KIMO®
CONSTRUCTEUR

Air velocity | Pressure | Humidity | Air flow | Temperature

TECHNICAL DATASHEET

New

CE

Humidity transmitter
HM 50

- *Humidity transmitter type HM 50*
- *Range 0-100 %RH*
- *0-10 V output, active sensor, power supply 24 Vac/Vdc (3-4 wires) or 4-20 mA output, passive loop, power supply 18 to 30 Vdc (2 wires)*
- *ABS IP 30 housing, without display*
- *Quick and easy mounting with the "¼ turn" system with wall-mount plate*

Part number

To order, just add the code to complete the part number :

Transmitter/ Power supply / Output

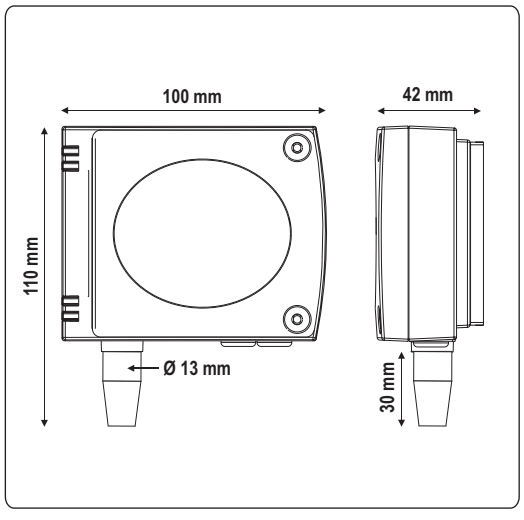
V	Active • 24 Vac/Vdc • 0-10V
A	Passive • 18/30 Vdc • 4-20 mA

HM 50 - [ ]

Example : HM 50-A
Model : humidity transmitter HM 50, passive loop 4-20 mA.

Dimensions

(with wall-mount plate)



Features of the transmitter

Humidity

Working principle : the measurement of humidity is made by only one digital component CMOS (complementary metal-oxyde semiconductor), including a capacitive element and a thermistor. This technology guarantees an excellent stability in the long term, along with a great accuracy of the measurement.

Measuring range.....0 to 100 %RH
Unit of measurement.....% RH
Response time.....1/e (63%) 4 s
Type of fluid.....air and neutral gases

HYGROMETRY PROBE :
Guaranteed Accuracy Limits* (GAL) = ±2,95 % RH between 18 and 28°C (normal measurement range)
Measuring range : 0 to 100%RH
Short-term drift : 1%RH / year

* As per norm NFX 15-113 and the Charter "2000-2001 HYGROMETERS".

* GAL = $Et + Ehl + k\,(uet^2+ur^2+ud^2+us^2)1/2$
As per the Charter 2000/2001 Hygrometers with :
uet : uncertainty of calibration = ± 0,55%RH
ur : uncertainty of resolution = ± 0,003%RH
ud : manufacturing dispersion = ± 0,2%RH
us :comparison repeatability = 0,13%RH
Et : temperature coefficient error = ± 0,42%RH
Ehl : Linearity and hysteresis errors = ± 1,33%RH
k :coverage factor value = 2

Features of the housing

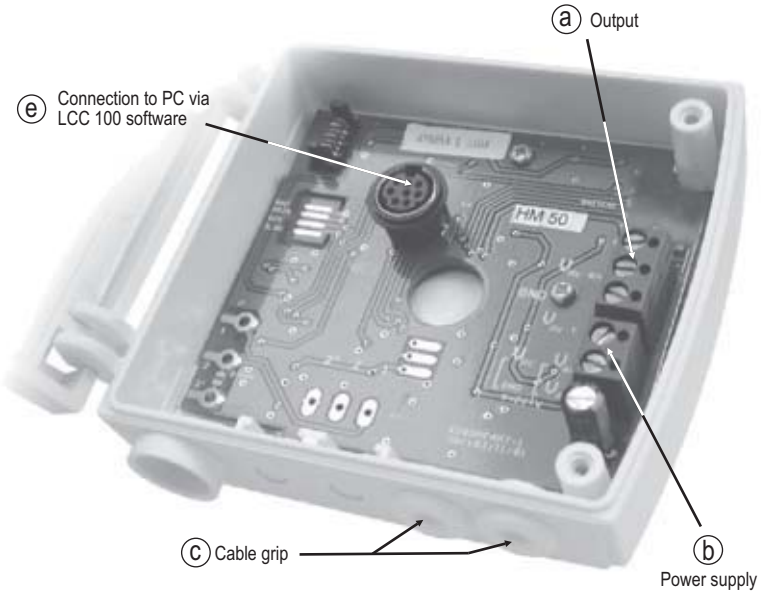
Housing.....ABS
Fire-proof classification.....HB as per UL94
Dimensions.....see drawing beside
Protection.....IP 30
Cable grip.....for cables Ø 7 mm max.
Weight.....110 g

Technical Specifications

Output / Power supply.....active sensor 0-10 V (power supply 24 Vac/Vdc ±10%), 3-4 wires
passive loop 4-20 mA (power supply 18/30 Vdc), 2 wires
maximum load : 500 Ohms (4-20 mA)
minimum load : 1 K Ohms (0-10 V)
Consumption.....2 VA(0-10V) or max. 22 mA (4-20 mA)
Electro-magnetical compatibility.....EN 61326
Electrical connection.....screw terminal block for cable Ø 1.5 mm² max.
Communication to PC..... Kimo RS 232 cable
Working temperature.....+10 to +40°C
Storage temperature.....-10 to +70°C
Environment.....air and neutral gases

Connection

For the model
HM 50-V • **0-10 V output - active sensor**



c Cable grip : to insert the cable, it is required to slightly cut the rubber.

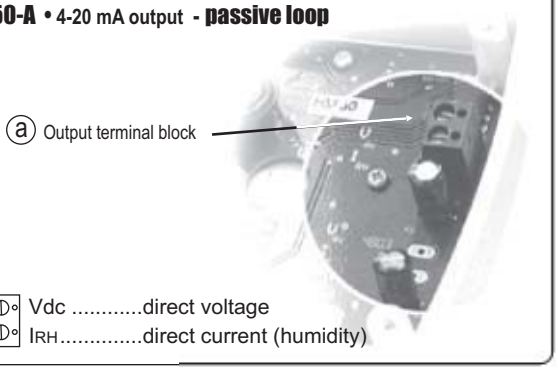
Output
a Vdc RH .....direct voltage (humidity)
GND.....ground

Power supply
b Vdc .....direct voltage
GND ....ground

OR

b Vac.....alternative voltage (phase)
Vac.....alternative voltage (neutral)

For the model
HM 50-A • **4-20 mA output - passive loop**



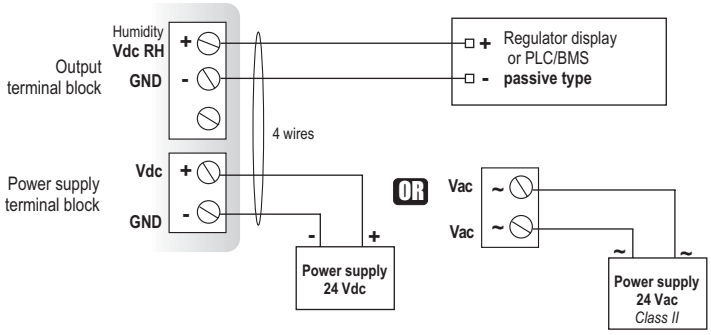
a Vdc .....direct voltage
IRH.....direct current (humidity)

Electrical connection - *as per norm* **NFC15-100**

⚠ This connection must be made by a qualified technician. **To make the connection, the transmitter must not be energized.**

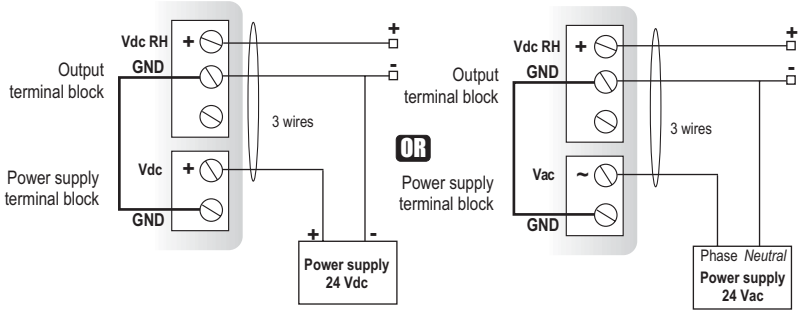
For the model
HM 50-V • **0-10 V output - active sensor**

4 wires



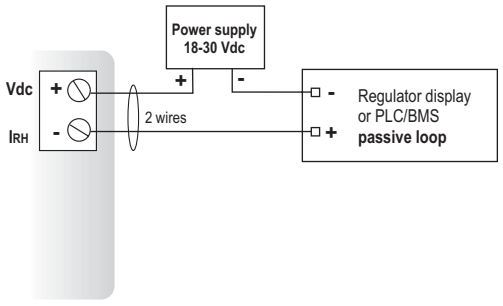
3 wires

⚠ To make a 3-wire connection, **before powering up the transmitter,** please connect the output ground to the input ground. See drawing below.

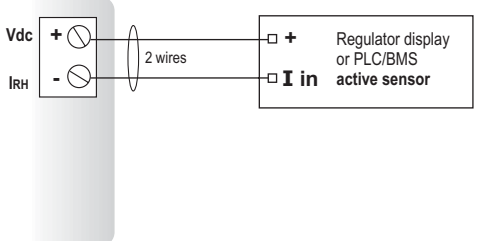


For the model
HM 50-A • **4-20 mA output - passive loop**

2 wires



OR



Configuration

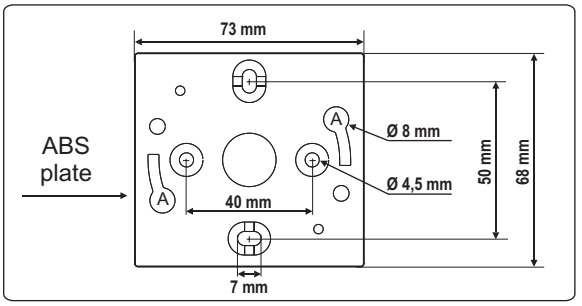
You can configure the offset of the transmitter via **software** (connection ⓔ on “connnection” drawing).

In order to balance an eventual drift of the transmitter, you can add an offset to the value measured by the HM 50
Example :
=> the HM50 indicates 48%RH, the standard reference indicates 45%RH
=> via the software LCC 100, you can add an offset of “-3” to the value.

• Please refer to the user manual of the LCC 100 to configure the offset.

Mounting

Installation : mount the ABS plate on the wall (this plate is supplied with the transmitter). Drilling : Ø 6 mm (with the screws and pins supplied with the transmitter). Insert the transmitter into the plate (see points A of the drawing shown beside), by tilting it at 30°. Rotate the housing in clockwise direction until you hear a “click” which confirms that the transmitter is correctly installed.



Maintenance

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

Options

- Power supply class 2, input 230 Vac, output 24 Vac, ref.KIAL-100A
- Configuration software LCC 100 with RS 232 cable.

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