



- Universal input
- Upto 5 setpoints, 4~20 mA + 4 relays
- 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 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, J, K, N, R, S, T
RTD	Pt100, 3-wire, Cu53
Current	0~20 mA, 4~20 mA, Square root
Voltage	0~50 mV

Transmitter supply (V_{TX})

Range limits	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
Accuracy	22 V nominal, 30 mA max 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
0.56" (14.2 mm) green LED display

LEDs for relay status
LEDs for setpoint indication
LED for auto/manual status
LEDs for communication

Setpoint

Status indication

OUTPUTS

No. of setpoints

5 if Analog output is used for
control
4 if Relay1 is used for control

No. of relays

Relay contact type	1 / 2 / 3 / 4
Relay contact rating	NO-C-NC
SSR drive	5A / 230V AC, resistive 12 V DC drive signal for external SSR

No. of analog outputs

Current output

0 / 1
4~20 mA / 0~20 mA / 20~4 mA /
20~0 mA isolated from input
500 ohms

Maximum load for current output

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
Bumpless

Auto / Manual transfer

COMMUNICATION

Port

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

PROGRAMMABLE PARAMETERS

Setpoint

Unit

Resolution

Full range (See Table 1)
°C, °F, EU
User selectable
0.01, 0.1 or 1 for linear input,
0.1 or 1 for temperature
Full range (See Table 1)
Full range (See Table 1)
A (minimum) ~ F (maximum)

High scale Low scale Digital filter Hysteresis (ONOFF control)

Offset

Band (P)

Integral time (I)

Derivative time (D)

Cycle time for SP1/SP2

Upper limit for output power

Lower limit for output power

Relay logic

0~25% span
-50 to 50% of range limit
0.1~999.9%
Off, 1~9999 seconds
Off, 1~9999 seconds
1~640 second
0~100%
0~100%
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,
SP4 only)

Alarm types

Alarm acknowledge

Setpoint lock

Level lock

Relay action

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

OTHER

Programming

Dimensions (in mm)

Mounting

Panel cutout

Supply voltage

Through 3 tactile keys
96(H) x 96(W) x 100(D)
Panel mount
92 x 92 mm
a) 85~265 V AC, 50/60 Hz
b) 20~35 V DC (optional)
4 watts maximum

Power consumption

Operating ambient temperature

Relative humidity

0~50 °C
Below 90%, non condensing

TABLE 1

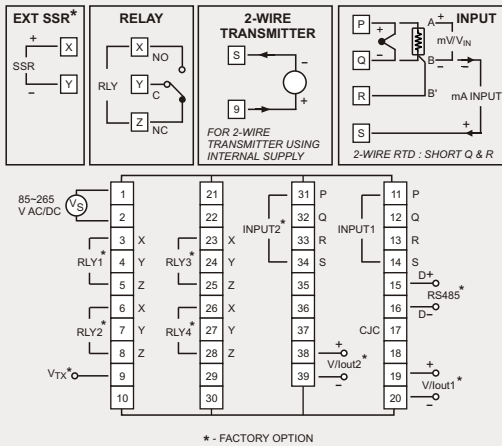
SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		TYPICAL ACCURACY AT 30 °C (°C / EU)	WORST CASE ACCURACY (°C / EU)
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE		
Input Group 1						
Pt - 6% Rh / Pt - 30% Rh (B)	400	1820	400	1820	± 3	± 5
Chromel / Constantan (E)	-270	850	0	850	± 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
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

CONNECTION DIAGRAM



ORDERING INFORMATION

2005 A B C D E F G H I

A Input Group	0 Group1	1 Group2		
B Relay1	0 None	1 Relay, NO-C-NC	2 SSR drive	
C Relay2	0 None	1 Relay, NO-C-NC	2 SSR drive	
D Relay3	0 None	1 Relay, NO-C-NC	2 SSR drive	
E Relay4	0 None	1 Relay, NO-C-NC	2 SSR drive	
F Analog output	0 None	1 0/4~20 mA	2 0~10 V DC	3 Other*
G Communication	0 Not provided	1 RS485		
H Software type	0 PID, Standard	1 PID, VMD		
I Supply voltage	0 85~265 V AC	1 20~35 V DC		

* Please specify



SALES INQUIRIES

1800-22-radix
1800-22-7234

www.radix.co.in

Radix Electrosystems Pvt Ltd
B-14, 2nd Floor, Ghanshyam Indl Estate
Veera Desai Road, Andheri (W)
Mumbai - 400 053, India
Tel : + 91 22 26730101 Fax : + 91 22 26731891
Email : sales@radix.co.in www.radix.co.in
Exports email : exports@radix.co.in

BANGALORE C : 0-9341063830
BARODA C : 0-9376215882
CHANDIGARH C : 0-9313560869
CHENNAI C : 0-9381056345
CHHATISGARH C : 0-9337002344
COIMBATORE C : 0-9380284497
GOA C : 0-9371439090

GWALIOR C : 0-9322245543
HP C : 0-9313560869
HYDERABAD C : 0-9391053480
INDORE C : 0-9301995060
KARNATAKA C : 0-9341063831
KERALA C : 0-9341273814
NAGPUR C : 0-9322245543

NEW DELHI C : 0-9312600076
T : 011-25786350
ORISSA C : 0-9337002344
PUNE C : 0-9371113404
T : 020 24479759
PUNJAB C : 0-9316460869
0-9312600076