

Fuji Temperature and Process Controllers

- PID Plus Self Tuning and Fuzzy Control
- Large LED Display
- NEMA-4X/IP66 Waterproof Faceplate
- Up to 16 Ramp/Soak Segments in Two 8-Segment Patterns
- Heating/Cooling Control
- Timer Function
- Dual Control Output Option
- Digital Input Option
- Analog Retransmission Option
- Programmable Alarms Option
- Heater Break Alarm Option
- RS485 (Modbus™ Protocol) Option
- Free Windows®-Based Software
- Manufactured in an ISO 9001 Facility
- 3-Year Warranty


 **PXR5**

 **PXR9**

 **PXR4**
 **PXR3**

SPECIFICATIONS

Input

Input signal:	TC: J, K, R, B, S, T, E, N, PL2. RTD: Pt100. Voltage, current. For 1 to 5V/4 to 20 mA DC, 0 to 5V/0 to 20 mA DC
Input filter:	0 to 900.0 sec set in 0.5 sec steps
Input sampling cycle:	0.5 sec

Display

Indication accuracy (at 23°C):	TC: $\pm 0.5\%$ FS ± 1 digit $\pm 1^\circ\text{C}$. TC R (0 to 500°C): $\pm 1\%$ FS ± 1 digit $\pm 1^\circ\text{C}$. TC B (0 to 400°C): $\pm 5\%$ FS ± 1 digit $\pm 1^\circ\text{C}$. RTD, Voltage, Current: $\pm 0.5\%$ FS ± 1 digit
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Control Function

Control action:	On/Off; PID control (with auto-tuning, self-tuning); Fuzzy Control (with auto-tuning)
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Control Outputs

Relay contact:	PXR3 & Output 2: SPST contact, 220 VAC/30 VDC, 3A (resistive load). PXR4, 5, 9: SPDT, 220 VAC/30 VDC, 3A (resistive load)
SSR:	PXR3: 12 to 16 VDC PXR4, 5, 9: ON-17 to 25 VDC; OFF-0.5 VDC or less. Max. current: 20mA or less
4 to 20 mA DC:	PXR3: Allowable load resistance 100 to 500Ω. PXR4, 5, 9: 600Ω or less

Alarm (option)

Alarm type:	Absolute alarm, deviation alarm, zone alarm with upper and lower limits for each; hold function available; alarm latch function provided
Alarm ON-delay:	0 to 9999 sec in 1 sec steps
Process alarm output:	Relay contact: SPST, 220 VAC/30 VDC, 1A (resistive load); Max. 2 points (PXR3), max. 3 points (PXR4, 5, 9)
Heater burnout option (not available on PXR3):	Alarm setting range: 1 to 50A. Available only when control output is relay or SSR drive
Heater burnout alarm output:	Relay contact: SPST, 220 VAC/30 VDC, 1A (resistive load); 1 output point

Remote Setpoint (option)

Input signal:	1 to 5 VDC, 1 point
Accuracy:	$\pm 0.5\%$ ± 1 digit
Input sampling cycle:	0.5 sec
Input impedance:	$\geq 1\text{M}\Omega$

Digital Input (option)

Points:	1 or 2; contact closure. 5 VDC, approx. 2mA
Function (select one):	Set value (SV, SV1 to 3) changeover, start/stop control action, start/reset ramp/soak action, start/stop auto-tuning, cancel alarm latch, start incorporated timer

Retransmission Output (option)

Output signal:	4-20 mA DC
Load resistance:	500 ohms or less
Output accuracy:	$\pm 0.3\%$ FS
Output selection:	PV, SV, MV, DV (SV-PV)

Timer Function (option)

Start:	By digital input option
Setting:	0 to 9999 sec set in 1 sec steps
Action:	Event ON-delay or OFF-delay
Signal output:	Alarm output relays used; 2 points are available

Communication Function (option)

Physical specifications:	EIA RS485
Protocol:	Modbus (RTU). Free Windows®-based software, PXR-LITE included
Connection aspect:	Multi-drop up to 31 controllers
Communication distance:	Total extension 500m or less

Operating Conditions and Structure

Operating temperature:	14 to 122°F (-10 to 50°C)
Mounting method:	Panel flush mounting. PXR3 can be DIN-rail mounted using the optional adapter
External terminal:	Screw terminal

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SPECIFICATIONS, CONTINUED

Power supply voltage:	100 (-15%) to 240V (+10%) AC, 50/60Hz; 24V (±10%) AC/DC
Power consumption:	PXR3: 6VA (100 V), 8VA (220V, 24V). PXR4: 8VA (100V), 10VA (220V), 12VA (24V). PXR5, 9: 10VA (100V), 12VA (220V, 24V)

Reference junction compensation accuracy:	±1 °C at 23 °C
Dimensions (HxWxD):	PXR3: 1/32 DIN (24 x 48 x 97mm). PXR4: 1/16 DIN (48 x 48 x 78.8 mm). PXR5: 1/8 DIN (96 x 48 x 78 mm). PXR9: 1/4 DIN (96 x 96 x 79.5 mm)

PXR3 ORDERING INFORMATION

To order—Insert Number Code for Each Letter to Select Catalog Number.

Order Example: PXR3-T-A-Y1-4-V-0A1

A	B	C	D	E	F	G
A Front Panel Size						
PXR3	1/32 DIN (24x48mm)					
B Input Signal						
T	Thermocouple (°C)					
R	Thermocouple (°F)					
N	RTD, Pt100 ohm, 3-wire type (°C)					
S	RTD, Pt100 ohm, 3-wire type (°F)					
B	4-20mA DC, 1-5V DC					
A	0-20mA DC, 0-5V DC					
C Control Output 1						
A	Relay contact output					
C	SSR or SSC drive output					
E	4-20mA DC output					
D Control Output 2						
Y1	None					
A1	Relay contact output					
C1	SSR or SSC drive output					
E1	4-20mA DC output					
E Alarm Options						
4	None					
5	High/low alarm 1 point					
G	High/low alarm 2 points ¹					
F Power Supply						
V	Standard (100-240 VAC, 50/60Hz)					
B	24V AC/DC (50/60Hz)					
G Additional Functions						
OA1	None					
MA1	RS485 communication (Modbus)					
QA1	Retransmission + DI 1 point					
RA1	Retransmission (4-20mA DC)					
TA1	Digital Input (DI) x 2					
VA1	RS485 communications (Modbus) + DI 1 point					

¹High/low alarm 2 points not available when control output 2 is selected

ORDERING INFORMATION – ACCESSORIES

CTL-6-S	Current transformer for 1-30A
CTL-12	Current transformer for 20-50A
RSFC24	RS485 to RS232 signal converter
PXR3 Rail Adapter	Mounting adapter for DIN rail installation for PXR3
PXR4 Terminal Cover	Terminal block protective cover for PXR4

PXR4, 5, 9 ORDERING INFORMATION

To order—Insert Number Code for Each Letter to Select Catalog Number.

Order Example: PXR4-T-A-Y1-4-V-0A1

A	B	C	D	E	F	G
A Front Panel Size						
PXR4	1/16 DIN (48x48mm)					
PXR5	1/8 DIN (48x96mm)					
PXR9	1/4 DIN (96x96mm)					
B Input Signal						
T	Thermocouple (°C)					
R	Thermocouple (°F)					
N	RTD, Pt100 ohm, 3-wire type (°C)					
S	RTD, Pt100 ohm, 3-wire type (°F)					
B	4-20mA DC, 1-5V DC					
A	0-20mA DC, 0-5V DC					
C Control Output 1						
A	Relay contact output					
C	SSR or SSC drive output					
E	4-20mA DC output ¹					
D Control Output 2						
Y1	None					
A1	Relay contact output					
C1	SSR or SSC drive output					
E1	4-20mA DC output ¹					
R1	Retransmission (4-20mA DC)					
E Alarm Options						
4	None					
6	Heater break alarm ^{1,2}					
G	High/low alarm 2 points					
H	High/low alarm 2 points + heater break alarm ^{1,2}					
M	Alarm 3 points					
D	Remote setpoint ³					
P	Remote setpoint + alarm 2 points ³					
F Power Supply						
V	Standard (100-240V AC, 50/60Hz)					
B	24V AC/DC (50/60Hz)					
G Additional Functions						
OA1	None					
MA1	RS485 communication (Modbus)					
SA1	Digital Input (DI) x 1					
TA1	Digital Input (DI) x 21					
VA1	RS485 communications (Modbus)+ DI ^{1,3}					

¹ Heater break option not available with 4-20mA output, or with 2 digital inputs, or with RS485 +1 digital input.

² Current transformer needed with heater break option.

³ Remote setpoint option not available with RS485 +1 digital input.