

FLAMEPROOF, IP66



- Universal input
- 0 / 1 / 2 / 3 setpoints
- Isolated 0/4~20 mA or 0~10 V DC retransmission output
- 24 V DC transmitter supply
- RS485 / MODBUS RTU
- 85~265 V AC SMPS
- ONOFF control

SPECIFICATIONS All specifications at ambient of 25 °C, unless specified otherwise

INPUT

Input group 1
Thermocouple B, E, J, K, N, R, S, T
RTD Pt100, 3-wire
Voltage 0~50 mV
Current 0~20 mA, 4~20 mA

Input group 2
Thermocouple B, C, D, E, G, K, J, N, R, S, T
RTD Pt100, 3-wire
Voltage 0~50 mV
Current 0~20 mA, 4~20 mA
 Square root

Transmitter supply 22 V nominal, 30 mA max
Range limits See Table 1
Accuracy See Table 1
Cold junction compensation Automatic
Sensor break protection User programmable

INDICATION

Process variable Upper : 4 digit, 7 segment
 1" (25.4 mm) red LED display
 Lower : 4 digit, 7 segment
 0.39" (9.9 mm) red LED display
Status indication LEDs for relay status

OUTPUTS

No. of relays 0 / 1 / 2 / 3
Relay contact type NO-C-NC (RL1)
 NO-C (RL2, RL3)
Relay contact rating 5A / 230V AC, resistive
SSR drive 12 V DC drive signal for external SSR
Current output 4~20 mA / 0~20 mA / 20~4 mA / 20~0 mA isolated from input
Maximum load for current output 500 ohms
Voltage output 0~10 V / user specified
Load for voltage output >10 Kohms

COMMUNICATION

Port RS485
Protocol Modbus RTU
Slave ID User programmable (1~256)

PROGRAMMABLE PARAMETERS

Setpoint Full range (See Table 1)
Unit °C, °F, EU
Resolution User selectable
 0.01, 0.1 or 1 for linear input,
 0.1 or 1 for temperature
High scale Full range (See Table 1)
Low scale Full range (See Table 1)
Digital filter A (minimum) ~ F (maximum)
Hysteresis 0~25% span
Bias (for process variable) -50 to 50% of range limit
Relay logic

Alarm types

Alarm acknowledge

Setpoint lock
Level lock
Relay action

OTHER

Enclosure Certified flameproof for gas groups I, IIA & IIB
 IP66
Protection Tactile, 3 keys, inside enclosure
Keyboard Aluminium alloy
Material 138(H) x 138(W) x 220(D) mm
Dimensions (in mm) 2" pipe mounting
Mounting Included
Mounting accessories 3/4" ET, maximum 5
Cable entries * 2.5 mm², AWG 14
Connection, single/stranded wires a) 85~265 V AC, 50/60 Hz
Supply voltage b) 20~35 V DC (factory option)
Power consumption 3 watts maximum
Operating ambient temperature 0 ~ 50 °C
Relative humidity Below 90%, non condensing

* Note: Cable glands to be ordered separately

PROGRAMMABLE ONOFF CONTROLLER X48AV1

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TABLE 1

SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		TYPICAL ACCURACY AT 30 °C (°C / EU)	WORST CASE ACCURACY (°C / EU)
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE		
Input Group 1						
Pt - 6% Rh / Pt - 30% Rh (B)	400	1820	400	1820	± 3	± 5
Chromel / Constantan (E)	-270	850	0	850	± 1	± 3
Iron / Constantan (J)	-210	760	0	760	± 1	± 3
Chromel / Alumel (K)	-270	1372	-50	1200	± 1	± 3
Nicrosil / Nisil (N)	-270	1300	-50	1200	± 1	± 3
Pt / Pt - 13% Rh (R)	0	1760	400	1760	± 2	± 5
Pt / Pt - 10% Rh (S)	0	1760	400	1760	± 2	± 5
Copper / Constantan (T)	-270	400	-200	400	± 1	± 3
Pt100, 3-wire	-200	850	-200	600	± 0.3	± 1.0
Linear (0~50 mV, 0~20 mA, 4~20 mA)	-1999	9999	-1999	9999	± 5 EU	± 20 EU

Input Group 2

The following inputs are available in Input Group 2 in addition to inputs of Input Group 1.

Tungsten - 5% Rh / Tungsten - 26% Rh (C)	0	2320	0	2320	± 3	± 5
Tungsten - 3% Rh / Tungsten - 25% Rh (D)	0	2310	0	2310	± 3	± 5
Tungsten / Tungsten - 26% Rh (G)	0	2310	0	2310	± 3	± 5

ORDERING INFORMATION

X48AV1 will be supplied with the following standard specifications :

1.	Input	Input group 1
2.	Supply voltage	85~265 VAC
3.	RS485	Not provided

ORDER CODE	
2173	A

A	Configuration	
	Relay	4~20 mA output
01	0	0
02	0	1
03	2	0
04	2	1

Ordering Options

The following ordering options are available on request. Minimum order quantity and/or minimum order value may apply.

	Option	Details
1.	Analog output	0~10 V DC
2.	Supply voltage	24 V DC
3.	Input	Input group 2
4.	Communication	RS485

Note 1 : Transmitter supply can be given only if Relay 3 / Analog o/p is absent.

Note 2 : For supply voltage = 24 VDC, Relay 3 cannot be provided.

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