



# FUJI PXR SERIES

## Specifications

### General Specifications

**Power supply voltage** 100 (-15%) to 240V (+10%) AC, 50/60Hz; 24V ( $\pm 10\%$ ) AC/DC

**Power consumption** PXR3: 6VA (100V AC), 8VA (220V, 24V). PXR4: 8VA (100V), 10VA (220V), 12VA (24V). PXR5, 7, 9: 10VA (100V), 12VA (220V, 24V)

**Reference junction compensation accuracy**  $\pm 1^\circ\text{C}$  at  $23^\circ\text{C}$

### Input

**Input signal** Thermocouple: 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, use 250 ohm shunt resistor included

**Input filter** 0 to 900.0 sec set in 0.5 sec steps

**Burnout** For thermocouple or RTD input, control output direction (upper or lower) is selectable

### Control Function

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

**Proportional band (P)** 0 to 999.9% of measuring range set in 0.1% steps

**Integral time (I)** 0 to 3200 sec, set in 1 sec steps

**Differential time (D)** 0 to 999.9 sec, set in 1 sec steps

**Proportional cycle** 1 to 150 sec, set in 1 sec steps

**Hysteresis width** 0 to 50% of measuring range; For on/off action only

**Input sampling cycle** 0.5 sec

### Control Output 1

**Relay contact** PXR4, 5, 7, 9: SPDT, 220V AC/30V DC, 3A (resistive load). PXR3: SPST contact, 220V AC/30V DC, 3A (resistive load)

**SSR** PXR4, 5, 7, 9: ON-17 to 25V DC; OFF-0.5V DC or less. PXR3: 12 to 16V DC. Max. current: 20mA or less

**4 to 20 mA DC** PXR4, 5, 7, 9: Allowable load resistance 600 ohms or less. PXR3: 100 to 500 ohms

**Tria** PXR4, 5, 7, 9: SPDT, 220VAC, 1A

### Control Output 2 (Heating/Cooling Control)

**Relay contact** SPST, 220 V AC/30V DC, 3A (resistive load)

**SSR** PXR4, 5, 7, 9: ON-17 to 25V DC; OFF-0.5V DC or less. PXR3: 12 to 16V DC. Max. current: 20mA or less

**4 to 20 mA DC** PXR4, 5, 7, 9: Allowable load resistance 600 ohms or less. PXR3: 100 to 500 ohms

### Operation and Display Section

**Parameter setting method** Digital setting by 3 keys; Key lock function provided

**Display unit** Process value/set value displayed individually 4 digits, 7-segment LED

**Status display LED** Control output, process alarm output, heater burnout alarm output

### Indication accuracy (at $23^\circ\text{C}$ )

Thermocouple:  $\pm (0.5\%$  of measuring range)  $\pm 1$  digit  $\pm 1^\circ\text{C}$ . For thermocouple R at 0 to  $500^\circ\text{C}$ :  $\pm (1\%$  of measuring range)  $\pm 1$  digit  $\pm 1^\circ\text{C}$ . For thermocouple B at 0 to  $400^\circ\text{C}$ :  $\pm (5\%$  of measuring range)  $\pm 1$  digit  $\pm 1^\circ\text{C}$ . RTD, voltage/current:  $\pm (0.5\%$  of measuring range)  $\pm 1$  digit

### 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** Delay setting 0 to 9999 sec set in 1 sec steps

**Process alarm output** Relay contact: SPST, 220VAC/30V DC, 1A (resistive load); Max. 2 points (PXR3), max. 3 points (PXR4, 5, 7, 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, 220VAC/30V DC, 1A (resistive load); 1 output point

**Current detector** CTL-6-S for 1 to 30A; CTL-12 for 20 to 50A

### Digital Input (option)

**Points** 1 or 2; contact closure. 5V DC, 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

**Communication protocol** Modbus (RTU). Free Windows<sup>®</sup>-based software, PXR-LITE<sup>™</sup>

**Communication method** 2-wire method; half-duplex, bit serial, start-stop sync type

**Data type** 8 bits. Parity: odd/even/none

**Communication rate** 9600 bps

**Connection aspect** Multi-drop up to 31 controllers

**Communication distance** Total extension 500m or less

**RS232C/RS485 signal converter** RSFC24 (recommended, see ordering information)

### Remote Setpoint Option

**Input signal** 1 to 5 V DC, 1 point

**Accuracy**  $\pm 0.5\%$   $\pm 1$  digit

**Input sampling cycle** 0.5 sec

**Display of remote mode** LED on front panel

**Input impedance** 1M ohms or more

### Other Functions

**Parameter mask function** Parameter display can be disabled from keypad

**Ramp/soak function** 8 ramps and 8 soaks; 1 or 2 program patterns; digital input allows start/reset of the action

### Operating and Storage Conditions

**Ambient operating temperature** 14 to  $122^\circ\text{F}$  ( $-10$  to  $50^\circ\text{C}$ )

**Ambient operating humidity** Less than 90% RH (no condensation)

**Storage temperature**  $-4$  to  $140^\circ\text{F}$  ( $-20$  to  $60^\circ\text{C}$ )

### Structure

**Mounting method** Panel flush mounting. PXR3 can be DIN-rail mounted using the optional adapter

**External terminal** Screw terminal

**Dimensions** PXR3: 1 x 2 x 4 in. (24 x 48 x 98mm). PXR4: 1.89 x 1.89 x 3.37 in. (48 x 48 x 79.8 mm). PXR5: 2.07 x 3.96 x 3.77 in. (52.5 x 100.5 x 95.8 mm). PXR7: 2.83 x 2.83 x 3.77 in (72 x 72 x 95.8 mm). PXR9: 3.96 x 3.96 x 3.77 in (100.5 x 100.5 x 95.8 mm)

**Protective structure** Front panel NEMA4X (IEC standard IP66 equivalent) (when mounted on panel with supplied gasket). Rear case: IEC IP20

**Outer color** Black (front panel, case)

**Agency approvals** UL, c-UL recognized (UL873), CSA (C22.2 No.24-93), CE certified (LVD:EN61010-1, EMC:1326-1)



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