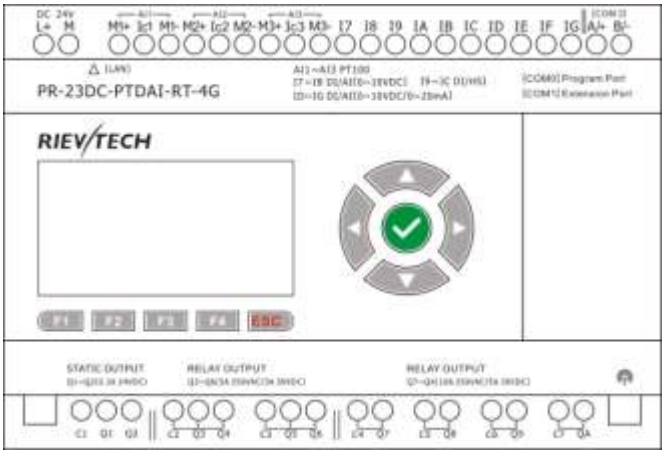
◆ **Technical Data:**

Model: PR-23DC-PTDAI-RT-4G



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: 133*90*60（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 (COM0) & 1 RS485 port (COM1 external) available via optional accessory, 1 built-in RS485 (C0M2), 1 Ethernet port.

Communication protocol: Modbus RTU/ASCII, Modbus TCP

Technical Index

Power supply:	
Nominal voltage	DC 24V
Operating limits	DC 20.4-28.8V
Immunity from micro power cuts	Typ.5 ms
Max. Startup current	Max. 0.3A
Max. absorbed power	10W
Protection against polarity inversions	Yes
Input parameters:	
Input No	13 (AI1-AI3, I7 - IG)
Digital input	10 (I7-IG)
Analogue input	3 PT100(-50…200℃) + 2(I7-I8)(0…10VDC) +4(ID-IG)(0...20mA OR 0…10V DC)
PT100 inputs (AI1-AI3)	
Analog input	3 channels PT100
Resolution	0.3℃
Measuring range	-50℃ to +200℃

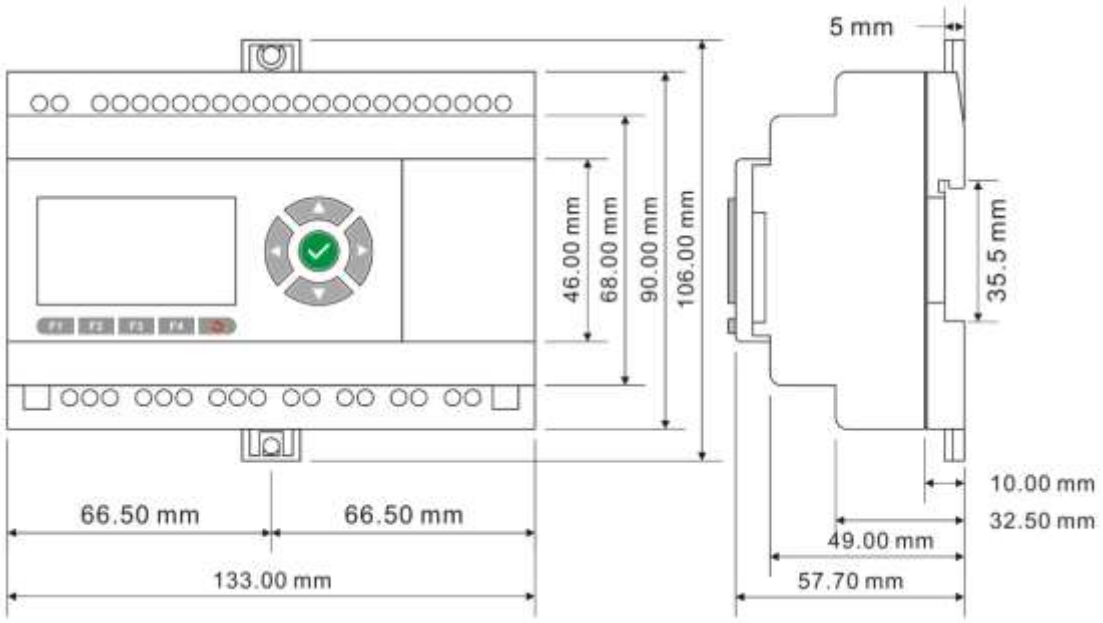
Cable length	10m max. shielded and twisted
Digital input and analog inputs (0...10V)10bits (I7-I8)	
Inputs used as digital inputs(I7-I8)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC;<0.08mA
Input signal1	> 8 V DC;>0.12mA
Input current	0.16mA @ 10.8V dc 0.18mA @ 12.0 V dc 0.34mA @ 24 V dc 0.41mA @ 28.8 V dc
Response time	0 to 1 ： Typ. 10.5 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(0..10V)(I7-I8)	
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
Digital and high speed inputs(I9--IC)	
Digital inputs(I9-IC)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC; <1mA
Input signal1	> 8 V DC;>1.6mA
Input current	2.1mA @ 10.8V dc 2.3mA @ 12.0 V dc 4.6 mA @ 24 V dc 5.5 mA @ 28.8 V dc
Response time	0 to 1 ： <1 ms ； 1 to 0 ： <1 ms
High speed inputs(I9-IC)	
Maximum counting frequency	60kHZ(I9--IC)
Digital and analog(0--10V)&analog(0...20mA)(ID-IG)	
Inputs used as digital inputs(ID-IG)	
Input voltage	DC0-28.8V
Input signal0	< 5V DC;<0.08mA

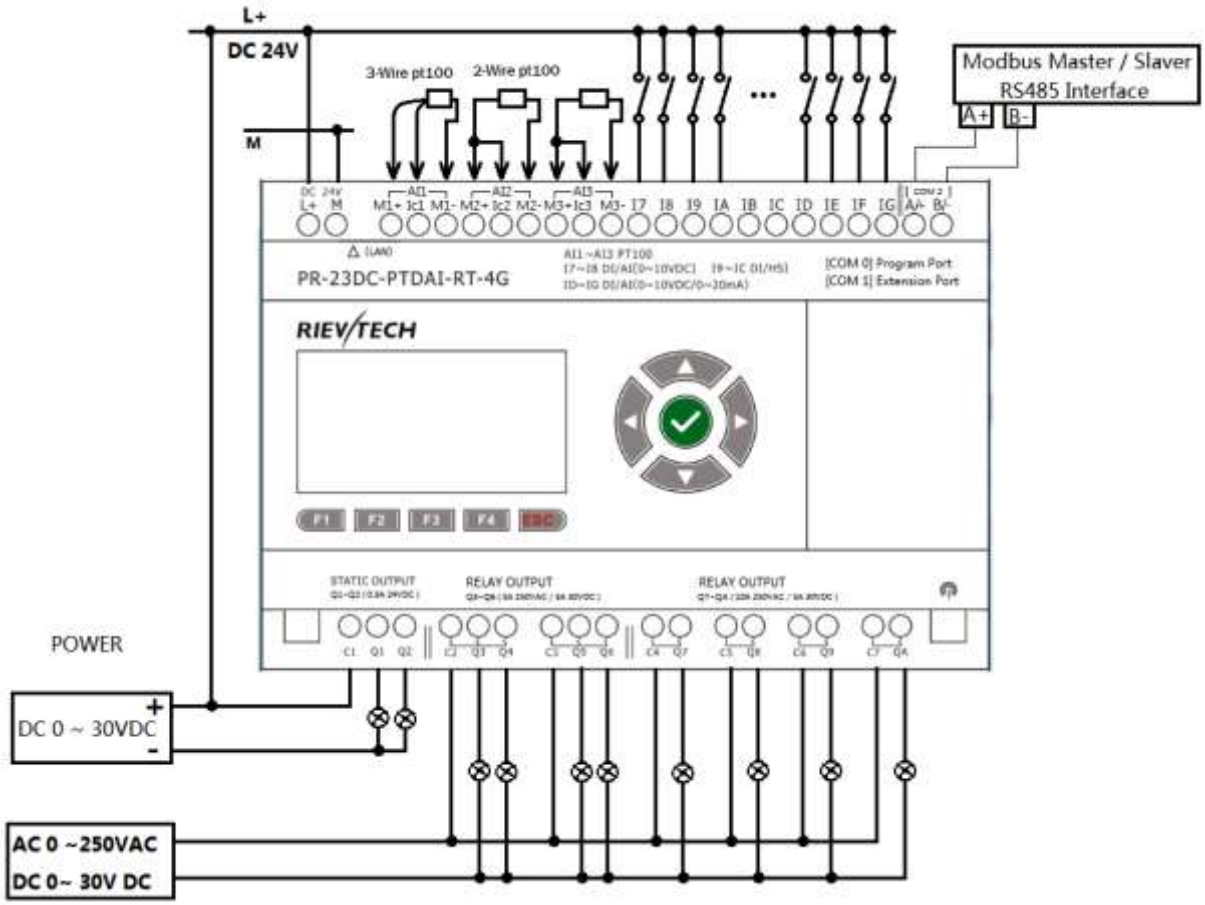
Input signal1	> 8 V DC;>0.12mA
Input current	0.16mA @ 10.8V dc 0.18mA @ 12.0 V dc 0.34mA @ 24 V dc 0.41mA @ 28.8 V dc
Response time	0 to 1 ： Typ. 10.5 ms ； 1 to 0 ： Typ. 1.5 ms
Maximum counting frequency	Typ.：4 HZ
Sensor type	Contact or 3-wire PNP
Input type	Resistive
Isolation between power supply and inputs	None
Isolation between inputs	None
Inputs used as analog inputs(0..10V)(ID-IG)	
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
Input signal0	< 5V DC;<0.08mA
Input signal1	> 8 V DC;>0.12mA
Input current	0.16mA @ 10.8V dc 0.18mA @ 12.0 V dc 0.34mA @ 24 V dc 0.41mA @ 28.8 V dc
Response time	0 to 1 ： Typ. 10.5 ms ； 1 to 0 ： Typ. 1.5 ms
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(0..20mA)(ID-IG)	
Analogue signal	0/4….20mA current
Input impedance	260Ω
Resolution	0.02mA
Accuracy at 25 °C	0.05mA
Cycle time for analog value generation	Typ. 50 ms
Protection against polarity inversions	yes
Overvoltage protection	Yes, if the input voltage is >6.5V, this one is automatically switched on 0--10V configuration
Isolation between power supply and inputs	No
Cable length	<=30M with shielded twisted cable(sensor not isolated)

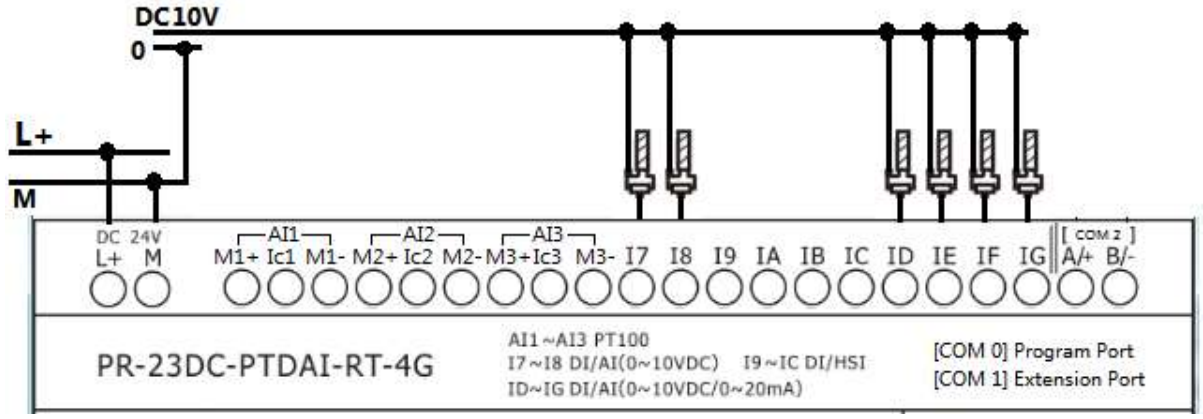
Output	
Digital/Transistor output(PNP) - Q1,Q2	
Breaking voltage	DC 5--30V
Nominal voltage	≤ Supply voltage
Nominal current	Max. 0.3 A per channel
Max. breaking current	0.65 A
Voltage drop	< 2 V for I = 0.3 A (at state 1)
Response time	Make ≤ 1 ms Release ≤ 1 ms
Frequency (Hz)	resistive load : 10 Hz 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
5A Relay 4 outputs from Q3 to Q6	
Max. breaking voltage	CE:AC 250 V/DC 30 V 5A UL:AC 250 V/DC 30 V 3A
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
10A Relay 4 outputs from Q7 to QA	
Max. breaking voltage	CE:AC 250 V/DC 30 V 10A UL:AC 250 V/DC 28 V 5A
Max. Allowable Power Force	1250VA
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
Communication ports parameters:	
COM0_TTL port	Can be used as program port with PR-RS232&PR-USB; Also can be convert to RS232 port with PR-RS232 Can be convert to RS485 port with PRO-RS485

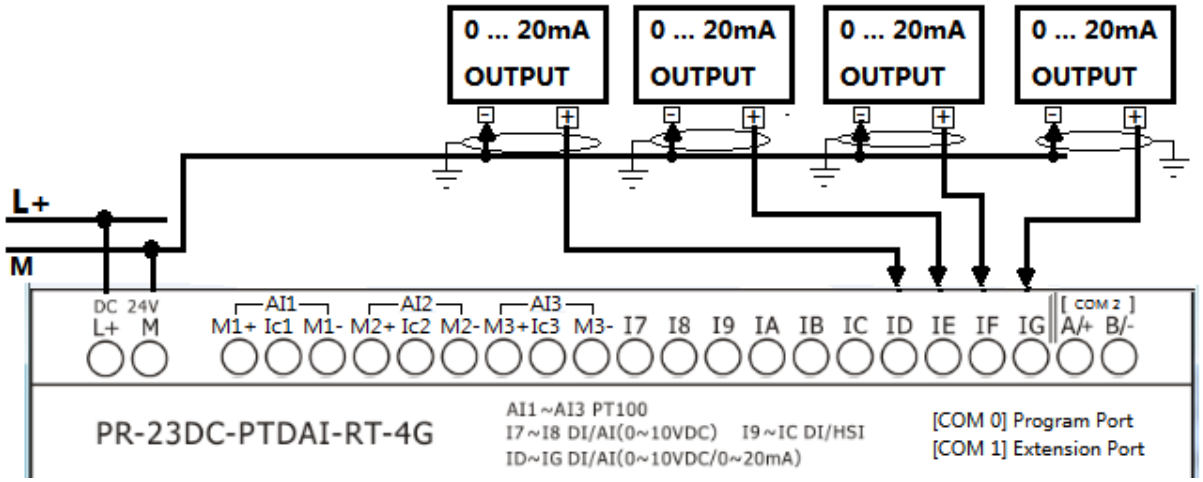
	Note:Need move away the expand cover to use it Can be used as modbus master or slave
Built-in RS485 COM2	1 built-in RS485 port (Terminal A+,B-) Can be used as modbus master or slave
Ext RS485 COM1	Need use with PR-E-RS485 module Can be used as modbus master or slave
Ethernet port:	Built-In(10M/100M), 1.Can be used as program or communication 2.Can be used as modbus master or slave
Monitoring webserver page	Yes
Xlogic<--->Xlogic(by Ethernet)	1 xlogic works as tcp server can connect with 8 tcp client xlogics or other tcp devices.
Xlogic<--->Ethernet/Internet:	1 xlogic works as TCP clients can connect with 8 different tcp servers separately in maximum
GSM parameter	
Type of mobile wireless service	SMS, GPRS
Operating frequency	for LTE transmission:B1/B3/B5/B7/B8/B20 with UMTS transmission:B1/B5/B8 for GSM transmission: 850MHz,900MHz,1800MHz,1900MHz,
Type of mobile network / is supported	GSM, UMTS, LTE
for GPRS transmission / with downlink / maximum for GPRS transmission / with uplink / maximum	80 kbit/s 40 kbit/s
Other parameter	
Weight	Approx.400g

Installation Dimensions & Wiring Dimensions

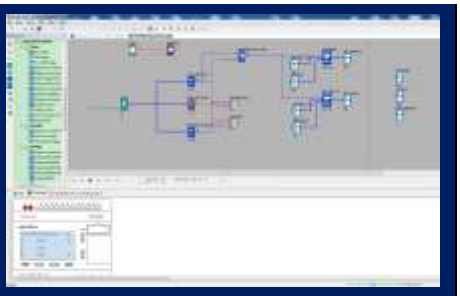

5 mm
46.00 mm
68.00 mm
90.00 mm
106.00 mm
35.5 mm
10.00 mm
32.50 mm
49.00 mm
57.70 mm
66.50 mm
66.50 mm
133.00 mm


L+
DC 24V
M
3-Wire pt100
2-Wire pt100
Modbus Master / Slaver
RS485 Interface
A+
B-
PR-23DC-PTDAI-RT-4G
RIEVTECH
[COM 0] Program Port
[COM 1] Extension Port
STATIC OUTPUT
RELAY OUTPUT
RELAY OUTPUT
POWER
DC 0 ~ 30VDC
AC 0 ~250VAC
DC 0~ 30V DC


DC10V
0
L+
M
DC 24V
L+ M
AI1
M1+ Ic1 M1-
AI2
M2+ Ic2 M2-
AI3
M3+Ic3 M3-
I7 I8 I9 IA IB IC ID IE IF IG
[COM 2]
A/+ B/-
PR-23DC-PTDAI-RT-4G
AI1~AI3 PT100
I7~I8 DI/AI(0~10VDC) I9~IC DI/HSI
ID~IG DI/AI(0~10VDC/0~20mA)
[COM 0] Program Port
[COM 1] Extension Port


0 ... 20mA
OUTPUT
0 ... 20mA
OUTPUT
0 ... 20mA
OUTPUT
0 ... 20mA
OUTPUT
L+
M
DC 24V
L+ M
AI1
M1+ Ic1 M1-
AI2
M2+ Ic2 M2-
AI3
M3+Ic3 M3-
I7 I8 I9 IA IB IC ID IE IF IG
[COM 2]
A/+ B/-
PR-23DC-PTDAI-RT-4G
AI1~AI3 PT100
I7~I8 DI/AI(0~10VDC) I9~IC DI/HSI
ID~IG DI/AI(0~10VDC/0~20mA)
[COM 0] Program Port
[COM 1] Extension Port

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				
	Maximum Number	1024			
	Timing Ranges	10ms--99 h59m			
	Counters				
	Maximum Number	1024			
	Highest Count	99999999			
	Resolution	1			
	RTC				
	Number available	1024			
	Resolution	1 min			
	Time span available	Week/year-month-day-hour-min			
	Flags				
	Digital flags	256			
	Analog flags	256			
	PI Functions				
	Number available	30			
	Parameter Ranges	1-32767			
	Analog Math				
	Number available	1024			
	Function	ADD, Subtract,Multiply, Divide			
	Analog Ramp Function				
	Number available	55			
	Compare Function				
	Number available	1024			
Special Functions	HMI Screens				
	Number available	128			
	Display/Edit	Preset Current value and Free text			
	PWM Functions				
	Number available	1024, (2 fast output for Transistor)			
	Communication Functions				
	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	

	a.On-delay; b.Off-delay etc. Up to 12 kind Timers
	a.Up/down Counter b.Hours Counter c.Frequency Threshold Trigger
	a.Weekly Timer b.Yearly Timer
	a.Digital Flag b.Analog Flag
	a.PI Controller
	a.Analog Math b.Analog Math Error detection
	a. Analog Ramp
	a.Analog compactor b.Comparison of 2 values
	a.Message texts
	a.PWM
	a.Modbus write b.Modbus read

	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.				