Temperature Sensor Transmitter

PENDOTECH
Leading Process Analytics

# Efficient Temperature Monitoring

## With a Reliable, Compact Transmitter


### Linear 4-20 mA Signal Generation

The transmitter interfaces with the Pendotech Temperature Sensor to produce a linear 4-20 mA output signal that accurately reflects temperature changes from 0°C (32°F) to 70°C (158°F), ensuring reliable performance.


### Easy Installation

It comes with convenient mounting screws, allowing for straightforward installation in various setups.

### Quick and Convenient Connections

The dedicated connector for the reusable temperature sensor cable allows easy connections, while screw terminals simplify output wiring for quick field setup.


### Reverse Polarity Protection

The transmitter has safeguards against reverse polarity, stopping current flow if output wires are incorrectly connected.

## Temperature Transmitter

### Streamlining Sensor Integration

The Pendotech Temperature Sensor Transmitter produces a 4-20mA signal that is linear with temperature changes (0-70°C). Advanced digital technology ensures an accurate output, and connections to the transmitter are quick and convenient.

Input Wiring: Connect the reusable temperature sensor monitor cable to the dedicated connector on the transmitter's top face. To meet CE standards, input wire length must not exceed 10 feet. To avoid potential accuracy issues, extenstions are not recommended.

The transmitter uses a "loop powered" system with screw terminals for easy installation, allowing direct connection for a 4-20 mA current loop output. Use shielded cable grounded at one end only. There is a central hole for wire threading, and terminals accommodate flexible wire entry. The system protects against reverse polarity, resulting in minimal current flow. Incorrect sensor wire connections will lead to signal burnout. The output loop includes a 24 VDC power supply, the transmitter, and additional equipment like indicators or controllers connected in series.

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| Input Specifications | |
|---|---|
| Max Excitation Current | 240 µA |
| Range | 0°C (32°F) to 70°C (158°F) |
| Burnout Signal | Upscale 22 mA |
| Sensor Lead Length | <10 feet (to maintain CE) |
| Sample Rate | 500 mS per reading |
| Accuracy | ±0.14°C (+/-0.252 °F) |
| Thermal Drift | Zero ±0.01°C/°C (+/- 0.018 °F/°F); span 50 ppm |
| Connection | 1/4 inch headphone receptacle |

| Output Specifications | |
|---|---|
| Output | 4 to 20 mA, (spans to temperature range of 0°C (32°F) to 70°C (158°F)) |
| Maximum Output Range | 3.8 to 22 mA |
| Operating Voltage | 8 to 30 VDC |
| Accuracy* | ± 5 µA |
| Thermal Drift | ± 2 µA/°C |
| Response Time^ | 500 mS to reach 70% of the final value |
| Loop Resistance | 800R @ 24 VDC |
| Loop Sensitivity | 0.4 µA/volt |
| Loop Noise | ±0.001 µA |
| Protection | Reverse polarity protected |
| Connectors | Screw terminals |
| Input/Output Isolation | Not isolated |
| Warm-up Time | 2 minutes to full accuracy |
| EMC | Emissions: BS EN61326<br>Susceptibility: BS EN61326 |
| Ambient Temp. Range | -20 °C to 80°C (-4°F to 176°F) |
| Ambient Storage | -40 °C to 80°C (-40°F to 176°F) |
| Ambient Humidity | 0 to 95% (Noncondensing) |
| Dimension | 1.9 inch [43 mm] diameter - 0.83 inch [21 mm] height |
| Weight | 25 grams |

* Total system accuracy is transmitter + sensor accuracy.
^ Response time of transmitter only.

TT1

## Ordering Information

| | Order Number |
|---|---|
| Pendotech Temperature Sensor Transmitter | TT1 |
| Pendotech Temperature Sensor Transmitter DIN rail mounting kit | TT1-DR |
| 3.0 m re-usable temperature sensor cable with 1/4 phone jack for barb sensors | PDKT-650-TEMPB |
| 7 foot re-usable temperature sensor cable with 1/4 phone jack term. for luer sensors | PDKT-650-TEMPL |
| Pendotech 12 inch re-usable temperature sensor cable with M8 termination for hose barb sensors | PDKT-TEMPB-PNL |

PDKT-650-TEMPB

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