

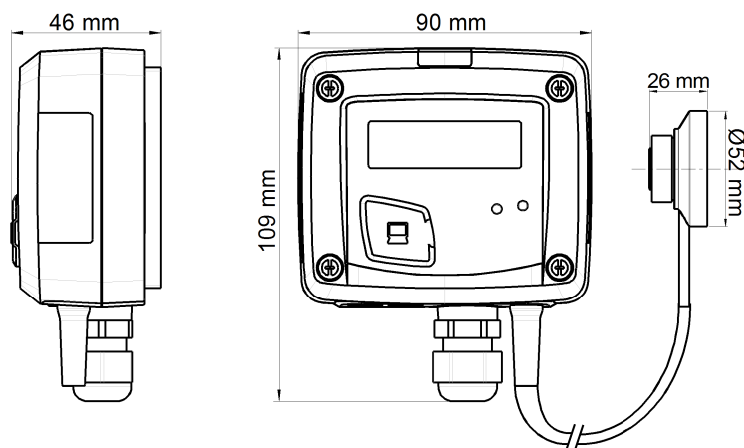
Light transmitter

LR 110

KEY POINTS

- Range from 0 to 10000 lux
- 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 IP65 housing, with or without display
- "¼ turn" system mounting with wall-mount plate
- Housing with simplified mounting system

FEATURES OF THE HOUSING



Material : ABS V0 as per UL94

Protection : IP65

Display : LCD 10 digits. Size : 50 x 17 mm

Height of digits : Values : 10 mm ; Units : 5 mm

Cable gland : For cables Ø 8 mm maximum

Weight : 140 g

Remote probe : cable of 2 m length in PVC

TECHNICAL FEATURES

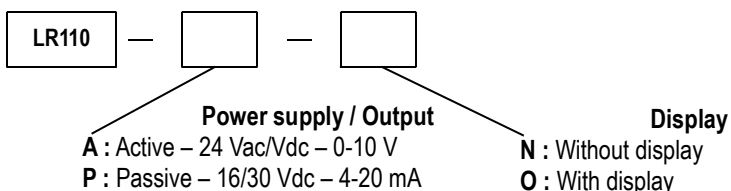
Measurement units	lux, fc
Measuring range	From 0 to 10000 lux From 0 to 929 fc
Accuracy*	±2% of reading or ±2 lux
Resolution	1 lux 0.01 fc
Type of fluid	Air and neutral gases
Conditions of use (°C/%RH/m)	From 0 to +50 °C. In non-condensing condition. From 0 to 2000 m.
Storage temperature	From -10 to +70 °C
Spectral range (f1) ¹	As per standard photopic curve V (λ) NF C 42-710 class C
Directional sensitivity (f2) ¹	<2 %
Linearity (f3) ¹	<2 %

¹ The f2 and f3 coefficient are defined according to the French NF C 42-710 standard.

* 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 :



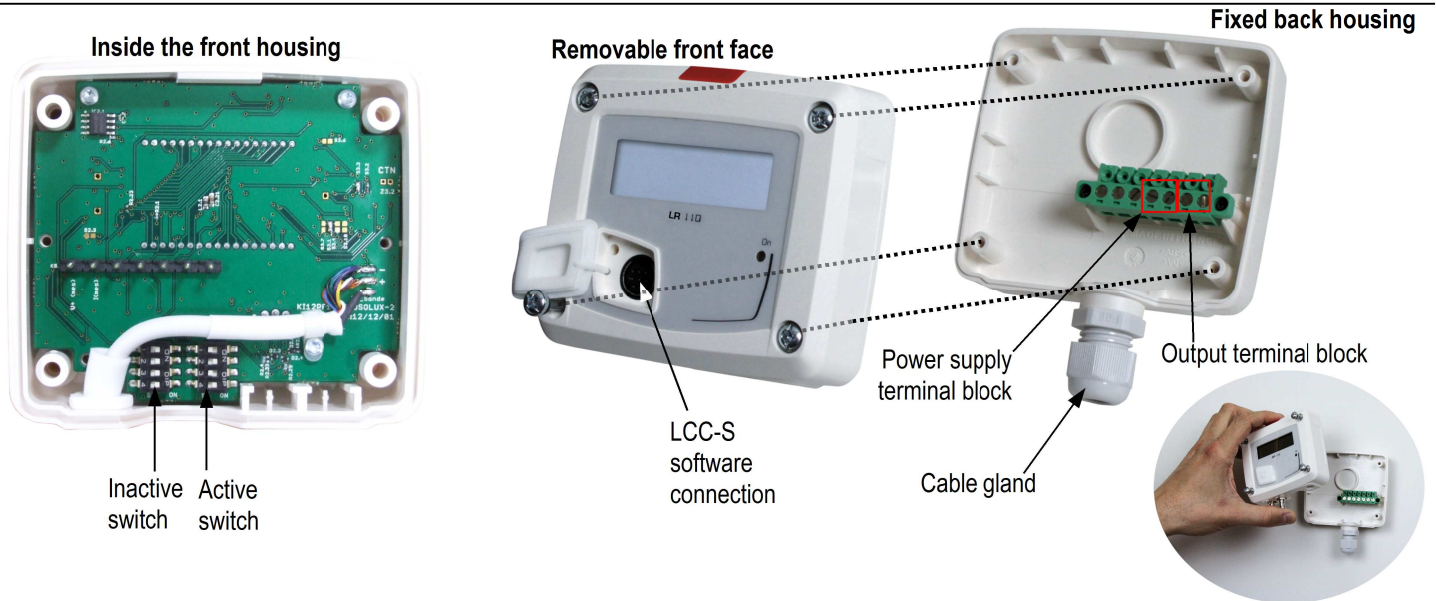
Example : LR110-PO

Light transmitter, 4-20 mA passive transmitter with display

TECHNICAL SPECIFICATIONS

Output / Power supply	- active 0-10 V (power supply 24 Vac/Vdc $\pm$ 10%), 3-4 wires - passive loop 4-20 mA (power supply 16/30 Vdc), 2 wires - common mode voltage <30 VAC - maximal load : 500 Ohms (4-20 mA) / minimum load : 1 K Ohms (0-10 V)
Consumption	2 VA (0-10 V) or 0.6 VA (4-20 mA)
European directives	2004/108/CE EMC ; 2006/95/CE 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

CONNECTIONS

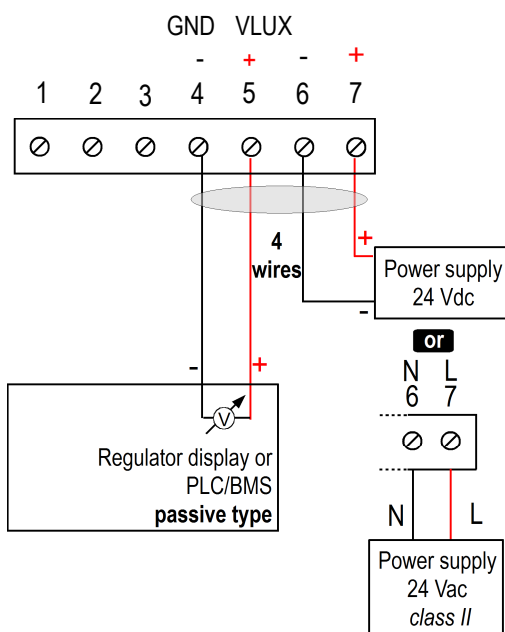


ELECTRICAL CONNECTIONS – as per *NFC15-100 standard*



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

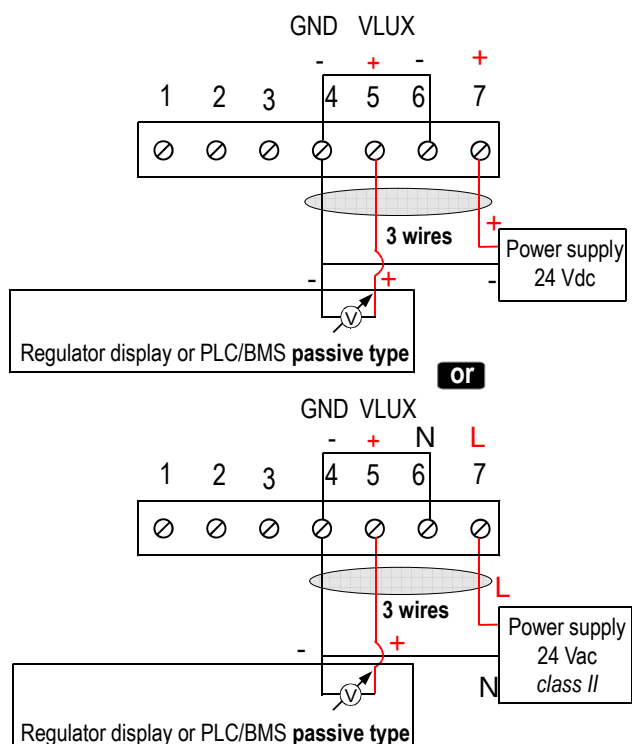
For LR110-A models with 0-10 V output – active :



4 wires

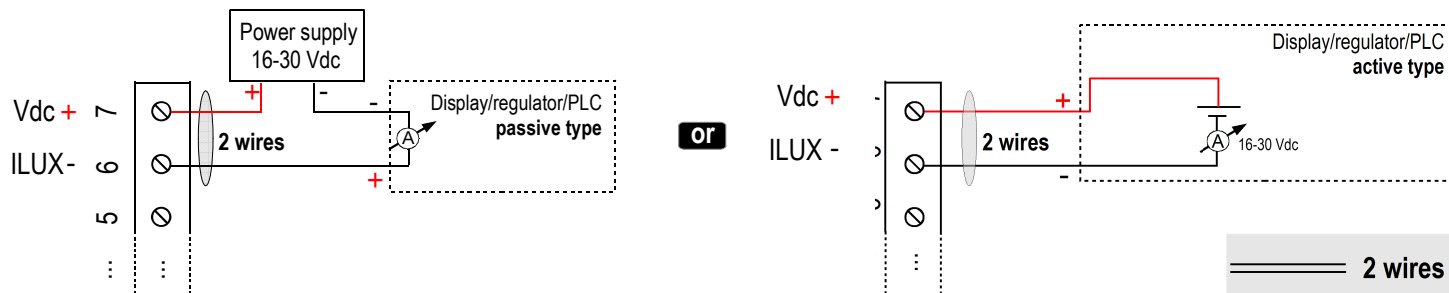


To make a 3-wire connection, before powering up the transmitter, please connect the output ground to the input ground. See drawing below.



3 wires

For **LR110-P** models with 4-20 mA output – **passive** :



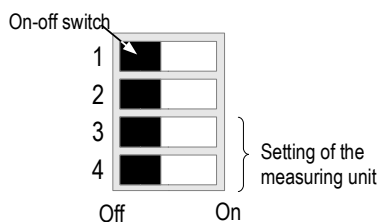
SETTINGS AND USE OF THE TRANSMITTER

> 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 unit setting – Active switch

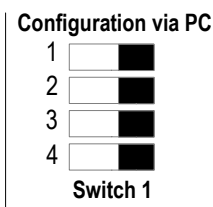
To set the unit of measurement, put the on-off switches 3 and 4 as shown in the table :

Configurations	lux	fc
Combinations	1 ☐ ☐	1 ☐ ☐
	2 ☐ ☐	2 ☐ ☐
	3 ☒ ☐	3 ☐ ☒
	4 ☐ ☒	4 ☒ ☐

CONFIGURATION VIA LCC-S SOFTWARE (optional)

An easy and friendly configuration with the software !

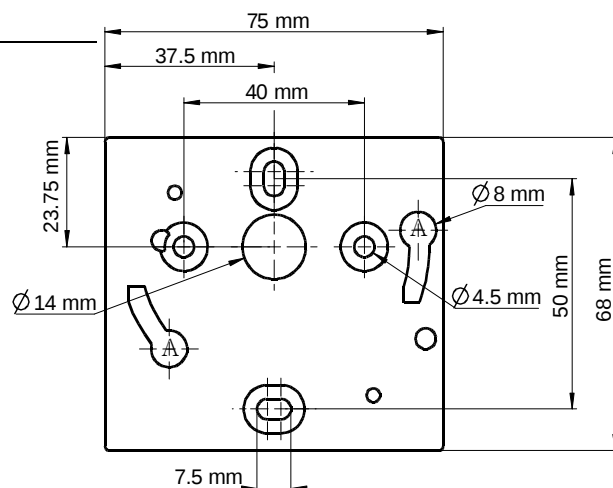
- To access to the configuration via software :
 - Set the switch as shown beside.
 - Connect the cable of the LCC-S to the connection of the transmitter.
- To configure the transmitter, please refer to the LCC-S user manual.



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.

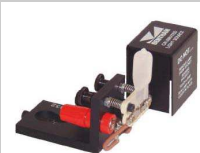


FACTOR VALUE ACCORDING TO THE LIGHT SOURCES

The following table indicates the factor value corresponding to different light sources with their examples.

The device is adjusted with an incandescent standard white light source owning its own spectral response. The following lighting sources have a different spectral response. Therefore, the presented coefficients in the following table enable to correct the measurement according to these different sources.

The correction is carried out by multiplying the measured value by the F factor : Corrected value = F x measured value.

Sources	F Factor	Illustration
Fluorescent tube with three bands	1.055	
High pressure mercury lamp	1.085	
Sodium vapour lamp	1.073	
Metal halide lamp with three additives	1.011	
Rare-earth metal halide lamp	0.947	
White led : neutral colour	0.950	
Halogen quartz lamp / tungsten (standard source)	1	

ORDER OF MAGNITUDE OF LUX ACCORDING TO APPLICATIONS

Here are a few examples of order of magnitude according to different current situations.

Environment	Lux	Environment	Lux
Outside with open air	500 to 25000	Factory : electronic assembling	1500 to 3000
Outside with direct sunlight	50000 to 100000	Hotel reception hall	200 to 500
Full moon night	1	Shop	750 to 1500
Overnight lit street	20 to 70	Hospital operating room	750 to 1500
Apartment well lit	200 to 400	Classroom	200 to 750

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



Only the accessories supplied with the device must be used.

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.

 Once returned to KIMO, required waste collection will be assured in the respect of the environment in accordance with European guidelines relating to WEEE.

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