

## Cable temperature sensor

Used as a duct temperature sensor with a mounting flange or as an immersion temperature sensor in combination with a thermowell. With stainless steel probe and PVC cable.



### Type Overview

| Type     | Output signal   | Cable length | Probe length | Probe diameter |
|----------|-----------------|--------------|--------------|----------------|
| 01CT-1AH | Pt100           | 2 m          | 50 mm        | 6 mm           |
| 01CT-1BH | Pt1000          | 2 m          | 50 mm        | 6 mm           |
| 01CT-1CH | Ni1000          | 2 m          | 50 mm        | 6 mm           |
| 01CT-1DH | Ni1000TK5000    | 2 m          | 50 mm        | 6 mm           |
| 01CT-1FH | NTC1k8          | 2 m          | 50 mm        | 6 mm           |
| 01CT-1LH | NTC10k (10k2)   | 2 m          | 50 mm        | 6 mm           |
| 01CT-1QH | NTC20k          | 2 m          | 50 mm        | 6 mm           |
| 01CT-1RH | Pt1000 class AA | 2 m          | 50 mm        | 6 mm           |

### Technical data

|                                   |                 |                                            |                                                                                                                                                                                                                                                                     |
|-----------------------------------|-----------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Specification temperature passive | Electrical data | Electrical connection                      | Cable 2 m, 2-wire                                                                                                                                                                                                                                                   |
|                                   | Functional data | Medium                                     | Air<br>Water                                                                                                                                                                                                                                                        |
|                                   | Measuring data  | Measured values                            | Temperature                                                                                                                                                                                                                                                         |
|                                   | Measuring range | Measuring current                          | Pt100: <1 mA @ 0°C [32°F]<br>Pt1000: <0.3 mA @ 0°C [32°F]<br>Ni1000: <0.3 mA @ 0°C [32°F]<br>Ni1000TK5000: <0.3 mA @ 0°C [32°F]<br>NTC1k8: <0.1 mA @ 25°C [77°F]<br>NTC10k (10k2): <2 mA @ 25°C [77°F]<br>NTC20k: <0.5 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>Pt.. : Class AA, ±0.1°C @ 0°C [±0.17°F @ 32°F]<br>Ni.. : ±0.4°C @ 0°C [±0.7°F @ 32°F]<br>NTC1k8 : ±0.5°C @ 25°C [±0.9°F @ 77°F]<br>NTC.. : ±0.2°C @ 25°C [±0.35°F @ 77°F] |
|                                   |                 | Time constant $\tau$ (63%) in water pipe   | With thermowell A-22P-A.. and thermal contact fluid<br>Typical 7 s with thermowell brass<br>Typical 9 s with thermowell stainless steel                                                                                                                             |
|                                   | Safety data     | Time constant $\tau$ (63%) in the air duct | Typical 155 s @ 0 m/s<br>Typical 35 s @ 3 m/s                                                                                                                                                                                                                       |
|                                   |                 | Protection class IEC/EN                    | III, Protective Extra-Low Voltage (PELV)                                                                                                                                                                                                                            |
|                                   |                 | Power source UL                            | Class 2 Supply                                                                                                                                                                                                                                                      |
|                                   |                 | Degree of protection IEC/EN                | IP67                                                                                                                                                                                                                                                                |
|                                   |                 | Degree of protection NEMA/UL               | NEMA 4X                                                                                                                                                                                                                                                             |

## Technical data

|             |                              |                             |
|-------------|------------------------------|-----------------------------|
| Safety data | Certification IEC/EN         | IEC/EN 60730-1              |
|             | Quality Standard             | ISO 9001                    |
|             | Type of action               | Type 1                      |
|             | Rated impulse voltage supply | 0.8 kV                      |
|             | Method of mounting control   | Surface mounted             |
|             | Pollution degree             | 3                           |
|             | Ambient humidity             | Max. 95% RH, non-condensing |
|             | Ambient temperature          | -35...100°C [-30...210°F]   |
|             | Fluid temperature            | -35...100°C [-30...210°F]   |

## 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.

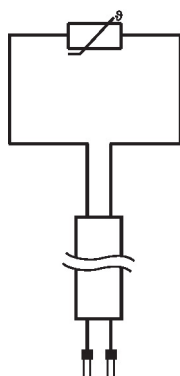
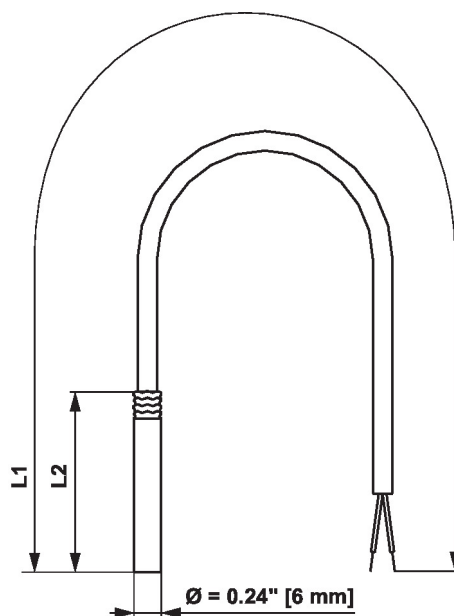
The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

## Remarks

|                                    |                                                                                                                                                                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General remarks concerning sensors | 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.                                                      |
|                                    | 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. |

## Accessories

| Optional accessories air      | Description                                                                                | Type      |
|-------------------------------|--------------------------------------------------------------------------------------------|-----------|
|                               | Mounting flange for sensor probe 6 mm, up to max. 120°C [248°F], Plastic                   | A-22D-A03 |
|                               | Mounting flange for sensor probe 6 mm, up to max. 260°C, Brass                             | A-22D-A05 |
| Recommended accessories water | Description                                                                                | Type      |
|                               | Thermowell Stainless steel, 50 mm, G 1/2", SW27                                            | A-22P-A06 |
|                               | Thermowell Stainless steel, 100 mm, G 1/2", SW27                                           | A-22P-A08 |
|                               | Thermowell Stainless steel, 150 mm, G 1/2", SW27                                           | A-22P-A10 |
|                               | Thermowell Stainless steel, 200 mm, G 1/2", SW27                                           | A-22P-A12 |
|                               | Thermowell Stainless steel, 250 mm, G 1/2", SW27                                           | A-22P-A29 |
|                               | Thermowell Stainless steel, 300 mm, G 1/2", SW27                                           | A-22P-A14 |
|                               | Thermowell Stainless steel, 450 mm, G 1/2", SW27                                           | A-22P-A16 |
|                               | Thermowell Brass, 50 mm, R 1/2", SW22                                                      | A-22P-A18 |
|                               | Thermowell Brass, 100 mm, R 1/2", SW22                                                     | A-22P-A20 |
|                               | Thermowell Brass, 150 mm, R 1/2", SW22                                                     | A-22P-A22 |
|                               | Thermowell Brass, 200 mm, R 1/2", SW22                                                     | A-22P-A24 |
|                               | Thermowell Brass, 250 mm, R 1/2", SW22                                                     | A-22P-A30 |
|                               | Thermowell Brass, 300 mm, R 1/2", SW22                                                     | A-22P-A26 |
|                               | Thermowell Brass, 450 mm, R 1/2", SW22                                                     | A-22P-A28 |
|                               | Thermal contact fluid                                                                      | A-22P-A44 |
|                               | Compression fitting, Stainless steel, G 1/4" (external thread) for 6 mm, with cutting ring | A-22P-A45 |
|                               | Cold barrier, Plastic, L 50 mm, for thermowell A-22P-A..                                   | A-22P-A51 |

**Wiring diagram**
**Sensor**

**Dimensions**


**L1 = 6.56 ft [2 m]**

**L2 = 1.97" [50 mm] / 3.94" [100 mm] / 7.87" [200 mm]**

| Type     | Probe length | Weight   |
|----------|--------------|----------|
| 01CT-1AH | 50 mm        | 0.064 kg |
| 01CT-1BH | 50 mm        | 0.064 kg |
| 01CT-1CH | 50 mm        | 0.064 kg |
| 01CT-1DH | 50 mm        | 0.064 kg |
| 01CT-1FH | 50 mm        | 0.062 kg |
| 01CT-1LH | 50 mm        | 0.064 kg |
| 01CT-1QH | 50 mm        | 0.064 kg |
| 01CT-1RH | 50 mm        | 0.064 kg |

**Further documentation**

- Installation instructions
- Resistance characteristics