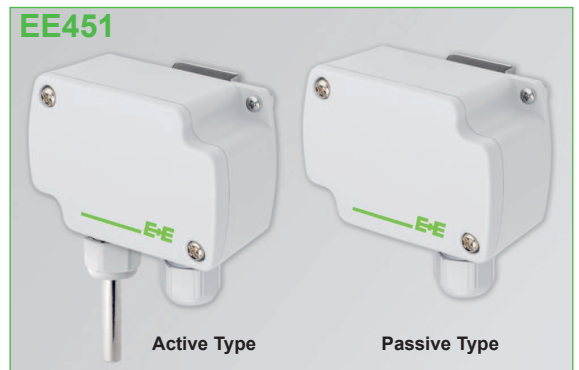


EE451

Wall Mounted Temperature Sensor for Indoor and Outdoor

E+E sensors EE451 are used for temperature measurement in heating, ventilation and air conditioning systems enabling weather-dependent temperature regulation. In addition to active outputs 0-10 V or 4-20 mA various types of sensing elements such as Pt1000, NTC10k or Ni1000 are available for passive temperature measurement. The innovative enclosure concept (IP65) with a mounting bracket allows for easy installation and unbiased detection of ambient temperature. The optional adapter EE-PCA and the free configuration software EE-PCS facilitate the adjustment and setup of the active temperature sensors.



Features



- External mounting holes**
- » Mounting with closed cover
 - » Protection against construction site pollution
- Bayonet screws**
- » Open/closed with a ¼ rotation



- Mounting bracket**
- » Distance to wall for correct measurement of ambient temperature



Technical Data

Active Output

Sensing element	Pt1000 (class A, DIN EN60751)	
Output	0-10 V	-1 mA < I _L < 1 mA
	4-20 mA (two-wire)	R _L < 500 Ω
Accuracy	±0.3 °C (±0.54 °F) at 20 °C (68 °F)	
Supply voltage (Class III)	15-35 V DC or 24 V AC ±20%	
for 0-10 V	10 V DC + R _L x 20 mA < V+ < 35 V DC	
for 4-20 mA		
Current demand	DC: typ. 5 mA AC: typ. 12 mA _{eff}	
Electromagnetic compatibility	EN61326-1, EN61326-2-3 industrial environment	

Passive Output

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
	NTC10k	R ₂₅ : 10 kΩ ± 0.5 %	B _{25/85} : 3989 K (B _{25/50} : 3950 K ± 1.0 %)	-
	NTC1.8k	R ₂₅ : 1.8 kΩ ± 0.2 K	B _{25/85} : 3500 K ± 1.0 %	-
	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			
Electrical connection	screw terminal, 2x max. 2.5 mm ² (0.004 in ²)			

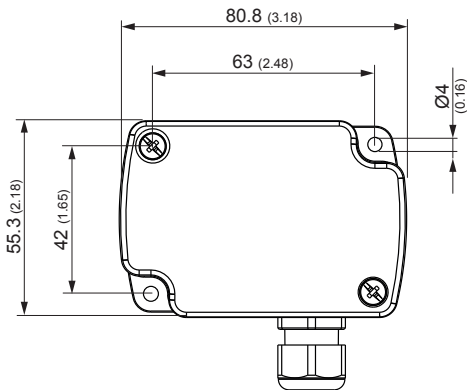
1) according technical data of the specific T-sensors

General

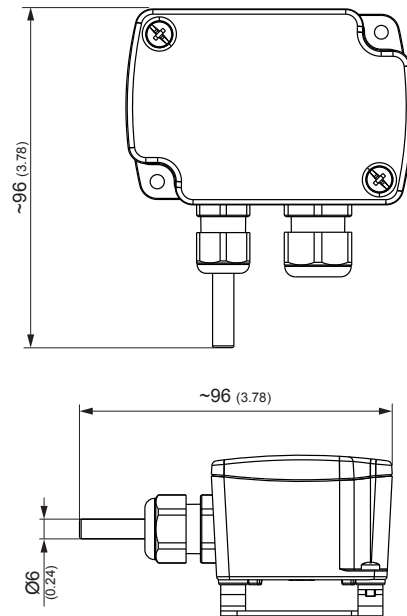
Operating temperature	-40 °C...+70 °C (-40 °F...+158 °F)
Enclosure material	polycarbonate, UL94-V0 approved
Protection class	IP65 / NEMA 4
Cable gland	M16x1.5, UL94-V2
Mounting bracket material	stainless steel (corr. 1.4301 / 304)
Storage temperature	-30 °C...+70 °C (-22 °F...+158 °F)
Storage humidity range	5 % rh...95 % rh, no condensation

Dimensions in mm (inch)

Housing passive type

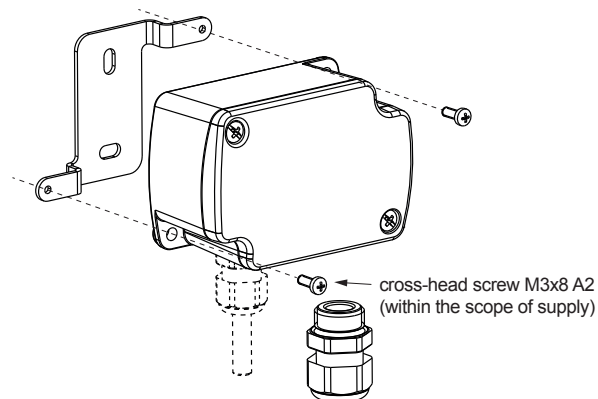


Housing active type

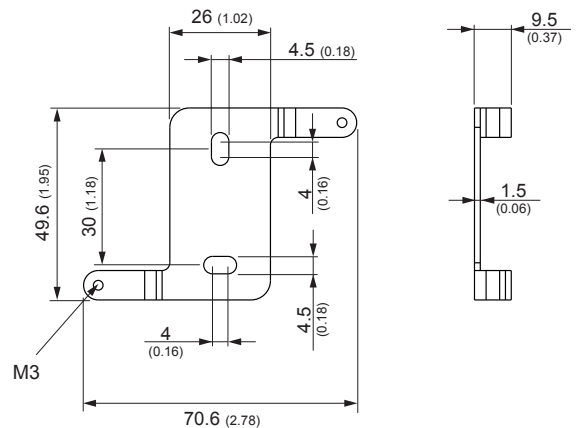


mounting bracket (included in the scope of supply)

Mounting



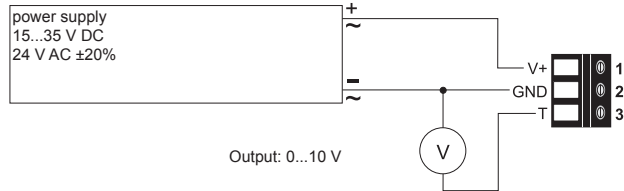
Mounting Bracket



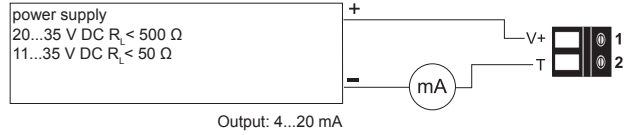
Connection Diagram

Active Output

EE451-T3xx



EE451-T6xx



Passive Output

EE451-Txx



Scope of Supply

- EE451 Temperature sensor according to ordering guide
- Cable gland
- Mounting bracket
- Two self-adhesive labels for configuration changes (see user guide at www.epluse.com/relabeling)
- Test report according to DIN EN10204 - 2.2 (for active output only)

Ordering Guide

MODEL	ANALOGUE OUTPUT	T-SENSOR PASSIVE ¹⁾	SCALING ²⁾ (analogue output only)	UNIT (analogue output only)
Temperature	(T) 0-10 V 4-20 mA none	(3x) Pt100 DIN B	(BPO) -40...60	(002) °C (M)
		(6x) Pt1000 DIN B	(DPO) -30...70	(008) °F (N)
		(xx) NTC10k	(LPO) 0...50	(004)
		NTC1.8k	(GPO) 0...100	(005)
		Ni1000 TK6180 DIN B	(JPO) 32...212	(075)
		Ni1000 TK5000 DIN B	(TPO) -40...140	(083)
Analogue output	(xPO)			
EE451-				

1) T-Sensor details see www.epluse.com/R-T_Characteristics

2) other scaling upon request

Order Example

Passive Output

EE451-TxxLPO

Model: Temperature
 T-Sensor passive: NTC10k

Active Output

EE451-T3xxPO/008M

Model: Temperature
 Analogue Output: 0-10 V
 Scaling: -30...70 °C

Accessories

Product configuration adapter [see data sheet EE-PCA](#)
 Product configuration software [EE-PCS](#) (free download: www.epluse.com/configurator)
 Power supply adapter [V03](#) (see data sheet Accessories)
 Conduit adapter, M16x1.5 to 1/2" [HA011110](#)