

OUTDOOR AIR TEMPERATURE SENSOR

⚙️ Features:

- General purpose outdoor air temperature sensor
- Cost efficient design
- Available in threaded metallic version with rugged weatherproof electrical box
- Sturdy construction - all metallic housing with solar shield with optional weatherproof electrical box
- Easy installation - just threads into mounting hole or standard handy box installation
- Fully potted metal housing protects sensing element and provides fast, accurate temperature sensing



⚙️ Description:

This sensor is used to measure the outside air temperature to allow the DDC system to coordinate the mechanical systems with actual building load conditions, enabling such strategies as free cooling, optimum start / stop, and supply temperature reset. The housing is made from diecast aluminium electrical fittings which shield the probe from direct sunlight. The probe is manufactured to industrial standards. There are six thermistor based models, and three RTD version to provide compatibility with the majority of DDC systems. The sensors are accurate enough that calibration is not usually required.

⚙️ Specification:

Thermistor Accuracy	:	$\pm 0.1^{\circ}\text{C}$
Platinum RTD Accuracy	:	$\pm 0.2^{\circ}\text{C}$
Thermistor Range	:	$-40 \sim 120^{\circ}\text{C}$
Platinum RTD Range	:	-200°C to 300°C
Probe Material	:	Stainless Steel
Cable Properties	:	FT4, 80°C , 600V

⚙️ Construction:

The sensor probe is made from stainless steel which is welded, ground down, and finally pressure tested before assembling. The probe is then baked and epoxy sealed to provide long term protection from moisture.

The sensor housing is a metallic electrical enclosure which is UL approved for outdoor use. The housing extends over the probe to protect from sunlight radiation.

The sensor lead extends 12" from the enclosure, making it long enough to reach a junction box and terminate inside the building. The thermistor models are accurate to 0.2°C while the platinum RTD is accurate to 0.5°C .



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Construction:

The OAT sensor can be mounted on the outside of the building using the following guidelines:

- Choose a spot on the north face which will be out of sunlight for as much of the day as possible.
- Mount the sensor where it can be serviced, staying away from exhaust ducts. Point the probe downwards to avoid catching rain.
- To install the sensor, drill a 3/4" (20mm) hole through the wall, and pipe the sensor to an electrical junction box on the inside of the wall. The sensor has a female 1/2" NPT threaded fitting to accept a short length of 1/2" pipe or PVC. Two conductors are required, 18ga, unshielded twisted pair is common.

HOW TO ORDER

Description:

OAT

OAT Outdoor Air Temperature Sensor

ENCLOSURE:

M

M Metal Box

TEMPERATURE CURVE:

7

2	PT-100 3 Wire	5	1.8KΩ Thermistor	6	3KΩ Thermistor
7	10KΩ Thermistor, Type 2	9	100KΩ Thermistor	11	LM334 IC SENSOR
12	PT-1000, 2 Wire	13	Ni-1000, 2 Wire	20	20kΩ Thermistor
21	LM335 IC SENSOR	24	100KΩ Thermistor, Type 3		

*Thermistors, pt elements and probe sizes for all popular control systems are available, send us an email if you don't see what you need online.

Ordering Example: OAT - M - 7

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