

T7416A OUTSIDE AIR TEMPERATURE SENSOR

PRODUCT DATA



FEATURES

- Available with different temperature sensing element: Pt 1000, NTC 20kΩ and NTC 10kΩ
- Wide sensing range
- High accuracy

Models

OS-No.	Description
T7416A1014	OAT sensor with Pt 1000 sensing element
T7416A1022	OAT sensor with NTC 20kΩ sensing element
T7416A1030	OAT sensor with NTC 10kΩ sensing element

GENERAL

The T7416A outside air temperature sensor is used in heating, ventilating and air conditioning systems for reset of the main setpoint in weather dependent control systems. They are designed for wall mounting. The Outside Air Temperature Sensors are used in the following control systems

- Excel Classic
- Excel Plus
- High Performance Excel Plus
- Excel EMC
- Excel 5000
- MicroniK 100 and MicroniK 200

or other systems using the specified temperature sensing elements. The resistor sensing element changes its resistance value according to the temperature.

Temperature Sensor

Sensing Element	Temperature Sensing Range	Nominal Value	Sensitivity	Accuracy	Response Time $\tau_{0.5}$
Pt 1000	-40 +70°C (-40 ...+158°F)	1000 Ω @ 0°C	≈ 3.85 Ω / K	DIN IEC751 Class B $\Delta T/K = 0.3 + 0.005 \cdot t$ (t = °C) 0.2 K @ 25°C	≈ 7 min
NTC 20kΩ		20 kΩ @ 25°C	nonlinear		
NTC 10kΩ		10 kΩ @ 25°C	Charact.		

SPECIFICATIONS

Ambient Limits

Transport and storage temperature -40 +70°C (-40 ...+158°F)

Humidity 5...95%rh, non condensing

Safety

Protection standard IP54 in acc. with EN60529 terminal box and tube

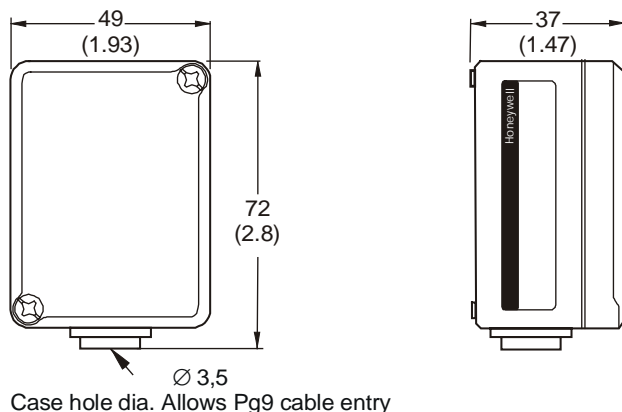
Dimensions

See page 2

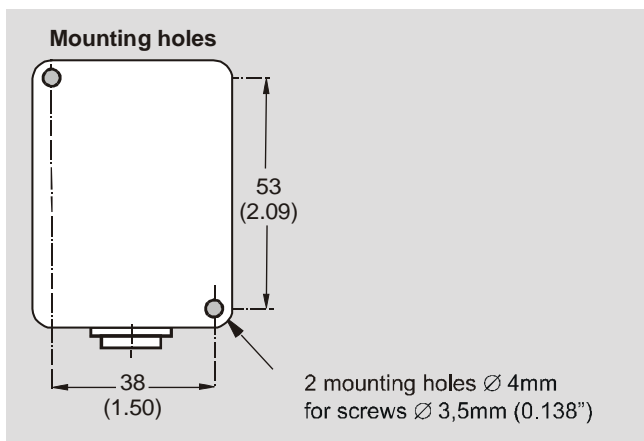
Weight

60 g

DIMENSIONS



Case hole dia. Allows Pg9 cable entry



Dimensions in mm and (inch)

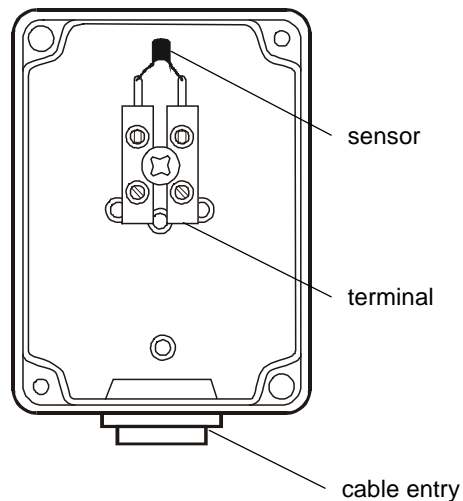
INSTALLATION

Wiring Run	Maximum Length
Sensor to controller	200m (660ft)

Offset of Pt 1000 sensor due to wire resistance per 10m distance from sensor to controller; NTC sensor negligible:

Type of Wire	Temperature Offset
0.5mm ² (AWG20)	0.18°C (0.324°F)
1.0mm ² (AWG17)	0.09°C (0.162°F)
1.5mm ² (AWG15)	0.06°C (0.108°F)

NOTE: Use shielded wiring in areas with high EMI.
Keep 15cm (5.9") minimum distance between sensor lines and 230Vac power lines.



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