



TH20

Relative humidity and temperature transmitter

User manual

1. Safety instructions

Before using the device, please read carefully this user manual. It delivers important information about the device operations, maintenance and storage.

- Interior use.
- Respect the measuring ranges of transmitter.
- This device has been developed to measure temperature and relative humidity. It must not be used in any other purpose.
- This device has been developed and produced to be sold exclusively to trained and qualified HVACR technicians and engineers. Appropriate training might be necessary in order to ensure safe use of this instrument. Sauermann is not responsible for any possible accident during its use.
- Before connecting, check the type of power supply indicated on the product.
- Please always use the device in accordance with its intended use and within parameters described in the technical features in order not to compromise the protection ensured by the device.
- When using the device, the safety of the system integrating the device is the responsibility of the system assembler.
- Only the accessories provided with the device or available as an option must be used.
- Do not use the device if it is damaged or if it operates abnormally. Inspect the device before every use. In case of doubt, please contact Sauermann's After-sales service.
- The device must not be exposed to rain or any other humid environments (> 85 %RH) without using a proper protection.
- Do not use the device next to explosive and corrosives gases, vapours or dust.
- Do not place your fingers in movable zones of the device (articulations).
- The device must not be used in ATEX zones according to applicable standards.
- Do not store the device with solvents. Do not use desiccants. Do not use isopropanol.
- During use, keep inspecting the device and accessories for effective operation and your own safety.
- Do not give this product to a child.
- If the device falls or in case of similar inconveniences, or if an irregular malfunction appears, please send back the device to Kimo's After-sales service for a technical check and to ensure your own safety.

2. Symbols used

For your safety and in order to avoid any damage of the device, please read carefully the notes preceded by the following symbol:



The following symbol will also be used in this document, please read carefully the information notes indicated after this symbol:



3. 2014/30/EU Directive

Hereby, Sauermann Industrie SAS declares that the equipment type CP20 is in compliance with Directive 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address: sauermanngroup.com

4. Technical features

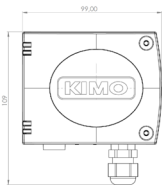
	Relative humidity	Temperature
Measuring ranges	0 to 100 %HR	Duct model: -20 to 60 °C Ambient model: -20 to 50 °C
Measurement units	%HR	°C, °F
Accuracy*	0 °C to 30 °C: ±2 %RH from 10 to 80 %RH**; -20 °C to 60°C***: ±0.04 x (T-20) %RH	-20 to 60 °C: ±0.3 °C
Output / Supply	Active sensor 0-10 V (power supply 24 Vac/Vdc ±10%), 3-4 wires Passive sensor 4-20 mA (power supply 16/30 Vdc), 2 wires Maximum load: 500 Ohms (4-20 mA) - Minimum load: 1 K Ohms (0-10 V) 24 Vac 50Hz / 24Vdc ±10%	
Consumption	1.5 VA	
European directives	2014/30/EU EMC; 2015/863/EU RoHS 3; 2012/19/EU WEEE	
Security	Protection class 3 - Pollution degree 2	
Electrical connection	Screw terminal block for cables from 0.15 to 1.5 mm ² or from 21 to 16 AWG. Carried out according to the code of good practice	
Environment	Air and neutral gases	
Response time	15 seconds	
Conditions of use (°C/%-RH/m)	Indoor use. -20 to 60 °C (duct model) / -20 to 50 °C (ambient model). In non-condensing condition. From 0 to 2000 m (0 to 6561').	
Storage temperature	From -25 to +70 °C (-13 to 158 °F)	

*All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

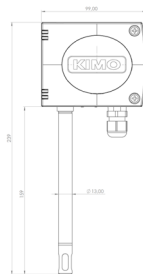
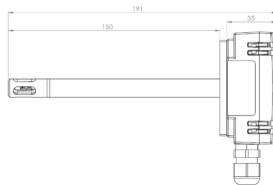
**For continuous use at values above 80%RH, please consult us.

*** Accuracies for T<0 °C or T>30 °C

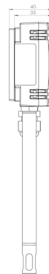
5. Features of the housing



TH20-XNA



TH20-XNS



Material	ABS V0 as per UL94
Protection	IP54
Cable gland	For cables Ø 8 mm maximum
Weight	126 g

6. Mounting instructions

Measuring accurately the relative humidity requires to observe some important installation and use advices. The relative humidity is a parameter with a strong dependence on the environmental temperature. Changing the temperature to which the sensor is exposed to will result into measuring an inaccurate relative humidity value. It is very important then to keep the sensor of instruments or probes at the temperature of the environment where the relative humidity is being measured.

It is needed to have the maximum part of the probe inside the measuring environment. If the sensor is exposed to temperature gradients or to temperatures that different from the environment temperature, the metrological performance will not be optimal.

Ensure sufficient air movement around the probe (>1 m/s) to be more accurate.

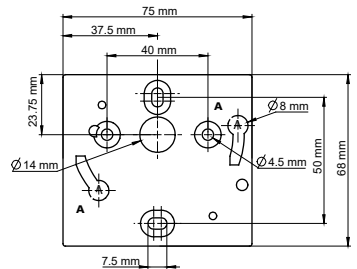
When moving the device from one area to another, wait sufficient time to equilibrate the probe with the environment.

For accurate measurement, the entire probe shall be calibrated in the calibration environment. Use the specific cable to calibrate the ambient probe.

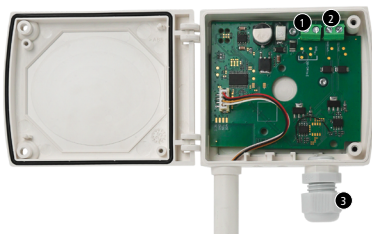
Humidity and temperature sensors are highly accurate environmental sensors that require special attention to ensure optimal performance. Sensors are sensitive to pollutants and must be protected from exposure to volatile chemicals, acids, bases, and cleaning agents. acetone, ethanol, isopropyl alcohol, toluene in particular, can cause drifts, sometimes irreversible.

To mount the transmitter, mount the ABS plate on the wall (drilling: Ø 6 mm, screws and pins are supplied).

Insert the transmitter on the fixing plate (see A on the drawing beside). Rotate the housing in clockwise direction until you hear a "click" which confirms that the transmitter is correctly installed.



7. Connections



1. Power supply terminal block
2. Output terminal block
3. Cable gland



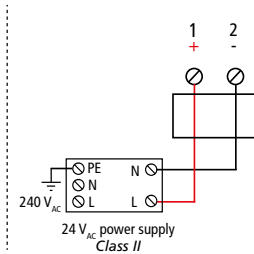
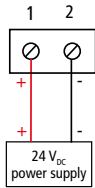
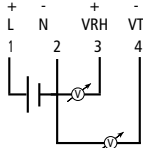
1. Relative humidity and current loop terminal block
2. Temperature and current loop terminal block
3. Cable gland

8. Electrical connections as per NFC15-100 standard

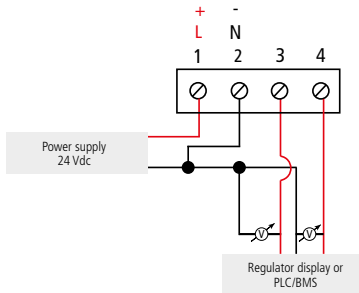
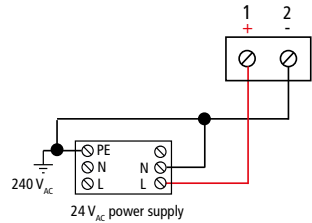


This connection must be made by a formed and qualified technician. Whilst making the connection, the transmitter must not be energized. The presence of a switch or a circuit breaker upstream the device is compulsory.

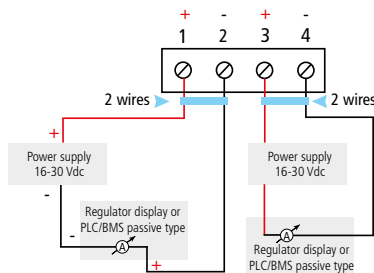
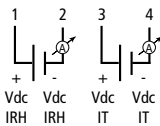
Active model



OR



Passive model



9. Maintenance

Please avoid any aggressive solvents. Please protect the transmitter and its probes from any cleaning product containing formalin, that may be used for cleaning rooms or ducts.

10. Precautions for use

Please always use the device in accordance with its intended use and within parameters described in the user manual in order not to compromise the protection ensured by the device.

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