

Duct/Immersion sensor Temperature

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.



5-year warranty


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	Pluggable 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	Application	air water
	Output signal passive temperature	NTC20k
Measuring Data	Measured values	Temperature
	Measuring range temperature	-60...300°F [-50...150°C]
	Accuracy temperature passive	±0.35°F @ 77°F [±0.2°C @ 25°C]
	Measuring current	<0.5 mA @ 77°F [25°C]
	Time constant τ (63%) in air duct	Typical 210 s @ 0 m/s Typical 46 s @ 3 m/s
	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
Materials	Cable gland	Plug Adapter: PA66, black Nut: PA6, black
	Housing	Cover: PC, orange Bottom: PC, orange Seal: NBR70, black UV resistant
	Probe material	AISI 316L
Safety Data	Ambient humidity	Max. 95% RH, 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, Protective Extra-Low Voltage (PELV)

Safety Data	Power source 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/-2-9
	Degree of protection IEC/EN	IP65
	Degree of protection NEMA/UL	NEMA 4X
	Quality Standard	ISO 9001
	Mode of operation	Type 1
	Pollution degree	3
	Rated impulse voltage supply	0.8 kV
Construction	Independently mounted control	

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. Unauthorized 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 authorized 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 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.

Scope of delivery

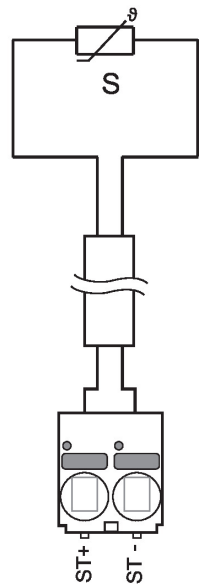
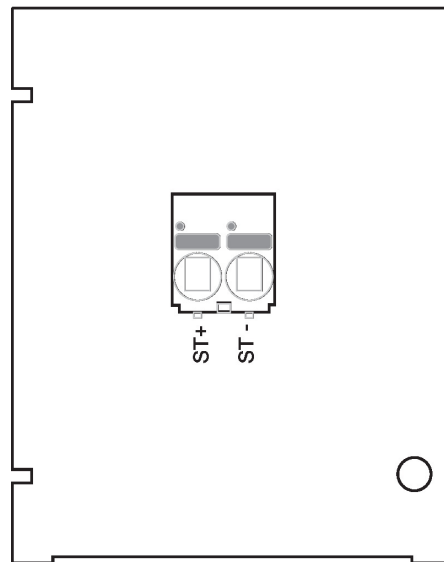
Scope of delivery	Description	Type
	Mounting clip, with screws and adhesive foil	A-22D-A11
	1/2" NPT conduit adapter	

Accessories

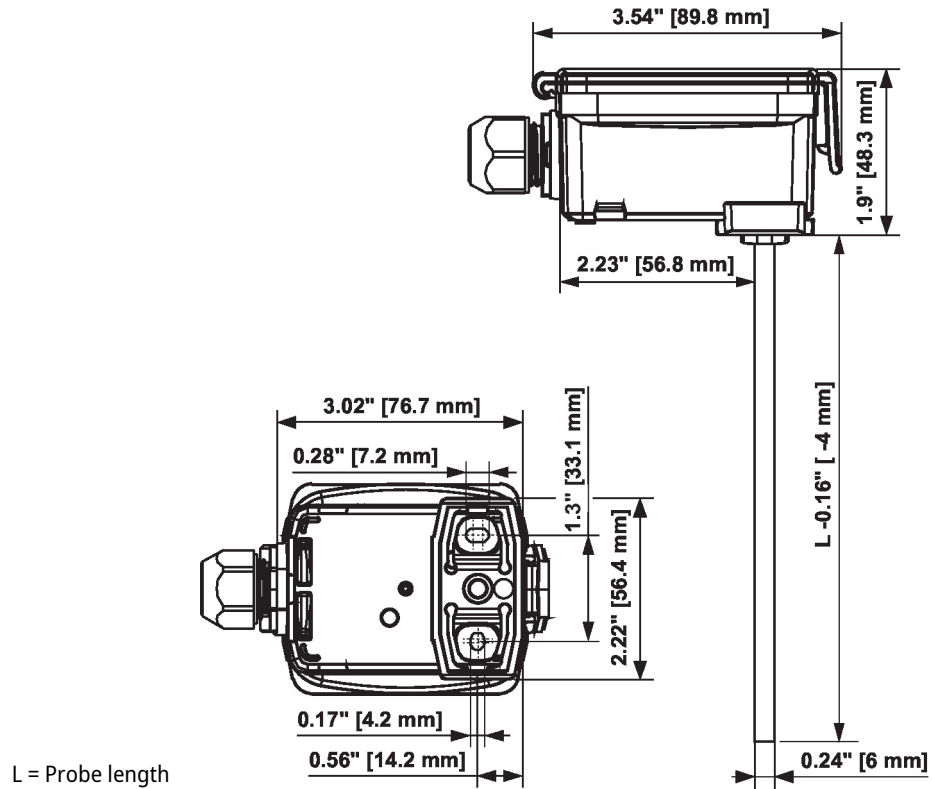
Optional accessories	Description	Type
	Mounting plate S housing	A-22D-A09
	Connection adapter, M20x1.5, for cable 1x6 mm, Multipack 10 pcs.	A-22G-A01.1
Optional accessories air	Description	Type
	Mounting flange for sensor probe 6 mm, up to max. 120°C [248°F], Plastic	A-22D-A03
	Mounting flange for sensor probe 6 mm, up to max. 260°C, Brass	A-22D-A05

Recommended accessories water

Description	Type
Thermowell (fabricated) Stainless steel, 2" [50 mm], 1/2" NPT, wrench size 3/4"	A-22P-A05
Thermowell (fabricated) Brass, 2" [50 mm], 1/2" NPT, wrench size 3/4"	A-22P-A17
Thermowell (machined) Stainless steel, 2" [50 mm], 1/2" NPT, wrench size 3/4"	A-22P-A36
Syringe with thermal paste	A-22P-A44
Thermowell (fabricated) Stainless steel, 4" [100 mm], 1/2" NPT, wrench size 3/4"	A-22P-A07
Thermowell (fabricated) Brass, 4" [100 mm], 1/2" NPT, wrench size 3/4"	A-22P-A19
Thermowell (machined) Stainless steel, 4" [100 mm], 1/2" NPT, wrench size 3/4"	A-22P-A37
Cold barrier, Plastic, L 50 mm, for thermowell A-22P-A..	A-22P-A51
Thermowell (fabricated) Stainless steel, 6" [150 mm], 1/2" NPT, wrench size 3/4"	A-22P-A09
Thermowell (fabricated) Brass, 6" [150 mm], 1/2" NPT, wrench size 3/4"	A-22P-A21
Thermowell (machined) Stainless steel, 6" [150 mm], 1/2" NPT, wrench size 3/4"	A-22P-A38
Thermowell (fabricated) Stainless steel, 8" [200 mm], 1/2" NPT, wrench size 3/4"	A-22P-A11
Thermowell (fabricated) Brass, 8" [200 mm], 1/2" NPT, wrench size 3/4"	A-22P-A23
Thermowell (machined) Stainless steel, 8" [200 mm], 1/2" NPT, wrench size 3/4"	A-22P-A39
Thermowell (fabricated) Stainless steel, 12" [300 mm], 1/2" NPT, wrench size 3/4"	A-22P-A13
Thermowell (fabricated) Brass, 12" [300 mm], 1/2" NPT, wrench size 3/4"	A-22P-A25
Thermowell (fabricated) Stainless steel, 18" [450 mm], 1/2" NPT, wrench size 3/4"	A-22P-A15
Thermowell (fabricated) Brass, 18" [450 mm], 1/2" NPT, wrench size 3/4"	A-22P-A27

Wiring Diagram


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]