Humidity-/ Temperature-Transmitter Operating instructions

DESCRIPTION

Relative humidity is detected by means of a Polymercapacitor, whose capacity changes with effect to the moisture contained in the surrounding air. The capacitive change is calibrated in relative humidity and transformed into the standardised 4...20 mA signal. This capacitor is, like the Pt100 in the combi-version, mounted inside a supporting tube with a sinterfilter, which protects against mechanical damage and external impurities. The two-wire electronics (separate for moisture and for temperature) is mounted inside the housing. Electrical connection is performed with an angled standardised connector. Fixing holes in the housing for wall mounting are accessible after removing the lid. A special flange features mounting the sensor in a duct.

Technical data see data-sheet No.: 9498-737-33013

ORDERING INSTRUCTIONS

Description	Order-No.		
	9407-291-000		1
Standard Sensor Humidity-wall Combi-wall		0 1	
Humidity-duct Combi-duct		2 3	
High Humidity Sensor Humidity-wall Special Combi-wall Special Humidity-duct Special Combi-duct Special		4 5 6 7	
Sensor length to specification (300, 400 or 500 mm)			2
OPTIONAL ACCESSORIES			
Flange		8	
Radiation protector		9	

Delivery comprises

Transmitter with angled connector,

Instructions 9499-040-52611; flange with duct-version

INSTRUMENT SAFETY

This instrument was built and tested according to safety standards for electronical measuring instruments. Safety and function of the device can only be granted if during operation the general applicable safety precautions as also the device specific safety hints of this documentation being followed.

- Design the wiring especially careful in respect of connection with other devices (e.g. PC). Possibly unknown internal connections of external devices (e.g. interconnection GND with protective earth) could lead to illegal potentials, which could result in interfering the function or even leads to substantial damage.
- WARNING: Operation with a defective supply unit (e.g. short circuit of mains to secondary voltage) can lead to (e.g. at sensor etc.) severe personal injury or substantial damage to property!
- Correct and safe operation can only be performed within the specified environmental conditions as specified in the data sheet. Moving the device from a cold into a warm environment, condensation of moisture can lead to wrong measurement. In such case temperature and moisture equalisation must take place prior to measurement.

9499 040 52611

valid from: Series number 8335

 If safe operation seems impossible the instrument must be taken out of operation and marked in such way that it is not taken into operation again.
The safety of the operator could be endangered if the instrument for

example:

- Shows visible damages
- Does not continue to operate as expected
- Has been stocked under non specified conditions.
- 5. This instrument is <u>not</u> specified for use for explosion hazarded area.
- 6. In case of doubts the instrument should be sent for repair respective maintenance on principal to the manufacturer.

GENERAL MOUNTING HINTS

The sensor should be mounted preferably with vertical sensor tube. Every kind of heat radiation must be avoided because of effects onto the measurement. Possibly a screen must be considered or the use a version with radiation protector. Continuos use at high humidities ≥ 85 % needs special attention. Only sensors which are prepared for this should be used. Similar is valid for continuos use with humidities ≤ 25 %.

Fig. 1 Dimensions wall mounting





The wall mounting version is fixed by means of two up to four screws up to 4 mm \varnothing at a wall or panel. The mounting holes are accessible after opening the lid of the electronic module.

The duct version is mounted by means of the enclosed flange on top of the duct.

Screws up to 3.5 mm shaft diameter can be used.

Fig 2 Outline drilling holes wall / duct-mounting



Select appropriate immersion depth into the duct to achieve representative results. This is the case when there is sufficient distance from the duct wall, the sensing head gets always fresh sample and there is no radiation effect from the duct wall. It certainly is possible to mount the instrument by means of a bracket





and the fixing holes of the housing onto the duct. To connect the cable, remove the screw of the angled connector first, lever out the plug insert by means of the small screw driver.

Alterations subject without prior notice



Feed cable through compression gland (from outside) and connect according to connecting diagram above. Take care to use two independent supplies for the combination of humidity and temperature. Plug loose insert onto pins of instrument and remount plug housing with compression gland directing into the

Fig. 5 Dimensions flange



optimal position (there are 90° rotations possible) until it snaps on. Push screw through plug and tighten. Tighten cable gland.

CALIBRATION / MAINTENANCE

A (re)calibration is only possible at factory: The instrument is maintenance free. Take care that the pores of the sinterfilter are kept free and will not be clogged. If necessary replace sinterfilter. When de-mounting the sinterfilter, pay attention for screwing off not to damage the sensitive sensor inside. Remounting of new filter 5312-740-00361 vice versa.

SERVICE

In case of defect or recalibration the instrument must be sent to manufacturers place.

ELECTROMAGNETIC COMPATIBILITY

Meets EN 50 081-1 and EN 50 082-2