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

5-year warranty

Type Overview

Type	Output signal	Probe length	Probe diameter
01DT-5LH	NTC10k (10k2)	2" [50 mm]	0.24" [6 mm]
01DT-5LL	NTC10k (10k2)	4" [100 mm]	0.24" [6 mm]
01DT-5LN	NTC10k (10k2)	6" [150 mm]	0.24" [6 mm]
01DT-5LP	NTC10k (10k2)	8" [200 mm]	0.24" [6 mm]
01DT-5LR	NTC10k (10k2)	12" [300 mm]	0.24" [6 mm]
01DT-5LT	NTC10k (10k2)	18" [450 mm]	0.24" [6 mm]

Technical data

Electrical Data	Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm²
	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	NTC10k (10k2)
Measuring Data	Measured values	Temperature
Specification Temperature	Measuring range	-60...300°F [-50...150°C]
	Measuring current	<2 mA @ 77°F [25°C]
	Accuracy temperature passive	±0.35°F @ 77°F [±0.2°C @ 25°C]
	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

Technical data

	Safety Data	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
		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...122°F]
		Fluid temperature	-60...300°F [-50...150°C]
		Housing surface temperature	max. 195°F [90°C]
	Materials	Cable gland	Plug Adapter: PA66, black Nut: PA6, black
		Housing	Cover: PC, orange Bottom: PC, orange Seal: NBR70, black UV resistant UL94 5VA
		Probe material	AISI 316L

Safety Notes

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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 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
1/2" NPT conduit adapter	

Accessories

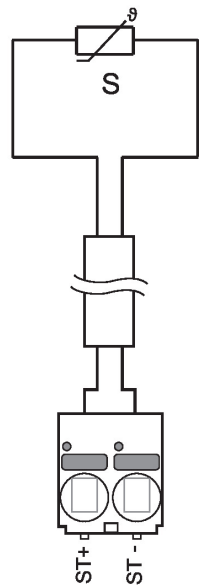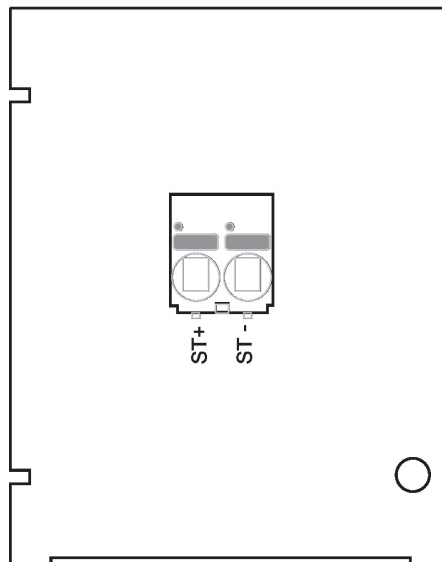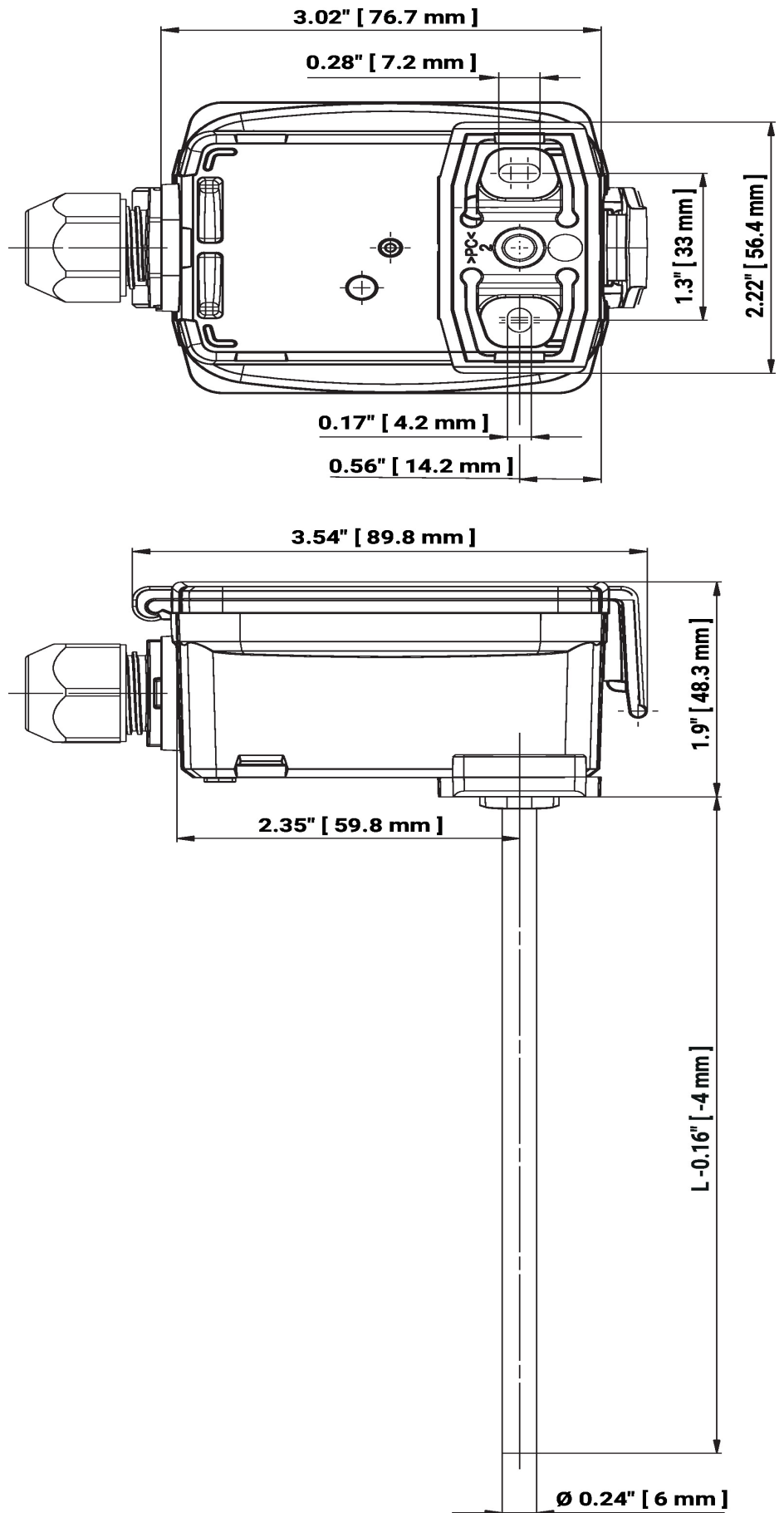|	Description	Type
Optional accessories	Mounting plate S housing	A-22D-A09
	Connection adapter flex conduit, M20x1.5, for cable gland 1x 6 mm, Multipack 10 pcs.	A-22G-A01.1

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 (fabricated) Stainless steel, 2" [50 mm], 1/2" NPT, SW = 3/4"	A-22P-A05
	Thermowell (fabricated) Brass, 2" [50 mm], 1/2" NPT, SW = 3/4"	A-22P-A17
	Thermowell (machined) Stainless steel, 2" [50 mm], 1/2" NPT, SW = 3/4"	A-22P-A36
	Syringe with thermal paste	A-22P-A44
	Thermowell (fabricated) Stainless steel, 4" [100 mm], 1/2" NPT, SW = 3/4"	A-22P-A07
	Thermowell (fabricated) Brass, 4" [100 mm], 1/2" NPT, SW = 3/4"	A-22P-A19
	Thermowell (machined) Stainless steel, 4" [100 mm], 1/2" NPT, SW = 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, SW = 3/4"	A-22P-A09
	Thermowell (fabricated) Brass, 6" [150 mm], 1/2" NPT, SW = 3/4"	A-22P-A21
	Thermowell (machined) Stainless steel, 6" [150 mm], 1/2" NPT, SW = 3/4"	A-22P-A38
	Thermowell (fabricated) Stainless steel, 8" [200 mm], 1/2" NPT, SW = 3/4"	A-22P-A11
	Thermowell (fabricated) Brass, 8" [200 mm], 1/2" NPT, SW = 3/4"	A-22P-A23
	Thermowell (machined) Stainless steel, 8" [200 mm], 1/2" NPT, SW = 3/4"	A-22P-A39
	Thermowell (fabricated) Stainless steel, 12" [300 mm], 1/2" NPT, SW = 3/4"	A-22P-A13
	Thermowell (fabricated) Brass, 12" [300 mm], 1/2" NPT, SW = 3/4"	A-22P-A25
	Thermowell (fabricated) Stainless steel, 18" [450 mm], 1/2" NPT, SW = 3/4"	A-22P-A15
	Thermowell (fabricated) Brass, 18" [450 mm], 1/2" NPT, SW = 3/4"	A-22P-A27

Wiring Diagram

Dimensions

3.02" [76.7 mm]

0.28" [7.2 mm]

1.3" [33 mm]

2.22" [56.4 mm]

0.17" [4.2 mm]

0.56" [14.2 mm]

3.54" [89.8 mm]

1.9" [48.3 mm]

2.35" [59.8 mm]

L - 0.16" [-4 mm]

Ø 0.24" [6 mm]

Dimensions

L = Probe length

Type	Probe length	Weight
01DT-5LH	2" [50 mm]	0.26 lb [0.12 kg]
01DT-5LL	4" [100 mm]	0.26 lb [0.12 kg]
01DT-5LN	6" [150 mm]	0.29 lb [0.13 kg]
01DT-5LP	8" [200 mm]	0.29 lb [0.13 kg]
01DT-5LR	12" [300 mm]	0.31 lb [0.14 kg]
01DT-5LT	18" [450 mm]	0.33 lb [0.15 kg]

Further documentation

• Installation instructions
• Resistance characteristics
• Sensor length calculator