

Mounted Digital Instrument

Pd7777- □S Series Multi-function Power Instrument



12 PD7777-□S Series Multi-function Power Instrument

12.1 Function: having multiple functions like programmable measurement, display and digital communication, mainly used to measure and analyze many electric parameters of power grid and communicate with external device via RS485 data interface, thereby realizing display and remote transmission of electric data. Function expansion: four-way analog quantity (0~10mA/0~20mA/4~20mA) output can achieve the function of transmitting output of electricity; four-way on-off input and output can realize the monitoring and control output of local or remote switching signal (function of “remote signalling” and “remote control”). The programmable keyboard on the panel is available for programming and setting the parameters of the instrument, such as multiplying factor of transformer, grid type, displaying mode of electricity, communication address of instrument, baud rate, object and range of transmitting output, alarm object, upper and lower limits of alarm and so forth.

12.2 Variety & specification and selection description

| Model | Measuring display | | | | | | | Additional functions | | | | | | | Displaying mode | Description |
|-------------|-------------------|-----------------|--------------|----------------|--------------|-----------|------------------------|--------------------------|--------------|-------------------------|------------------------------|----------------------|---------------------|------------------------------------|-----------------|-------------|
| | 3-phase voltage | 3-phase current | Active power | Reactive power | Power factor | Frequency | Active electric energy | Reactive electric energy | Demand power | Multi-rate input/output | 4-way transmit-contact alarm | 4-way alarm location | Rs485 communication | 2-way electric energy pulse output | | |
| PD7777-3S4 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | | | |
| PD7777-3SK4 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | YES | YES | |
| PD7777-3SB4 | ● | ● | ● | ● | ● | ● | ● | ● | YES | | | YES | YES | YES | YES | |
| PD7777-3S3 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | | | |
| PD7777-3SK3 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | YES | YES | |
| PD7777-3SB3 | ● | ● | ● | ● | ● | ● | ● | ● | YES | | | YES | YES | YES | YES | |
| PD7777-8S4 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | | | |
| PD7777-8SK4 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | YES | YES | |
| PD7777-8SB4 | ● | ● | ● | ● | ● | ● | ● | ● | YES | | | YES | YES | YES | YES | |
| PD7777-8S3 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | | | |
| PD7777-8SK3 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | YES | YES | |
| PD7777-8SB3 | ● | ● | ● | ● | ● | ● | ● | ● | YES | | | YES | YES | YES | YES | |
| PD7777-8S7 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | | | |
| PD7777-8SK7 | ● | ● | ● | ● | ● | ● | ● | ● | | | | YES | YES | YES | YES | |
| PD7777-8SB7 | ● | ● | ● | ● | ● | ● | ● | ● | YES | | | YES | YES | YES | YES | |

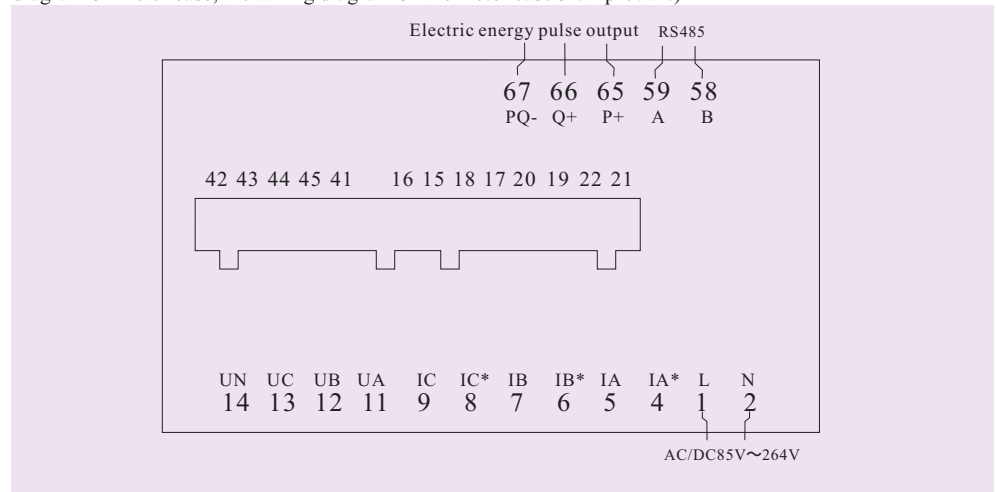
12.3 Main technical performances and parameters

| Technical parameters | Index | |
|------------------------------|---|---|
| Voltage | Network | Single-phase, three-phase three-wire or three-phase four-wire available |
| | Rated value | AC100V, 220V, 380V; other special specifications customizable |
| | Overload | Continuous: 1.2 times; instantaneous: 2 times/5s; display “HHHH” overload symbol if exceeding the rated value by 1.2 times |
| | Power consumption | ≤ 1VA (each phase) |
| Input | Impedance | >500KHz |
| | Rated value | AC1A, 5A |
| Current | Overload | Continuous: 1.2 times; instantaneous: 10 times/5s; display “HHHH” overload symbol if exceeding the rated value by 1.2 times |
| | Power consumption | ≤ 1VA (each phase) |
| | Impedance | <20mΩ (each phase) |
| Measuring range of frequency | | 45Hz~65Hz |
| Displaying mode | current 0.001A, active power 1W, reactive power 1var, apparent power 1VA, power factor 0.001, frequency 0.01Hz, electric energy 0.01kWh; automatic unit switching, automatic shifting of decimal point. | |
| Output | Output mode | Open optocoupler pulse output of two-way collector |
| | Pulse constant Communication (Active imp/kwh; Reactive imp/kvarh) | 100000 (Other constants customizable) |
| Communication | Mode | RS-485 |
| | Protocol | MODBUS-RTU |
| | Baud rate | 1200bps, 2400bps, 4800bps, 9600bps, 19200bps, default as 9600bps |
| On-off output | Upper- and lower-limit alarms output by the same relay; contact capacity: AC250V/5A, DC30V/2A | |
| Transmitting output | Current output: DC0m~20mA, DC4mA~20mA, Class 0.5 or Voltage output: DC0V~5V, Class 0.5 | |
| On-off input | Mode of 4-way passive stem node input | |

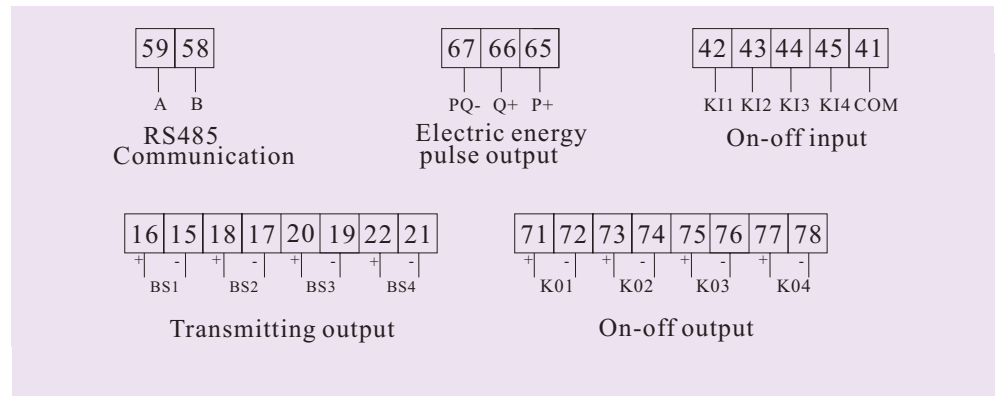
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| Technical parameters | Index | |
|----------------------|--|---|
| Accuracy class | Voltage, current, active power, Apparent power, frequency, power factor | Class 0.5 |
| | Reactive power | Class 1 |
| | Active electric energy | Class 0.5S |
| | Reactive electric energy | Class 2 |
| | Power supply | Range |
| Environment | Power consumption | <15VA |
| | Temperature | -25°C~55°C |
| | Humidity | 25%RH≤Humidity≤93%RH, no condensation of moisture, sites without corrosive gas |
| | Atmospheric pressure | 86kPa~106kPa |

12.4 Description of terminal arrangement and wiring code (Note: in case of inconsistency with the wiring diagram on meter case, the wiring diagram on the meter case shall prevail.)



12.5 Nos. of main functional terminals



12.6 Wiring mode

