

Outdoor Humidity, Temperature Sensor with weather shield

Active humidity and temperature sensor (0...10 V) for outside applications. The radiation shield protects the outside sensors from rain and radiated heat. With the curved shape and color of the plates air flow is able to move across the sensors to keep radiated temperatures from rooftops and surrounding surfaces from affecting humidity readings.



Type Overview

Type	Output Signal Active Temperature	Output Signal Active Humidity
22UTH-110X	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V

Technical Data

Electrical data	Power Supply DC	15...24 V, ±10%, 0.4 W
	Power Supply AC	24 V, ±10%, 0.8 VA
	Electrical connection	Removable spring loaded terminal block max. 2.5 mm ²
	Cable entry	Cable gland PG11 Ø6...10 mm, with strain relief Ø6...8 mm
Functional data	Multirange	4 measuring ranges selectable
	Output signal active note	Output DC 0...5/10 V with Jumper adjustable Voltage output: min. 10 kΩ load
Media		Air

Measuring data	Measured values	Temperature Relative humidity Dew point Enthalpies Absolute humidity		
	Measuring range humidity	0...100% rH non-condensing		
	Measuring range temperature	Active sensor: range selectable Attention: max. measuring temperature is restricted by max. medium temperature (see Safety data)		
		Setting	range [°C]	range [°F] Factory setting
		S0	-40...60 °C	-40...160 °F
		S1	0...50 °C	40...140 °F
		S2	-15...35 °C	0...100 °F
		S3	-20...80 °C	0...200 °F ✓
	Measuring range absolute humidity	adjustable at the transducer: 0...50 g/m ³ (default setting) 0...80 g/m ³		
	Measuring range enthalpy	0...85 kJ/kg		
Measuring range dew point	adjustable at the transducer: 0...50 °C (default setting) -20...80 °C			
Accuracy humidity	±2% between 10...90% r.H. @ 21 °C			
Accuracy temperature active	±0.5 °C @ 25 °C [±0.9 °F @ 77 °F]			
Operating condition air flow	max. 12 m/s			
Materials	Cable gland	PA6, white		
	Housing	Cover: Lexan, white Bottom: Lexan, white Seal: 0467 NBR70, black		
Safety data	Ambient humidity	85% r.H., non-condensing		
	Ambient temperature	-35...50 °C [-30...120 °F]		
	Medium temperature	-35...50 °C [-30...120 °F]		
	Operating condition air flow	max. 12 m/s		
	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)		
	Protection class UL	UL Class 2 Supply		
	EU Conformity	CE Marking		
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-13		
	Certification UL	cULus acc. to UL60730-1A/-2-9/-2-13, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, NEMA 4X, IP65, UL Enclosure Type 4X		
	Degree of protection IEC/EN	IP65		
	Degree of protection NEMA/UL	NEMA 4X		
	Quality Standard	ISO 9001		
	Weight	0.24 lbs		

Safety notes



The installation and assembly of electrical equipment should only be performed by authorized personnel.

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. Unauthorised modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten human, animals or assets.

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

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

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 the 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.

Application Notice for Humidity Sensors

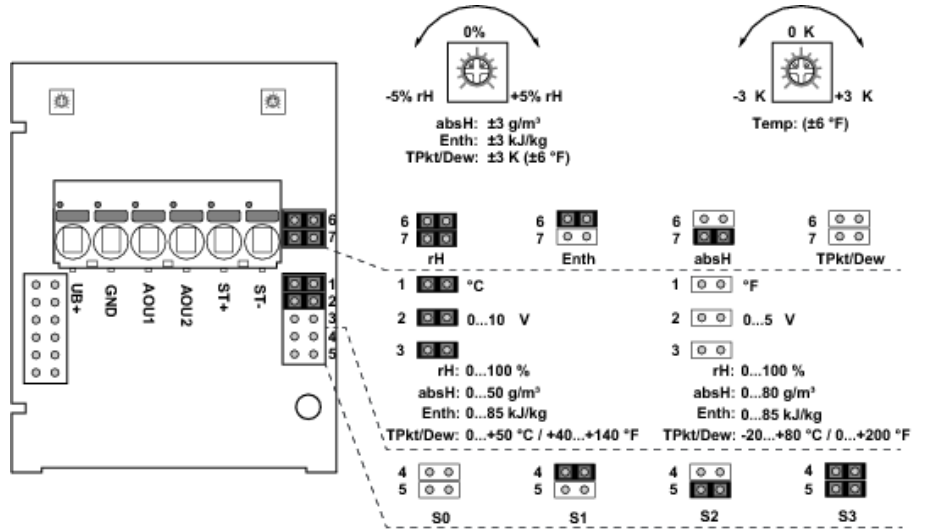
Refrain from touching the sensitive humidity sensor/element. Touching the sensitive surface will void warranty.

For standard environmental conditions the manufacturing accuracy specified in the datasheet will be covered by the calibration warranty for two years. When exposed to harsh environmental conditions such as; high ambient temperature and/or high levels of humidity or presence of aggressive gases (i.e. chlorine, ozone, ammonia) the sensor element may be affected and readings may be outside specified accuracy. Replacement of deteriorated humidity sensor due to harsh environmental conditions are not subject of the general warranty.

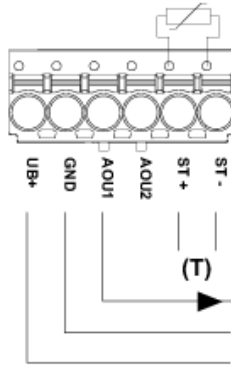
Accessories

Optional Accessories	Description	Type
Scope of delivery	Dowel Screws	
	Replacement filter Stainless steel, wire mesh	A-22D-A06

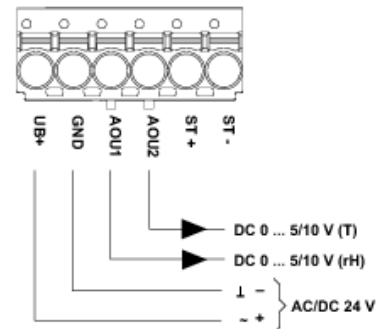
Wiring diagram



**22..TH-..1..
0...5/10 V + ST**



**22..TH-..1..
2 x 0...5/10 V**



rH Relative humidity
absH Absolute humidity
Enth Enthalpy
TPkt/Dew Dew point

The adjustment of the measuring ranges is made by changing the bonding jumpers.
The output value in the new measuring range is available after 2 seconds.

Setting	range [°C]	range [°F]	Factory setting
S0	-40...60 °C	-40...160 °F	✓
S1	0...50 °C	40...140 °F	
S2	-15...35 °C	0...100 °F	
S3	-20...80 °C	0...200 °F	

Dimensions

