

Outdoor sensor Temperature

Active sensor (4...20 mA) for measuring temperature in outdoor areas. Typical applications at cold stores, greenhouses, production plants and warehouses. NEMA 4X / IP65 rated enclosure.



5-year warranty


Type Overview

Type	Output signal active temperature	Additional features
22UT-54	4...20 mA	External Sensor

Technical data

Electrical Data	Nominal voltage	DC 24 V																																				
	Nominal voltage range	DC 13.5...26.4 V																																				
	Power consumption DC	0.5 W																																				
	Electrical connection	Pluggable spring-loaded terminal block max. 2.5 mm ²																																				
	Cable entry	Cable gland with strain relief ø6...8 mm (1/2" NPT conduit adapter included)																																				
Functional Data	Medium	Air																																				
	Multirange	8 measuring ranges selectable																																				
	Current output	1x 4...20 mA, max. resistance 500 Ω																																				
Measuring Data	Measured values	Temperature																																				
Specification temperature active	Sensing element technology	Based on Pt1000 class AA																																				
	Measuring range temperature settings	Active sensor: range selectable Attention: The maximum measuring range listed does not indicate the allowable fluid temperature for the sensor. Refer to safety data for the maximum fluid temperature limits.																																				
		<table border="1"> <thead> <tr> <th>Setting</th> <th>Range [°C]</th> <th>Range [°F]</th> <th>Factory setting</th> </tr> </thead> <tbody> <tr> <td>S0</td> <td>-50...50</td> <td>-30...130</td> <td>✓</td> </tr> <tr> <td>S1</td> <td>-10...120</td> <td>0...250</td> <td></td> </tr> <tr> <td>S2</td> <td>0...50</td> <td>40...140</td> <td></td> </tr> <tr> <td>S3</td> <td>0...250</td> <td>30...480</td> <td></td> </tr> <tr> <td>S4</td> <td>-15...35</td> <td>0...100</td> <td></td> </tr> <tr> <td>S5</td> <td>0...100</td> <td>40...240</td> <td></td> </tr> <tr> <td>S6</td> <td>-20...80</td> <td>40...90</td> <td></td> </tr> <tr> <td>S7</td> <td>0...160</td> <td>0...150</td> <td></td> </tr> </tbody> </table>	Setting	Range [°C]	Range [°F]	Factory setting	S0	-50...50	-30...130	✓	S1	-10...120	0...250		S2	0...50	40...140		S3	0...250	30...480		S4	-15...35	0...100		S5	0...100	40...240		S6	-20...80	40...90		S7	0...160	0...150	
Setting	Range [°C]	Range [°F]	Factory setting																																			
S0	-50...50	-30...130	✓																																			
S1	-10...120	0...250																																				
S2	0...50	40...140																																				
S3	0...250	30...480																																				
S4	-15...35	0...100																																				
S5	0...100	40...240																																				
S6	-20...80	40...90																																				
S7	0...160	0...150																																				
	Accuracy temperature	±0.5°C @ 21°C [±0.9°F @ 70°F] @ measuring range setting S2 and S4																																				
	Long-term stability	±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]																																				
	Time constant τ (63%) in the room	Typical 542 s																																				
Safety Data	Protection class IEC/EN	III, Protective Extra-Low Voltage (PELV)																																				

Technical data

Safety Data	Power source UL	Class 2 Supply
	Degree of protection NEMA/UL	NEMA 4X
	Housing	UL Enclosure Type 4X
	EU Conformity	CE Marking
	Certification IEC/EN	IEC/EN 60730-1
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Type of action	Type 1
	Rated impulse voltage supply	0.8 kV
	Pollution degree	3
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-30...120°F [-35...50°C]
	Fluid temperature	-35...50°C [-30...122°F]
	Housing surface temperature	max. 160°F [70°C]
	Materials	Housing
Cable gland		PA6, black
Mounting plate		PC, grey RAL 7001

Safety Notes


This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorized modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Remarks

General Remarks Concerning Sensors When using lengthy connection wires (depending on the cross section used) the measuring result might be falsified due to a voltage drop at the common GND-wire (caused by the voltage current and the line resistance). In this case, 2 GND-wires must be wired to the sensor - one for supply voltage and one for the measuring current.

Sensing devices with a transducer should always be operated in the middle of the measuring range to avoid deviations at the measuring end points. The ambient temperature of transducer electronics should be kept constant. The transducers must be operated at a constant supply voltage (± 0.2 V). When switching the supply voltage on/off, onsite power surges must be avoided.

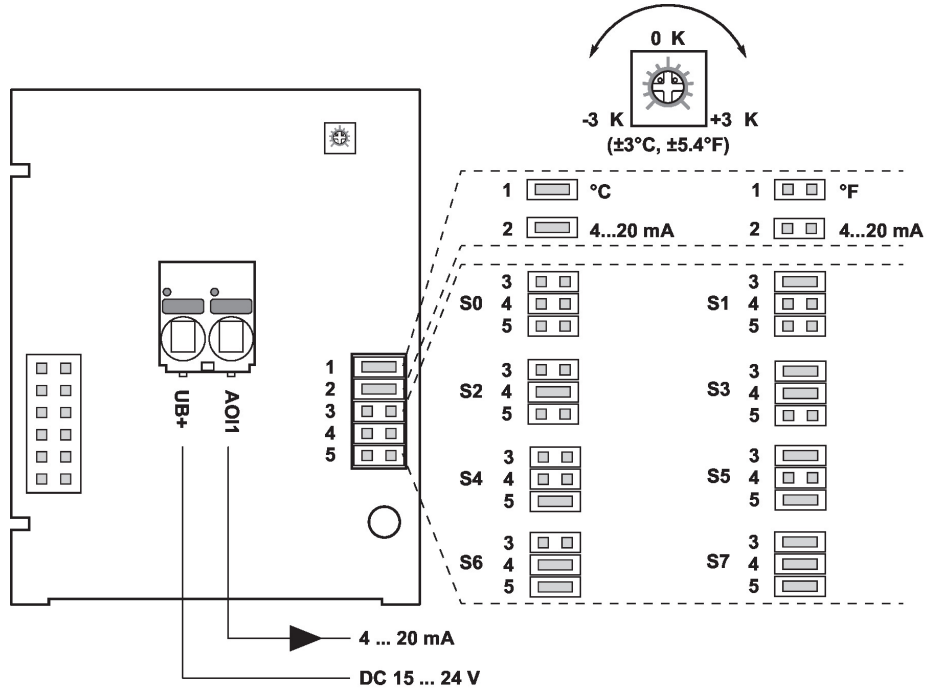
Parts included

Description	Type
Mounting plate S housing	A-22D-A09

Parts included

- Dowels
- Screws
- 1/2" NPT conduit adapter

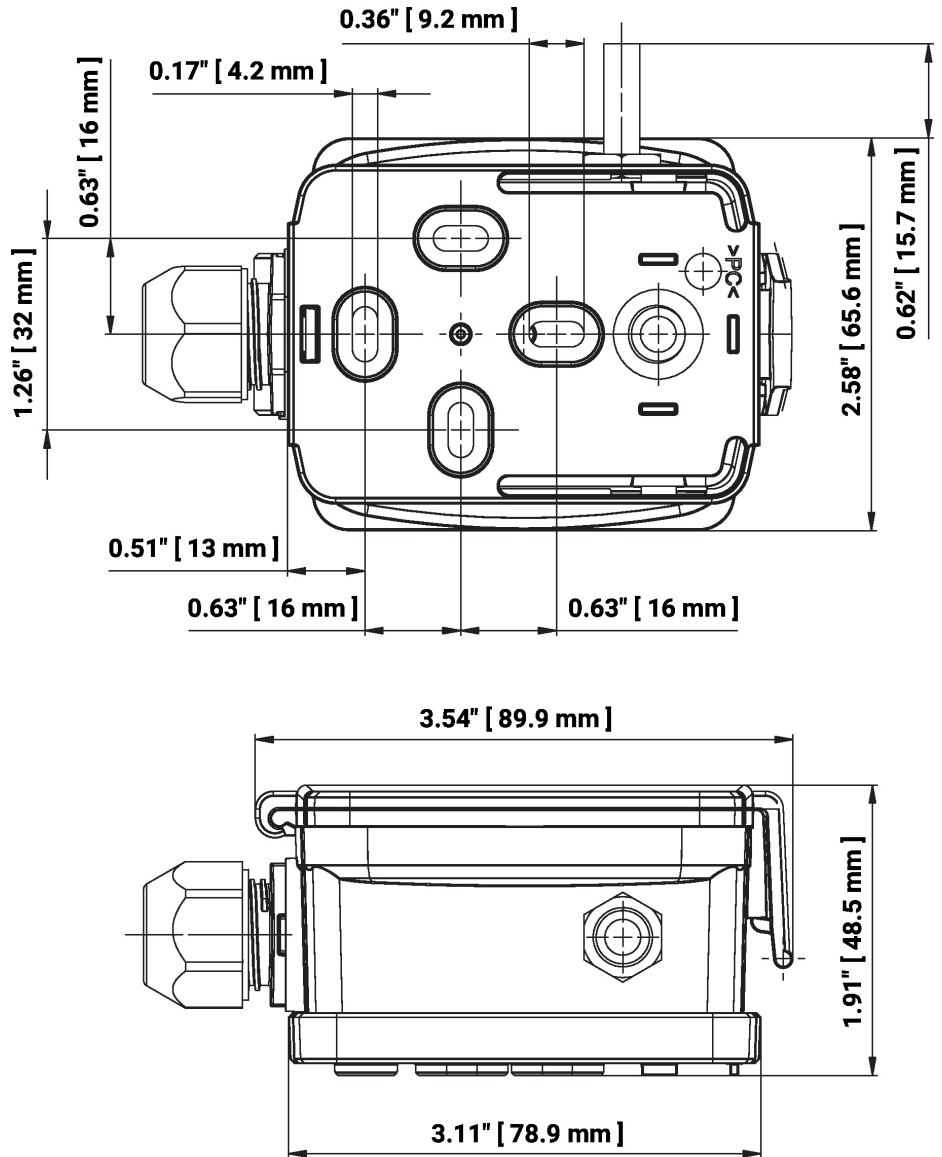
Wiring Diagram



The following measuring ranges can be adjusted through the jumper settings:

Setting	Range [°C]	Range [°F]	Factory setting
S0	-50...50	-30...130	✓
S1	-10...120	0...250	
S2	0...50	40...140	
S3	0...250	30...480	
S4	-15...35	0...100	
S5	0...100	40...240	
S6	-20...80	40...90	
S7	0...160	0...150	

Dimensions



Type	Probe Length	Weight
22UT-54	1" [25 mm]	0.29 lb [0.13 kg]

Further documentation

- Installation instructions