

Duct / Immersion Temperature Sensor

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


Type Overview

| Type | Output signal | Probe length | Probe diameter |
|----------|---------------|--------------|----------------|
| 01DT-5QH | NTC20K | 2" [50 mm] | 0.24" [6 mm] |
| 01DT-5QL | NTC20K | 4" [100 mm] | 0.24" [6 mm] |
| 01DT-5QN | NTC20K | 6" [150 mm] | 0.24" [6 mm] |
| 01DT-5QP | NTC20K | 8" [200 mm] | 0.24" [6 mm] |
| 01DT-5QR | NTC20K | 12" [300 mm] | 0.24" [6 mm] |
| 01DT-5QT | NTC20K | 18" [450 mm] | 0.24" [6 mm] |

Technical Data

| | | |
|------------------------|---------------------------------------|---|
| Electrical Data | Electrical connection | Removable spring loaded terminal block max. 2.5 mm ² |
| | Cable entry | Cable gland with strain relief Ø6...8 mm (1/2" NPT conduit adapter included) |
| Functional Data | Output signal passive temperature | NTC20k |
| | Application | air water |
| Measuring Data | Measuring values | temperature |
| | Measuring range temperature | -60...300°F [-50...150°C] |
| | Accuracy temperature passive | ±0.35°F @ 77°F [±0.2°C @ 25°C] |
| | Time constant t (63%) in the air duct | typical 210 s @ 0 m/s typical 46 s @ 3 m/s |
| | Time constant t (63%) in water pipe | with thermowell A-22P-A.. and thermal contact fluid typical 7 s with thermowell brass typical 9 s with thermowell stainless steel |
| Materials | Cable gland | plug adapter: PA66, black nut: PA6, black |
| | Housing | cover: lexan, orange base: lexan, orange seal: 0467 NBR70, black UV resistant |

| | | |
|--------------------|-----------------------------|---|
| Safety Data | Ambient humidity | max. 95% r.H., non-condensing |
| | Ambient temperature | -30...120°F [-35...50°C] |
| | Fluid temperature | -60...300°F [-50...150°C] |
| | Housing surface temperature | max. 195°F [90°C] |
| | Protection class IEC/EN | III safety extra-low voltage (selv) |
| | Protection class UL | UL Class 2 Supply |
| | EU Conformity | CE Marking |
| | Certification IEC/EN | IEC/EN 60730-1 |
| | Certification UL | cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9 |
| | Degree of protection IEC/EN | IP65 |
| | Quality Standard | ISO 9001 |

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 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 it should not exceed 1 mA.

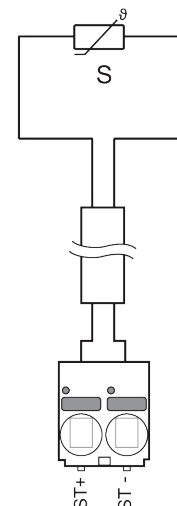
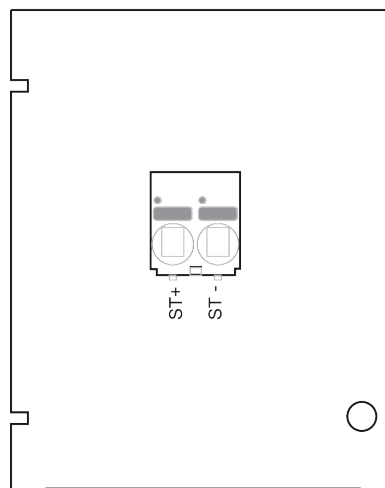
When using lengthy connecting cables (depending on the cross section used), the cable resistance must be taken into account. The lower the impedance of the sensor used, the greater the effect of the line resistance on the measurement, because it generates an offset.

Scope of delivery

| Scope of delivery | Description | Type |
|-------------------|--|-----------|
| | Mounting clip, with screws and adhesive foil | A-22D-A11 |
| | 1/2" NPT conduit adapter | |

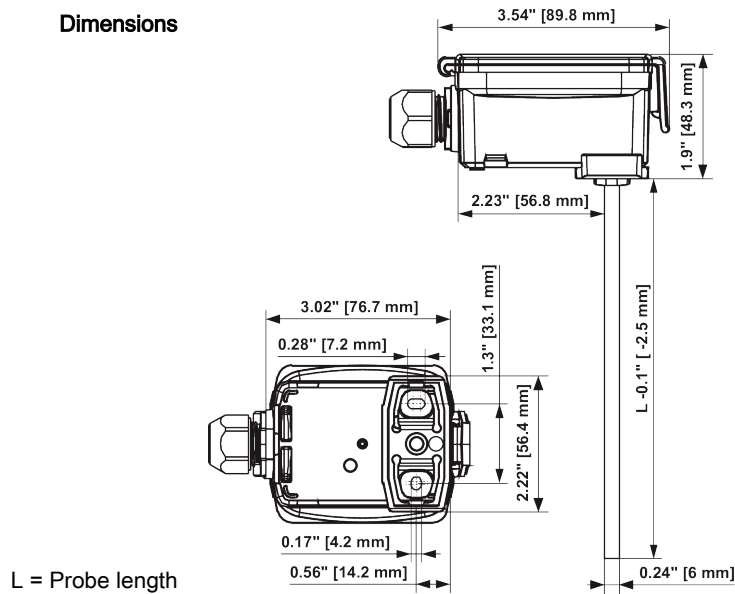
Accessories

| Optional accessories | Description | Type |
|-------------------------------|--|-----------|
| | Mounting plate S housing | A-22D-A09 |
| Optional accessories air | Description | Type |
| | Mounting flange for sensor probe 6 mm, up to max. 80°C, 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 pocket (fabricated) Stainless steel, 2" [50 mm], 1/2" NPT, wrench size 3/4" | A-22P-A05 |
| | Thermowell pocket (fabricated) Stainless steel, 4" [100 mm], 1/2" NPT, wrench size 3/4" | A-22P-A07 |
| | Thermowell pocket (fabricated) Stainless steel, 6" [150 mm], 1/2" NPT, wrench size 3/4" | A-22P-A09 |
| | Thermowell pocket (fabricated) Stainless steel, 8" [200 mm], 1/2" NPT, wrench size 3/4" | A-22P-A11 |
| | Thermowell pocket (fabricated) Stainless steel, 12" [300 mm], 1/2" NPT, wrench size 3/4" | A-22P-A13 |
| | Thermowell pocket (fabricated) Stainless steel, 18" [450 mm], 1/2" NPT, wrench size 3/4" | A-22P-A15 |
| | Thermowell pocket (machined) Stainless steel, 2" [50 mm], 1/2" NPT, wrench size 3/4" | A-22P-A36 |
| | Thermowell pocket (machined) Stainless steel, 4" [100 mm], 1/2" NPT, wrench size 3/4" | A-22P-A37 |
| | Thermowell pocket (machined) Stainless steel, 6" [150 mm], 1/2" NPT, wrench size 3/4" | A-22P-A38 |
| | Thermowell pocket (machined) Stainless steel, 8" [200 mm], 1/2" NPT, wrench size 3/4" | A-22P-A39 |
| | Thermowell pocket (fabricated) Brass, 2" [50 mm], 1/2" NPT, wrench size 3/4" | A-22P-A17 |
| | Thermowell pocket (fabricated) Brass, 4" [100 mm], 1/2" NPT, wrench size 3/4" | A-22P-A19 |
| | Thermowell pocket (fabricated) Brass, 6" [150 mm], 1/2" NPT, wrench size 3/4" | A-22P-A21 |
| | Thermowell pocket (fabricated) Brass, 8" [200 mm], 1/2" NPT, wrench size 3/4" | A-22P-A23 |
| | Thermowell pocket (fabricated) Brass, 12" [300 mm], 1/2" NPT, wrench size 3/4" | A-22P-A25 |
| | Thermowell pocket (fabricated) Brass, 18" [450 mm], 1/2" NPT, wrench size 3/4" | A-22P-A27 |
| | Syringe with thermal paste | A-22P-A44 |

Wiring Diagram


Dimensions

Dimensions



| Type | Probe length | Weight |
|----------|--------------|-------------------|
| 01DT-5QH | 2" [50 mm] | 0.26 lb [0.12 kg] |
| 01DT-5QL | 4" [100 mm] | 0.26 lb [0.12 kg] |
| 01DT-5QN | 6" [150 mm] | 0.29 lb [0.13 kg] |
| 01DT-5QP | 8" [200 mm] | 0.29 lb [0.13 kg] |
| 01DT-5QR | 12" [300 mm] | 0.31 lb [0.14 kg] |
| 01DT-5QT | 18" [450 mm] | 0.33 lb [0.15 kg] |