Low-cost 2-wire RH Probe RHB

- ♦ **0...100 %RH**
- ♦ **2-wire current output**
- ♦ **Fast response and recovery**
- ♦ **Minimized mounting capacitance influence**
- ♦ **No post-factory calibration required**
- ♦ **IP68 plastic case**
- ♦ **Optional stainless steel sintered filter**

COMECO's RHB probe is designed especially for low-cost HVAC applications. Using solid-state sensor with integrated digital signal conditioner, the probe measures relative humidity of air and non-aggressive gases at atmospheric pressure, and transforms it into standard 4...20 mA 2-wire signal. Main features of the RHB transducer are the very fast response time and the short recovery time, which allows better control system parameters, as well as the reduced accuracy influence of the mounting capacitances. The probe has a cable outlet and can be equipped with a stainless steel sintered filter for sensor protection. Thanks to its simple and robust design and low price, the RHB probe can be widely used in HVAC storage control systems as well as for some food industry applications.

Technical specifications

Input

Sensitive element	solid-state sensor
Measurement range	0...100 %RH
Time constant	1 s
Recovery time [(1)]	2 s

Output

Output signal	4...20 mA, 2-wire
Maximum load	750 Ω at 24V/20mA

Accuracy

Measurement error	≤ 4.0% from span
Temperature drift	0.06% from span for 1 °C
Hysteresis	≤ 1.5 %RH
Self-heating error	≤ 0.01 %RH/mA
Supply voltage dependence	≤ 0.005 %RH/V

Power supply

Loop supply voltage	8...36 VDC
Admissible variations	1 Vp-p at 50 Hz

Operating conditions

Operating temperature	-10...70 °C
Storage temperature	-20...75 °C

Design and materials

Case material	PVC plastic
Sensor protection	plastic cap with stainless steel mesh
Sintered filter (option)	stainless steel, 75 μm
Mounting	free [(2)]
Wiring	1...10 m PVC cable, 2x0.5 mm^2
Dimensions	max. 18x150 mm (w/o cable)
Weight	max. 100 g (w/o cable)
Protection class	IP68 (except sensor)

[(1)] 150 h at 100 %RH
[(2)] Small flanges for in-hole mounting can be ordered separately (see 'Accessories').

Ordering code   RHB - G8 - #1

Code	Feature or option	Code values
G8	Cable length [m] and type	**1PV…10PV** - PVC
#1	Sintered filter	**X** - none, **S** - sintered filter mounted