e-Front runners

FUJI ELECTRIC

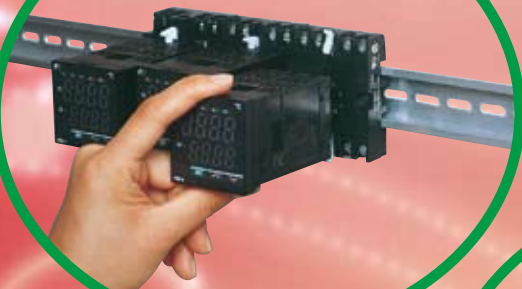
Fuji Electric France S.A.S.

Z Series Digital Temperature Controller PXR4

Socket Type version

SOCKET TYPE PXR MODEL NOW AVAILABLE FOR USE WITH STANDARD 8 PIN AND 11PIN RELAY BASES

EASY MAINTENANCE



WATERPROOF FRONT DISPLAY

EXCELLENT READABILITY

ISO14001
JQA-EM2492

ISO9001
JQA-2275

Fuji Electric France s.a.s

ECNO 1160a

SPECIFICATIONS

PXR4 Socket Type

- Excellent visibility in 48x48mm format
- IP66 (NEMA 4X) Waterproof front display
- Terminal compatible with standard 8 pin and 11pin relay bases
- Side by side DIN rail mounting
- PID with Autotune, PID Fuzzy Logic and PID with self tuning selectable as standard
- Available output: Relay contact, Solid State Relay (SSR) drive, 4-20mA current and 1-5V or 0-10V voltage.

MAINTENANCE BECOMES EASIER!

SIMPLY PLUG THE CONTROLLER ON THE RELAY BASE

- THE SOCKET CAN BE WIRED IN ADVANCE
- THE CONTROLLER CAN BE REPLACED WITHOUT REWIRING
- SAME CONFIGURATION PROCESS AS PXR SERIES

Same configuration process as PXR series

Same Design & Performance as PXR series

Waterproof front display as std (panel mounting)

The front display and buttons are waterproof and comply with IP66 standard (equivalent NEMA4X).
The front display is washable with water (use of provided packing for Waterproof mounting is required).

Type sockets

Terminal compatible with standard 11pin relay bases.

DIN rail mounting
Without alarm
TP48X

DIN rail mounting
With alarm
TP411X

Panel mounting
Without alarm
TP48SB

Panel mounting
With alarm
TP411X

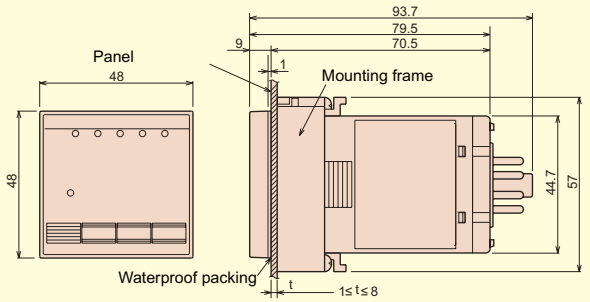
Large LED

Excellent visibility

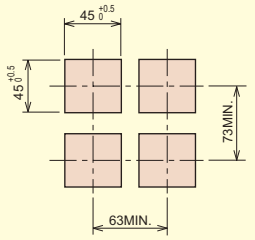
Character height :
Process Value PV : 13mm
Set Point SV : 11mm

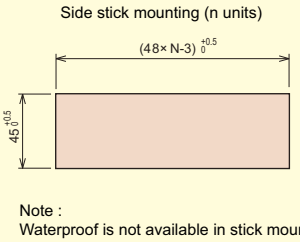
Outline and Panel Cutout Dimensions

Outline



Panel cut



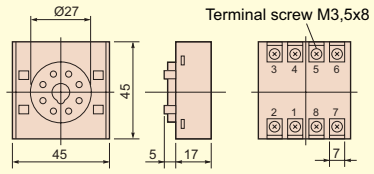


Note :
Waterproof is not available in stick mounting

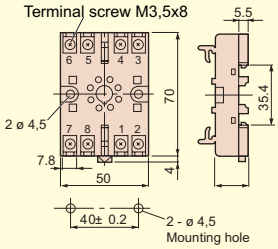
Socket Outline Diagram

Without alarm (8-pin socket)

Type TP48SB (for panel mounting)

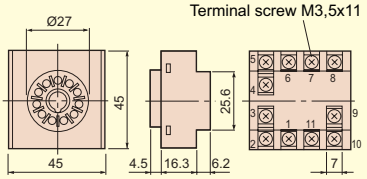


Type TP48X (for rail mounting)

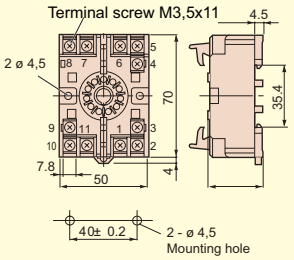


With alarm (1-pin socket)

Type TP411SBA (for panel mounting)



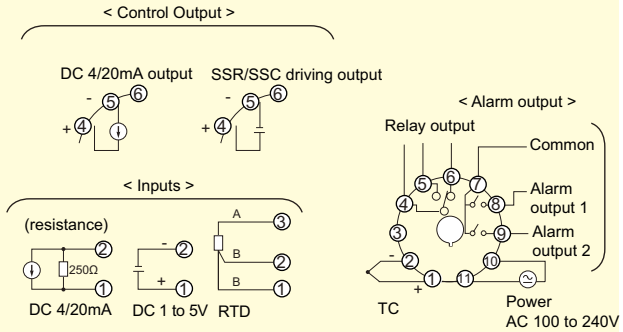
Type TP411X (for rail mounting)



External Connection Diagram

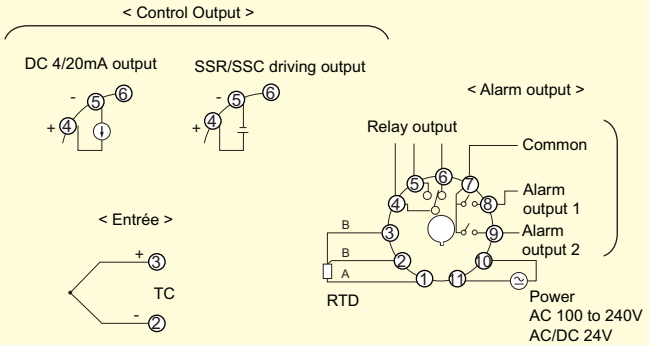
With alarm functions (11-pin socket)

When compatible with PXW4/PXZ4/PXV4 thermocouple input terminal
5th digit = “T”, “W”, “J”, “H”, “A”, “B”



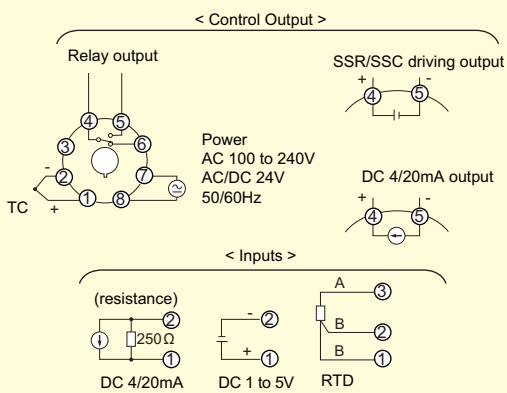
Note 1 : Use the 250Ω resistance (accessory)

When compatible with PXW4/PXZ4/PXV4 resistance bulb input terminal
5th digit = “N”, “P”

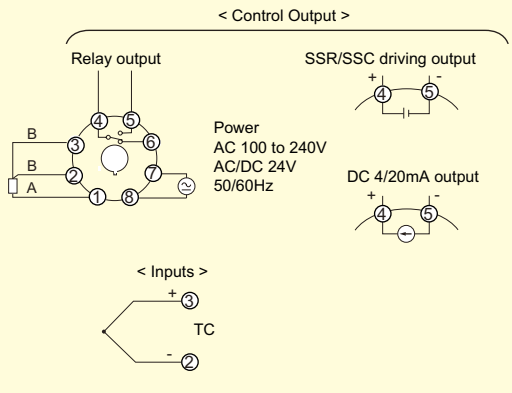


Without alarm functions (8-pin socket)

When compatible with PXW4/PXZ4/PXV4 thermocouple input terminal
5th digit = “T”, “W”, “J”, “H”, “A”, “B”



When compatible with PXW4/PXZ4/PXV4 resistance bulb input terminal
5th digit = “N”, “P”



Specification

1. General specifications

Power supply voltage	100 V (-15%) to 240V (+10%) AC, 50/60Hz or 24 V (±10%) AC 50/60Hz, 24V (±10%) DC
Power conumption	When using 100 V AC : 8 VA or less, 220 V CA : 10 VA and 24 V AC/DC : 10 VA
Ambient temperature	- 10°C to 50°C
Mounting method	Panel or DIN rail
External terminal	8 or 11 pins terminal (separately available)
Dimensions	48 x 48 x 93.7 mm pour 200g
Structure	NEMA4X (IEC standard IP66 equivalent)

2. Control function of standard type

Control action	PID control (with auto tuning and self tuning) Fuzzy control (with auto tuning) Self tuning
Proportionnal band (P)	0 to 999.9% of measuring range settable in 0,1% step
Intégral time (I)	0 to 3200 sec, settable in 1 sec step
Differential time (D)	0 to 999.9 sec, settable in 0,1 sec step
ON/OFF action if P=0, proportionnal action when I, D = 0	
Proportionnal cycle	1 to 150 sec, settable in 1 sec step Only for relay contact output or SSR/SSC drive output
Control cycle	0.5 sec

3. Inputs

Input signal	Thermocouple ; J, K, R, S, T, E, N, PL2 Resistance bulb : Pt100 Voltage, current : 1 to 5 V DC, 4 to 20 mA DC (apply current input after connectiong the furnished 250Ω resistor or input terminal)
Measuring range	See measuring range table “Measuring range”
Burnout	For thermocouple or resistance bulb input, control output upper/lower are selectable

4. Output of standard type (control output)

Control output	Select one as fellows : Relay contact : SPDT contact 220VAC / 30V AC, 3A (resistive load) Mechanical lif : 10 millions operations (no load) Electrical life : 100 000 operations (rated load) Minimum switching current 100mA (24V DC) SSR/SSC drive (voltage pulse) : ON : 17 to 25V DC OFF : 0,5V DC or less Max current : 20mA or less 4 to 20mA : Allowable load resistance 600Ω or less

5. Operation and display section

Setting accuracy	0.1% or less of measuring range
Indication accuracy (at 23°C)	Thermocouple : ± (0.5% of measuring range) ± 1digit ± 1°C Thermocouple R at 0 to 500°C...± (1% of measuring range) ± 1 digit ± 1°C Thermocouple B at 0 to 400°C... ±(5% of measuring range) ± 1 digit ± 1°C Resistance bulb, voltage/current : ± (0.5% of measuring range) ± 1 digit

6. Alarm (option)

Alarm kind	Absolute alarm, deviation alarm, zone alarm with upper and lower for each Hold function available, Alarm latch, Excitation/non-excitation selecting function provided.
Alarm output	Relay contact (SPST contact) : 220V CA / 30V DC, 1A (resistive load) Mechanical lif : 10 millions operations (no load) Electrical life : 100 000 operations (rated load) Minimum switching current 100mA (5V DC)
Number	2 alarms max

7. Other functions

Parameter mask function	Parameter display is disabled by software
Ramp/soak function (option)	2 program pattern of 4 steps each, or 1 program pattern x 8steps, digital input allows to start/reset the action
Applicable std	UL, C-UL, CE

Ordering code

PXR socket type — 4 5 6 7 8 9 10 11 12 13 : 4 | | | S | 1 | - | | | | |

	Specification		
4	**Front dimensions**		4
	48 x 48mm		
5	**Input signal**		
	Thermocouple (°C)		T
	Thermocouple (°F)		R
	Resistance bulb Pt100 3-wire type I (°C)	Note3	N
	Resistance bulb Pt100 3-wire type I (°F)	Note3	S
	Resistance bulb Pt100Ω 3-wire type II (°C)	Note4	W
	Voltage 1 to 5V DC		A
	Current 4 to 20mA DC	Note1	B
6	**Control output 1**		
	Relay contact output	Note2	A
	Voltage pulse output	Note2	C
	4 to 20mA DC output	Note2	E
7	**Terminal form**		
	Socket type		S
8	**Revision code**		1
9	**Optional specifications**		
	Sans		0
	Alarm (1 pc.)		1
	Ramp / soak		4
	Alarm (1 pc.) + Ramp / soak		5
	Alarm (2 pcs.)		F
	Alarm (2 pcs.) + Ramp / soak		G
10	**Instruction manual / Power supply voltage**		
	None / 85 to 265V AC 50/60Hz		N
	English - French / 85 to 265V AC 50/60Hz		V
	None / 24V DC or 24V AC 50/60Hz		C
	English - French / 24V DC or 24V AC 50/60Hz		B
11	**Socket**		
12	None		0 0 0
13	For rail mounting (8 pin-screw terminal) : TP48X	Note5	1 0 0
	For panel mounting (8 pin-screw terminal) : TP48SB	Note5	2 0 0
	For rail mounting (11 pin-screw terminal) : TP411X	Note5	4 0 0
	For panel mounting (11 pin-screw terminal) : TP411SB	Note5	5 0 0

Note 1 : Connect to terminal 250Ω resistor supplied before power ON.
Note 2 : Control action is set to reverse action when delivered. The reverse action and normal action can be switched by key operation on the front panel.
Note 3 : Input terminal (Pt100 input) assignment is same as PXV4, PXW4 and PXZ4
Note 4 : Input terminal (Pt100 input) assignment is different from PXV4, PXW4 and PXZ4 but in case of thermocouple input terminal assignment is same.
Note 5 : In cas the controller is equipped with 1 or 2 alarms (option 1, 5, F and G for digit 9), 11-pins screw terminal TP411X type must be used (option 4 for digit 11) and TP411SBA (option 5 for digit 11).

Measuring range table

Category		Input signal	Range T° (°C)	Range T° (°F)
I	Resistance bulb	Pt100	-199 to 850	-326 to 1562
	Thermo-couple	J	0 to 800	32 to 1472
		K	0 to 1200	32 to 2192
		R	0 to 1600	32 to 2912
		B	0 to 1800	32 to 3272
		S	0 to 1600	32 to 2972
		T	-150 to 400	-238 to 752
		E	-150 to 800	-238 to 1472
		N	0 to 1300	32 to 2372
		PL2	0 to 1300	32 to 2372
III	Voltage	1 to 5 Vcc	Scaling range -1999 to 9999	
	Current	4 to 20 mA		

Note 1 : For current input connect the supplied 250Ω resistor at the terminal
Note 2 : When the measuring range exceeds 1000°C (1832°F), decimal point can not be used.

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