

SpaceLogic Sensors

Duct Temperature Sensors

STD300 Series – Duct Temperature Transmitter



Product Description

STD300 is an electronic temperature transmitter that converts the temperature measured into an electric current signal 4 ... 20 mA.

Two different temperature ranges are available. The transmitter is delivered as a complete unit, comprising a stainless steel immersion probe, the sensing element and an amplifier, mounted in a housing. The transmitter is intended for immersion installation and is used for temperature measurement in air ducts.

A plastic duct mounting bracket is supplied, with a securing screw.

The reading of the measured signal is done over an external load resistance R_L .

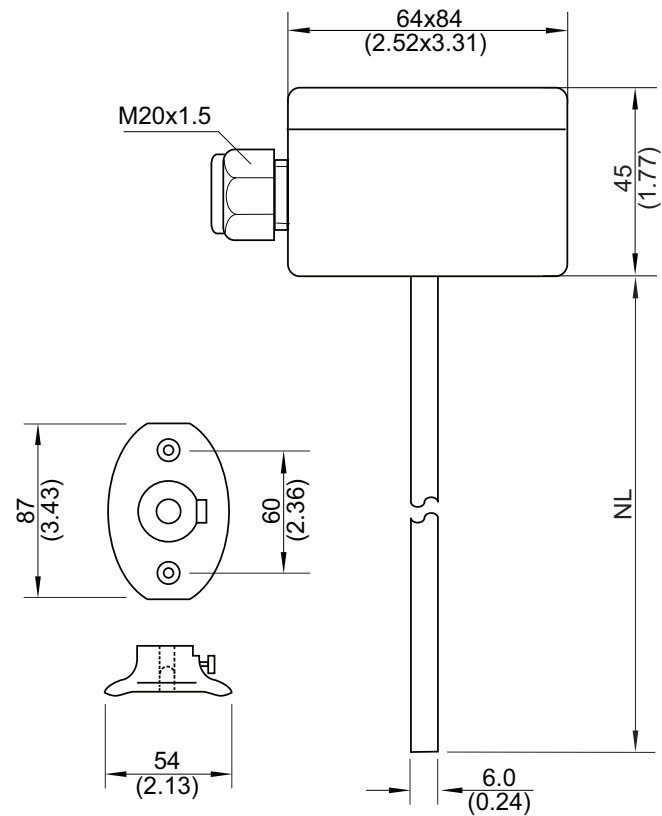
Available Products

| Part Number | Description | Range | NL | Wt. |
|-------------|----------------------|-----------------------------------|----------------|---------------------|
| 006920121 | STD300-300 -50/50 | -50 ... 50 °C (-58 ... 122 °F) | 313 (12.32) | 125g (0.76 lbs.) |
| 006920141 | STD300-300 0/100 | 0 ... 100 °C (32 ... 212 °F) | 313 (12.32) | 125g (0.76 lbs.) |

Specifications

| | |
|----------------------------|---|
| Range | See Available Products table |
| Signal output | 4 ... 20 mA |
| Enclosure rating | IP 65 |
| Dimensions | See dimensional drawing, next page |
| Voltage across transmitter | U_G max. 36 Vdc U_G min. 15 Vdc |
| Maximum load (ohms) | $R = (U_M - 9)/0.02A$ |
| Accuracy | $\pm 0.4\%$ of range at ambient temp. 25 °C (77 °F) and $U_G = 24$ Vdc |
| Measurement current | 2 mW |
| Temperature dependence | ± 0.04 °C/°C at ambient temp. 25 °C (77 °F) and $U_G = 24$ Vdc |
| Voltage dependence | 0.1 °C (0.18 °F) when $U_G = 15 \dots 36$ Vdc |
| Load dependence | 0.1 °C (0.18 °F) when $R = 0$ to max. R |
| Temperature dependence | 0.04 °C/°C at ambient temp. of 25 °C (77 °F) and $U = 24$ Vdc |
| Ambient temp. (amplifier) | min. -20 °C (-4 °F) max. +70 °C (158 °F) |
| Operating humidity range | 0...95% (non-condensing) |
| Time Constants | |
| Air velocity 1.5 m/s | Approx. 72 s |
| Air velocity 3.0 m/s | Approx. 52 s |
| Material | |
| Immersion tube | Stainless steel |
| Connection box | Polyamid plastic |
| Mounting flange | Black plastic |
| Standards | |
| EMC | EN 61326-1, EN 61326-2-3 |

Dimensions mm (in.)



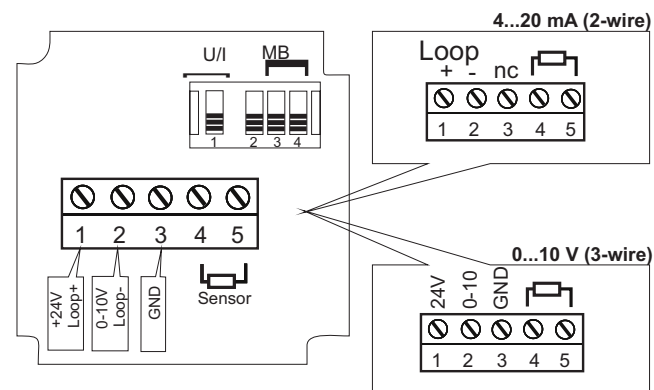
Wiring and Adjustment

The transmitter is factory calibrated for the required range within the specified accuracy, prior to delivery. Any further calibration should normally not be necessary. The sensor and the electronic unit are calibrated together. If either of these is replaced, the transmitter is no longer in calibration.

The built in amplifier is equipped with two trim potentiometers:

- ZERO to adjust the lower end of the range, 4 mA
- SPAN to adjust the upper end of the range, 20 mA

When calibrating, adjust ZERO first and then SPAN. Because of a certain degree of interaction, the adjustment process must be repeated several times.



Output I = 4...20 mA (2-wire)

UG = 16-32 Vdc

Output U = 0...10 V (3-wire)

UG = 24 Vac ± 10%

UG = 16-32 Vdc

MB:

| | | |
|---------|--------------------------|--------------------------|
| -50 +50 | <input type="checkbox"/> | <input type="checkbox"/> |
| -20+80 | <input type="checkbox"/> | <input type="checkbox"/> |
| 0+50 | <input type="checkbox"/> | <input type="checkbox"/> |
| 0+100 | <input type="checkbox"/> | <input type="checkbox"/> |
| 0+160 | <input type="checkbox"/> | <input type="checkbox"/> |
| -50+160 | <input type="checkbox"/> | <input type="checkbox"/> |

U/I:

| | |
|----------|--------------------------|
| 0-10V | <input type="checkbox"/> |
| 4...20mA | <input type="checkbox"/> |