

Hygienic Pt100 temperature switch for monitoring of process temperatures

## Thermophant T TTR35



€ 210.-  
11-35 pcs.



Complete product information:  
[www.e-direct.endress.com/ttr35](http://www.e-direct.endress.com/ttr35)

- Hygienic process connections
- Stainless steel housing 316L
- Fast response times without reduced tip

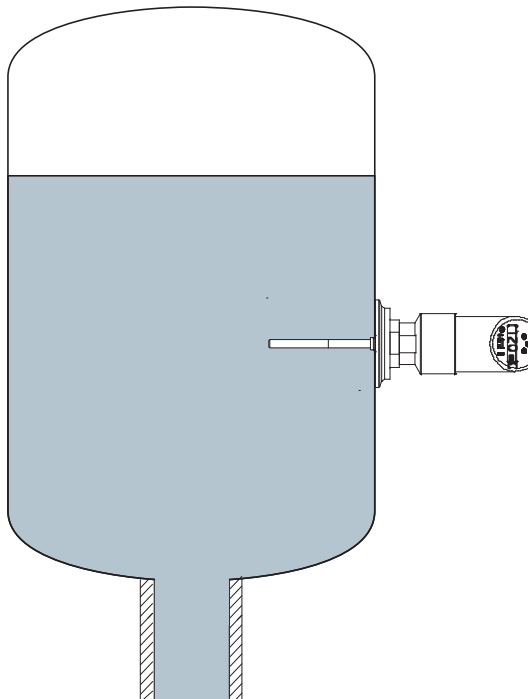
### **i** Specs at a glance:

- **Temperature range:**  
-50 to +150 °C (-58 to 302 °F)
- **Display:**  
4 digit, 14 segments display with color change
- **Immersion length (diameter):**  
50 / 100 / 200 mm (∅ 6 mm)  
(1.97", 3.94", 7.87" (∅ 0.24"))
- **Response time**  
<1.0 s (T<sub>50</sub>); <2.0 s (T<sub>90</sub>)
- **Surface finishing:**  
R<sub>a</sub> ≤ 0.8 μm
- **Accuracy:**  
<0.1 %

**Application** The Thermophant T TTR35 is a Desina compliant temperature switch for the monitoring, display and control of process temperatures in hygienic applications.

**Function** A platinum sensor located at the measuring tip changes its resistance value depending on the temperature. This resistance value is recorded electronically. The conversion of the resistance value into a temperature measurement signal is defined by the international standard IEC 751.

### Application example

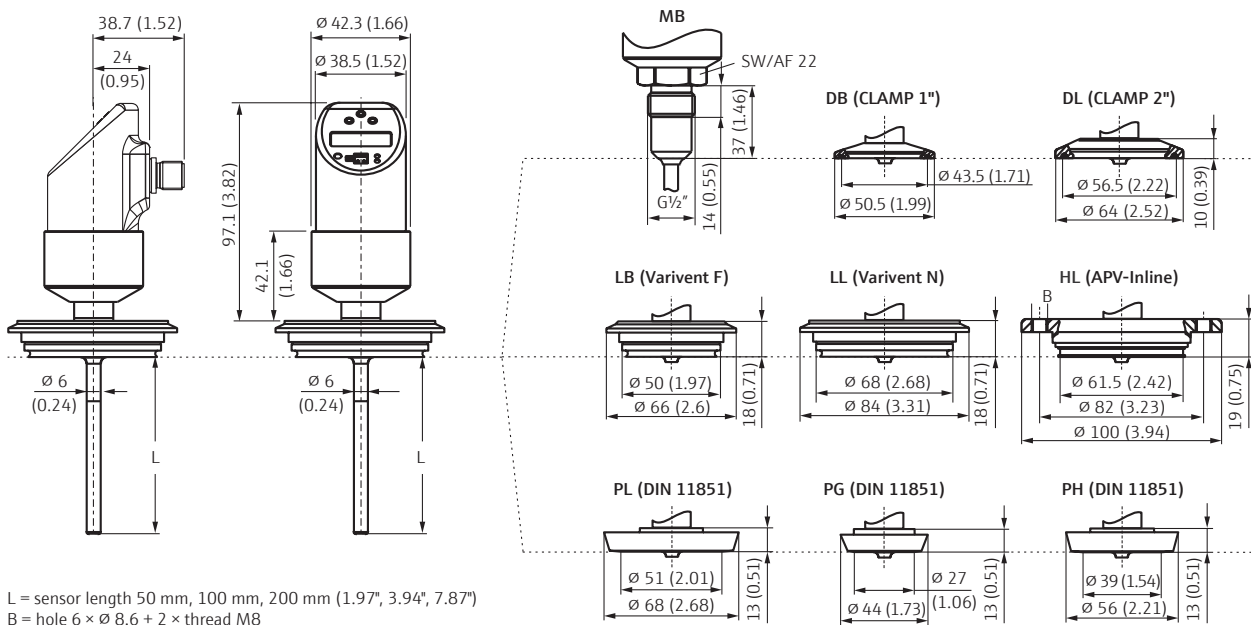


The Thermophant detects the temperature in the vessel and monitors the compliance with limit values.

## Technical data

<b>Supply voltage</b>		<b>Operating conditions</b>	
Supply voltage	12 to 30 V DC (reverse polarity protection)	Ambient temperature	-40 to +85 °C (-40 to +185 °F)
Current consumption	Without load <60 mA, reverse polarity protection	Degree of Protection	IP 65 (complete housing)
<b>Output</b>		EMC	Interference emission as per IEC 61326 Series, class B electrical equipment, interference immunity as per IEC 61326 Series, app. A (industrial use) and NAMUR Recomm. NE 21
Output signal	1 or 2 × PNP or PNP with 4 to 20 mA	<b>Materials</b>	
Voltage drop PNP	≤2 V	Process connection and protection pipe	316L/R <sub>a</sub> ≤0.8 μm
Overload protection	Automatic testing of switching current	Housing	316L
<b>Performance characteristics</b>		<b>Operation</b>	
Reference conditions	According to DIN IEC 60770/61003	Operating elements	3 buttons or PC and software
Measured error	Electronics 0.2 K or 0.16 %; sensor Class A	<b>Approvals</b>	
Long-term drift	≤0.1 % per year	3-A	
Sensor response time	T <sub>50</sub> = <1.0 s; T <sub>90</sub> = <2.0 s	Desina compliant	
Analog output	Non-linearity ≤0.2 %		
<b>Sensor</b>			
Sensing element	1 × Pt100, four-wire		
Tolerance	Class A to IEC 751		
Medium temperature	-50 to +150 °C (-58 to 302 °F)		
Diameter	6 mm (Ø 0.24")		

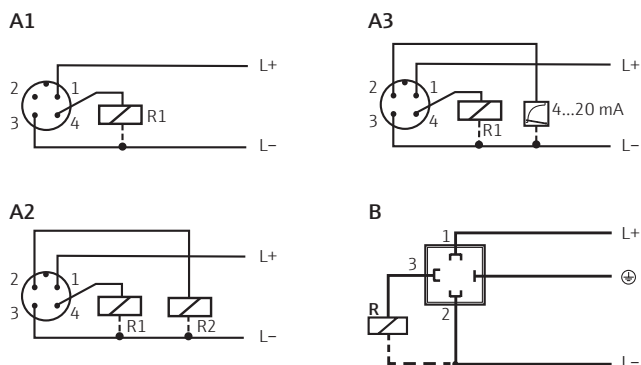
## Dimensions in mm (inches)



L = sensor length 50 mm, 100 mm, 200 mm (1.97", 3.94", 7.87")  
 B = hole 6 × Ø 8.6 + 2 × thread M8

Installation according to instruction manual.

### Electrical connection



#### DC Voltage version with M12 connector

- A1: 1 × PNP switch output
- A2: 2 × PNP switch output
- A3: PNP switch output with additional analog output

#### DC Voltage version with M16×1.5 connector

- B: 1 × PNP switch output

### Price table

Electrical connection		Process connections		Code	
Code	Plug	Code	TRI-CLAMP® or threaded connections	Code	Hygienic connections
1	M12 × 1***	DB	Clamp ISO 2852 DN25-38 (1 to 1½"), 316L, 3-A, DIN 32676 DN25-40	HL	APV-Inline DN50, PN40, 316L, 3-A
2	M16 × 1.5	DL	Clamp ISO 2852 DN40-51 (2"), 316L, 3-A, DIN 32676 DN50	LB	Varivent® F pipe DN25-32, PN40, 316L, 3-A
		DP	Clamp ISO 2852 2½", 316L, 3-A	LL	Varivent® N pipe DN40-162, PN40, 316L, 3-A
				PG	DIN 11851, DN25, PN40, 316L, 3-A
				PH	DIN 11851, DN40, PN40, 316L, 3-A
				PL	DIN 11851, DN50, PN40, 316L, 3-A

More process connections on request.

Thermophant T TTR35			Order no.		Price/pcs. in €		
Output	Process connection	Length	*	**	1 to 3	4 to 10	11 to 35
1 × PNP	TRI-CLAMP® or threaded connection	50 mm (1.97")	TTR35-A□A111□1BAB	239.-	222.-	210.-	
		100 mm (3.94")	TTR35-A□A111□2CAB	239.-	222.-	210.-	
		200 mm (7.87")	TTR35-A□A111□2EAB	247.-	229.-	217.-	
	Hygienic connection	50 mm (1.97")	TTR35-A□A111□1BAB	271.-	252.-	239.-	
		100 mm (3.94")	TTR35-A□A111□2CAB	271.-	252.-	239.-	
		200 mm (7.87")	TTR35-A□A111□2EAB	279.-	260.-	246.-	
2 × PNP	TRI-CLAMP® or threaded connection	50 mm (1.97")	TTR35-A1B111□1BAB	255.-	237.-	224.-	
		100 mm (3.94")	TTR35-A1B111□2CAB	255.-	237.-	224.-	
		200 mm (7.87")	TTR35-A1B111□2EAB	263.-	245.-	232.-	
	Hygienic connection	50 mm (1.97")	TTR35-A1B111□1BAB	288.-	267.-	253.-	
		100 mm (3.94")	TTR35-A1B111□2CAB	288.-	267.-	253.-	
		200 mm (7.87")	TTR35-A1B111□2EAB	296.-	275.-	260.-	
1 × PNP with analog output	TRI-CLAMP® or threaded connection	50 mm (1.97")	TTR35-A1C111□1BAB	292.-	272.-	257.-	
		100 mm (3.94")	TTR35-A1C111□2CAB	292.-	272.-	257.-	
		200 mm (7.87")	TTR35-A1C111□2EAB	301.-	279.-	264.-	
	Hygienic connection	50 mm (1.97")	TTR35-A1C111□1BAB	325.-	302.-	286.-	
		100 mm (3.94")	TTR35-A1C111□2CAB	325.-	302.-	286.-	
		200 mm (7.87")	TTR35-A1C111□2EAB	333.-	310.-	293.-	

\* Please insert code for electrical connection. \*\* Please insert code for the process connection. \*\*\* Please order cable and plug separately.

Accessories	Order no.	Price/pcs. in €
5 m cable with M12×1 plug	51005148	9.28
Configuration kit, USB connection	TXU10-AA	96.34
Straight plug, without cable (self wired)	52006263	14.99
Angled plug, without cable (self wired)	51006327	9.81
Welding boss with sealing taper (metal-metal) for G½" thread	60021387	23.17
Power supply 24 V DC, for DIN rail	RNB130-A1A	131.56

Prices are applicable for Malta until 31.08.2018, in Euro per unit. At Endress+Hauser sales and delivery terms excluding value added tax (VAT), cost of packing and despatch. Delivery times: 48 hours or 5 working days – please check [www.e-direct.endress.com](http://www.e-direct.endress.com) for exact delivery times. Endress+Hauser retains the right to change or modify pricing at any time. Prices can be verified prior to ordering on [www.e-direct.endress.com](http://www.e-direct.endress.com).

Complete product information:  
[www.e-direct.endress.com/ttr35](http://www.e-direct.endress.com/ttr35)

More products to complete your measuring point ...

