 Catalogue page:

FUNCTION

- ⊗ It is suitable for outside and inside project of the distributor house, it is the special tools for all kinds of connecting and building over head cable.
- ⊗ It pressed tightly on 10KV-500KV high voltage cable casing pipe, cable clips naked ends and hexagon shape.
- ⊗ We will develop the titanium alloy material to decrease the work deal.
- ⊗ Welcome to order special specification tools.



Item No: FYQ-630

crimping range: 150-630 mm²
 crimping force: 30T
 crimping type: hexagon crimping
 stroke: 25mm
 height: approx. 350mm
 weight: approx. 16.00kgs
 package: steel case
 weight of case: approx. 8.80kgs

Accessories:

crimping dies: 150, 185, 240, 300, 400, 500, 630 mm²
 Note: it can match hand pump CP-700.
 Catalogue page:



Item No: FYQ-630A

crimping range: 150-630 mm²
 crimping force: 30T
 crimping type: hexagon crimping
 Stroke: 25mm
 height: approx. 370mm
 Weight approx: 17.60kg
 Package: steel case
 Weight of case: approx. 4.30kgs

Accessories:

crimping dies: 150, 185, 240, 300, 400, 500, 630 mm²
 Note: it can match hand pump CP-700 or electric pump ZCB6-5.
 Catalogue page:



Item No: FYQ-1000

crimping range: 400-1000 mm²
 crimping force: 55T
 crimping type: hexagon crimping
 Stroke: 28mm
 height: approx. 380mm
 Weight approx: 32.20kg
 Package: steel case
 Weight of case: approx. 5.50kgs

Accessories:

Press-joint dies: 400, 500, 630, 800, 1000 mm²
 Note: it suggest to match electric pump ZCB6-5
 Catalogue page:



Item No: FHT-300

crimping Range: 16-300 mm² Cu-conductors,
 10-240 mm² Al-conductors
 crimping force: 6T
 crimping type: hexagon crimping
 Stroke: 16mm
 Weight approx. 4.00kg

Accessories:

crimping dies: 16, 25, 35, 50, 70, 95, 120, 150,
 185, 240, 300 mm²



Item No: SHP-430H

crimping range: 50-400 mm²
 crimping force: 13T
 crimping type: hexagon crimping
 stroke: 30mm
 height: approx. 240mm
 weight: approx. 6.50kg
 package: steel case

Accessories:

crimping dies: 50, 70, 95, 120, 150, 185,
 240, 300, 400mm²
 Note: it can match hand pump CP-700



Item No: CYO-510H

crimping range: 50-400 mm²
 crimping force: 13T
 crimping type: hexagon crimping
 stroke: approx. 38mm
 height: approx. 370mm
 weight: approx. 5.70kg
 package: steel case

Accessories:

crimping dies: 50, 70, 95, 120, 150, 185,
 240, 300, 400 mm²



Item No: JY-0650

Dieless crimping head, no dies to replace.
Crimping type:hexagon crimping.
Crimping range: 6-50mm²
Length: approx.380mm
Weight: approx. 1.10kg
Package: colorful paper box
Rotate the die to choose crimping size.



Item No: JY-0650A

Dieless crimping head, no dies to replace.
Crimping type:hexagon crimping.
Crimping range:6-50mm²
Length: approx.380mm
Weight: approx. 1.40kg
Package: colorful paper box
Rotate the die to choose crimping size.



Item No: JY-16120, JY-06120

Dieless crimping head, no dies to replace.
Crimping type:hexagon crimping.
Crimping range: 16-120mm² 6-120mm²
Length: approx.650mm
Weight: approx.3.80kg
Package: colorful paper box
Rotate the die to choose crimping size.



Item No: JY-25150

Dieless crimping head, no dies to replace.
Crimping type:hexagon crimping.
Crimping range: 25-150mm²
Length: approx.650mm
Weight: approx.3.80kg
Package: colorful paper box
Rotate the die to choose crimping size.



Item No: CT-38

crimping type: indent crimping
crimping range: 10-50mm²
Weight: 2.18kg
Length: 560mm
Package: colorful paper box



Item No: CT-80

crimping type: indent crimping
crimping range:10-95mm²
Weight: approx.3.40kg
Length: approx.670mm
Package: colorful paper box



Item No: CT-150

crimping type: indent crimping
crimping range:16-150mm²
Weight: approx. 4.80kg
Length: approx.760mm
Package: colorful paper box



Item No: KH-150

crimping type: indent crimping
crimping range: 10-120 mm²
weight: approx.3.20kg
length: approx. 620mm
package: colorful paper box



Item No: KH-230

crimping type: indent crimping
crimping range: 10-240 mm²
weight: approx. 3.30kg
length: approx. 720mm
package: colorful paper box



Item No: QW-12A

crimping type: hexagon crimping
 crimping force: 12T
 crimping range: 10-120mm²
 Stroke: 12mm
 Length: approx.410mm
 Weight: approx.3.50kg
 Package: steel case
Accessories:
 Crimping dies: 10,16,25,35,50,70,95,120mm²



Item No: QW-18A

crimping type: hexagon crimping
 crimping force: 18T
 crimping range: 16-240mm²
 Stroke: 14mm
 Length: approx.610mm
 Weight: approx.7.5kg
 Package: steel case
Accessories:
 Crimping dies: 16,25,35,50,70,95,120,
 150,185,240 mm²



Item No: JT-300

crimping force: 6T
 crimping range: 16-300 mm² Cu-conductors,
 10-240 mm² Al-conductors
 weight: approx.6.20kg
 length: approx.580mm
Accessories:
 crimping dies: 16, 25, 35, 50, 70, 95, 120, 150,
 185, 240, 300mm²



Item No: DG-I
 for non-insulated terminals
 crimping type: indent crimping
 crimping range: 0.5-10mm²
 length: approx. 225mm
 weight: approx. 0.37kg
 package: blister card



Item No: DG-II
 for non-insulated terminals
 crimping type: indent crimping
 crimping shape: Indent crimping
 crimping range: 0.5-8mm²
 length: approx. 245mm
 weight: approx. 0.37kg
 package: blister card



Item No: DG-III
 for non-insulated close end terminals
 crimping type: indent crimping
 crimping range: 3.5-8mm²
 length: approx. 245mm
 weight: approx. 0.38kg
 package: blister card



Item No: HS-1MA
 for non-insulated close end terminals
 crimping range: 1.25-2.5mm²
 length: approx. 170mm
 weight: approx. 0.25kg
 package: blister card



Item No: HD-6L
 for non-insulated terminals
 crimping range: 0.5-6mm²
 length: approx. 245mm
 weight: approx. 0.32kg
 package: blister card



Item No: HD-6LA
 for non-insulated terminals
 crimping range: 0.5-6mm²
 length: approx. 250mm
 weight: approx. 0.32kg
 package: blister card



Item No: HD-6M
 for non-insulated close end terminals
 crimping range: 3.5-8mm²
 length: approx. 270mm
 weight: approx. 0.45kg
 package: blister card



Item No: HD-8L
 for non-insulated terminals
 crimping type: Indent crimping
 crimping range: 1.25-8mm²
 length: approx. 270mm
 weight: approx. 0.45kg
 package: blister card



Item No: HD-8LA

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 1.25-8mm²
 length: approx. 280mm
 weight: approx. 0.47kg
 package: blister card



Item No: HD-10L

for non-insulated terminals
 crimping type: hexagon crimping
 crimping range: 1.5-10mm²
 length: approx. 280mm
 weight: approx. 0.47kg
 package: blister card



Item No: HD-14L

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 5.5-14mm²
 length: approx. 280mm
 weight: approx. 0.47kg
 package: blister card



Item No: HD-16L

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 1.25-16mm²
 length: approx. 280mm
 weight: approx. 0.47kg
 package: blister card



Item No: HX-16

for non-insulated terminals
 crimping type: hexagon crimping
 crimping range: 6-16mm²
 length: approx. 275mm
 weight: approx. 0.47kg
 package: blister card



Item No: HD-25L

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 5.5-25mm²
 length: approx. 350mm
 weight: approx. 0.69kg
 package: blister card



Item No: HX-26B

for non-insulated terminals
 crimping range: 5.5-25mm²
 length: approx. 350mm
 weight: approx. 0.69kg
 package: blister card



Item No: HD-50L

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 5.5-50mm²
 length: approx. 365mm
 weight: approx. 0.76kg
 package: blister card



Item No: HD-003

length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HD-004

for non-insulated terminals
crimping type: indent crimping
crimping range: 0.5-10mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HD-005

for non-insulated terminals
crimping type: hexagon crimping
crimping range: 0.5-10mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HD-006

for non-insulated terminals
crimping range: 2.5-10mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: G-301H

for insulated terminals
crimping range: 0.5-6mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: G-230C

crimping range: 1.0-4mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HS-10

for non-insulated terminal and connectors
crimping range: 1.5-6mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HS-101

for non-insulated terminal and connectors
crimping range: 1.0-10mm²
length: approx. 220mm
weight: approx. 0.49kg
package: blister card



Item No: HS-103

for close end terminals
 crimping range: 3.5-8mm²
 length: approx. 220mm
 weight: approx. 0.49kg
 package: blister card



Item No: HS-04WF

for wire ferrules, end sleeves lugs
 crimping range: 1.0-6mm²
 length: approx. 220mm
 weight: approx. 0.49kg
 package: blister card



Item No: HD-005H

for crimping coaxial-cables
 crimping range: 1.0-6mm²
 length: approx. 220mm
 weight: approx. 0.49kg
 package: blister card



Item No: SN-001

for non-insulated terminals
 crimping range: 0.25-2.5mm²
 length: approx. 190mm
 weight: approx. 0.38kg
 package: blister card



Item No: SN-002

for wire ferrules, end sleeves
 crimping range: 0.25-2.5mm²
 length: approx. 190mm
 weight: approx. 0.38kg
 package: blister card



Item No: SN-003

for crimping wire ferrules
 crimping range: 6-16mm²
 length: approx. 190mm
 weight: approx. 0.38kg
 package: blister card



Item No: HD-1101

for non-insulated terminals
 crimping type: hexagon crimping
 crimping range: 1.5-6mm²
 length: approx. 220mm
 weight: approx. 0.38kg
 package: blister card



Item No: HD-1102

crimping range: 0.1-2.5mm²
 length: approx. 220mm
 weight: approx. 0.38kg
 package: blister card



Item No: HD-1103

for insulated terminals
 crimping range: 1.5-4mm²
 length: approx. 220mm
 weight: approx. 0.38kg
 package: blister card



Item No: HT-106

for non-insulated terminals
 crimping type: hexagon crimping
 crimping range: 6-16mm²
 length: approx. 225mm
 weight: approx. 0.61kg
 package: blister card



Item No: HS-04WFL

for crimping wire ferrules
 crimping range: 0.5-4mm²
 length: approx. 220mm
 weight: approx. 0.49kg
 package: blister card



Item No: AP-03B

for non-insulated terminals
 crimping range: 1.0-4mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-03C

for insulated terminals
 crimping range: 0.5-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-10

for non-insulated terminal and connectors
 crimping range: 1.5-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-101

for non-insulated terminal and connectors
 crimping range: 1.0-10mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-103

for non-insulated close end terminals
 crimping range: 1.0-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-04WF

for wire ferrule end sleeves
 crimping range: 1.0-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-04WFL

for crimping wire ferrules
 crimping range: 0.5-4mm²
 length: approx. 220mm
 weight: approx. 0.49kg
 package: blister card



Item No: AP-004

for non-insulated terminal(point press)
 crimp range: 0.5-10mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-005

for non-insulated terminals
 crimping type: hexagon crimping
 crimping range: 0.5-10mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-005H

for coaxial cable
 crimp range 1.0-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: AP-006

crimping range: 0.5-6mm²
 length: approx. 250mm
 weight: approx. 0.59kg
 package: blister card



Item No: TP-680

for insulated terminal and connectors
 crimping range: 10-16mm²
 length: approx. 260mm
 weight: approx. 0.60kg
 package: blister card



Item No: TP-690

for non-insulated terminals
 crimping type: indent crimping
 crimping range: 0.5-6mm²
 length: approx. 260mm
 weight: approx. 0.60kg
 package: blister card



Item No: HSC8 6-4

for crimping wire ferrules
 crimping range: 0.25-6mm²
 length: approx. 175mm
 weight: approx. 0.35kg
 package: blister card



Item No: YG-202A

for tubular non-insulated cable lugs and connectors
 crimping range: 0.1-4mm²
 length: approx. 180mm
 weight: approx. 0.17kg
 package: blister card



Item No: YG-202B

for tubular non-insulated cable lugs and connectors
 crimping range: 0.1-4mm²
 length: approx. 180mm
 weight: approx. 0.17kg
 package: blister card



Item No. Q-175, Q-200

for lead sealing
 crimping range: 10mm, 11mm
 length: 160mm, 195mm
 weight: approx. 0.32kg, 0.36kg
 material: iron
 package: white paper box



Item No. Q-175A

for lead sealing
 crimping range: 10mm
 length: 175mm, 200mm
 weight: approx. 0.43kg
 material: stainless
 package: white paper box



Item No. Q-200A

for lead sealing
 crimping range: 11mm
 length: 175mm, 200mm
 weight: approx. 0.46kg
 material: stainless
 package: white paper box



Item No: G-376M

for crimping modular plug
 crimping range: 8P8C/RJ45, 6P6C/RJ-12, 4P4C, 4P2C
 length: approx. 225mm
 weight: approx. 0.52kg
 package: blister card



Item No: G-376E

for crimping modular plug
 crimping range: 8P8C/RJ45, 6P6C/RJ-12, 6P4C/RJ11
 length: approx. 200mm
 weight: approx. 0.31kg
 package: blister card



Item No: G-268

for crimping modular plug
 crimping range: 8P8C/RJ45, 6P6C/RJ-12, 6P4C/RJ11
 length: approx. 187mm
 weight: approx. 0.26kg
 package: blister card



Item No: HY-200R

for 4 pin telephone terminal crimp.
 crimping range: 6P telephone terminal, 8P net wire
 length: approx. 200mm
 weight: approx. 0.55kg
 package: blister card



Item No: HY-2096

crimping range: for 6P telephone terminal
 length: approx. 186mm
 weight: approx. 0.25kg
 package: blister card



Item No: HY-210N

crimping range: for 8P net wire
 length: approx. 200mm
 weight: approx. 0.30kg
 package: blister card

WIRE STRIPPER



Item No: HS-2004

stripping range: 0.5, 0.75, 1.25, 2.5, 3.5, 5.5mm²
 length: approx. 255mm
 weight: approx. 0.34kg
 package: blister card



Item No: HY-369A. B. C

HY-369A stripping range: 0.5, 1.0, 1.6, 2.0
 HY-369B stripping range: 1.0, 1.6, 2.0, 2.6, 3.2
 HY-369C stripping range: 0.5, 1.2, 1.6, 2.0, 2.6, 3.2



Item No: CPC-40A



Item No: CPC-40BL



Item No: CPC-52A



Item No: CPC-40B

Item No	cutting force	cutting range	Length	Weight	Package	weight of case
CPC-40A	8T	<ul style="list-style-type: none"> • 32mm max(for armoured Cu/Alu cable) • 50mm max(for telephone cable) • 45mm max(for armoured Cu/Alu cable) 	Approx.570mm	Approx.5.00kg	steel case	Approx.3.25kg
CPC-52A	12T	<ul style="list-style-type: none"> • 40mm max(for steel wire multi-strands) • 28mm max(for ACSR cables) 	Approx.615mm	Approx.7.00kg	steel case	Approx.3.5kg
CPC-40BL	10T	<ul style="list-style-type: none"> • 40mm max(for steel wire multi-strands) • 28mm max(for ACSR cables) • 40mm max(for steel wire multi-strands) 	Approx.480mm	Approx.5.00kg	steel case	Approx.3.3kg
CPC-40B	10T	<ul style="list-style-type: none"> • 28mm max(for ACSR cables) • 40mm max(for steel wire multi-strands) 	Approx.320mm	Approx.3.60kg	steel case	Approx.1.6kg



Item No: CPC-85B



Item No: CPC-100B



Item No: CC-50B

Item No	cutting force	cutting range	Length	Weight	Package	weight of case
CPC-85B	7.5T	<ul style="list-style-type: none"> cutting range: • 85mm max(for telephone cable) • 50mm max(for armoured Cu/Alu cable) 	Approx.465mm	Approx.8.20kg	steel case	
CPC-100B	7.5T	<ul style="list-style-type: none"> cutting range: • 100mm max(for telephone cable) • 75mm max(for armoured Cu/Alu cable) 	Approx.515mm	Approx.8.70kg	steel case	
CC50B	12T	<ul style="list-style-type: none"> Cutting range: • 50mm max(for telephone cable) • 45mm max(for armoured Cu/Alu cable) 	Approx.340mm	Approx.6.00kg	steel case	Approx.2.4kg



Item No: HS-125

Cutting range: 120 mm² max. for aluminum conductor
 95 mm² max for copper conductor
 length: approx. 350mm
 weight: approx. 0.57kg
 package: colorful paper box



Item No: HS-500

Cutting range: 500 mm² max. for aluminum conductor
 400 mm² max for copper conductor
 length: approx. 690mm
 weight: approx. 2.45kg
 package: colorful paper box



Item No: HS-250

Cutting range: 240 mm² max. for aluminum conductor
 185 mm² max for copper conductor
 length: approx. 540mm
 weight: approx. 1.43kg
 package: colorful paper box



Item No: CC-325

cutting range: 150 mm² max
 length: approx. 260mm
 weight: approx. 0.58kg
 package: blister card



Item No: CC-400

cutting range: 400 mm² max
 length: approx. 360mm
 weight: approx. 1.25kg
 package: colorful paper box



Item No: CC-500

Cutting range: 500 mm² max. for aluminum conductor
 400 mm² max for copper conductor
 Length: approx. 410mm
 Weight: approx. 1.63kg
 Package: colorful paper box



Item No: SYK-8

punching range: : the thickness below 3mm(16.5-60.8mm)
 the thickness below 2mm(16.5-115.5mm)
 punching force: 10T
 stroke: 25mm
 weight: approx. 10.9kg
 package: steel case
 weight of case: approx. 4.45kg
Accessories:
 Round punches:
 φ 22, φ 27.5, φ 34.3, φ 43, φ 49, φ 60.8mm
 Small rod(1), big rod(1), gasket(1)



Item No: SYK-8A

punching range: : the thickness below 3mm(16.5-60.8mm)
 the thickness below 2mm(16.5-115.5mm)
 punching force: 10T
 stroke: 25mm
 weight: approx. 10.9kg
 package: steel case
 weight of case: approx. 4.45kg
Accessories:
 Round punches:
 φ 22, φ 27.5, φ 34.3, φ 43, φ 49, φ 60.8mm
 Small rod(1), big rod(1), gasket(1)



Item No: SYK-8B

punching range: the thickness below 3mm(16.5-60.8mm)
 the thickness below 2mm(16.5-115.5mm)
 crimping force: 10T
 stroke: 25mm
 weight: approx. 8.13kg
 package: steel case
 weight of case: approx. 4.13kg
Accessories:
 Round punches: φ 22, φ 27.5, φ 34.3, φ 43, φ 49, φ 60.8mm
 Small rod(1), big rod(1), gasket(1)



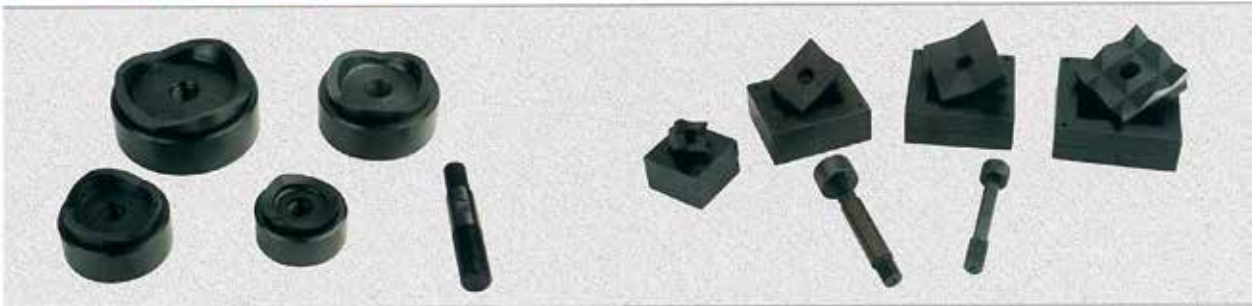
SYK-15

punching range: the thickness below 3mm(16.5-60.8mm)
 the thickness below 2mm(16.5-115.5mm)
 110 × 110mm
 crimping force: 15T
 stroke: 25mm
 weight: approx. 11.50kg
 package: steel case
 weight of case: approx. 4.45kg
Accessories:
 Round punches: φ 22, φ 27.5, φ 34.3, φ 43, φ 49, φ 60.8mm
 Square punch: 32 × 32mm
 Small rod(1), big rod(1), gasket(1)

FUNCTION

- ※ The finished distributor, on-off case and plate can change the specification at any time. It can change the size of the tools simply, and will not destroy the surface at all after drilling hole.
- ※ We can make the tools according to customer's requirement, quick delivery.
- ※ When order rectangle and square tools, please measure the correct dimension.

PUNCH DRIVER



ROUND PUNCHES

SQUARE PUNCHES



- ※ First use electric drill to dig hole with diameter of 12mm, then let R-1 match the mould of 1/2", at last set the ratchet wrench to begin operating.
- ※ For digging holes, no more than 3mm of thickness for steel sheet, no more than 2.0 mm of thickness for stainless steel sheet.
- ※ It is a force-saving product, the work piece can be dig into two pieces
- ※ No need hydraulic pump and oil vat, so reduce the cost



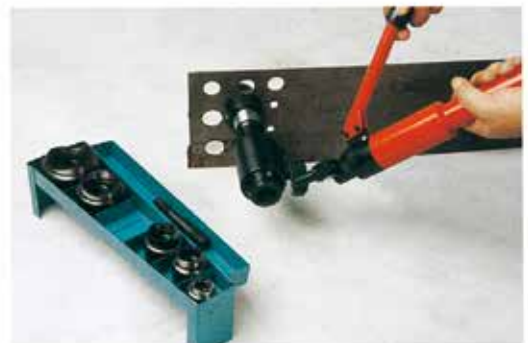
Item No: CC-60

punching range: thickness below 2mm for soft steel sheet \varnothing 22- \varnothing 60.8mm
 weight: approx. 3.80kg
 package: plastic box · weight of steel case: 1.00kg
Accessories:
 Round punches: \varnothing 22, \varnothing 27.5, \varnothing 34.3, \varnothing 43, \varnothing 49, \varnothing 60.8mm
 Note: It is hard to punch the thickness of metal more than 2mm.



Item No: WK-8

punching head rotates 360°
 punching force: 80KN
 punching range: Below 2mm sheet \varnothing 30mm- \varnothing 60mm
 Below 3mm sheet \varnothing 16mm- \varnothing 30mm
 stroke: 25mm
 weight: approx. 3.50kg
Accessories:
 Round punches: \varnothing 22, \varnothing 27.5, \varnothing 34.3, \varnothing 43, \varnothing 49, \varnothing 60.8mm
 Small rod(1), big rod(1), gasket(1)





Item No: CH-60



Item No: CH-70



Item No: SYD-35

Item No	Max thickness of sheet(mm)	Punching force (T)	depth of throat (mm)	Height approx (mm)	Weight approx (Kg)	Accessories (mm ²)	Note
CH-60	10	31	95		13.5	3/8" (φ 10.5), 1/2" (φ 13.8), 5/8" (φ 17), 3/4" (φ 20.5)	It can match hand pump CP-700 or electric pump ZCB6-5
CH-70	12	35	110	35	28	3/8" (φ 10.5), 1/2" (φ 13.8), 5/8" (φ 17), 3/4" (φ 20.5)	
SYD-35	1.5	12	100		12.5	φ 26- φ 35	Pump included



Item No: CWC-150/CWC-200
for cutting copper and aluminum sheet one side out, no scrap



Item No: CWC-150V
for cutting copper and aluminum sheet. Two sides out at the same time, create scrap.

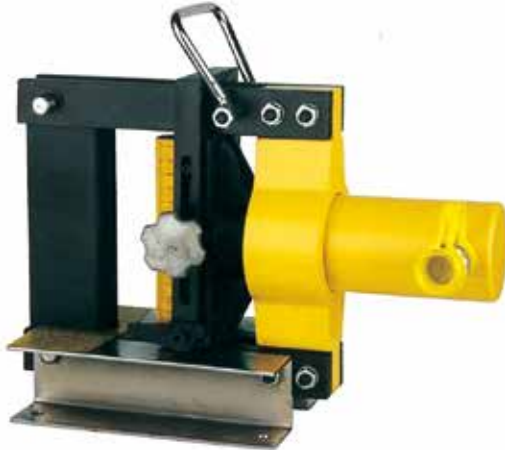
CUTTING TOOL



Item No: CWC-200V
for cutting copper and aluminum sheet one side out, no scrap

Item No	Max thickness of sheet(mm)	Width of sheet (mm)	cutting force (T)	Height (mm)	Weight approx (Kg)	Note
CWC-150	10	200	20	approx.420	32.5	
CWC-200	10	150	15	approx.400	30	It can match hand pump CP-700 or electric pump ZCB6-5
CWC-150V	10	150	20	approx.400	30	
CWC-200V	10	200	20	approx.420	32.5	

BRASS BENDER



Item No: CB-150D

for bending copper and aluminum sheet.



Item No: CB-200A

for bending copper and aluminum sheet

FUNCTION

- ⊗ Bent brass cutter or bent Alu cutter with 90 degree will not hurt the brass material.
- ⊗ CB-150D can be opened up, when bending long brass sheet "N" shape or "L" shape can pull the lock out, so you can take the whole one freely.
- ⊗ There is an indication of 90° degree and 45° degree.

Item No	Bending Force	Max thickness of sheet	Width of sheet	Height	Weight
CB-150D	16T	10mm	150mm	approx 360mm	approx 23kg
CB200A	20T	12mm	200mm	approx 370mm	approx 18kg

Item No: VHB-150

VHB-150 Multi-functionalline production machine

Functions	with three functions, cutting, punching and bending.
Dimension of work table:	800mm(L)×600mm (W) ×770mm(H)
Voltage: single phase	single phase 50Hz or 60Hz 220V
Rating oil pressure:	700kg/cm ²
Cutting force:	25T
Cutting range:	150mm(Wedth) × 10mm(thickness)
Punching force:	30T
Distance from hole to sheet side:	80mm
Punching range:	Hole DIA. ∅ 11, ∅ 14, ∅ 18, ∅ 21mm





Item No: CAC-60

for cutting angle-iron, no scrap
cutting force: 20T
cutting range: 60x60x6mm
(60mm means the length of steel side, 6mm
is the thickness of the steel)
height: approx. 380mm
Weight: approx. 26.50kg

FUNCTION

CAC series is specialized for cutting angle iron. The tool has the advantage of quick cutting, no scrap iron, smooth surface of cutting flat. It is suit for using in bridge, high pressure of iron tower and anyplace where need use such tool. It can work outside, convenient carry and simple operation.



Item No: CAC-100

for cutting angle-iron, no scrap
cutting force: 30T
cutting range: 100x100x10mm
(100mm means the length of steel side; 10mm
is the thickness of the steel)
height: approx. 390mm
Weight: approx. 30.40kg

SCREW DESTROYER



Item No: YP-24A

with safety system inside



When the nuts get rusted, this nut cutting machine is most time-Sa force-saving tool, no need power
You also can choose YP-24 for over head working, only need one pin
You can choose the right tools according to the following specificati Split-tool, FYP-41.

Item No	Max cutting force	Stroke	Length	Weight approx	Package	Weight of Box	Size of nut
YP-24	16T	20mm	500mm	4.5KG	steel case	Approx.3.30kg	M12-M16
YP-24A	16T	20mm	470mm	3.5KG	steel case	Approx.3.30kg	M12-M16
FYP-24	16T	20mm	200mm	1.6KG	steel case	Approx.0.9kg	M12-M16
FYP-41	16T	20mm	260mm	4.5KG	steel case	Approx.1.3kg	M22-M27



Item No: RC-16
for cutting steel rope



Item No: RC-22
for cutting steel rope

Item No	Cutting rang	Capacity	Voltage	Output	Length	Weight
RC-16	φ4-φ16mm	2.3	110V/60Hz 220V/50Hz	1.05(kw)	460mm	12.5Kg
RC-22	φ4-φ22mm	3.5	110V/60Hz 220V/50Hz	1.6(kw)	500mm	18.5Kg



Item No: CPC-12 Item No: CPC-16 Item No: CPC-22
for steel cutting

Item No	Cutting force	Cutting range	Length	Weight	Package	Weight of case
CPC-12	8T	φ4-φ12mm	Approx.200mm	1.5kg	steel case	Approx.1.60kg
CPC-16	12T	φ4-φ16mm	Approx.240mm	2.1kg	steel case	Approx.1.60kg
CPC-22	16T	φ4-φ22mm	Approx.300mm	3.5kg	steel case	Approx.1.90kg



Item No: CPC-16A
for cutting steel rope



Item No: CPC-12A
for cutting steel rope

Item No	Cutting range	Length	Weight	Package	Weight of case
CPC-16A	φ4-φ16mm	Approx.330mm	5.5Kg	steel case	Approx.2.30kg
CPC-12A	φ4-φ12mm	Approx.310mm	3.6Kg	steel case	Approx.1.60kg



Item No: CP-180

Max output pressure: 700kg/ cm²
 Oil capacity: 350cc
 Length: approx.360mm
 Weight: approx.5.20kg
 Package: steel case
 Weight of case: approx.4.45kg



Item No: CP-180B

Max output pressure: 700kg/ cm²
 Oil capacity: 350cc
 Length: approx.340mm
 Weight: approx.4.00kg
 Package: steel case
 Weight of Box: approx.4.15kg



Item No: CP-390

Max output pressure: 700 kg/ cm²
 Oil capacity: 350cc
 Length: approx.480mm
 Weight: approx.4.90kg
 Package: steel case
 Weight of Box: approx.4kg



Item No: CP-630

Max output pressure: 700 kg/ cm²
 Oil capacity: 1100cc
 Length: approx.730mm
 Weight: approx. 10.20kg
 Package: steel case
 Weight of case: approx.6.75kg



Item No: CP-700

Max output pressure: 700 kg/ cm²
 Oil capacity : 900cc
 Length: 700mm
 Weight: 10.70kg
 Package: steel case
 Weight of case: 6.75kg

CHARACTERISTIC:

Operation output pressure 700Kg/cm².
 Use 2M high pressure oil tube,with fast connection point.
 USE R32R super circulation oil or SHLL T-15.
 PT3/8" screw thread.
 Oil must be changed every half year.



ELECTRIC PUMP



Item No: ZCB6-5
3-phase motor or 2 phase motor

CHARACTERISTIC:

Operation output pressure 700Kg/cm².
Use 2M high pressure oil tube, with fast connection point.
USE R32R super circulation oil or SHLL T-15.
PT3/8" screw thread.
Oil must be changed every half year.



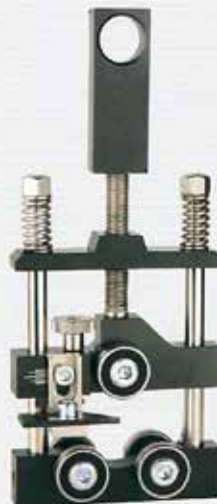
Item No: CFP-800

Item.No.	rated output	motor voltage	rated pressure		Capacity		Height	Weight
			high pressure	Low pressure	high pressure	Low pressure		
ZCB6-5	0.75kw	220V/ 380V	63mpa	2.5Mpa	0.8l/min	5l/min	Approx.470mm	Approx.30.00kg

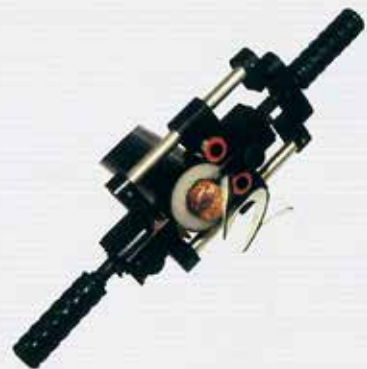
Item.No	Max output pressure	Deposit volume of oil	Weight	Length	Weight of case
CFP-800	700kg/ cm ²	400cc	Approx. 10.80kg	Approx. 520mm	Approx. 5.75kg



Item No: SK-30

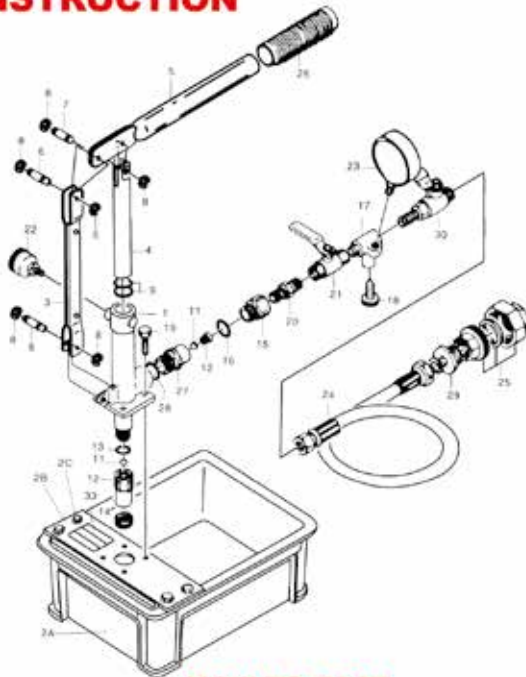


Item No: SK-40



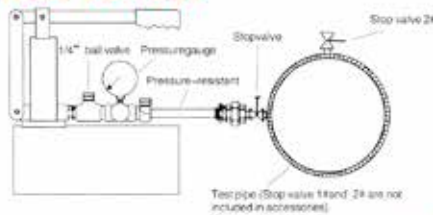
Item.No	Stripping range	Weight	Length	Note
SK-30	∅ 15- ∅ 30mm	0.87kg	325mm	For stripping the end and the middle of conducting wire and cable
SK-40	∅ 20- ∅ 40mm	0.80kg	250mm	For stripping the end of cable insulation and semiconductor

CONSTRUCTION



Number	DESCRIPTION	Qty.
1	CYLINDER	1
2A	WATERTANK	1
2B	STAND	4
2C	BOLT M6 x 15	1
3	SUPPORT	1
4	PLUNGER	1
5	HANDLE	2
6	SUPPORT PIN	1
7	CENTER PIN	6
8	SNADRING ϕ 6	2
9	PLUNGER O-RING P-22	1
10	SUCTION CASE	1
11	SUCTION&DELIVERY VALVE	1
12	SPRING	1
13	SUCTION CADE-RING P-14	1
14	STRAINER	1
15	VALVE JOINT	1
16	DELIVERY-RING P-15	1
17	AIR GAUGESTAND	1
18	SPINDLE	1
19	BOLT	1
20	NIPPLE	1
21	1/4" BALL VALVE	1
22	GREASE CAP	4
23	PRESSURE GUANGE	1
24	PRESSURE HOSE	1
25	UNION JOINT	1
26	GRIP	1
27	SUCTION VALVE	1
28	O-RING P-18	1
29	BUSHING	1
30	BALL VALVE	1
31	NAME PLATE	1

HOW TO TEST



T-50-P



SB



SYB

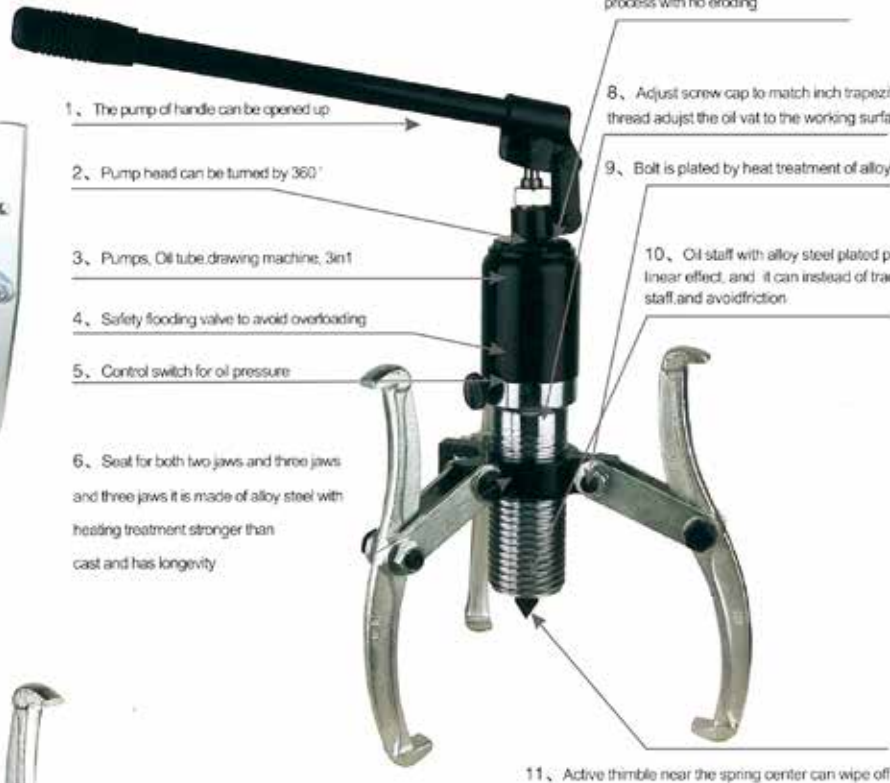
Item No.	Pressure	Rate of water suction per stroke	Capacity	Weight	Dimension
SYB-25	25K/cm ²	10ml	4.5L	2.5kg	320x200x250
SYB-40	40K/cm ²	10ml	4.5L	2.5kg	320x200x250
SYB-63	63K/cm ²	10ml	4.5L	3.5kg	320x200x250
SB-1.6	1.6K/cm ²	32ml	18L	7kg	380x160x430
SB-2.5	2.5K/cm ²	32ml	18L	7kg	380x160x430
SB-4.0	4.0K/cm ²	32ml	18L	7kg	380x160x430
T-50K-P	50K/cm ²	32ml	4.5L	3.1kg	320x200x300



Item No: CPS
split-unit style



Item No: EP
Integral-unit style



1. The pump of handle can be opened up

2. Pump head can be turned by 360°

3. Pumps, Oil tube drawing machine, 3in1

4. Safety flooding valve to avoid overloading

5. Control switch for oil pressure

6. Seal for both two jaws and three jaws and three jaws it is made of alloy steel with heating treatment stronger than cast and has longevity

7. The surface is finished by chrome plate, process with no eroding

8. Adjust screw cap to match inch trapeziform thread adjust the oil vat to the working surface

9. Bolt is plated by heat treatment of alloy steel

10. Oil staff with alloy steel plated provides linear effect, and it can instead of traditional staff and avoid friction.

11. Active thimble near the spring center can wipe off

Item No: CK
Integral-unit style

FUNCTION

Using new type of hydraulic gear puller is convenient for operating. Workers can exchange two jaws and three jaws freely in the scene working. The puller can be touched, working center quickly after rotary according to the distance between puller and piston center. It can choose pump freely. The jaws with three can be adjusted from high to low point.

Item No.	Output	Spread	Reach	Area Travel
CPS-10L	10T	304mm max.	250mm max.	150mm
CPS-20L	20T	304mm max.	250mm max.	150mm
EP-5	5T	200mm max.	140mm max.	50mm
EP-10	10T	250mm max.	160mm max.	50mm
EP-20	20T	350mm max.	200mm max.	50mm
EP-30	30T	450mm max.	250mm max.	50mm

Item No.	Output	Spread	Reach	Area Travel
CK-5	5T	200mm max.	140mm max.	50mm
CK-10	10T	250mm max.	160mm max.	50mm
CK-20	20T	350mm max.	200mm max.	50mm



Item No: CPB
split-unit style

Item No: SWG
Integral-unit style

FUNCTION

It is suit for common water pipe, wire pipe, carbon steel pipe, thick-wall conduit tube. Bend the angle with 90°. 1/2" - 2" can be shaped 90° one time. 2 1/2" - 4" can reach suitable radian which radian which must remove pipe and bend pipe five times.

Item No.	Output (T)	Stroke (mm)	Bending range (mm)	Thickness of pipe (mm)	Weight: approx (kg)	Package	Weight of box	Pipe moulds
SWG-2	16	250	1/2" - 2"	2.75-4.5	60	vaneer box	6	1/2" - 3/4" , 1" , 1 1/2" , 2"
SWG-3	18	320	1/2" - 3"	2.75-4.5	125	vaneer box	8	1/2" - 3/4" , 1" , 1 1/2" , 2" 2/2, 3"
SWG-4	20	415	1/2" - 4"	2.75-6	200	vaneer box	13.5	1/2" - 3/4" , 1" , 1 1/2" , 2" 2/2, 3" , 4"

Item No.	Output (T)	Bending range (mm)			Stroke (mm)	Oil reseaves (cc)	Weight (kg)
		Thin-wall conduit tube	Thick-wall conduit tube	Carbon steel pipe(Gas pipe)			
CPB-2	16	15mm-75mm (5/8") (2")	16mm-52mm (1/2") (2")	16mm-52mm (1/2") (2")	250	580	approx.58
CPB-3	18	15mm-75mm (5/8") (3")	16mm-82mm (1/2") (3")	15mm-65mm (1/2") (2 1/2")	270	640	approx.108
CPB-4	20	15mm-75mm (5/8") (4")	16mm-104mm (1/2") (4")	15mm-100mm (1/2") (4")	270	760	approx.190



C-18L
3/8"NPT



C-18S
1/4"NPT



C-19M
3/8"BS



TAKE-UP

Item No.	Max Tensile Force (T)	Stroke (mm)	Weight: approx (KG)	Weight (mm)
JYXQ-4	4	500	7	720mm
JYXQ-6	6	500	12.5	800mm

Item No: FT-1218

for connecting fittings and tube
 crimping range: Φ 12- Φ 18mm
 Stroke: 120mm
 Weight: approx. 0.90kg
 Package: plastic box
 Weight of box: approx. 0.50kg
Accessories:
 Crimping dies: ϵ 12, ϵ 16, ϵ 18mm



PACKAGE



Item No: FT-1225

for connecting fittings and PVC pipe
 crimping range: Φ 12- Φ 25mm
 Stroke: 80mm
 Weight: approx. 1.60kg
 Package: plastic box
 Weight of box: approx. 0.83kg
Accessories:
 Crimping dies: ϵ 12, ϵ 16, ϵ 20mm



PACKAGE



Item No: FT-1632
 for connecting fittings and tube



Item No: FT-1632A
 for connecting and expanding pipe.
 expanding ranger: Φ 16- Φ 32



Item No: FT-1632B
 for connecting fittings and tube



Item No	Connecting range	Stroke	Weight	Package	weight of box	Accessories
FT-1632	16-32mm	150mm	Approx. 2.50kg	plastic box	Approx. 0.99kg	moulds: ϵ 16, ϵ 20, ϵ 22, ϵ 25mm
FT-1632A	16-32mm	150mm	Approx. 2.50kg	plastic box	Approx. 0.99kg	moulds: ϵ 16, ϵ 20, ϵ 22, ϵ 25mm
FT-1632B	16-32mm	150mm	Approx. 2.30kg	plastic box	Approx. 0.99kg	moulds: ϵ 16, ϵ 20, ϵ 22, ϵ 25mm



Item No: ETM32
Expander

Expanding range: Φ 16, Φ 20, Φ 25, Φ 32mm
Weight: approx. 0.58Kg
Length: approx. 180mm



Item No: ETM20
Expander

Expanding range: Φ 16, Φ 20, Φ 25mm
Weight: approx. 0.33Kg
Length: approx. 160mm



Item No: PE-1632
Expander

Expanding range: Φ 16, Φ 20, Φ 25, Φ 32mm
Dies: Φ 16, Φ 20, Φ 25, Φ 32mm
Material: aluminum alloy



Item No: JT-1632
for crimping PEX pipe

Crimping range: Φ 16- Φ 32mm
Stroke: 6T
Length: approx. 580mm
Weight: approx. 5.05kg
Accessories:
Crimping dies: c 16, c 20mm, c 26mm, c 32mm



Item No: FT-1632C
for connecting pipe

Connecting range: Φ 16- Φ 32mm
Stroke: 150mm
Dies: Φ 16, Φ 20, Φ 25, Φ 32mm
Material: aluminum alloy



Item No: FT-18

for crimping PEX pipe



Item No: FT-18A

for crimping PEX pipe



Item No: FTY-1632

for crimping stainless pipe



Item No: FT-1325

for crimping stainless pipe

Item No .	crimping force(T)	crimping range	Crimping dies(mm)	Stroke (mm)	Length (mm)	Weight (kg)
FTY-1632	8	Φ16-Φ32	Φ16, Φ20, Φ25, Φ32	45	618	6.5
FT-18	1.5	Φ18			275	0.9
FT-18A	2.5	Φ18			400	1.5
FT1325	6	Φ13-Φ25	SU13, SU20, SU25	45	360	9.5

PVC PIPE CUTTER



Item No: U-25

cutting range: Φ25mm max
length: approx.200mm
weight: approx.0.14kg



Item No: U-32

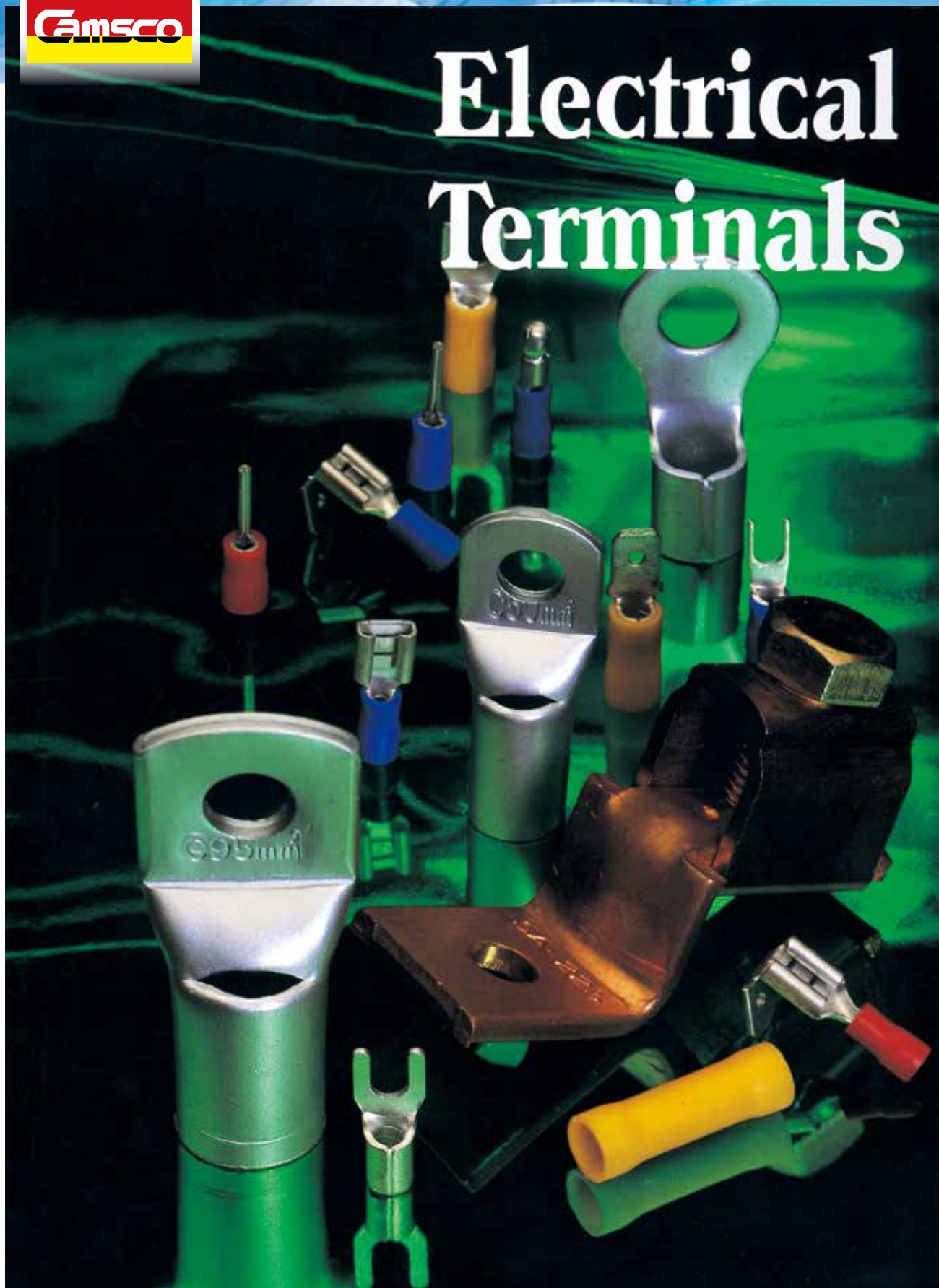
cutting range: Φ32mm max
length: approx.210mm
weight: approx.0.15kg



Item No: U-42

cutting range: Φ42mm max
length: approx.195mm
weight: approx.0.26kg

Electrical Terminals



ITEM NO.	AWG 22-16 DIN 0.5-1	STUD SIZE
RING TERMINALS		
VF 1.25-3		#6/3.7mm
VF-1.25-3S		#4/3.2mm
VF-1.25-4		#8/4.3mm
VF-1.25-5		#10/5.3mm
VF-1.25-6		#1/4"/6.4mm
VF-1.25-8		#5/16"/8.4mm
FORKED SPADE		
VF-1.25-3Y		#6/3.7mm
VF-1.25-4Y		#8/4.3mm
VF-1.25-5Y		#10/4.3mm
VF-1.25-6Y		#1/4"/6.4mm
MALE DISCONNECTORS		
3110A		TAB 2.8mm
4110A		TAB 4.8mm
5110A		TAB 6.4mm
FEMALE DISCONNECTORS		
3110B		TAB 2.8mm
4110B		TAB 4.8mm
5110B		TAB 6.4mm
BULLET DISCONNECTORS		
F1.25A		4mm BULLET
F1.25B		4mm BULLET
BUTT DISCONNECTORS		
BF-1.25		
PIN DISCONNECTORS		
PIN-1.25		TAB 1.9mm

ITEM NO.	AWG 16-14 DIN 1.5-2.5	STUD SIZE
RING TERMINALS		
VF 2-3		#6/3.7mm
VF 2-3S		#4/3.2mm
VF 2-4		#8/4.3mm
VF 2-5		#10/5.3mm
VF 2-6		#1/4"/6.4mm
VF 2-8		#5/16"/8.4mm
FORKED SPADE		
VF 2-3Y		#6/3.7mm
VF 2-4Y		#8/4.3mm
VF-25Y		#10/5.3mm
VF 2-6Y		#1/4"/6.4mm
MALE DISCONNECTORS		
3120A		TAB 2.8mm
4120A		TAB 4.8mm
5120A		TAB 6.4mm
FEMALE DISCONNECTORS		
3120B		TAB 2.8mm
4120B		TAB 4.8mm
5120B		TAB 6.4mm
BULLET DISCONNECTORS		
F 2A		4mm BULLET
F 2B		4mm BULLET
BUTT DISCONNECTORS		
BF-2		
PIN DISCONNECTORS		
PIN-2		TAB 1.9mm

ITEM NO.	AWG 12-10 DIN 4-6	STUD SIZE
RING TERMINALS		
VF 5.5-4		#8/4.3mm
VF 5.5-5		#10/5.3mm
VF 5.5-6		#1/4"/6.4mm
VF 5.5-8		#5/16"/8.4mm
VF 5.5-10		#3/8"/10.5mm
FORKED SPADE		
VF 5.5-4Y		#8/4.3mm
VF 5.5-5Y		#10/5.3mm
VF 5.5-6Y		#1/4"/6.4mm
MALE DISCONNECTORS		
3150A		TAB 2.8mm
4150A		TAB 4.8mm
5150A		TAB 6.4mm
FEMALE DISCONNECTORS		
3150B		TAB 2.8mm
4150B		TAB 4.8mm
5150B		TAB 6.4mm
BULLET DISCONNECTORS		
F5.5A		5mm BULLET
F5.5B		5mm BULLET
BUTT DISCONNECTORS		
BF-5.5		
PIN DISCONNECTORS		
PIN-5.5		TAB 2.8mm

ITEM	TYPE	RANGE SIZE.
FULL INSULATED		
RF250F		Wire Range / TAB 6.4mm 22-16
BF250F		Wire Range / TAB 6.4mm 16-14
PIGGY BACK		
MF-1.25		Wire Range / TAB 6.4mm 22-16
MF-2		Wire Range / TAB 6.4mm 16-14
MF5.5		Wire Range / TAB 6.4mm 12-10
STRIPPING QUICK SPLICE		
878100		
878101		
878201		

ITEM NO	WIRE RANGE	STUD SIZE
VF1.25-3M	AWG 22-16 DIN 0.5-1	3.7mm
VF1.25-4M	AWG 22-16 DIN 0.5-1	4.15mm
VF1.25-10	AWG 22-16 DIN 0.5-1	10.4mm
VF2-3M	AWG 16-14 DIN 1.52.5	3.65mm
VF2-4M	AWG 16-14 DIN 1.52.5	4.2mm
VF2-10	AWG 16-14 DIN 1.52.5	10.3mm
VF3.5-4	AWG 12-10 DIN 2.54	4.3mm
VF3.5-5	AWG 12-10 DIN 2.54	5.45mm

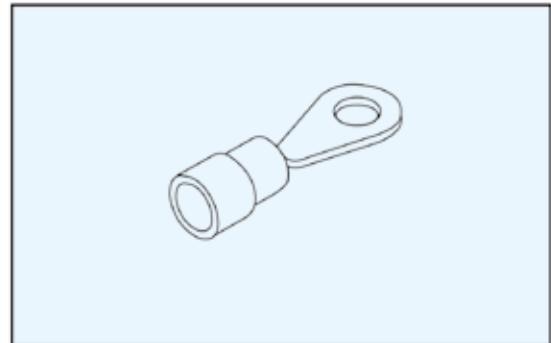
VF1.25-3SY	AWG 22-16 DIN 0.5-1	3.7mm
VF1.25-4SY	AWG 22-16 DIN 0.5-1	4.4mm
VF2-3SY	AWG 16-14 DIN 1.52.5	3.7mm
VF2-4SY	AWG 16-14 DIN 1.52.5	4.5mm
VF3.5-4Y	AWG 12-10 DIN 2.54	4.3mm
VF3.5-5Y	AWG 12-10 DIN 2.54	5.4mm
VF5.5-3SY	AWG 12-10 DIN 4-6	3.7mm

YF-250F	AWG 12-10	TBA
	DIN 4-6	6.4 mm

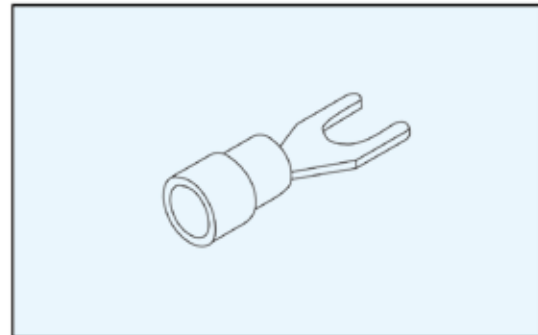
unit: mm

ITEM NO	B	F	E	φ D	WIRE RANGE COLOR
BT1-10V	2.3	10	10	4.1	22-16 AWG DIM: 0.5~1.5MM ² RED
BT1-11V	3	11	10	4.1	
BT1-14V	3	14	10	4.1	
BT1-18V	2.3	18	10	4.1	
BT2-9V	2.8	9	10	4.5	16-14 AWG DIM: 1.5~2.5MM ² BLUE
BT2-10V	2.3	10	10	4.5	
BT2-13V	2.3	13	10	4.5	
BT2-18V	2.3	18	10	4.5	
BT5-10V	2.8	10	13	6.5	12-10 AWG DIM:4~6MM ² YELLOW
BT5-18V	3	18	13	6.5	

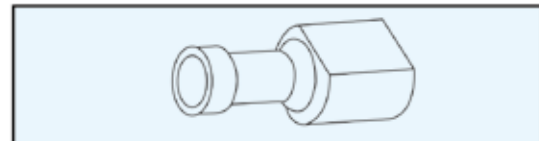
RING TERMINALS



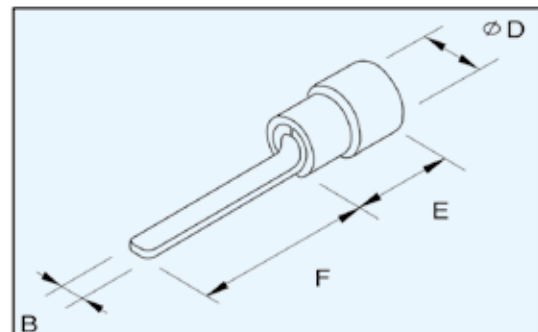
FORKED SPADE



FULL INSULATED

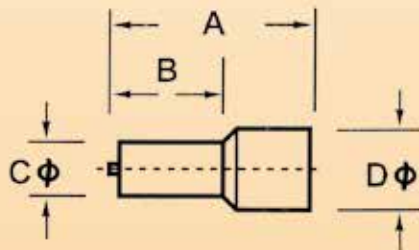


SPADE TERMINALS





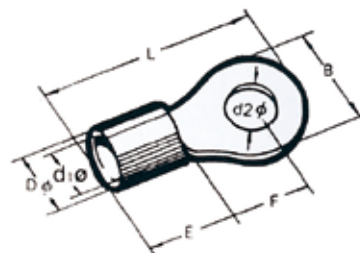
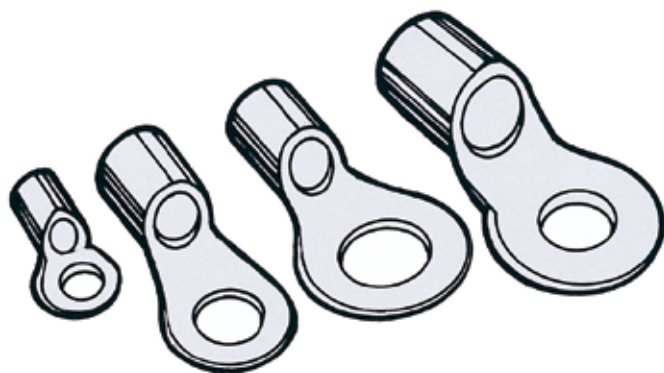
■ DIMENSIONS :



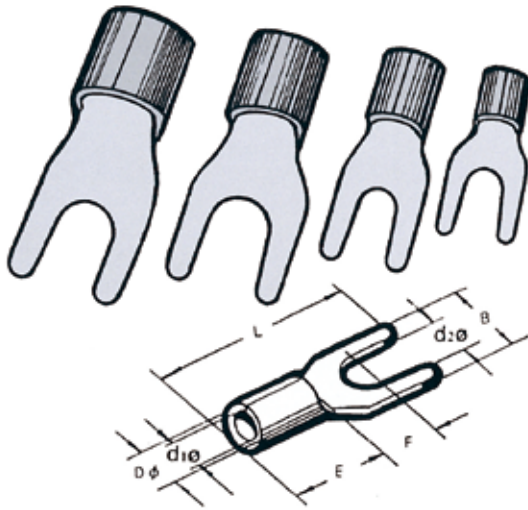
■ MATERIAL SPECIFICATION :

- INSULATION : POLYAMID66, -50°C~+ 105°C
- MATERIAL : E-COPPER, TINNED

ITEM NO.	CONDUCTOR mm	A	B	Cφ	Dφ	COLOR
CE002506	0.25	10.0	6.0	1.05	2.5	L BLUE
CE002508		12.0	8.0			
CE003406	0.34	10.0	6.0	1.10	2.5	TURKIS
CE003408		12.0	8.0			
CE005006	0.50	12.0	6.0	1.30	3.2	ORANGE
CE005008		14.0	8.0			
CE005010		16.0	10.0			
CE007506	0.75	12.0	6.0	1.50	3.4	WHITE
CE007508		14.0	8.0			
CE007510		16.0	10.0			
CE007512		18.0	12.0			
CE010006	1.00	12.0	6.0	1.70	3.6	YELLOW
CE010008		14.0	8.0			
CE010010		16.0	10.0			
CE010012		18.0	12.0			
CE015006	1.50	12.0	6.0	2.00	4.1	D RED
CE015008		14.0	8.0			
CE015010		16.0	10.0			
CE015012		18.0	12.0			
CE015018		24.0	18.0			
CE025008	2.50	14.0	8.0	2.50	4.8	BLUE
CE025010		16.0	10.0			
CE025012		18.0	12.0			
CE025018		24.0	18.0			
CE040010	4.00	17.0	10.0	3.20	5.5	GREY
CE040012		20.0	12.0			
CE040018		26.0	18.0			
CE060012	6.00	20.0	12.0	3.90	7.0	BLACK
CE060018		26.0	18.0			
CE100012	10.00	22.0	12.0	4.90	8.4	IVORY
CE100018		28.0	18.0			
CE160012	16.00	24.0	12.0	6.20	9.6	GREEN
CE160018		28.0	18.0			
CE250016	25.00	28.0	16.0	7.70	12.0	BROWN
CE250018		30.0	18.0			
CE250022		35.0	22.0			
CE350012	35.00	26.0	12.0	8.70	13.5	BEIGE
CE350016		30.0	16.0			
CE350018		32.0	18.0			
CE350025		39.0	25.0			
CE500020	50.00	36.0	20.0	10.9	16.0	OLIVE
CE500025		40.0	25.0			
CE700021	70.00	37.0	21.0	14.3	17.2	YELLOW
CE950025	95.00	44.0	25.0	15.5	19.2	RED
CE120027	120.00	48.0	27.0	17.6	21.4	BLUE
CE150032	150.00	58.0	32.0	20.5	25.0	YELLOW



ITEM NO.	WIRE RANGE		D ϕ	d1 ϕ	E	F	B	d2 ϕ	L					
	AWG/MCM	mm ²												
R1.25-3	22-16	0.25 1.65	3.2	1.7	4.5	4.0	5.5	3.7	11.5					
R1.25-3S						4.0	5.5	3.2	11.5					
R1.25-4						7.0	8.0	4.3	15.8					
R1.25-5						7.0	8.1	5.3	15.8					
R1.25-6						11.0	11.6	6.7	21.7					
R1.25-8						22.0	11.6	8.4	21.7					
R2-3						16-14	1.04 2.63	3.9	2.3	4.8	7.75	8.5	3.2	16.8
R2-3S											4.3	6.4	3.2	12.3
R2-4	7.75	8.5	4.3	16.8										
R2-5	7.25	9.5	5.3	16.8										
R2-6	11.0	12.0	6.4	21.8										
R2-8	11.0	12.0	8.4	21.8										
R3.5-4	12-10	2.63 4.6	5.0	3.0	6.3 6.0						7.7	8.0	4.3	18.0
R3.5-5											9.2	9.6	5.3	20.0
R5.5-4	12-10	2.63 6.64	5.4	3.4	6.8	8.25	9.5	4.3	19.8					
R5.5-5						8.25	9.5	5.3	19.8					
R5.5-8						13.7	12.0	6.4	25.8					
R5.5-8						13.7	15.0	8.4	28.0					
R5.5-10						13.7	15.0	10.5	28.0					
R8-5	8	6.64 10.52	6.9	4.5	8.5	9.3	12.0	5.3	23.8					
R8-6						9.3	12.0	6.4	23.8					
R8-8						13.8	15.0	8.4	29.8					
R8-10						13.8	15.0	10.5	29.8					
R8-12						15.0	20.0	13.0	33.5					
R14-5	6	10.52 16.78	8.8	5.8	10	11.5	12.0	5.3	27.5					
R14-6						11.5	12.0	6.4	27.5					
R14-8						14.5	16.0	8.4	32.5					
R14-10						14.5	16.0	10.5	32.5					
R14-12						19.8	22.0	13.0	41.3					
R22-6	4	16.78 26.66	11.3	7.7	12	13.45	16.5	6.7	33.7					
R22-8						13.45	16.5	8.4	33.7					
R22-10						15.95	16.5	10.5	33.7					
R22-12						19.5	22.0	13.0	42.5					
R38-6	2	26.66 42.42	13	9.4	14	17.7	22.0	6.7	42.7					
R38-8						17.7	22.0	8.4	45.7					
R38-10						17.7	22.0	10.5	42.7					
R38-12						17.7	22.0	13.0	42.7					
R60-8	1/0	42.42 60.57	15.4	11.4	18	20.7	19.1	8.4	49.7					
R60-10						20.7	19.1	10.5	49.7					
R60-12						20.7	19.1	13.0	49.7					
R70-8	2/0	60.57 76.28	17.3	13.3	19	20.0	22.1	8.4	51.0					
R70-10						20.0	22.1	10.5	51.0					
R70-12						20.0	22.1	13.0	51.0					
R80-8	3/0	76.28 96.3	19.4	14.5	20	20.5	27.0	8.4	54.0					
R80-10						20.5	27.0	10.5	54.0					
R80-12						20.5	27.0	13.0	54.0					
R100-8	4/0	96.3 117.2	21.6	16.4	21	20.35	28.5	8.4	55.6					
R100-10						20.35	28.5	10.5	55.6					
R100-12						20.35	28.5	13.0	55.6					
R150-10	250-300	117.2 152.05	25.9	19.5	27	23.0	36.0	10.5	66.0					
R150-12						23.0	36.0	13.0	66.0					
R150-16						23.0	36.0	17.0	66.0					
R180-10	300-350	152.05 192.6	28	21	28.5	24.5	38.5	10.5	69.5					
R180-12						24.5	38.5	13.0	69.0					
R180-16						24.5	38.5	17.0	69.0					
R200-10						24.5	44.0	10.5	72.0					
R200-12	400	192.6 242.27	32	24	31.5	24.5	44.0	13.0	72.0					
R200-16						24.5	44.0	17.0	72.0					
R325-10	500-600	242.27 325	37	28	35.5	33.5	50.0	10.5	88.0					
R325-12						33.5	50.0	13.0	88.0					
R325-16						33.5	50.0	17.0	88.0					

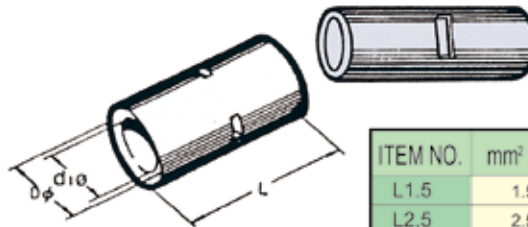


ITEM NO.	WIRE RANGE		Dφ	d1φ	E	F	B	d2φ	L
	AWG/MCM	mm ²							
Y1.25-3	22-16	0.25-1.65	3.2	1.7	4.5	6.5	6.2	3.7	16.0
Y1.25-4						6.5	7.2	4.3	16.0
Y1.25-5						6.5	8.0	5.3	16.0
Y1.25-6						7.5	9.7	6.7	17.0
Y2-3	16-14	1.04-2.63	3.9	2.3	4.5	6.5	6.2	3.7	16.0
Y2-4						6.5	7.2	4.3	16.0
Y2-5						6.5	8.0	5.3	16.0
Y2-6						9.0	10.7	6.7	19.0
Y3.5-4	12-10	2.63-4.6	5.0	3.0	6.3	6.9	8.0	4.3	18.0
Y3.5-5						8.0	9.5	5.3	20.0
Y3.5-6						9.5	12.0	6.7	22.0
Y5.5-4	12-10	2.63-4.6	5.4	3.4	6.5	7.5	8.2	4.3	19.5
Y5.5-5						7.5	9.0	5.3	19.5
Y5.5-6						10.5	12.0	6.7	24.0
Y8-6	8	6.64-10.52	6.9	4.5	8.0	9.0	12.0	6.7	24.0
Y14-6	6	10.6-16.7	8.8	5.8	10.0	11.0	12	6.7	27.5

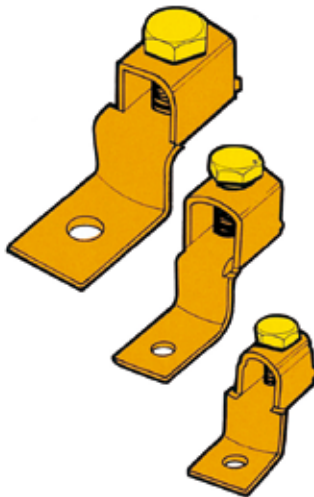
Solderless Lugs

ITEM NO.	Ampere Rating(A)	Wire RangeNumber in mm ²			
SA-25	25	2	5.5		
SA-35	35-50	2	5.5	8	14
SA-70	70-90	8	8	14	22
SA-125	125	5.5	14	22	38 60
SA-175	175	38	60	70	80
SA-225	225	38	60	70	80 100
SA-300	300	60	80	100	150
SA-400	400	80	100	150	180 200

Non Insulated Butt Connectors (Type B&C)

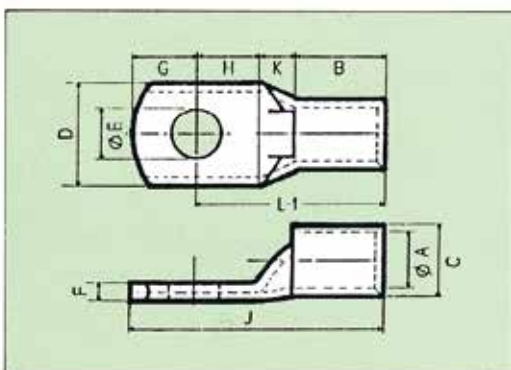


ITEM NO.	mm ²	d1φ	Dφ	L
L1.5	1.5	2.6	4.0	20
L2.5	2.5	2.6	4.0	23
L4	4.0	3.0	4.5	25
L6	6.0	4.0	5.5	30
L10	10.0	4.4	6.0	30
L16	16.0	5.4	7.0	40
L25	25.0	6.7	8.5	45
L35	35.0	8.2	10.5	45
L50	50.0	9.7	12.4	45
L70	70.0	11.6	14.6	50
L95	95.0	14.2	17.4	50
L120	120.0	15.0	19.0	55
L150	150.0	17.0	21.0	60
L185	185.0	19.0	23.5	65
L240	240.0	21.5	26.5	80
L300	300.0	24.0	30.0	85
L400	400.0	29.5	36.5	90
L500	500.0	31.0	38.5	100
L630	630.0	35.5	43.5	110
L800	800.0	39.0	50.6	150
L1000	1000.0	43.0	56.2	170



ITEM NO.	WIRE RANGE		Dφ	d1φ	L
	AWG/MCM	mm ²			
B1.25	22-16	0.25-1.65	3.3	1.9	16.5
B2	16-14	1.04-2.63	4.0	2.6	16.5
B3.5	12-10	2.63-4.6	5.0	3.7	16.5
B5.5	12-10	2.36-6.64	5.5	3.7	16.5
B8	8	6.64-10.52	7.1	5.1	22.5
B14	6	10.52-16.78	9.0	6.4	27.5
B22	4	16.78-26.66	11.4	8.2	30.5
B38	2	26.66-42.42	13.3	10.1	33.5
B60	1/0	42.42-60.57	15.4	12.0	36.0
B70	2/0	60.57-76.28	17.5	14.1	38.5
B80	3/0	76.28-96.3	19.4	15.4	39.5
B100	4/0	96.3-117.2	22.0	17.6	39.5
B150	250-300	117.2-152.05	26.0	20.9	55.5
B180	300-350	152.05-192.6	28.5	22.9	58.5
B200	400	192.6-242.27	32.5	25.7	64.5
B325	500-600	242.27-325	37.0	29.0	73.5

Tin plated electrolytic,
With cable inspection
Hole, 1.5 to 1000mm².
The copper tubing is to bs.
1172/Sabs. 404/Astmb.



DIMENSIONS

mm

CABLE	STUD HOLD SIZE	DIMENSIONS										ITEM NO.					
		ØE	ØA	C	D	F	G	H	K	B	L-1		J				
1.5	5.2	2.6	4.0	8.0	1.0	4	5	2	5	12	18	C1.5-5					
2.5	4.2	2.6	4.0	8.0	1.0	4	5	2	7	14	20	C2.5-4					
	5.2			10.0	0.8	5	6					15	C2.5-5				
	6.5			10.0	0.8	5	6					15	C2.5-6				
4	5.2	3.0	4.5	10.0	1.0	5	6	2	7	15	20	C4-5					
	6.5			10.0	1.0	5	6					15	C4-6				
6	5.2	4.0	5.5	10.0	1.2	5	6	3	9	18	23	C6-5					
	6.5			12.0	1.0	6	9					21	C6-6				
	8.4			12.0	1.0	6	9					21	C6-8				
10	6.5	4.4	6.0	12.0	1.2	6	7	3	9	19	25	C10-6					
	8.4			12.0	1.2	6	9					21	C10-8				
16	6.5	5.4	7.0	12.0	1.4	7	7	4	12	23	30	C16-6					
	8.4			12.0	1.4	7	7					25	C16-8				
25	6.5	6.7	8.5	13.0	2.0	7	7	4	12	23	32	C25-6					
	8.4			18.0	1.4	10	11					27	C25-8				
	10.5			18.0	1.4	10	11					27	C25-10				
35	6.5	8.2	10.5	15.3	2.4	9	9	5	12	26	37	C35-6					
	8.4			18.0	2.0	10	11					28	C35-8				
	10.5			18.0	2.0	10	11					28	C35-10				
50	8.4	9.7	12.4	17.8	2.9	10	11	6	16	33	43	C50-8					
	10.5			17.8	2.9	10	11					33	C50-10				
70	8.4	11.6	14.6	21.0	3.5	12	13	7	18	38	50	C70-8					
	10.5											21.0	3.5	12	13	38	C70-10
	13											21.0	3.5	12	13	38	C70-12
95	10.5	14.2	17.4	25	3.9	13	13	9	20	42	55	C95-10					
	13											25	3.9	13	13	42	C95-12
120	13	15.0	19.0	28	4.4	14	14	10	22	46	62	C120-12					
	17					16	16					48	C120-16				
150	13	17.0	21.0	30	4.7	16	16	11	26	53	70	C150-12					
	17											16	16	53	C150-16		
185	17	19.0	23.5	34	5	17	17	12	32	61	75	C185-16					
240	17	21.5	26.5	38	5.5	20	20	14	38	72	90	C240-16					
	21											20	20	72	C240-20		
300	17	24.0	30.0	43	6.5	22	22	15	42	79	100	C300-16					
	21											22	22	79	C300-20		
400	17	29.5	36.5	50.1	8	26	26	18	44	88	110	C400-16					
	21											26	26	88	C400-20		
500	17	31.0	38.5	56	9	28	28	20	48	96	120	C500-16					
	21											28	28	96	C500-20		
630	21	35.5	43.5	65	10	33	33	22	56	111	130	C630-20					
800	—	39	50.6	73.5	11.6	—	—	17	78	—	170	C800-BL					
1000	—	43	56.2	81	13.2	—	—	20	90	—	200	C1000-BL					

These dual-rated one conductor lugs are constructed from high strength aluminum alloy and electro tin-plated to provide low contact resistance.

FIG. NO.	WIRE RANGE ALUMINUM OR COPPER	CATALOG NUMBER
1	14 STR.-6 STR	CA6U
1	14 STR.-2 STR	CA2U
1	14 STR.-1/0 STR	CA25U
2	6 STR.-2/0 STR.	CA26U
2	6 STR.-250	CA29U
2	6 STR.-300	CA30U
2	6 STR.-350	CA31U
2	4 STR.-500	CA34U
2	2 STR.-600	CA36U
2	300-800	CA40U
2	500-1000	CA44U

Compact, wide-range, tin-plated aluminum terminal for use with two copper or aluminum cables

Wire Range	Stud Hole Size	Stud Hole Cntrs.	Fig.	CATALOG NUMBER
Two:14-1/0 Str.	1/4	-	1	C2A25U
Two:14-2/0 Str.	1/4	-	1	C2A26U
Two:6-250 Str.	3/8	-	2	C2A29U
Two:6-350 Str.	1/2	-	2	C-2A31U
Two:2-600 Str.	1/2	-	2	C-2A36U
Two:300-800	5/8	-	2	C-2A40U
Two:500-1000	5/8	-	2	C-2A44U
Two:6-350 Str.	1/2	1 3/4	3	C-2A31U-2N*
Two:2-600 Str.	1/2	1 3/4	3	C-2A36U-2N*
Two:300-800	1/2	1 3/4	3	C-2A40U-2N*
Two: 500-1000	1/2	1 3/4	3	C-2A44U-2N*

*Tongue holes drilled per NEMA standards.

Dual-rated three conductor lugs are constructed from high strength aluminum alloy and electro tin-plated to provide low contact resistance.

FIG. NO.	WIRE RANGE ALUMINUM OR COPPER	Stud HoleSize	CATALOG NUMBER
1	Three:14 STR.-2.	5/16	C-3A2U-2*
1	Three:14 STR.-1/0.	3/8	C-3A25U-2*
1	Three:14 STR.-2/0	1/2	C-3A26U-2N
1	Three:6 STR.-3/0.	1/2	C-3A27U-2N
1	Three:6 STR.-250.	1/2	C-3A29U-2N
1	Three:6 STR.-350.	1/2	C-3A31U-2N
1	Three:2 STR.-600.	1/2	C-3A36U-2N
2	Three:2 STR.600	1/2	CC-3A36U-2N
2	Three:300-800	1/2	CC-3A40U-2N
2	Three:500-1000	1/2	CC-3A44U-2N

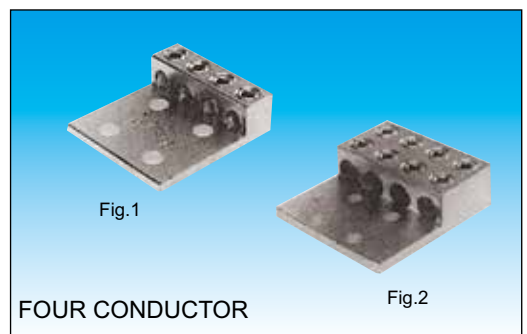
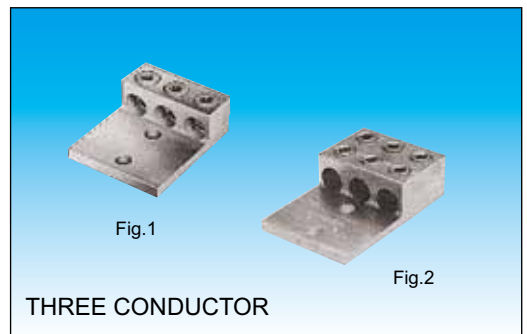
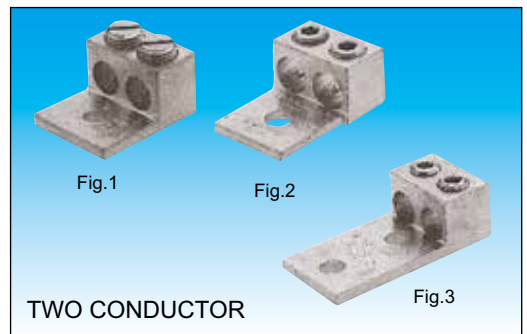
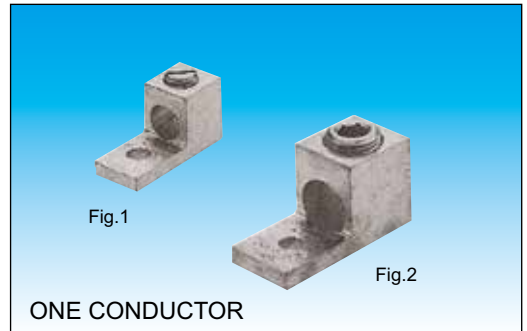
*Slotted screw


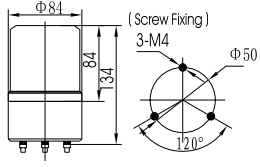

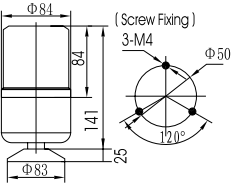

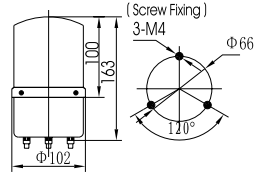

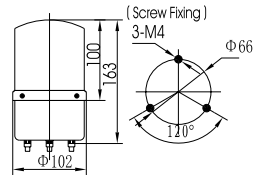
"N"indicates NEMA Standard Holes










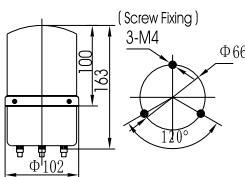













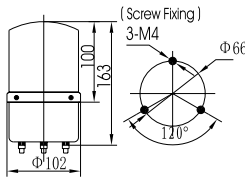













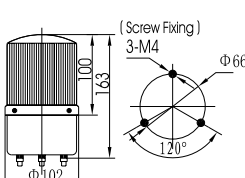













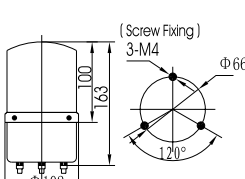




These dual-rated four conductor lugs are constructed from high strength aluminum alloy and electro tin-plated to provide low contact resistance.






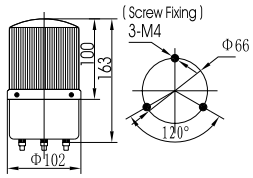
FIG. NO.	WIRE RANGE ALUMINUM OR COPPER	Stud HoleSize	CATALOG NUMBER
1	Four:6-250	1/2	C-4A29U-4N
1	Four:6-350	1/2	C-4A31U-4N
2	Four:2-600	1/2	CC-4A36U-4N
2	Four:300-800	1/2	CC-4A40U-4N






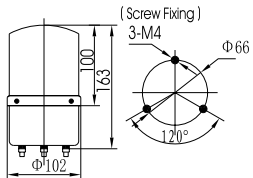
"N"indicates NEMA Standard Holes


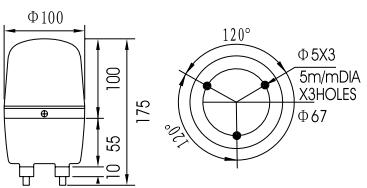







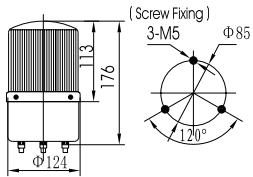
 <p>1081 Series Revolving IP45</p>	Item No. & Description				Specifications <ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 5W 	Dimensions/mm 
	LTE-1081	LTE-1081J	LTD-1081	LTD-1081J		
 <p>LTE-1084 Revolving IP45</p>	Specifications <ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 5W Color: Red, Yellow, Blue, Green 				Dimensions/mm 	
 <p>1101 Series Revolving IP45</p>	Item No. & Description				Specifications <ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 	Dimensions/mm 
	LTE-1101	LTE-1101J	LTD-1101	LTD-1101J		
 <p>1102 Series Revolving IP45</p>	Item No. & Description				Specifications <ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 	Dimensions/mm 
	LTE-1102	LTE-1102J	LTD-1102	LTD-1102J		



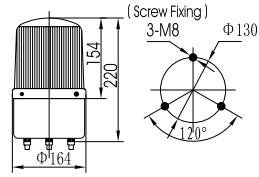


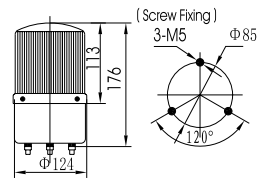


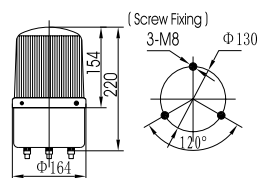


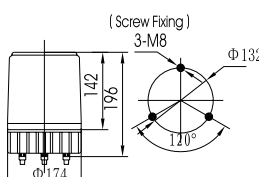
External Octagonal	Item No. & Description	Specifications	Dimensions/mm								
 <p>5101 Series LED Type IP45</p>	<table border="1"> <tr> <th>LTE-5101</th> <th>LTE-5101J</th> <th>LTD-5101</th> <th>LTD-5101J</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	LTE-5101	LTE-5101J	LTD-5101	LTD-5101J					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: R For Revolving T For Shining Wfor Flashing 	
	LTE-5101	LTE-5101J	LTD-5101	LTD-5101J							
											
<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 											
 <p>5102 Series LED Type IP45</p>	<table border="1"> <tr> <th>LTE-5102</th> <th>LTE-5102J</th> <th>LTD-5102</th> <th>LTD-5102J</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	LTE-5102	LTE-5102J	LTD-5102	LTD-5102J					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: R For Revolving T For Shining W For Flashing 	
	LTE-5102	LTE-5102J	LTD-5102	LTD-5102J							
											
<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 											
 <p>1103 Series Revolving IP45</p>	<table border="1"> <tr> <th>LTE-1103</th> <th>LTE-1103J</th> <th>LTD-1103</th> <th>LTD-1103J</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	LTE-1103	LTE-1103J	LTD-1103	LTD-1103J					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 	
	LTE-1103	LTE-1103J	LTD-1103	LTD-1103J							
											
<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 											
 <p>1104 Series Revolving IP45</p>	<table border="1"> <tr> <th>LTE-1104</th> <th>LTE-1104J</th> <th>LTD-1104</th> <th>LTD-1104J</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	LTE-1104	LTE-1104J	LTD-1104	LTD-1104J					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 	
	LTE-1104	LTE-1104J	LTD-1104	LTD-1104J							
											
<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 											




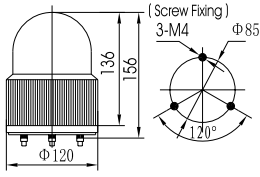



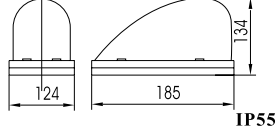
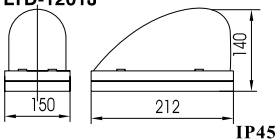




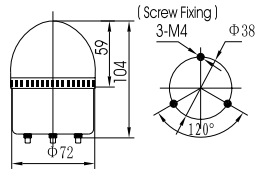





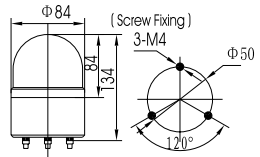
Straight Line	Item No. & Description				Specifications	Dimensions/mm
	LTE-5103	LTE-5103J	LTD-5103	LTD-5103J		
 5103 Series LED Type IP45					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: R For Revolving T For Shining W For Flashing 	
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					



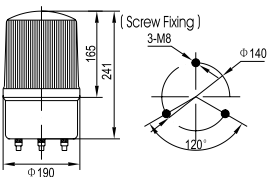


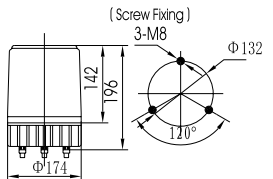


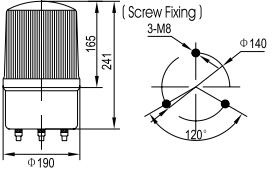


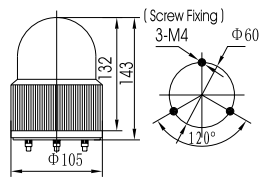
Round Type	Item No. & Description				Specifications	Dimensions/mm
	LTE-5104	LTE-5104J	LTD-5104	LTD-5104J		
 5104 Series LED Type IP45					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: R For Revolving T For Shining W For Flashing 	
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					





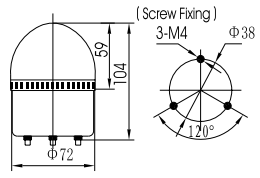
Round Type	Specifications	Dimensions/mm
 SN Series Revolving IP45	<ul style="list-style-type: none"> SN-12 : DC12V SN-24 : DC24V SN-110: AC110V SN-220: AC220V Color: Red, Yellow, Purple, Green 	






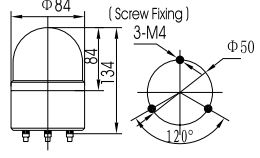
Straight Line	Item No. & Description				Specifications	Dimensions/mm
	LTE-1121	LTE-1121J	LTD-1121	LTD-1121J		
 1121 Series Revolving IP45					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 	
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					


Straight Line  1161 Series Revolving IP45	Item No. & Description LTE-1161 LTE-1161J LTD-1161 LTD-1161J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 35W	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Straight Line  5121 Series LED Type IP45	Item No. & Description LTE-5121 LTE-5121J LTD-5121 LTD-5121J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 2W • Functions: R For Revolving T For Shining W For Flashing	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Straight Line  5161 Series LED Type IP45	Item No. & Description LTE-5161 LTE-5161J LTD-5161 LTD-5161J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 3W • Functions: R For Revolving T For Shining W For Flashing	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Round Type  1181 Series Revolving IP45	Item No. & Description LTE-1181 LTE-1181J LTD-1181 LTD-1181J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 35W	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					


Bullet Type	Item No. & Description		Specifications	Dimensions/mm		
	LTE-1122	LTD-1122				
 1122 Series Revolving IP45			<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 10W 			
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing Color: Red, Yellow, Blue, Green 					
 1201 Series Revolving	Item No. & Description		Specifications	Dimensions/mm		
	LTD-1201	LTD1201J				
  <ul style="list-style-type: none"> Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 	<ul style="list-style-type: none"> Voltage: DC12V DC24V Light Power: 23W 	<ul style="list-style-type: none"> LTD-1201 				
		<ul style="list-style-type: none"> LTD-1201J 				
Straight Line  2071 Series Shining/Flashing IP45	Item No. & Description			Specifications	Dimensions/mm	
	LTE-2071	LTE-2071J	LTD-2071			
   <ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 	<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 15W AC 10W DC Functions: T For Shining W For Flashing 					
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					
 2082 Series Shining/Flashing IP45	Item No. & Description				Specifications	Dimensions/mm
	LTE-2082	LTE-2082J	LTD-2082	LTD-2082J		
    <ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 	<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 5W Functions: T For Shining W For Flashing 					
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					

Straight Line  1191 Series Revolving IP45	Item No. & Description LTE-1191 LTE-1191J LTD-1191 LTD-1191J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 55W	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Round Type  5181 Series LED Type IP45	Item No. & Description LTE-5181 LTE-5181J LTD-5181 LTD-5181J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 3W • Functions: R For Revolving T For Shining W For Flashing	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Straight Line  5191 Series LED Type IP45	Item No. & Description LTE-5191 LTE-5191J LTD-5191 LTD-5191J 				Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 3W • Functions: R For Revolving T For Shining W For Flashing	Dimensions/mm 
	• LTE: Screw Fixing • LTD: Magnetic Fixing • J For Buzzer • Color: Red, Yellow, Blue, Green					
Bullet Type  1105 Series Revolving IP45	Item No. & Description LTE-1105 LTD-1105 		Specifications • Voltage: DC12V DC24V AC110V AC220V • Light Power: 5W	Dimensions/mm 		
	• LTE: Screw Fixing • LTD: Magnetic Fixing • Color: Red, Yellow, Blue, Green					

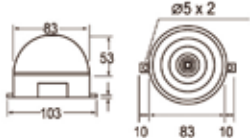
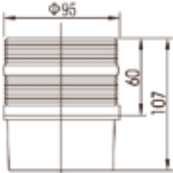
Straight Line	Item No. & Description			Specifications	Dimensions/mm
	LTE-5071	LTE-5071J	LTD-5071		
 5071 Series LED Type IP45				<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: T For Shining W For Flashing 	
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 				


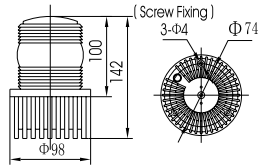

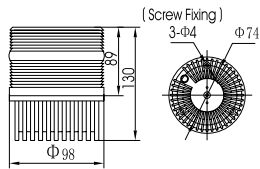

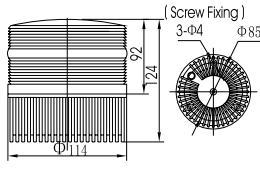

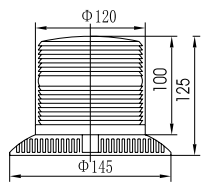
5082 Series LED Type	Item No. & Description				Specifications	Dimensions/mm
	LTE-5082	LTE-5082J	LTD-5082	LTD-5082J		
 5082 Series LED Type IP45					<ul style="list-style-type: none"> Voltage: DC12V DC24V AC110V AC220V Light Power: 2W Functions: T For Shining W For Flashing 	
	<ul style="list-style-type: none"> LTE: Screw Fixing LTD: Magnetic Fixing J For Buzzer Color: Red, Yellow, Blue, Green 					



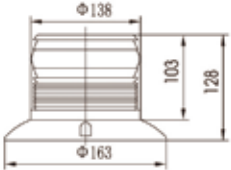
Xenon Strobe	Specifications		Dimensions/mm
	 LTE-3051 IP54	<ul style="list-style-type: none"> Voltage: DC12V DC24V AC220V Light Power: 10W Color: Red, Yellow, Blue, Green, White 	



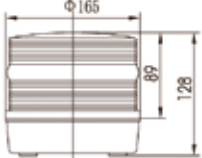
Xenon Strobe	Specifications		Dimensions/mm
	 LTE-3061 IP54	<ul style="list-style-type: none"> Voltage: DC12V DC24V AC220V Light Power: 10W Color: Red, Yellow, Blue, Green 	



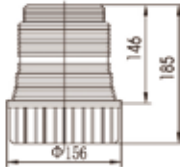
Led Flashing	Specifications	Dimensions/mm
 <p>LTE-5051 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 2W • Color: Red, Yellow, Blue, Green, White 	
 <p>LTE-5061 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 2W • Color: Red, Yellow, Blue, Green, 	
 <p>LTE-3072 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 10W • Color: Red, Yellow, Blue, Green, White 	
 <p>LTE-3073 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 20W • Color: Red, Yellow, Blue, 	

Led Flashing	Specifications	Dimensions/mm
 <p>LTE-5072 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 2W • Color: Red, Yellow, Blue, Green, White 	
 <p>LTE-5073 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC220V • Light Power: 2W • Color: Red, Yellow, Blue, 	
 <p>LTD-5092 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V • Light Power: 3W • Color: Red, Yellow, Blue, • Magnetic Fixing 	
 <p>LTD-5095 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V, 24V AC110V, 220V • Light Power: 3W • Color: Red, Yellow, Blue, • Magnetic Fixing 	

Led Strobe	Specifications	Dimensions/mm
 <p>5091 Series IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V , 24V AC110V , 220V • Light Power: 2W • Color: Red, Yellow, Blue, Green • LTE-5091: Screw Fixing • LTD-5091: Magnetic Fixing 	 <p>Technical drawing showing dimensions: Total height 142mm, mounting height 100mm, base diameter $\Phi 98$, and mounting holes 3-$\Phi 4$ with a diameter of $\Phi 74$.</p>
 <p>LTD-5100 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V , 24V AC110V , 220V • Light Power: 3W • Color: Red, Yellow, Blue, Red/Blue • Magnetic Fixing 	 <p>Technical drawing showing dimensions: Total height 80mm, mounting height 30mm, base diameter $\Phi 98$, and mounting holes 3-$\Phi 4$ with a diameter of $\Phi 74$.</p>
 <p>LTD-5111 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V , 24V AC110V , 220V • Light Power: 3W • Color: Red, Yellow, Blue, Red/Blue • Magnetic Fixing 	 <p>Technical drawing showing dimensions: Total height 124mm, mounting height 92mm, base diameter $\Phi 114$, and mounting holes 3-$\Phi 4$ with a diameter of $\Phi 85$.</p>
 <p>LTE-5152 IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V , 24V AC110V , 220V • Light Power: 3W • Color: Red, Yellow, Blue, Red/Blue 	 <p>Technical drawing showing dimensions: Top diameter $\Phi 120$, mounting height 100mm, total height 125mm, and base diameter $\Phi 145$.</p>

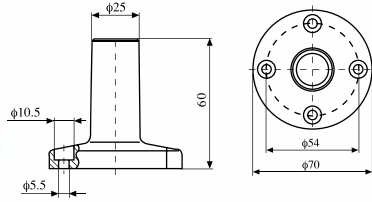
Led Strobe	Specifications	Dimensions/mm
  <p>LTE-5162</p> <p>IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V, 24V AC110V, 220V • Light Power: 3W • Color: Red, Yellow, Blue 	

Led Strobe	Specifications	Dimensions/mm
  <p>LTE-5163</p> <p>IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V, 24V AC110V, 220V • Light Power: 3W • Color: Red, Yellow, Blue, Red/Blue 	

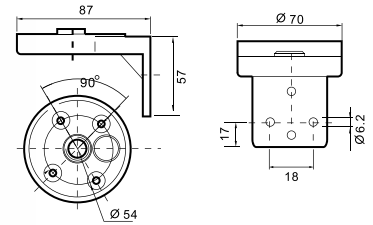
Led Strobe	Specifications	Dimensions/mm
  <p>LTE-5151</p> <p>IP54</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC AC • Light Power: 3W • Color: Red, Yellow, Blue 	

Led Strobe	Description & Specifications	
   <p>NLT-5097H</p> <p>NLT-5097</p> <p>IP45</p>	<ul style="list-style-type: none"> • Model Note NLT-5097: <input type="checkbox"/>+<input type="checkbox"/> → Holder, Please advice as below <input type="checkbox"/> → H: With Speaker <input type="checkbox"/> → BLANK: Without Speaker • Option for holder  <p>★ Dimensions for holder, Please see page306 .</p>	<ul style="list-style-type: none"> • Voltage: DC12V DC24V AC110V AC220V • Power: NLT-5097: 3W NLT-5097H: 13W • Color: Red, Yellow, Blue, Green • Dimensions:  <p>mm</p>

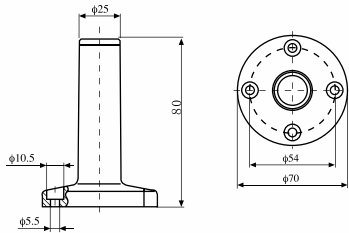
FZ-S-1



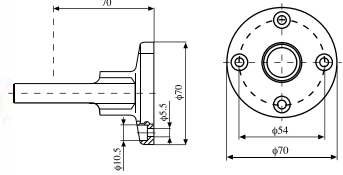
FZ-C-2



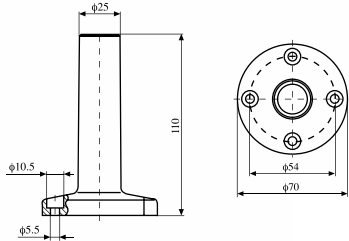
FZ-S-2



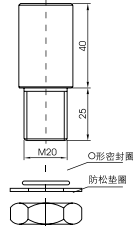
FZ-C-3



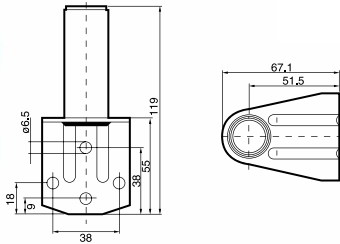
FZ-S-3



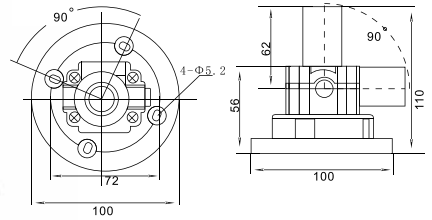
FZ-C-4



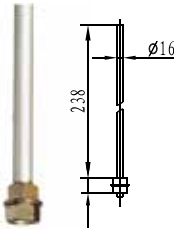
FZ-C-1



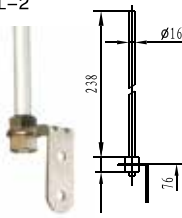
FZ-C-5



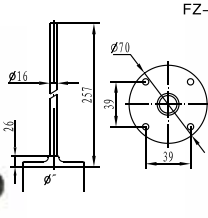
FZ-L-1



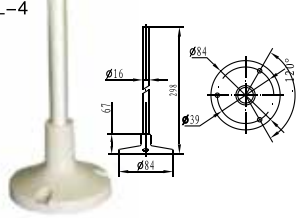
FZ-L-2



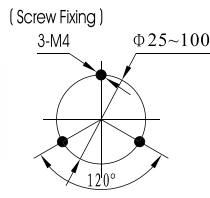
FZ-L-3



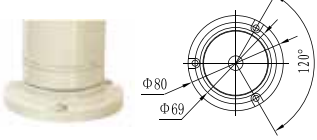
FZ-L-4



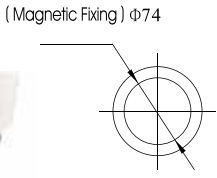
FZ-L-5

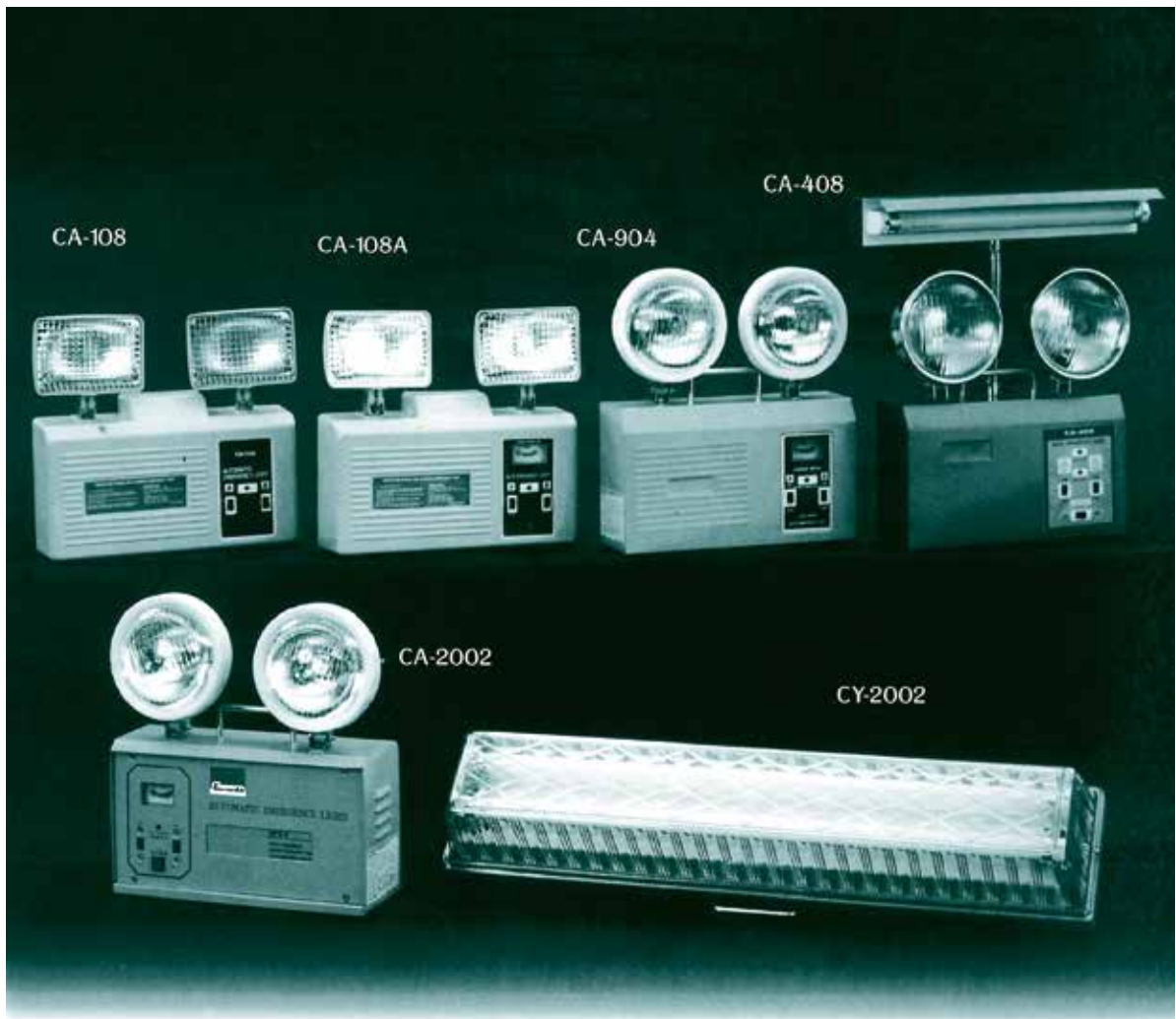


FZ-L-6



FZ-L-7





■ **DIMENSLONS:** WxLxH(mm)

CA-108: 275x70x250 CA-408: 275x90x420
 CA-108A: 275x70x250 CA-904: 275x90x310
 CA-2002: 275x90x310 CY-2002: 660x140x110

■ **SPECIFICATIONS:**

Model No.	Power Source	Battery Spec.	Bulb Spec. Tube Spec.	Material of Case	Charging time	Maintainance of illumination
CA-108	AC 110V or 220V	NP6V4AH	6V4Wx2	Synthetic Resin ABS	over 48 hours	3 hours
CA-108A	AC 110V or 220V	NP6V4AH	6V4Wx2	Synthetic Resin ABS	over 48 hours	3 hours
CA-2002	AC 110V or 220V	NP6V8AH	6V3Wx2	Metal plate	over 48 hours	6 hours
CA-408	AC 110V or 220V	NP6V8AH	6V3Wx2 FL Tube 10W	Metal plate	over 48 hours	4 hours
CA-904	AC 110V or 220V	NP6V4AH	6V3Wx2	Metal plate	over 48 hours	4 hours
CY-2002	AC 110V or 220V	NP6V8AH	FL Tube 20Wx2	Acrylic Cover Metal Base	over 48 hours	5 hours



CA-1010

■ **EXIT LIGHTS**

- Item No. CA-1010.
- Dimensions: 400x150x85m/m.
- The hanging distance between two fixed screws: 303m/m.

■ **SPECIFICATIONS:**

Model No.	Fl. Tube Spec.	Battery Spec.	Maintainance of illumination	Charging time
CA-1010	10W x 1pc	Ni-cd 3.6v 1.6AH	90 MINUTES	Over 48 hours

■ **BATTERY/**

■ **SPECIFICATIONS**

Model No.	Battery spec.	Dimensions (mm)
NP6V4AH	6V4A	70x48x102
NP6V8AH	6V8A	151x50x94



■ **PLEASE ADVISE WHICH SIGN PLATE WHEN YOU ORDER. (USE FOR CA-1010)**



plate 1



plate 3



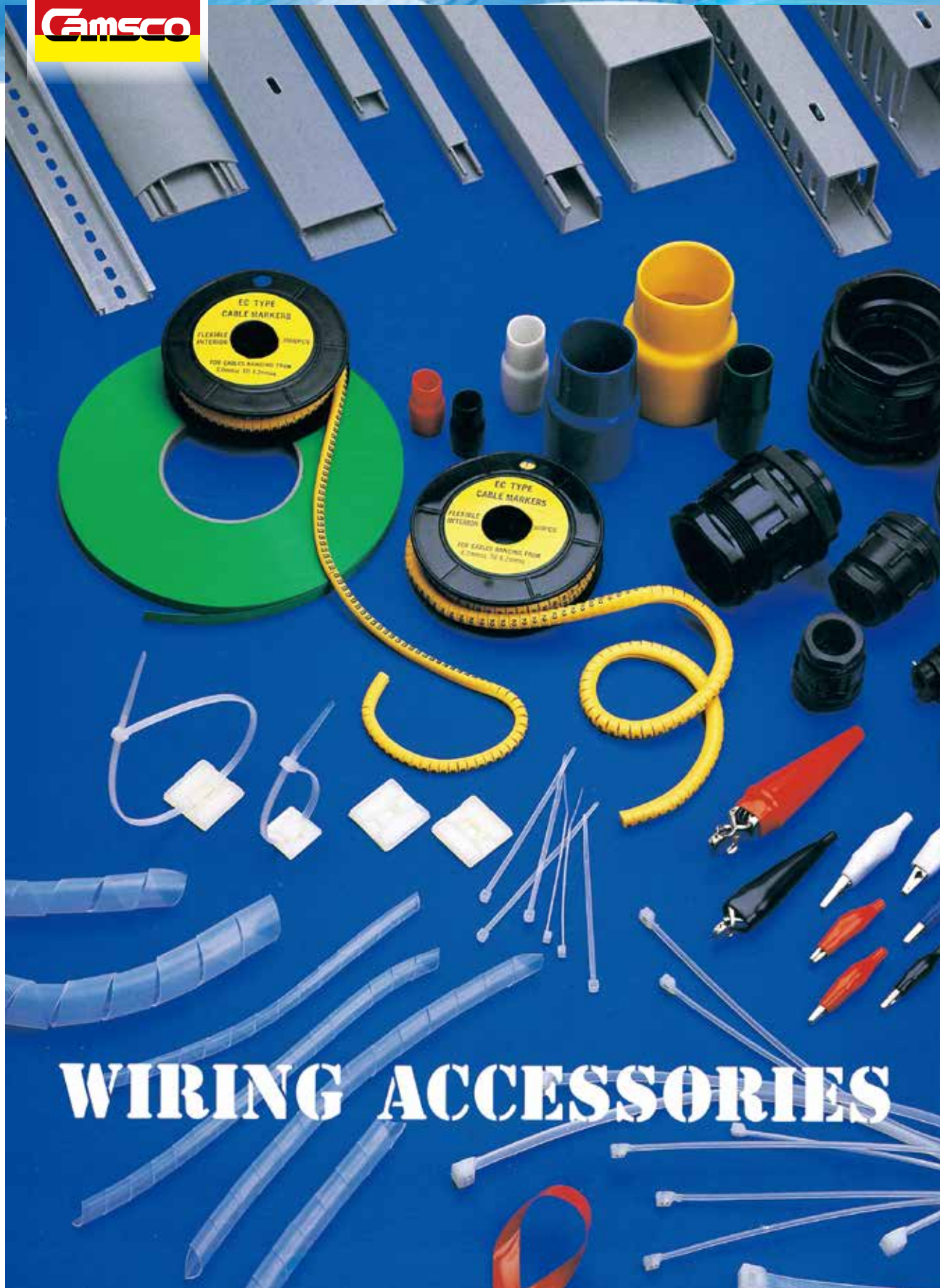
plate 4



plate 2

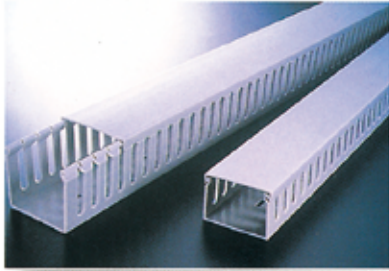


plate 5



WIRING ACCESSORIES

WIRING DUCT (OPEN SLOT)

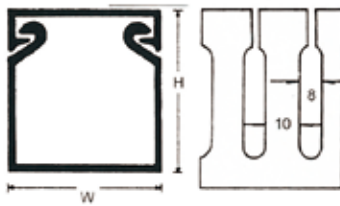


SLOT: 8mm for all applicable size except MD-6.5 MD-6.7, MD-8 in 10mm. (100mm in high)

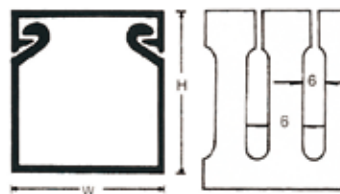
- Material: High impact, self-extinguishing, warp-proof PVC (Polyvinyl chloride)
- Color: Grey.
- Maximum service temperature: 85°C
- Used extensively for all wiring applications where cable protection is essential i.e. switchboards...etc.
- Features parallel holes on both sidewalls to facilitate cutting in wire application.
- Special color, size, length upon request of reasonable quantity.
- ★ NEW SIZE

Unit:mm

MD SLOT : 8mm

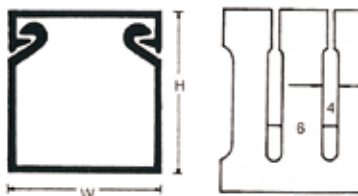


KD SLOT : 6mm



HD SLOT : 4mm

■ AVAILABLE AT 6mm SLOT UPON REQUEST. UP TO 60 × 60 mm.



Item No.			Dimension W × H	Wires to be Contained	Length
SLOT : 8mm	SLOT : 6mm	SLOT : 4mm			
AD-0.5L		HD-0.5L	15 × 25	5~12pcs	2M
AD-0.7L		HD-0.7L	20 × 20	5~12pcs	
AD-0L		HD-0L	25 × 25	10~25pcs	
AD-1L	KD-1	HD-1L	25 × 45	20~25pcs	
AD-1.2L	KD-1.2	HD-1.2L	33 × 33	25~45pcs	
AD-1.5L	KD-1.5	HD-1.5L	33 × 45	40~55pcs	
AD-2L	KD-2	HD-2L	45 × 45	60~70pcs	
AD-2.2L		HD-2.2L	50 × 50	80~90pcs	
AD-2.5L	KD-2.5	HD-2.5L	65 × 45	110~120pcs	
AD-3L	KD-3	HD-3L	33 × 65	60~75pcs	
AD-4L	KD-4	HD-4L	25 × 65	40~45pcs	
AD-5L	KD-5	HD-5L	45 × 65	110~120pcs	
AD-5.5L	KD-5.5	HD-5.5L	60 × 60	120~135pcs	
AD-5.7L	KD-5.7	HD-5.7L	65 × 65	180~200pcs	
AD-6L			72 × 64	200~220pcs	
AD-6.5L			33 × 100	180~200pcs	
AD-6.7L			48 × 100	215~250pcs	
★ AD-6.8L			55 × 100	220~260pcs	
★ AD-7L			70 × 100	250~300pcs	
★ AD-7.2L			100 × 50	200~250pcs	
AD-7.5L			100 × 75	260~320pcs	
AD-8L		HD-8L	100 × 100	300~400pcs	
AD-10L			150 × 75	335~500pcs	
★ AD-12L			150 × 100	450~600pcs	
★ AD-15L			200 × 100	600~800pcs	

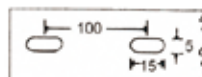
FIXING SLOT

For width :

25mm · 33mm · 40mm · 45mm ·
50mm · 60mm · 65mm

For width :

72mm · 80mm · 100mm · 150mm

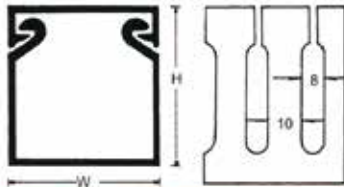


■ AVAILABLE AT 50mm SLOT UPON REQUEST.

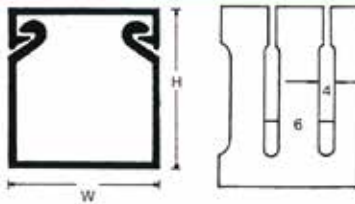
WIRING DUCT (OPEN SLOT)



VD SLOT : 8mm



HVD SLOT : 4mm



Unit:mm

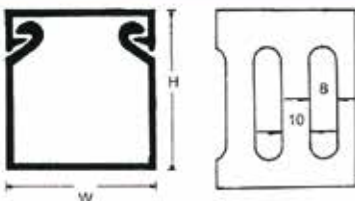
Item No.		W×H	Wires to be Contained	Length
SLOT 8mm	SLOT 4mm			
VD-1	HVD-1	25 × 30	15~25pcs	2M
VD-2	HVD-2	25 × 40	20~25pcs	
VD-3	HVD-3	33 × 44	40~45pcs	
VD-4	HVD-4	40 × 40	60~70pcs	
VD-5	HVD-5	60 × 40	100~115pcs	
VD-5.5	HVD-5.5	80 × 40	120~135pcs	
★ VD-5.7	HVD-5.7	100 × 40	130~175pcs	
VD-6	HVD-6	25 × 60	40~45pcs	
VD-7	HVD-7	40 × 60	100~115pcs	
VD-8	HVD-8	60 × 60	120~135pcs	
VD-9	HVD-9	80 × 60	180~210pcs	
VD-9.5	HVD-9.5	100 × 60	240~290pcs	
VD-9.6	HVD-9.6	120 × 60	240~290pcs	
VD-9.65	HVD-9.65	120 × 65	260~360pcs	
VD-9.66	HVD-9.66	25 × 80	100~120pcs	
VD-9.7	HVD-9.7	40 × 80	120~135pcs	
VD-9.8	HVD-9.8	60 × 80	180~210pcs	
VD-10	HVD-10	80 × 80	240~290pcs	
VD-10.5	HVD-10.5	100 × 80	260~350pcs	
VD-11	HVD-11	120 × 80	300~400pcs	
★ VD-12	HVD-12	40 × 100	130~175pcs	

★ NEW SIZE

WIRING DUCT (CLOSE SLOT)



VDC SLOT : 8mm

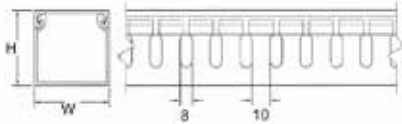


Unit:mm

Item No.	W×H	Wires to be Contained	Length
SLOT 8mm			
VDC-2530	25 × 30	15~25pcs	2M
VDC-2560	25 × 60	40~45pcs	
VDC-4040	40 × 40	60~70pcs	
VDC-4060	40 × 60	100~115pcs	
VDC-4080	40 × 80	120~135pcs	
VDC-5050	50 × 50	80~90pcs	
VDC-6060	60 × 60	120~135pcs	
VDC-6080	60 × 80	180~210pcs	
VDC-8080	80 × 80	240~290pcs	
VDC-100100	100 × 100	300~400pcs	

- Close slot design facilitate easy installation or removal of cover.
- Cut optionally wherever wire insertion/extension is necessary.

WIRING DUCT (OPEN SLOT)

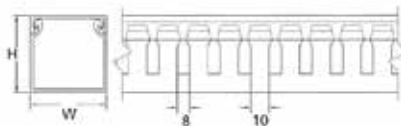


Unit:mm

Item No.		W × H	Wires to be Contained	Length
Slot(8mm)	Solid			
AD-1 × 2	SD-1 × 2	25 × 50	20~25pcs	2M
AD-1 × 3	SD-1 × 3	25 × 75	60~75pcs	
AD-1.5 × 1	SD-1.5 × 1	38 × 25	20~23pcs	
AD-1.5 × 2	SD-1.5 × 2	38 × 50	60~70pcs	
AD-2 × 2	SD-2 × 2	50 × 50	80~90pcs	
AD-2 × 3	SD-2 × 3	50 × 75	180~200pcs	
AD-3 × 3	SD-3 × 3	75 × 75	200~250pcs	
AD-3 × 4	SD-3 × 4	75 × 100	240~300pcs	

- Material: High impact. self-extinguishing, warp-proof PVC
- Color: Grey.
- Maximum service temperature: 85°C
- Features parallel holes on both sidewalls to facilitate cutting in wire application.

DUCT (OPEN SLOT)

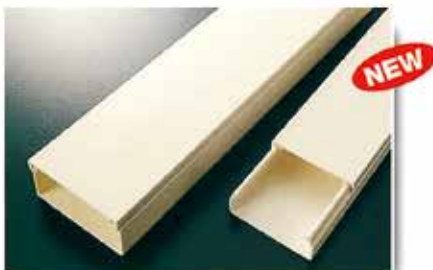


Unit:mm

Item No.	W × H	Wires to be Contained	Length
BD-2525	25 × 25	10~25pcs	2M
BD-3340	33 × 40	40~45pcs	
BD-4040	40 × 40	50~60pcs	
BD-3360	33 × 60	60~70pcs	
BD-4860	48 × 60	110~120pcs	
BD-6060	60 × 60	120~135pcs	

- Material: High impact. self-extinguishing, warp-proof PVC
- Color: Grey.
- Maximum service temperature: 85°C
- Features parallel holes on both sidewalls to facilitate cutting in wire application.

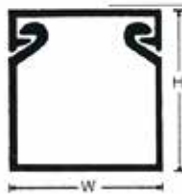
MINI TRUNKING



Unit:mm

Item No.	W × H	Wires to be Contained	Length
UD-1616	16 × 16	3~10 pcs	2M
UD-1809	18 × 9	2~6 pcs	
UD-2516	25 × 16	5~12 pcs	
UD-4025	40 × 25	20~40 pcs	
UD-5025	50 × 25	25~45 pcs	

DUCT (SOLID)



SOLID:

No slot design, for external wiring or where wire extraction is not necessary.

- Material: High impact, self-extinguishing, warp-proof PVC
- Color: Grey.
- Maximum service temperature: 85°C
- Used extensively for all wiring applications where cable protection is essential i.e. switchboard...etc.
- Features parallel holes on both sidewalls to facilitate cutting in wire application.
- Special color, size, length upon request at reasonable quantity.
- ★ NEW SIZE

Unit:mm

Item No.	W×H	Wires to be Contained	Length
★ SD-2210	22×10	3~8pcs	2M
★ SD-3015	30×15	10~25pcs	
SD-1616	16×16	3~10pcs	
SD-2516	25×16	5~12pcs	
SD-3816	38×16	12~30pcs	
SD-2020	20×20	5~12pcs	
★ SD-4020	40×20	20~40pcs	
SD-1525	15×25	5~12pcs	
SD-2525	25×25	10~25pcs	
SD-3825	38×25	20~40pcs	
★ SD-5025	50×25	25~45pcs	
SD-2530	25×30	15~25pcs	
★ SD-3030	30×30	20~40pcs	
SD-3333	33×33	25~45pcs	
★ SD-10033	100×33	180~200pcs	
SD-2540	25×40	20~25pcs	
SD-3340	33×40	40~45pcs	
SD-4040	40×40	60~70pcs	
SD-6040	60×40	100~115pcs	
SD-7540	75×40	120~135pcs	
★ SD-8040	80×40	120~135pcs	
★ SD-10040	100×40	180~200pcs	
SD-2545	25×45	20~25pcs	
SD-3345	33×45	40~55pcs	
SD-4545	45×45	60~70pcs	
SD-6545	65×45	110~120pcs	
★ SD-2550	25×50	20~30pcs	
★ SD-3850	38×50	20~35pcs	
SD-5050	50×50	80~90pcs	
★ SD-7550	75×50	180~200pcs	
★ SD-10050	100×50	200~250pcs	
SD-2560	25×60	40~45pcs	
SD-4060	40×60	100~115pcs	
SD-6060	60×60	120~135pcs	
SD-8060	80×60	180~210pcs	
SD-10060	100×60	240~290pcs	
★ SD-12060	120×60	240~290pcs	
SD-7264	72×64	200~220pcs	
SD-2565	25×65	40~45pcs	
SD-3365	33×65	60~75pcs	
SD-4565	45×65	110~120pcs	
SD-6565	65×65	180~200pcs	
★ SD-12065	120×65	260~350pcs	
★ SD-2575	25×75	50~55pcs	
★ SD-5075	50×75	180~200pcs	
★ SD-7575	75×75	200~250pcs	
SD-10075	100×75	260~320pcs	
SD-15075	150×75	335~500pcs	
★ SD-2580	25×80	60~75pcs	
SD-4080	40×80	120~135pcs	
SD-6080	60×80	180~210pcs	
SD-8080	80×80	240~290pcs	
★ SD-10080	100×80	260~350pcs	
SD-12080	120×80	300~400pcs	
SD-33100	33×100	180~200pcs	
★ SD-40100	40×100	130~175pcs	
SD-48100	48×100	215~250pcs	
★ SD-55100	55×100	220~260pcs	
SD-70100	70×100	250~300pcs	
★ SD-75100	75×100	260~300pcs	
SD-100100	100×100	300~400pcs	
★ SD-150100	150×100	450~600pcs	
★ SD-200100	200×100	600~800pcs	
★ SD-200150	200×150	1040~1200pcs	
★ SD-200200	200×200	1200~1600pcs	

WIRING RETAINER



			Unit:mm
Item No.	W×H	Packing	
LS-6565	65 × 65	100pcs	
LS-7040	70 × 40		

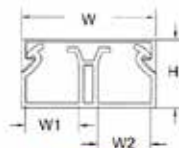
WIRING DUCT



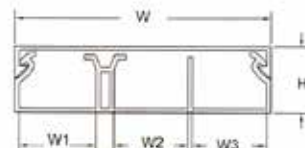
							Unit:mm
Item No.	Length	W	W1	W2	W3	H	
WD-2010-2	2M	20.0	7.5	7.5		10.3	
WD-3010-2		30.0	12.5	12.5		11.2	
WD-4010-3		40.0	11	11.5	11.5	10.3	
WD-5020-3		50.8	14.8	10	14.8	20.3	
WD-10040-3		100	32.8	23.2	32.8	40	
WD-11060		111	43.3	16	43.3	61.4	



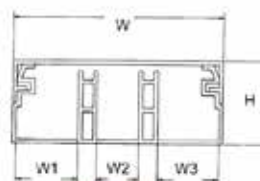
- Material: High impact, self-extinguishing, warp-proof PVC
- Color: Grey.
- Maximum service temperature: 85°C
- Features parallel holes on both sidewalls to facilitate cutting in wire application.



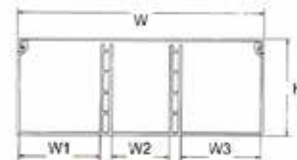
WD-2010-2
WD-3010-2



WD-4010-3



WD-5020-3



WD-10040-3

DECORATION WIRING DUCT



- Material: Rigid, self-extinguishing PVC
- Standard Color: Grey. (Milk, white, brown available upon request to meet your color system.)
- Feature: All sizes feature same height in 11mm which were specially designed for flat cables.
- Application: Used extensively for electric wire application of indoor decoration or outdoor security, alarm system.



Unit:mm

Item No.	W	H	Wire to be Contained	Length
TF-1	12.7 (1/2")	11	1-4	2M
TF-2	19.0 (3/4")	11	2-6	
TF-3	25.4 (1")	11	5-9	
TF-4	31.8 (1 1/4")	11	6-12	
TF-5	38.1 (1 1/2")	11	10-18	
TF-6	50.8 (2")	11	15-25	
TF-11	12.7 (1/2")	11	1-4	1M
TF-11C				
TF-11B				
TF-11W				
TF-11M				
TF-21	19.0 (3/4")	11	2-6	
TF-21C				
TF-21B				
TF-21W				
TF-21M				
TF-31	25.4 (1")	11	5-9	
TF-31C				
TF-31B				
TF-31W				
TF-31M				
TF-41	31.8 (1 1/4")	11	6-12	
TF-51	38.1 (1 1/2")	11	10-18	
TF-61	50.8 (2")	11	15-25	

DECORATION WIRING DUCT CONNECTOR



Connectors	Type	Item No.	Used With	Packing	Standard Color
	MID-WAY CONNECTOR	TFM-1	TF-1	20pcs	Grey For Color Add Code To Item No. i.e. TFT-2M
		TFM-2	TF-2		
		TFM-3	TF-3		
		TFM-4	TF-4		
	"T" TYPE	TFT-1	TF-1		
		TFT-2	TF-2		
		TFT-3	TF-3		
		TFT-4	TF-4		
	INSIED CORNOR	TFI-1	TF-1	M:Milk W:White B:Brown C:Coffee (Light Brown)	
		TFI-2	TF-2		
		TFI-3	TF-3		
		TFI-4	TF-4		

Connectors	Type	Item No.	Used With	Packing	Standard Color
	OUTSIDE CORNOR	TFO-1	TF-1	20pcs	Grey For Color Add Code To Item No. i.e. TFT-2M
		TFO-2	TF-2		
		TFO-3	TF-3		
		TFO-4	TF-4		
	"L" TYPE	TFL-1	TF-1		
		TFL-2	TF-2		
		TFL-3	TF-3		
		TFL-4	TF-4		
	END PIECE	TFE-1	TF-1	M:Milk W:White B:Brown C:Coffee (Light Brown)	
		TFE-2	TF-2		
		TFE-3	TF-3		
		TFE-4	TF-4		

ONE PIECE WIRING DUCT



NEW

Item No.	Length	W	Unit:mm	
			H	
TF-0905	2M	9.2	2.9	
TF-1313	2M	13.2	10.8	



TF-0905



TF-1313

- Material: Rigid, self-extinguishing PVC . Temperature endurance up to 85°C.
- One piece design. Combines duct base together with its lip. Easy for application and save work time.

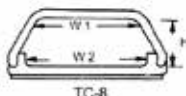
TELEPHONE WIRING DUCT (SELF-ADHESIVE)



TC-1,2,3



TC-4,5,6



TC-8

- Material: Rigid, self-extinguishing PVC Backed with high quality self-adhesive tape to facilitate wire application.
- Color: Grey. (Milk, white, brown available on request)
- Length: 1M (2M available upon request)
- Application: Designed to protect wire on floor
- ★ NEW SIZE

★
★
★

★
★

Item No.	W1	W2	H1	Wire to be Contained	Unit:mm	
					Length	
TC-1	6	7	4	1pcs	1M	
TC-1C						
TC-1B						
TC-1W						
TC-1M						
TC-1.5	6	8	7.4	1~2pcs	1M	
TC-1.5C						
TC-1.5M						
TC-2	8	8	6	2~3pcs	1M	
TC-2C						
TC-2B						
TC-2W						
TC-2M						
TC-3	10	10	7	3~4pcs	1M	
TC-3C						
TC-3B						
TC-3W						
TC-3M						
TC-4	12	15	10	4~7pcs	1M	
TC-4C						
TC-4B						
TC-4W						
TC-4M						
TC-5	10	17	13	7~9pcs	1M	
TC-5C						
TC-5B						
TC-5W						
TC-5M						
TC-6	11	19	16	10~15pcs	1M	
TC-6C						
TC-6B						
TC-6W						
TC-6M						
TC-8	30	37	16	30~40pcs	1M	
TC-8C						
TC-8M						

TELEPHONE WIRING DUCT CONNECTOR



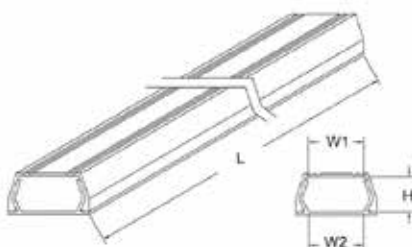
Unit:mm

Connectors	Type	Item No.	Used With	Packing	Standard Color
	MID-WAY CONNECTOR	TCM-2	TC-2	20pcs	Grey For Color Add Code To Item No. i.e. TFT-2M
		TCM-3	TC-3		
		TCM-4	TC-4		
		TCM-5	TC-5		
		TCM-6	TC-6		
			"T" TYPE		
TCT-3	TC-3				
TCT-4	TC-4				
TCT-5	TC-5				
TCT-6	TC-6				
	INSIDE CORNOR			TCI-2	TC-2
		TCI-3	TC-3		
		TCI-4	TC-4		
		TCI-5	TC-5		
		TCI-6	TC-6		

Connectors	Type	Item No.	Used With	Packing	Standard Color
	OUTSIDE CORNOR	TCO-2	TC-2	20pcs	Grey For Color Add Code To Item No. i.e. TFT-2M
		TCO-3	TC-3		
		TCO-4	TC-4		
		TCO-5	TC-5		
		TCO-6	TC-6		
			"L" TYPE		
TCL-3	TC-3				
TCL-4	TC-4				
TCL-5	TC-5				
TCL-6	TC-6				
	END PIECE			TCE-2	TC-2
		TCE-3	TC-3		
		TCE-4	TC-4		
		TCE-5	TC-5		
		TCE-6	TC-6		

TELEPHONE WIRING DUCT (SELF-ADHESIVE)

Unit:mm



Item No.	W1	W2	H	Overall Length
JD-1	10.4	8.6	8.0	1M
JD-1C				
JD-1M				
JD-2	14.5	11.5	8.0	
JD-2C				
JD-2M	18.8	16.4	10.8	
JD-3				
JD-3C				
JD-4	23.5	19.5	12.2	
JD-4C				
JD-4M				
JD-4M				

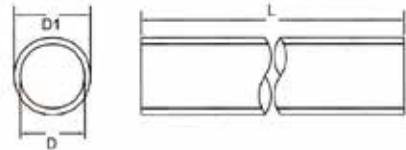
- Material: Rigid, self-extinguishing PVC Backed with high quality self-adhesive tape to facilitate wire application.
- Color: Grey. (Milk, white, brown available on request)
- Length: 1M (2M available upon request)
- Application: Designed to protect wire on floor)

ROUND INSULATING CONDUIT



● Material:PVC (white)

Item No.	D	D1	Unit:mm
			L
OD-20	16.2	20	2M
OD-25	21	25	

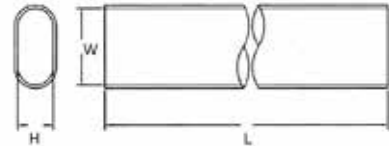


OVAL INSULATING CONDUIT



● Material:PVC (white)

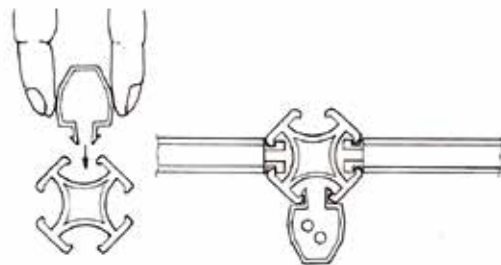
Item No.	W	H	Unit:mm
			L
OV-13	11.0	5.9	2M
OV-16	14.9	7.9	
OV-20	20.6	9.8	
OV-25	25.2	11.8	



WIRING DUCT



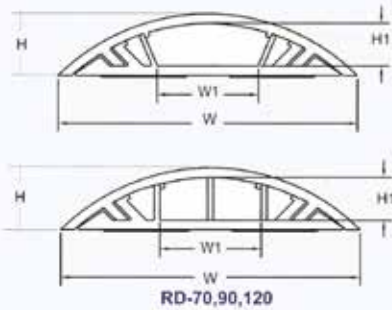
Item No.	A	B	C	D	Unit:mm
					L
EX-1	10.9	24.8	21.6	28.2	2M



ROUND TYPE WIRING DUCT



- Material: High impact, rigid, self-extinguish PVC
- Service temperature: 85 °C
- Color: Grey. (white, milk, brown, dark brown available)
- Backed with high quality double sided tape for permanent stick. Good for floor wiring to facilitate trolley pass and to avoid trip.



Unit:mm

Item No.	W	W1	H	H1	Length
RD-20	20	8	6	4	1M
RD-20C					
RD-20M					
RD-30	30	11	8	6	
RD-30C					
RD-30M					
RD-40	40	16	9.5	7	
RD-40C					
RD-40M					
RD-50	50	20	11	8	
RD-50C					
RD-50M					
RD-60	60	30	13	9	
RD-60C					
RD-60M					
RD-70	70	40	15	10	
RD-70C					
RD-70M					
★ RD-90	90	45	19	15	
★ RD-90C					
★ RD-90M					
★ RD-120	120	70	25	21	
★ RD-120C					
★ RD-120M					

★ NEW SIZE

WIRING DUCT CUTTER

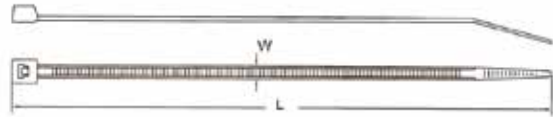
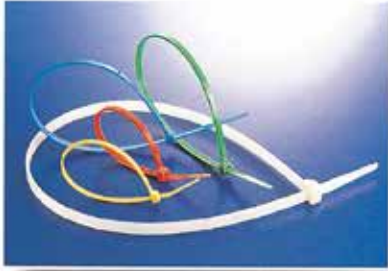
Item No. : WT-1



Item No. : EKS-125

Cuting Range : width 125mm MAX

NYLON CABLE TIE



★ NEW SIZE

Item No.				L		W mm	Max. Bundle Dia. mm	Min Tensile Strength lbs(kgs)	
Natural		black		mm	inch				
100pcs	1000pcs	100pcs	1000pcs						
CV-075	CV-075K	CV-075B	CV-075KB	75	3"	2.4	18	MINIATURE	
CV-094	CV-094K	CV-094B	CV-094KB	96	3 3/4"	2.5	23		
CV-100	CV-100K	CV-100B	CV-100KB	100	4"	2.5	25		
CV-120S	CV-120SK	CV-120SB	CV-120SKB	120	4 3/4"	2.5	30		
CV-140S	CV-140SK	CV-140SB	CV-140SKB	142	5 1/2"	2.5	35		
CV-165	CV-165K	CV-165B	CV-165KB	165	6 1/2"	2.5	44		
CV-200M	CV-200MK	CV-200MB	CV-200MKB	203	8"	2.5	55		
CV-120	CV-120K	CV-120B	CV-120KB	120	4 3/4"	3.2	30		INTERMEDIATE
CV-140	CV-140K	CV-140B	CV-140KB	142	5 1/2"	3.2	35		
CV-150	CV-150K	CV-150B	CV-150KB	150	6"	3.6	39		
CV-200S	CV-200SK	CV-200SB	CV-200SKB	203	8"	3.2	55		
CV-200A	CV-200AK	CV-200AB	CV-200AKB	203	8"	3.6	55		
★ CV-250M	CV-250MK	CV-250MB	CV-250MKB	250	10"	3.6	74		
★ CV-265	CV-265K	CV-265B	CV-265KB	265	10 1/2"	3.6	78		
★ CV-292	CV-292K	CV-292B	CV-292KB	292	11 1/2"	3.6	85		
★ CV-330		CV-330B		330	13"	3.6	96		
CV-368S		CV-368SB		368	14 1/2"	3.6	102		
CV-120L	CV-120LK	CV-120LB	CV-120LKB	120	4 3/4"	4.8	30	STANDARD	
CV-160L	CV-160LK	CV-160LB	CV-160LKB	160	6 1/4"	4.8	42		
CV-180	CV-180K	CV-180B	CV-180KB	180	7"	4.0	49		
CV-190	CV-190K	CV-190B	CV-190KB	190	7 1/2"	4.8	52		
CV-200	CV-200K	CV-200B	CV-200KB	203	8"	4.6	55		
CV-250	CV-250K	CV-250B	CV-250KB	250	10"	4.8	74		
CV-280	CV-280K	CV-280B	CV-280KB	280	11"	4.8	81		
★ CV-300S		CV-300SB		300	11 13/16"	4.8	85		
CV-310		CV-310B		310	12"	4.8	89		
CV-368		CV-368B		368	14 1/2"	4.8	102		
CV-385		CV-385B		385	15 3/16"	4.8	116		
CV-432		CV-432B		432	17"	4.8	125		
CV-450M		CV-450MB		450	17 3/4"	4.8	130		
★ CV-500		CV-500B		500	19 11/16"	4.8	150		
★ CV-914S		CV-914SB		914	36"	4.8	270		

(TO BE CONTINUED)

Item No.				L		W mm	Max. Bundle Dia. mm	Min Tensile Strength lbs(kgs)	
white		black		mm	inch				
100pcs	1000pcs	100pcs	1000pcs						
★ CV-150L	CV-150LK	CV-150LB	CV-150LKB	150	6"	7.6	39	120(55)	HEAVY DUTY
CV-200L	CV-200LK	CV-200LB	CV-200LKB	203	8"	7.6	55		
CV-240L	CV-240LK	CV-240LB	CV-240LKB	240	9 7/16"	7.6	66		
CV-280L	CV-280LK	CV-280LB	CV-280LKB	280	11"	7.6	78		
CV-300		CV-300B		300	11 7/8"	7.6	88		
CV-340		CV-340B		340	13 1/2"	7.6	99		
CV-380		CV-380B		380	15"	7.6	110		
CV-450		CV-450B		450	17 3/4"	8.0	133		
CV-550		CV-550B		550	21 11/16"	8.0	166	175(80)	HEAVY DUTY
★ CV-610		CV-610B		605	24"	9.0	185		
★ CV-685		CV-685B		680	27"	9.0	210		
★ CV-710		CV-710B		705	28"	9.0	220		
CV-762		CV-762B		762	30"	9.0	236		
CV-812		CV-812B		812	32"	9.0	246		
★ CV-914		CV-914B		914	36"	9.0	270		
CV-1168		CV-1168B		1168	46"	9.0	360		
★ CV-1219		CV-1219B		1219	48"	9.0	380		

ORDERING INFORMATION :

MATERIAL	ITEM NO.	SUFFIX	1000PCS/BAG
NYLON 66 (NATURAL)	CV-100	--	K
NYLON 66 (BLACK)	CV-100	B	K
NYLON 66 (WEATHER RESISTANT BLACK)	CV-100	W	K
NYLON 66 (HEAT STABILIZED)	CV-100	H	K
NYLON 66 (FLAME RETARDANT)	CV-100	FR	K
NYLON 12	CV-100	N12	K

EXTRA HEAVY DUTY TIE

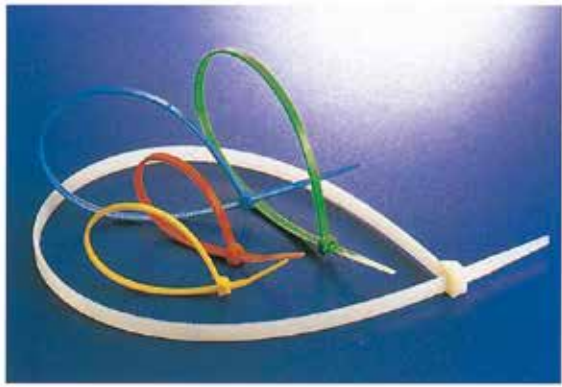


- Extra heavy duty ties for application where higher tensile strength is needed.



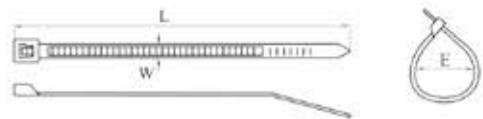
Unit:mm

Item No.	L		W mm	Max. Bundle Dia. mm	packing	Min Tensile Strength lbs(kgs)	
	mm	inch					
CV-230XL	230	9"	12.7	63	100pcs	250(114)	EXTRA HEAVY DUTY
CV-280XL	280	11"	12.7	80			
CV-380XL	380	15"	12.7	110			
CV-480XL	480	18 7/8"	12.7	140			
★ CV-550L	550	21 11/16"	12.7	166			
CV-580XL	580	22 7/8"	12.7	175			
CV-730XL	730	28 3/4"	12.7	225			
CV-880XL	880	34 11/16"	12.7	267			
CV-1030XL	1030	40 1/2"	12.7	317			



MATERIAL SPECIFICATION:

- **Natural nylon:**
Camsco standard cable ties made from U.L. approved nylon 6/6. Normal service temperature range: -40° C to 85° C Flammability rating: UL 94V-2
- **Color:**
Natural (or white, standard color), black and other colors are available as requested.
- **Packing:** 100pcs / bag
- **Dimensions:**



ITEM NO.	Dimensions		Max. Bundle Diameter	Min Tensile Strength	
	L	W			
	mm	inch	mm	mm	LBS/KGS
CV-6024	60	2.4"	2.4	11	18/8
CV-8024	80	3.2"	2.4	15	18/8
CV-10025	100	4"	2.5	22	18/8
CV-12025	120	4.7"	2.5	28	18/8
CV-15025	150	6"	2.5	35	18/8
CV-16525	165	6.5"	2.5	40	18/8
CV-18025	180	7.1"	2.5	42	18/8
CV-20025	200	8"	2.5	50	18/8
CV-12036	120	4.7"	3.6	28	40/18
CV-15036	150	6"	3.6	35	40/18
CV-18036	180	7.1"	3.6	42	40/18
CV-20036	200	8"	3.6	50	40/18
CV-25036	250	10"	3.6	65	40/18
CV-30036	300	11.8"	3.6	82	40/18
CV-35036	350	13.6"	3.6	90	40/18
CV-38036	380	15"	3.6	102	40/18
CV-12048	120	4.7"	4.8	28	50/22
CV-15048	150	6"	4.8	35	50/22
CV-18048	180	7.1"	4.8	42	50/22
CV-20048	200	8"	4.8	50	50/22
CV-25048	250	10"	4.8	65	50/22
CV-30048	300	11.8"	4.8	82	50/22
CV-35048	350	13.8"	4.8	90	50/22
CV-38048	380	15"	4.8	102	50/22
CV-40048	400	15.7"	4.8	105	50/22
CV-45048	450	17.7"	4.8	118	50/22
CV-50048	500	19.7"	4.8	150	50/22
CV-55048	550	21.7"	4.8	160	50/22

ITEM NO.	Dimensions		Max. Bundle Diameter	Min Tensile Strength	
	L	W			
	mm	inch	mm	mm	LBS/KGS
CV-65048	650	25.6"	4.8	190	50/22
CV-15070	150	6"	7.0	35	120/55
CV-18070	180	7.1"	7.0	42	120/55
CV-20070	200	8"	7.0	50	120/55
CV-25070	250	10"	7.0	65	120/55
CV-30070	300	11.8"	7.0	82	120/55
CV-35070	350	13.8"	7.0	90	120/55
CV-40070	400	15.7"	7.0	105	120/55
CV-45070	450	17.7"	7.0	118	120/55
CV-50070	500	19.7"	7.0	150	120/55
CV-20072	200	8"	7.2	50	120/55
CV-25076	250	10"	7.6	65	120/55
CV-30076	300	11.8"	7.6	82	120/55
CV-35076	350	13.8"	7.6	90	120/55
CV-38076	380	15"	7.6	102	120/55
CV-40076	400	15.7"	7.6	105	120/55
CV-45076	450	17.7"	7.6	118	120/55
CV-50076	500	19.7"	7.6	150	120/55
CV-40088	400	15.7"	8.8	105	175/80
CV-45088	450	17.7"	8.8	118	175/80
CV-50088	500	19.7"	8.8	150	175/80
CV-55088	550	21.7"	8.8	160	175/80
CV-65088	650	25.6"	8.8	190	175/80
CV-76088	760	30"	8.8	225	175/80
CV-92088	920	36.2"	8.8	265	175/80
CV-102088	1020	40.2"	8.8	295	175/80
CV-650120	650	25.6"	12.0	190	250/114
CV-760120	760	30"	12.0	220	250/114

CABLE MARKERS



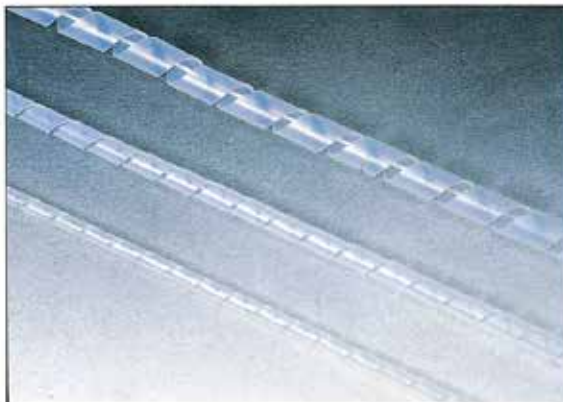
EC TYPE CABLE MARKER

- Marker tongue spans to fit various cable diameters and retracts to hold wires firmly in position
- Maximum service temperature: 85°C
- MATERIAL
Made of finest soft grade, strong, durable P.V.C. that will resist oil, grease, acid, abrasion and chemicals.
- Description
EC type cable marker features high quality flexible interior to fit various cable diameters.
- The markers stay attached on a roller and can be despatched easily when needed.
- Bold print on yellow body to show your codes distinguishably. Any numbers can be composed by arranging letters and numbers in sequence to provide the necessary codes.
- To be fitted before the terminal is attached or solder connection made and grip cables firmly in position.

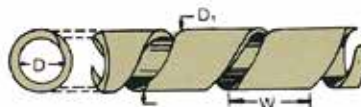


SHAPE	ITEM NO	DIA. RANGE mm MIN.-MAX.	STANDARD MARKING	STANDARD	COLOR
PLAIN CUT	T-0	2.0-3.2	Solid No. Or Letter Per Roll For	1000pcs	Yellow Body With Black Print White Body Available
	T-1	3.0-5.2	0,1,2,3.....9	1000pcs	
	T-2	3.6-7.4	A,B,.....Z	500pcs	
	T-3	5.2-10.0	+ , - , = (earth) Blank/(Slang)	250pcs	

SPIRAL WRAPPING BAND



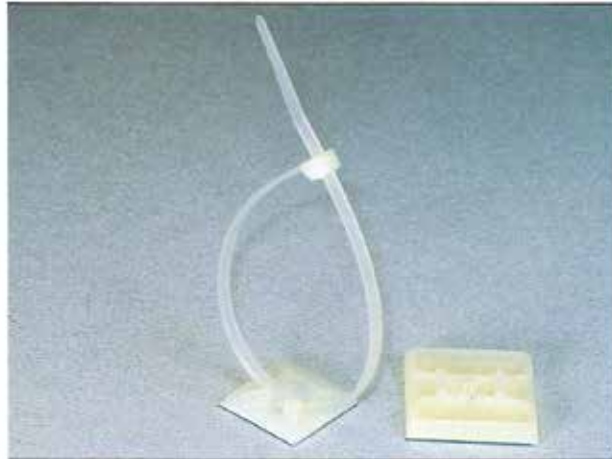
- MATERIAL:
Made from P.E. material. Excellent in insulation and binding strength.
- COLOR
Standard in natural.
- DESCRIPTION.
Flexible construction encables bands to follow wire ways easily.
- Durable, reusable with retained spiral strength.
- Fix ends of band with cable ties and spiral wire bundles in clockwise direction to complete works.
- Expand spiral range almost without limit.
- Black color available



A economical way of cable binding. Easily applied to electric harness cables and wire bundles. Cut-to-fit versatility in convenient roll-form.

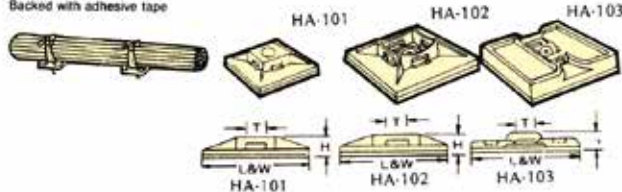
ITEM NO.	D	D ₁	W	WRAPPING RANGE (mm)	PACKING
CS-6	4	6	7.0	10-50	10M per plastic bag
CS-8	6	8	10.8	15-60	
CS-10	7.5	10	11.4	20-60	
CS-12	9	12	13.9	20-65	
CS-15	12	15	15.0	20-70	
CS-19	15	19	16.2	25-100	
CS-24	20	24	19.6	30-130	

SELF-ADHESIVE TIE MOUNTS



- Material: Constructed of nylon and backed with high quality self-adhesive tape.
- SELF-ADHESIVE TIE MOUNTS is designed to support light weight wire bundles when properly applied on any clean, smooth, grease-free surface. For heavy support, mounting hole is provided for screws.
- To apply, simply peel off backing paper and apply mount to surface. After that, cable ties can be inserted to secure wire bundles.
- To apply with nylon cable ties:
 - HA-101: SV-075, 094, 100, 120, 150, 165, 180
 - HA-102: SV-075, 094, 100, 120, 150, 165, 180, 200, 250, 280, 310, 385
 - HA-103: SV-075, 094, 100, 120, 150, 165, 180, 200, 250, 280, 310, 385
- Black color available

Backed with adhesive tape



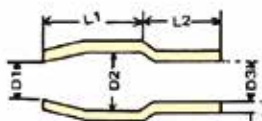
ITEM NO.	L	W	H (WITHOUT TAPE)	MOUNTING HOLE	T	PACKING
HA-101	21	21	3.5	—	4.7	100pcs/bag
HA-102	28	28	4	5.0	5.0	
HA-103	28	28	4	5.0	5.0	

VINYL TUBES



- Material: Soft P.V.C.
- Maximum service temp: 80°C.
- For the insulation works of wire end terminal. Performing the work with a simple one-touch to tighten and seal against dirt, moisture and water.
- Standard color: Red, white, green, blue, yellow, black.

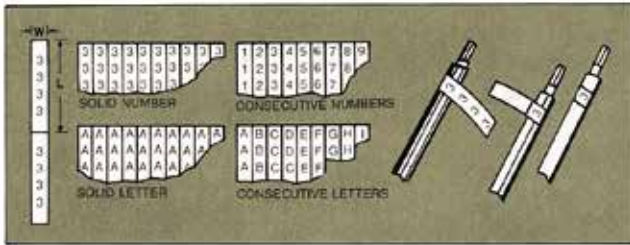
ITEM NO.	WIRE SUITABLE	D1	D2	D3	L1	L2	T	PKG.
P-1.25	600V 1.25mm ² , 1.25mm ² Single	2.8	3.3	3.1	6	7	0.6	100pcs
P-2	600V 2.0mm ² , 2.0mm ² , 1.2mm ² , Single, 1.6mm ² Single	3.3	4.5	3.7	7	7	0.7	
P-3.5	600V 3.5mm ²	4.8	5.7	4.1	9	8	0.8	
P-5.5	600V 5.5mm ² , 2.6mm ² Single	4.8	5.7	5.2	9	8	0.8	
P-8	600V 5.5mm 3.2mm ² Single	6.2	7.2	6.2	10	9	1.0	
P-14	600V 14mm ²	8.0	10.0	8.0	13	11	1.1	
P-22	600V 22mm ²	9.5	12.0	9.5	15	14	1.2	
P-38	600V 38mm ²	11.8	14.0	11.8	17	16	1.5	
P-60	600V 60mm ²	13.5	16.8	13.5	20	19	1.5	
P-80	600V 80mm ²	16.0	19.0	16.0	25	21.0	1.6	
P-100	600V 100mm ²	18.0	22.0	18.0	30	24.0	1.7	50pcs
P-125	600V 125mm ²	20.0	24.0	20.0	32	25.0	1.8	
P-150	600V 150mm ²	22.0	24.4	22.0	34	31.0	1.8	
P-200	600V 200mm ²	28.0	32.0	24.0	35	30.0	2.0	25pcs
P-250	600V 250mm ²	32.0	36.0	25.0	40	35.5	2.0	
P-325	600V 325mm ²	34.3	38.0	28.5	40	36.5	2.0	
P-400	600V 400mm ²	43.0	44.0	37.0	45.0	40.0	2.5	
P-500	600V 500mm ²	45.0	50.0	40.5	41.8	45.5	2.5	25pcs
P-630	600V 630mm ²	52.0	52.0	45.0	46.0	45.0	2.5	



SELF-ADHESIVE WIRE MARKERS (CLOTH TYPE)

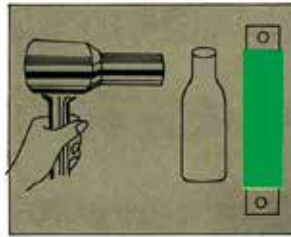


- Stick to wires for permanent identification.
- Used extensively for cable diameters after or before terminal is attached.
- Cloth type label.
- For your orders, please specify solid or consecutive and what letter (s), number (s) you need. For example:
Solid: WM-1 1, 2, A, B 10Box each
consecutive: WM-1 0-9, A-Z, ... 10Box each



ITEM NO.	L	W	STANDARD MARKINGS	STANDARD PACKING
WM-1	25	6.5	Solid Numbers 0, 1, 2, 3 99, 100. A, B, C Z, +, - Consecutive Numbers 1-34, 35-68, 69-100 A-Z, 0-9.	50pcs/Box
WM-2	25	6.5	blank	50pcs/box
WM-3	40	10	blank	50pcs/box

FLAT HEAT SHRINKING SLEEVE



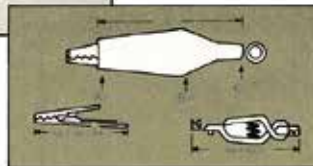
- R: Red W: White B: Blue BK: Black G: Green
- Material: Rigid Shrinkable P.V.C.
 - Used for color distinction and insulation of busbar in control panel. To be shrunk by blower or hot water.
 - Maximum service temp.: 80°C

ITEM NO.	LAY FLAT DIMENSION	CONVERT TO DIA ϕ	SHRINKABLE RANGE	COLOR	PKG.
ES-6.5	6.5	4.1	6.5~3.6	R.W.B.BK.G	100M Per Roll
ES-8.5	8.5	5.2	8.5~4.5	R.W.B.BK.G	
ES-12	12	7.6	12~6.5	R.W.B.BK.G	
ES-15	15	10	16~8.5	R.W.B.BK.G	
ES-20	20	13	21~11	R.W.B.BK.G	
ES-30	30	19	30~16	R.W.B.BK.G	
ES-40	40	25	40~22	R.W.B.BK.G	
ES-60	60	38	60~33	R.W.B.BK.G	
ES-80	80	50	80~42	R.W.B.BK.G	
ES-100	100	63	100~55	R.W.B.BK.G	
ES-120	120	76	120~65	R.W.B.BK.G	
ES-150	150	95	150~90	R.W.B.BK.G	
ES-170	170	108	170~94	R.W.B.BK.G	
ES-200	200	127	200~110	R.W.B.BK.G	

ALLIGATOR CLIPS & TUBES



REMARKS:
Type AA: Clip with Tube
Type BB: Tube Only



ITEM NO.	L (mm)	C ϕ (mm)	AMPERE (A)	COLOR	PACKING
AA-1	35	3	2	Red Black Color upon Request	100pcs
AA-2	42	3	3		
AA-3	50	4	5		
AA-4	68	4	10		
AA-5	80	5	20		

ITEM NO.	L (mm)	A ϕ (mm)	B ϕ (mm)	C ϕ (mm)	AMPERE (A)	COLOR	PKG.
BB-1	35	5	9	3	2	Red Black Colors Upon Request	100pcs
BB-2	42	6	10	3	3		
BB-3	50	9	13	4	5		
BB-4	68	15	16	4	10		
BB-5	80	15	21	5	20		

HEAT-SHRINKABLE TUBINGS



- Cut to requested length available.
- Standard color:Black
- Color available.
- Environment protection

Unit:mm

Item No.	As supplied (mm)		After shrinkage (mm)		Packing	
	125°C UL CSA	Inside diameter (min.)	Wall thickness (nominal)	Inside diameter (max.)		Wall thickness (nominal)
K32-1		1.4±0.2	0.2	0.5	0.33	200M/roll
K32-1.5		2.0±0.2	0.2	0.75	0.36	
K32-2		2.5±0.2	0.2	1.0	0.44	
K32-2.5		3.0±0.2	0.25	1.25	0.44	
K32-3		3.5±0.3	0.25	1.5	0.44	
K32-3.5		4.0±0.3	0.25	1.75	0.44	
K32-4		4.5±0.3	0.25	2.0	0.44	100M/roll
K32-5		5.4±0.3	0.25	2.5	0.56	
K32-6		6.4±0.4	0.25	3.0	0.56	
K32-7		7.4±0.4	0.25	3.5	0.56	
K32-8		8.4±0.4	0.25	4.0	0.56	
K32-9		9.4±0.4	0.25	4.5	0.56	
K32-10		10.4±0.4	0.25	5.0	0.56	50M/roll
K32-11		11.4±0.4	0.25	5.5	0.56	
K32-12		12.4±0.4	0.25	6.0	0.56	
K32-13		13.5±0.4	0.30	6.5	0.69	
K32-14		14.5±0.4	0.30	7.0	0.69	
K32-15		15.5±0.5	0.30	7.5	0.69	
K32-16		16.8±0.5	0.30	8.0	0.69	
K32-18		18.7±0.5	0.35	9.0	0.77	
K32-20		21.2±0.6	0.35	10.0	0.77	
K32-22		23.2±0.6	0.40	11.0	0.77	
K32-25		26.1±0.8	0.40	12.5	0.87	
K32-28		29.0±1.0	0.5	14.0	0.87	
K32-30		32.0±1.0	0.5	15.0	0.87	
105°C UL						Packing
FZ-35		37.0±1.0	0.5	17.5	0.87	50M/roll
FZ-40		43.0±1.5	0.5	20.5	0.97	
FZ-50		53.0±2.0	0.5	25.0	0.97	
FZ-60		60min.	0.55	30.0	1.07	
FZ-80		80min.	0.6	40.0	1.17	
FZ-100		100min.	0.6	50.0	1.17	30M/roll

HEAT-SHRINKABLE TUBINGS



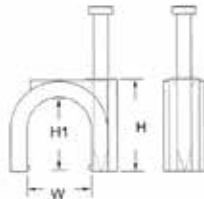
Unit:mm

Item No.	As Supplied(mm)		After shrinkage.		Standard Stngth(m)
	125°C UL CSA inside diameter	Wall thickness (nominal)	inside diameter (max)	Wall thickness (nominal)	
K34-1	1.4±0.2	0.10	0.50	0.20	200M
K34-1.5	1.9±0.2	0.10	0.15	0.20	
K34-2	2.3±0.2	0.10	1.00	0.20	
K34-2.5	2.9±0.2	0.15	1.25	0.25	
K34-3	3.3±0.3	0.15	1.50	0.25	
K34-3.5	3.8±0.3	0.15	1.75	0.25	100M
K34-4	4.4±0.3	0.15	2.00	0.25	
K34-5	5.5±0.3	0.15	2.50	0.25	
K34-6	6.5±0.4	0.15	3.00	0.28	50M
K34-7	7.5±0.4	0.15	3.50	0.28	
K34-8	8.5±0.4	0.15	4.00	0.28	
K34-9	9.5±0.4	0.15	4.50	0.28	
K34-10	10.5±0.5	0.15	5.00	0.28	

GROUNDING BUS-BAR

	<p>Item No.</p> <p>G-9604 G-9606 G-9608 G-9610 G-9612</p>
	<p>Item No.</p> <p>G-12804 G-12806 G-12808 G-12810 G-12812</p>

NAIL CABLE CLIP

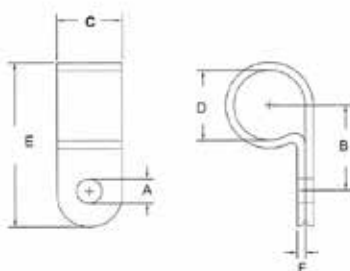


- Material: Impact Resistant PE (Grey)
- Applied for general round cables.
- With nails inserted.
- Black, White color available.
- ★ NEW SIZE

Unit:mm

Item No.	W	H	H1	Nails	Packing
★ NC-0.275N	2.75	4.5	2.6	1.4 × 16	100pcs
NC-0.35N	3.5	5.9	3.7	2.0 × 15	
NC-0.4N	4	6.6	4.2	2.5 × 18	
NC-0.5N	5	7.6	5.3	2.5 × 18	
NC-1N	6	9	6.6	2.5 × 18	
★ NC-1NL	6	10.5	6.9	2.5 × 20	
NC-1.5N	7	11	7.2	2.5 × 22	
NC-2N	8	11.5	8.6	2.5 × 22	
★ NC-2.5N	9	12	9	2.5 × 25	
NC-3N	10	13.4	10.5	2.5 × 25	
NC-3.5N	11	16.6	12.2	2.5 × 27	50pcs
NC-4N	12	16.0	12.5	2.5 × 27	
NC-6N	14	20.5	15.6	3.0 × 35	
NC-7N	16	21.7	17.0	3.2 × 38	
★ NC-7.2N	18	22.0	17.5	3.2 × 38	
NC-7.5N	20	23.5	18.5	3.2 × 38	
NC-8N	22	27.8	22.5	3.2 × 42	
NC-9N	25	31.6	26.0	3.2 × 47	
NC-10N	32	40	33.5	3.6 × 56	

CABLE CLAMP

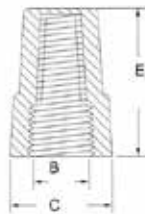


Unit:mm

Item No.	A	B	C	D	E	F	Packing
UC-0	4.6	9.5	9.6	3.2 (1/8")	19.8	1.4	100pcs
UC-0.5	4.6	10.5	9.6	4.8 (3/16")	19.8	1.4	
UC-1	4.6	12.0	10.0	6.35 (1/4")	22.0	1.4	
UC-1.5	4.6	12.0	10.0	7.9 (5/16")	22.0	1.5	
UC-2	4.6	12.5	12.0	9.5 (3/8")	24.0	1.5	
UC-3	4.6	15.2	12.0	12.7 (1/2")	31.0	1.5	
UC-4	4.6	18.2	12.0	15.8 (5/8")	34.3	1.5	
UC-5	4.6	18.2	12.0	19.4 (3/4")	35.0	1.5	
UC-6	4.6	22.0	12.0	25.4 (1")	43.0	1.8	
UC-6.5	4.6	24.0	12.0	27.5 (1 1/16")	50.0	1.8	
UC-7	4.6	26.2	12.0	31.8 (1 5/16")	46.2	1.8	
UC-9	4.6	30.0	12.0	36.7 (1 1/2")	50.0	1.8	

- Material: UL approved NYLON 66, 94V-2
- KSS CABLE CLAMPS are designed to hold cables, tubes, and components in doemstic appliance, electronics and electric apparatus generally.
- Interior edges are radiused to protect cable insulation.
- To apply, just calmp down on loosen cables and screw it to chassis.
- Black color available

SCREW ON WIRE CONNECTOR

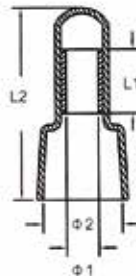


Unit:mm

Item No.	B	C	E	Wire Combination	Packing
SW-Y11	8.5	17.5	25.8	MIN # 18×2 MAX # 12×3	100pcs/bag
SW-Y12	11	23.8	31.8	MIN # 14×2 MAX # 10×4	
SW-Y13	14	27	33.2	MIN # 12×3 MAX # 10×4	
SW-Y14	17.5	30.5	39.6	MIN # 12×3 MAX # 6×1 + # 8×2	

- Material: PVC Shell with spring inserted.
- Two wing attached to the plastic body for easy twist on termination of wires.
- Strip wires before application.

CLOSE-END WIRE CONNECTOR



- Material: UL approved NYLON 66,94V-2
- Nylon insulated close-end wire connector
- To apply, insert pre-stripped wires into connector tube and crimp it with crimping tool to hold wires firmly even in vibration.

Unit:mm

Item No.	L1	L2	φ1	φ2	Nominal Sectional area mm ²	AWG	Suitable Wires Strang mm ² d	Packing
CE-2	7.5	20.0	3.0	7.8	2	16-14	1.0-3.0	
CE-5	8.5	25.3	3.8	10.5	5.5	12-10	2.5-6.0	500pcs (100pcs)
CE-8	9.5	27.2	4.7	12.0	8	8	4.0-9.0	

AWG	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
mm ²	33.4	20.8	13.2	8.4	5.3	3.3	2.1	1.3	0.83	0.52	0.33	0.21	0.13	0.08	0.05	0.03

ALL PLASTIC WIRE CONNECTOR



Unit:mm					
Item No.	B	C	E	Wire Combination	Packing
SW-1	6.5	8.7	14	MIN # 24 × 2 MAX # 16 × 1 + # 18 × 2	100pcs (1000pcs)
SW-2	7.5	10.0	18	MIN # 20 × 3 MAX # 16 × 3	
SW-3	9.5	11.2	23	MIN # 22 × 3 MAX # 16 × 3	



- Material:UREA
- Strip wire before application.

SCREW ON WIRE CONNECTOR

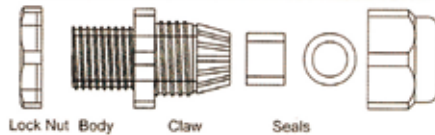


Unit:mm					
Item No.	B	C	E	Wire Combination	Packing
SW-71B	6.5	8.7	15	MIN # 20 × 1 + # 22 × 1 MAX # 16 × 2	100pcs (1000pcs)
SW-72B	7.5	10.0	18	MIN # 20 × 3 MAX # 16 × 3	
SW-73B	9.5	11.2	23	MIN # 20 × 3 MAX # 16 × 3 + # 18 × 1	
SW-74B	10.8	14.0	24.2	MIN # 14 × 1 + # 18 × 1 MAX # 14 × 4 + # 18 × 1	
SW-76B	12.7	16.8	27.4	MIN # 14 × 2 MAX # 10 × 2 + # 12 × 2	
SW-78B	12.8	18.3	32.2	MIN # 12 × 3 MAX # 10 × 4	



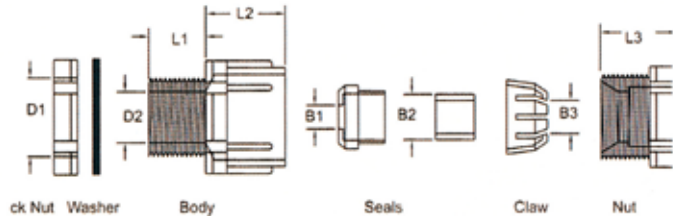
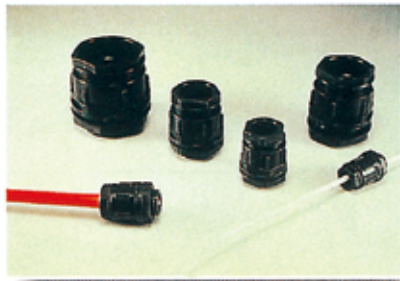
- Material:PVC Shell with spring inserted.
- Strip wires before application.

NYLON CABLE GLAND



Item No.	Mounting Hole	Cable Range
PG-7	12.24mm	3.5-6mm
PG-9	14.76mm	4-8mm
PG-11	18.20mm	5-10mm
PG-13.5	20.36mm	6-12mm
PG-16	22.30mm	10-14mm
PG-21	28.20mm	13-18mm
PG-29	36.24mm	18-25mm
PG-36	46.10mm	22-32mm
PG-42	54.30mm	30-38mm
PG-48	57.70mm	34-44mm

ABS CABLE GLAND



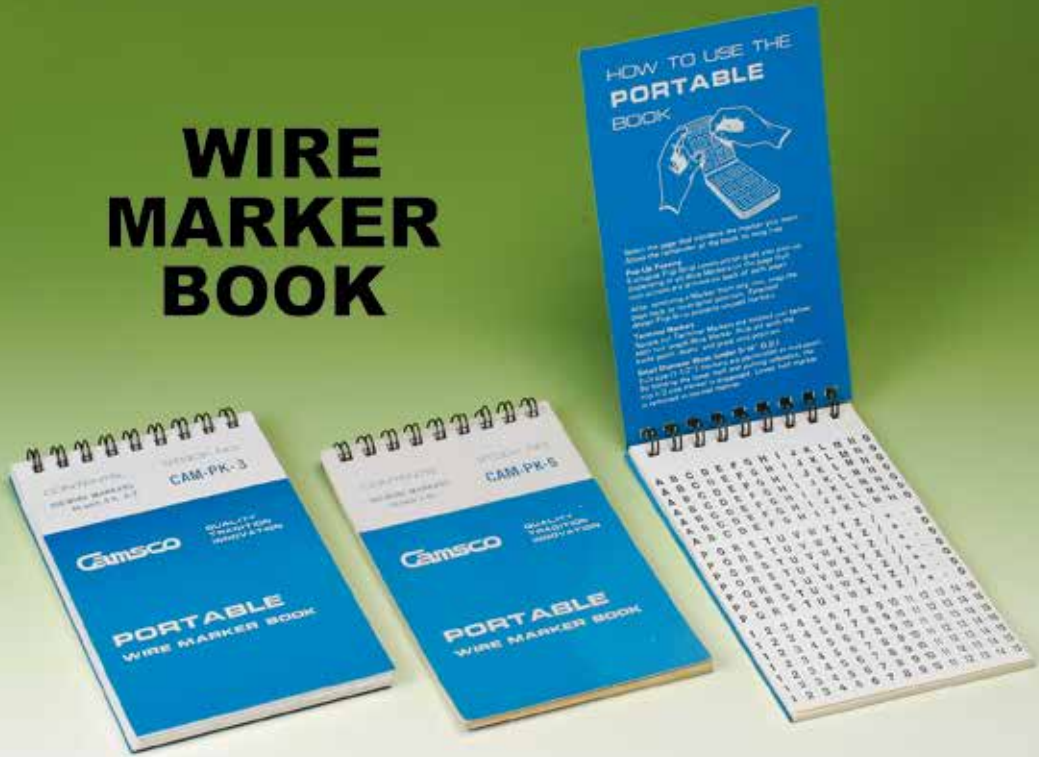
DIMENSIONS

Item No.	D1	PITCH	D2	B1	B2	B3	L1	L2	L3	CABLE RANGE
K-16	16	1.5	11	5	7	10	8	15	14	5-11
K-20	20		15	6	9	13	9	17	16	6-15
K-25	25		20	10	12	18	11	21	18	10-21
K-32	32		25	12	16	24	12	23	20	12-25
K-40	40		32	20	22	28	14	26	22	20-32
K-50	50		42	30	32	38	16	29	26	30-42
K-63	63		54	40	42	50	19	31	28	40-54

■ **MATERIAL:** Made from ABS (RATED: 94V-0 11°C)
 ■ Well designed for insulation, waterproof and impact resistant. Used extensively for protection and fixation of cables in control panel apparatus.

■ **APPLICATION:**
 1. Mount body to pre-drilled panel hole and fix it with locking nut.
 2. Insert cables through body and then seals consequently. Finally, press them together with press nut to hold cable in position.

WIRE MARKER BOOK



How to Use the WIRE MARKER BOOK



Convenient, Patented designed Flip-Strip construction, Pocked Sized Books, Use to identify wire and file.

Each Marker is 1/2" long for wire O.D. up to 3/8" Each marker is perforated to form half markers for wire O.D. up to 3/16" A 1/4" long Terminal Block Marker is provided for each full length marker.

Specification:

ITEM NO.	LEGEND	NUMBER OF MARKERS EACH LEGEND
CAM-PK-1	0-9	45
CAM-PK-2	A-Z	45
CAM-PK-3	0-9	45
CAM-PK-4	A-Z, 0-15, +,-,/	10
CAM-PK-5	1-45	10

ISO 9001:2000

FM-1 Marker

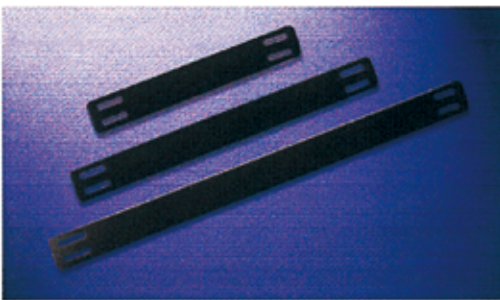


- Item No. : FM-1
- Material : P.V.C.
- Color : Yellow body with black mark.
- Service temperature : $-45^{\circ}\text{C}\sim+70^{\circ}\text{C}$
- Solid no. or letter for 0,1,2,3,.....9
A,B,C,.....Z,+,- ,≡,Blank.

CABLE DIA	MARKER LENGTH	PACK
4.2~7.0	6	500PCS/PER REEL

Unit : mm

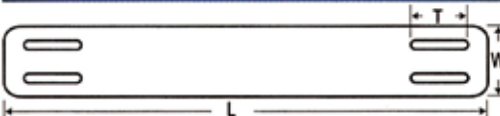
Carrier Strips for FM-1 Marker



- Material : NYLON 66
- Service temperature : $-40^{\circ}\text{C}\sim+70^{\circ}\text{C}$

Unit : mm

ITEM No.	CAPACITY	L	M	T	PACK
MS-65	7MARKS	65	9.4	6	500PCS/PER BAG
MS-95	12MARKS	95	9.4	6	500PCS/PER BAG
MS-133	18MARKS	133	9.4	6	250PCS/PER BAG



FM-1 Marker & Carrier Strips

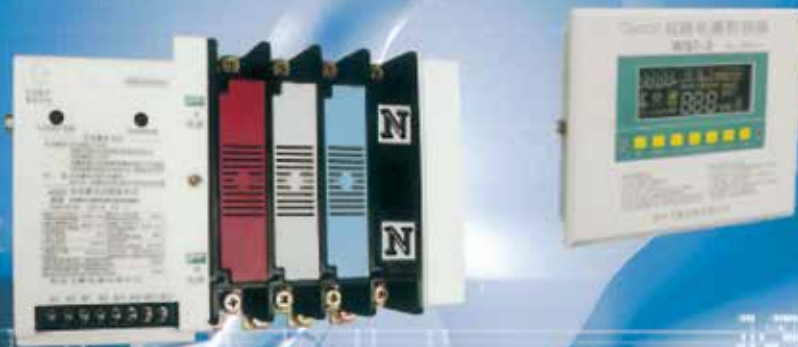


- FM-1 marker and carrier strips are ideal for identifying large cables, conduit and pipes. The carrier strips have slotted two ends allowing fastening with cable ties.

SINCE 1979

GAMSCO

Dual-power Automatic Transfer Switches





Contents



W Series Dual-power Automatic Transfer Switches

- I. Product codes and explanations
- II. Parameters of the W-2 two-stage transfer switch
- III. Parameters of the W-N3 three-stage transfer switch
- IV. Outer dimensions and installation dimensions
- V. Manual operation methods and notices
- VI. Switch internal wiring diagrams



W2C series dual-power automatic transfer switches (ATSE)

- I. W2C series dual-power automatic transfer switches
- II. Technical parameters
- III. Outer dimensions and installation dimensions
- IV. Internal wiring diagram and notices
- V. Wiring Notices
- VI. Manual transfer switch



W-S Series Manual Dual-power Transfer Switches

- I. Functions and characteristics
- II. Outer dimensions and installation dimensions



W-S1 high-speed dual-power transfer switches

- I. Product codes and meanings
- II. Technical Parameters
- III. Outer dimensions
- IV. Operation loop
- V. Operation notices
- VI. Installation
- VII. Maintenance, examination and storage



WST-1 Controller

- I. Installation dimensions



WST-3 Controller

- I. Controller schematic diagram
- II. Installation dimensions



W-2-3-JJ Controller (Concise)

- I. Controller schematic diagram
- II. Installation dimensions

Conditions for Normal Installation and Operation

The series is in compliance with the GB14048.11 and the IEC60947-6-1 *Low-voltage switchgear and controlgear—Part 6-1: Multiple function equipment – Transfer switch equipment*

- 1) Ambient air temperature
The temperature should be no higher than +40°C and no lower than -5°C, with a 24-hour average value of no more than +35°C.
- 2) Elevation
The altitude of the installation site should not be above 2000m.
- 3) Atmospheric conditions
The relative humidity of the air at the installation site should not exceed 50% at a maximum temperature of +40°C, and higher relative humidity is only allowed at lower temperatures. The average lowest temperature in the most humid month should not be above +25°C, while the average maximum relative humidity should not exceed 90%. Action should be taken to deal with dew condensation on the product surfaces resulting from temperature changes.
- 4) Pollution level
The pollution level conforms to Level 3 in the GB/T14048.1.
- 5) Installation category
The switch equipment installation complies with Category III as defined in GB/T14048.1
The transfer controller installation complies with Category II as defined in GB/T14048.1
- 6) Installation
Switching devices and transfer controllers can be installed vertically or horizontally in special control or distribution cabinets.
- 7) Use category

Table 1

Main circuit	AC-33B (infrequent operation)	Motor load or composite load inclusive of resistance load and incandescent lamp load of lower than 30%
Auxiliary circuit and transfer controller	AC-15	Load of controlling alternating electromagnet
	DC-13	Load of controlling electromagnet

8) Control circuit

The rated voltage of control power U_s for the control device and the transfer controller is AC 220V/230V/50Hz, and the operating condition is a control power voltage of $\geq 85\%U_s$ and $\leq 110\%U_s$. In the absence of special requirements with the customer order all the transfer controllers have a preset undervoltage value of $\sim 180V$ and an overvoltage value of $\sim 250V$.

9) Auxiliary circuit

The auxiliary contact circuit has a separate electrical structure of 4 normally open and 4 normally closed contacts. Refer to Table 2 for the rated values of auxiliary contacts.

Table 2

Conventional thermal current I_{th} (A)	Rated isolation voltage U_i (V)	Rated operating current I_e (A)	
		AC220V	DC200V
10	300	3	0.2

Refer to Table 3 for the connection and disconnection capacity of auxiliary contacts.

Table 3

Use category	Connection			Disconnection			Operation frequency and cycle times		
	I/I_e	U/U_e	$\cos \phi$ or T0.95	I/I_e	U/U_e	$\cos \phi$ or T0.95	Cycle times	Operation frequency (cycles/min)	Conduction time (s)
AC-15	10	1.1	0.3	10	1.1	0.3	10	2	≥ 0.05
DC-13	1.1	1.1	6Pe	1.1	1.1	6Pe			

Note: Upper limit of T0.95 $\approx 6Pe \leq 300ms$. The power time of DC-13, if T0.95 is greater than 0.05s, should be T0.95 minimum.

W Series Dual-power Automatic Transfer Switches

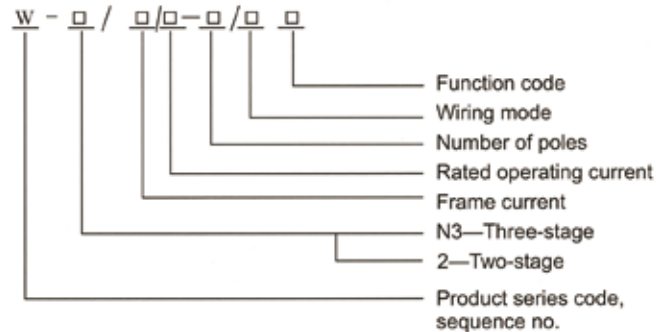
W Series Dual-power Automatic Transfer Switches

The W Series belong to the PC level, and include the types of W2 and W-N3.

W-2 is a two-stage automatic transfer switch. After a switching signal is received the switch transfers power immediately from one source to the other without stopping at an OFF position in the middle. The rated current is 20A~500A.

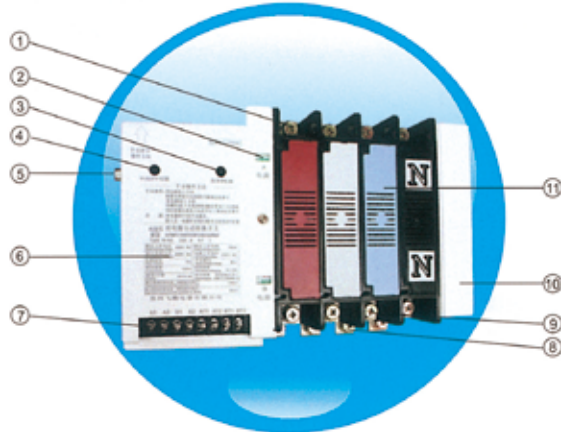
The W-N3 is a three-stage automatic transfer switch. After a switching signal is received the switch may transfer from one power source to another immediately, or after a preset delay, or stop at an OFF position in the middle. The rated current is 20A~5000A.

I. Product codes and meaning



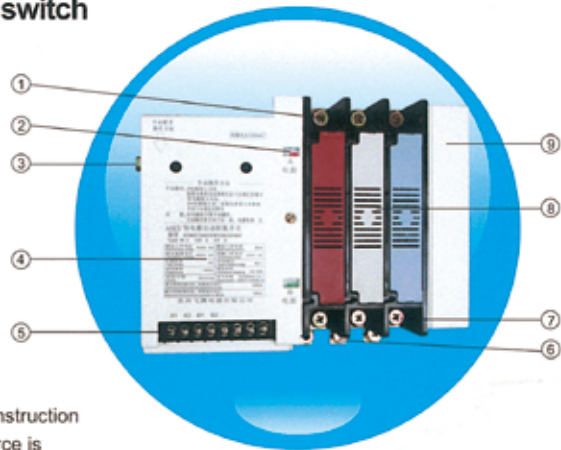
W-N3 three-stage automatic transfer switch (20-5000A)

1. Main circuit terminal on A power side
2. Power connection/break indicator window
3. Selection button
4. Release button
5. Square shaft for manual operation
6. Name plate
7. Control power terminal
8. Main circuit terminal on load side
9. Main circuit terminal on B power side
10. Auxiliary contact cover
11. Protective cover



W-2 two-stage automatic transfer switch (20-500A)

1. Main circuit terminal on A power side
2. Power connection/break indicator window
3. Square shaft for manual operation
4. Name plate
5. Control power terminal
6. Main circuit terminal on load side
7. Main circuit terminal on B power side
8. Protective cover
9. Auxiliary contact cover



Characteristics of ATS switches:

Reliable mechanical interlock: Special eccentric selection construction to ensure only one power source is connected.

High arc-quenching performance: Extinguishes abnormal electrical arcing, short duration of electric arcing and low contact loss.

Multi-disc main arc contract: Enhances the contact area and pressure of contact surfaces, eliminating overheating and contact welding and extending contact lifespan.

High transfer speed: Rapid transfer between the active power and standby power, allowing a customized transfer delay for an ATS with a controller.

Simple construction and small volume: Have reliable operation, a low failure rate and are convenient to install and maintain. Allow rotation with a handle during repair for convenient error detection and troubleshooting. The ATS of the W series are at PC level, are smaller than those of CB level, but have a higher current rating.

OFF position: The W-N3 three-stage transfer switch can be moved conveniently from ON to a disconnected OFF position, while the W-2 two-stage transfer switch does not have an OFF position.

Table 1

Product series code, sequence no.		Rated operating current (A)	Number of poles (P)	Wiring mode	Function code
W-N3 W-2		20、40、63、 80、100. . .	2、3、4	F、B	I Standard type II Automatic type
Frame grading current Inm A	63	20、40、63	2: Grade 2 3: Grade 3 4: Grade 4	F: Board front wiring B: Board back wiring	
	125	80、100、125			
	250	160、200、225 250			
	500	350、400、500			
	800	630、800			
	1250	1000、1250			
	1600	1600			
	2500	1600、2000、2500			
	4000	3150、4000			
	5000	5000			

- Note: 1) Switch equipment has rated operating voltage of AC660V/690V and DC125V/250V, and control voltage of AC100V, 110V and DC110V, 1250V. Other voltage specifications can be provided to special order.
- 2) The communication from the back of the board. This is s interface details need to be specified with the order.
- 3) Switches of 500A or below are typically connected from the front of the board, while that of 500A and above are typically connected considered a special order.

II. Parameters of W-2 stage transfer switch

Table 2

Type	W-2												
Isolation voltage	AC800V												
Impulse withstanding	8kV												
Rated voltage	AC400V (AC660V/690V、DC125V/250V)												
Rated current (A)	20、40、63	80、100、125	160、200、225、250	350、400、500									
Number of throws	dual throw												
Wiring mode	board front												
Number of poles	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	
Weight (Kg)	4.5	5	5.5	5	6.3	6.8	6	6.6	7.3	11	15	18	
Operating current (A)	DC110V/125V	6	6	8	6	6	8	6	8	10	10	10	14
	AC100V/110V	6	6	8	6	6	8	6	8	10	10	10	14
	AC200V/220V/230V	3	3	4	3	3	4	3	4	5	5	5	7
Performance	Short-time withstanding current	10kA				15kA				20kA			
	Rated limited short-circuit current	50kA				65kA							
	Rated limited short-circuit current	100kA				120kA							
	Connection/disconnection capacity	AC-33B (10le connected. 10le disconnected) $\cos \phi=0.35$ (When $I_e \leq 100A$, $\cos \phi=0.45$) DC-33B(4le connected. 4le disconnected)/L/R=2.5ms											
	Transfer time	Power A→ Power B	$\leq 0.2s$										
		Power B→ Power A											
	Lifespan	Electrical lifespan 6,000 cycles, mechanical lifespan 20,000 cycles											
Operating cycle frequency	120 cycles/hour												
Auxiliary switch	2 normally open and 2 normally closed on power sides A and B; contact capacity: AC 110V 5A/ AC 220V 3A, DC 200V 0.2A												
Accessory	Operating handle												

Note: See notes 1) ~ 3) in Table 1.

III. Parameters of W-N3 stage transfer switch

Table 3

Type		W-N3															
Isolation voltage		AC800V															
Impulse withstanding voltage		8kV															
Rated voltage		AC400V															
Rated current		20A~63A			80A~125A			160A~250A			350A~500A			630A~800A			
Number of throws		dual throw															
Wiring mode		board front												Board back (board front as special offer)			
Number of poles		2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	
Weight (Kg)		5.5	5.8	6.4	6	6.5	7.2	6	7.1	7.7	11	15	17.8	25	38	43	
Operating current (A)	DC110V/125V	6	6	8	6	6	8	6	8	10	10	10	14	12	12	12	
	AC100V/110V	6	6	8	6	6	8	6	8	10	10	10	14	12	12	12	
	AC200V/220V/230V	3	3	4	3	3	4	5	5	5	5	5	6	6	6	6	
Trip-ping current (A)	DC110V/125V	2						3						4			
	AC100V/110V	2						3						4			
	AC200V/220V/230V	1						1.4						2			
Performance	Short-time withstanding current	10kA						15kA			20kA			25kA			
	Rated limited short-circuit	100kA						120kA									
	Rated limited short-circuit	50kA						65kA									
	Connection/disconnection capacity	AC-33B (10Ie connected. 10Ie disconnected) $\cos \phi=0.35$ (When $I_e \leq 100A$, $\cos \phi=0.45$) DC-33B(4Ie connected. 4Ie disconnected) L/R=2.5ms															
	Transfer time	Power A→Power B	$\leq 0.2s$														
		Power B→Power A															
	Lifespan	Electrical lifespan 6,000 cycles, mechanical lifespan 20,000 cycles												Electrical lifespan 3,000 cycles, mechanical lifespan 10,000 cycles			
Operating cycle frequency	120 cycles/hour																
Auxiliary switch	2 normally open and 2 normally closed on power sides A and B; contact capacity: AC 110V 5A/ AC 220V 3A, DC 200V 0.2A																
Accessory	Operating handle																

- Note: 1) Under DC the loop operation is basically the same as that under AC conditions. Please follow the operation instructions for AC.
 2) The weight is for reference only.

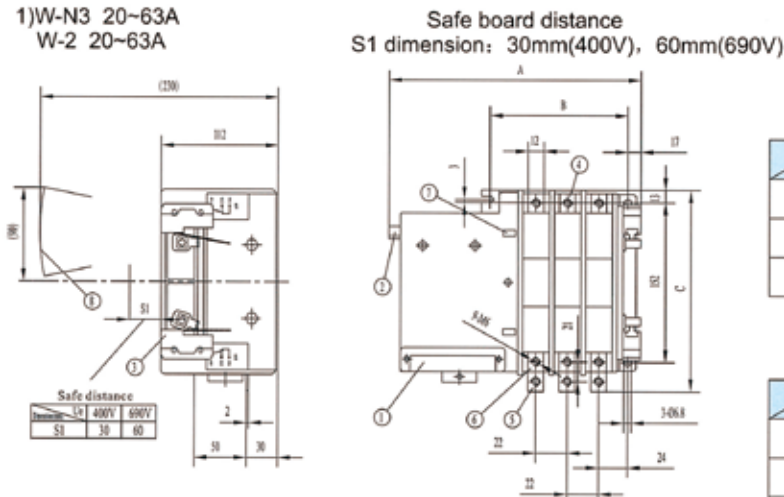
Table 3 (continued)

W-N3															
AC800V															
8kV															
AC400V															
1000A ~ 1250A				1600A			1600A ~ 2500A			3150A		4000A		5000A	
dual throw															
board back (board front as special offer)															
2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	4P	3P	4P
37	46	55	36	54	68.6	95	115	135	110	124	140	207		265	
12	12	16	14	16	18	16	20	24	20	24	28	32	36	36	38
12	12	16	14	16	18	16	20	24	20	24	28	32	36	36	38
6	6	8	7	8	9	8	10	12	10	12	16	16	18	18	20
4							6								
4							6								
2							2								
32kA				40kA			50kA			50kA			50kA		
120kA															
65kA															
AC-33B (10Ie connected, 10Ie disconnected) cos φ=0.35 DC-33B(4Ie connected, 4Ie disconnected)L/R=2.5ms							AC-33B 20kA			AC-33B 30kA			AC-33B 35kA		
≤0.2s															
Electrical lifespan 3,000 cycles, mechanical lifespan 10,000 cycles															
120 cycles/hour							30 cycles/hour								
2 normally open and 2 normally closed on power sides A and B; contact capacity: AC 110V 5A/ AC 220V 3A, DC 200V 0.2A															
Operating handle															

- 3) The short-time withstanding current, operating current and tripping current figures are for reference only.
 4) For products with current rating of 4000A and 5000A4P, the N-pole contact capacity is 2000A and 2500A respectively.

IV. Outer dimensions and installation dimensions

1)W-N3 20~63A
W-2 20~63A



W-2 Table 4

	A	B	C
2P	182	88	193
3P	204	110	
4P	226	132	

W-N3 Table 5

	A	B	C
2P	202	88	196
3P	224	110	
4P	246	132	

Note: Refer to Table 4 and 5 for the dimensions of A, B and C in the above figure.

2)W-N3 80~125A
W-2 80~125A

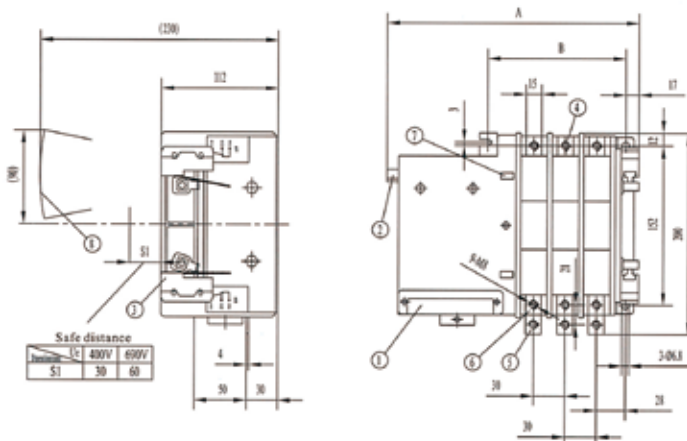


Table 6

	A	B
2P	218	103
3P	248	133
4P	278	163

Note: Refer to Table 6 for the dimensions of A and B in the above figure.

Note: The installation dimensions and outer dimensions in the illustrations are subject to change without notice. Please check them with the actual product before installation.

3) W-N3 160~250A
W-2 160~250A

Safe board distance
S1 dimension: 30mm(400V),60mm(690V)

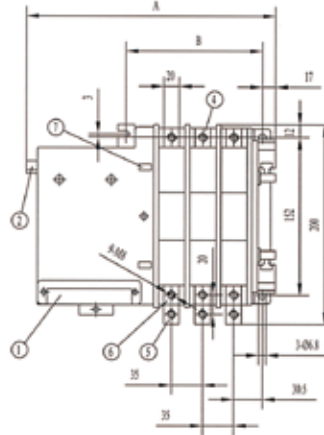
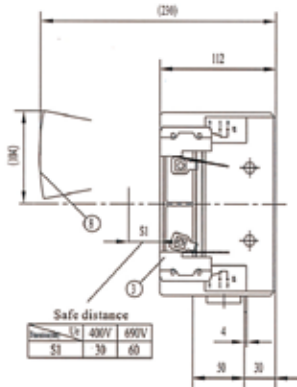


Table 7

	A	B
2P	228	113
3P	263	148
4P	298	183

Note: Refer to Table 7 for the dimensions of A and B in the above figure.

4) W-N3 350~500A
W-2 350~500A

Safe board distance
S1 dimension: 30mm(400V),60mm(690V)

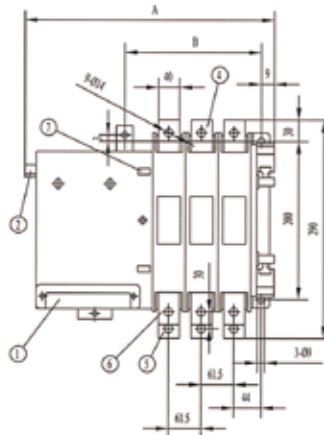
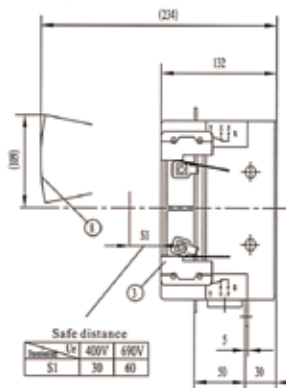


Table 8

	A	B
2P	287	167
3P	350	230
4P	410	290

Note: Refer to Table 8 for the dimensions of A and B in the above figure.

- ① Control circuit wiring terminal
- ② Square shaft for manual operation
- ③ Auxiliary contact
- ④ Main circuit terminal on active side
- ⑤ Main circuit terminal on load side
- ⑥ Main circuit terminal on standby side
- ⑦ ON/OFF indicator
- ⑧ Rotation range of operating handle

5) W-N3 630~1600A

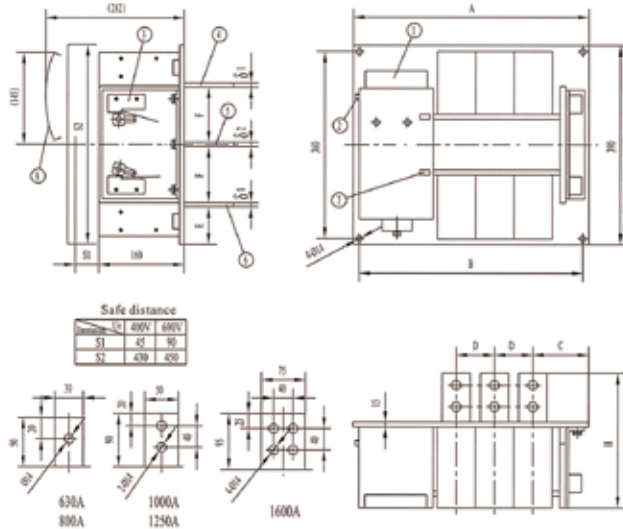


Table 9

Specification	630A 800A	1000A 1250A	1600A	
A	2P	340	370	410
	3P	405	450	510
	4P	470	530	610
B	2P	310	340	380
	3P	375	420	480
	4P	440	500	580
C	80	88	97.5	
D	65	80	100	
E	60	60	57	
F	117.5			
δ 1	10/15	12/15	15	
δ 2	15			
H	210	250	255	

Note: Refer to Table 9 for the dimensions of A~F, H, δ1 and δ2 in the above figure.

6) W-N3 1600~3150A (3P)

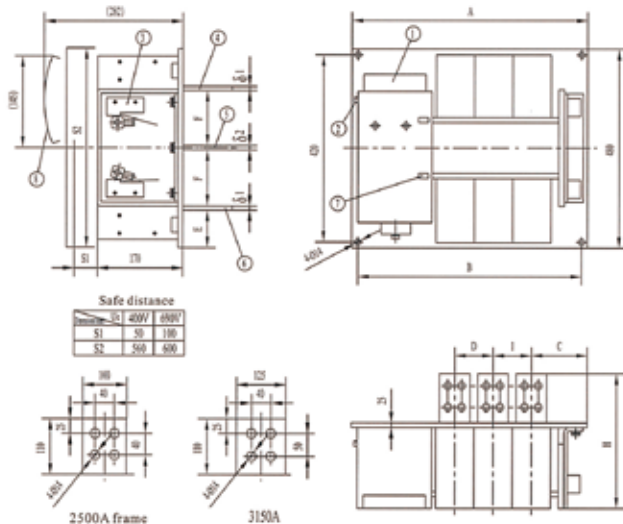
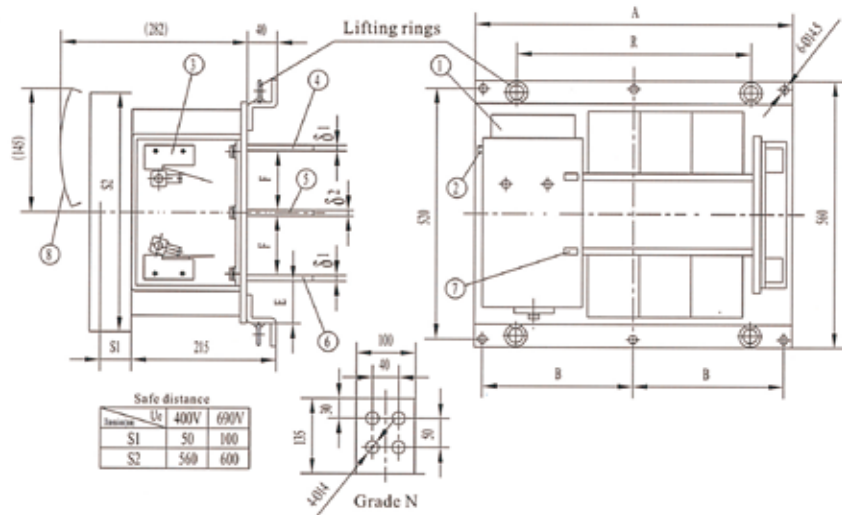


Table 10

Specification	1600A 2000A	2500A	3150A (3P)	
A	3P	680	680	915
	4P	845	850	
B	3P	595	595	860
	4P	790	790	
C	130	130	135	
D	145	145	220	
E	75	75	75	
F	116.5	114	114	
δ 1	15	20		
δ 2	15	20		
H	305	305	335	
I	160	160	220	

Note: Refer to Table 10 for the dimensions of A~F, H, I, δ1 and δ2 in the above figure.

7) W-N3 3150A (4P)-5000A



Note: The automatic transfer switches 3150A (4P), 4000A and 5000A have four lifting rings. Before lifting, confirm that the rings are screwed into the mounting rail of the switch and the bearing capacity of the rope is not less than 500kg. Perform a trial lifting to confirm the center of gravity of the switch to prevent rollover or slipping.

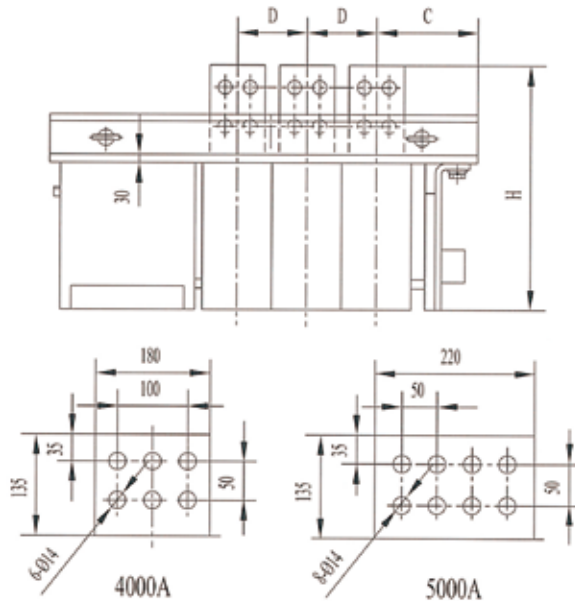


Table 11

Specification	3150A	4000A	5000A
A	3P	915	1080
	4P	1017	1160
B	3P	430×2	500×2
	4P	478×2	520×2
C	135	135	230
D	240	230	270
E	75	75	88
F	114		
δ 1	20		
δ 2	20		
R	800		900
H	335	350	350

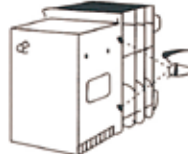
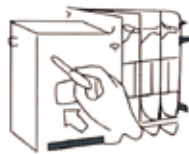
Note: Refer to Table 11 for the dimensions of A~F, δ1, δ2, R, and H in the above figure.

V. Manual operation methods and notices

The connection and disconnection capacity of the W series switches is ensured under electric operation, but when they are operated manually the capacity is uncertain because the speed with which connection and disconnection is made will vary. Loaded connection and disconnection in manual mode will result in excessive damage to the silver alloy contacts. Therefore, manual operation should only be done during inspection and maintenance of the operating mechanism and contacts, or in the case of an electrical fault.

Note: Cut off all the power before manual operation. Make sure the operating handle is removed from the transfer switch after use.

1) Manual tripping is available for W-N3 switches only. The W-2 switches do not have this facility.



After removing the operating handle, insert a screwdriver into the TRIP hole on the left side and push it inwards to trip the switch. Check this in the ON/OFF indicator window.

2) Input method on the A power side

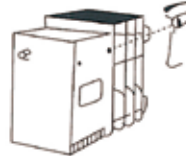
Note: For W-N3 switches, perform this step after finishing step 1); for W-2 switches, perform this step before completing step 1).



Fit the operating handle on the square shaft on the left hand side of the switch.



For a W-N3 switch: lift the handle upwards to connect input. For a W-2 switch: turn the handle downwards until you hear two clicks that indicate input.



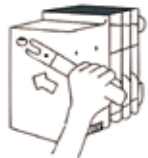
Check the ON/OFF indicator window to ensure input.



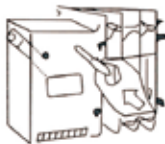
Remove the operating handle after use.

3) Input method on the B power side

Note: For W-N3 switches, perform this step after finishing step 1); for W-2 switches, perform this step before completing step 1).



on the square shaft on the left hand side of the switch.



For a W-N3 switch: insert a screw driver into the SELECT hole on the right side and push it inwards. For a W-2 switch: turn the handle downwards until you hear two clicks.



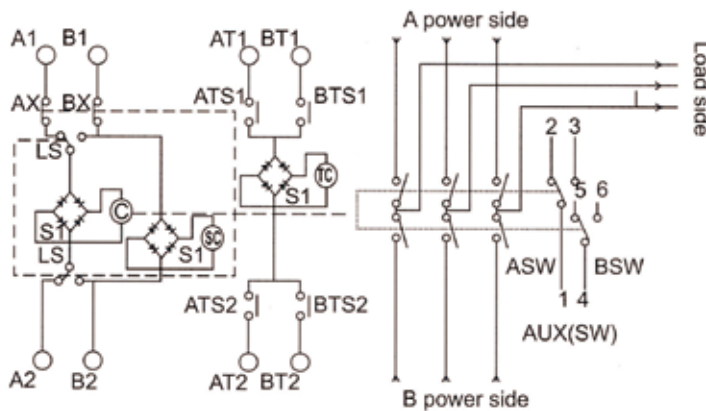
For a W-N3 switch: keep pushing the screw driver and at the same time lift the handle upwards to connect input on the B side.



Check the ON/OFF indicator window to ensure input. Remove the operating handle after use.

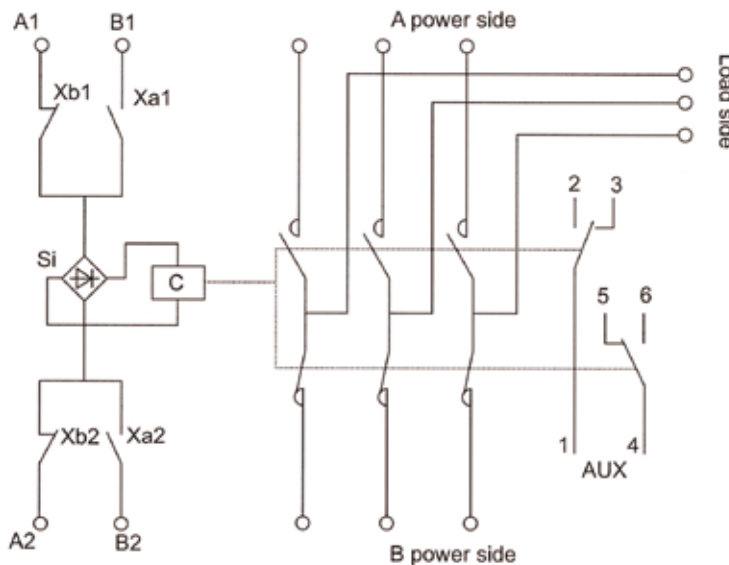
VI. Switch's internal wiring diagrams

1) W-N3 Internal wiring diagram
Two power sources are OFF.



- C= Input coil
- SC= Selection coil
- TC= Tripping coil
- S1= Rectifier
- LS= Selection switch
- ATS1, ATS2=A power OFF terminal
- BTS1, BTS2=B power OFF terminal
- AX, BX= Control switch
- AUX= Auxiliary switch
- A1-A2= Input terminal on A power side
- B1-B2= Input terminal on B power side
- AT1-AT2= Tripping terminal on A power side
- BT1-BT2= Tripping terminal on B power side

2) W-2 (two-stage) internal wiring diagram



- Xb1, Xb2: Internal control switch
- Xa1, Xa2: Internal control switch
- C: Input coil
- Si: Rectifier
- AUX: Auxiliary switch
- A1-A2: Input terminal on A power side
- B1-B2: Input terminal on B power side

Two separate contacts

A tripping device and an OFF position are provided.
 The operation sequences are:
 A→OFF→A and B→OFF→B, or
 A→OFF→B and B→OFF→A



Safety design

Dustproof resin protective cover for safe operation

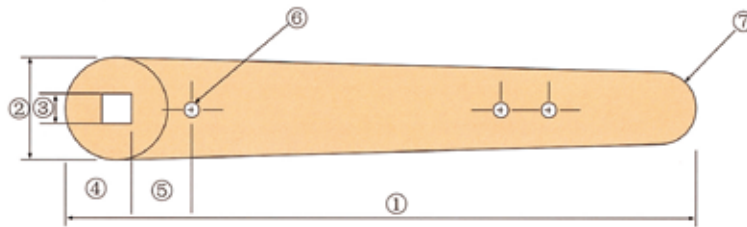


Tripping characteristic

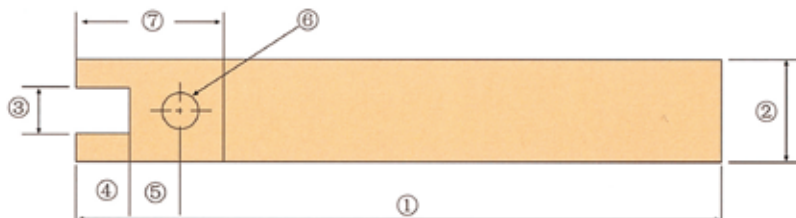
Based on the operating voltage, a constant tripping function is enabled by the spring.

Operating handle

Refer to applications and options for details.



	①	②	③	④	⑤	⑥	⑦	T
63A~500A	210	34	10	22	20	Φ5(3)	Φ24	6(7)



	①	②	③	④	⑤	⑥	⑦	t
600A~1600A	250	38(40)	16.1	20	15	Φ8	41	6(8)
2000A 3000A	320	50(52)	19.1	25	15	Φ8	50	9(11)
4000A 5000A	420	50(52)	19.1	25	15	Φ8	50	9(11)

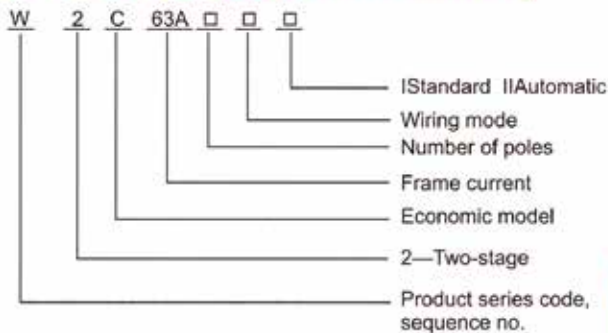
W 2C Series Dual-power Automatic Transfer Switches (ATSE)

I. W2C series dual-power automatic transfer switches

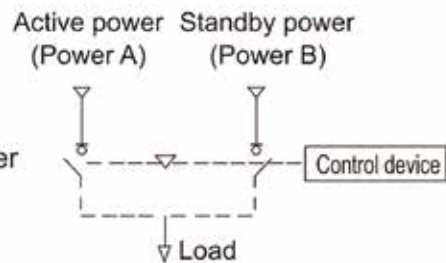
To meet the needs of our customers, we have recently released the W2C economic and practical PC-level two-stage automatic transfer switches. These single-pole double-throw switches have independent electromagnetic operation that features rapid transfer, compact structure and reliability.

Application scope: Normal-emergent transfer

Product codes and meanings



System diagram



II. Technical parameters

Refer to Table 1 for the switch technical parameters.

Table 1

Rated voltage (V)		AC400		
Rated impulse withstanding voltage (kV)		6		
Rated current (A)		16、20、25、32、40、50、63		
Rated isolation voltage (V)		AC690		
Coil driving power		AC220/230V、3.5A		
Rated limited short-circuit current (kA)		20		
Use category		AC-31B		
Lifespan (time)	Mechanical	8000		
	Electric	3000		
Number of poles		2P	3P	4P
Weight (kg)		4	4.5	5.5
Operation cycle (s)		30		

II. Technical parameters

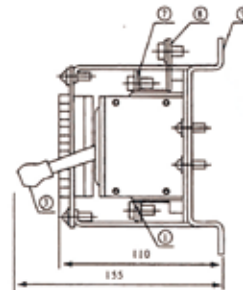
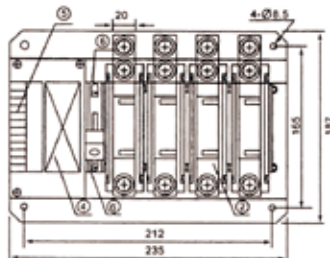
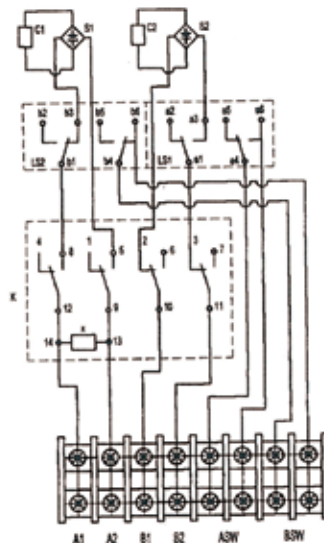


Figure 2 Outer dimensions and installations dimension

- ① Load bus ② Power module ③ Operating handle ④ Name plate ⑤ Control circuit wiring terminal
- ⑥ Mechanical indication of power transfer ⑦ Active power bus ⑧ Standby power bus ⑨ Base

II. Technical parameters

Refer to Figure 3 for the internal wiring diagram of the switches with automatic input and recovery. In case of a voltage drop or undervoltage of the active power (A), relay K is released, the standby power (B) passes K to select the switch LS1 to activate the input coil C2, the switch transfers to the standby power (B), the mechanism detects the switch between LS1 and LS2 to cut the C2 current, at the same time a standby power switch-on signal is output from the BSW terminal. When the active power (A) returns, the switch K is closed, the active power (A) passes K and selects the switch LS2 to activate input coil C1, the switch transfers to active power (A), the mechanism detects a switch between LS1 and LS2 to cut the C1 current, and at the same time an active power switch-on signal is output from the ASW terminal.



Note: A1, A2—Active power (A) input terminal (connected to AC 220V)
 B1, B2—Standby power (B) input terminal (connected to AC 220V)
 ASW—Signal output terminal for active power switch-on
 BSW—Signal output terminal for standby power switch-on

K—Relay
 C1, C2—Input coil
 S1, S2—rectifier
 Ls1, LS2—Position selection switch

Figure 3 Internal wiring diagram (the switch in position B)

V. Wiring Information

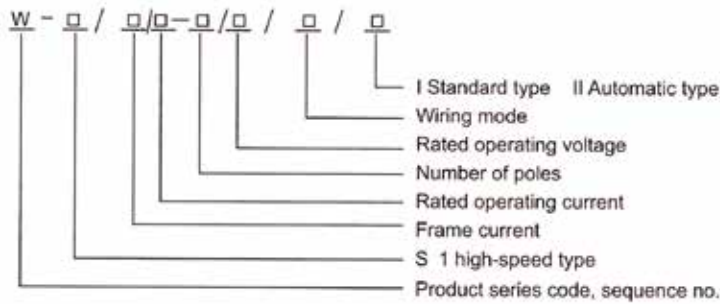
1. Make sure the wiring is carried out by professionals who have a proper understanding of this manual.
2. Before wiring examine the switch to ensure that it is undamaged. Operate the switch using the operating handle and use a multimeter to check that all the phases of the active (standby) power and load connection/disconnection are normal.
3. When wiring pay special attention to the following.
 - a. The phase sequences of the active and standby power should be verified to be the same.
 Verify that the voltage of the active and standby control power are both 220VAC.
 - b. Perform the wiring according to the labels that identify the wiring terminals of the main circuit and the control circuit.
 - c. Ensure the switch is grounded properly.
4. Use the operating handle only for switch debugging and maintenance in the power off state. Do not use the operating handle with a load. The handle should be removed before the switch is put under power.

W-S1 High-speed Dual-power Transfer Switches

W-S1 high-speed dual-power transfer switches

The WS-1 high-speed dual-power transfer switch series are PC-level two-stage transfer switches designed to meet stringent transfer time requirements. With a transfer time of only 3~8ms, this series are appropriate for use when the active and standby power share the same voltage and phases.

I. Product codes and meanings

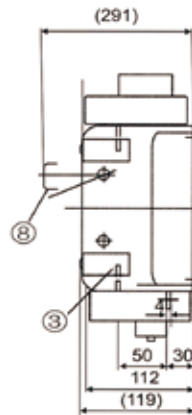
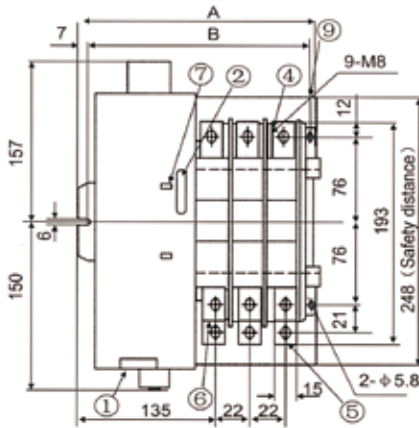


II. Technical Parameters

Type		63A	125A	250A	500A
Rated voltage		AC660V/400V			
Rated current		63A	125A	250A	500A
Frequency		50/60Hz			
Contact transfer duration		3~8ms			
Number of throws		Dual throw			
Wiring mode		Board front			
Weight (Kg)		2P	6.5kg	8kg	15kg
		3P	8kg	10kg	18kg
		4P	10kg	12kg	22kg
Operating current	AC200/220V	2P	2A	3.5A	3.5A
		3P	2A	3.5A	3.5A
		4P	3A	4A	4A
	AC/DC 100/110V	2P	4A	7A	8A
		3P	4A	7A	8A
		4P	5A	8A	9A
Rated short-time current		5kA (1 sec)		10kA (1 sec)	12kA (1 sec)
Mechanical lifespan		20000 cycles			
Operating cycle frequency		150 cycles/hr			
Operating environment		Ambient temperature -10 ~ +45°C, relative humidity 45~85%RH			
Auxiliary switch		Switch capacity: AC220V 3A AC110V 5A; DC200V 0.2A			
Operating voltage range		85~110% of the rated operating voltage			
Withstanding voltage	Main circuit	2500V			
	Control circuit	2000V			
Accessory		Operating handle			
Executive standard		GB14048.11			

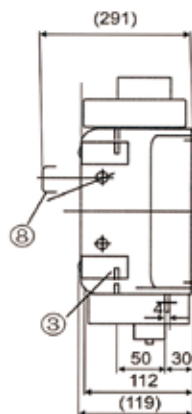
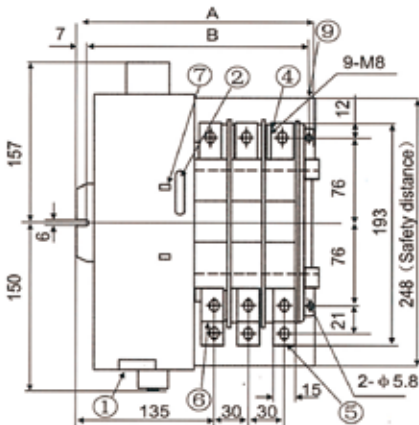
III. Outer dimensions

1 W-S1.63



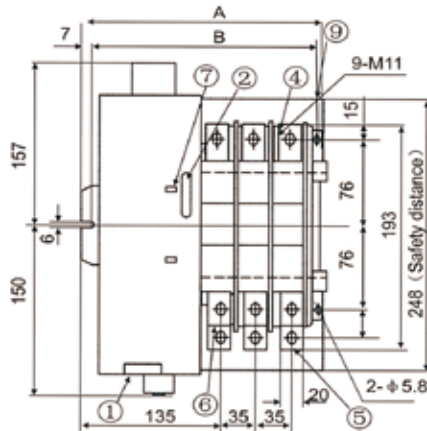
/	A	B
2P	189	170
3P	211	192
4P	233	214

2 W-S1/125



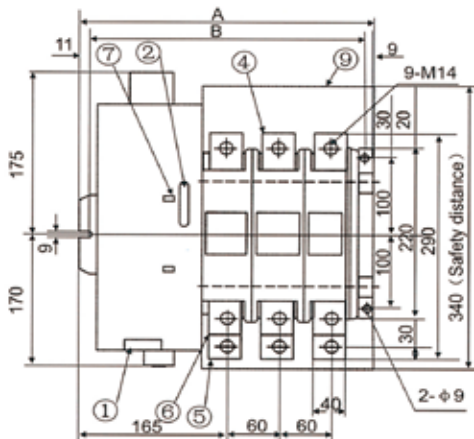
/	A	B
2P	205	186
3P	235	216
4P	265	246

3 W-S1/250



/	A	B
2P	215	196
3P	250	231
4P	285	266

4 W-S1/500

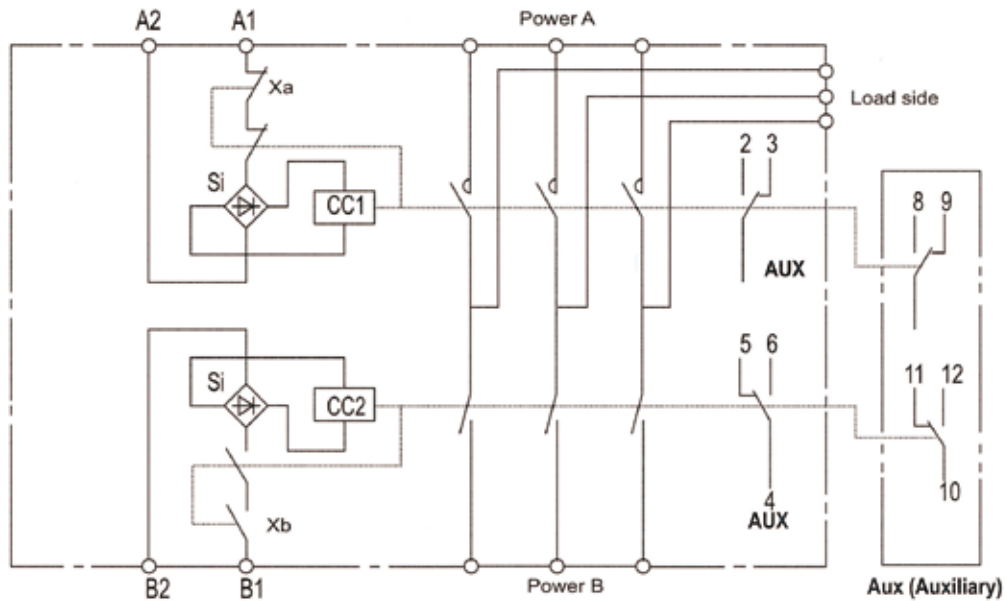


/	A	B
2P	282	258
3P	342	318
4P	402	378

Component names:

- | | | | |
|--------------------------------------|---|--------------------|---|
| ① Control circuit wiring terminal | ② Operating handle socket | ③ Auxiliary switch | ④ Main circuit terminal on A power side |
| ⑤ Main circuit terminal on load side | ⑥ Main circuit terminal on B power side | ⑦ ON/OFF indicator | ⑧ Operating handle (flexible) |

IV. Operation loop



A1-A1: Input terminal on A power side B1-B2: Input terminal on B power side
 Xa-Xb: Control switch CC1, CC2: Closed coil Si: Rectifier AUX: Auxiliary switch

V. Operation instructions

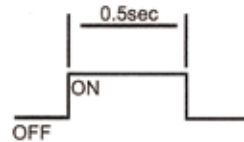
- 1) When installing the switch avoid high temperatures, steam or harmful gas (exhaust gas) and dust.



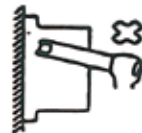
- 3) The switch will stay in the input state when an input command and a tripping command are sent to the same power side simultaneously. Please avoid doing this, otherwise the coils will remain excited.



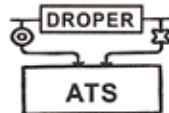
- 2) To ensure reliable operation, maintain control commands for longer than 0.5 second.



- 4) Apply electric operation and try to avoid manual operation.



- 5) Under DC conditions, if the power has a step-down loop (DROPPER), connect the power to the input side of the step-down loop rather than the output side.



- 6) Make sure the operating power cables are long enough and pay special attention to the storage battery capacity.



- 7) Excitation in the W-S1 series is instantaneous and the operating power is cut off after the input operation ends instead of being cut by the external operating power via the auxiliary switch (AUX.SW.).

- 8) Please contact the company if you have a need for products with special features and specifications.

VI. Installation

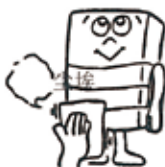
The switches must be installed in the correct orientation because of their structure and mode of operation. Incorrect orientation will result in changes to the switch characteristics. Please ensure the switches are installed correctly. Contact the company if this cannot be done as stipulated for wiring or mechanical reasons. The switches should be installed vertically, parallel with the vertical plane of the switchboard, and with the nameplate visible from the front.

VII. Maintenance, examination and storage

Note: Examination and maintenance should be carried out by professionals with all the external power cut off.

+++To maintain performance and a good operating state of the switches, perform the first maintenance within one year of installation. After this, periodical maintenance should be carried out annually. The basic items to be inspected are listed as below.

- 1) Keep the switches clean to prevent failure due to dust, dirt, or rust.



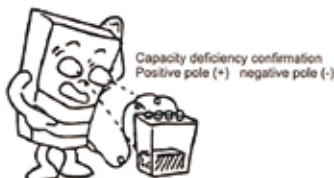
- 2) Perform a visual inspection of the contact parts for deformation, damage or change in color. Clear off metal deposits and burns on the contact surface and around the contact.



- 3) Poor contact can be the result of rust, oxidation or dust on the contact surface. During maintenance, check connection/ disconnection operation (measure the contact resistance if necessary), and fasten any loose connecting parts.



- 4) Under DC conditions, pay attention to the storage battery capacity and the charging.



Charging deficiency

- 5) Before using switches that have become damp, or have not been used for some time, remove the dust, dirt and dry them well. Then measure the isolation resistance of every two poles, inlet lines and outlet lines, the main/auxiliary circuit and the installation metal board (box) using a Megger. These values should be no less than 10MΩ. If this is not possible, the switches must be taken out of use.

- 6) New switches or those unused for a long period should be stored in an environment similar to the operating environment. Measures should be taken to, avoid dust, dampness, shock or accident.

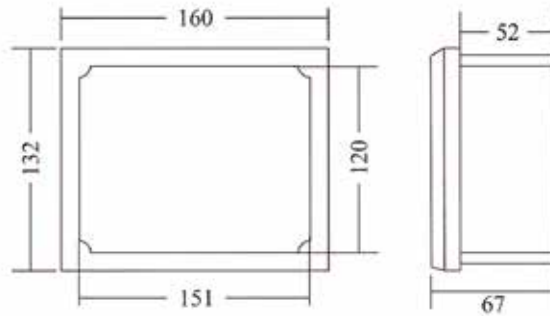


WST-1 Controller (Intelligent)

W ST-1 Controller

The WST-1 controller is newly developed device that matches a range of dual-power transfer switches. It has excellent performance and powerful functions that include delay, over and under voltage protection, open phase protection, overcurrent protection, line voltage and current display, power indication, remote clearing, automatic generator startup, a 485 communications interface, timing, automatic input and recovery as well as automatic input and nonautomatic recovery.

WST-1 Controller Installation dimensions



W-S Series Manual Dual-power Transfer Switches

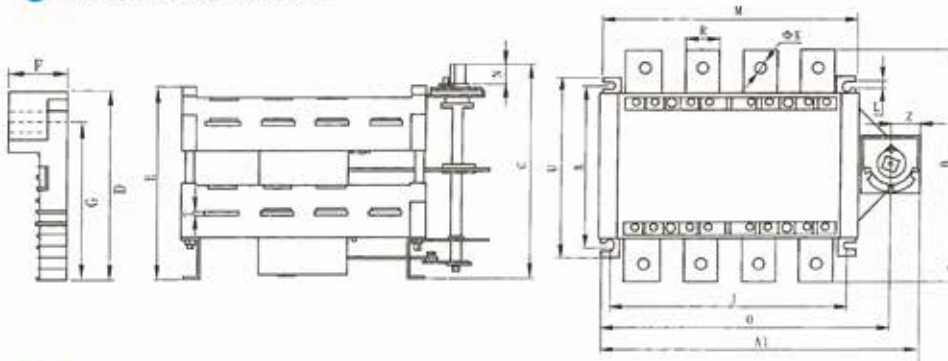
I. Functions and characteristics

The W-S series are mainly used in transfer control via manual switches in power supply systems. Feedback points for gear signals are provided as needed.

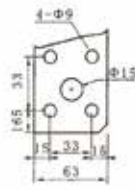
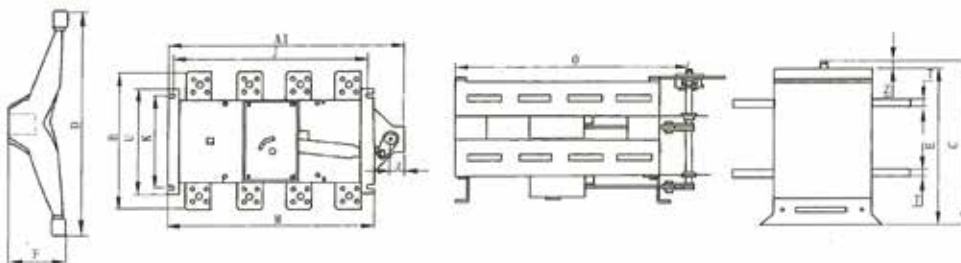


II. Outer dimensions and installation dimensions

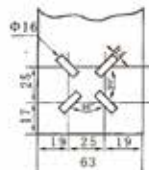
- W-S/100、250、630.



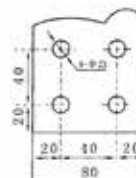
- W-S/1600



800A

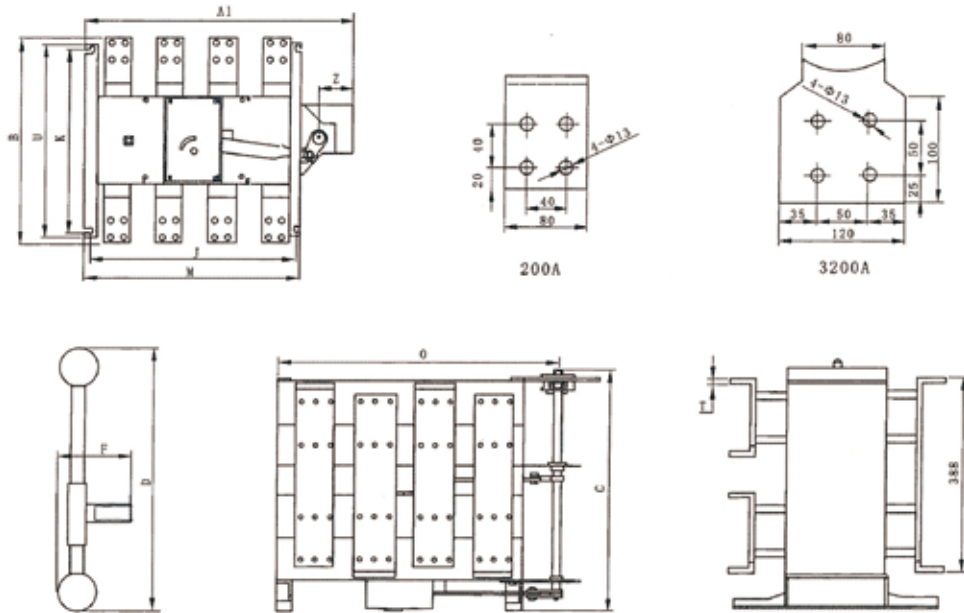


1250A



1600A

● W-S/3200



Specification	Outer dimensions						Installation dimensions					Wiring dimensions			Operating handle			
	A1	B	C	E	M	U	J	K	L	Z	N	R	T	ΦX	D	F	G	
100	3																	
	4	238	135	165	143	170	130	155	110	7	32.5	22	20	2.5	9	167	54.5	145
250	3													3.5				
	4	296	159.5	190	166	228	130	213	110	7	32.5	22	25	6	11	167	54.5	145
630	3	301	260	257	236	230	210	210	178	9	32.5	22	40	6	13	167	54.5	145
	4	368	260	254	232	290	270	270	178	9	32.5	22	40	15	13	167	54.5	145
1600	3	484	360	328	300	378	360	360	220	11	63	28	80	15	4-13	330	72	
	4	596	360	328	300	492	470	470	220	11	63	28	80	15	4-13	330	72	
3200	3	484	510	495		378	360	360	355	11	63	20	120	15	4-13	550	85	550
	4	596	510	495		492	470	470	355	11	63	20	120	15	4-13	550	85	550

III. Controller selection sheet

Controller	Function	Application scope
WST-3	<ul style="list-style-type: none"> ◇ Delay ◇ Overvoltage protection ◇ Undervoltage protection ◇ Open phase protection ◇ Overcurrent protection ◇ Line voltage display ◇ Current display ◇ Power indication ◇ Remote clearing ◇ Generator startup (automatic) ◇ 485 communications interface (optional) 	Universal
WST-1	<ul style="list-style-type: none"> ◇ Delay ◇ Overvoltage protection ◇ Undervoltage protection ◇ Open phase protection ◇ Overcurrent protection ◇ Line voltage display ◇ Current display ◇ Power indication ◇ Remote clearing ◇ Generator startup (automatic) ◇ 485 communications interface (optional) ◇ Timing ◇ Automatic input and recovery; automatic input and nonautomatic recovery 	Universal
WN-2-3-JJ (Concise)	<ul style="list-style-type: none"> ◇ Delay ◇ Open phase protection ◇ Power indication ◇ Remote clearing ◇ Generator startup (automatic) 	Below 630A



W2 Series Automatic Transfer Switches

W2H-250A Series



W2H-125A Series



W2R-63A Series

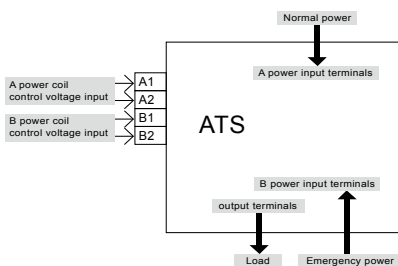


Type	W2R			W2H
Picture				
Number of poles	2P	3P	4P	2P
Frame rated current (A)	63A			125A
Rated working current Ie (A)	16A, 20A, 25A, 32A, 40A, 50A, 63A			16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A
Coil control voltage	110V, 220V, 380V, 415V 50Hz or 60Hz			110V, 220V, 380V, 415V 50Hz or 60Hz
Insulation voltage (V)	690V			690V
Impulse withstand voltage Uimp (KV)	6KV			8KV
Conformity to standards	IEC60947-6-1			IEC60947-6-1
Making capacity & breaking capacity	AC31B, 6.0Ie 5 times			AC31B, 6.0Ie 60 times
Durability electrical	1.0Ie 1500 times			2.0Ie 6000 times
Rated short-circuit current limit (KA) (Protected by fuse)	50KA			100KA
Change time	From A power to B power	30 msec.- 70 msec.		30 msec.- 70 msec.
	From B power to A power			
Auxiliary contacts		--		A power: 1A1B, 1C
		--		B power: 1A1B, 1C

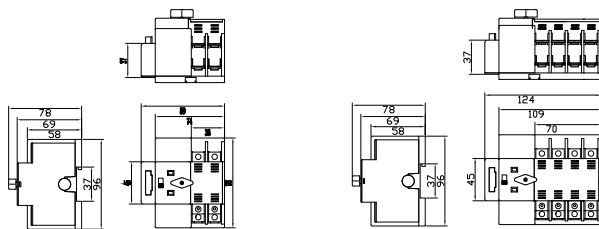
Characteristics

- Two position change over switches of A power (Normal) / B power (Emergency).
- Switch for setting function of Automatic / Manual operation.
(A power is priority in automatic operation.)

■ Connection Diagram

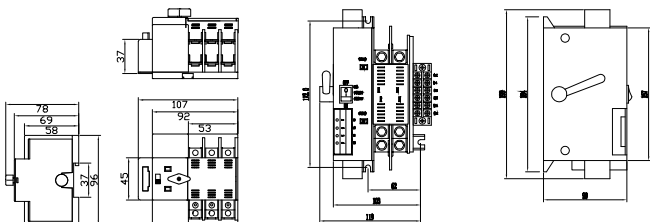


Dimensions (mm)







W2R-63A 2P

W2R-63A 4P

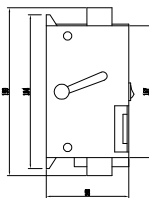
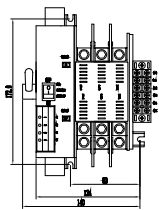


W2R-63A 3P

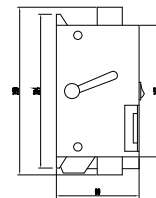
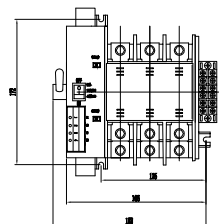
W2H-125A 2P

Type	W2H		W2H	
Picture				
Number of poles	3P	4P	3P	4P
Frame rated current (A)	125A		250A	
Rated working current Ie (A)	16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A		140A, 160A, 200A, 225A, 250A	
Coil control voltage	110V, 220V, 380V, 415V, 50Hz or 60Hz		110V, 220V, 380V, 415V, 50Hz or 60Hz	
Insulation voltage (V)	690V		690V	
Impulse withstand voltage Uimp (KV)	8KV		8KV	
Conformity to standards	IEC60947-6-1		IEC60947-6-1	
Making capacity & breaking capacity	AC31B, 6.0Ie 60 times		AC31B, 6.0Ie 60 times	
Durability electrical	2.0Ie 6000 times		2.0Ie 6000 times	
Rated short-circuit current limit (KA) (Protected by fuse)	100KA		100KA	
Change time	From A power to B power	30 msec.- 70 msec.	30 msec.- 70 msec.	30 msec.- 70 msec.
	From B power to A power			
Auxiliary contacts	A power: 1A1B, 1C		A power: 1A1B, 1C	
	B power: 1A1B, 1C		B power: 1A1B, 1C	

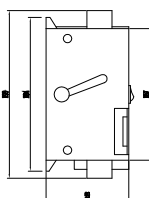
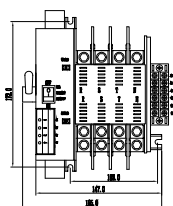
Dimensions (mm)



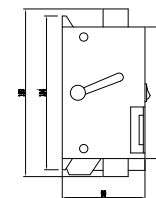
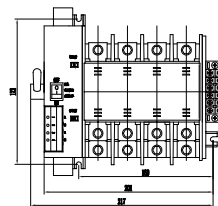
W2H-125A 3P



W2H-250A 3P



W2H-125A 4P



W2H-250A 4P

The **WST** are microprocessor based controller for the ATS product range. User configurable settings can be programmed to customize the ATS operation for specific requirements.

The **WST-6** is a compact design model for local control of ATS up to 500A capacity.

The **WST-5** carries advance protection features and allows remote operation control via an optional RS-485 interface. This enables the ATS to be managed remotely by an external software.



Model: WST-6



Model: WST-5

Specification	WST-6	WST-5	
Type	Panel mounted ; LCD multi-line display	Panel mounted ; LCD multi-line display	
Operating voltage	180-270V	160-270V	
Cut Out	131mm(W) X 116mm(H)	152mm(W) X 123mm(H)	
Dimension	141mm(W) X 126mm(H) X73mm(D)	162mm(W) X 133mm(H) X67mm(D)	
Interface to ATS	4x Relay Output for ATS switch control	4x Relay Output for ATS switch control	
Remote Interface	1x Dry contact input point to transfer switch	1x Dry contact input point to transfer switch	
Optional Item	RS-485 communication interface for remote control upon request	RS-485 communication interface for remote control upon request	
ATS Compatibility	W-N3 W-2, W2R, W2H	W-N3 W-2, W2R, W2H	
ATS Capacity	Up to 500A	Up to 5,000A	
On relay contact	10A 250V	30A 250V	
Off relay contact	5A 250V	10A 250V	
Standard Compliance	IEC 60947-6-1:1998 14048. 11-2002	IEC 60947-6-1:1998 14048. 11-2002	
Functions	Power Indication	■	■
	Time Delay Adjustment Op	■	■
	Open Phase Protection	■	■
	Automatic Generator Startup	■	■
	Direct Over-Ride Switching	■	■
	Line voltage Display	■	■
	RS485 Interface	■	■
	Over Voltage Protection	no	■
	Under Voltage Protection	no	■

