CO₂ transmitter
CO 112

KEY POINTS
- Range from 0 to 5000 ppm
- 0-10 V active output, power supply 24 Vac/Vdc (3-4 wires) or 4-20 mA output, passive loop, power supply from 16 to 30 Vdc (2 wires)
- ABS V0 housing, IP65 (depending on model), with or without display
- "¾ turn" system mounting with wall-mount plate
- Housing with simplified mounting system

FEATURES OF HOUSING

Material : ABS V0
Protection :
- duct model : IP65
- ambient model : IP20
Display : LCD 10 digits. Size : 50 x 17 mm
Height of digits : Value : 10 mm ; Unit : 5 mm
Cable gland (only for duct model) : for cables Ø 8 mm maximum
Weight : 138 g (ambient model) ; 150 g (duct model)

TECHNICAL FEATURES

<table>
<thead>
<tr>
<th>Unit of measurement</th>
<th>ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>From 0 to 5000 ppm</td>
</tr>
<tr>
<td>Accuracy*</td>
<td>±3 of reading or ±50 ppm</td>
</tr>
<tr>
<td>Type of sensor</td>
<td>Electrochemical sensor</td>
</tr>
<tr>
<td>Response time</td>
<td>T63 = 30 s</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Type of fluid</td>
<td>Air and neutral gas</td>
</tr>
<tr>
<td>Working temperature</td>
<td>From 0 to +50 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>From -10 to +70 °C</td>
</tr>
</tbody>
</table>

*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.

PART NUMBER

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

<table>
<thead>
<tr>
<th>CO112</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply / Output</td>
<td>Display</td>
<td>Type of probe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A : Active – 24 Vac/Vdc – 0-10 V</td>
<td>O : with display</td>
<td>A : Duct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P : Passive – 16/30 Vdc – 4-20 mA</td>
<td>N : without display</td>
<td>S : ambient</td>
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</tr>
</tbody>
</table>

Example : CO112-POA
CO₂ transmitter, 4-20 mA passive transmitter, with display and duct probe
**TECHNICAL SPECIFICATIONS**

**Output / Power supply**
- active 0-10 V (power supply 24 Vac/Vdc ± 10%), 3-4 wires
- passive loop 4-20 mA (power supply 16/30 Vdc), 2 wires
- maximum load : 500 Ohms (4-20 mA)
- minimum load : 1 K Ohms (0-10 V)

**Consumption**
2 VA (0-10 V) or max. 22 mA (4-20 mA)

**Electro-magnetical compatibility**
EN61326

**Electrical connection**
Screw terminal block for cables Ø0.05 to 2.5 mm²

**Communication to PC**
Kimo USB-mini Din cable

**Environment**
Air and neutral gas

**CONNECTIONS**

**Inside the front housing**
- Inactive switch
- Active switch
- Electrochemical sensor

**Removable front face**
- Power supply terminal block
- LCC-S software connection
- Cable gland

**Fixed back housing**
- Output terminal block

**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.

For **CO112-A models with 0-10 V output** – active :

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

```plaintext
For 0-10 V output - active:

<table>
<thead>
<tr>
<th>GND</th>
<th>VCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
```

4 wires

Power supply 24 Vdc

Regulator display or PLC/BMS passive type

0-10 V output

3 wires

Power supply 24 Vdc

Regulator display or PLC/BMS passive type

0-10 V output

3 wires
For CO112-P models with 4-20 mA output – passive:

Settings and use of the transmitter

- Configuration

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.

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:

- Combination 1
  - From 0 to 5000 ppm
- Combination 2
  - From 0 to 1000 ppm
- Combination 3
  - From 0 to 2000 ppm

Configuration via LCC-S software (optional)

An easy and friendly configuration with the software!

Attention: the minimum difference between the minimum scale and the maximum scale is 20.

Example: for a 0-5000 ppm transmitter, the minimum delta is 20 ppm. So the transmitter could be configured from 0 to 70 ppm from 0 to 20 ppm.

• 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.

• To configure the transmitter, please refer to the LCC-S user manual.

Caution: 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.
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 AND ACCESSORIES

- **KIAL-100A**: Power supply class 2, 230 Vac input, 24 Vac output
- **LCC-S**: configuration software with USB cable