KIMO INSTRUMENTS

Technical Data Sheet

Pressure / Temperature / Humidity / Air Velocity / Airflow / Sound level

Humidity transmitter direct temperature output

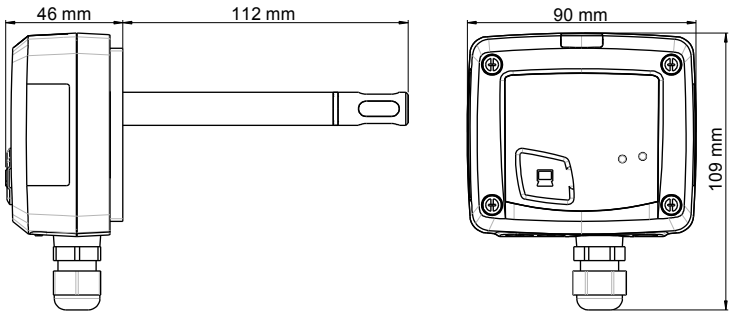
TH 110

KEY POINTS

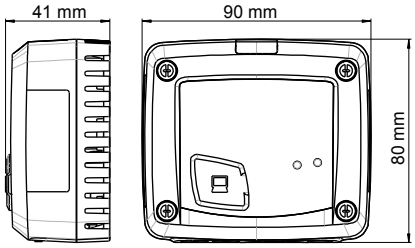
- Measuring range from 5 to 95%RH and from 0 to 50 °C (ambient model) or from -20 to +80 °C (duct or remote model)
- Measuring element for the temperature : Pt100 or NTC (Pt1000 on request)
- Measuring element for humidity : capacitive (remote and duct models) or CMOS (ambien model)
- Humidity : 0-10 V output, active, power supply 24 Vac/Vdc (3-4 fils) or 4-20 mA output, passive loop, power supply from16 to 30 Vdc (2 wires)
- Temperature : Pt100 class B output (2 or 3 wires) or NTC (Pt1000 on request)
- "¼ turn" system mounting with wall-mount plate
- Housing with simplified mounting system

FEATURES OF HOUSING

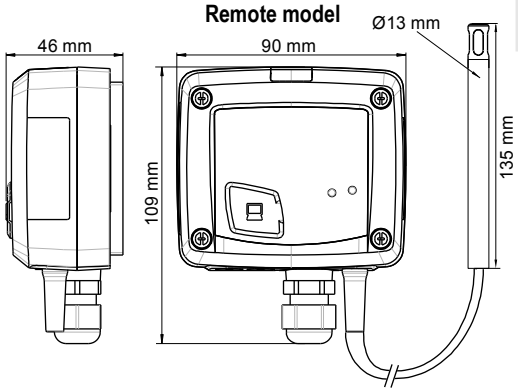
Duct model



Ambient model



Remote model



Material
ABS V0 as per UL94

Protection
IP65 (duct and remote models)
IP20 (ambient model)

Cable gland (remote and duct models)
For cables Ø 8 mm maximum

Weight
124 g (ambient model) ; 135 g (duct and remote models)

PART NUMBER

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

TH110 — [ ] — **N** — [ ] — [ ]

Power supply / Output
A : Active – 24 Vac/Vdc – 0-10 V
P : Passive – 16/30 Vdc – 4-20 mA

N : without display

Probe
S : Ambient
A : Duct
D : Remote

Measuring element for temperature
P : Pt100
C : NTC

Exemple : TH110 – ANSP
Humidity and temperature transmitter
Pt100, 0-10 V, active, without display

TECHNICAL FEATURES IN TEMPERATURE

Measuring range	Ambient model : from 0 to 50 °C Remote and duct models : from -20 to +80 °C
Sensitive element	Pt100 or NTC
Accuracy*	Pt100 : ±0.3 % of reading ±0.25 °C NTC : ±0.3°C (from -40°C to 70°C) ; ±0.5°C outside
Unit of measurement	°C / °F
Response time	1/e (63%) 15 s
Resolution	0.1 °C
Type of fluid	Air and neutral gases

*All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

TECHNICAL FEATURES IN HUMIDITY

Measuring range	From 5 to 95% RH
Analogue output	From 0 to 100%RH
Accuracy**	±1.5% RH (if 15°C ≤ T ≤ 25°C) on remote and duct models ±1.8% RH (if 15°C ≤ T ≤ 25°C) on ambient model
Drift linked to temperature	±0.04 x (T-20) %RH (if 15°C ≤ T ≤ 25°C)
Unit of measurement	% RH
Response time	1/e (63%) 4 s
Type of sensor	Ambient model : CMOS Remote and duct models : capacitive
Resolution	0.1% RH
Factory adjustment uncertainty	±0.88% RH
Type of fluid	Air and neutral gases

*All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.
As per NFX 15-113 and the *Charter 2000/2001 HYGROMETERS*, GAL (Guaranteed Accuracy Limit) which has been calculated with a coverage factor value of 2 is ±2.58%RH between 18 and 28°C on the measuring range from 3 to 98%RH. Sensor drift is less than 1%RH/year.

TECHNICAL SPECIFICATIONS

Output / Power supply
- active sensor 0-10 V (power supply 24 Vac/Vdc ± 10%), 3-4 wires
- passive loop sensor 4-20 mA (power supply 16/30 Vdc), 2 wires
- maximum load : 500 Ohms (4-20 mA)
- minimum load : 1 K Ohms (0-10 V)

Consumption
2 VA (0-10 V) or max. 22 mA (4-20 mA)

Electromagnetical compatibility
EN61326

Electrical connection
Screw terminal block for cables from 0.05 to 2.5 mm^2 or from 30 to 14 AWG

PC communication
Kimo USB-mini DIN cable

Environment
Air and neutral gases

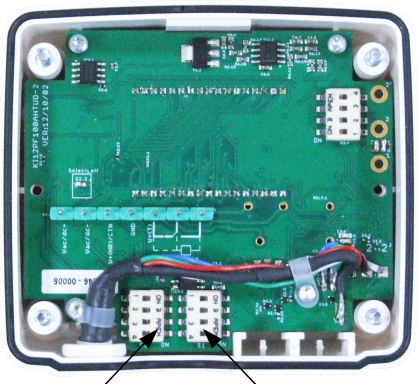
Operating temperature of the housing
From 0 to 50 °C

Operating temperature of the probe
From -20 to +80 °C

Storage temperature
From -10 to +70 °C

CONNECTIONS

Inside the front housing

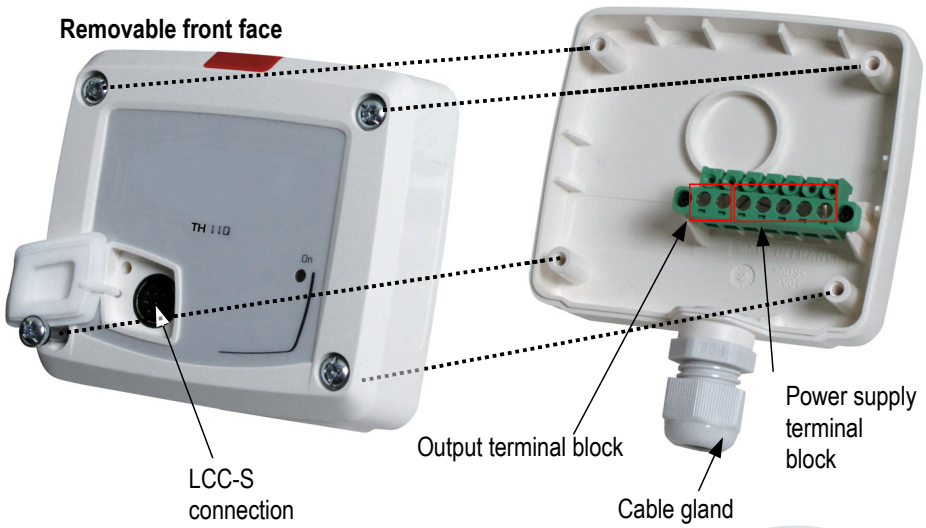


Inactive switch

Active switch

Removable front face

Fixed back housing



LCC-S connection

Output terminal block

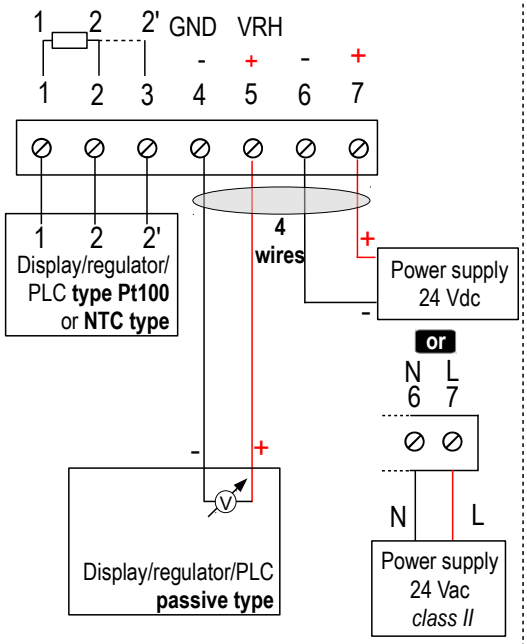
Power supply terminal block

Cable gland

ELECTRICAL CONNECTIONS – as per *NFC15-100 standard*

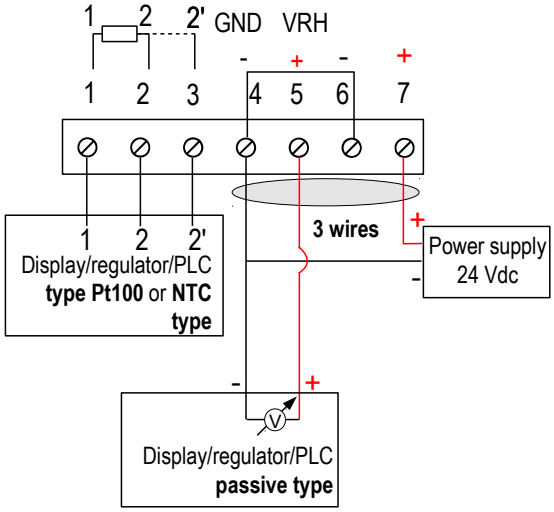
This connection must be made by a qualified technician. **To make the connection, the transmitter must not be energized.**

For **TH110-ANS**, **TH110-AND**, **TH110-ANA** models with **0-10 V output – active :**



4 wires

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



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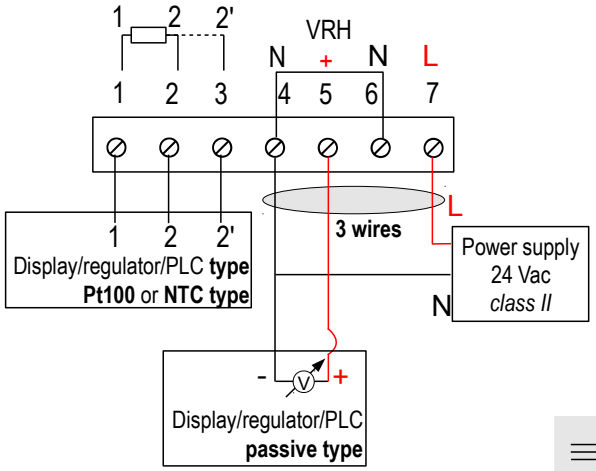
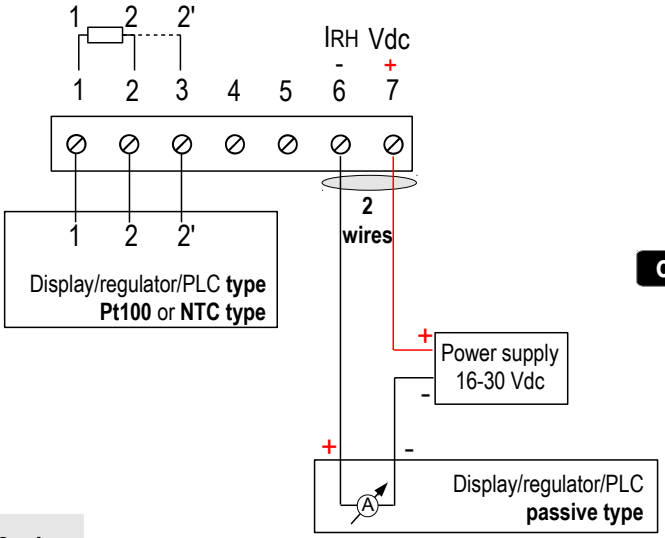
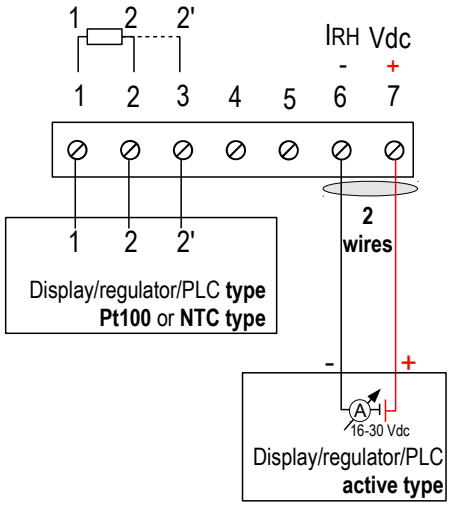


3 wires

For **TH110-PNS**, **TTH110-PND**, **TH110-PNA** models with **4-20 mA output – passive :**



or



2 wires

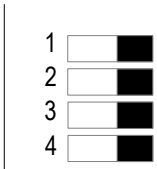
CONFIGURATION PAR LOGICIEL LCC-S (option)

An easy and friendly configuration with the software !

It is possible to configure intermediate ranges, an offset

In order to compensate a possible drift of the sensor, it is possible to add an offset to the displayed value by the TH110 transmitter : it shows 48%RH, a standard instrument shows 45%RH. It is then possible, via the software, to integrate an offset of -3 to the displayed value by the TH110 instrument.

- To access the configuration via software :
  - Set the DIP switches as shown beside.
  - Connect the cable of the LCC-S to the connection of the transmitter.
- Please refer to the user manual of the LCC 100 to make the configuration.



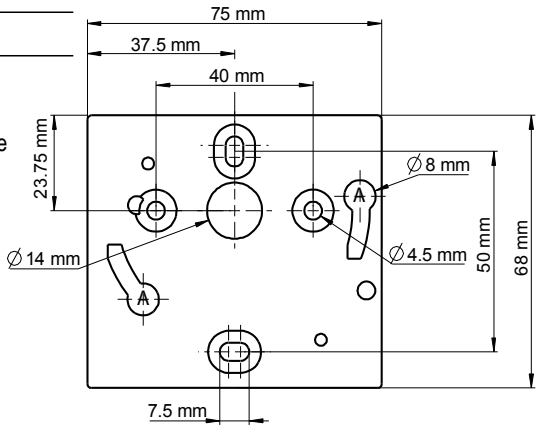
Switch actif (S1)

MOUNTING

To mount the transmitter, mount the ABS plate on the wall (drilling : Ø6 mm, screws and pins are supplied).

Insert the transmitter on the fixing plate (see A on the drawing beside). Rotate the housing in clockwise direction until you hear a “click” which confirms that the transmitter is correctly installed.

Ambient model does not have any mounting plate.
4 fixing holes are present inside the back housing. Use them to install the transmitter on the required location.



MAINTENANCE

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

OPTIONS AND ACCESSORIES

- **KIAL-100A :** Power supply class 2 , 230 Vac input, 24 Vac output
- **KIAL-100C :** Power supply class 2, 230 Vac input, 24 Vdc output
- **LCC-S :** configuration software with USB cable
- Stainless steel sliding fittings
- PC cable gland
- ABS connection with connection gland
- Stainless steel connections
- Wall-mount plate for humidity remote probe

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