

**Duct/Immersion sensor Temperature**

For measuring temperature in duct applications. In connection with a stainless steel or brass thermowell also applicable for pipe applications. IP65 / NEMA 4X rated housing.



Picture may differ from product


**Type Overview**

| Type     | Output signal | Probe length | Probe diameter | Accuracy temperature                                                                                 | Measuring current                                       |
|----------|---------------|--------------|----------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 01DT-1CH | Ni1000        | 50 mm        | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |
| 01DT-1CL | Ni1000        | 100 mm       | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |
| 01DT-1CN | Ni1000        | 150 mm       | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |
| 01DT-1CP | Ni1000        | 200 mm       | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |
| 01DT-1CR | Ni1000        | 300 mm       | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |
| 01DT-1CT | Ni1000        | 450 mm       | 6 mm           | $\pm 0.4^{\circ}\text{C}$ @ $0^{\circ}\text{C}$ [ $\pm 0.7^{\circ}\text{F}$ @ $32^{\circ}\text{F}$ ] | <0.3 mA @ $21^{\circ}\text{C}$ [ $70^{\circ}\text{F}$ ] |

**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 $\varnothing 6...8$ mm                                                                                   |
|                                          | <b>Functional data</b> | Medium                                     | Air<br>Water                                                                                                                            |
|                                          | <b>Measuring data</b>  | Measured values                            | Temperature                                                                                                                             |
| <b>Specification temperature passive</b> |                        | Measuring range                            | $-50...160^{\circ}\text{C}$ [ $-60...320^{\circ}\text{F}$ ]                                                                             |
|                                          |                        | 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 |
|                                          |                        | Time constant $\tau$ (63%) in the air duct | Typical 210 s @ 0 m/s<br>Typical 46 s @ 3 m/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                                                                                                                                 |
|                                          |                        | EU Conformity                              | CE Marking                                                                                                                              |
|                                          |                        | 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                                                                                                                                  |

## Technical data

|                    |                              |                                                                               |
|--------------------|------------------------------|-------------------------------------------------------------------------------|
| <b>Safety data</b> | 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            | -50...160°C [-60...320°F]                                                     |
|                    | Housing surface temperature  | Max. 90°C [195°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                                  |
|                    | Probe material               | V4A (1.4404)                                                                  |
|                    |                              |                                                                               |

## 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.

## Parts included

| Description                                  | Type      |
|----------------------------------------------|-----------|
| Mounting clip, with screws and adhesive foil | A-22D-A11 |

## Accessories

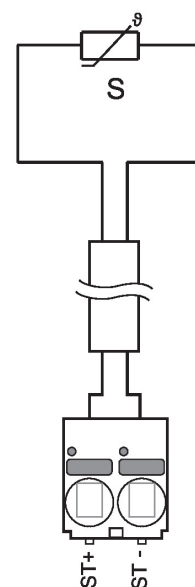
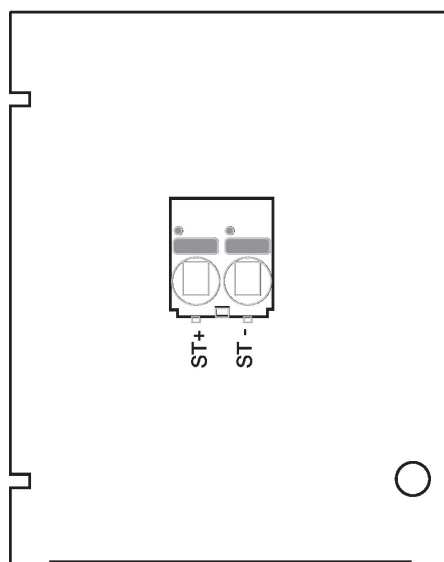
| Optional accessories | Description                                                                          | Type        |
|----------------------|--------------------------------------------------------------------------------------|-------------|
|                      | Mounting plate S housing                                                             | A-22D-A09   |
|                      | Connection adapter flex conduit, M20x1.5, for cable gland 1x 6 mm, Multipack 10 pcs. | A-22G-A01.1 |

| 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. 120°C [248°F], Multipack 50 pcs., Plastic | A-22D-A03.1 |
|                          | Mounting flange for sensor probe 6 mm, up to max. 260°C, Brass                              | A-22D-A05   |

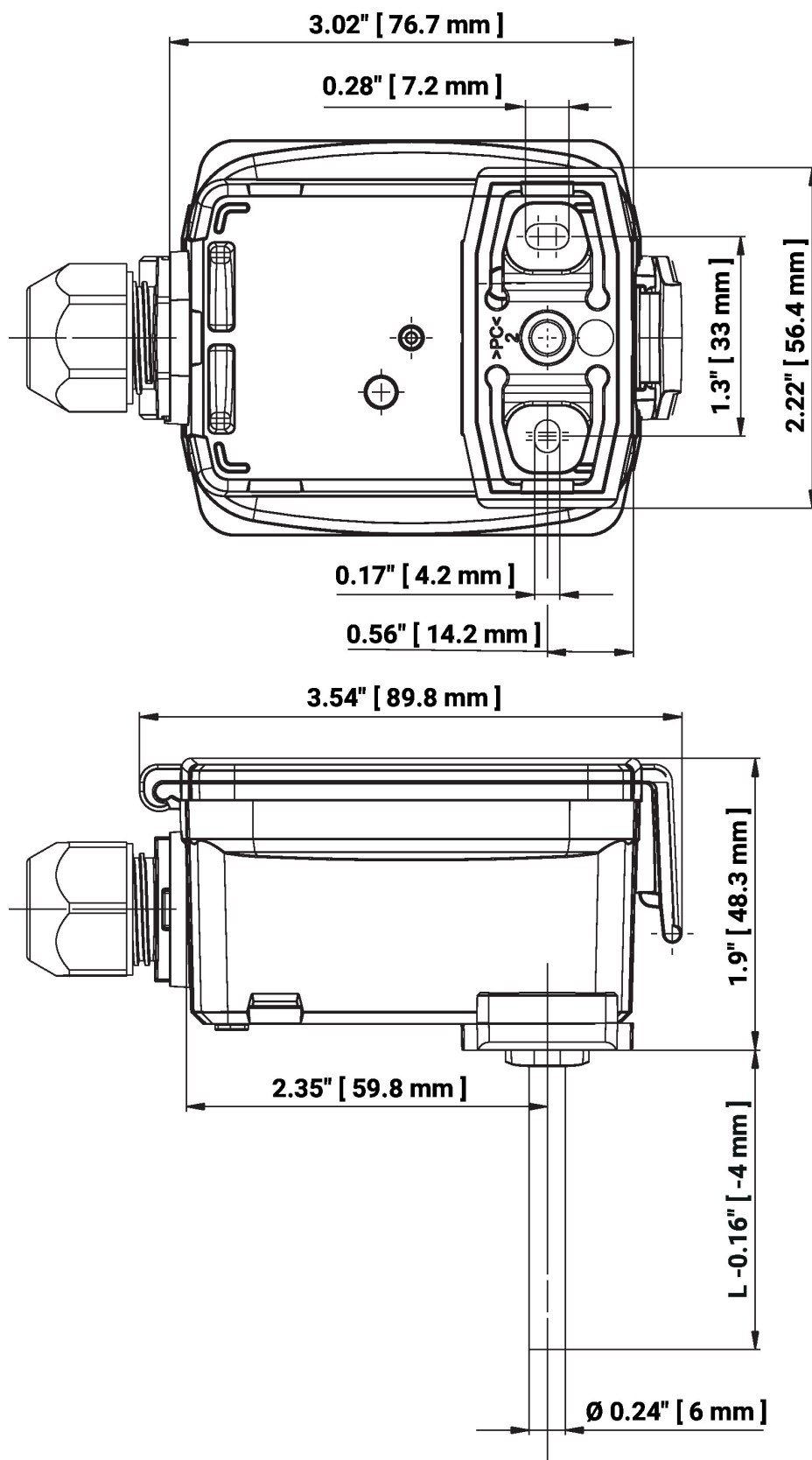
| Recommended accessories water | Description                                     | Type      |
|-------------------------------|-------------------------------------------------|-----------|
|                               | Thermowell Stainless steel, 50 mm, G 1/2", SW27 | A-22P-A06 |
|                               | Thermowell Brass, 50 mm, R 1/2", SW22           | A-22P-A18 |
|                               | Thermal contact fluid                           | A-22P-A44 |

**Accessories**

| Description                                                               | Type      |
|---------------------------------------------------------------------------|-----------|
| Compression fitting, G 1/4" (external thread) for 6 mm, with cutting ring | A-22P-A45 |
| Thermowell Stainless steel, 100 mm, G 1/2", SW27                          | A-22P-A08 |
| Thermowell Brass, 100 mm, R 1/2", SW22                                    | A-22P-A20 |
| Cold barrier, L 50 mm, for thermowell A-22P-A..                           | A-22P-A51 |
| Adapter for Siemens thermowell                                            | A-22P-A53 |
| Thermowell Stainless steel, 150 mm, G 1/2", SW27                          | A-22P-A10 |
| Thermowell Brass, 150 mm, R 1/2", SW22                                    | A-22P-A22 |
| Thermowell Stainless steel, 200 mm, G 1/2", SW27                          | A-22P-A12 |
| Thermowell Brass, 200 mm, R 1/2", SW22                                    | A-22P-A24 |
| Thermowell Stainless steel, 300 mm, G 1/2", SW27                          | A-22P-A14 |
| Thermowell Brass, 300 mm, R 1/2", SW22                                    | A-22P-A26 |
| Thermowell Stainless steel, 250 mm, G 1/2", SW27                          | A-22P-A29 |
| Thermowell Brass, 250 mm, R 1/2", SW22                                    | A-22P-A30 |
| Thermowell Stainless steel, 450 mm, G 1/2", SW27                          | A-22P-A16 |
| Thermowell Brass, 450 mm, R 1/2", SW22                                    | A-22P-A28 |

**Wiring diagram**


## Dimensions



L = Probe length

| Type     | Probe length | Weight  |
|----------|--------------|---------|
| 01DT-1CH | 50 mm        | 0.12 kg |
| 01DT-1CL | 100 mm       | 0.12 kg |
| 01DT-1CN | 150 mm       | 0.13 kg |
| 01DT-1CP | 200 mm       | 0.13 kg |

**Dimensions**

| Type     | Probe length | Weight  |
|----------|--------------|---------|
| 01DT-1CR | 300 mm       | 0.14 kg |
| 01DT-1CT | 450 mm       | 0.15 kg |

**Further documentation**

- Installation instructions
- Resistance characteristics
- Sensor length calculator