

Hygrometer

Description



Hygro/hygrothermal transducers
(capacitive)
for climate monitoring

Applications

- for measuring relative humidity in air and temperature
- for building automation, storage rooms, climate and ventilation control
- as indoor, wall and duct versions
- special miniature rod version for OEM applications
- with current or voltage outputs
- hygrothermometers as table-top or wall-mounting units

These humidity transducers have been developed especially for HVAC applications. Their special features are outstanding long-term stability, high measuring accuracy, excellent high-humidity response and good chemical resistance.

Indoor, wall and duct models as well as a miniature rod model – all in attractively designed housings – are ideally suited to take care of almost any air-conditioning task.

In addition to humidity transducers, combined units for humidity and temperature with current or voltage outputs and passive temperature outputs can also be supplied.

Applications are found throughout the entire air-conditioning and ventilation system – in domestic and office buildings, storage areas, and greenhouses. Version A transducers, which also achieve excellent measurement results in meteorology, have proved particularly successful in meeting the exacting requirements of indoor swimming pools and stables. And, in conjunction with the connector provided for version A and the mounting plate, the new optional snap-in mounting flange ensures that the transducer can be changed quickly and easily, for routine maintenance, for example.

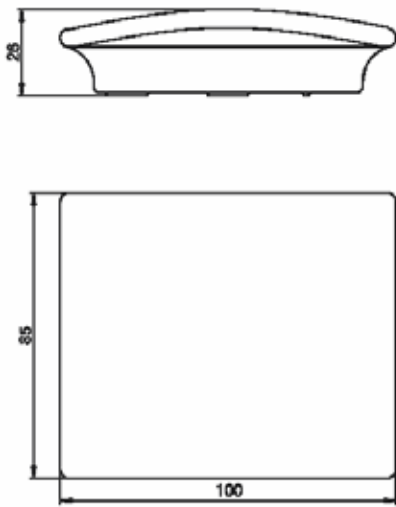
Furthermore, the special rod model can be used for integrating humidity measurement into existing systems where space is tight, thus making it particularly suitable for OEM applications.

The indoor variant, complete with mounting bracket and battery, serves as a table-top or wall-mounting indicator.

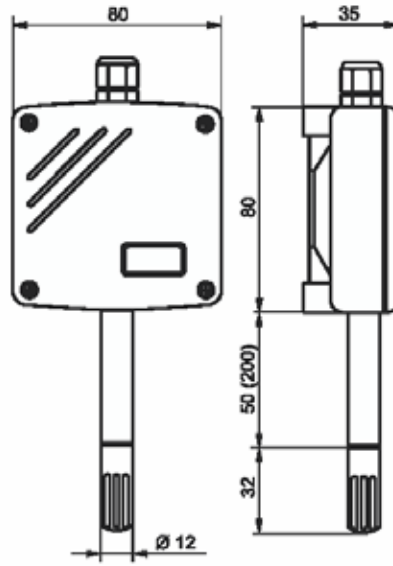
Technical data

Humidity sensor	capacitive, condensation permitted
Humidity range	0 to 100% RH
Humidity working ranges	10 to 95% RH: table-top or wall-mounting indicator 0 to 95% RH: indoor version 10 to 95% RH: wall or duct version (version B) 0 to 100% RH: wall or duct version (version A); rod version
Humidity accuracy at 20°C	± 2% RH: indoor version and indicator in the humidity range from 40 to 60% RH ± 3% RH: wall or duct version (version B), indoor version in the remaining humidity range ± 3% RH: rod version in the humidity range from 0 to 95% RH ± 2% RH: wall or duct version (version A) in the humidity range from 0 to 90% RH ± 3% RH: wall or duct version (version A) in the remaining humidity range
Temperature error at 45% RH	typically -0.05% RH per °C
Temperature sensor	Pt1000 platinum-chip temperature sensor (passively also Pt100) to EN 60 751, tolerance class A
Temperature ranges	-5 to +55°C: table-top or wall-mounting indicator 0 to 50°C: indoor version; wall or duct version (version B) -20 to +80°C: wall or duct version (version A) -40 to +60°C: rod version
Temperature accuracy at 20°C	± 0.25°C: indoor version: voltage output ± 0.4°C: indoor version: current output ± 0.3°C: wall or duct version (version A); table-top or wall-mounting indicator ± 0.5°C: wall or duct version (version B); rod version
Output signals	4 – 20mA, 0 – 1V, 0 – 5V, 0 – 10V (instrument version according to order details)
Supply	2 x 1.5V DC alkaline batteries: table-top or wall-mounting indicator 15 – 35V DC; 24V AC ± 20%: instruments with voltage output 20 – 28V DC: instruments with current output 4.5 – 30V DC with rod version only
Electromagnetic compatibility	to EN 61 000-6-1 and EN 61 000-6-3
Housing	PC plastic
Connection	screw terminals up to 1.5mm ²
Cable gland	M 16x1.5 (optionally plug connector) wall/duct version
Protection	IP20: indoor version, table-top/wall-mounting indicator IP65: wall/duct/rod version
Load resistance	R _L 500 ohm max. with current output
Internal power supply	20mA max., 5mA with rod version
Ambient temperature	-5 to +50°C: indoor/wall/duct version (version B) and table-top/wall-mounting indicator -20 to +60°C (sensor head +80°C): wall/duct version (version A) -40 to +60°C: rod version
Storage temperature	-25 to +60°C
Weight	approx. 100g for indoor version and table-top/wall-mounting indicator approx. 150g for wall version approx. 250g for duct version approx. 50g for rod version

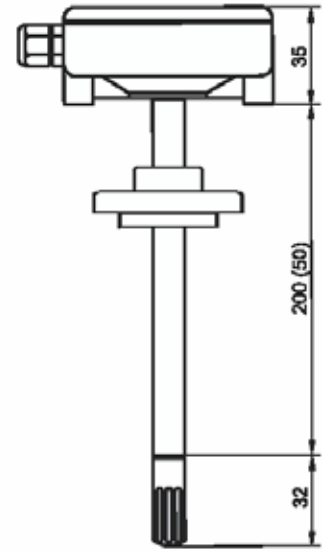
Dimensions



Indoor version
and table-top/wall-mounting indicator



Wall versions

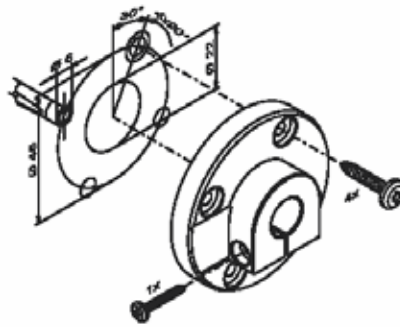


Duct versions

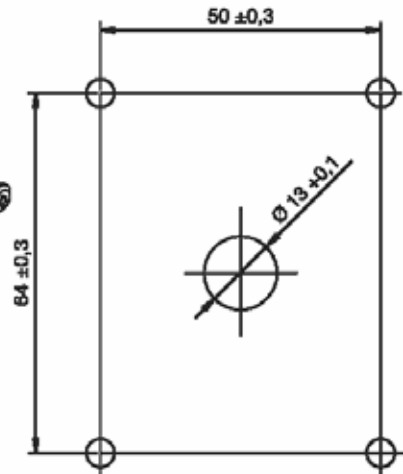


Rod version

Dimensions in mm.



Mounting flange
for duct versions



Drilling template
for wall/duct versions