

# SpaceLogic Sensors

## Immersion Temperature Sensors

### STP300 Series – 4...20 mA



#### Product Description

The STP300 is an electronic immersion temperature transmitter that converts a measured temperature into an electronic current signal of 4 ... 20 mA. The STP300 is designed for immersion mounting in pipe systems with a separate pocket/well. The pocket/well is sealed, making it easy to replace the transmitter if necessary.

The transmitter is intended for measurement of high and low temperatures. 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.

#### Available Products

Part Number	Model Number	Description	Probe Length mm (in.)
006920241	STP300-100 0/100	Pipe Temperature Sensor, 0 ... 100 °C (32 ... 212 °F)	100 (3.94)
006920221	STP300-100 -50/50	Pipe Temperature Sensor, -50 ... 50 °C (-58 ... 122 °F)	100 (3.94)
006920301	STP300-200 0/100	Pipe Temperature Sensor, 0 ... 100 °C (32 ... 212 °F)	200 (7.87)
006920321	STP300-200 0/160	Pipe Temperature Sensor, 0 ... 160 °C (32 ... 320 °F)	200 (7.87)
006920281	STP300-200 -50/50	Pipe Temperature Sensor, -50 ... 50 °C (-58 ... 122 °F)	200 (7.87)
006920361	STP300-300 0/100	Pipe Temperature Sensor, 0 ... 100 °C (32 ... 212 °F)	300 (11.81)
006920381	STP300-300 0/160	Pipe Temperature Sensor, 0 ... 160 °C (32 ... 320 °F)	300 (11.81)
006920341	STP300-300 -50/50	Pipe Temperature Sensor, -50 ... 50 °C (-58 ... 122 °F)	300 (11.81)
006920421	STP300-400 0/100	Pipe Temperature Sensor, 0 ... 100 °C (32 ... 212 °F)	400 (15.75)
006920441	STP300-400 0/160	Pipe Temperature Sensor, 0 ... 160 °C (32 ... 320 °F)	400 15.75
006920401	STP300-400 -50/50	Pipe Temperature Sensor, -50 ... 50 °C (-58 ... 122 °F)	400 15.75

#### Accessories

Part Number	Description	Length (L)		Weight	
		mm	in.	g	lb
<b>Brass NI Plated Pocket PN16</b>					
9121040000	Pocket STP 50 mm	63	2.48	85	0.19
9121041000	Pocket STP 100 mm	113	4.45	100	0.22
9121042000	Pocket STP 150 mm	163	6.42	115	0.25
9121043000	Pocket STP 200 mm	213	8.39	130	0.29
9121044000	Pocket STP 250 mm	263	10.35	145	0.32
9121045000	Pocket STP 300 mm	313	12.32	160	0.35
9121046000	Pocket STP 400 mm	413	16.26	190	0.42
<b>Stainless Steel Pocket PN25</b>					
9121050000	Pocket STP 50 mm	63	2.48	75	0.17
9121051000	Pocket STP 100 mm	113	4.45	85	0.19
9121052000	Pocket STP 150 mm	163	6.42	95	0.21
9121053000	Pocket STP 200 mm	213	8.39	105	0.23
9121054000	Pocket STP 250 mm	263	10.35	115	0.25
9121055000	Pocket STP 300 mm	313	12.32	125	0.28
9121056000	Pocket STP 400 mm	413	16.26	145	0.32

## Specifications

Range	See Available Products table
Signal output	4 ... 20 mA
Measurement current	2 mW
Time constant without pocket in water	Approx. 7 seconds
<b>Time Constant With Pocket in Water</b>	
Brass PN16 with contact past	19 seconds
Brass PN16 without contact past	23 seconds
Stainless steel PN25 with contact past	20 seconds
Stainless steel PN25 without contact past	24 seconds
<b>Materials</b>	
Immersion tube	Stainless steel
Connection box	Polyamid plastic
Enclosure rating	IP 65
Dimensions	See dimensional diagram
Voltage across transmitter	$U_G$ max. 36 Vdc $U_G$ min. 15 Vdc
Maximum load (ohms)	$R = (U_M - 9)/0.02$ A
Accuracy	$\pm 0.4\%$ of range at ambient temp. of 25 °C (77 °F) and $U_G = 24$ Vdc
Temperature dependence	$\pm 0.04$ °C/°C of range at ambient temp. of 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
Ambient temperature (amplifier)	min. -20 °C (-4 °F) max. +70 °C (158 °F)
Operating humidity range	0 to 95% (non-condensing)
Power requirement	<1 W
<b>Standards</b>	
EMC	EN 61326-1: 2013 EN 61326-2-3: 2013

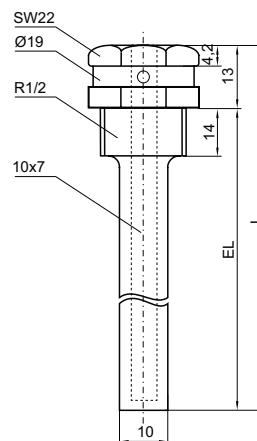
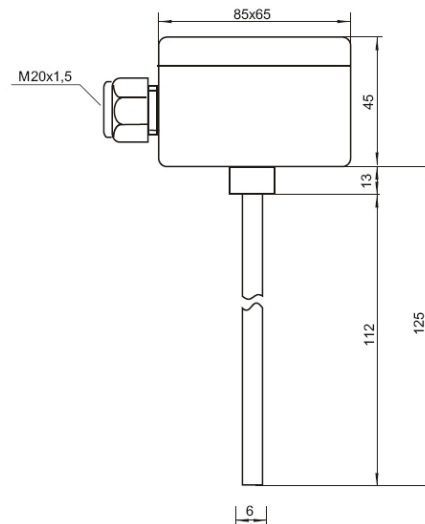
## Application Recommendation

If the media temperature is higher than 50 °C (122 °F) it is recommended to use a STP300 transmitter with a length 50 ... 100 mm (2 ... 4 in) longer than the pocket.

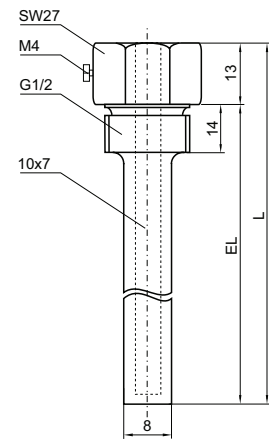
This minimizes the risks of high ambient temperature on the amplifier. See figure below.



## Dimensions mm



Brass NI plated pocket PN16



Stainless steel pocket PN25

## Stainless Steel Pockets (Stainless Steel Types)

