

18

I/O
Expandable



PR-18

Model: PR-18AC-R ACModel: PR-18DC-DA-R DCModel: PR-18DC-DA-RT DC

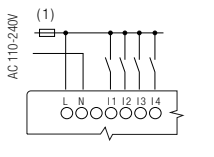
Specifications

| Item | PR-18AC-R | PR-18DC-DA-R | PR-18DC-DA-RT |
|--|--|---|---------------|
| Nominal voltage | AC 110V-240V | DC 12-24V | |
| Operating limits | AC 85 - 265V | DC 10.8-28.8V | |
| The main frequency range | 47-63Hz | - | |
| Immunity from micro power | - | Typ 5 ms | |
| Max startup current | - | Max 0.25A | |
| Isolation voltage | 1780V AC | - | |
| Max absorbed power | 49 mA (85V AC) 37 mA (265V AC) | 3.5 W (10.8V DC) 4W (28.8V DC) | |
| Protection against polarity inversions | Yes | | |
| Input No | 12 (I1-IC) | | |
| Digital input | 12 (I1-IC) | | |
| Analogue input | - | 6 (I1-I6) (0..10V DC) | |
| Input voltage | AC 110-240V | DC 0-28.8V | |
| Input signal 0 | AC 0-40V <0.03mA | (I1-I6) <0.1mA / (I7-IC) <1mA @ < 5V DC | |
| Input signal 1 | AC 79-240V >0.06mA | (I1-I6) >0.3mA / (I7-IC) >1.7mA @ > 8V DC | |
| Input current | - | (I1-I6) 0.4mA / (I7-IC) 2.3mA @ 10.8V DC (I1-I6) 0.5mA / (I7-IC) 2.6mA @ 12.0 V DC (I1-I6) 1.2mA / (I7-IC) 5.2mA @ 24 V DC (I1-I6) 1.5mA / (I7-IC) 6.3mA @ 28.8 V DC | |
| Response time | 0 to 1: 120V AC : Typ. 50 ms 240V AC : Typ. 30 ms 1 to 0: 120V AC : Typ. 90 ms 240V AC : Typ.100 ms | (I1-I6): 0 to 1: Typ. 1.5 ms 1 to 0: Typ. 1.5 ms (I7-IC): 0 to 1: Typ. <1 ms 1 to 0: Typ. <1 ms | |
| Maximum counting frequency | Typ: 4 Hz | I1-I8: 4 Hz I9-IC: 60 kHz | |
| Sensor type | Contact or 3-wire PNP | | |
| Input type | - | Resistive | |
| Isolation between power supply and inputs | - | | |
| Isolation between inputs | - | | |
| Protection against polarity inversions | Yes | - | |
| Measurement range | - | DC 0-10V | |
| Input impedance | - | Min 24KΩ Max 72KΩ | |
| Input voltage | - | 28.8 V DC max | |
| Resolution | - | 10bit 0.01V | |
| Accuracy at 25 °C | - | ± (Max 0.02)V | |
| Accuracy at 55 °C | - | ± (Max 0.04)V | |
| Isolation between analog inputs and power supply | - | | |
| Cable length | - | 10 m max shielded & twisted | |

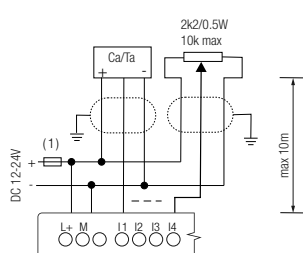
| Item | PR-18 |
|------------------|--|
| Memory | 1024 Functional Blocks / 13K Steps |
| Data Retentivity | 10 years |
| Program Backup | 10 years |
| RTC | Backup at 25 °C: 20 days, RTC accuracy : MAX ±2S/day |
| Cycle time | 0.6ms - 8.0ms |
| Expansion | 16 modules (PR-E-16) |
| Communication | 1 RS232 port & 1 RS485 port (PR-E-RS485) Modbus RTU/ASCII Master or Slave |
| Certificate | |
| Operation Temp | -20 °C .. +55 °C |
| Storage Temp | -40 °C .. +70 °C |
| Protection | IP20 |
| Dimensions | 95*90*55 (Unit, mm) 6DIN |
| Installation | 35mm-DIN rail or screw for installation |
| Weight | Approx. 400g |

I/O circuit diagrams

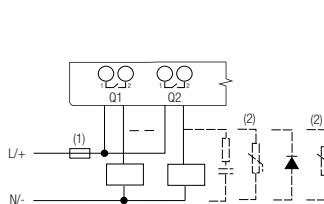
[Digital Input - Power AC]



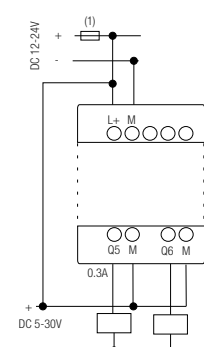
[DC analog inputs 0-10V - Power DC]



[Relay Outputs]



[Transistor Outputs PNP]



(1) - Fuse, circuit-breaker or circuit protector
(2) - Inductive load;

Specifications

| Item | PR-18AC-R | PR-18DC-DA-R | PR-18DC-DA-RT | |
|----------------------------------|--|--------------|---|------------|
| | | | Relay | Transistor |
| Output No | 6 (Q1-Q6) | | | |
| Output type | Relay output | | 4 (Q1-Q4) Relay output 2 (Q5-Q6) Transistor output | |
| Continuous current | Resistive load 10A/Inductive load 2A | | Max. 0.3 A per channel | |
| Max breaking voltage | AC 250 V DC 110 V | | DC 5-30V | |
| Max breaking current | 10A | | 0.65A | |
| Voltage drop | - | | < 2 V for I = 0.3 A (at state 1) | |
| Galvanic isolation | Yes | | - | |
| Max allowable power force | 1250VA 300W | | - | |
| Electrical durability expectancy | 105 Operations at Rated Resistive Load | | - | |
| Mechanical life | 107 Operations at No Load condition | | - | |
| Built-in protections | Against short-circuits: None Against overvoltages and overloads: None | | | |
| Response time | Operate Time : 15 ms max Release Time : 10 ms max | | Make ≤ 1 ms Release ≤ 1 ms | |
| Mechanism | 10Hz | | - | |
| Resistor/light load | 2Hz | | 10Hz | |
| Sensitive load | 0.5Hz | | | |
| PWM frequency | - | | 10kHz Q5, Q6 must have same frequency when PWM works | |
| PWM accuracy at 120Hz | - | | < 0.5 % (20 % - 80 %) load at 10 mA | |
| PWM accuracy at 500Hz | - | | < 0.5 % (20 % - 80 %) load at 10 mA | |
| Max. Breaking current PWM | - | | 50mA | |
| Max. cable length PWM | - | | 20m | |
| PWM cyclic ratio | - | | 0 to 100 % | |

