


## Compact thermometer with screw thread for simple applications

# Easytemp TSM487

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 Complete product information:  
[www.e-direct.endress.com/  
tsm487](http://www.e-direct.endress.com/tsm487)

#### Specs at a glance:

- **Immersion length (diameter):**  
50 / 100 / 150 / 250 mm  
(Ø 6 mm)
- **Temperature range:**  
-30 to +170 °C  
0 to 100 °C, 0 to 200 °C
- **Pressure:**  
20 bar at +20 °C
- **Tolerance:**  
<0.08 %, Pt100 Class A
- **Response time:**  
≤3.5 s (T<sub>50</sub>), ≤8 s (T<sub>90</sub>)

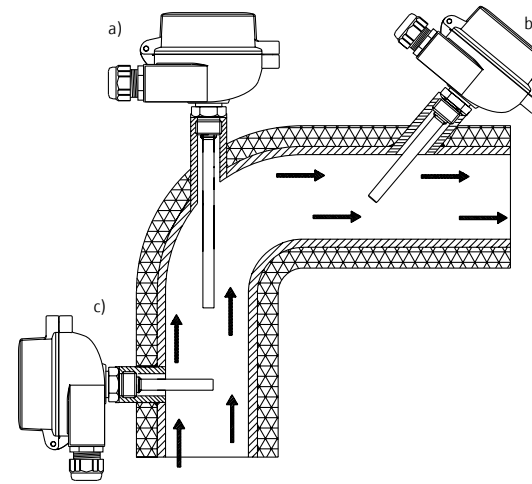
- High accuracy in sensor and transmitter
- Fiberglass insulated replaceable insert
- Replaceable electronics



**Application** The Easytemp TSM487 temperature compact thermometer is widely used in many light or medium duty applications either in vessels or in pipes with low pressures and no extreme temperatures.

**Function** The fiber isolated inset sits in a protecting tube with process connection G 1/2" cable. The head transmitter (DIN 43729 form B) is made of aluminium. The integrated electronics convert the resistance value in a linearly temperature 4 to 20 mA signal.

### Installation instructions



Pipe installation:

- a) At elbows, against the flow
- b) In smaller pipes, leant against the flow
- c) Perpendicular to the flow



## Technical data

Sensor	
Sensing element	Platinum resistance, 1 × Pt100 (100 Ω at 0 °C)
Measurement range	−30 to 170 °C, 0 to 100 °C, 0 to 200 °C
Tolerance	Class A acc. to IEC 751: −50 to +250 °C
Wiring	Four-wire connection, fiberglass insulated cable
Insulation resistance	≥100 MΩ, test voltage 250 V at ambient temperature
Maximum pressure	20 bar at 20 °C
Response time value	T <sub>50</sub> /3.5 s; T <sub>90</sub> /8 s; according to IEC 751
Process connection	
Version	DIN 43772 form 2G
Screw thread	G ½", 1.4571/SS 316Ti; ½" NPT-M, 1.4404/SS 316 L
Terminal head	
Type	DIN 43729 form B
Protection class	IP 66/68
Electrical connection	M20×1.5
Material	Aluminum, polyester powder coated
Output (Transmitter, replaceable)	
Output signal	4 to 20 mA transmission is temperature linear, resistance linear
Maximum load	(V <sub>power supply</sub> − 8 V)/0.022 A
Input current required	≤3.5 mA
Current limit	≤23 mA
Switch on delay	4 s (during power up I <sub>b</sub> = 3.8 mA)
Response time	1 s

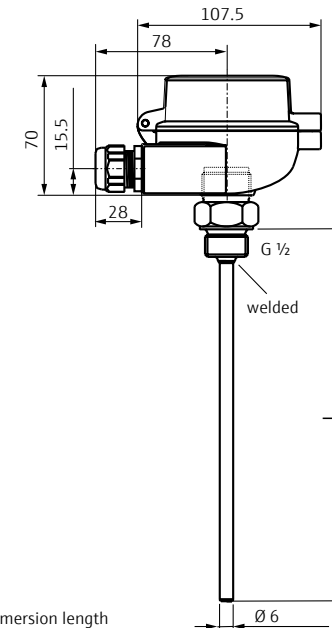
Signal on alarm (Transmitter, replaceable)	
Underranging	Linear drop to 3.8 mA
Overranging	Linear rise to 20.5 mA
Sensor breakage / Sensor short circuit	≥21.0 mA

Electrical connection (Transmitter, replaceable)	
Power supply	U <sub>b</sub> = 8 to 35 V, polarity protected
Galvanic isolation	Û = 3.75 kV
Allowable ripple	U <sub>ss</sub> ≤ 5 V at U <sub>b</sub> ≥ 13 V, f <sub>max</sub> = 1 kHz
Reference conditions	Calibration temp. +23 °C ± 5 K

Accuracy (Transmitter, replaceable)	
Influence of power supply	≤ ±0.01 %/V deviation from 24 V supply
Load influence	≤ ±0.02 %/100 Ω
Temperature drift	T <sub>d</sub> = ±(15 ppm/K × max. meas. range + 50 ppm/K × preset meas. range) × Δθ
Pt100	0.2 K or 0.08 %

Operating conditions (Transmitter, replaceable)	
Ambient temperature	−40 to +85 °C
Climatic class	As per IEC 60 654-1, class C
Vibration protection	4 g / 2 to 150 Hz nach IEC 60 068-2-6
EMC	Shock resistance and interference emission as per IEC 61326 and NAMUR NE 21

## Dimensions in mm

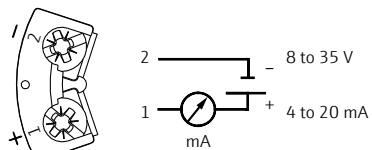


L = Immersion length

Installation according to operation instructions



## Electrical connection



Power supply and current output

## Price table

Easytemp TSM487	Immersion Length L	Order no.	Price/pcs. in €		
			1 to 3	4 to 10	11 to 35
Measuring Range -30 to +170 °C	50 mm	TSM487-ADD	130.-	117.-	104.-
	100 mm	TSM487-BDD	130.-	117.-	104.-
	150 mm	TSM487-CDD	132.-	119.-	106.-
	250 mm	TSM487-DDD	133.-	120.-	107.-
0 to 100 °C	50 mm	TSM487-AFE	130.-	117.-	104.-
	100 mm	TSM487-BFE	130.-	117.-	104.-
	150 mm	TSM487-CFE	132.-	119.-	106.-
	250 mm	TSM487-DFE	133.-	120.-	107.-
0 to 200 °C	50 mm	TSM487-AFH	130.-	117.-	104.-
	100 mm	TSM487-BFH	130.-	117.-	104.-
	150 mm	TSM487-CFH	132.-	119.-	106.-
	250 mm	TSM487-DFH	133.-	120.-	107.-

Prices are applicable for Ireland until 30.09.2014, in Euro per unit. At Endress+Hauser sales and delivery terms excluding value added tax (VAT); Including cost of packing and despatch.



Complete product information:

[www.e-direct.endress.com/tsm487](http://www.e-direct.endress.com/tsm487)

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Point level switch  
Liquiphant T FTL20



Pressure switch  
Ceraphant T PTC31



Power supply  
RN221N



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**Contact**

Endress+Hauser (Ireland) Ltd.  
Industrial Instrumentation Centre  
Clane Business Park  
Clane/County Kildare  
Ireland

**Direct order**

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by phone 045 98 92 17  
per Fax 045 86 81 82  
E-Mail [e-direct@ie.endress.com](mailto:e-direct@ie.endress.com)

**Warranty**

Should an instrument  
break down during the  
warranty period you will  
receive a new instrument

**Despatch**

48-hour despatch service