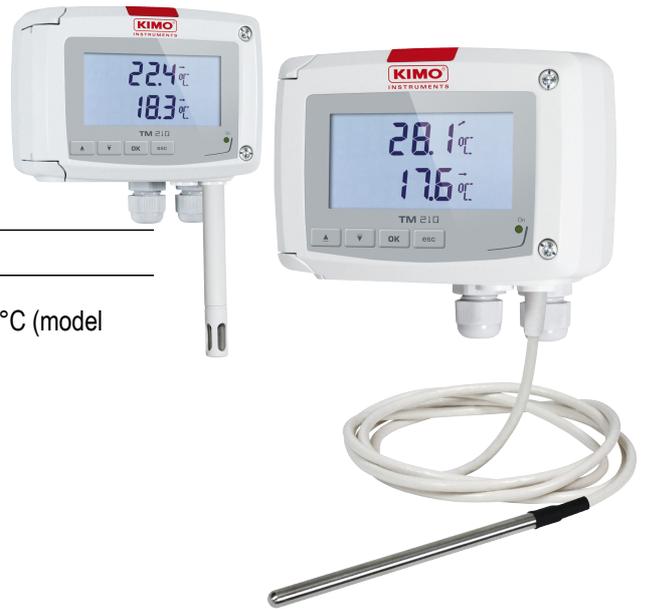


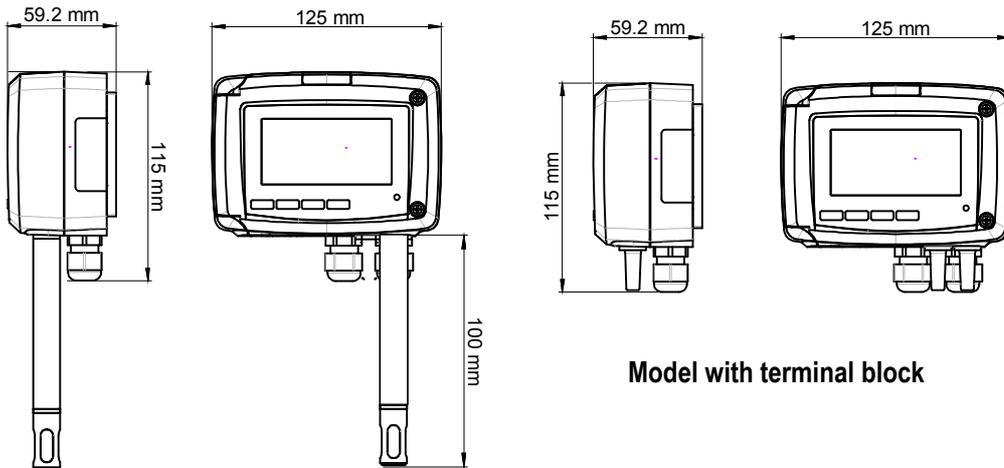
Temperature transmitter TM 210

KEY POINTS

- Configurable ranges from 0 to 50 °C (ambient model) and from -100 to 400 °C (model with terminal block)
- Possibility of a second remote probe on terminal block
- Display of the minimum and maximum values and trend indicator
- 4 wires analogue outputs 0-5/10 V or 0/4-20 mA
- Alimentation 24 Vdc/Vac ou 230 Vac (optional 115 Vac)
- ABS V0 IP65 housing, with or without display
- "¼ turn" system mounting with wall-mount plate



FEATURES OF THE HOUSING



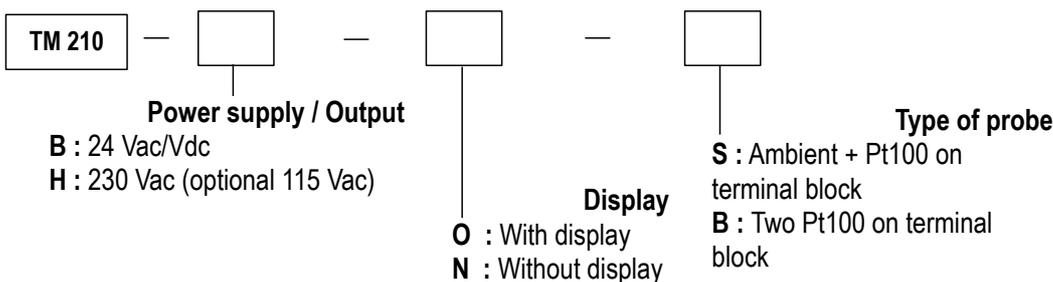
Ambient model

Model with terminal block

Material : ABS V0 as per UL94
Protection : IP65
Display : 75 x 40 mm, LCD 19 digits 2 lines.
Height of digits: Values : 10 mm ;
 Units : 5 mm
Cable gland : For cables Ø 8 mm maximum
Weight : 320 g

PART NUMBER

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



Example : TM210 - BOS

Temperature transmitter, power supply 24 Vac/Vdc, with display et ambient probe

TECHNICAL FEATURES

Measuring range	From -20 to +80 °C (ambient model) From -100 to +400 °C (model with terminal block)
Unit of measurement	°C / °F
Accuracy*	±0.3 % of reading ±0.25 °C
Response time	$T_{90} = 0.9$ second for $V_{air} = 1$ m/s
Resolution	0.1 °C
Type of sensor	Pt100 1/3 as per DIN IEC751
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 SPECIFICATIONS

Power supply	24 Vac / Vdc ±10 % 230 Vac ±10 %, 50-60 Hz 115 Vac ±10 %, 50-60 Hz Warning: risk of electric shock 
Output	2 x 4-20 mA or 2 x 0-20 mA ou 2 x 0-5 V or 2 x 0-10 V (4 wires) Common mode voltage <30 VAC Maximum load : 500 Ohms (0/4-20 mA) / Minimum load : 1 K Ohms (0-5/10 V)
Galvanic isolation	Inputs and outputs (models 115 Vac/230 Vac) Device fully protected by DOUBLE ISOLATION or REINFORCED ISOLATION <input type="checkbox"/> Outputs (models 24 Vac/Vdc)
Consumption	TM210-B: 5 VA TM210-H: 8 VA
European directives	2004/108/EC EMC ; 2006/95/EC Low Voltage ; 2011/65/EU RoHS II ; 2012/19/EU WEEE
Electrical connection	Screw terminal block for cable 2.5 mm ² Carried out according to the code of good practice
PC communication	USB-Mini Din cable
Environment	Air and neutral gases
Type of fluid	Air and neutral gases
Conditions of use (°C/%RH/m)	From -10 to +50 °C. In non-condensing condition. From 0 to 2000 m.
Storage temperature	From -10 to +70 °C
Security	Protection class 2 ; Pollution degree 2 ; Overvoltage category 2

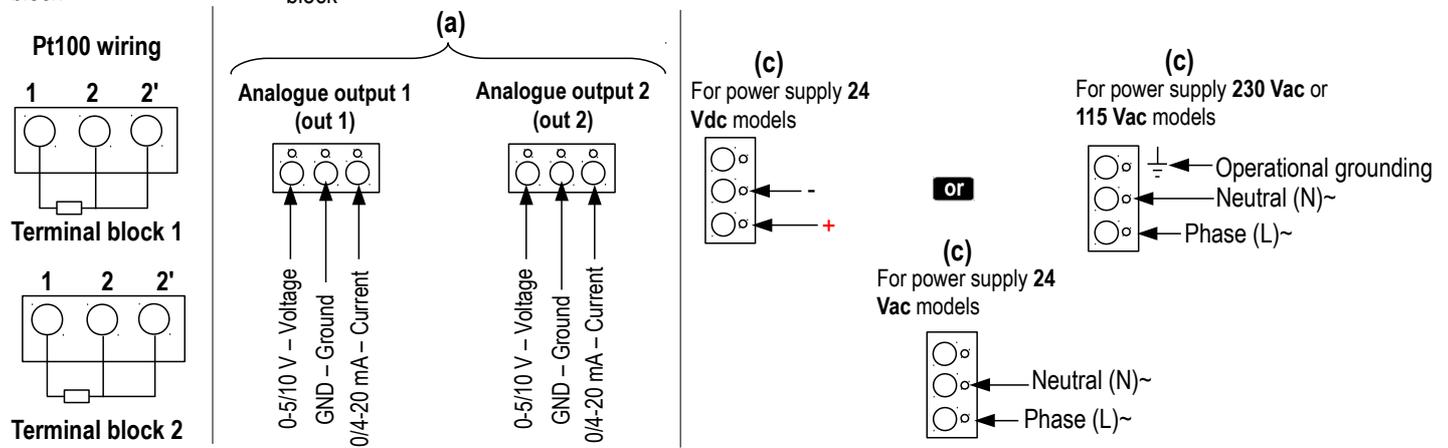
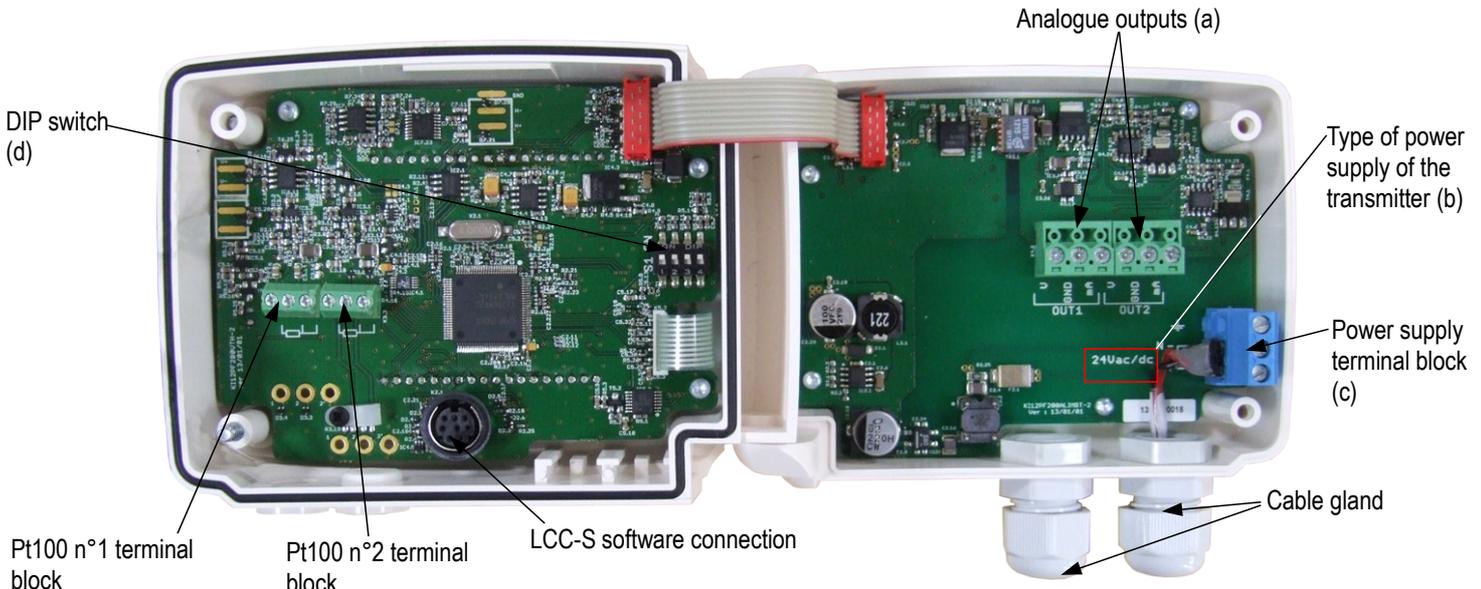
TECHNICAL FEATURES OF THE TEMPERATURE PROBES

Different Pt100 temperature probes are available on the range -100 to +400 °C with different types of contact tip (straight stainless steel, angled stainless steel, with penetration tip...). Please contact us in order to define the type of probe that corresponds to your need.



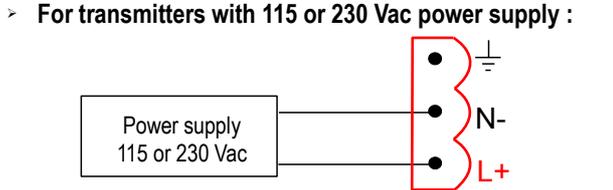
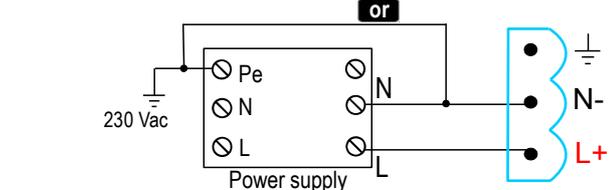
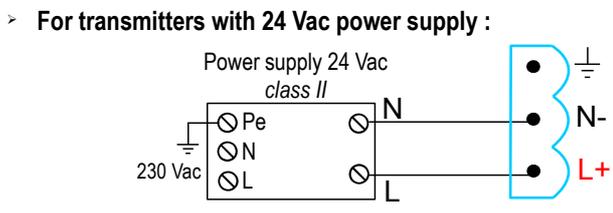
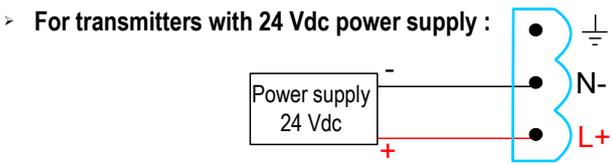
FUNCTION

Temperature difference : TM210 transmitter can measure up to two temperatures (temperature 1 and temperature 2). When two temperature probes are connected, the transmitter can display the difference between both measured temperatures.



ELECTRICAL CONNECTIONS – as per *NFC15-100 standard*

⚠ This connection must be made by a formed and qualified technician. To make the connection, the transmitter must not be energized. Before making the connection, you must first check the power supply indicated on the transmitter board (see (b) on “Connections” part). The presence of a switch and a circuit breaker upstream the device is compulsory

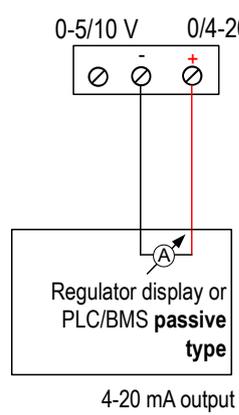


⚠ On 115 or 230 Vac models, if a fuse protection is used for the power line, it is imperative to use delayed-action fuses in order to absorb the surge of current when first turned on the transmitter.

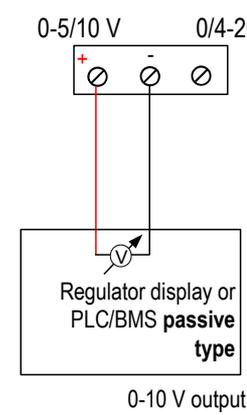
The selection of the output signal in voltage (0-10 V or 0-5 V) or in current (4-20 mA or 0-20 mA) is made via the DIP switch (d) of the electronic board of the transmitter : put the on-of switches as shown in the table below :

Configurations	4-20 mA	0-10 V	0-5 V	0-20 mA
Combinations	 1 2 3 4			

> Connection of the output in current 4-20 mA :



> Connection of output in voltage 0-10 V :



4-20 mA output

0-10 V output

CONFIGURATION OF THE TRANSMITTERS

It is possible on the class 210 to configure all the parameters of the transmitter : units, measuring ranges, outputs, channels, calculation functions, etc, via different methods :

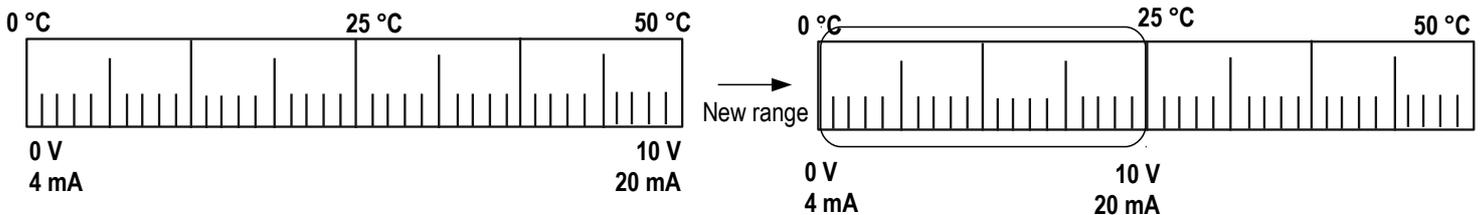
- **Keypad** for models with display : a code-locking system allows to secure the installation (See class 210 user manual).
- **Software** (optional) on all models. Simple user-friendly configuration. See LCC-SD user manual.

Configurable analogue output :

It is possible to configure your own intermediary ranges

Caution : the minimum difference between the high range and the low range is 20.

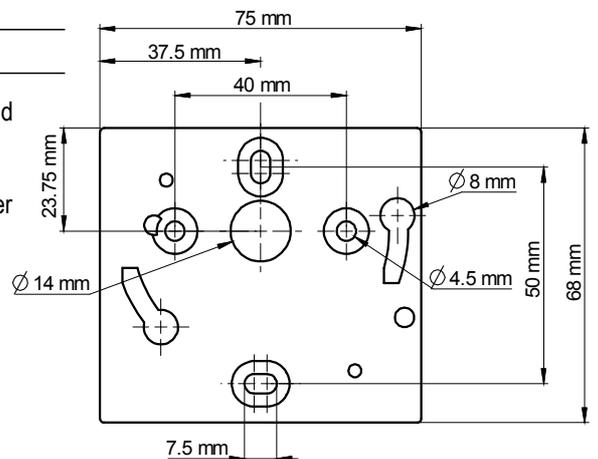
Configure the range according to your needs : outputs are automatically adjusted to the new measuring range



MOUNTING

To mount the transmitter, mount the ABS plate on the wall (drilling : $\varnothing 6$ 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.



CALIBRATION

Outputs diagnostic : With this function, you can check with a multimeter (or on a regulator / display, or a PLC / BMS) if the transmitter outputs work properly. The transmitter generates a voltage of 0 V, 5 V and 10 V or a current of 4 mA, 12 mA and 20 mA

Certificate : Class 210 transmitters are supplied with adjusting certificates. Calibration certificates are available as an option.

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

- **LCC-S** : configuration software with USB cable
- **Calibration certificate**
- 115 Vac version transmitter
- Pt100 temperature probes



Only the accessories supplied with the device must be used.

PRECAUTIONS FOR USE

Please always use the device in accordance with its intended use and within parameters described in the technical features in order not to compromise the protection ensured by the device.



Once returned to KIMO, required waste collection will be assured in the respect of the environment in accordance with European guidelines relating to WEEE.

www.kimo.fr

Distributed by :



EXPORT DEPARTMENT

Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29

e-mail : export@kimo.fr