TECHNICAL DATASHEET

New CE

TG 100 duct mount

TG 100 Pt 100 on terminal block (probe in option)

Temperature transmitter
TG 100

- *Duct temperature transmitter, TG100 type*
- *Measuring ranges from 0 to +50°C, -20 to +80°C, -50 to +50°C, 0 to +100°C, 0 to 200°C, 0 to +300°C, 0 to +400°C (according to model, see "Configuration")*
- *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 65 housing, with or without display*
- *Quick and easy mounting "1/4 turn" system with wall-mount plate*

Part number

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

Transmitter / power supply / output

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

Display

| O | With display |
| N | Without display |

Mounting

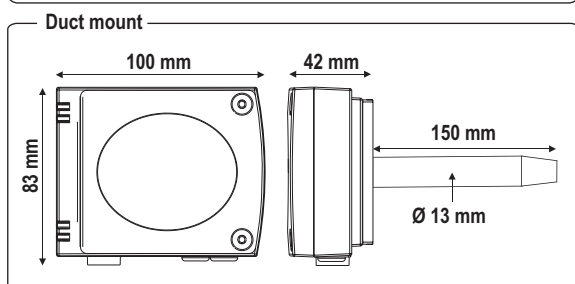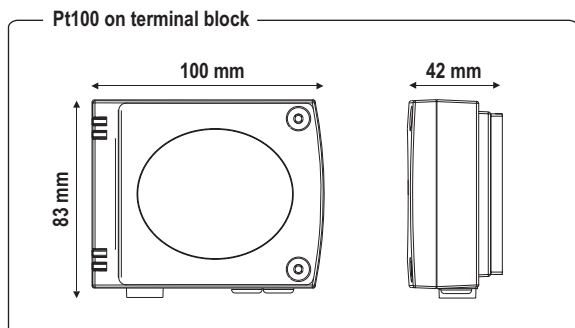| A | Duct mount |
| B | Terminal block |

TG100 - ☐ ☐ ☐

Example : TG100-VOA
Model : temperature transmitter TG 100 active sensor 0-10 V output, with display and duct mount probe.

Dimensions of the housing
(with wall-mount plate)

Pt100 on terminal block

100 mm — 42 mm — 83 mm

Duct mount

100 mm — 42 mm — 83 mm — 150 mm — Ø 13 mm

Features of the transmitter

Temperature

Working principle : Pt100 is a resistance with a positive temperature coefficient which varies according to the temperature. The higher the temperature is, the more the value of the resistance increases. Example : for 0°C ≃ 100 Ω - for 100°C ≃ 138,5 Ω

Measuring range	see chart "Configuration"
Units of measurement	°C, °F
Accuracy *	±0,5% of reading ±0,4°C (duct mount probe) according to the probe (Pt 100 on terminal block)
Response time	1/e (63%) 5 sec. (duct mount probe) according to the probe (Pt 100 on terminal block)
Resolution	0,1°C
Type of sensor	Pt 100 class A as per DIN IEC751
Type of fluid	air et neutral gases

WITH or WITHOUT **display**

Features of the housing

Housing	ABS
Fire-proof classification	HB as per UL94
Dimensions	see drawings beside
Protection	IP 65
Display	5- digit LCD. Dimensions 50 x 15 mm
Height of the digits	10 mm
Cable grip	for cables Ø 7mm maxi.
Weight	145g (with display) - 110g (without display)

Technical Specifications

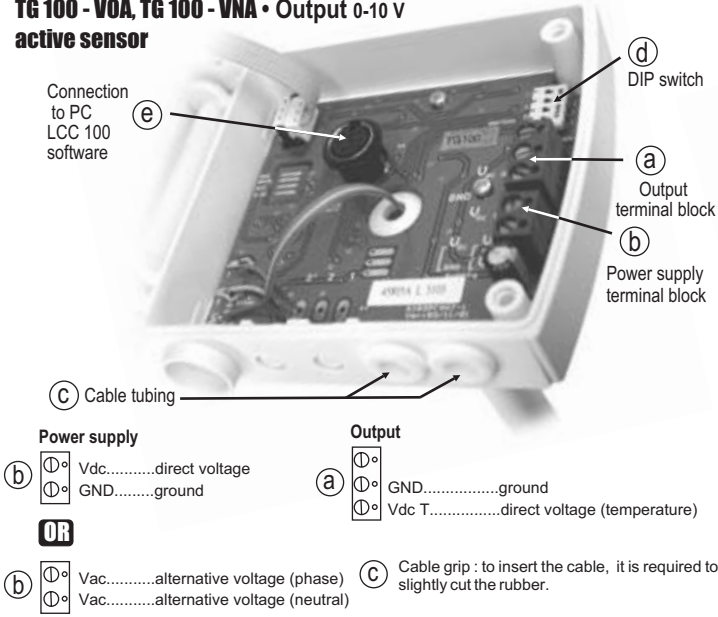|	
Output / power supply	active transmitter 0-10 V (power supply 24 Vac/Vdc ±10%), 3-4 wires passive loop 4-20 mA (power supply. 18/30 Vdc), 2 wires maximum load : 500 Ohms (4-20 mA) minimum load : 1 K Ohms (0-10 V)
Consumption	2 VA(0-10V) or max. 22 mA (4-20mA)
Electro-magnetical compatibility	EN 61326
Electrical connection	screw terminal block for cables Ø 1.5 mm² max
Communication to PC	Kimo RS 232 cable
Working temperature (housing)	0 to +50°C
Working temperature (probe)	-20 to +80°C (duct mount probe) according to the probe (Pt100 on terminal block)
Storage temperature	-10 to +70°C
Environment	air and neutral gases

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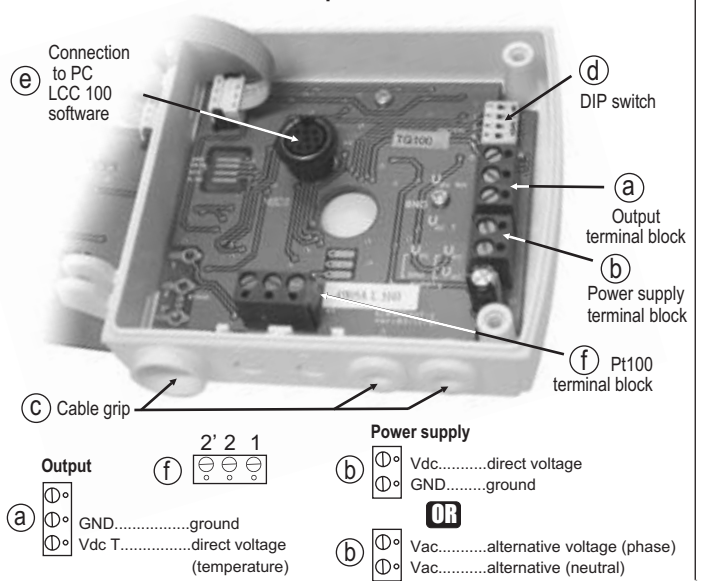
◼ *Connection*

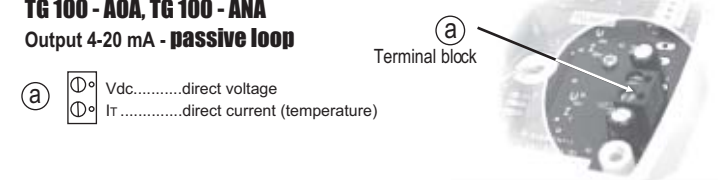For the models
TG 100 - VOA, TG 100 - VNA • Output 0-10 V
active sensor

ⓔ Connection to PC LCC 100 software

ⓓ DIP switch

ⓐ Output terminal block

ⓑ Power supply terminal block

ⓒ Cable tubing

Power supply

ⓑ ⊙ Vdc...........direct voltage
⊙ GND........ground

OR

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

Output

ⓐ ⊙ GND................ground
⊙ Vdc T...............direct voltage (temperature)

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

For the models
TG 100 - AOA, TG 100 - ANA
Output 4-20 mA - passive loop

ⓐ Terminal block

ⓐ ⊙ Vdc...........direct voltage
⊙ IT ....direct current (temperature)

For the models
TG 100 - VOB, TG 100 - VNB • Output 0-10 V - active sensor

ⓔ Connection to PC LCC 100 software

ⓓ DIP switch

ⓐ Output terminal block

ⓑ Power supply terminal block

ⓕ Pt100 terminal block

ⓒ Cable grip

Output

ⓐ ⊙ GND................ground
⊙ Vdc T...............direct voltage (temperature)

ⓕ 2' 2 1

Power supply

ⓑ ⊙ Vdc...........direct voltage
⊙ GND.........ground

OR

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

For the models
TG 100 - AOB, TG 100 - ANB
Output 4-20 mA - passive loop

ⓐ Terminal block

ⓐ ⊙ Vdc...........direct voltage
⊙ IT ....direct current (temperature)

Pt100 terminal block ⓕ 2' 2 1
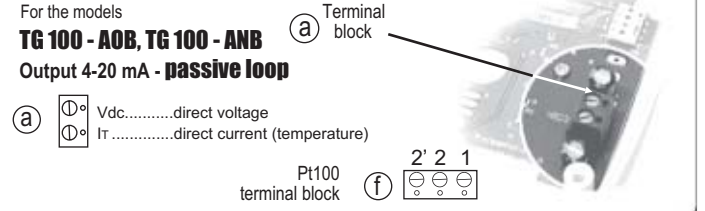
◼ *Electrical connection - as per norm NFC15-100*

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

For the models
TG 100 - VOA, TG 100 - VNA, TG 100 - VOE, TG 100 - VNE • Output 0-10 V - active loop

═══ **4 wires**

Output terminal block
GND –
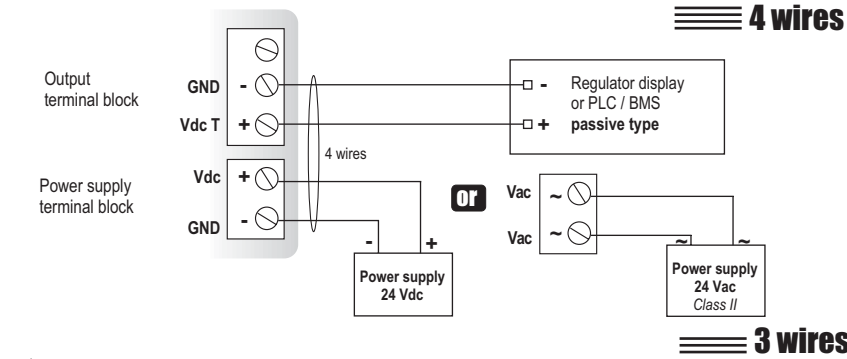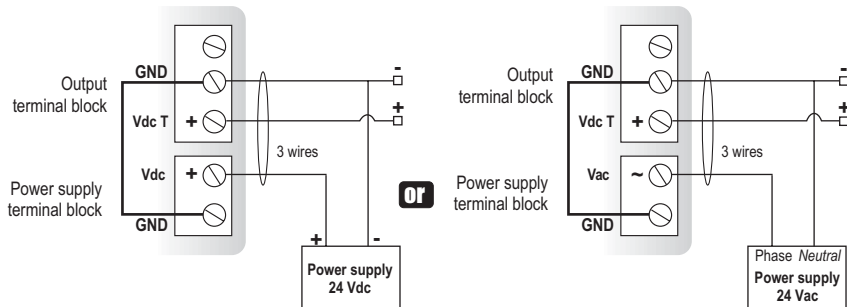Vdc T +

Regulator display or PLC / BMS **passive type**
– +

4 wires

Power supply terminal block
Vdc +
GND –

or

Power supply 24 Vdc
– +

Vac ~
Vac ~

Power supply 24 Vac *Class II*
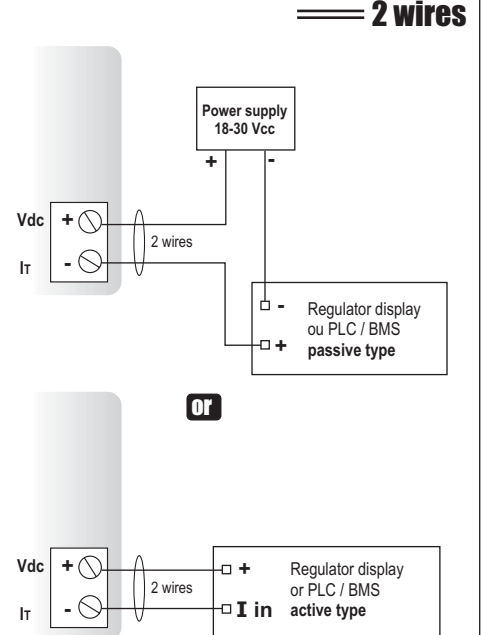
═══ **3 wires**

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

Output terminal block
GND
Vdc T +

– +

3 wires

Power supply terminal block
Vdc +
GND

Power supply 24 Vdc
+ –

or

Output terminal block
GND
Vdc T +

– +

3 wires

Power supply terminal block
Vac ~
GND

Phase *Neutral*
Power supply 24 Vac

For the models
TG 100 - AOA, TG 100 - ANA, TG 100 - AOE, TG 100 - ANE
• Output 4-20 mA - passive loop

══ **2 wires**

Power supply 18-30 Vcc
+ –

Vdc +
IT –

2 wires

Regulator display ou PLC / BMS **passive type**
– +

or

Vdc +
IT –

2 wires

Regulator display or PLC / BMS **active type**
+ I in

Connection of the Pt100 probe
for the models
TG 100 - VOB, TG 100 - VNB, TG 100 - AOB, TG 100 - ANB
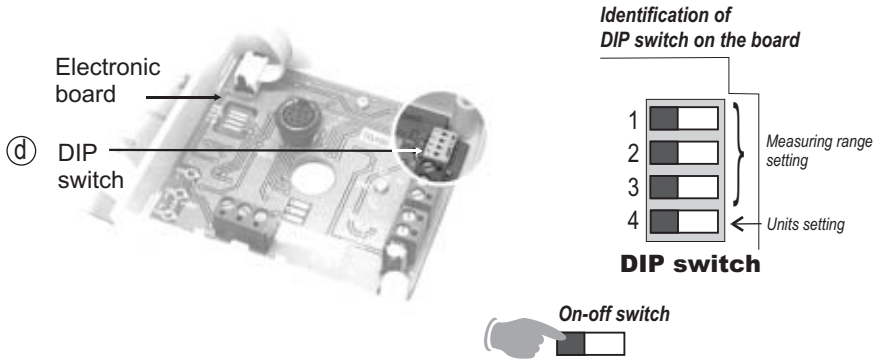
2' 2 1

Pt100
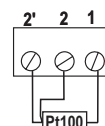
■ Configuration

It is possible to configure the measuring ranges, the units, the output of the transmitter (according to the model) either by **DIP switch** and/or via **software** (connections ⓔ and ⓓ on drawing "connection)

■ Configuration by **DIP switch**

To configure the transmitter, please unscrew the 2 screws from the housing, and then open it.

Electronic board

ⓓ DIP switch

Identification of DIP switch on the board

1
2 } Measuring range setting
3
4 ← Units setting

DIP switch

On-off switch

To configure the transmitter, **it must not be energized.** Then, you can make the settings required, with the DIP switches (as shown on the drawing beside). When the transmitter is configured, you can power it up.

⚠ **Caution !**

Please follow carefully the combinations beside with the DIP switch.
If the combinations are wrong, the following message will appear on the display of the transmitter **"CONF ERROR"**.
In that case, you will have to unplug the transmitter, place the DIP switches correctly, and then power the transmitter up.

• Units setting

To set the measuring unit, please put the on-off switch 4 of units, as shown beside.

Configurations	°C	°F
Combinations	1 2 3 4	1 2 3 4

• Measuring range setting

To set the measuring range, please put the on-off switches 1, 2 and 3 of the measuring range, as shown beside.

		Measuring range duct mount		Measuring range Pt 100 on terminal block			
Configurations	0 to 50 °C	-20 to 80 °C	-50 to 50 °C	0 to 100 °C	0 to 200 °C	0 to 300 °C	0 to 400 °C
Combinations	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

■ Initialization **the transmitter**

When the transmitter is powered up, it initializes and displays the digits $\boxed{0.0.0.0}$, and then its configuration including :
- the measuring range   - the analog output.

1- The measuring range
The following message is displayed : $\boxed{Lo}$. This is the low value of the measuring range, and its digit value : **ex :** $\boxed{0}$.
The following message is displayed : $\boxed{HI}$. This is the high value of the measuring range and its digit value : **ex :** $\boxed{400}$.
The arrow displayed (at the bottom or on the right of the screen) is relative to the unit of measurement : **ex :** from 0 to 400 °C.

2 - The analog output
If the analog output is in 4-20mA, then the following message will appear $\boxed{4-20A}$.
If the analog output is 0-10 V, then the following message will appear $\boxed{0-10V}$.

After the display of the configuration, the transmitter displays $\boxed{- - - - -}$, which confirms that the initialization is finished and you can start the measurements.

■ *Configuration via **software***

(with optional LCC100 software)

An easy and friendly configuration with the software !
You can configure your own intermediary ranges.

Example : for a transmitter with a range of -50 to +400°C, the minimum configurable range is 20°C. For example, you can configure your transmitter with a range from -20 to +380°C, or from +300 to +320°C...

• To access the configuration via software, you must first position the **DIP switches** as per the following picture (shown beside), and then connect the cable to the transmitter (see beside and see "Connection").

• **Please refer to the user manual of the LCC 100 to make the configuration.**
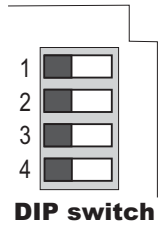
⚠ **Caution !**

The configuration of the parameters can be done **either with the DIP switch, or via software** (you cannot combine both solutions).

DIP switch

■ *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 on the plate (see A on the drawing beside) and rotate its housing in clockwise direction until you hear a "click" which confirms that the transmitter is correctly installed.
For the model with duct mount, an additional drilling of Ø14mm must be done before mounting the ABS plate.

ABS plate →

73 mm
Ø 8 mm
Ø 4,5 mm
50 mm
68 mm
40 mm
7 mm
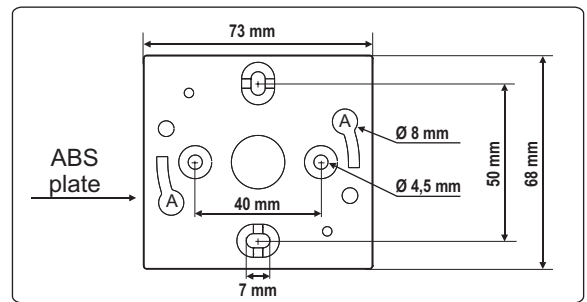
■ *Maintenance*

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 LCC 100 software with RS 232 cable
- Temperature probes Pt100 3 wires (for model TG 100 on terminal block)

■ *Accessories*

- Connection tube
- Connection fittings
- Through-connections
- Straight connections
- Spherical coupling nut