The SERIES 5750 temperature transmitter from Watlow® offers remarkably accurate temperature measurement and improves reliability to reduce downtime and costs.

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

The transmitter is programmed using a separate connection cable and an easy-to-use Windows®-based software program configures the transmitter in seconds.

The SERIES 5750 provides linearization between temperature sensor input signals and the 4-20mA output signal to ensure accurate temperature measurements across a broad range.

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

### Features and Benefits

**Accepts three- and four-wire RTD and thermocouple sensor inputs**
- Standardizes transmitter for various sensors and applications

**Designed for harsh conditions**
- Withstands high vibration and high humidity applications

**Sensor error compensation function**
- Provides convenience for adjusting the sensor/transmitter combination, or the transmitter alone, ensuring accurate temperature measurement within a specific range

**Large center hole and robust terminals with test connections and low height**
- Enables easy mounting

**Configuration without external power**
- Allows configurations to be edited or read offline by connecting to a personal computer (PC) universal serial bus (USB) port

**Easy-to-use Windows® configuration software**
- Parameters such as sensor type, measuring range, filter activation, cold junction compensation, sensor failure and error corrections are set in one window
Specifications

Input RTD
- Pt100 (IEC 60751, α = 0.00385)
  -328 to +1832°F (-200 to +1000°C)
- Pt100 (JIS C 1604, α = 0.003916)
  -328 to +1832°F (-200 to +1000°C)
- Pt1000 (IEC 60751, α = 0.00385)
  -328 to +392°F (-200 to +200°C)
- 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 ±0.1%①
  T/C ±0.2%①
- Calibration RTD max. of ±0.4°F / ±0.2°C or ±0.1%①
  T/C max. of ±20μV or ±0.1%①
- Cold junction compensation (CJC) T/C ±0.9°F (±0.5°C)
- Temperature influence② All inputs max. of ±0.25°C/25°C or ±0.25%/25°C①②
- Max. of ±0.5°F/50°F or ±0.28%/50°F①②

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)

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

Input Connections

Output Connections

Dimensional Drawing

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## Ordering Information

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

**Note:** All accessories are subject to minimum purchase quantities.

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