

Immersion temperature sensor with fast response characteristics

For temperature measurement of liquid fluids. With 50/100/200 mm stainless steel probe and connection R 1/2". IP65 / NEMA 4 rated housing.



## Type Overview

| Type     | Output signal | Probe length | Probe diameter |
|----------|---------------|--------------|----------------|
| 01PT-1BH | Pt1000        | 50 mm        | 6/4 mm         |
| 01PT-1BL | Pt1000        | 100 mm       | 6/4 mm         |
| 01PT-1BP | Pt1000        | 200 mm       | 6/4 mm         |
| 01PT-1DH | Ni1000TK5000  | 50 mm        | 6/4 mm         |
| 01PT-1DL | Ni1000TK5000  | 100 mm       | 6/4 mm         |
| 01PT-1DP | Ni1000TK5000  | 200 mm       | 6/4 mm         |
| 01PT-1LH | NTC10k (10k2) | 50 mm        | 6/4 mm         |
| 01PT-1LL | NTC10k (10k2) | 100 mm       | 6/4 mm         |
| 01PT-1LP | NTC10k (10k2) | 200 mm       | 6/4 mm         |

## Technical data

|                                          |                        |                                     |                                                                                                                                                                         |
|------------------------------------------|------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | <b>Electrical data</b> | Electrical connection               | Pluggable spring loaded terminal block max. 2.5 mm <sup>2</sup>                                                                                                         |
|                                          |                        | Cable entry                         | Cable gland with strain relief ø6...8 mm                                                                                                                                |
|                                          | <b>Functional data</b> | Medium                              | Air<br>Water                                                                                                                                                            |
|                                          |                        |                                     |                                                                                                                                                                         |
| <b>Specification temperature passive</b> | <b>Measuring data</b>  | Measured values                     | Temperature                                                                                                                                                             |
|                                          |                        | Measuring range                     | Pt.. : -50...160°C [-60...320°F]<br>NTC.. : -50...150°C [-60...300°F]                                                                                                   |
|                                          |                        | Measuring current                   | Pt1000: <0.3 mA @ 0°C [32°F]<br>Ni1000TK5000: <0.3 mA @ 0°C [32°F]<br>NTC10k (10k2): <2 mA @ 25°C [77°F]                                                                |
|                                          |                        | Accuracy temperature                | Passive sensors depending on used type<br>Pt.. : Class B, ±0.3°C @ 0°C [±0.5°F @ 32°F]<br>Ni.. : ±0.4°C @ 0°C [±0.7°F @ 32°F]<br>NTC.. : ±0.2°C @ 25°C [±0.35°F @ 77°F] |
|                                          |                        | Time constant τ (63%) in water pipe | Typical 2.5 s                                                                                                                                                           |
|                                          | <b>Safety data</b>     | Protection class IEC/EN             | III, Protective Extra-Low Voltage (PELV)                                                                                                                                |
|                                          |                        | Power source UL                     | Class 2 Supply                                                                                                                                                          |
|                                          |                        | Degree of protection IEC/EN         | IP65                                                                                                                                                                    |
|                                          |                        | Degree of protection NEMA/UL        | NEMA 4X                                                                                                                                                                 |
|                                          |                        | Housing                             | UL Enclosure Type 4X                                                                                                                                                    |
|                                          |                        | EU Conformity                       | CE Marking                                                                                                                                                              |

**Technical data**

|                    |                              |                                                                                |
|--------------------|------------------------------|--------------------------------------------------------------------------------|
| <b>Safety data</b> | Certification IEC/EN         | IEC/EN 60730-1                                                                 |
|                    | Quality Standard             | ISO 9001                                                                       |
|                    | UL Approval                  | cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1/-2-9                           |
|                    | Type of action               | Type 1                                                                         |
|                    | Rated impulse voltage supply | 0.8 kV                                                                         |
|                    | Pollution degree             | 3                                                                              |
|                    | Ambient humidity             | Max. 95% RH, non-condensing                                                    |
|                    | Ambient temperature          | -35...50°C [-30...120°F]                                                       |
|                    | Fluid temperature            | Pt., Ni.: -50...160°C [-60...320°F]<br>NTC.: -50...150°C [-60...300°F]         |
| <b>Materials</b>   | Housing                      | Cover: PC, orange<br>Bottom: PC, orange<br>Seal: NBR70, black<br>UV resistant  |
|                    | Cable gland                  | Plug Adapter: PA66, black<br>Nut: PA6, black                                   |
|                    | Sensor probe                 | Stainless steel V4A (1.4404, 1.4571)<br>Thread R 1/2"<br>Nominal pressure PN10 |
|                    |                              |                                                                                |

**Safety notes**


This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorised modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

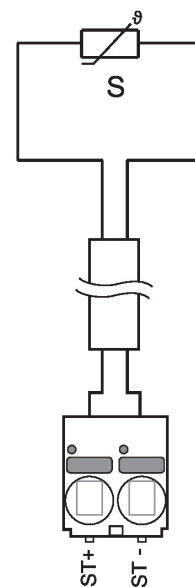
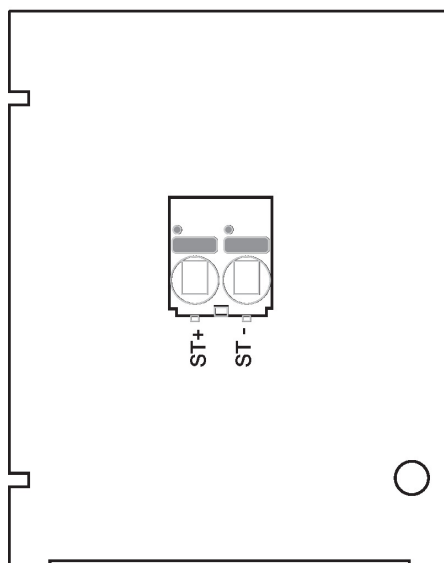
**Remarks**

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General remarks concerning sensors</b> | <p>Due to self-heating with 2 wire passive sensors, the supply wire current affects the measurement accuracy. So the supply current should not be higher than the measuring current values specified in this data sheet.</p> <p>When using lengthy connecting cables (depending on the cross section used), the cable resistance must be taken into account. The lower the impedance of the sensor used, the greater the effect of the line resistance on the measurement, because it generates an offset.</p> |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

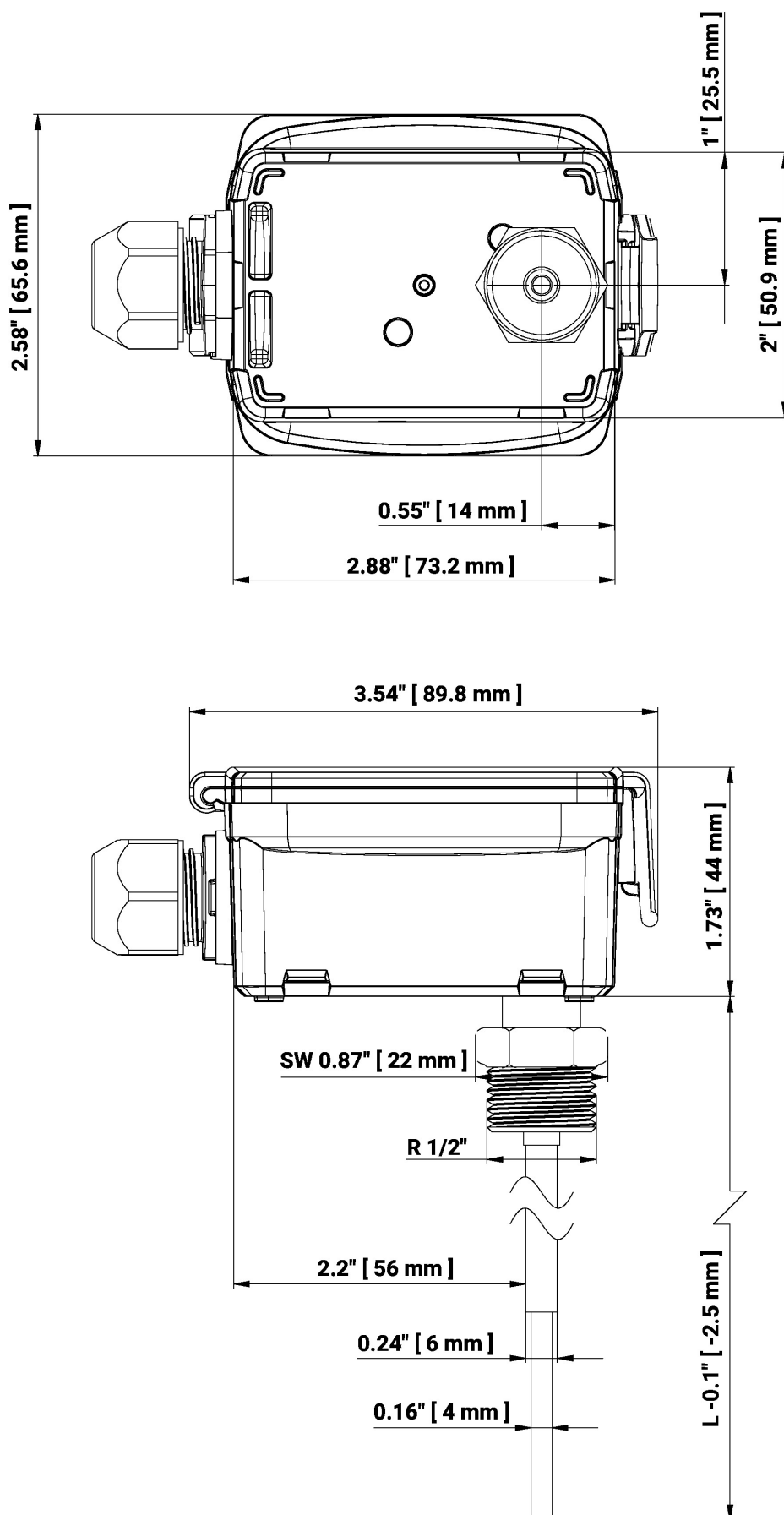
**Accessories**

| Optional accessories | Description                                                                          | Type        |
|----------------------|--------------------------------------------------------------------------------------|-------------|
|                      | Connection adapter flex conduit, M20x1.5, for cable gland 1x 6 mm, Multipack 10 pcs. | A-22G-A01.1 |

## Wiring diagram



## Dimensions



**Dimensions**

| Type     | Probe length | Weight  |
|----------|--------------|---------|
| 01PT-1BH | 50 mm        | 0.17 kg |
| 01PT-1BL | 100 mm       | 0.17 kg |
| 01PT-1BP | 200 mm       | 0.19 kg |
| 01PT-1DH | 50 mm        | 0.17 kg |
| 01PT-1DL | 100 mm       | 0.17 kg |
| 01PT-1DP | 200 mm       | 0.18 kg |
| 01PT-1LH | 50 mm        | 0.17 kg |
| 01PT-1LL | 100 mm       | 0.17 kg |
| 01PT-1LP | 200 mm       | 0.19 kg |

**Further documentation**

- Installation instructions
- Resistance characteristics