

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.


Type Overview

Type	Output signal	Probe length	Probe diameter
01DT-1QH	NTC20k	50 mm	6 mm
01DT-1QL	NTC20k	100 mm	6 mm
01DT-1QN	NTC20k	150 mm	6 mm
01DT-1QP	NTC20k	200 mm	6 mm
01DT-1QR	NTC20k	300 mm	6 mm
01DT-1QT	NTC20k	450 mm	6 mm

Technical data

	Electrical data	Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm ²
		Cable entry	Cable gland with strain relief ø6...8 mm
	Functional data	Medium	Air Water
	Measuring data	Measured values	Temperature
Specification temperature passive		Measuring range	-50...150°C [-60...300°F]
		Measuring current	<0.5 mA @ 25°C [77°F]
		Accuracy temperature	±0.2°C @ 25°C [±0.35°F @ 77°F]
		Time constant τ (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
		Time constant τ (63%) in the air duct	Typical 210 s @ 0 m/s Typical 46 s @ 3 m/s
	Safety data	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
		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]

Technical data

Safety data	Fluid temperature	-50...150°C [-60...300°F]
	Housing surface temperature	Max. 90°C [195°F]
Materials	Housing	Cover: PC, orange Bottom: PC, orange Seal: NBR70, black UV resistant
	Cable gland	Plug Adapter: PA66, black 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

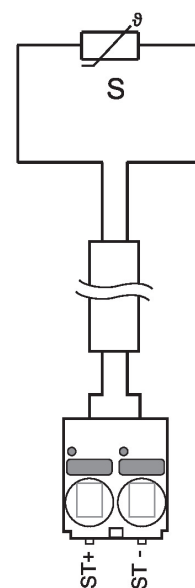
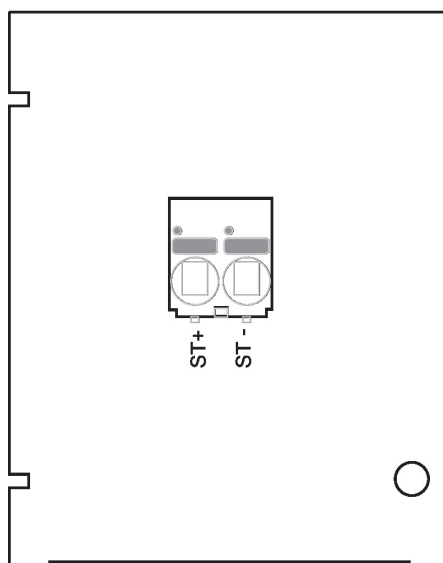
Description	Type
Mounting clip, with screws and adhesive foil	A-22D-A11

Accessories

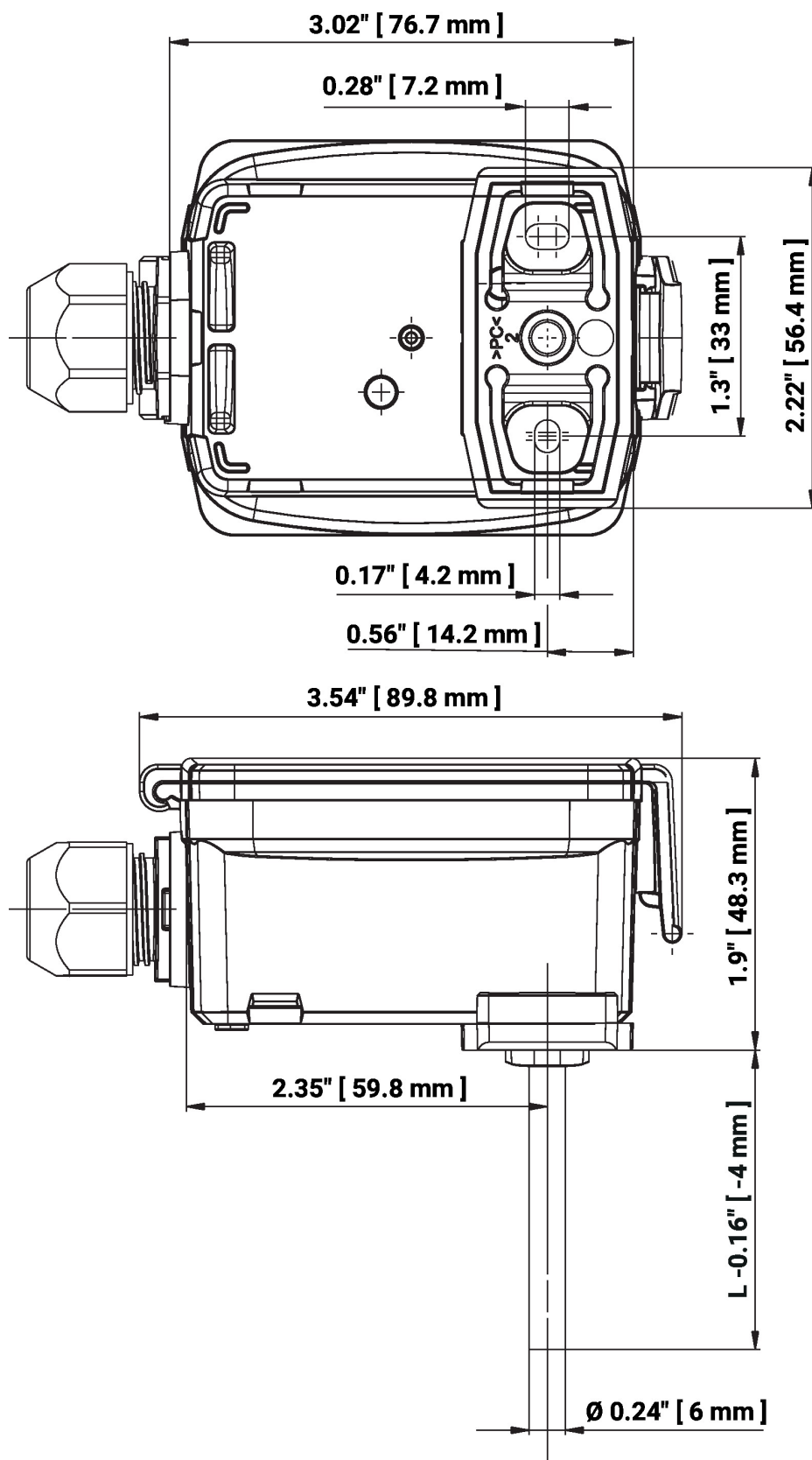
Optional accessories	<table> <tr> <th>Description</th><th>Type</th></tr> <tr> <td>Mounting plate S housing</td><td>A-22D-A09</td></tr> <tr> <td>Connection adapter flex conduit, M20x1.5, for cable gland 1x 6 mm, Multipack 10 pcs.</td><td>A-22G-A01.1</td></tr> </table>	Description	Type	Mounting plate S housing	A-22D-A09	Connection adapter flex conduit, M20x1.5, for cable gland 1x 6 mm, Multipack 10 pcs.	A-22G-A01.1														
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	<table> <tr> <th>Description</th><th>Type</th></tr> <tr> <td>Mounting flange for sensor probe 6 mm, up to max. 120°C [248°F], Plastic</td><td>A-22D-A03</td></tr> <tr> <td>Mounting flange for sensor probe 6 mm, up to max. 260°C, Brass</td><td>A-22D-A05</td></tr> </table>	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														
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	<table> <tr> <th>Description</th><th>Type</th></tr> <tr> <td>Thermowell Stainless steel, 50 mm, G 1/2", SW27</td><td>A-22P-A06</td></tr> <tr> <td>Thermowell Brass, 50 mm, R 1/2", SW22</td><td>A-22P-A18</td></tr> <tr> <td>Thermal contact fluid</td><td>A-22P-A44</td></tr> <tr> <td>Compression fitting, Stainless steel, G 1/4" (external thread) for 6 mm, with cutting ring</td><td>A-22P-A45</td></tr> <tr> <td>Thermowell Stainless steel, 100 mm, G 1/2", SW27</td><td>A-22P-A08</td></tr> <tr> <td>Thermowell Brass, 100 mm, R 1/2", SW22</td><td>A-22P-A20</td></tr> <tr> <td>Cold barrier, Plastic, L 50 mm, for thermowell A-22P-A..</td><td>A-22P-A51</td></tr> <tr> <td>Adapter for Siemens thermowell</td><td>A-22P-A53</td></tr> <tr> <td>Thermowell Stainless steel, 150 mm, G 1/2", SW27</td><td>A-22P-A10</td></tr> </table>	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	Compression fitting, Stainless steel, 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, Plastic, 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
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																				
Compression fitting, Stainless steel, 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, Plastic, 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																				

Accessories

Description	Type
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-1QH	50 mm	0.12 kg
01DT-1QL	100 mm	0.12 kg
01DT-1QN	150 mm	0.13 kg
01DT-1QP	200 mm	0.13 kg

Dimensions

Type	Probe length	Weight
01DT-1QR	300 mm	0.14 kg
01DT-1QT	450 mm	0.15 kg

Further documentation

- Installation instructions
- Resistance characteristics
- Sensor length calculator