

SOD-T Outdoor Temperature Sensor

Features

- Outdoor temperature measurement
- Thermistor, NI and PT sensing elements to fit your system
- Simple and secure installation
- Wide range of temperature probes



Applications

- Outside air temperature measurements for summer winter compensation, energy optimization and economizer.
- Frost protection control of outside air dampers

Temperature Sensor

The sensor measures the temperature by use of a NTC, PT, or NI-sensing element. The sensing element is either a glass packed thermistor with a negative temperature coefficient, a platinum film or a nickel thin layer based probe. Its resistance changes according to the temperature. The change follows a specified curve. Contact our sales department for curves not yet listed below.

Ordering

Item Name	Item Code	Probe	Definition	Time Constant	Comments
SOD-Tn3	40-20 0058	NTC 3kΩ at 25°C	B _{25/50} 3935	ca. 12 min	
SOD-Tn10	40-20 0059	NTC 10kΩ at 25°C	B _{25/50} 3935	ca. 12 min	Vector Standard
SOD-Tn11	40-20 0060	NTC 10kΩ at 25°C	B _{25/50} 3630	ca. 12 min	
SOD-Tn12	40-20 0091	NTC 10kΩ at 25°C	B _{25/50} 3380	ca. 12 min	
SOD-Tn20	40-20 0061	NTC 20kΩ at 25°C	B _{25/50} 4200	ca. 12 min	
SOD-Tn100	40-20 0062	NTC 100kΩ at 25°C	B _{25/50} 4200	ca. 12 min	
SOD-Tp1	40-20 0063	PT100	EN60751	ca. 12 min	
SOD-Tp2	40-20 0064	PT1000	EN60751	ca. 12 min	
SOD-Tk5	40-20 0065	NI1000, 5000 ppm/K	DIN 43760	ca. 12 min	

Accessories

Depending on installation requirement, add cable gland or conduit connector. SOD-T does not include cable glands or conduit connectors. They need to be ordered separately.

Item Name	Item Code	Description/Option
AMC-1	20-10 0035	Cable gland PG9 for cables Ø 4 – 8 mm (AWG 6 – 1)
AMC-2	20-10 0067	Conduit connector NPT 1/2

Installation

Location:

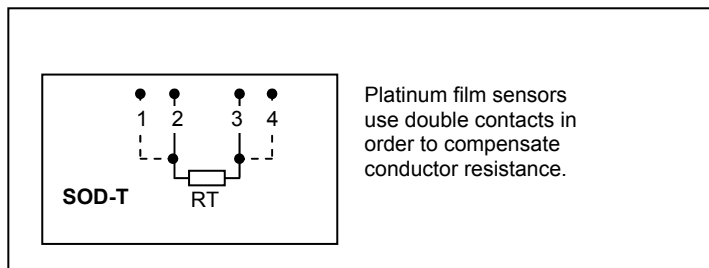
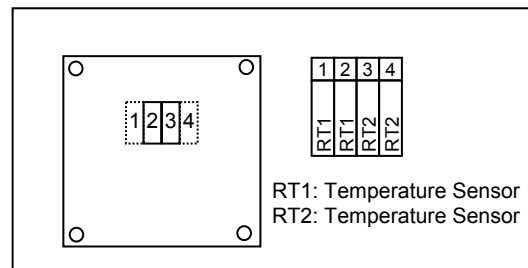
Outside air probes must be installed on a flat vertical surface protected from direct sunlight and rain. Always install on the coldest wall of the building. Avoid locations exposed to direct sun light or above doors and windows. Mount at least 2.5 m above ground, preferably in the middle of the building.

Procedure:

- The cable gland must face downwards.
- To install the sensor, remove cover
- Place seal and washer below the long mounting screw. Securely fix it to wall.
- Thread wires through cable gland or conduit connector
- Connect the wires according to the wiring diagram to the measuring circuit in the cover:
 - The Thermistors require two conductors; normally 18ga unshielded twisted pair.
 - The PT1000 sensors come with each two terminal connectors in order to connect up to four conductors for compensating conductor resistance.
- Tighten cable gland
- Assemble the cover with the base plate. Make sure the seal in the cover is not damaged and in place.
- Tighten the four screws of the cover with moderate torque to complete the installation.

Technical Specification

Sensing Probe	Thermistor:	NTC	
	Accuracy: -40...0°C (-40...32°F):	0.5 K	
	0...50°C (32...122°F):	0.2 K	
	50...100°C (122...212°F):	0.5 K	
	Platinum-Film:	PT according EN 60751	
	Accuracy	EN 60751, Class B +/- 0.3 at 0°C (32°F), 0.005 x t[K] for values away from 0°C (32°F).	
	Nickel Thin Layer:	1000 Ω at 0°C (32°F), 5000 ppm/K	
	Accuracy	DIN 43760 +/- 0.4 at 0°C (32°F), <0°C(32°F) 0.028 x t[K], >0°C(32°F) 0.007 x t[K]	
Connection	Terminal Connectors	For wire 0.34...2.5 mm ² (AWG 24...12)	
Environment	Operation	To IEC 721-3-3	
	Climatic Conditions	class 3 K5	
	Temperature	-40...100°C (-40...212°F)	
	Humidity	<95% R.H. non-condensing	
	Transport & Storage	To IEC 721-3-2 and IEC 721-3-1	
	Climatic Conditions	class 3 K3 and class 1 K3	
	Temperature	-40...100°C (-40...212°F)	
	Humidity	<95% R.H. non-condensing	
	Mechanical Conditions	class 2M2	
Standards	conformity	EMC Directive	2004/108/EC
		Low Voltage Directive	2006/95/EC
		Product standards	
	Automatic electrical controls for household and similar use	EN 60 730 -1	
	Special requirement on temperature dependent controls	EN 60 730 - 2 - 9	
	Degree of Protection	IP65 to EN 60 529	
Safety Class	III (IEC 60536)		
Housing	Material	Fire proof PC + ABS plastic	
	Dimensions	Cover: (H x W x D) 33 x 60 x 50 mm (1.3 x 2.4 x 2 in)	
	Weight (including package)	80 g (2.8 oz)	

Wiring Diagram

Terminal Connections

Dimension
