

Micro-Controller X PXE



48 × 48 × 63.5 mm



Simple and Easy

- 1.6-mm shallow and waterproof front panel
- A user can switch input type among Pt100 RTD and 9 types of thermocouples and their measuring range with front keys
- On-off, PID, and fuzzy control
- Relay contact output or SSR drive output
- Up to two alarm outputs



Specifications

General

Power supply voltage	100 V (-15%) to 240 V (+10%) AC, 50/60 Hz
Power consumption	100 V AC: ≤ 5 VA 220 V AC: ≤ 6 VA
Insulation resistance	≥ 20 MΩ (at 500 V DC)
Withstand voltage	Between the power supply and others: 1500 V AC for 1 min *SSR driving output is not isolated from input terminals.
Input impedance	Thermocouple: ≥ 1 MΩ
Allowable signal source resistance	Thermocouple: ≤ 100Ω
Allowable wire resistance	RTD: ≤ 10 Ω per wire
Input value correction	Process value shift: ±10% FS Input filter: 0 to 120.0 s settable in 0.1 s steps (first order lag filter)
Noise reduction ratio	Normal mode noise (50/60 Hz): ≥ 40 dB Common mode noise (50/60 Hz): ≥ 120 dB

Display and keys

Type	LED
Keys	4 keys
Cotents	PV and SV: 4 digits, 7-segment Status indicator: control output, alarm, standby

Structure

Installation	Panel flush mounting
Electrical connection	M3 screw terminal
Case	Plastic (non-combustible grade UL94V-0 equivalent) Color: black
IP rating	Front waterproof structure: NEMA4X (IP66 equivalent) (When mounted on panel with our genuine packing. Waterproof feature unavailable in close mounting of multiple units.) Rear case: IP20
Weight	Approx. 100g

PV input

No. of inputs	1
Signal	Thermocouples or RTD *See a separate table for measurement range.
Sampling rate	0.2 s
Indication accuracy (at 23°C)	(±0.5% of process value or 1°C whichever is greater) ±1 digit ±1°C •Thermocouple -100°C or less : (±2% of process value) ±1 digit ±1°C •Accuracy is not assured for ranges from 0 to 500°C for type R thermocouple and from 0 to 400°C for type B thermocouple.
Burnout	A user can select either the upper or the lower limit to which the control output should go when a sensor burnout occurs.

Control output 1

No. of points	1
Type	Select either of the followings: •Relay contact (SPST-NO): 220 VAC / 30 VDC, 3A (resistive load) Electrical life: 100,000 operations (rated load) Minimum switching current: 100 mA (24 VDC) •SSR drive (Voltage pulse): ON: 10.2–15 V DC OFF: ≤ 0.5 V DC Maximum current: 20 mA

Alarm or control output 2 (option)

No. of alarms	≤ 2
Alarm type	Absolute alarm, deviation alarm, zone alarm with upper and lower limits for each Hold function available Alarm latch, excitation/non-excitation selecting function
Alarm ON-delay	0 to 9999 s, settable in 1 s steps
Contact	Relay contact: SPST-NO, 220 V AC/30 V DC, 1 A (resistive load) Electrical life: 100,000 operations (rated load) Minimum switching current: 100 mA (5 V DC) Output cycle: 0.2 s

*In the heating and cooling dual control, the alarm output 1 functions as the control output 2.

Control

Control type	On-off, PID, fuzzy, two-degree-of-freedom PID
Parameters	
Proportional band (P)	0.1 to 999.9% of measuring range settable in 0.1% steps
Integration time (I)	0 to 3200 s settable in 1 s steps
Differential time (D)	0 to 999.9 s settable in 0.1 s steps
	Proportional action when I, D = 0.
Proportional cycle	1 to 150 s, settable in 1 s steps
Control cycle	0.2 s
Anti-reset windup	0 to 100% of measuring range Automatically validated at auto tuning
Hysteresis band	0 to 50% of measuring range For on-off action only

Other functions

Data backup at power outage	on non-volatile memory
Self-diagnosis	by watchdog timer

Operation and storage conditions

Operating temperature	-10°C to 50°C
Storage temperature	-20°C to 60°C
Humidity	≤ 90% RH (no condensation)

Measurement range

Input signal		Range(°C)
RTD	PT1	-200 to 850
	PT2	-199.9 to 500.0
Thermocouple	J1	0 to 800
	J2	0.0 to 400.0
	K1	0 to 400
	K2	-200 to 1200
	K3	0.0 to 400.0
	T1	-200 to 400
	T2	-199.9 to 400.0
	R	0 to 1600
	B	0 to 1800
	S	0 to 1600
	E	-200 to 800
	N	0 to 1300
PL-2	0 to 1300	

Ordering Code

P X E ⁴ ⁵ ⁶ ⁷ ⁸ - ⁹ ¹⁰ ¹¹ ¹² ¹³ ¹⁴

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Digit	Specification	Code
4	<Front dimensions> 48 x 48mm	4
5	<Input signal> Thermocouple, RTD Pt100 [°C]	T
6	<Control output> Relay contact output SSR drive output	A C
7	-	Y
8	<Revision code>	2
9	<Alarm output> 1 point 2 points 2 points (independent COM)	1 2 J
10	<Instruction manual> Japanese/English/Chinese	Y

Scope of delivery

Controller, panel mounting bracket, watertight packing, instruction manual

Separate order item

Terminal cover	ZZPPXR1-A230
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