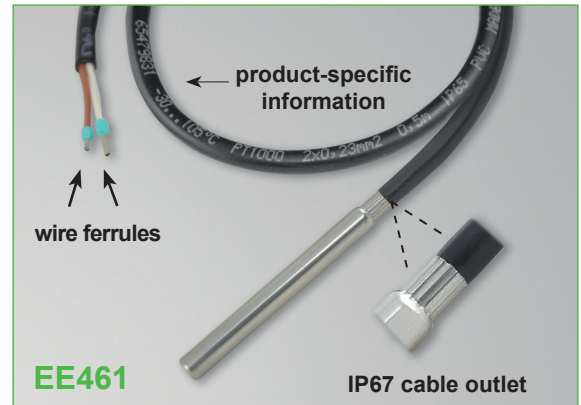


EE461

Cable Temperature Sensor

Cable sensors for passive temperature measurement are used in heating, ventilation and air conditioning systems as well as for process control.

Several types of sensing elements such as Pt1000, NTC10k or Ni1000 are available. Due to an innovative production concept (star pressing of the sensor sleeve) a high protection class IP67 is provided. Product-specific information is printed all along the cable.



Typical Applications

Building automation
 Process and climate control

Features

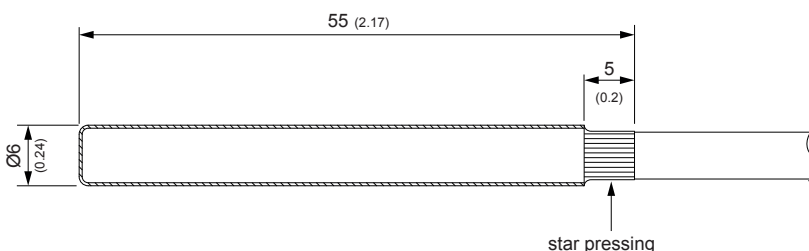
High protection class
 Cable labeling
 Various sensing elements and cable lengths

Technical Data

Operating temperature	PVC -30 °C...+105 °C (-22 °F...+221 °F)			
Types of T-Sensors	Sensor Type	Nominal Resistance	Sensitivity	Standard
	Pt100 DIN B	R ₀ : 100 Ω	TC: 3.850 x 10 ⁻³ /°C	DIN EN 60751
	Pt1000 DIN B	R ₀ : 1000 Ω	TC: 3.850 x 10 ⁻³ /°C	DIN EN 60751
	NTC1.8k	R ₂₅ : 1.8 kΩ ± 0.2 K	B _{25/85} : 3500 K ± 1.0 %	-
	NTC2.2k	R ₂₅ : 2.252 kΩ ± 0.2 K	B _{25/85} : 3977 K ± 0.3 %	-
	NTC10k B3950	R ₂₅ : 10 kΩ ± 0.5 %	B _{25/85} : 3989 K (B _{25/50} : 3950 K ± 1.0 %)	-
	NTC10k B3435	R ₂₅ : 10 kΩ ± 1 %	B _{25/85} : 3435 K	-
	KTY81-210	R ₂₅ : 1980-2020 Ω	-	-
	Ni1000 TK6180 DIN B	R ₀ : 1000 Ω	TC: 6180 ppm/K	DIN 43760
	Ni1000 TK5000 DIN B	R ₀ : 1000 Ω	TC: 5000 ppm/K	DIN 43760
Measurement current	typ. < 1 mA ¹⁾			
T-Sensor connection	two-wire, wire resistance see additional information below			
Insulation resistance	> 100 MΩ at 20 °C (68 °F)			
Response time τ ₆₃	< 1 min, at 3 m/s (590 ft/min) air velocity < 30 s, with immersion well in liquid water bath			
Sensor sleeve material	stainless steel (1.4571 / 316Ti)			
Cable material	PVC 2x0.22 mm ²			
Protection class	IP67 / NEMA 4			
Storage temperature	-30 °C...+70 °C (-22 °F...+158 °F)			
Working and storage humidity range	5 % rh...95 % rh, no condensation			

1) according technical data of the specific T-sensors

Dimensions in mm (inch)



Ordering Guide

Order Example

MODEL	T-SENSOR ¹⁾	CABLE MATERIAL	CABLE LENGTH
Temperature (T)	Pt100 DIN B (B)	PVC (105 °C (221 °F)) (A)	0.5 m (1.6 ft) (A)
	Pt1000 DIN B (D)		2 m (6.6 ft) (D)
	NTC1.8k (G)		3 m (9.8 ft) (E)
	NTC2.2k (V)		5 m (16.4 ft) ²⁾ (G)
	NTC10k B3950 (L)		6 m (19.7 ft) ³⁾ (J)
	NTC10k B3435 (O)		10 m (32.8 ft) ²⁾ (H)
	KTY81-210 (N)		
	Ni1000 TK6180 DIN B (J)		
Ni1000 TK5000 DIN B (T)			
EE461-			

EE461-TDAD

Model: Temperature
T-Sensor: Pt1000 DIN B
Cable Material: PVC
Cable Length: 2 m (6.6 ft)

- 1) T-Sensor details see www.epluse.com/R-T_Characteristics
2) Only available with PT1000 DIN B T-sensor
3) Only available with NTC10k B3950 T-sensor

Mounting Accessories

Immersion well - Thread: R 1/2" ISO

Length	50 mm (1.97")	100 mm (3.94")	135 mm (5.31")	285 mm (11.22")
brass	HA400101	HA400104	HA400102	HA400103
stainless steel	HA400201	HA400204	HA400202	HA400203

Immersion well - Thread: 1/2" NPT

Length	50 mm (1.97")	100 mm (3.94")	135 mm (5.31")	285 mm (11.22")
brass	HA400111	HA400114	HA400112	HA400113
stainless steel	HA400211	HA400214	HA400212	HA400213

For further information please see datasheet EE431.

Mounting with immersion well:



1. The spring inside the well must be removed and replaced by a standard M12x1.5 cable gland (not included in the scope of supply).
2. Insert the cable sensor and fix it by fastening the cable gland.

Please observe the operating temperature range of the cable gland!

Cable gland (M12x1.5, -40 °C...+100 °C / -40 °F...+212 °F, UL94-V0) **HA403101**

Hose clamp (for pipe mounting) **HA402101**

For further information please see datasheet EE441.

Additional Information

Wire Resistance / Temperature Offset

Cable length	Wire resistance	Temperature offset for Pt100 ^{*)}
0.5 m (1.64 ft)	0.086 Ω	0.22 °C (0.396 °F)
2 m (6.56 ft)	0.344 Ω	0.88 °C (1.584 °F)
3 m (9.84 ft)	0.516 Ω	1.32 °C (2.376 °F)
5 m (16.4 ft)	0.860 Ω	2.2 °C (3.96 °F)
10 m (32.8 ft)	1.720 Ω	4.4 °C (7.92 °F)

*) For high-resistance T-sensors (R ≥ 1000 Ω) the temperature offset is negligible.