

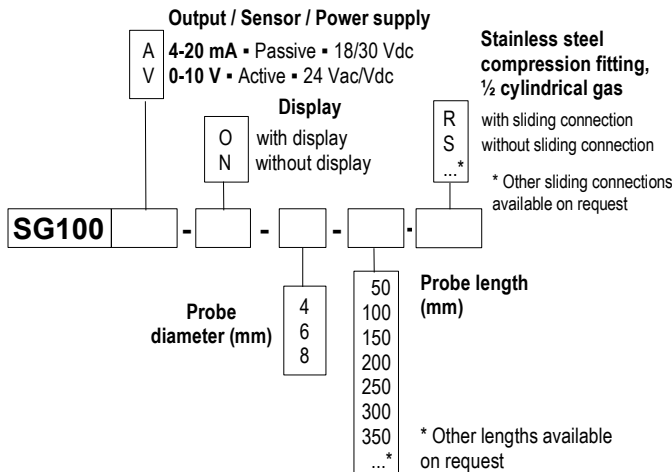


Temperature sensor with ABS head **SG 100**

- 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 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 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 :

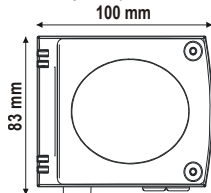


Example : SG100 - V - O - 4 - 100 - R

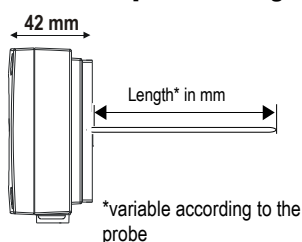
Model : PT100 Class A temperature sensor, with display.
Stainless steel probe Ø 4, length 100 mm with stainless steel compression fitting ½" cylindrical gas on IP65 ABS housing. 0-10V active sensor with a 24 Vac/Vdc power supply.

Housing dimensions

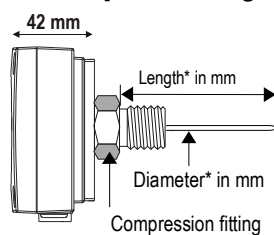
(including wall-mount plate)



Without compression fitting



With 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 guaranteed 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 mm ² 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

DIP Switch (d)
Output terminal block (a)
Power supply terminal block (b)
Cable tubing (c)

Power supply

(b) $\begin{matrix} \text{Vdc} & \dots & \text{direct voltage} \\ \text{GND} & \dots & \text{ground} \end{matrix}$

OR

(b) $\begin{matrix} \text{Vac} & \dots & \text{alternative voltage (phase)} \\ \text{Vac} & \dots & \text{alternative voltage (neutral)} \end{matrix}$

Output

(a) $\begin{matrix} \text{GND} & \dots & \text{ground} \\ \text{Vdc T} & \dots & \text{direct voltage (temperature)} \end{matrix}$

(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) $\begin{matrix} \text{Vdc} & \dots & \text{direct voltage} \\ \text{IT} & \dots & \text{direct current (temperature)} \end{matrix}$

Terminal block (a)

■ 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, Vdc

Power supply terminal block: Vdc, GND

Power supply: 24 Vdc OR 24 Vac Class II

Regulator display or PLC / BMS Passive type

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, Vdc

Power supply terminal block: Vdc, GND

Power supply: 24 Vdc OR 24 Vac

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

Output terminal block: Vdc, Ir

Regulator display ou PLC / BMS passive type

OR

Output terminal block: Vdc, Ir

Regulator display or PLC / BMS active type

■ Configuration

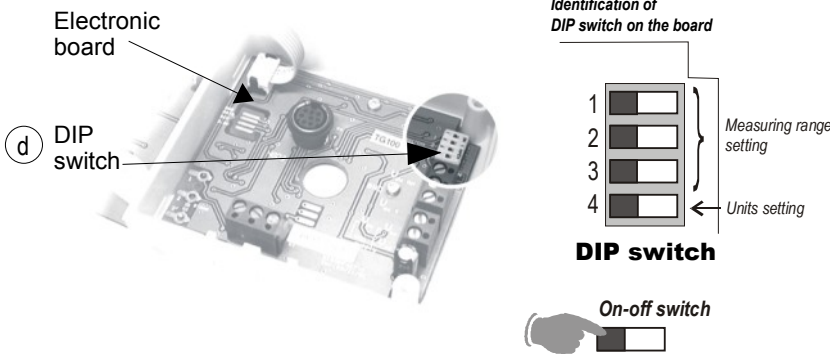
You can configure all parameters of the transmitter : measuring ranges, units, output (according to model) either by DIP switch and/or via software (see below)

■ 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.



⚠ 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	1
	2	2
	3	3
	4	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.

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

■ Initialization of the transmitter

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

1 – The measuring range.

The following message is displayed : . This is the low value of the measuring range, and its digit value : **ex** :

The following message is displayed : . This is the high value of the measuring range and its digit value : **ex** :

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 :

If the analogue output is 0-10 V, then the following message will appear :

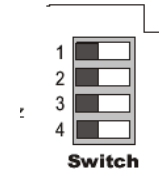
After the display of the configurations, the transmitter displays , which confirms that the initialization is finished and you can start the measurements.

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.



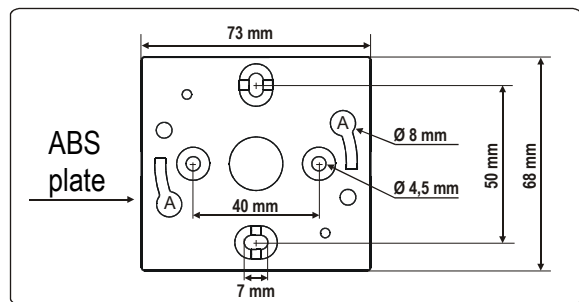
Caution !

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.

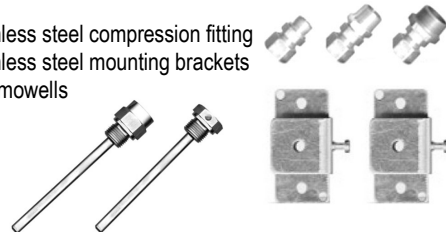
Options

- 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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EXPORT DEPARTMENT

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

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