



- **Universal inputs :**
 - 8 thermocouples, Pt100, 0/4~20 mA
 - 0/4~20 mA, 0~10 V DC
- 0 / 1 / 2 setpoints
- Isolated 0/4~20 mA or 0~10 V DC retransmission output
- 85~265 V AC SMPS or 20~35 V DC or 24 V AC (factory option)
- **Functions :** ONOFF and Time Proportional
- **Accuracy :** ± 0.1% of full scale ± 1 °C, typical
- **Sensor break indication**

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
Linear input	4~20 mA, 0~20 mA
Input group 2	
Linear input	4~20 mA, 0~20 mA, 0~10 V DC
Load resistance for 0/4~20 mA input	250 Ω, internally provided
Input type groups	See ordering information
Transmitter supply	22 V DC, Nominal, 30 mA max (17 V DC available across transmitter; for HART transmitter, please inquire)

Range limits	See Table 1
Accuracy	See Table 1
Cold junction compensation	Automatic
Temperature coefficient of accuracy	± 0.02% of span / °C

Units	
Pt100, Thermocouple	°C (For °F, contact us)
Linear	EU

INDICATION

Display	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 2 LEDs for relay status
----------------	---

Status indication

OUTPUTS

(see ordering information)	
No. of relays	0/1/2 electromagnetic relays
Relay contact type	NO-C-NC (RLY1) NO-C (RLY2)
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

PROGRAMMABLE PARAMETERS

Setpoint	Full range (See Table 1)
Resolution	1 (for TC) 0.1, 1 (for Pt100) 0.001, 0.01, 0.1, 1 (for Linear input)
High scale	Full range (See Table 1)
Low scale	Full range (See Table 1)
Hysteresis / band	0.1 to 99.9 °C
Control functions	ONOFF, Time Proportional Control (TPC) (RLY1) ONOFF (RLY2)
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 °C (RLY1)

OTHER

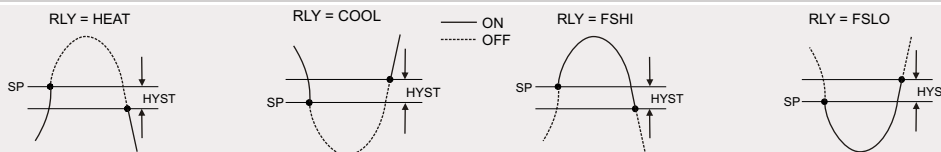
Keyboard	Tactile, 3 keys, inside enclosure
Material	Aluminium alloy
Enclosure construction	Certified flameproof for gas groups I, IIA, IIB & IIC IP66
Protection	
Dimensions (in mm)	138(H) x 138(W) x 220(D) mm
Mounting	2" pipe mounting
Mounting accessories	Included
Cable entries *	3/4" ET, maximum 5
Connection, single/stranded wires	≤ 2.5 mm ² , AWG 14
Supply voltage	a) 85~265 V AC, 50/60 Hz b) 20~35 V DC c) 24 V AC ± 10% 50/60 Hz
Power consumption	3 watts maximum
Operating ambient temperature	0 ~ 50 °C
Relative humidity	Below 90%, non condensing

* Note: Cable glands to be ordered separately

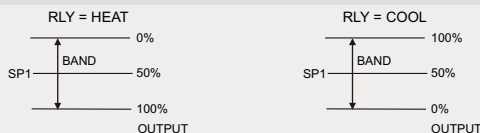
PROGRAMMABLE ONOFF CONTROLLER TC48V3

FLAMEPROOF, IP66

RELAY LOGIC



ONOFF CONTROL (Relay1, Relay2)



TIME PROPORTIONAL CONTROL (Relay1 only)

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		
Iron / Constantan (J)	-99	750	0	750	± 1	± 3
Chromel / Alumel (K)	-99	1350	-50	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)	-99	400	-50	400	± 1	± 3
Nicrosil / Nisil (N)	-99	1300	-50	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	-99	850	-50	850	± 0.5 *	± 2.0
Linear 0~20 mA, 4~20 mA	-1999	9999	-1999	9999	± 5 EU	± 20 EU

* ± 0.2°C in the range -50 to +400 °C

ORDERING INFORMATION

ORDER CODE	
2158	A

A	Configuration	
	Relay	4~20 mA output
00	0	1
01	2	0
02	1	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

Note : Transmitter supply will be absent if analog output & 24 VDC supply voltage required.



RADIX ELECTROSYSTEMS PVT LTD
 EL-135/136/137, Electronics Zone
 TTC Indl. Area, MIDC, Mahape
 Navi Mumbai - 400 710, India
 + 91 22 42537777 | sales@radix.co.in

OTHER ENQUIRIES

Instruments sales@radix.co.in
Sensors sensors@radix.co.in
Gauges gauges@radix.co.in
Automation automation@radix.co.in
Level level@radix.co.in