

1 & 2 SETPOINTS, PUSHWHEEL SWITCHES



- Universal input : 8 thermocouples, Pt100, 0/4~20 mA, 0~10 V DC
- 1 & 2 setpoints
- Isolated 0/4~20 mA or 0~10 V DC retransmission output
- 85~265 V AC SMPS
- Control : ONOFF and Time Proportional
- Accuracy : $\pm 0.1\%$ of full scale $\pm 1\text{ }^\circ\text{C}$, typical
- Sensor break indication

SPECIFICATIONS

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

INPUT

Thermocouple	B, E, J, K, N, R, S, T
RTD	Pt100
Linear input	4~20 mA, 0~20 mA, 0~10 V DC
Load resistance for 0/4~20 mA input	250 Ω , internally provided
Transmitter supply	22 V DC, Nominal, 30 mA max
Range limits	See Table 1
Accuracy	See Table 1
Cold junction compensation	Automatic
Temperature coefficient of accuracy	$\pm 0.5\%$ of span / 25 °C
Units	
Pt100, Thermocouple	°C (For °F, contact us)
Linear	EU

SETPOINTS

No. of setpoints	MCP961 : 1 MCP962 : 2
Setpoint settings	MCP961 : 1 x 4-digit pushwheel switches MCP962 : 2 x 4-digit pushwheel switches

OUTPUTS

No. of relays	MCP961 : 1 MCP962 : 2
Relay contact type	NO-C-NC
Relay contact rating	5A / 230V AC, resistive
SSR drive	12 V DC drive signal for external SSR
Retransmission output	Current or voltage
Current output	4~20 mA / 0~20 mA isolated from input
Maximum load for current output	600 ohms
Voltage output	0~10 V DC isolated from input
Load for voltage output	>10 Kohms
Mutual isolation between input/output/supply	1 KV AC / 1 minute

INDICATION

Display	4 digit, 7 segment 0.56" (14.2 mm) red LED display
Status indication	2 LEDs for relay status

PROGRAMMABLE PARAMETERS

Input	0.1 to 99.9
Hysteresis / band	-99.9 to 99.9
Bias	Full range (See Table 1)
High scale	Full range (See Table 1)
Low scale	Full range (See Table 1)
Control functions	ONOFF, Time Proportional Control (TPC) (Relay1) ONOFF (Relay2)
Cycle time for TPC	1 ~ 99 seconds
Relay logic	a. Heat b. Cool c. Full scale high alarm d. Full scale low alarm
Proportional offset	-99.9 to 99.9 (Relay1)

OTHER

Keyboard	Tactile, 3 keys
Enclosure construction	Plug-in (circuit removable without affecting terminal wiring)
Dimensions (in mm)	96(H) x 96(W) x 100(D)
Mounting	Panel mount
Panel cutout	92 x 92 mm
Supply voltage	a) 85~265 V AC, 50/60 Hz b) 20~35 V DC (factory option)
Power consumption	3 watts maximum
Operating ambient temperature	0 ~ 50 °C
Relative humidity	Below 90%, non condensing

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RELAY LOGIC

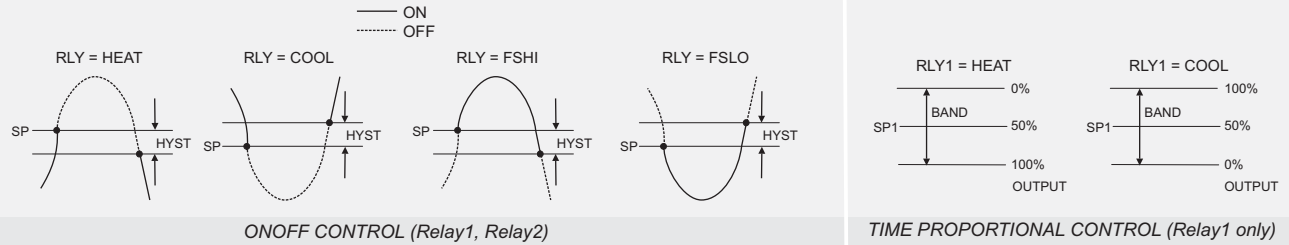
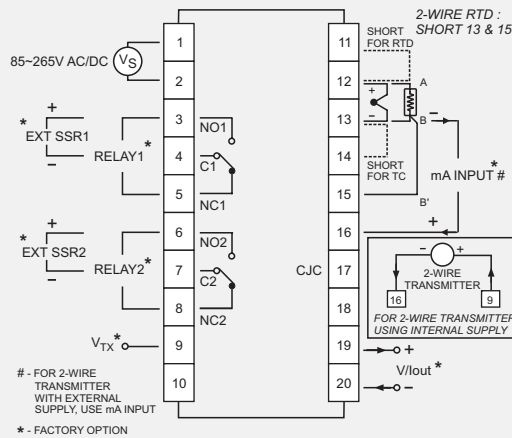


TABLE 1

SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		TYPICAL ACCURACY AT 30 °C (°C / EU)	WORST CASE ACCURACY AT 30 °C (°C / EU)
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE		
Iron / Constantan (J)	0	760	0	760	± 1	± 3
Chromel / Alumel (K)	0	1372	0	1200	± 1	± 3
Pt / Pt - 13% Rh (R)	0	1760	0	1760	± 2	± 5
Pt / Pt - 10% Rh (S)	0	1760	0	1760	± 2	± 5
Copper / Constantan (T)	0	400	0	400	± 1	± 3
Nicrosil / Nisil (N)	0	1300	0	1200	± 1	± 3
Pt - 6% Rh / Pt - 30% Rh (B)	400	1820	400	1820	± 3	± 5
Chromel / Constantan (E)	0	900	0	800	± 1	± 3
Pt100, 3-wire	0	850	0	850	± 0.5	± 2.0
Linear 0~20 mA, 4~20 mA, 0~10 V DC	0	9999	0	9999	± 5 EU	± 20 EU

CONNECTION DIAGRAM



Note : RELAY2 / EXT SSR2 in MCP962 only