



DATA SHEET

# CR 110

## Solar radiation transmitter



**Range from 0 to 1500 W/m<sup>2</sup>**



**ABS V0 housing, with display**

- 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)
- "1/4 turn" system mounting with wall-mount plate
- Housing with simplified mounting system

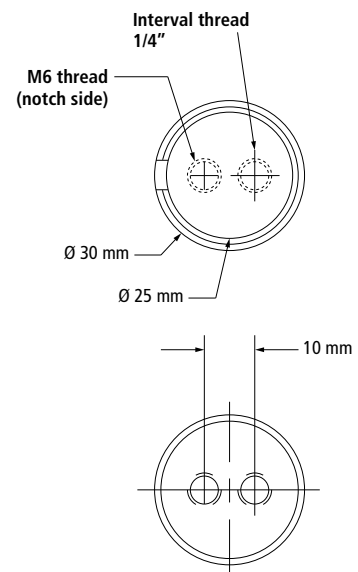
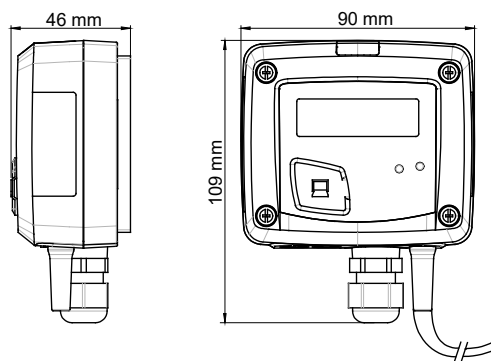
### General features

Unit of measurement	W/m <sup>2</sup>
Measuring range	From 0 to 1500 W/m <sup>2</sup>
Accuracy*	5% of reading
Resolution	1 W/m <sup>2</sup>
Type of fluid	Air and neutral gas
Conditions of use (°C/%RH/m)	From 0 to +50 °C. In non-condensing conditions. From 0 to 2000 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	IP65
Display	LCD 10 digits. Dimensions: 50 x 17 mm
Height of digits	Values: 10 mm; Units: 5 mm
Weight	140 g
Cable gland	For cables Ø 8 mm maximum
Remote probe	Cable of 5 m length in PVC



### Part number

CR 110 — 
 P — 
 O — 
 05M

**Power supply / Output**  
 A: Active – 24 Vac/Vdc – 0-10 V  
 P: Passive – 16/30 Vdc – 4-20 mA

**Display**  
 O: With display

**Probe cable length**  
 05M: cable length 5 m  
 10M: cable length 10 m

**Example: CR 110-PO**  
 Solar radiation transmitter with 4-20 mA passive output and 5 m of probe cable length.

## Features of the solar cell

Measuring range	From 0 to 1500 W/m <sup>2</sup>
Spectral response	400-1100 nm
Nominal sensitivity	100 mv for 1000 W/m <sup>2</sup> STC (Standard Test Conditions 25 °C – Solar spectrum AM 1.5)
Response in cosine	Corrected until 80°
Coefficient in temperature	+0.1% / °C
Effective area	1 cm <sup>2</sup>
Operating temperature	From -30 to +60 °C
Relative humidity dependence	100 %RH
UV performance	Excellent (PPMA filter)
Mode	Photovoltaic
Material	Polycrystallin silicon
Front face	Translucent PPMA
Tightness	Polyutethane resin and housing in PPMA and polyacetol
Weight	60 g
Dimensions	30 x 32 mm
Protection	IP65



### Simplified calibration

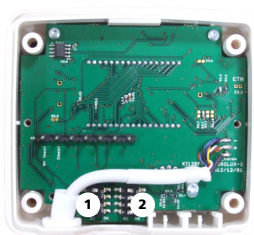
Electronic board and measuring element fixed to the front panel of the sensor, allowing you to leave your installation intact to configure or calibrate your instruments.

## 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 Common mode voltage <30 VAC Maximum load: 500 Ω (4-20 mA) / minimum load: 1 kΩ (0-10 V)
Consumption	2 VA (0-10 V) or 0.6 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 <sup>2</sup> 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

## Connections

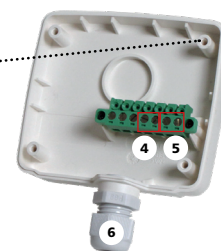
1. Inactive switch
2. Inactive switch
3. LCC-S software connection
4. Output terminal block
5. Power supply terminal block
6. Cable gland



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:

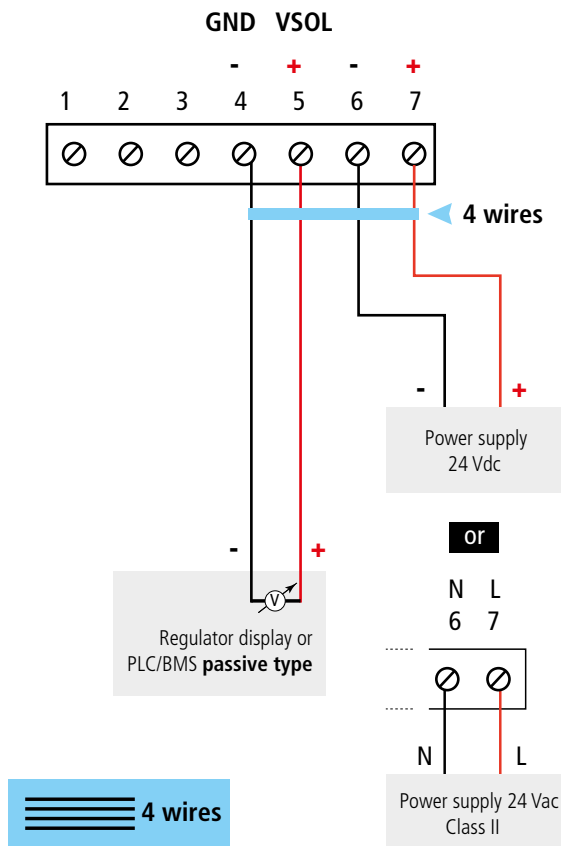


## Electrical connections – as per NFC15-100 standard

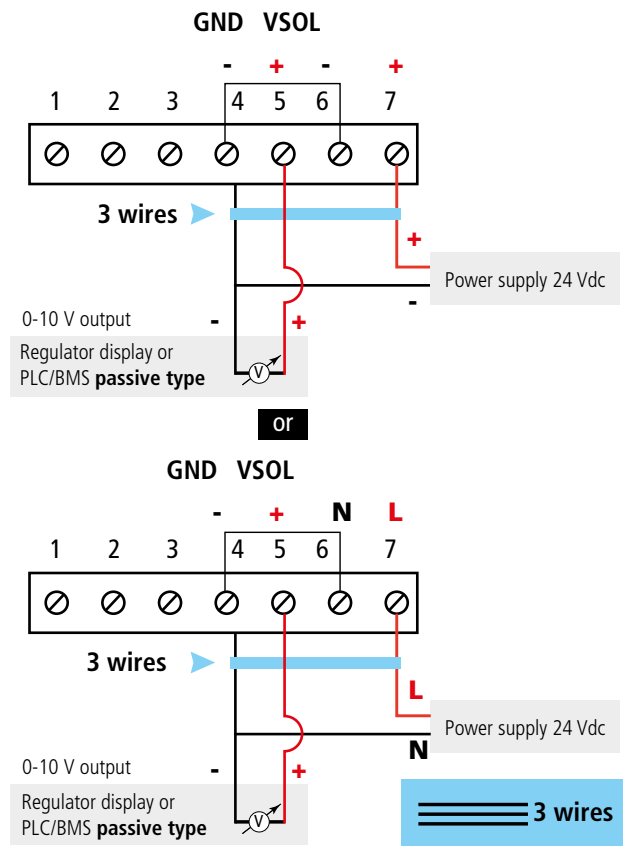


This connection must be made by a qualified and trained technician. To make the connection, the transmitter must not be energized.

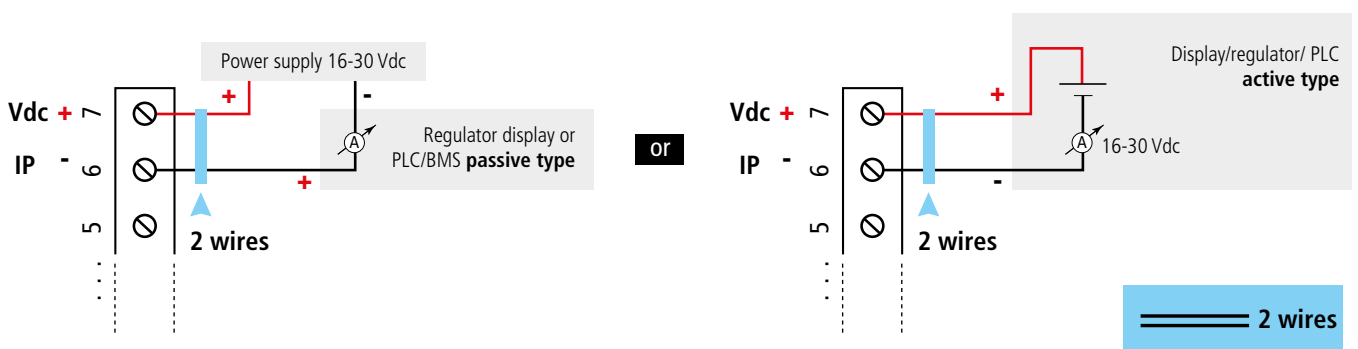
For CR 110-AO models with 0-10 V output – active:



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



For CR 110-PO models with 4-20 mA output – passive:

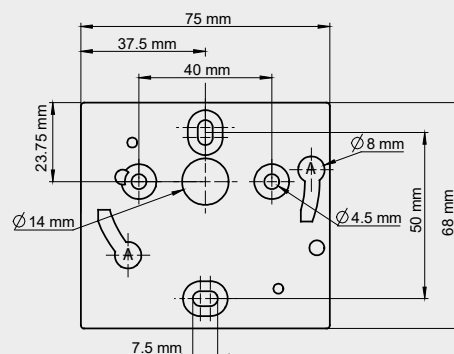


## Mounting

To mount the transmitter, mount the ABS plate on the wall (drilling:  $\varnothing$  6 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.



### 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 class 2, 230 Vac input, 24 Vac output
<b>Angle mounting</b>	
<b>Fixing kit for solar panels</b>	

### Warranty

Instruments have 1-year guarantee for any manufacturing defect.



Only the accessories supplied with the device must be used.