

FLAMEPROOF, IP65



- Two universal inputs
- Upto 5 setpoints, 4~20 mA + 4 relays
- Isolated 2 x 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
- Scaleable remote setpoint

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

<p><b>INPUTS</b></p> <p><b>No. of inputs</b> 2 (input 1, input 2)</p> <p><b>Input group 1 (common for both inputs)</b></p> <p>Thermocouple B, E, J, K, N, R, S, T</p> <p>RTD Pt100, 3-wire</p> <p>Voltage 0~50 mV</p> <p>Current 0~20 mA, 4~20 mA</p> <p><b>Input group 2 (common for both inputs)</b></p> <p>Thermocouple B, C, D, E, G, J, K, N, R, S, T</p> <p>RTD Pt100, 3-wire, Cu53</p> <p>Current 0~20 mA, 4~20 mA, Square root (for input 1)</p> <p>Voltage 0~50 mV</p> <p>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, 22 V nominal, 30 mA max</p> <p><b>Transmitter supply (V<sub>TX</sub>)</b> See Table 1</p> <p><b>Range limits</b> See Table 1</p> <p><b>Accuracy</b> See Table 1</p> <p><b>Cold junction compensation</b> Automatic</p> <p><b>Sensor break protection</b> User programmable</p> <p><b>REMOTE SET POINT</b></p> <p><b>Function</b> When configured, input2 functions as a remote setpoint input</p> <p><b>Input signal</b> 4~20 mA (other types on request)</p> <p><b>Range</b> User programmable</p> <p><b>Display</b> Middle display</p> <p><b>INDICATION</b></p> <p><b>Process variable</b> Upper : 4 digit, 7 segment 0.56" (14.2 mm) red LED display Middle : 4 digit, 7 segment 0.56" (14.2 mm) green LED display Lower : 3 digit, 7 segment 0.39" (9.9 mm) red LED display</p> <p><b>Status indication</b> LEDs for relay status LEDs for setpoint indication LED for auto/manual power status LEDs for communication</p> <p><b>OUTPUTS</b></p> <p><b>No. of relays</b> 1 / 2 / 3 / 4</p> <p><b>Relay contact type</b> NO-C-NC</p> <p><b>Relay contact rating</b> 5A / 230V AC, resistive</p> <p><b>SSR drive</b> 12 V DC drive signal for external SSR</p> <p><b>No. of analog outputs</b> 0 / 1 / 2 (current or voltage)</p> <p><b>Current output</b> 4~20 mA / 0~20 mA / 20~4 mA / 20~0 mA isolated from input</p> <p><b>Maximum load for current output</b> 500 ohms</p> <p><b>Voltage output</b> 0-10 V / user specified</p> <p><b>Load for voltage output</b> &gt;10 Kohms</p> <p><b>AUTO/MANUAL OPERATION</b></p> <p><b>Function</b> Output power is increased/ decreased by UP/DOWN keys in manual mode</p> <p><b>Auto / Manual transfer</b> Bumpless</p>	<p><b>COMMUNICATION</b></p> <p><b>Port</b> RS485</p> <p><b>Protocol</b> Modbus RTU</p> <p><b>Slave ID</b> User programmable (1~256)</p> <p><b>ENCLOSURE</b></p> <p><b>Enclosure</b> Certified flameproof for gas groups I, IIA &amp; IIB Aluminium alloy 352(H) x 190(W) x 170(D) IP65</p> <p><b>Material</b> Aluminium alloy</p> <p><b>Dimensions (in mm)</b> 352(H) x 190(W) x 170(D)</p> <p><b>Protection</b> IP65</p> <p><b>Keyboard</b> 4 Pushbuttons</p> <p><b>Mounting</b> Wall mount</p> <p><b>Mounting accessories</b> Included</p> <p><b>Cable entries*</b> 5 x 3/4" ET</p> <p>* Cable glands to be ordered separately</p> <p><b>PROGRAMMABLE PARAMETERS</b></p> <p><b>Setpoint</b> Full range (See Table 1)</p> <p><b>Unit</b> °C, °F, EU</p> <p><b>Resolution</b> User selectable 0.01, 0.1 or 1 for linear input, 0.1 or 1 for temperature</p> <p><b>High scale</b> Full range (See Table 1)</p> <p><b>Low scale</b> Full range (See Table 1)</p> <p><b>Digital filter</b> A (minimum) ~ F (maximum)</p> <p><b>Hysteresis (ONOFF control)</b> 0~25% span</p> <p><b>Offset</b> -50 to 50% of range limit</p> <p><b>Band (P)</b> 0.1~999.9%</p> <p><b>Integral time (I)</b> Off, 1~9999 seconds</p> <p><b>Derivative time (D)</b> Off, 1~9999 seconds</p> <p><b>Cycle time for SP1/SP2</b> 1~640 second</p> <p><b>Upper limit for output power</b> 0~100%</p> <p><b>Lower limit for output power</b> 0~100%</p> <p><b>Relay logic</b> 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)</p> <p><b>Alarm types</b> Self reset or latched and can be disabled at power on</p> <p><b>Alarm acknowledge</b> Front panel function used to reset relay in alarm condition</p> <p><b>Setpoint lock</b> ON, OFF</p> <p><b>Level lock</b> ON, OFF</p> <p><b>Relay action</b> Reverse / direct</p> <p><b>OTHER</b></p> <p><b>Supply voltage</b> a) 85~265 V AC, 50/60 Hz b) 20~35 V DC (optional) 4 watts maximum</p> <p><b>Power consumption</b> 0~50 °C</p> <p><b>Operating ambient temperature</b> Below 90%, non condensing</p> <p><b>Relative humidity</b> Below 90%, non condensing</p>
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**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		
<b>Input Group 1</b>						
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
<b>Input Group 2</b>						
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

### PANEL MOUNT VERSION - X96P



96(H) X 96(W) x 100(D) mm

### OTHER PID CONTROLLERS



### OTHER PID CONTROLLERS



48(H) x 48(W) x 100(D) mm



72(H) x 72(W) x 100(D) mm



96(H) x 48(W) x 100(D) mm



48(H) x 96(W) x 100(D) mm



### SALES INQUIRIES

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[www.radix.co.in](http://www.radix.co.in)

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T : 020-24479759  
**PUNJAB** C : 0-9316460869