



- **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**

<b>Input group 1</b>	
Thermocouple	B, E, J, K, N, R, S, T
RTD	Pt100
Linear input	4~20 mA, 0~20 mA
<b>Input group 2</b>	
Linear input	4~20 mA, 0~20 mA, 0~10 V DC
Load resistance for 0/4~20 mA input	250 Ω, internally provided
<b>Input type groups</b>	See ordering information
<b>Transmitter supply</b>	22 V DC, Nominal, 30 mA max (17 V DC available across transmitter; for HART transmitter, please inquire)
<b>Range limits</b>	See Table 1
<b>Accuracy</b>	See Table 1
<b>Cold junction compensation</b>	Automatic
<b>Temperature coefficient of accuracy</b>	± 0.5% of span / 25 °C
<b>Units</b>	
Pt100, Thermocouple	°C (For °F, contact us)
Linear	EU

**INDICATION**

<b>Display</b>	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
<b>Status indication</b>	2 LEDs for relay status

**OUTPUTS (see ordering information)**

<b>No. of relays</b>	0/1/2 electromagnetic relays
<b>Relay contact type</b>	NO-C-NC (RLY1) NO-C (RLY2)
<b>Relay contact rating</b>	5A / 230V AC, resistive
<b>SSR drive</b>	12 V DC drive signal for external SSR
<b>Retransmission output</b>	Current or voltage
<b>Current output</b>	4~20 mA / 0~20 mA isolated from input
<b>Maximum load for current output</b>	600 ohms
<b>Voltage output</b>	0~10 V DC isolated from input
<b>Load for voltage output</b>	>10 Kohms
<b>Mutual isolation between input/output/supply</b>	1 KV AC / 1 minute

**PROGRAMMABLE PARAMETERS**

<b>Setpoint</b>	Full range (See Table 1)
<b>Resolution</b>	1 (for TC) 0.1, 1 (for Pt100) 0.001, 0.01, 0.1, 1 (for Linear input)
<b>High scale</b>	Full range (See Table 1)
<b>Low scale</b>	Full range (See Table 1)
<b>Hysteresis / band</b>	0.1 to 99.9 °C
<b>Control functions</b>	ONOFF, Time Proportional Control (TPC) (RLY1) ONOFF (RLY2)
<b>Cycle time for TPC</b>	1 ~ 99 seconds
<b>Relay logic</b>	a. Heat    b. Cool c. Full scale high alarm d. Full scale low alarm
<b>Proportional offset</b>	-99.9 to 99.9 °C (RLY1)

**OTHER**

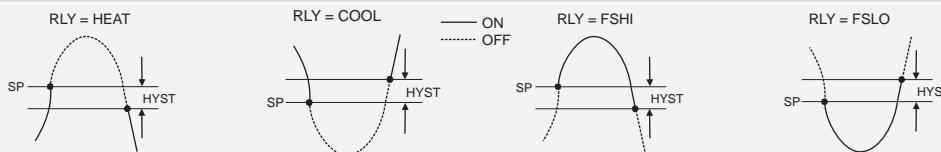
<b>Keyboard</b>	Tactile, 3 keys, inside enclosure
<b>Material</b>	Aluminium alloy
<b>Enclosure construction</b>	Certified flameproof for gas groups I, IIA, IIB & IIC IP66
<b>Protection</b>	
<b>Dimensions (in mm)</b>	138(H) x 138(W) x 220(D) mm
<b>Mounting</b>	2" pipe mounting
<b>Mounting accessories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

\* Note: Cable glands to be ordered separately

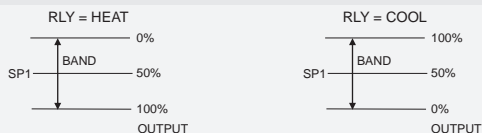
# PROGRAMMABLE ONOFF CONTROLLER TC48V3

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

\* ± 0.1°C in the range -50 to +400 °C

## ORDERING INFORMATION

2158	A	B	C	D
		<b>B Relay1</b>		<b>D Supply voltage</b>
		0 None		0 85~265 V AC
		1 Relay NO-C-NC		1 20~35 V DC
		2 SSR drive		2 24 V AC
	<b>A Input type group</b>		<b>C Relay2/Analog output</b>	
	1 8 thermocouples, Pt100, 0/4~20 mA		0 None	
	2 0/4~20 mA, 0~10 V DC		1 Relay NO-C	
			2 SSR drive	
			3 0/4~20 mA	
			4 0~10 V DC	
			5 Other	

Product url : [www.radix.co.in/flp.htm](http://www.radix.co.in/flp.htm)



AN ISO 9001:2008 COMPANY

### SALES INQUIRIES

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