STC300

Pipe contact temperature transmitter 4–20 mA

D-60-16

8 June 2004

STC300 is an electronic pipe contact temperature transmitter that converts the temperature measured into an electric current signal 4–20 mA.

The transmitter is delivered as a complete unit, comprising a pipe clamp, the sensing element and an amplifier, mounted in a housing .The sensor and amplifier are encapsulated in separate units, to protect the electronics from excessive heat. A 2 m (2.2 yd) cable connects the two units.

The transmitter is intended for external mounting directly on pipes, (max dimension 100 mm) e.g. flow and return hot water pipes.

The transmitter is connected with a 2-wire cable, which serves both as power supply and for signal transmission.

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

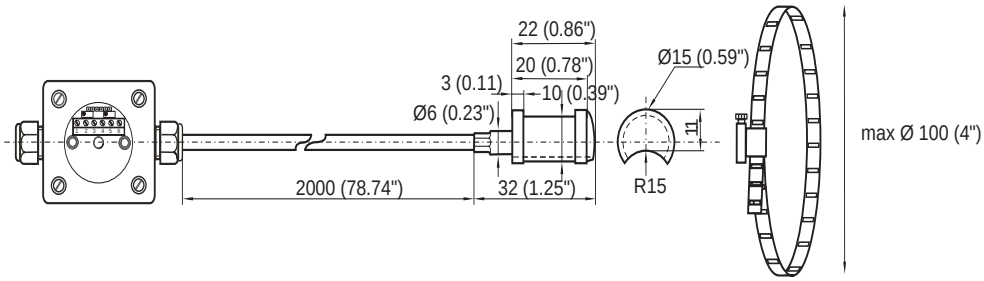
The supply voltage U_M is the total of the voltage over the transmitter U_G and the voltage drop across the load resistor and the wire resistances

TECHNICAL SPECIFICATION

Range ..... see table
Signal output ..... 4-20 mA
Time constant ..... approx. 75 s
Materials:
Clamp ..... steel
Cable ..... silicone
Connection box ..... polyamid plastic
Enclosure rating ..... IP 65
Dimensions (in mm) ..... according to figure and table
Voltage across transmitter ..... U_G max. 36 V DC
..... U_G min. 15 V DC
Maximum load (ohm) ..... $R = (U_M – 9)/0{,}02$ A
Accuracy ..... ±0,4 % of range
at ambient temp. of 25 °C (77°F) and U_G = 24 V DC
Temperature dependence ..... ±0,04 °C/°C
at ambient temp. of 25 °C (77°F) and U_G = 24 V DC
Voltage dependence ..... 0,1 °C (0.18°F) when U_G = 15 to 36 V DC
Load dependence ..... 0,1 °C(0.18°F) when R = 0 to max. R
Ambient temperature (amplifier) ..... min. -20°C (-4°F) max. +70°C (158°F)
Standards:
EMC ..... EN 50081-1, EN 50082-1
Dimensions ..... See page 2

Part number	Description	Range		Weight	
		°C	°F	g	lb
0-069-2002-0	STC300 -50/50	-50/50	-58/122	100	0.22
0-069-2004-0	STC300 0/100	0/100	32/212	100	0.22
0-069-2006-0	STC300 0/160	0/160	32/320	100	0.22

Dimensions in mm (inches)

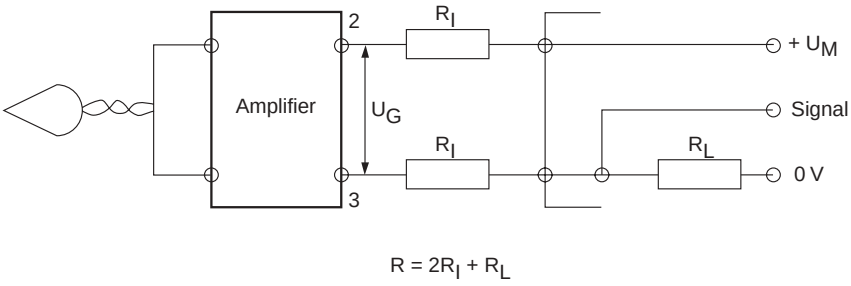


WIRING

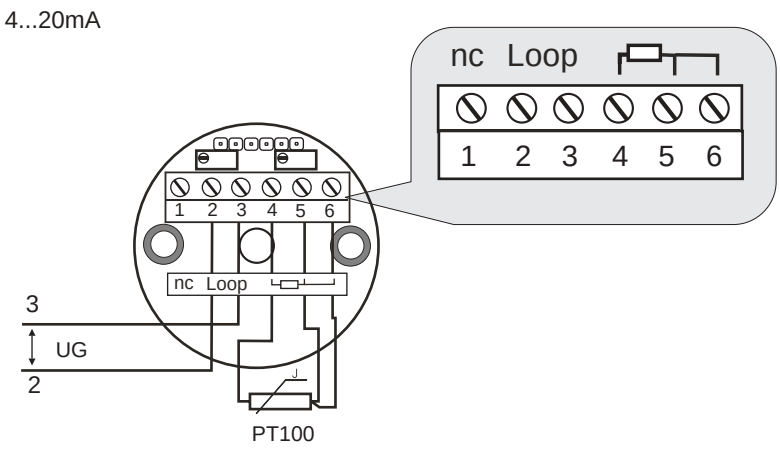
The transmitter will operate even if the cable connections at 2 and 3 are reversed.

Cable: 0,2-1,5 mm².

Note! Avoid contact with the sensor terminals if the connection wires are live.



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 are 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.

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