

DATA SHEET

CO 112

CO₂ transmitter



Configurable intermediary ranges



Range from 0 to 5,000 ppm

- 0-10 V active output, power supply 24 Vac/Vdc (3-4 wires)
- ABS V0 housing, IP65 (depending on model), with or without display
- "1/4 turn" system mounting with wall-mount plate
- Housing with simplified mounting system

General features

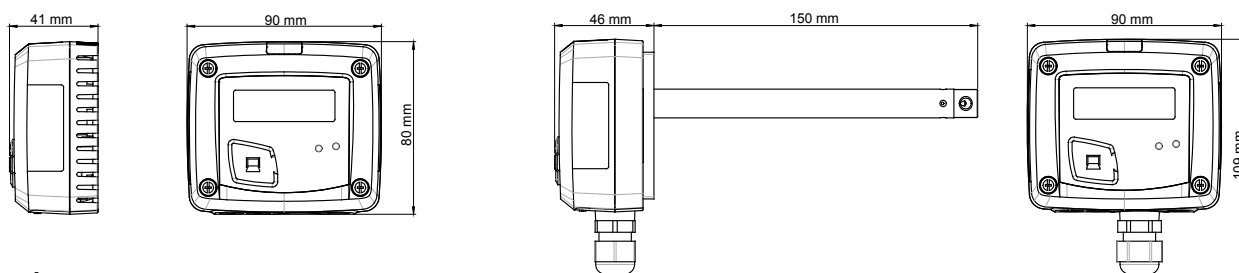
Unit of measurement	ppm
Measuring range	From 0 to 5,000 ppm
Accuracy*	±3 % of reading ±50 ppm
Type of sensor	Infrared sensor
Response time	T63 = 30 s
Resolution	1 ppm
Type of fluid	Air and neutral gases
Conditions d'utilisation (°C/%RH/m)	From 0 to +50 °C. In non-condensing condition. From 0 to 2,000 m.
Storage temperature	From -10 to +70 °C

*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.

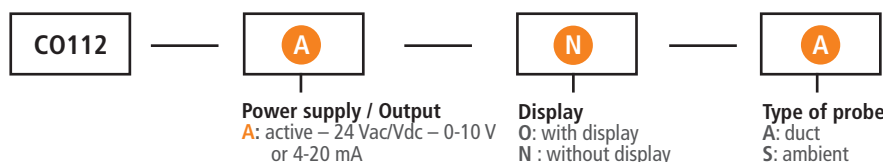
Features of the housing

Material	ABS V0 as per UL94
Protection	Duct model: IP65 Ambiant model: IP20
Display	LCD 10 digits. Size: 50 x 17 mm
Height of digits	Value: 10 mm; Unit: 5 mm
Cable gland <small>only for duct model</small>	For cables Ø8 mm maximum
Weight	Ambiant model: 150 g Duct model: 162 g

Dimensions



Part number

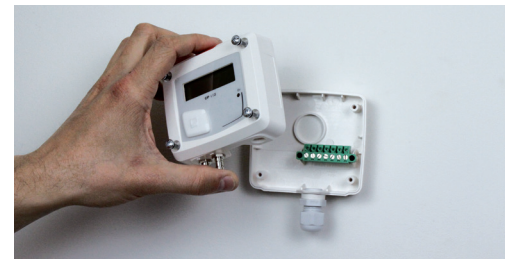


Example: CO112-ANA
 CO₂ transmitter, 0-10 V or 4-20 mA active transmitter, without display and with duct probe.

Important note:
 The duct model is available only without display.

Technical specifications

Output / Power supply	Active 0-10 V or 4-20 mA (power supply 24 Vac/Vdc $\pm 10\%$), 3-4 wires Common mode voltage <30 VAC Maximum load: 500 Ω (4-20 mA) or 1 k Ω (0-10 V)
Consumption	3 VA (0-10 V) or 3 VA (4-20 mA)
European directives	2014/30/EU EMC 2014/35/EU Low voltage 2011/65/EU RoHS II 2012/19/EU WEEE
Electrical connection	Screw terminal block for cables from 0.05 to 2.5 mm ² or from 30 to 14 AWG Carried out according to the code of good practice
PC communication	USB-mini DIN cable
Environment	Air and neutral gases

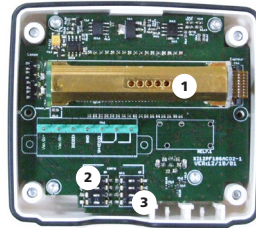


Simplified calibration

Electronic board and measuring element fixed to the front panel of the sensor, allowing you to leave your installation intact to configure or calibrate your instruments.

Connections

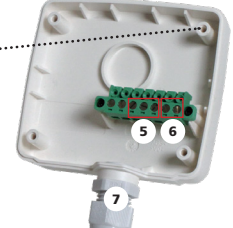
1. Infrared sensor
2. Inactive switch
3. Active switch
4. LCC-S software connection
5. Output terminal block
6. Power supply terminal block
7. Cable gland



Inside the front housing



Removable front face



Fixed back housing

Symbols


For your safety and in order to avoid any damage of the device, please follow the procedure described in this document and read carefully the notes preceded by the following symbol:



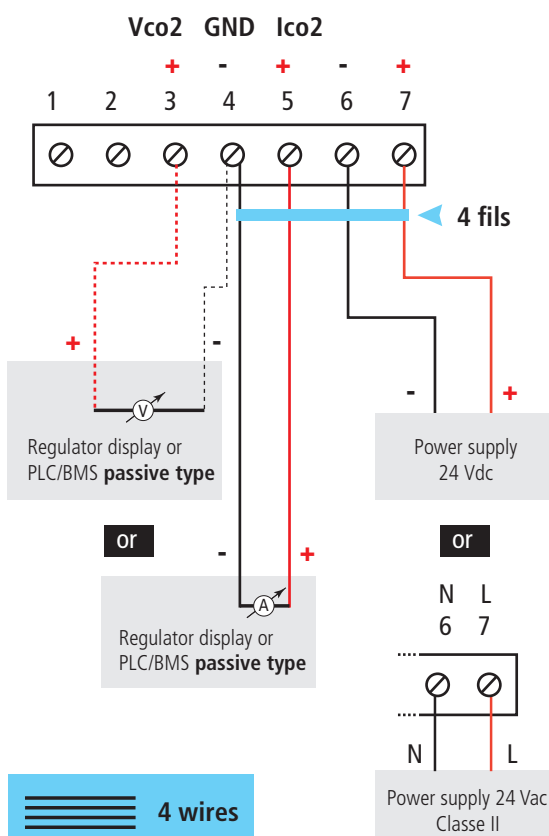
The following symbol will also be used in this document, please read carefully the information notes indicated after this symbol:




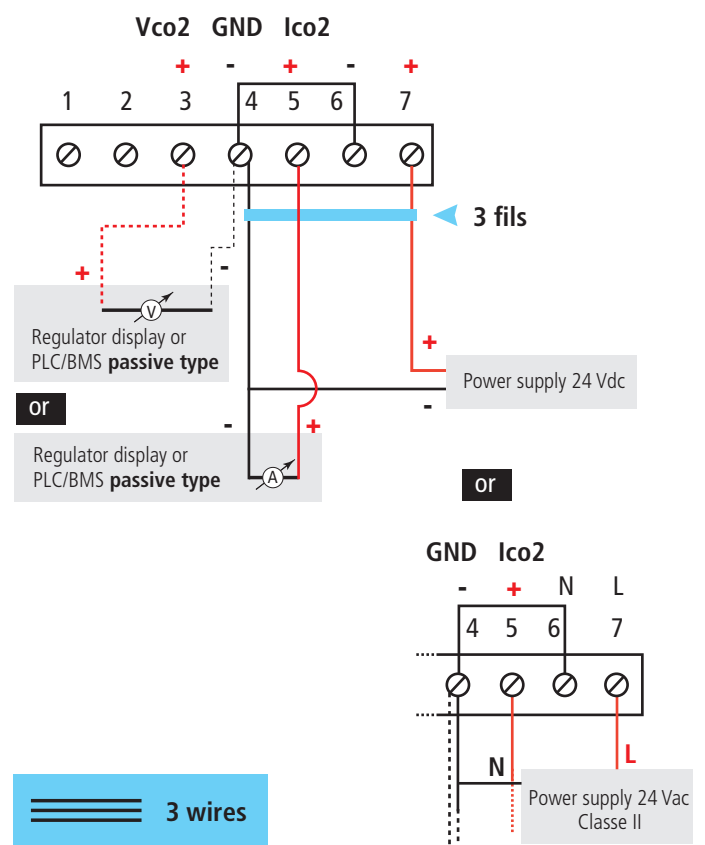
Electrical connections as per NFC15-100 standards

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

Active, 4 wires



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



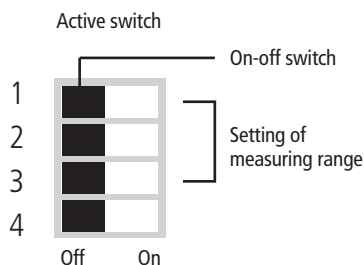
Settings and use of the transmitter



To configure the transmitter, it must not be energized. Then you can make the required settings thanks to the DIP switches as shown on the drawing below. When the transmitter is configured, you can power it up.

Configuration

To configure the transmitter, unscrew the 4 screws of the housing then open it. DIP switches allowing the different settings are accessible.



Measuring range setting

To set a measuring range, put the on-off switches 2, 3 and 4 as shown below:

Measuring ranges	Configuration via PC (from 0 to 5,000 ppm by default)	From 0 to 1,000 ppm	From 0 to 2,000 ppm
Combinations	1 <input type="checkbox"/> <input type="checkbox"/> 2 <input type="checkbox"/> <input checked="" type="checkbox"/> 3 <input type="checkbox"/> <input checked="" type="checkbox"/> 4 <input type="checkbox"/> <input checked="" type="checkbox"/>	1 <input type="checkbox"/> <input type="checkbox"/> 2 <input checked="" type="checkbox"/> <input type="checkbox"/> 3 <input type="checkbox"/> <input checked="" type="checkbox"/> 4 <input type="checkbox"/> <input checked="" type="checkbox"/>	1 <input type="checkbox"/> <input type="checkbox"/> 2 <input type="checkbox"/> <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> <input type="checkbox"/> 4 <input type="checkbox"/> <input checked="" type="checkbox"/>

Output setting - active switch

To set the type of analogue output, please put the on-off switch of the output as shown beside.

Configurations	4-20 mA	0-10 V
Combinations	1 <input type="checkbox"/> <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> <input type="checkbox"/> 3 <input checked="" type="checkbox"/> <input type="checkbox"/> 4 <input checked="" type="checkbox"/> <input type="checkbox"/>	1 <input checked="" type="checkbox"/> <input type="checkbox"/> 2 <input checked="" type="checkbox"/> <input type="checkbox"/> 3 <input checked="" type="checkbox"/> <input type="checkbox"/> 4 <input checked="" type="checkbox"/> <input type="checkbox"/>

Configuration via LCC-S software (optional)

An easy and friendly configuration with the software

It is possible to configure intermediary ranges.

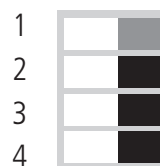


The minimum difference between the minimum scale and the maximum scale is 20.

To access to the configuration via software

Set the switch as shown beside. Connect the cable of the LCC-S to the connection of the transmitter.

Configuration via PC



Active switch

Configure the transmitter

Please refer to the LCC-S user manual.



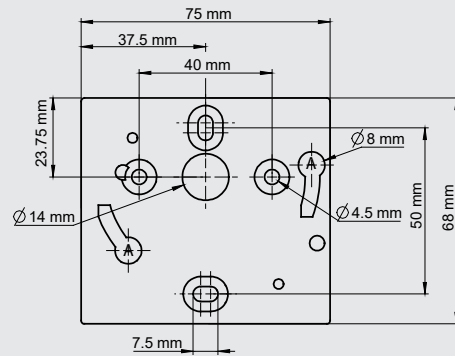
The configuration of the parameters can be done either by DIP switch, or by software (you cannot combine both solutions).

Mounting

To mount the transmitter, mount the ABS plate on the wall (drilling: Ø6 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.



Ambient model has not any fixing plate. 4 fixing holes are inside the back housing. Use them to install the transmitter on the required location.



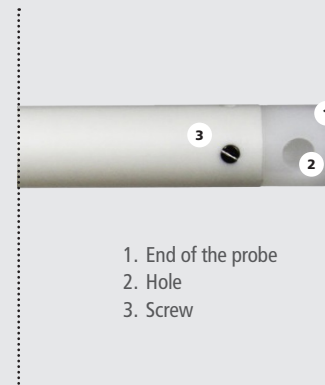
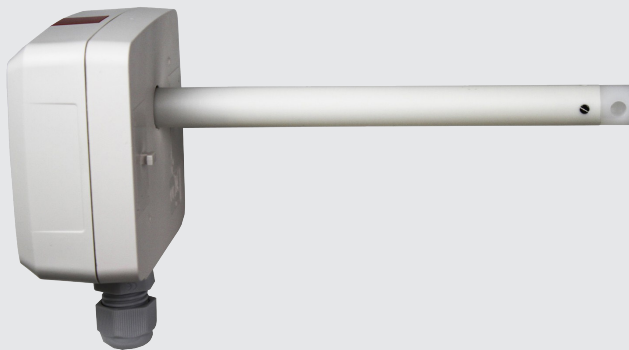
Positioning of the probe

For duct model

For duct models, the positioning of the probe is important to get accurate measurements: the hole located next to the screw at the end of the probe must face the air flow.

Procedure to modify the positioning of the end of the probe:

- Unscrew the screw.
- Turn the end of the probe: the hole must face the air flow.
- Replace the screw.



1. End of the probe
2. Hole
3. Screw

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.

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.

Accessories

Ref.

Description

KIAL-100A	Power supply class 2, 230 Vac input, 24 Vac output
KIAL-100C	Power supply class2, 230 Vac input, 24 Vdc output
LCC-S	Configuration software with USB cable

Warranty

Instruments have 1-year guarantee for any manufacturing defect.



Only the accessories supplied with the device must be used.