

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 a. Heat
 b. Cool
 c. Fullscale high alarm
 d. Full scale low alarm
 e. Deviation high alarm
 f. Deviation low alarm
 g. Inband alarm
 h. Outband alarm
 (e. to h. available for SP2, SP3)

Alarm types

Alarm acknowledge

Setpoint lock ON, OFF
Level lock ON, OFF
Relay action Reverse / direct

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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