

◆ Technical Data:

Model:PR-18DC-DA-RT

GENERAL SPECIFICATIONS

Timers : 1024

Counters : 1024

Function Blocks: 1024

Operation temp.: -20°C-55°C

Storage:-40°C-70°C

Protection: IP20(Non-waterproof)

RTC accuracy : MAX ±2S/day

RTC Backup at 25 °C: 20 days

Program and settings Backup :10 years

Data Power-off retentivity: 10 years

Modify parameters via keypad LCD: yes

Dimensions: 95*90*55 (Unit: mm)

Certificate: CE

Installation: 35-DIN rail or screw for installation

Expansion capacity: 16 modules (PR-E-16)

Password protection : 4-digit number password protection or disable program upload function

Communication interface : 1 RS232 port & 1 RS485 port

Communication protocol : Modbus RTU/ASCII



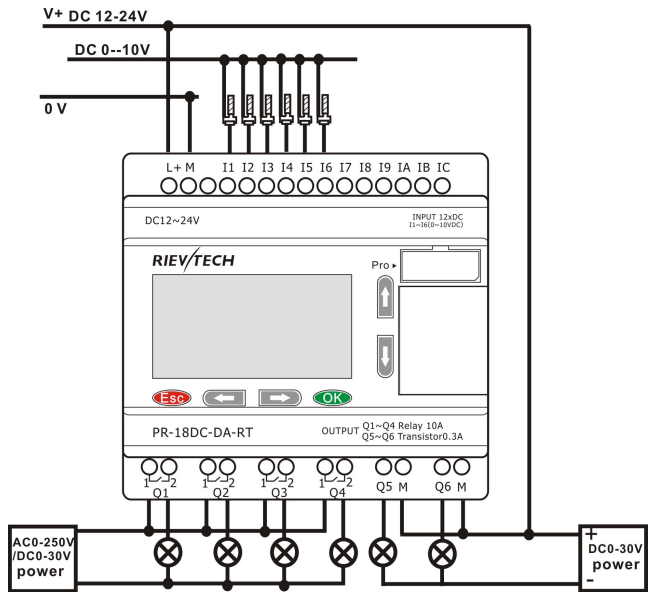
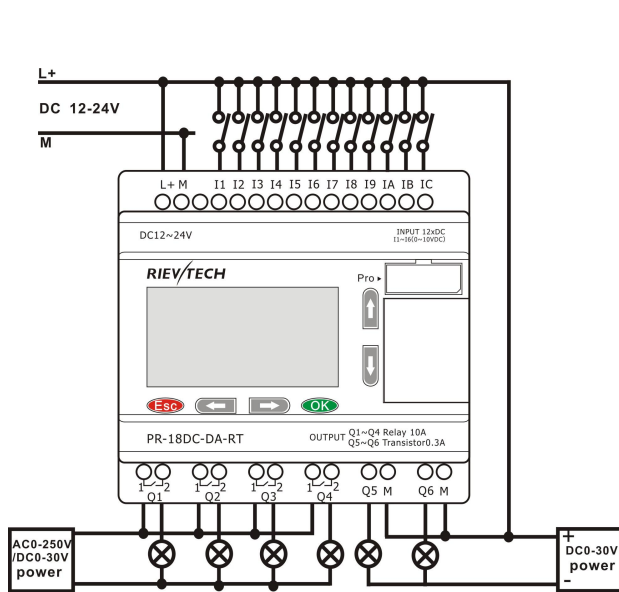
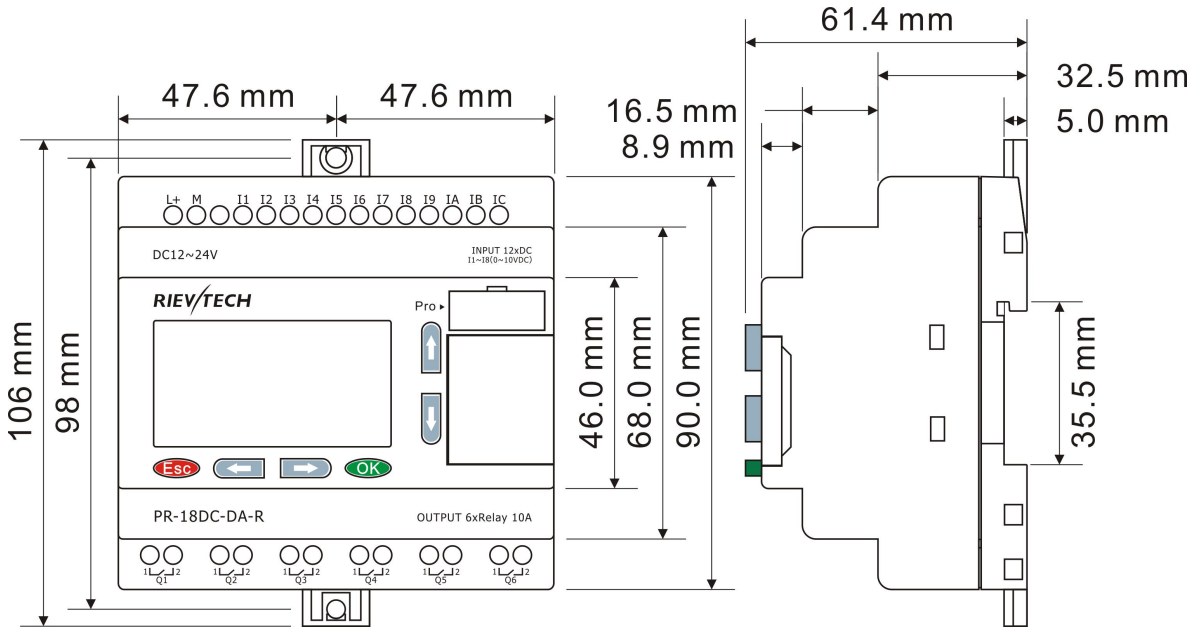
Technical Index

| Power supply: | |
|--|---|
| Nominal voltage | DC 12-24V |
| Operating limits | DC 10.8-28.8V |
| Immunity from micro power cuts | Typ.5 ms |
| Max. Startup current | Max. 0.25A |
| Max. absorbed power | 3.5 W (10.8V dc) ; 4 W (28.8V dc) |
| Protection against polarity inversions | Yes |
| Input parameters: | |
| Input No | 12 (I1-IC) |
| Digital input | 12 (I1-IC) |
| Analogue input | 6 (I1-I6)(0..10V DC) |
| Digital inputs(I7-IC) | |
| Input voltage | DC0-28.8V |
| Input signal0 | < 5V DC; <1mA |
| Input signal1 | > 8 V DC;>1.7mA |
| Input current | 2.3mA @ 10.8V dc 2.6mA @ 12.0 V dc 5.2 mA @ 24 V dc 6.3 mA @ 28.8 V dc |
| Response time | 0 to 1 : <1 ms ; 1 to 0 : <1 ms |
| Maximum counting frequency | 60k Hz(I9--IC) |

| | |
|---|---|
| Sensor type | Contact or 3-wire PNP |
| Input type | Resistive |
| Isolation between power supply and inputs | None |
| Isolation between inputs | None |
| Inputs used as digital inputs(I1-I6) | |
| Input voltage | DC0-28.8V |
| Input signal0 | < 5V DC;<0.1mA |
| Input signal1 | > 8 V DC;>0.3mA |
| Input current | 0.4mA @ 10.8V dc 0.5mA @ 12.0 V dc 1.2mA @ 24 V dc 1.5mA @ 28.8 V dc |
| Response time | 0 to 1 : Typ. 1.5 ms ; 1 to 0 : Typ. 1.5 ms |
| Maximum counting frequency | Typ.: 4 HZ |
| Sensor type | Contact or 3-wire PNP |
| Input type | Resistive |
| Isolation between power supply and inputs | None |
| Isolation between inputs | None |
| Inputs used as analog inputs(I1-I6) | |
| Measurement range | DC 0---10V |
| Input impedance | Min, 24K Ω ; Max. 72K Ω |
| Input voltage | 28.8 V DC max |
| Resolution | 10bit ,0.01V |
| Accuracy at 25 °C | \pm (Max.0.02)V |
| Accuracy at 55 °C | \pm (Max.0.04)V |
| Isolation between analog channel and power supply | None |
| Cable length | 10 m max. shielded and twisted |
| Output parameters: | |
| Output No. | 6 (Q1-Q6) |
| Output type | 4 (Q1-Q4)Relay output 2 (Q5-Q6)Transistor output |
| Max. Allowable Power Force(Resistive) | Relay: CE: 10A,250V AC/DC30V UL/CUL:10A,250V AC; 5A, DC28V Transistor:0.3A / DC5...30V |
| Electrical durability Expectancy | 10 ⁵ Operations at Rated Resistive Load(relay) |
| Mechanical life | 10 ⁷ Operations at No Load condition(relay) |
| Response time | Operate Time : 15 mSec. Max. Release Time : 10 mSec. Max. |
| Built-in protections | Against short-circuits: None Against overvoltages and overloads: None |
| PWM frequency | 10K HZ(Q5,Q6 must have same frequency when PWM works) |
| PWM accuracy at 500Hz | < 0.5% (20 % \rightarrow 80 %) load at 10 mA |
| Switch frequency: | |
| Mechanism | 10Hz |
| Resistor/light load | 2Hz |

| | |
|--------------------------|-------------|
| Sensitive load | 0.5Hz |
| Other parameters: | |
| Weight | Approx.400g |

Installation Dimensions & Wiring Diagram



| SYSTEM | | | | | |
|---|--------------------------|---|------------------|--|--|
| Operating System requirements | | Windows /2000/XP/WIN7/WIN8 | | | |
| Programming languages | | Function block | | | |
| Program Memory | | 1024 | | | |
| Execution Speed | | <0.1ms per function | | | |
| LCD Display | | 4 lines x 16 characters | | | |
| Functions | | Up to 70 function blocks | | | |
| BASIC | Timers | | | | a.On-delay; b.Off-delay etc. Up to 12 kind Timers |
| | Maximum Number | 1024 | | | |
| | Timing Ranges | 10ms--99 h59m | | | |
| | Counters | | | | a.Up/down Counter b.Hours Counter c.Frequency Threshold Trigger |
| | Maximum Number | 1024 | | | |
| | Highest Count | 99999999 | | | |
| | Resolution | 1 | | | |
| | RTC | | | | a.Weekly Timer b.Yearly Timer |
| | Number available | 1024 | | | |
| | Resolution | 1 min | | | |
| | Time span available | Week/year-month-day-hour-min | | | |
| | Flags | | | | a.Digital Flag b.Analog Flag |
| | Digital flags | 256 | | | |
| | Analog flags | 256 | | | |
| | PI Functions | | | | a.PI Controller |
| | Number available | 30 | | | |
| | Parameter Ranges | 1-32767 | | | |
| | Analog Math | | | | a.Analog Math b.Analog Math Error detection |
| | Number available | 1024 | | | |
| | Function | ADD, Subtract,Multiply, Divide | | | |
| Analog Ramp Function | | | | a. Analog Ramp | |
| Number available | 55 | | | | |
| Compare Function | | | | a.Analog compactor b.Comparison of 2 values | |
| Number available | 1024 | | | | |
| Special Functions | HMI Screens | | | | a.Message texts |
| | Number available | 128 | | | |
| | Display/Edit | Preset Current value and Free text | | | |
| | PWM Functions | | | | a.PWM |
| | Number available | 1024, (2 fast output for Transistor) | | | |
| | Communication Functions | | | | a.Modbus write b.Modbus read |
| | Number available | 1024(Only CPU works as Master need these 2 blocks, slave does not need) | | | |
| | Word/bit data Conversion | Square Boot | Sin/Cos | RS latch relay | |
| | Data-logger Function | Analog watchdog | Analog filter | Average value | |
| | Pumps Management | Defrost function | Multiplexer | Pulse Relay | |
| Cam Control | Astronomical clock | Stop watch | Boolean function | | |
| Note: 1.Not all program functions are listed in this table i.e. AND,NAND,OR,NOT,NOR,XOR,SHIFT REGISTER,DATA LATCHING RELAY, COMPORT STATUS etc. | | | | | |