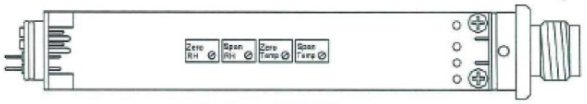
Probe lay-out :
HVAC probes Ø19 mm with mA output (HT-922) and Volt output (HT-912)



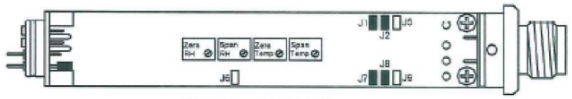
Circuitboard HT-922

CONNECTIONS			
	CONNECTOR	CABLE	DUCTMOUNT
RH +	PIN 1	WHITE	TERMINAL 1
RH –	PIN 3	BROWN	TERMINAL 2
T +	PIN 4	GREEN	TERMINAL 3
T –	PIN 2	YELLOW	TERMINAL 4
RTD		YELLOW	TERMINAL 4
RTD		PINK GREY	TERMINAL 5 TERMINAL 6

TEMPERATURE RANGE		
	J2	J3
0...100 °C	OPEN	OPEN
-20...+80 °C	OPEN	CLOSE

CONNECTIONS			
	CONNECTOR	CABLE	DUCTMOUNT
V+ RH	PIN 1	WHITE	TERMINAL 1
	PIN 4	GREEN	TERMINAL 2
Temp	PIN 2	YELLOW	TERMINAL 4
GND	PIN 3	BROWN	TERMINAL 3
RTD		YELLOW	TERMINAL 4
		PINK GREY	TERMINAL 5 TERMINAL 6

REL HUMIDITY OUTPUT			
	J1	J2	J3
0...1 Vdc	●		
0...2,5 Vdc			
0...5 Vdc			●
0...10 Vdc	●	●	



Circuitboard HT-912

TEST CERTIFICATE

Bottle under test		Test equipment
Reference Bottle	%RV	Reference metre: HT-912-T-01
Measured value	%RV	Serial number: REF 159
Temperature	°C	Date:
		Name:



Instruction Manual Certificate
Reference Bottles Relative Humidity



Description	Type Number
Reference bottle 12 %RH	101447
Reference bottle 33 %RH	101448
Reference bottle 55 %RH	101449
Reference bottle 75 %RH	101450
Reference bottle 90 %RH	101451

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SENSOR DATA

Checking relative humidity transmitters with calibration bottles

To check the calibration of relative humidity transmitters 2 different calibration / reference bottles are available, each with a different salt solution. The calibration bottles consists of a saturated salt solution providing a constant relative humidity inside the bottle. The available salt solutions are for 75 and 90%RH. The exact reference value is shown in a table on the bottle. The bottles are equipped with a O-seal to fit probes with a standard protection cap.

Life time

Life time of the bottles depends on the use.
The bottle is usable if the salt solution is saturated; visible should bes alt crystals and water, so it is like a saturated watersolvent.

When a bottle is fully filled with water it means that the salt is not saturated and should be replaced. When a bottle shows a dry salt it means that the water is evaporated and one can refill the bottle with destillated water.
Remove screw on bottom and fill approx 40% of the bottle.

Notes:
Before use it is recommended to shake the salts before a measurement is started, also a general regular shaking of the salts (when not in use) is recommended.
After use close the bottle immediately and place back in its container.
Lifetime will be approx + 2 years depending on the way the bottle is carefully handled.

The temperature influences the value of the relative humidity of the salt.
To ensure a constant temperature avoid heating of the bottle by hand, direct sunlight or central heating (radiation).
If the ambient temperature is different from 20°C, then calibrate to the values as indicated on the label of each bottle.

For location of the zero and span potentiometers pls see page 4 for the Ø19x140mm probes or the instruction manuals for probes differing from these models.

CAUTION: do not touch the RH-sensor !!

The %RH reference standards are based on aqueous, saturated salt Solutions which are maintaining their humidity value as long as they are saturated.

- According to: NBS, National Bureau od standards. Washington DC, Journal of Research, Volume 81A, No 1 , Jan./Feb. 1977 (greenspan Report)
- According to a test report of PTB, Physikalisch-Technische Bundesamt Berlin, Nr PTB-2.54-106314180193 of Aug. 1993

2-point calibration procedure (standard)

1. Pre-stabilize the reference bottles for a minimum of 1 hour at the present ambient temperature
2. Remove (unscrew) PVDF of any present filter from the transmitterhead, do not touch the sensor ! Visually check the sensor for corrosion, chemical sediment or mechanical damage and place the standard open protection cap.
3. Connect the transmitter as shown in the manual.Depending on the output sihnal use a Volt or Ampere (multi)meter to monitor the output signal.
4. Insert the transmitter in the 12% bottle. Wait for stabilisation time. (around 3 hours to be sure)
   Adjust the output signal with the zero potentiometer to read 12%RH (equals 12% of the output value)
5. Remove the transmitter and close the 12% bottle.
6. Open the 90%RH bottle and insert the transmitter for 3 hours ideally. Adjust with the span potentiometer to read 90%RH (equals 90% of the output value)
7. Repeat steps 4 to 6 until the zero settings equals 12%RH and the span 90%RH.

1-point calibration procedure for quick FIELD calibration / checks

1. Pre-stabilize the reference bottles for a minimum of 1 hour at the present ambient temperature.
2. Remove (unscrew) PVDF of any present filter from the transmitterhead, do not touch the sensor. Visually check the sensor for corrosion, chemical sediment or mechanical damage and place the standard open protection cap.
3. Connect the transmitter as shown in the manual.Depending on the output sihnal use a Volt or Ampere (multi)meter to monitor the output signal.
4. Insert the transmitter in a 75 or 90% reference-bottle.
   Wait for stabilisation time, ideally is around 3 hours. Or estimate the rest change in %RH value as experienced in the past which should be necessary to reach the final %RH value. Adjust the output signal with the ZERO potentiometer to read 75 or 90% of the output value.
5. Remove the transmitter and close the reference bottle.