Cable temperature sensor

Used as a duct temperature sensor with a mounting flange or as an immersion temperature sensor in combination with an immersion sleeve. With stainless steel probe and plenum-rated cable.



5-year warranty

Type Overview

Type	Output signal	Cable length	Probe length	Probe diameter
01CT-5LH01	NTC10k (10k2)	6.5 ft [2 m]	2" [50 mm]	0.24" [6 mm]
01CT-5LL01	NTC10k (10k2)	6.5 ft [2 m]	4" [100 mm]	0.24" [6 mm]
01CT-5LP01	NTC10k (10k2)	6.5 ft [2 m]	8" [200 mm]	0.24" [6 mm]
01CT-5MH01	NTC10k3 (Precon)	6.5 ft [2 m]	2" [50 mm]	0.24" [6 mm]
01CT-5ML01	NTC10k3 (Precon)	6.5 ft [2 m]	4" [100 mm]	0.24" [6 mm]
01CT-5MP01	NTC10k3 (Precon)	6.5 ft [2 m]	8" [200 mm]	0.24" [6 mm]
01CT-5QH01	NTC20k	6.5 ft [2 m]	2" [50 mm]	0.24" [6 mm]
01CT-5QL01	NTC20k	6.5 ft [2 m]	4" [100 mm]	0.24" [6 mm]
01CT-5QP01	NTC20k	6.5 ft [2 m]	8" [200 mm]	0.24" [6 mm]

Technical data

Electrical Data	Electrical connection	cable 6.5 ft [2 m], 2-wire
	Cable specification	1 pair shielded plenum cable, 22AWG bare copper, black jacket, -13...167° [-25...75°C], 300 V
Functional Data	Application	air water
	Output signal passive temperature	NTC10k (10k2) NTC10k3 (Precon) NTC20k
Measuring Data	Measured values	Temperature
Specification Temperature	Measuring range	-13...167°F [-25...75°C]
	Measuring current	NTC10k2: <2 mA @ 77°F [25°C] NTC10k3: <2.7 mA @ 77°F [25°C] NTC20k: <0.5 mA @ 77°F [25°C]
	Accuracy temperature passive	NTC.. : ±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 155 s @ 0 m/s Typical 35 s @ 3 m/s

Technical data

Safety Data		
	Protection class IEC/EN	III, Protective Extra-Low Voltage (PELV)
	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP67
	Degree of protection NEMA/UL	NEMA 4X
	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
	Method of mounting control	Surface mounted
	Pollution degree	3
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-13...167°F [-25...75°C]
	Fluid temperature	-13...167°F [-25...75°C]

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 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.

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

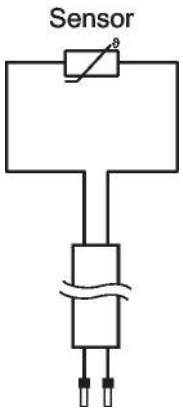
Recommended accessories water

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
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

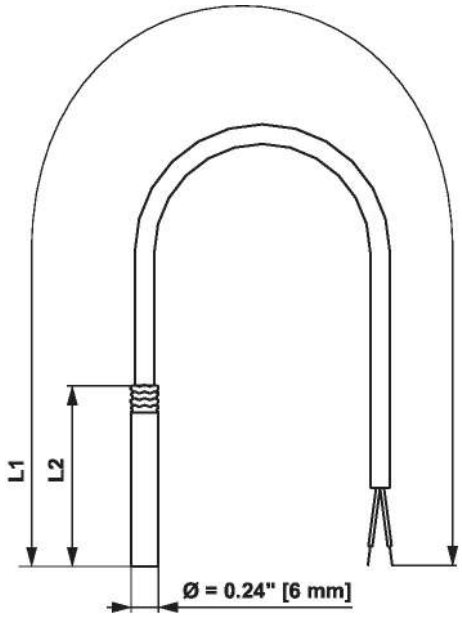
Accessories

Description	Type
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
Syringe with thermal paste	A-22P-A44
Cold barrier, Plastic, L 50 mm, for thermowell A-22P-A..	A-22P-A51

Wiring Diagram



Dimensions



L1: cable length **L1 = 6.56 ft [2 m]**
L2: pocket length **L2 = 1.97" [50 mm] / 3.94" [100 mm] / 7.87" [200 mm]**

Type	Probe length	Weight
01CT-5LH01	2" [50 mm]	0.14 lb [0.065 kg]
01CT-5LL01	4" [100 mm]	0.15 lb [0.070 kg]
01CT-5LP01	8" [200 mm]	0.18 lb [0.080 kg]
01CT-5MH01	2" [50 mm]	0.14 lb [0.065 kg]
01CT-5ML01	4" [100 mm]	0.15 lb [0.070 kg]
01CT-5MP01	8" [200 mm]	0.18 lb [0.080 kg]
01CT-5QH01	2" [50 mm]	0.14 lb [0.065 kg]
01CT-5QL01	4" [100 mm]	0.15 lb [0.070 kg]
01CT-5QP01	8" [200 mm]	0.18 lb [0.080 kg]

Further documentation

- Installation instructions
- Resistance characteristics