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+ Datasheet EE461

Temperature Cable Sensor



EE461

Temperature Cable Sensor

The EE461 cable sensor is used in heating, ventilation and air conditioning technology as well as in process control. The EE461 measures the temperature (T) of gaseous media and can be conveniently used in conjunction with an E+E immersion well to get the temperature of liquid media.

Due to the innovative star pressing of the sensor sleeve, protection rating IP67/NEMA 4 is achieved.

The cable sensor is available in 2- and 4-wire versions and with different passive sensor elements.

The cable jacket is labeled with the product-specific information which enables clear identification of the respective sensor.



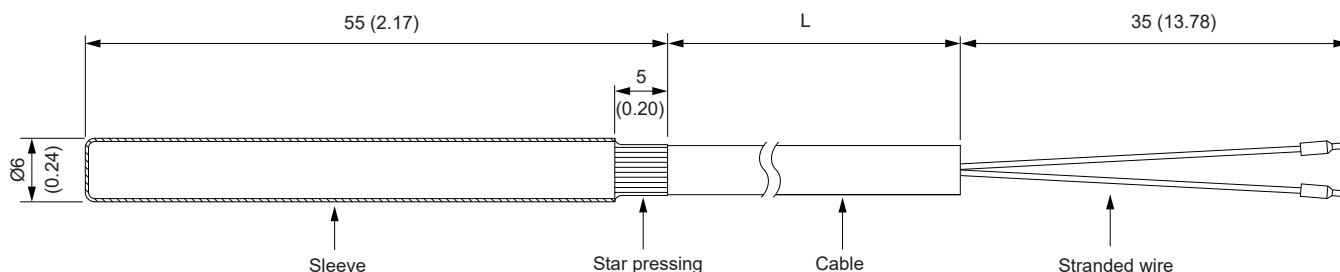
Temperature cable sensor

Features



Dimensions

Values in mm (inch)



L in m	L in ft
0.5	1.6
2	6.6
3	9.8
5	16.4
6	19.7

Technical Data

Measurands

Temperature (T)

Working range	-30...+105 °C (-22...+221 °F)		
Response time t_{63} @ 3 m/s (590 ft/min) air velocity With immersion well in liquid water bath	<1 min <30 s		
Insulation resistance @ 20 °C (68 °F)	>100 M Ω		
Sensor types	Nominal resistance	Sensitivity	Standard
Pt100 DIN B	R_0 : 100 Ω	TC: $3.850 \times 10^{-3}/^{\circ}\text{C}$	DIN EN 60751
Pt1000 DIN B	R_0 : 1000 Ω	TC: $3.850 \times 10^{-3}/^{\circ}\text{C}$	DIN EN 60751
NTC2.2k	R_{25} : 2252 k Ω \pm 1%	$B_{25/85}$: 3977 K \pm 0.3 %	-
NTC10k B3950	R_{25} : 10 k Ω \pm 0.5 %	$B_{25/85}$: 3989 K ($B_{25/50}$: 3950 K \pm 1.0 %)	-
Ni1000 TK6180 DIN B	R_0 : 1000 Ω	TC: 6 180 ppm/K	DIN 43760
Ni1000 TK5000 DIN B	R_0 : 1000 Ω	TC: 5 000 ppm/K	DIN 43760


Outputs

T sensor passive

Sensor connection	2-wire connection, 2x 0.22 mm ² (2x 0.0003 inch ²), wire resistance 0.172 Ω /m (0.052 Ω /ft) 4-wire connection, 2x 0.22 mm ² (4x 0.0003 inch ²)
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Technical Data

General

Measuring current, typ.	<1 mA
Humidity range	Operation and storage 5...95 %RH, non-condensing
Temperature range	Operation Storage -30...+105 °C (-22...+221 °F) -30...+70 °C (-22...+158 °F)
Material	Sleeve Cable Stainless steel (1.4571 / 316Ti) Polyvinylchloride (PVC)
Protection rating	IP67 / NEMA 4
Conformity	

Ordering Guide

Feature	Description	Code				
		EE461-				
Hardware Configuration	Wiring	2-wire connection	No code	No code	No code	
		4-wire connection				W4
	T sensor passive ¹⁾ (R-T-characteristics see www.epluse.com/ee461)	Pt100 DIN A				TP1
		Pt100 DIN B	TP2			TP2
		Pt1000 DIN B		TP4		
		Ni1000, TK6180 DIN B	TP9			
		Ni1000, TK5000 DIN B	TP19			
		NTC2.2k	TP21			
	Probe cable length	NTC 10k, B3950				TP11
		0.5 m (1.6 ft)	K0.5	K0.5	K0.5	
		2 m (6.6 ft)	K2	K2	K2	K2
		3 m (9.8 ft)	K3	K3	K3	
		5 m (16.4 ft)		K5		K5
		6 m (19.7 ft)			K6	

1) Other passive sensor types are available on request from a minimum order quantity of 500 pcs.

Order Examples

EE461-TP4K2

Feature	Code	Description
Wiring	Kein Code	2-wire connection
T sensor passive	TP4	Pt1000 DIN B
Probe cable length	K2	2 m (6.6 ft)

EE461-W4TP1K5

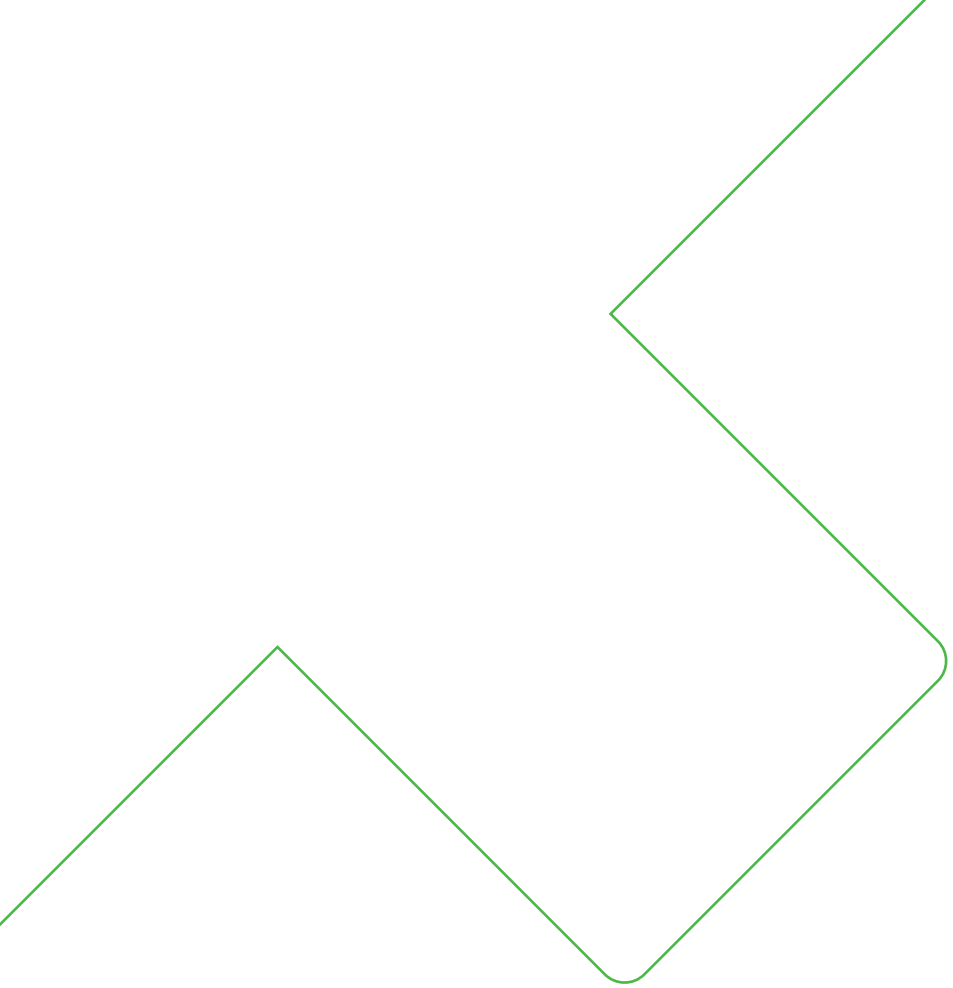
Feature	Code	Description
Wiring	W4	4-wire connection
T sensor passive	TP1	Pt100 DIN A
Probe cable length	K5	5 m (16.4 ft)

Mounting Accessories

For further information see datasheet [Accessories](#).

Description	Code				
	Immersion well - thread R ½" ISO ¹⁾	Length in mm (inch)	50 (1.97")	100 (3.94")	135 (5.31")
	Brass	HA400101	HA400104	HA400102	HA400103
	Stainless steel	HA400201	HA400204	HA400202	HA400203
Immersion well - thread ½" NPT ¹⁾	Length in mm (inch)	50 (1.97")	100 (3.94")	135 (5.31")	285 (11.22")
	Brass	HA400111	HA400114	HA400112	HA400113
	Stainless steel	HA400211	HA400214	HA400212	HA400213
Cable gland (M12x1.5; -40...+100 °C (-40... +212 °F); UL94-V0)		HA403101			
Hose clamp (for pipe mounting)		HA402101			
Mounting flange		HA401101			

1) For further information see datasheet www.epluse.com/ee431.



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