

4 1/2 DIGIT PROCESS INDICATOR

With Alarms

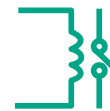
TEC401



4 1/2 Digit PV Display



Universal Input



Four Relays



Isolated Retransmission Output



85~265V AC SMPS /
18~35V DC Power Supply



RS485 / MODBUS RTU



22V DC Transmitter
Supply

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SPECIFICATIONS

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

INPUTS	
Input group 1	
Thermocouple	B, E, J, K, N, R, S, T
RTD	Pt100, 3-wire
Voltage	0~50 mV, 0~10 V
Current	4~20 mA
Input group 2	
Thermocouple	B, C, D, E, G, J, K, N, R, S, T, L, U, PLII
RTD	Pt100, 3-wire, Cu53, JPT100
Current	0~20 mA, 4~20 mA, Square root
Voltage	0~50 mV, 0~1 V, 0~5 V, 0~10 V, -10~20 mV, 0~100 mV, 0~200 mV
Sampling time	50 ms / 200 ms programmable
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
Digital input	Isolated potential free contact closure for alarm acknowledge / standby mode / peak-valley reset
INDICATION	
Process variable	4 1/2 digit, 7 segment 0.56" (14.2 mm) red LED display
Status indication	LEDs for Relay1, Relay2 LEDs for Rx, Tx (RS485)
VIEW MODE	
Peak / Valley	Maximum / Minimum process value after power on / reset
OUTPUTS	
No. of relays	0 / 1 / 2 / 3 / 4
Relay contact type	NO-C-NC (Relay 1, Relay 2) NO-C (Relay 3, Relay 4)
Relay contact rating	7A / 230V AC, resistive
SSR drive signal	12V DC for external SSR
No. of analog outputs	0 / 1 (current or voltage)
Accuracy (analog output)	±0.1% of span wrt measured input
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
COMMUNICATION	
Port	RS485
Protocol	MODBUS RTU
Slave ID	User programmable (1~247)
ISOLATION	
Mutual isolation between input, supply, relays, analog output, digital input, RS485	1500V AC RMS, 50 Hz / 1 minute

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PROGRAMMABLE PARAMETERS	
Setpoint	Full range (See Table 1)
Unit	°C, °F, EU
Resolution	User selectable 0.0001, 0.001, 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	Low, High
Hysteresis	0.1~99.9
Bias (for process variable)	-99.9 to 99.9
Relay logic	a. Full scale high alarm b. Full scale low alarm c. Deviation high alarm d. Deviation low alarm e. Inband alarm f. Outband alarm (c. to f. available for SP2, SP3, SP4 only)
Alarm delay	0~999 second/minute
Alarm types	Self reset or latched and can be disabled at power ON
Alarm acknowledge	Front panel function used to reset relay in alarm condition
Setpoint lock	ON, OFF
Level lock	Password protected
Relay action	Reverse / direct
OTHER	
Programming	Through 4 tactile keys
Dimensions (in mm) (Fig 1)	48(H) x 96(W) x 112(D)
Mounting	Panel mount
Panel cutout	44 x 92 mm
Supply voltage	a) 85~265V AC, 50/60 Hz (default) b) 18~35V DC
Power consumption	4 watts maximum
Operating ambient temperature	0~50 °C
Relative humidity	Below 90%, non condensing

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TABLE 1

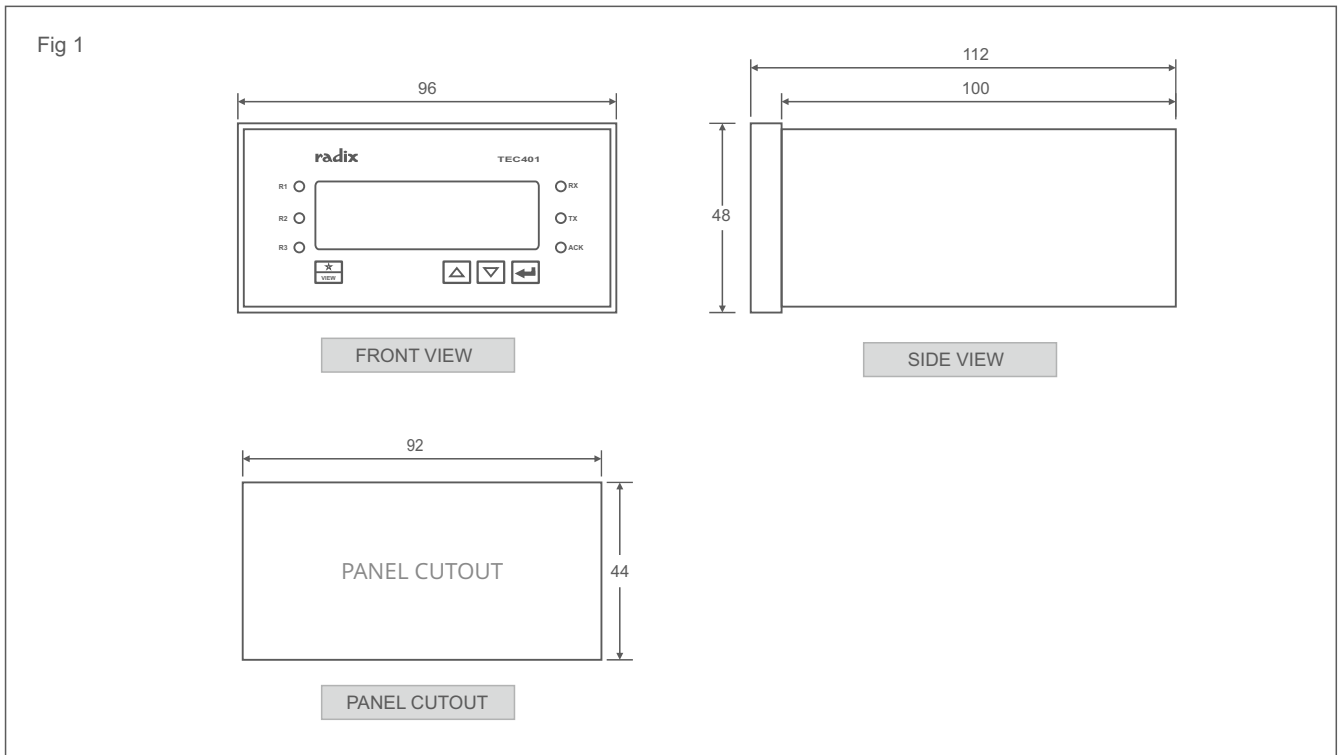
SENSOR / INPUT	RANGE LIMITS (°C / EU)		RANGE IN WHICH ACCURACY IS SPECIFIED		TYPICAL ACCURACY AT 30 °C (°C / EU)	WORST CASE ACCURACY (°C / EU)
	LOW SCALE	HIGH SCALE	LOW SCALE	HIGH SCALE		
Pt - 6% Rh / Pt - 30% Rh (B)	400	1800	400	1800	± 3	± 5
Chromel / Constantan (E)	-200	850	0	850	± 1	± 3
Iron / Constantan (J)	-200	760	0	760	± 1	± 3
Chromel / Alumel (K)	-200	1370	-50	1200	± 1	± 3
Nicrosil / Nisil (N)	-200	1300	-50	1200	± 1	± 3
Pt / Pt - 13% Rh (R)	0	1700	400	1700	± 2	± 5
Pt / Pt - 10% Rh (S)	0	1700	400	1700	± 2	± 5
Copper / Constantan (T)	-200	400	-200	400	± 1	± 3
Pt100, 3-wire	-200	850	-200	600	± 0.3	± 1.0
JPT100	-200	510	-200	500	± 0.3	± 1.0
Linear (0~50 mV, 0~20 mA, 4~20 mA)	-19999	19999	-19999	19999	± 0.1% of span	± 0.2% of span
Tungsten - 5% Rh / Tungsten - 26% Rh (C)	0	2300	0	2200	± 3	± 5
Tungsten - 3% Rh / Tungsten - 25% Rh (D)	0	2000	0	2000	± 3	± 5
Tungsten / Tungsten - 26% Rh (G)	0	2310	100	2310	± 3	± 5
Iron / Constantan (L)	-200	900	-200	800	± 1	± 3
Copper / Constantan (U)	-200	600	-200	500	± 1	± 3
PLATINEL II (PLII)	0	1390	0	1300	± 3	± 3
Cu53	0	150	0	150	± 0.3	± 0.5
Linear (-10~20 mV, 0~100 mV, 0~200 mV, 0~1 V, 0~5 V, 0~10 V)	-19999	19999	-19999	19999	± 0.1% of span	± 0.2% of span
Linear (4~20 mA) with square root	0	19999	0	19999	± 0.1% of span	± 0.2% of span

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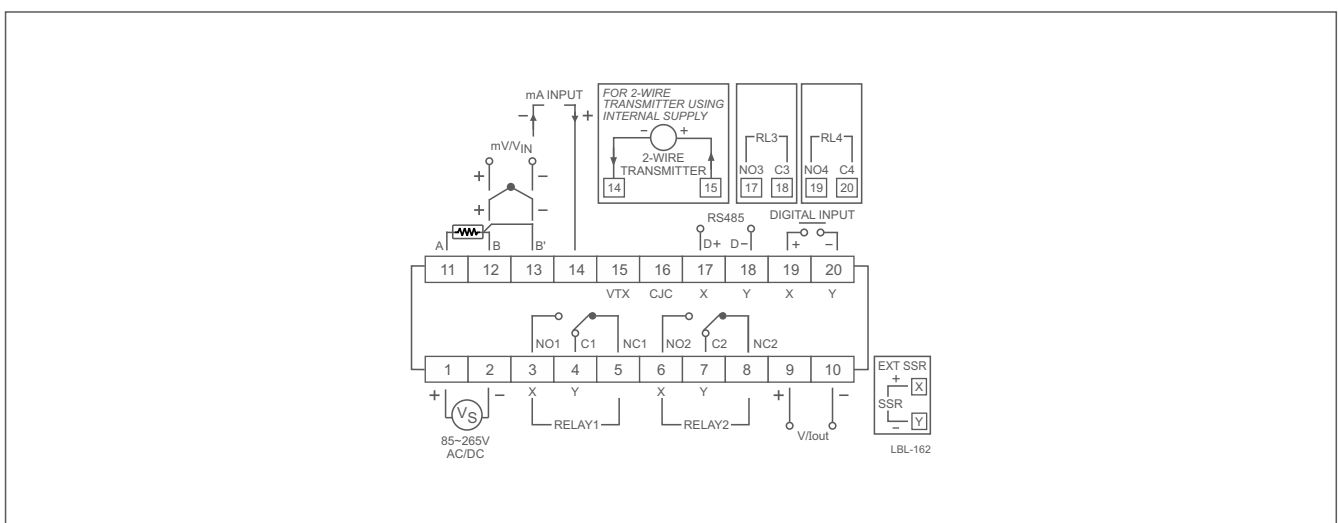
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DIMENSIONS mm



CONNECTION DIAGRAMS



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FEATURES SUMMARY

- Universal input
- 0 / 1 / 2 / 3 / 4 setpoints
- Isolated 0/4~20 mA or 0~10 V DC retransmission output
- 22 V DC transmitter supply
- RS485 / MODBUS RTU
- On-off control
- Digital input
- 85~265V AC SMPS / 18~35V DC power supply

ORDERING INFORMATION

CODE	SPECIFICATIONS	1	2
2485			
1	Outputs		
	No output (only indicator)	00	
	1 x 4~20 mA	01	
	RS485	02	
	Two relays	03	
	Two relays + 1 x 4~20 mA	04	
	Two relays + RS485	05	
	Two relays + 1 x 4~20 mA + RS485	06	
	Four relays	07	
Four relays + 1 x 4~20 mA	08		
2	Power Supply		
	85~265V AC		1
	18~35V DC		0

CODE - 1 - 2

Order Code Format : XXXX-XX-X

Example

TEC401, Indicator, 85~265V AC
2485-00-1

ENQUIRIES

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