

## HTF 50, 200

## Cable temperature sensor



HTF 50

HTF 200

### Summary

HTF are a low-cost cable temperature sensors for universal use.

### Application

- HVAC systems – water, brine or air temperature measuring and controls

### Function

The sensor uses a sensing element, the signal of which is available at the screw terminals. Default sensor type provided is Pt1000, other sensor types see table below.

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.

Cable ends are protected by aluminium endings for installation into terminals. Standard cable length is 1,5 m, other lengths available on request.

### Technical data

|                               |                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Recommended measuring current | about 1 mA                                                                                                                      |
| Measuring range               | see table below                                                                                                                 |
| Protection degree             | standard IP65 for PVC, silicone, PTFE (stamped humidity tight) or optional IP68 (sealed) (DIN EN 60529)<br>IP54 for glass fibre |
| Sensor accuracy               | see table below                                                                                                                 |
| Connection                    | 2 wires, optionally 3 or 4 wires                                                                                                |
| Pocket                        | stainless steel 1.4571, V4A, Ø6x50 mm (resp. 200 mm)                                                                            |
| Insulating resistance         | > 100 MOhm at 20°C, 500 V DC                                                                                                    |
| Mass                          | < 0,1 kg                                                                                                                        |
| Dimensions                    | HTF 50-Ø6x50 mm(NL), HTF 200-Ø6x200 mm(NL)<br>standard cable length 1,5 m                                                       |

### Accessories

|                 |                                                                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting flange | <b>MF-06-K</b> mounting flange, plastic, $T_{max}= 150\text{ °C}$                                                                                                                               |
| Pocket          | <b>TH08-VA/xx</b> Stainless steel immersion sleeve,<br>$T_{max}= 600\text{ °C}$ , $p_{max}= 40\text{ bar}$<br>dimensions see below (xx Inserted Length = EL; optional<br>50 mm, 100 mm, 200 mm) |
| Cable gland     | <b>KV-16-ms</b> brass nickel-plated, for use in combination<br>with immersion sleeve THE-VA                                                                                                     |
| Dimensions      | see below                                                                                                                                                                                       |

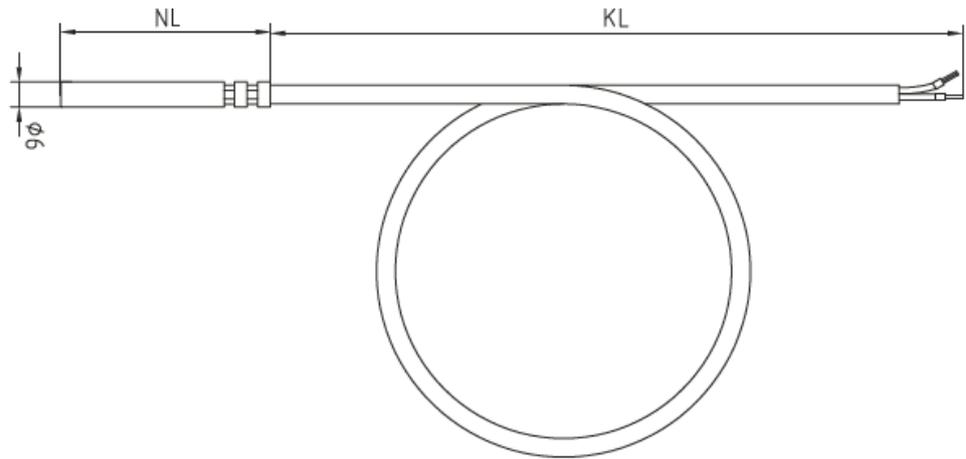
### Sensor types

|                                                      |                                     | HTF50/200           | HTF50/200           | HTF50               | HTF50                 |
|------------------------------------------------------|-------------------------------------|---------------------|---------------------|---------------------|-----------------------|
| Type                                                 | Accuracy                            | PVC<br>(IP65)       | Silicone<br>(IP65)  | PTFE<br>(IP65)      | Glass fibre<br>(IP54) |
| Pt100                                                | DIN EN<br>60751<br>class B          | -35...+105°C        | -50...+180°C        | -50...+250°C        | -50...+350°C          |
| <b>Pt1000</b>                                        | <b>DIN EN<br/>60751<br/>class B</b> | <b>-35...+105°C</b> | <b>-50...+180°C</b> | <b>-50...+250°C</b> | <b>-50...+350°C</b>   |
| Ni1000                                               | DIN EN<br>43760<br>class B          | -35...+105°C        | -50...+180°C        | -                   | -                     |
| Ni1000 TK5000<br>(LG – Ni1000)                       |                                     | -35...+105°C        | -50...+180°C        | -                   | -                     |
| NTC 1,8 K; 10 K;<br>20 K                             | DIN EN<br>44070                     | -35...+105°C        | -50...+150°C        | -                   | -                     |
| LM 235Z<br>(TCR=10 mV/K,<br>2.73 V at 0 °C;<br>KP10) |                                     | -35...+105°C        | -40...+125°C        | -                   | -                     |

Pockets (TH..) are delivered as extra accessories.  
Optional cable length is 1.5 m, 3 m, 5 m, 8 m, 10 m.

When designing sensor cabling, please note that the cable resistance will cause measuring error. For a 50 m cable and a Pt1000 sensor the error is as follows:  
wires 0.50 mm<sup>2</sup> ... measuring error 0.90 K  
wires 0.75 mm<sup>2</sup> ... measuring error 0.60 K  
wires 1.00 mm<sup>2</sup> ... measuring error 0.44 K.  
For other cable lengths, the errors are more or less linear.

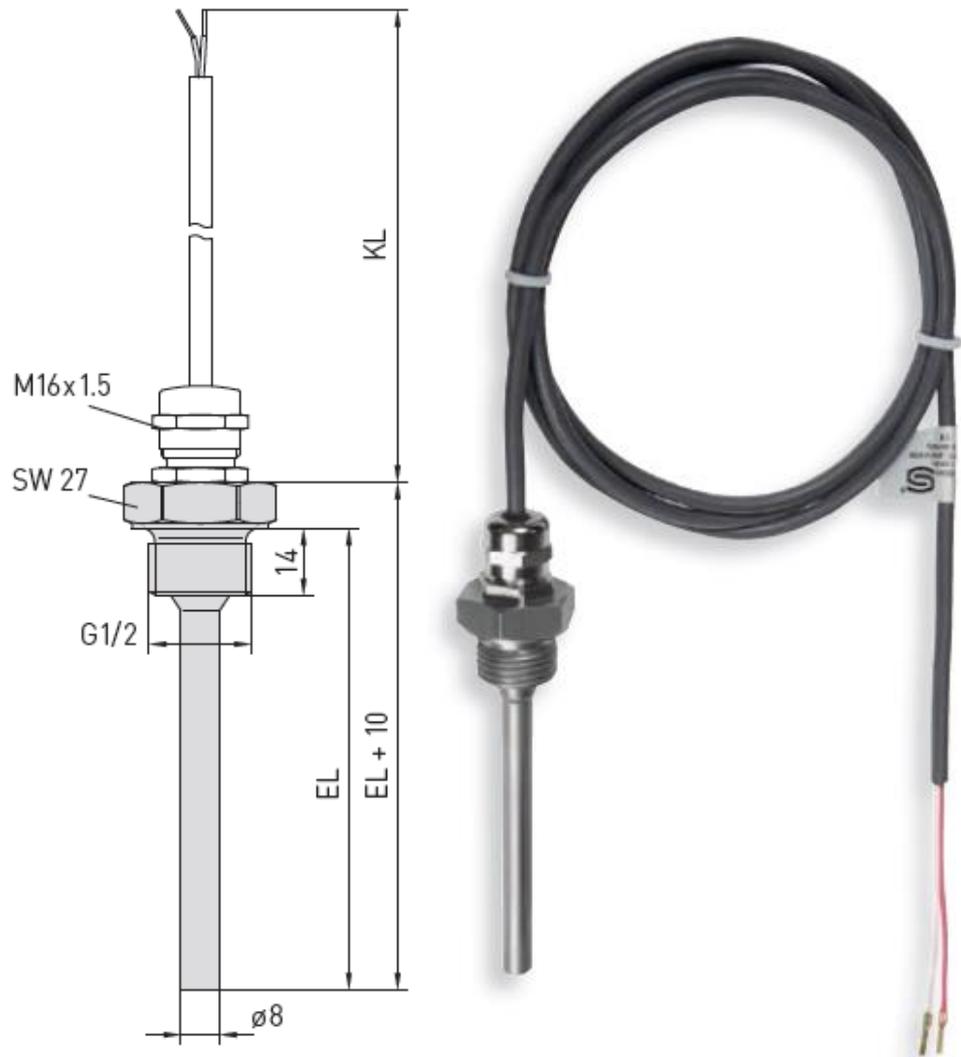
**Dimensions**



Dimensions are in *mm*.

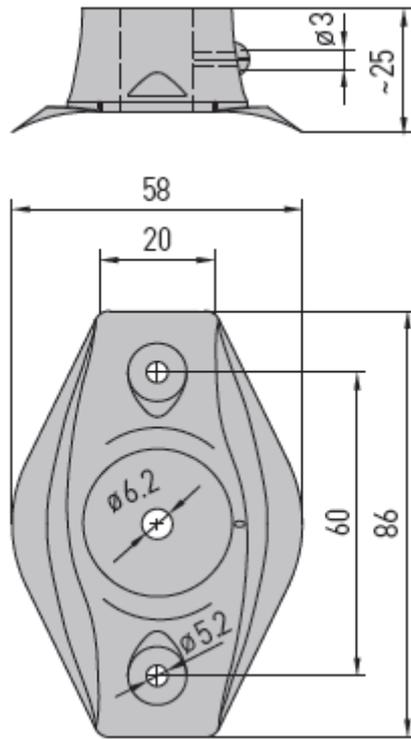
**Accessories**

**HTF50 + THE-VA/xx + KV**



Dimensions are in *mm*.

MF-06-K



Dimensions are in *mm*.

**Changes in  
versions**

03/2015 — Modifying of sensor accuracy table, change in accuracy class and measuring error.

05/2016 — Clarification of the parameters in sensors types table. Added types of offered measuring elements and accessories.