TECHNICAL DATASHEET

Compact Temperature Controller

RE57 is specially designed for universal Input measurement from RTD, Thermocouple, Linear input .The controller equipped with Innovative smart PID & Dual display for PV & SP.

- Universal measuring input
- On / Off Control, PID Control
- Auto - Tuning Function
- Relay output or SSR output
- 4 digit Dual display
- Timer Function

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PRECISION INSTRUMENTATION

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Temperature Controller

The controller is designed for the temperature control. Controller works directly with the resistance sensors or thermoelectric sensors or analog input .The controller is equipped with outputs that allows for control and alert signalization. Control output can be programmed for PID or ON/OFF algorithm.

APPLICATIONS:

- Plastics Industries
- Food Industries
- Dehydration Industries

PRODUCT FEATURES:

Programmable input temperature sensors:

- RTD : PT100(2 or 3 wire), Pt1000.
- Thermocouple: J,T,K,S,R,B,N,E.
- Analog Input(0/4-20mA,0-5/10V).

Configuration through:

- Front keys.

Measurement are available on:

- Dual 4 digit 7 segment display for PV & SP.

Control Output:

- Control Method : ON-OFF ,PID .
- Type of control output : Relay or SSR

Alarm Output:

- Different Alarm modes available.
- Type of alarm output : Relay or SSR.

Auto Tuning Function

- Auto tuning of PID Parameters.

Manual mode

- Output can be controlled manually.

Input Digital filter

- The time constant of the filter can be set from 0 to 999.9sec.

Heating / Cooling control

- Output can be configured as Heating or Cooling control.

Timer Function

- Output can be configured for timer function.
- Timer output can be assigned to following functions

1.Stop Control Output

2.Switch to Manual Mode

3.Start Auto Tuning

4.Stop Auto tuning

Enclosure Protection for dust and water:

- Conforms to IP 54 (Optional IP 65)for front face and IP 20 for terminal side as per IEC 60529.

Compliance to International Safety standards

- Compliance to International Safety standard IEC 61010-1- 2010.

EMC Compatibility

- Compliance to International standard IEC 61326.

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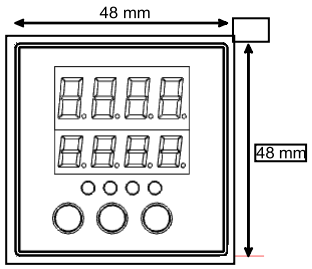
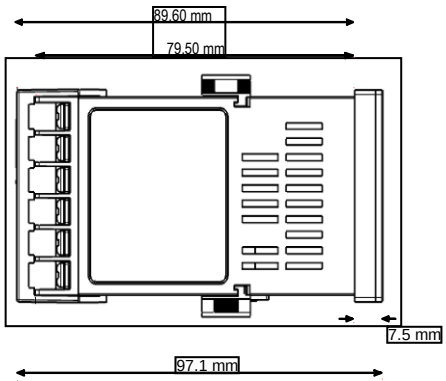
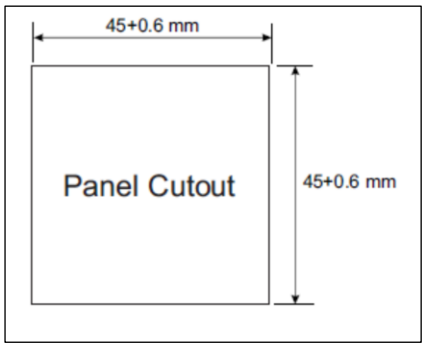
Temperature Controller

DIMENSIONS DETAILS:







TECHNICAL SPECIFICATIONS:

Input Signals:

Input type	*Ranges*	
Pt100	*-200 ... 850°C*	*-328 ... 1562°F*
Pt1000	*-200 ... 850°C*	*-328 ... 1562°F*
Fe-CuNi (J)	*-100 ... 1200°C*	*-148 ... 2192°F*
Cu-CuNi (T)	*-100 ... 400°C*	*-148 ... 752°F*
NiCr-NiAl (K)	*-100 ... 1372°C*	*-148 ... 2501.6°F*
PtRh10-Pt (S)	*0 ... 1767°C*	*32 ... 3212.6°F*
PtRh13-Pt (R)	*0 ... 1767°C*	*32 ... 3212.6°F*
PtRh30-PtRh6 (B)	*0 ... 1767°C* [1]	*32 ... 3212.6°F* [1]
NiCrSi-NiSi (N)	*-100 ... 1300°C*	*-148 ... 2372°F*
NiCr-CuNi (E)	*-100... 1000 °C*	*-148 ... 1832°F*
Current channels (I)	*0 / 4 ... 20 mA*	
Voltage channels (V)	*0 ... 5 / 10 V*	

[1] *Intrinsic error is related to measuring range: 200 ... 1767 °C (392 ... 3212.6 °F)*

Measurement time:	*0.2 sec*
Auxiliary Supply:	
Higher Aux	*60 V – 280 V AC/DC*
Higher Aux supply frequency	*45 to 65 Hz range*
Higher Aux Nominal Value	*230 V AC/DC* 50/60 Hz for AC Aux
	OR
Lower Aux	*20 V – 60V DC / 20 V – 40V AC*
Lower Aux supply frequency	*45 to 65 Hz range*
Lower Aux Nominal Value	*48 V DC* / 24 V AC 50/60 Hz for AC Aux
VA Burden:	
Auxiliary Supply burden	*< 6VA approx.*
Types of outputs:	
Relay contact	SPST-NO, *rated load: 5A/230 V*
SSR drive output(optional)	*5 V, maximum load capacity: 40 mA*
Accuracy :	
Reference Conditions	*23°C*
RTD	*0.3% of range*
Thermocouple	*0.3% of range (0.5% of range - for B,R,S)*
Analog input	*0.2% of range ± 2 digit*
Influence of Variations	
Temperature coefficient	
RTD	*0.025% / Deg*
Thermocouple	*0.025% / Deg*
Voltage	*0.05% / Deg*
Current	*0.025% / Deg*
Applicable Standards:	
EMC	*IEC 61326 - 1 : 2012*
Safety	*IEC 61010-1-2010 , Permanently connected use*
IP for water & dust	*IEC60529*
Pollution degree:	*2*
Installation category:	*II*

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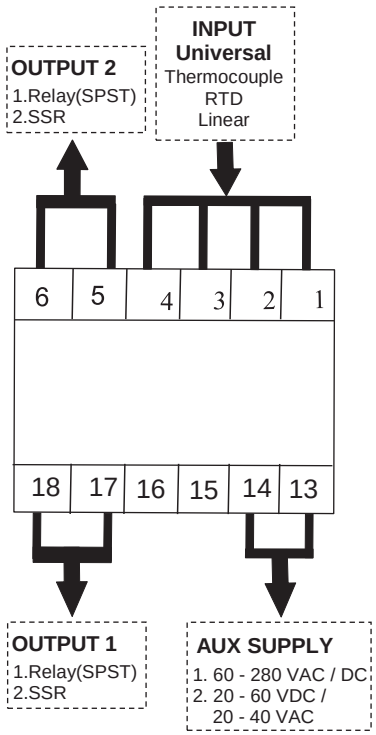
MAIN I/O FUNCTION



TECHNICAL SPECIFICATIONS:

Isolation:	
Protective Class	*2*
High Voltage Test	
Input+Output+Aux Vs Surface	*2.2kV RMS, 50Hz,1min*
Input+SSR Output Vs Relay output	*2.2kV RMS,50Hz,1min*
Aux VsRemaining circuit	*2.2kV RMS,50Hz,1min*
Environmental	
Operating temperature	*-20 to +70°C*
Storage temperature	*-30 to +80°C*
Relative humidity	*0... 90%RH (non condensing)*
Warm up time (Pre-conditioning)	*20 minute*
Shock (As per IEC60068-2-27)	*Half sine wave,Peak acceleration 30g$_n$ (300 m/s^2),duration 18ms.*
Vibration	*10... 150...10 Hz, 0.15mm amplitude*
Number of Sweep cycles	*10 per axis*
Enclosure front face	*IP 54 (Optional IP 65 with additional cover)*
terminal side	*IP 20*
Additional Error *(Cold Junction Compasation for thermocouple)*	*≤ 2 °C*
Dimensions and Weight	
Bezel Size	48 mm X 48 mm DIN 43718
Panel Cut-out	45 + 0.6 mm X 45 + 0.6 mm
Weight	Approx. 0.3 Kg

ORDERING INFORMATION FOR RE 57 SERIES:

RE □ — □ — □ — □

1. MODEL	2. Output 1	3. Output 2	4. Auxiliary Supply
57 :- RE 57 (48 X 48)	*R :- Relay* *S :- SSR*	N :- None *R :- Relay* *S :- SSR*	*H :- 60 - 280 V AC/DC* *L :- 20 - 60 V DC / 20 - 40 V AC*

Order Code Example:

RE 57 – R – S – H

RE 57 temperature controller (48 X 48), Output 1 with Relay Output, Output 2 with SSR Output, Auxiliary supply (60V – 280V AC/DC).

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