

Compact thermometer for simple applications

Easytemp TSM487



€ 126.-
11-35 pcs.



Complete product information:
www.e-direct.endress.com/tsm487

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

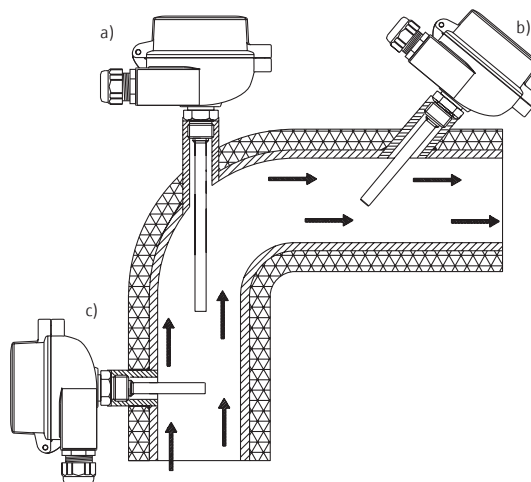
i Specs at a glance:

- **Immersion length (diameter):**
50 / 100 / 150 / 250 mm
(\varnothing 6 mm)
2 / 3.9 / 5.9 / 9.8 inch
(\varnothing 0.24")
- **Temperature range:**
-30 to +170 °C (-22 to +338 °F),
0 to 100 °C (32 to 212 °F),
0 to 200 °C (32 to 392 °F)
- **Pressure:**
20 bar at +20 °C
(290 PSI at +68 °F)
- **Tolerance:**
<0.08 %, Pt100 Class A
- **Response time:**
 ≤ 3.5 s (T_{50}), ≤ 8 s (T_{90})

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 $\frac{1}{2}$ " 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:

- At elbows, against the flow
- In smaller pipes, leant against the flow
- Perpendicular to the flow

Technical data

Sensor

Sensing element	Platinum resistance, 1 × Pt100 (100 Ω at 0 °C)
Measurement range	-30 to 170 °C (-22 to 338 °F), 0 to 100 °C (32 to 212 °F), 0 to 200 °C (32 to 392 °F)
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 (290 PSI at +68 °F)
Response time value	T ₅₀ /3.5 s; T ₉₀ /8 s; according to IEC 751

Process connection

Version	DIN 43772 form 2G
Connection	G½", 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 _{power supply} - 8 V)/0.022 A
Input current required	≤3.5 mA
Current limit	≤23 mA
Switch on delay	4 s (during power up I _b = 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 _b = 8 to 35 V, polarity protected
Galvanic isolation	Û = 3.75 kV
Allowable ripple	U _{ss} ≤5 V at U _b ≥13 V, f _{max} = 1 kHz
Reference conditions	Calibration temp. +23 °C (73 °F) ±5 K (9 °F)

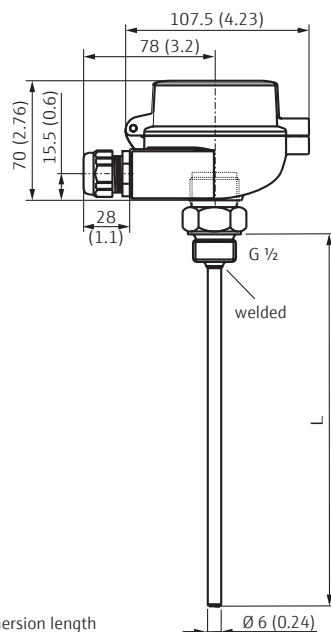
Accuracy (Transmitter, replaceable)

Influence of power supply	≤ ±0.01 %/V deviation from 24 V supply
Load influence	≤ ±0.02 %/100 Ω
Temperature drift	T _d = ±(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 (-58 to +185 °F)
Climatic class	As per IEC 60 654-1, class C
Vibration protection	4 g / 2 to 150 Hz according to IEC 60 068-2-6
EMC	Shock resistance and interference emission as per IEC 61326 and NAMUR NE 21

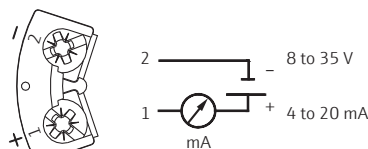
Dimensions in mm (inches)



L = Immersion length

Installation according to operation instructions.

Electrical connection



Power supply and current output

Price table

Easytemp TSM487		Order no.	Price/pcs. in €		
Measuring Range	Immersion Length L		1 to 3	4 to 10	11 to 35
-30 to +170 °C (-22 to 338 °F)	50 mm (2")	TSM487-ADD	154.-	139.-	126.-
	100 mm (3.9")	TSM487-BDD	154.-	139.-	126.-
	150 mm (5.9")	TSM487-CDD	157.-	141.-	129.-
	250 mm (9.8")	TSM487-DDD	158.-	142.-	130.-
0 to 100 °C (32 to 212 °F)	50 mm (2")	TSM487-AFE	154.-	139.-	126.-
	100 mm (3.9")	TSM487-BFE	154.-	139.-	126.-
	150 mm (5.9")	TSM487-CFE	157.-	141.-	129.-
	250 mm (9.8")	TSM487-DFE	158.-	142.-	130.-
0 to 200 °C (32 to 392 °F)	50 mm (2")	TSM487-AFH	154.-	139.-	126.-
	100 mm (3.9")	TSM487-BFH	154.-	139.-	126.-
	150 mm (5.9")	TSM487-CFH	157.-	141.-	129.-
	250 mm (9.8")	TSM487-DFH	158.-	142.-	130.-

Prices are applicable for Estonia until 30.09.2019, 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 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.



Complete product information:

www.e-direct.endress.com/tsm487

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your measuring point ...



Point level switch
Liquiphant FTL31



Pressure switch
Ceraphant PTC31B



Power supply
RN221N