New

CE

## *Temperature sensor with ABS head*
SG 100

- Temperature sensor with a PT100 Class A stainless steel probe.
- Measuring range from 0 to +50°C, from -20 to +80°C, from -50 to +50°C, from 0 to +100°C. (According to model, see "Configuration").
- 0-10 V ouput, 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 ¼" turn system with wall-mount plate.
- LCC100 configuration software (optional).
- With or without stainless steel sliding connection, ½" cylindrical Gas.

■ *Part numbers*

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

Output / Sensor / Power supply

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

Stainless steel compression fitting, ½ cylindrical gas

R	with sliding connection
S	without sliding connection
...*	

Display

| O | with display |
| N | without display |

* Other sliding connections available on request

SG100 - ☐ - ☐ - ☐ - R

Probe diameter (mm)

| 4 |
| 6 |
| 8 |

Probe length (mm)

| 50 |
| 100 |
| 150 |
| 200 |
| 250 |
| 300 |
| 350 |
| ...* |

* Other lengths available on request

Example : SG100 – V – O – 4 - 100 - R

Model : PT100 Class A temperature sensor, with display.
Stainless steel probe Ø 4, length 100 mm with stainless steel compression fitting ½" cylindrical gas on IP65 ABS housing. 0-10V active sensor with a 24 Vac/Vdc power supply.

■ *Housing dimensions*
(including wall-mount plate)

100 mm
83 mm
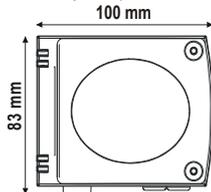
Without compression fitting

42 mm

Length* in mm

*variable according to the probe

With compression fitting

42 mm

Length* in mm

Diameter* in mm
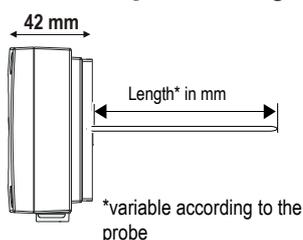
Compression fitting
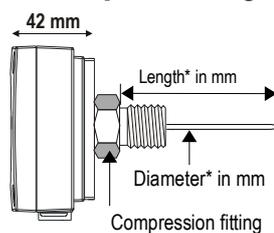
⚠ **For thermowell using**
Thread model : add 20 mm to probe length.
Fixing screw model : add 10 mm to probe length.

■ *Transmitter features*

Measuring range................................ see table ("configuration")
Units of measurement...................... °C, °F
Accuracy*... ±0,5% of reading ±0,4°C (PT100 Class A)
Resolution... 0,1°C
Type of sensor.................................. PT 100 Class A as per DIN IEC751
Working temperature (probe)............from -50°C to +100°C
Probe.. 316 L stainless steel, ¾ to 4/4 hard, no welding
**Compression fitting**.......................... 316 L stainless steel , ½"G male

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

■ *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 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 1.5 mm² max
Communication to PC........................ Kimo RS 232 cable
Environment...................................... air and neutral gases

WITH or WITHOUT **display**

■ *Housing features*

Housing.. ABS
Fire-proof classification.....................H-B as per UL94
Dimensions.. see drawings beside
Protection.. IP 65
Display... 5- digits LCD. Dimensions 50 x 15 mm
Height of the digits............................ 10 mm
Cable grip.. for cables Ø 7mm max.
Weight... 145g (with display) – 110g (without display)
Working temperature (housing)........from -20°C to +50°C (with display)
from -20°C to +80°C (without display)

■ *Connection*

For models
SG 100 - V - O & SG 100 - V - N ● Output 0-10 V **–** active sensor

Connection to PC
LCC100 software

(e)

(d) DIP Switch

(a) Output terminal block

(b) Power supply terminal block

Cable tubing (c)

Power supply

(b) Vdc.................. direct voltage
GND................. ground

OR

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

Output

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

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

For models
SG 100 - A - O & SG 100 -A - N
● Output 4-20 mA – passive loop

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

(a) Terminal block

■ *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 models
SG 100 - V - O & SG 100 - V - N ● Output 0-10 V – active loop ≣ **4 wires**

Output terminal block
GND   –
Vdc T   +

Power supply terminal block
Vdc   +
GND   –

4 wires

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

Power supply 24 Vdc

OR

Vac ~
Vac ~

Power supply 24 Vac *Class II*

≣ **3 wires**

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

Output terminal block
GND
Vdc T +

Power supply terminal block
Vdc +
GND

3 wires

–
+

Power supply 24 Vdc

OR

Output terminal block
GND
Vdc T +

Power supply terminal block
Vac ~
GND

3 wires

–
+

Phase *Neutral*
Power supply 24 Vac

For models

SG 100 - A - O & SG 100 - A - N ● Output 4-20 mA – passive loop

≣ **2 wires**

Power supply 18-30 Vcc
+   –

Vdc +
Iτ –

2 wires

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

Or

Vdc +
Iτ –

2 wires

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

■ Configuration

You can configure all parameters of the transmitter : measuring ranges, units, output (according to model) either by DIP switch and/or via software (see below)

■ Configuration by **DIP switch**

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

Whilst configuring the transmitter, **it must not be energized.** Make the required setting with the DIP switches (as shown on the drawing beside). When the transmitter is configured, you can power it up.

Electronic board

d DIP switch

Identification of DIP switch on the board

1
2 } *Measuring range setting*
3
4 ← *Units setting*

DIP switch

On-off switch
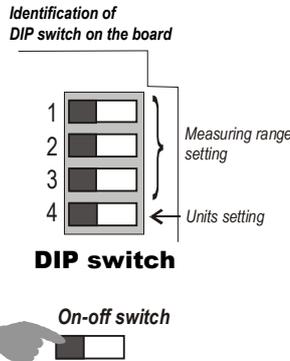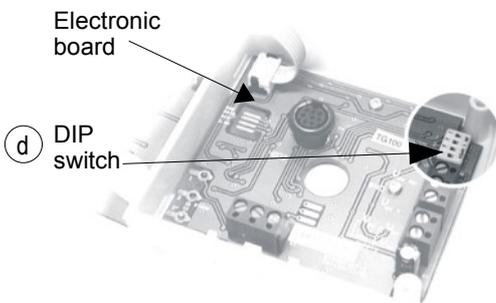
⚠ **Caution !**

Please follow carefully the combinations shown alongside on the DIP switch.
If the combinations are wrong, the following message will appear on the display of the transmitter **"CONF ERROR"**.
In that case, unplug the transmitter, set the DIP switches correctly, and then power up the transmitter.

• *Units setting*

To set measuring unit, set the on-off DIP switch, as shown alongside.

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

• *Measuring range setting*

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

Measuring ranges

Configurations	0 to 50 °C	-20 to 80 °C	-50 to 50 °C	0 to 100 °C
Combinations	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

■ Initialization of the transmitter

When the transmitter is powered up, it initializes and displays the digits | 0.0.0.0.0 › | , and then its configuration including :
 - The measuring range   - The analogue output.

1 – The measuring range.
The following message is displayed : | Lo ▾ | . This is the low value of the measuring range, and its digit value : **ex** : | 0 |
The following message is displayed : | H I ▾ | . This is the high value of the measuring range and its digit value : **ex** : | 100 |
The arrow displayed (at the bottom or on the right of the screen) is relative to the unit of measurement : **ex** : from 0 to 100 °C.

2 – The analogue output.
If the analogue output is in 4-20mA, then the following message will appear : | 4-20A | .
If the analogue output is 0-10 V, then the following message will appear : | 0- 10U | .

After the display of the configurations, the transmitter displays | - - - - - | , which confirms that the initialization is finished and you can start the measurements.

■ *Configuration via software*
(with optional LCC100 software)

Easy, user-friendly configuration with the software !
You can configure your own intermediate ranges.
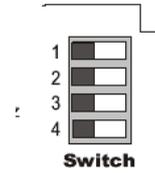
Example : for a transmitter with a range of -50 to +100°C, the minimum configurable range is 20°C. For example, you can configure your transmitter with a range from -20 to +80°C, or from +80 to +100°C...
• To access the configuration via software, first of all, set the DIP switch as shown below, then connect the cable to the transmitter (see alongside and refer to "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 methods).

■ *Mounting*

Installation : mount the ABS plate on the wall (this plate is supplied with the transmitter). Drilling : Ø 6 mm (with the screws and plugs 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 hole Ø14mm must be made before mounting the ABS plate.
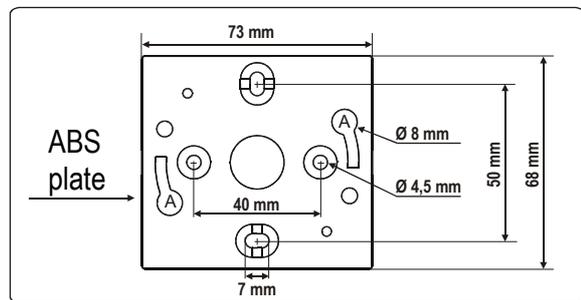
■ *Tolerance of the PT100 Class A.*

Temp°C	Tolerances Class A	
	± °C	± Ohms
-50	0.25	0.1
0	0.15	0.06
100	0.35	0.13

■ *Maintenance*

Clean the housing and probe only with cloth dampened with soapy water. Please avoid any of the following solvents at any concentration : petrol, petroleum, acetone, trichloroethylene, ammonia, acid, bicarbonate soap or bleach.

■ *Options*

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

■ *Accessories (See Datasheet)*

• Stainless steel compression fitting
• Stainless steel mounting brackets
• Thermowells
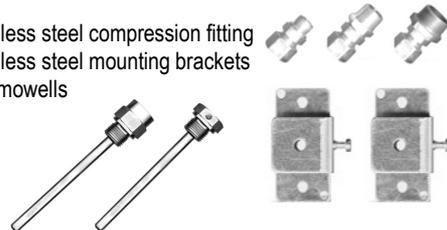
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