

**ETM1  
ETM2**

**Immersion temperature sensors - active**



**Summary**

The ETM temperature sensors are electronic immersion sensors with brass or steel pocket for universal use. They provide output signal 0...10V or 4...20 mA DC.

**Applications**

- HVAC systems – water, brine and other liquid media temperature measuring and controls

**Functions**

The sensor uses a Pt1000 sensing element (EN 60751, Class B), the signal of which is processed, converted to voltage or current and available at the screw terminals. Other temperature ranges are optional (see table). Do not exceed maximum environment temperature!

The sensors are intended for operating in an outdoor or industry environment. They do not need any servicing or maintenance and can be mounted in any position.

The sensors are mounted into pockets which are part of delivery.

**Technical data**

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Power	24 V AC / DC, +/- 20 % for 0...10 V output ( <b>ETMx-U</b> ) 15...36 V DC, +/- 10 % for 4...20 mA output ( <b>ETMx-I</b> )
Internal sensor	Pt1000
Measuring range	-20...+150°C, -50...+50°C, -20...+80°C, -30...+60°C, 0...+40°C, 0...+50°C, 0...+100°C, 0...+150°C
Outside temperature (electronics)	-30 ... 70 °C
Pocket material	Stainless steel 1.4571, V4A
Pocket dimensions	Ø= 6 mm, nominal length (NL) see table below
Body material	Polyamide, 30% glass fibre reinforced, colour white, similar to RAL 9010 (enclosure cover for display is transparent)
Electrical connections	Screw terminals for wires 0.14 ... 1.5 mm <sup>2</sup>
Cable gland	M16 x 1,5
Protection degree	III according to EN 60730
Protection class	IP65 according to DIN 60529
Sensor accuracy	as in DIN EN 60751 class B

Dimensions	see below
Accessories	<p><b>ETM1</b> TH08-ms/xx Brass immersion sleeve, <math>T_{max}= 150\text{ }^{\circ}\text{C}</math>, <math>p_{max}= 10\text{ bar}</math></p> <p><b>ETM2</b> TH08-VA/xx Stainless steel immersion sleeve, <math>T_{max}= 600\text{ }^{\circ}\text{C}</math>, <math>p_{max}= 40\text{ bar}</math></p> <p><b>optional</b> TH08-VA/xx/90 Stainless steel immersion sleeve, <math>T_{max}= 600\text{ }^{\circ}\text{C}</math>, <math>p_{max}= 40\text{ bar}</math> Dimensions see below (xx Inserted Length = EL)</p>

## Sensor types

Type	Output	Pocket
ETM1-U	0...10 V	brass
ETM1-I	4...20 mA	brass
ETM2-U	0...10 V	stainless steel
ETM2-I	4...20 mA	stainless steel

Optional **KTM1-xx-Display** with single-line display with illumination.

## Pocket lengths

See NL on the drawing below. Other length except 150 mm must be specified in the order.

50 mm	on request
100 mm	on request
150 mm	<b>default pocket length</b>
200 mm	on request
250 mm	on request
300 mm	on request

## Ordering

Immersion temperature sensor:

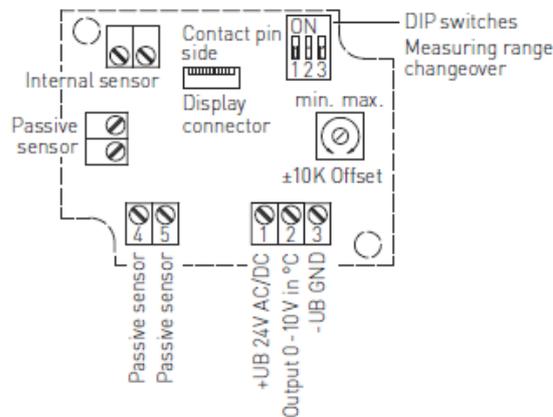
**ETM1** is delivered as set of the sensor (TM65) and the brass immersion sleeve (TH08-ms/150).

**ETM2** is delivered as set of the sensor (TM65) and the stainless steel immersion sleeve (TH08-VA/150).

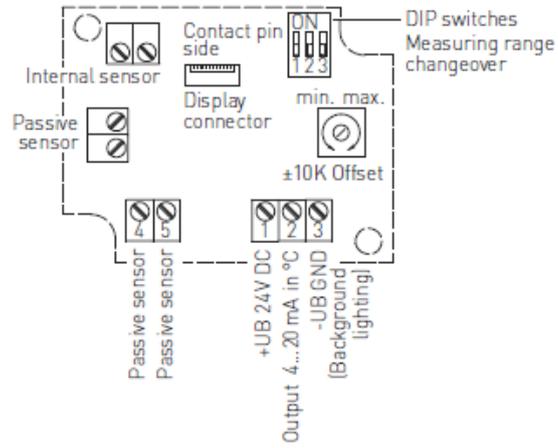
It is possible to order these parts separately.

## Terminals

ETM-U

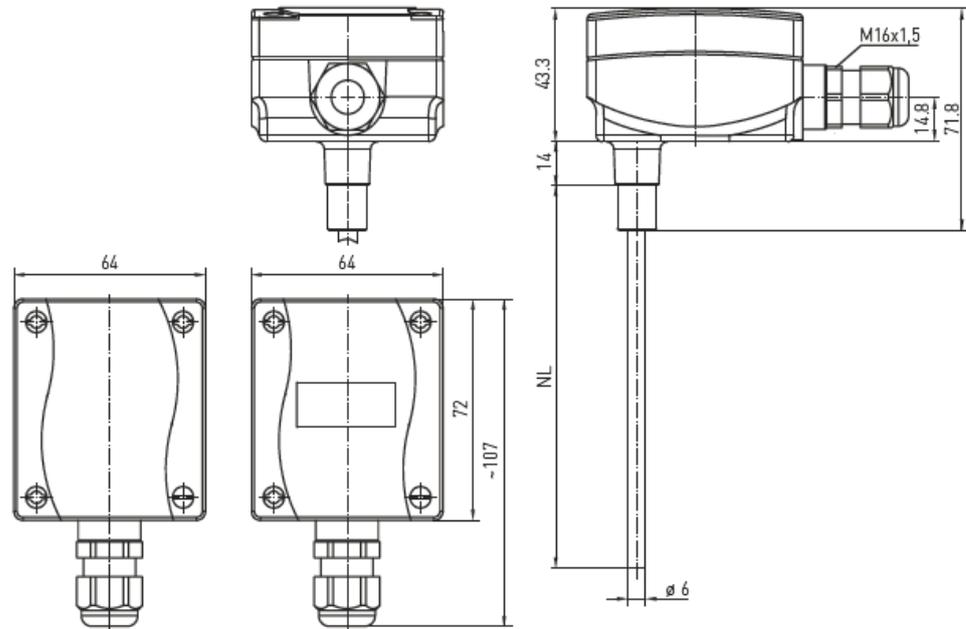


## ETM-I

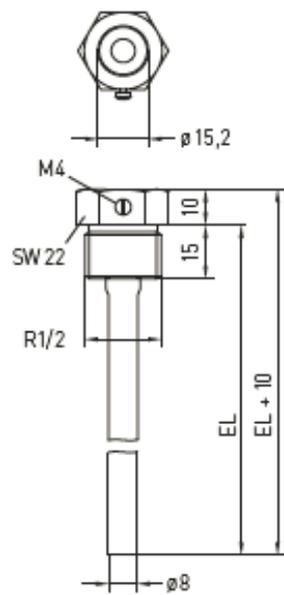


Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3
-20°C...150°C	ON	ON	ON
-50°C...50°C	OFF	ON	ON
-20°C...80°C	ON	OFF	ON
-30°C...60°C	OFF	OFF	ON
0°C...40°C	ON	ON	OFF
0°C...50°C	OFF	ON	OFF
0°C...100°C	ON	OFF	OFF
0°C...150°C	OFF	OFF	OFF

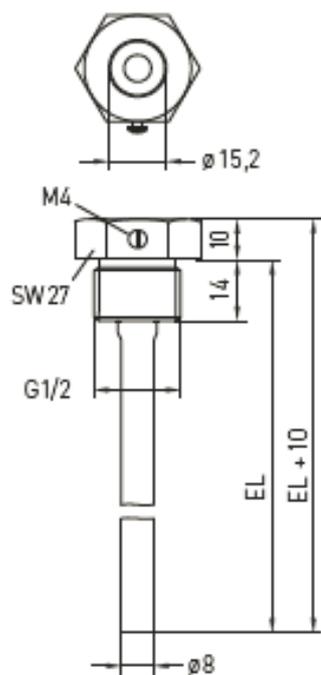
## Dimensions



TH08-ms/xx



TH08-VA/xx



TH08/xx/90

