

Low Profile Programmable Thermocouple or RTD Signal Conditioners Offer Improved Accuracy and Reliability

The SERIES 5750 temperature transmitter from Watlow® offers remarkably accurate temperature measurement and improved reliability which reduces downtime and costs.

The SERIES 5750 offers new measurements with RTDs (resistance temperature detector) in 3- and 4-wire connection. It is designed to fit directly inside connection heads type DIN B or larger.

The transmitter is programmed via a separate connection cable along with an easy-to-use Windows®-based software program which is used for transmitter configuration in seconds.

The SERIES 5750 provides linearization between temperature sensor input signals and the 4-20 mA output signal, ensuring accurate temperature measurements over a wider range.

Contact our customer service department to integrate this transmitter into a Watlow Style AR or AT thermocouple sensor or a Watlow Style RR or RT RTD sensor.



Features and Benefits

Accepts 2, 3 and 4 wire RTD and thermocouple sensor inputs

- Standardizes on one transmitter for various applications and sensor types

Designed for harsh conditions

- Suitable for use in high vibration and high humidity applications

Sensor error compensation function

- Provides a convenient way to adjust the sensor/transmitter combination (or just the transmitter) for highest accuracy in a certain measuring range

Mounting, wiring and testing

- Greatly simplified by the large center hole, the robust terminals with test connections and the low height

Configuration without external power

- Edit or read the configuration off-line by just connecting to the USB port of a PC

SERIES 5750 easy-to-use Windows® configuration software

- In one window all parameters are set, such as sensor type, measuring range, filter activation, CJC, sensor failure action, error corrections etc.

Your Authorized Watlow Distributor Is:



RIC-5750-0909

Watlow® is a registered trademark of Watlow Electric Manufacturing Company.

To be automatically connected to the nearest North American Technical Sales Office:

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Specifications

Input RTD

- Pt100 (IEC 60751, $\alpha = 0.00385$)
-200 to +1000°C / -328 to +1832°F
- Pt100 (JIS C 1604, $\alpha = 0.003916$)
-200 to +1000°C / -328 to +1832°F
- Pt1000 (IEC 60751, $\alpha = 0.00385$)
-200 to +200°C / -328 to +392°F
- 3-, 4-wire connection
- Sensor current ~ 0.4mA
- Max. sensor wire resistance 25Ω/wire

Input Thermocouples

- Range Type: B, C, E, J, K, N, R, S, T
- Max. sensor wire resistance 500Ω (total loop)

Monitoring

- Sensor failure monitoring upscale or downscale action

Adjustments

- Zero adjustments for all inputs at any value within temperature range limits
- Min. spans: Pt input 18°F (10°C)
T/C 2mV

Output

- Analog 4-20mA, temperature linear
- Resolution 5μA
- Min. output signal measurement/failure 3.8mA / 3.5mA
- Max. output signal measurement/failure 20.5mA / 21.6mA
- Permissible load, see load diagram 725Ω @ 24VDC

Temperature

- Ambient, storage and operation
-40 to +185°F / -40 to +85°C

General Data

- Selectable dampening time ~ 2s
- Update time ~ 1.5s
- Isolation in - out non-isolated
- Humidity 0 to 100% RH
- Vibration acc. to IEC 60068-2-6, test Fc, 60-500Hz, 10g
- Output limitations and fail currents are NAMUR compliant

Power supply

- Polarity protected
- Supply voltage 8 to 32VDC
- Permissible ripple 4V p-p @ 50/60Hz

Accuracy

- Linearity RTD $\pm 0.1\%$ ^①
T/C $\pm 0.2\%$ ^①
- Calibration RTD max. of $\pm 0.4^\circ\text{F}$ / $\pm 0.2^\circ\text{C}$ or $\pm 0.1\%$ ^①
T/C max. of $\pm 20\mu\text{V}$ or $\pm 0.1\%$ ^①
- Cold junction compensation (CJC) T/C $\pm 0.9^\circ\text{F}$ ($\pm 0.5^\circ\text{C}$)
- Temperature influence^③ All inputs max. of $\pm 0.25^\circ\text{C}/25^\circ\text{C}$ or $\pm 0.25\%/25^\circ\text{C}$ ^{① ②}
- Max. of $\pm 0.5^\circ\text{F}/50^\circ\text{F}$ or $\pm 0.28\%/50^\circ\text{F}$ ^{① ②}

Housing

- Material, Flammability (UL[®]) PC/ABS + PA, V0
- Mounting DIN B-head or larger, DIN rail (with mounting kit)
- Connection single/stranded wires max. 1.5 mm², AWG 16
- Weight 32g
- Protection, housing / terminals IP 65 / IP 00

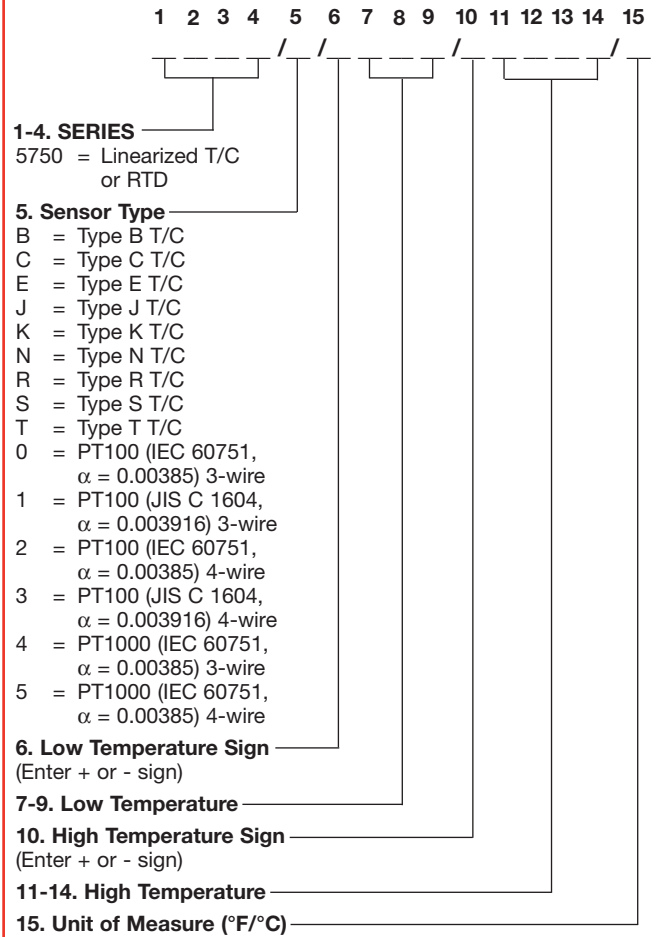
^① Of input span

^② If zero-deflection >100% of input span: add 0.125% of input span/
25°C or 0.14% of input span/50°F per 100% zero-deflection

^③ Reference temperature 68°F (20°C)

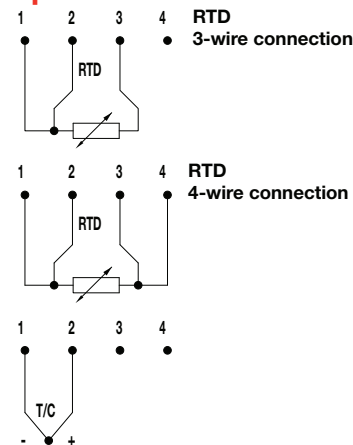
Ordering Information

To order, complete the code number with the information below.

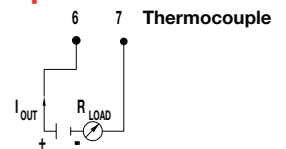


Program cable and software part number 5750-CABLE (required for optional future changes)

Input Connections



Output Connections



Dimensional Drawing

