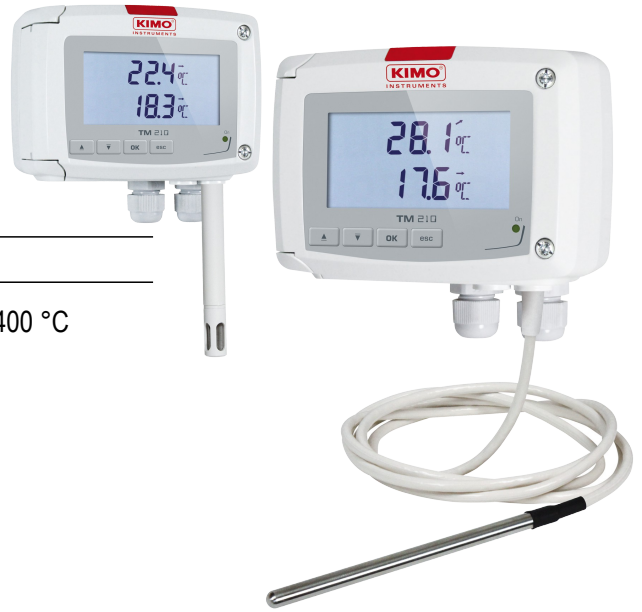


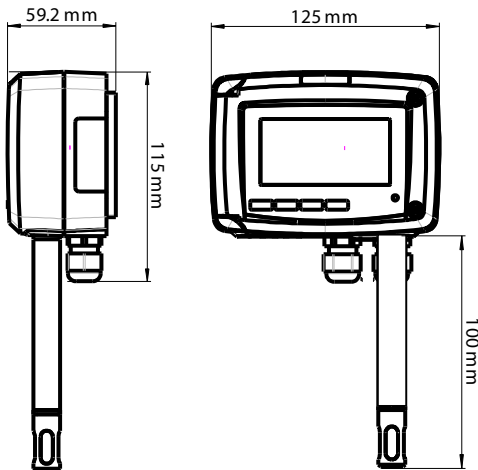
# Temperature transmitter TM 210



## 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 115/230 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.

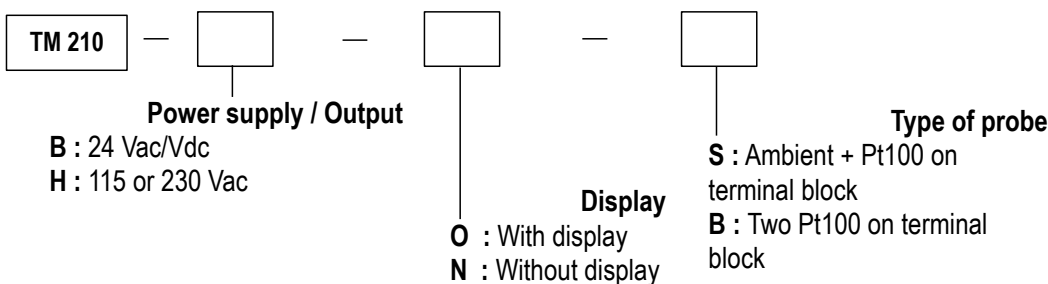
**Height of digits:** Values : 10 mm ; Units : 5 mm

**Cable gland :** For cables Ø 8 mm maximum

**Weight :** 320 g

## PAR 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

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## TECHNICAL FEATURES

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<b>Measuring range</b>	From 0 to +50 °C (ambient model) From -100 to +400 °C (model with terminal block)
<b>Unit of measurement</b>	°C / °F
<b>Accuracy*</b>	±0.3 % of reading ±0.25 °C
<b>Response time</b>	$T_{90} = 0.9$ second for $V_{air} = 1$ m/s
<b>Resolution</b>	0.1 °C
<b>Type of sensor</b>	Pt100 1/3 as per DIN IEC751
<b>Type of fluid</b>	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.

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## SPECIFICATIONS TECHNIQUES

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<b>Power supply</b>	24 Vac / Vdc ±10 % 115 Vac or 230 Vac ±10 %, 50-60 Hz
<b>Output</b>	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) Maximum load : 500 Ohms (0/4-20 mA) Minimum load : 1 K Ohms (0-5/10 V)
<b>Galvanic isolation</b>	Inputs and outputs (models 115 Vac/230 Vac) Outputs (models 24 Vac/Vdc)
<b>Consumption</b>	5 VA
<b>Electromagnetical compatibility</b>	EN61326
<b>Electrical connection</b>	Screw terminal block for cable 2.5 mm <sup>2</sup>
<b>PC communication</b>	Kimo USB-Mini Din cable
<b>Environment</b>	Air and neutral gases
<b>Type of fluid</b>	Air and neutral gases
<b>Operating temperature</b>	From 0 to +50 °C
<b>Storage temperature</b>	From -10 to +70 °C

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## TECHNICAL FEATURES OF THE TEMPERATURE PROBES

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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.



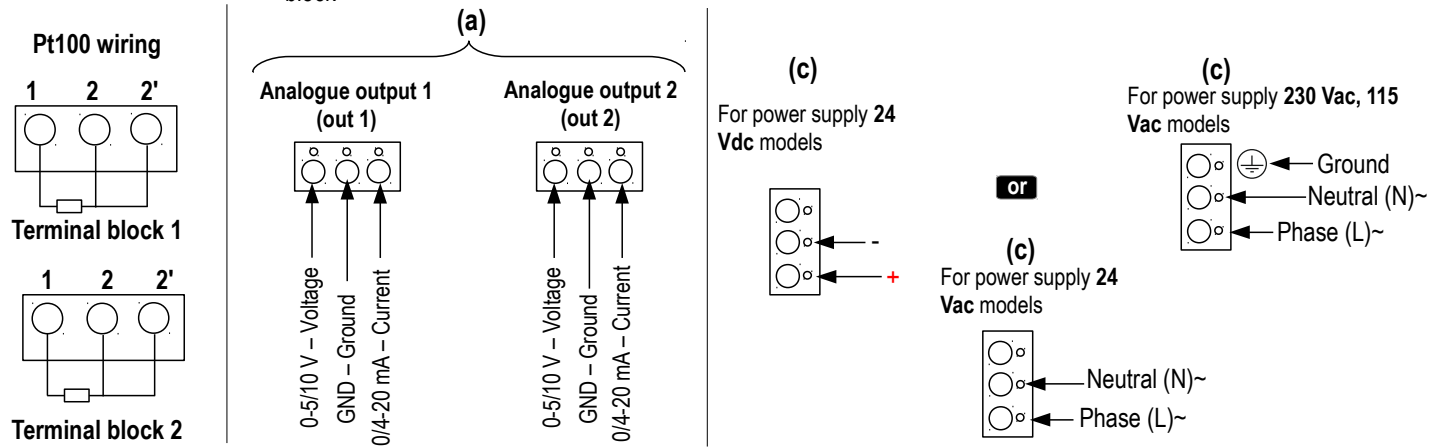
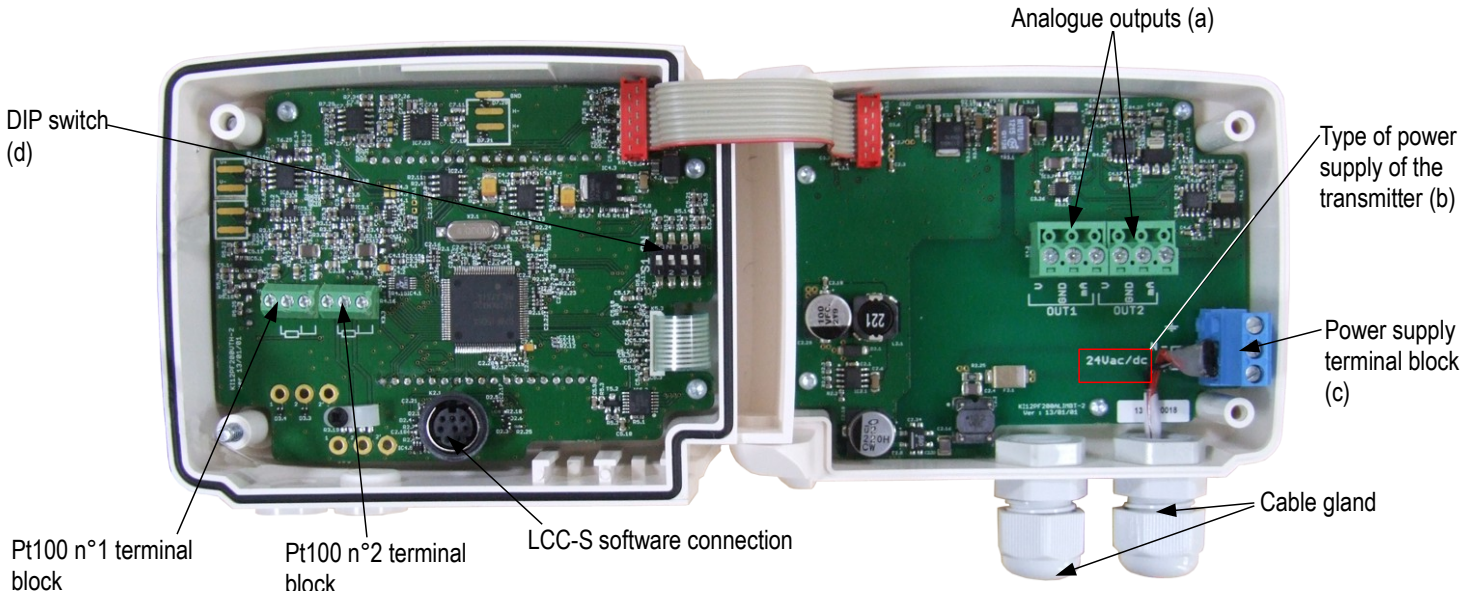
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## FUNCTION

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**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.

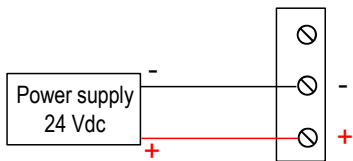
# CONNECTIONS



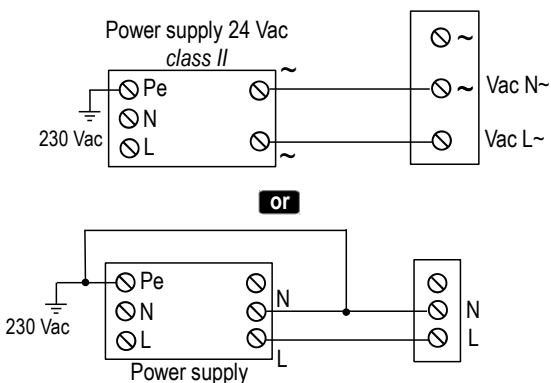
## ELECTRICAL CONNECTIONS – as per *NFC15-100* standard

**⚠ This connection must be made by a qualified technician. To make the connection, the transmitter must not be energized. Before making the connection, you must first check the power supply indicated on the transmitter board (see (b) on “Connections” part).**

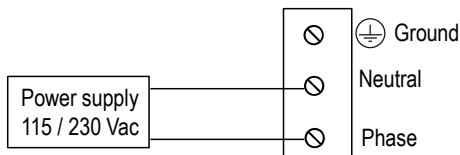
> **For transmitters with 24 Vdc power supply :**



> **For transmitters with 24 Vac power supply :**



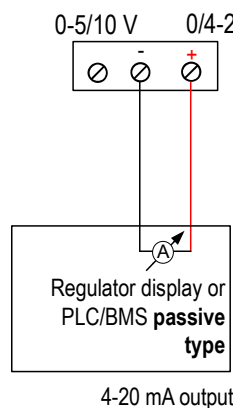
> **For transmitters with 115 or 230 Vac power supply :**



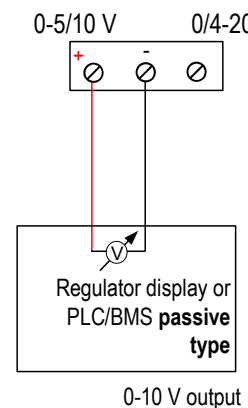
The selection of the output signal in voltage (0-10 V or 0-5 V) or in current (4-20 mA or 0-20 mA) is made via the DIP switch (d) of the electronic board of the transmitter : put the on-of switches as shown in the table below :

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

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



> **Connection of output in voltage 0-10 V :**



## 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 :

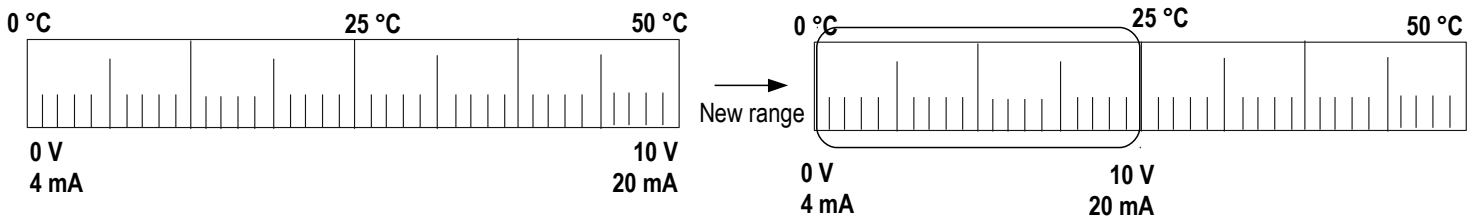
- **Keypad** for models with display : a code-locking system allows to secure the installation (See class 210 user manual).
- **Software** (optional) on all models. Simple user-friendly configuration. See LCC-SD user manual.

### 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.**

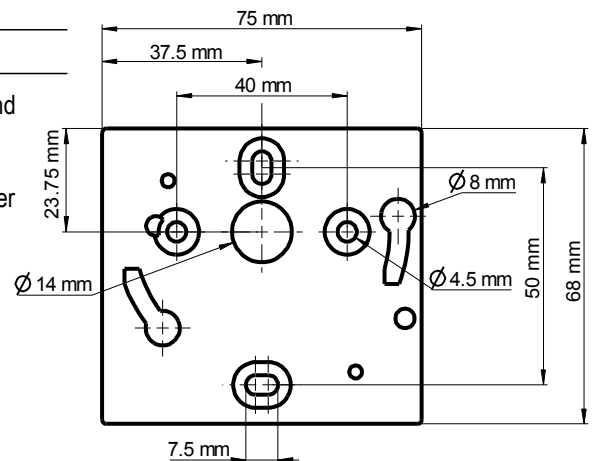
Configure the range according to your needs : outputs are automatically adjusted to the new measuring range



## 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**
- Pt100 temperature probes

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