



- Universal input
- 1 / 2 / 3 / 4 setpoints
- Isolated 0/4~20 mA or 0~10 V DC for control / retransmission output
- RS485 / MODBUS RTU
- 85~265 V AC SMPS
- Autotuning : From cold start
At setpoint
- Auto / Manual selection
- PID, Proportional and ONOFF control
- PID versions
 - Standard - relay or analog control output
 - VMD open + close relay outputs

SPECIFICATIONS

INPUTS

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, J, K, N, R, S, T
RTD	Pt100, 3-wire, Cu53
Current	0~20 mA, 4~20 mA, Square root
Voltage	0~50 mV
	Through DIP selection following voltage inputs are available :
	0~1 V, 0~5 V, 0~10 V, 0~10 mV, 0~100 mV, 0~200 mV
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 0.56" (14.2 mm) red LED display Lower : 4 digit, 7 segment 0.39" (9.9 mm) green LED display
Setpoint	
Status indication	LEDs for relay status, LED for auto / manual status

OUTPUTS

No. of relays	1 / 2 / 3 / 4
Relay contact type	NO-C-NC (RL1, RL2) NO-C (RL3, RL4)
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

AUTO/MANUAL OPERATION

Function	Output power is increased / decreased by UP/DOWN keys in manual mode
Auto / Manual transfer	Bumpless

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 (ONOFF control)	0~25% span
Offset	-50 to 50% of range limit
Band (P)	0.1~999.9%
Integral time (I)	Off, 1~9999 seconds
Derivative time (D)	Off, 1~9999 seconds
Cycle time for SP1/SP2	1~640 second
Upper limit for output power	0~100%
Lower limit for output power	0~100%
Relay logic	a. Heat b. Cool (ON/OFF only) 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, SP4 only)

Alarm types

Alarm acknowledge

Setpoint lock	Self reset or latched and can be disabled at power on
Level lock	Front panel function used to reset relay in alarm condition
Relay action	ON, OFF ON, OFF Reverse / direct

OTHER

Programming	Through 3 tactile keys
Dimensions (in mm)	48(H) x 96(W) x 115(D)
Mounting	Panel mount
Panel cutout	44(+ 0.8 mm) x 92 mm
Supply voltage	a) 85~265 V AC, 50/60 Hz b) 17~35 V DC (optional)
Power consumption	4 watts maximum
Operating ambient temperature	0~50 °C
Relative humidity	Below 90%, non condensing

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	1000	0	1000	± 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
Cu53	0	180	0	180	± 0.3	± 0.5
Linear (0~10 mV, 0~100 mV, 0~200 mV, 0~1 V, 0~5 V, 0~10 V)	-1999	9999	-1999	9999	± 5 EU	± 20 EU
Linear (4~20 mA) with square root	0	9999	0	9999	± 10 EU	± 40 EU

ORDERING INFORMATION

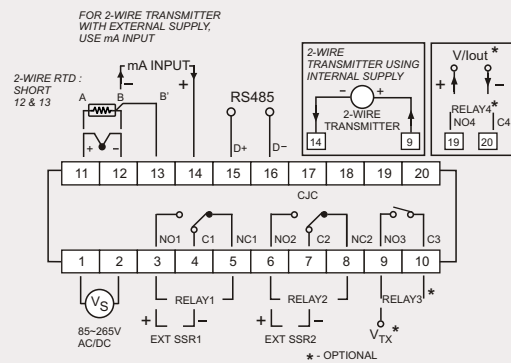
2002 A B C D E F G H

A	Input Group
1	Group1
2	Group2

B	Relay1	C	Relay2
0	None	0	None
1	Relay, NO-C-NC	1	Relay, NO-C-NC
2	SSR drive	2	SSR drive

D	Relay3 / Transmitter supply	E	Relay4 / Analog output	F	Communication	G	Supply voltage	H	Software type
0	None	0	None	0	Not provided	0	85~265 V AC	0	PID, Standard
1	Relay, NO-C-NC	1	Relay, NO-C-NC	1	RS485	1	17~35 V DC	1	PID, VMD
2	SSR drive	2	SSR drive						
3	Transmitter Supply	3	0/4~20 mA						
		4	0~10 V DC						
		5	Other analog output *						

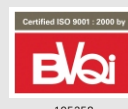
* Please specify

CONNECTION DIAGRAM


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BARODA C : 0-9376215882
CHENNAI C : 0-9381056345
CHHATISGARH C : 0-9337002344
GOA C : 0-9371439090
HYDERABAD C : 0-9391053480
KARNATAKA C : 0-9341063831
KERALA C : 0-9341273814
NEW DELHI C : 0-9312600076, T : 011-25786350
ORISSA C : 0-9337002344
PUNE C : 0-9371113404, T : 020-24479759



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