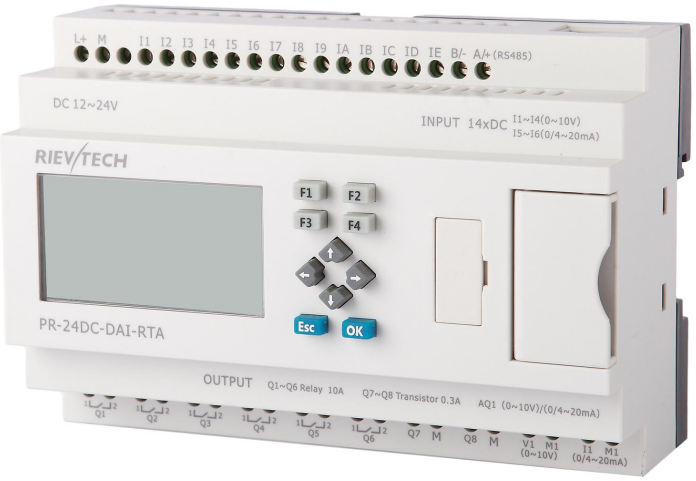
◆ Technical Data:

Model:PR-24DC-DAI-RTA

GENERAL SPECIFICATIONS



Timers : 1024

Counters : 1024

Function Blocks: 1024

Operation temp.: -20℃-55℃

Storage:-40℃-70℃

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: 133*90*61（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 & 2 RS485 port

Communication protocol : Modbus RTU/ASCII

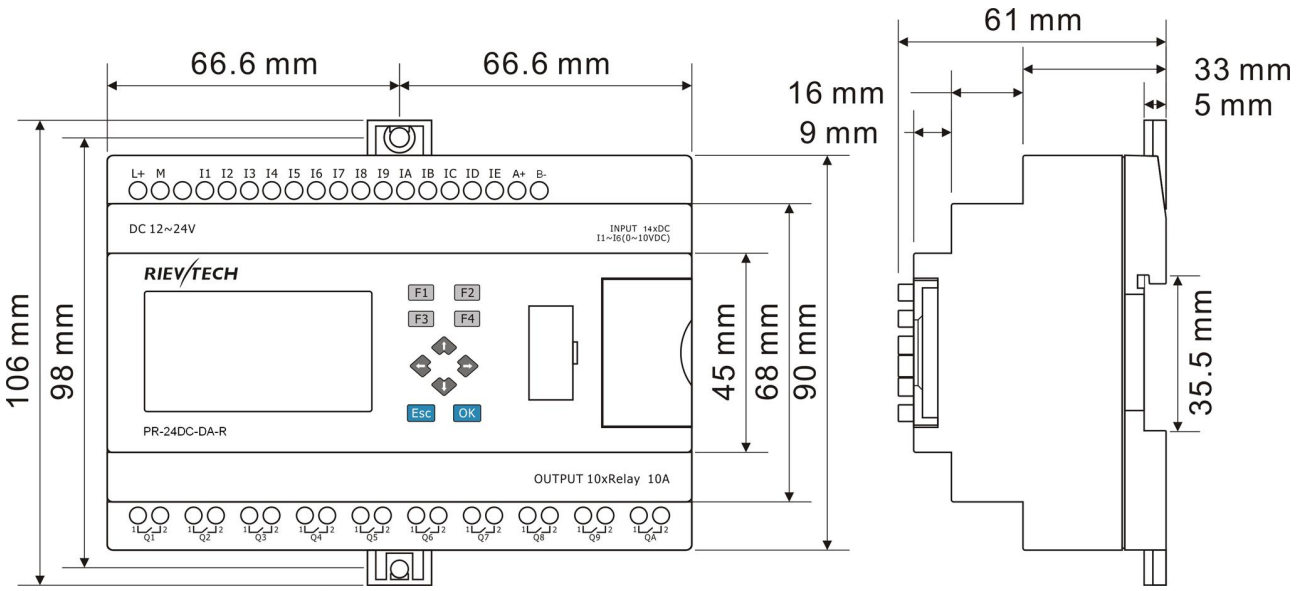
Technical Index

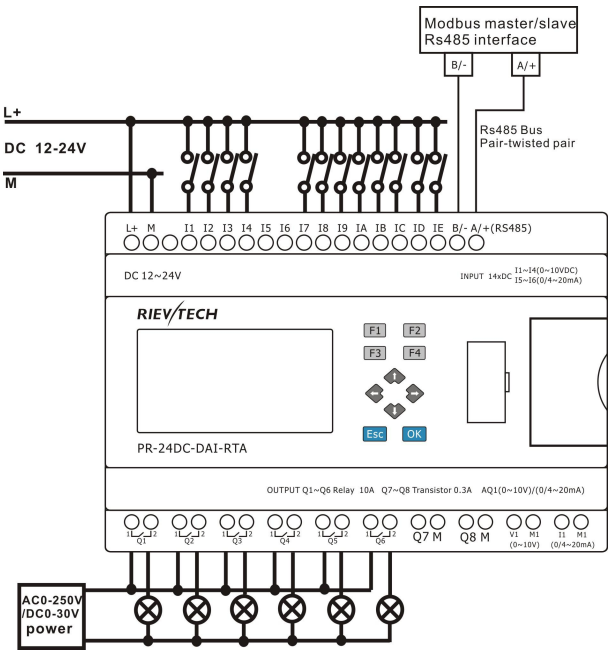
Power supply:	
Nominal voltage	DC 12-24V
Operating limits	DC 10.8-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.25A
Max. absorbed power	3.5 W (10.8V dc) ; 4 W (28.8V dc)
Protection against polarity inversions	Yes
Input parameters:	
Input No	14 (I1-IE)
Digital input	12 ((I1-I4)(I7-IE)
Analogue input	4 (I1-I4)(0..10V DC) +2(I5-I6)(0...20mA)
Digital inputs(I7-IE)	
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)

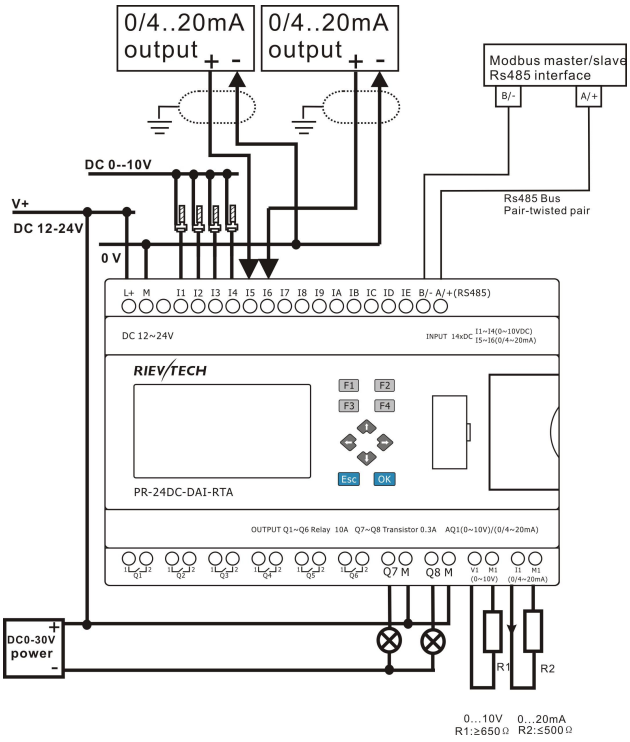
Sensor type	Contact or 3-wire PNP
Input type	Resistive
Isolation between power supply and inputs	None
Isolation between inputs	None
Inputs used as digital inputs(I1-I4)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC;<0.1mA
Input signal1	> 8 V DC;>0.3mA
Input current	0.4mA @ 10.8V dc 0.5mA @ 12.0 V dc 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-I4)	
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 channel and power supply	None
Cable length	10 m max. shielded and twisted
Current Input parameters(I5-I6)	
Input No	2(I5-I6)
Digital input	None
Analogue input	2 (I5-I6)
Analogue signal	0/4….20mA current
Resolution	0.02mA
Accuracy at 25 °C	0.05mA
Cycle time for analog value generation	Typ. 50 ms
Output parameters:	
Output No.	(Q1-Q8,AQ1)
Output type	Q1-Q6(Relay)+ Q7-Q8(Transistor),AQ1(0-10V)/(0/4-20mA) output
Relay output(Q1-Q6)	
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
Mechanical life	10^7 Operations at No Load condition
Response time	Operate Time : 15 mSec. Max.

	Release Time : 10 mSec. Max.
Built-in protections	Against short-circuits: None Against overvoltages and overloads: None
Transistor output(Q7-Q8)	
Output No.	2(Q7-Q8)
Output type	Transistor(PNP)
Breaking voltage	DC 5--30V
Nominal voltage	≤ Supply voltage
Nominal current	Max. 0.3 A per channel
Max. breaking current	0.65 A
Voltage drop	< 2 V for I = 0.3 A (at state 1)
Response time	Make ≤ 1 ms Release ≤ 1 ms
Frequency (Hz)	resistive load : 10 Hz inductive load : 0.5 Hz
Built-in protections	Against overloads and short-circuits: No Against overvoltages (*): No
Galvanic isolation	None
PWM frequency	10K HZ
PWM cyclic ratio	0 to 100 %
PWM accuracy at 120Hz	< 0.5 % (20 % → 80 %) load at 10 mA
Max. Breaking current PWM	50 mA
Max. cable length PWM	20m
Analog output(0...10V):	
Output No	1 AQ1
Output signal	DC 0…10V
Internal value and signal relationship	AQ1(0..1000)= V1(0...10V)
Resolution	0.01V
Accuracy at 25 °C	0.02V
Analog output(0...20mA):	
Output No	1 AQ1
Output signal	0..20mA
Internal value and signal relationship	AQ1(0...1000)= I1(0...20mA)
Resolution	0.02mA
Accuracy at 25 °C	0.05mA
Relay Switch frequency:	
Mechanism	10Hz
Resistor/light load	2Hz
Sensitive load	0.5Hz
Other parameters:	
Weight	Approx.500g

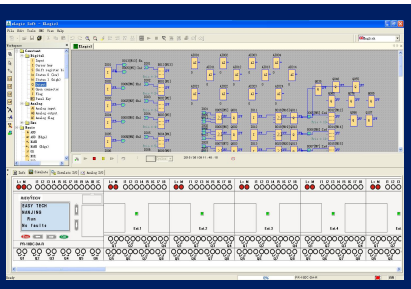
Installation Dimensions & Wiring Diagram


66.6 mm
66.6 mm
61 mm
33 mm
5 mm
16 mm
9 mm
106 mm
98 mm
45 mm
68 mm
90 mm
35.5 mm
L+ M I1 I2 I3 I4 I5 I6 I7 I8 I9 IA IB IC ID IE A+ B-
DC 12~24V
INPUT 14xDC
I1~I6(0~10VDC)
RIEVTECH
F1 F2
F3 F4
Esc OK
PR-24DC-DA-R
OUTPUT 10xRelay 10A
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 QA


Modbus master/slave
Rs485 interface
B/-
A/+
L+
DC 12-24V
M
Rs485 Bus
Pair-twisted pair
L+ M I1 I2 I3 I4 I5 I6 I7 I8 I9 IA IB IC ID IE B/- A/+(RS485)
DC 12~24V
INPUT 14xDC I1~I4(0~10VDC) I5~I6(0/4~20mA)
RIEVTECH
F1 F2
F3 F4
Esc OK
PR-24DC-DAI-RTA
OUTPUT Q1~Q6 Relay 10A Q7~Q8 Transistor 0.3A AQ1(0~10V)/(0/4~20mA)
Q1 Q2 Q3 Q4 Q5 Q6 Q7 M Q8 M V1 M1 (0~10V) I1 M1 (0/4~20mA)
AC0-250V
/DC0-30V
power


0/4..20mA
output + -
0/4..20mA
output + -
Modbus master/slave
Rs485 interface
B/-
A/+
DC 0--10V
V+
DC 12-24V
0 V
Rs485 Bus
Pair-twisted pair
L+ M I1 I2 I3 I4 I5 I6 I7 I8 I9 IA IB IC ID IE B/- A/+(RS485)
DC 12~24V
INPUT 14xDC I1~I4(0~10VDC) I5~I6(0/4~20mA)
RIEVTECH
F1 F2
F3 F4
Esc OK
PR-24DC-DAI-RTA
OUTPUT Q1~Q6 Relay 10A Q7~Q8 Transistor 0.3A AQ1(0~10V)/(0/4~20mA)
Q7 M Q8 M V1 M1 (0~10V) I1 M1 (0/4~20mA)
DC0-30V
power
R1
R2
0...10V 0...20mA
R1:≥650Ω R2:≤500Ω

Program(xlogicsoft) Specification

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
	Number available	1024		b.Comparison of 2 values
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.