

FC330 / B LIGHT BARRIER

RX - TX SYNCHRONIZED

INSTRUCTIONS MANUAL



SMINN

innovative in electronics

DESCRIPTION

SMINN'S FC330 light barrier is composed by a RX receiver and a TX emitter that can be powered with a 3V6 DC battery

Devices that are built using high quality materials and components and the latest technology. They are made taking into account the current regulations for usage in residential, commercial and light industry environments.



OPERATION

Once the light barrier is correctly installed, the emitter sends a beam of infrared light modulated by pulses to the receiver, setting up a safety barrier. Each time this barrier is blocked, the receiver activates the internal red led and activates the alarm relay. All regulations on security of the installation must be strictly observed.

APPLICATIONS

The FC330 light barrier has been developed for protection in automatic doors, barriers and blinds. Also for access detection in alarm systems and traffic control.

INSTALLATION

Check the integrity of the product to be installed.

All the safety regulations associated with the installation to be carried out must be strictly observed.

· Place it away from heat sources, humidity or excessive radiation and to a minimum height of 30-40 cm from the floor, preventing reflection problems with the light beam.

THE MANUFACTURER IS NOT RESPONSIBLE OF THE DAMAGE CAUSED BY AN INCORRECT INSTALLATION OR IMPROPER OR CARELESS USE.

- Avoid GASES or INFLAMMABLE PRODUCTS, as they are a serious danger for security in electric installations.
- Place emitter and receiver one in front the other, in the same axis and the same height. The receiver includes a red LED to make alignment easier and, once the system is powered, to indicate when there is no visibility between the emitter and receiver.
- Select the operating distance with the Jumper J1 placed in the receiver. See Fig. 7

Jumper J1	ON	Distance < 15 m
Jumper J1	OFF	Distance > 15 m (máximum range)

NOTE: the operating distance can be reduced because of external, adverse conditions such as dust, excess of light, rain, fog, etc.

The emitter is ready to operate with a 2.4 / 2.8Ah 3.6V Lithium battery AA type or with a 12/24V AC/DC power supply applied to terminals 1 and 2.

Battery powered

To increase battery life (2 years) you can adjust the frequency modulation using the J2 jumper. See fig. 7

Jumper J2	ON	Fast mode
Jumper J2	OFF	Slow mode

External power supply

The emitter will set the frequency modulation to continuous mode when powered with a 12/24V AC/DC power supply, achieving more range regardless of the J2 jumper (Fig. 7).

Safety edge control

It is possible to connect an 8K2 safety edge assembled on the mobile gate leaf to the terminals 4 and 5. The emitter checks the edge continuously, interrupting the infrared beam when pressed and activating the security relay in the receiver. If we do not connect the safety edge, Jumper J3 must be connected. See fig. 7.

Safety contact control

The emitter is equipped with a safety NC input in terminals 2 and 3 that deactivates the transmission of the infrared beam when that contact is opened, putting the transmitter in standby mode. If we do not connect this input, Jumper J1 (TX) must be connected. See fig. 7.

OPERATION VERIFICATION

To verify that the light barrier is operating, interrupt the beam of light and check that the red led and the relay activate in the receiver. Without interrupting the beam and with both emitter and receiver aligned, the led must be off. With the beam interrupted or with the emitter or receiver not aligned, the red led must be on and the relay must activate.

MAINTENANCE

FC330 light barriers do not require any special care, but it is necessary to check their condition from time to time, clean the external casing of dust and dirt making sure it has a nice appearance and operates correctly, contacting a technician if there is any anomaly.

If the light barrier is battery powered, a routine of battery maintenance, checking and replacement every 2 years should be followed to guarantee the system will keep working perfectly.

The Lithium battery (Lithium-thionyl chloride Li-SOCl₂) that supplies power to the transmitter is an industrial range (-55°C / +85°C) 3V6 AA of 2000 up to 2700 mAh. It is recommended to replace it with a battery of the same kind and quality.

UNDER NO CIRCUMSTANCE IT SHOULD BE
DISPOSED WITH THE COMMON WASTE

Note: dead batteries contain pollutant substances and they should be handed in collection points for this kind of products according to the current regulations.

WARRANTY

This product has undergone a complete TEST during its manufacturing process that guarantees its reliability and proper operation. The manufacturer provides 36 months of warranty to the product from the date printed in the product and against any anomaly that it may present in its appearance or operation. Any damage caused by third parties, natural causes (flooding, fire, lightning, etc), arising from improper handling or installation, vandalism or any other cause non attributable to the manufacturer will void the warranty. The warranty only covers repairs or replacement of the damaged device. Any expenses derived from assembling, travelling, transport, natural wear of parts, etc., and, in general, any expenses that are not part of the repairs or replacement of the damaged element of the system are excluded.

The installer/provider will ask the manufacturer for an RMA number or authorization for transport of the system in warranty. Without this previous requisite, the manufacturer will not be able neither to process nor provide warranty service.

WARNING

This product must be used in installations which has been conceived for, considering any other as improper use. The packaging and wrapping **MUST NOT** be dumped in the environment. Keep products, packaging, wrapping, documentation, etc., out of the reach of children.

Follow the current local, national or European regulations.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT DIRECTIVE (WEEE)

In accordance with the European Directive 2012/19/EU about waste electrical and electronic equipment (WEEE), the presence of this symbol (see symbol at the bottom of this text) in the product or in the packaging, means that this article shall not be disposed in local non-classified waste streams. It is the user's responsibility to dispose this product taking it to a collection point designed for waste recycling of electrical and electronic devices.

The separate collection of this product helps optimize the waste sorting and recycling of any recyclable material and also decreases the impact on health and the environment.

For more information about the correct wasting of this product, please contact the local authority or the distributor where you acquired this product.



TECHNICAL SPECIFICATIONS

Nominal range	10m (20 m jumper J1 = OFF)
Maximum range	15m (30 m jumper J1 = OFF)
Technology	Modulated IR
IR ray adjustment	Horizontal -90°/0°/+90° (+/-5%)
Infrared wavelength	880 nm
Modulation frequency	600 Hz

Receiver Power Supply	12/24V AC/DC
Receiver Power Compsumption	< 50mA (100mA with activated relay)
Alimentación emisor	2 x 3.6V Li batteries or 12/24V AC/DC
Transmitter Power Supply	< 500uA
Battery Life	2 years aprox.

Relay contact	0.5 Amp
Detection delay	< 30 ms
Reset delay	< 120 ms

Plastic Housing	PA6 + 30% FG PC infrared + UV filter
Index of protection	IP65 (Mounted with closure gasket)
Dimensions	H112 x W52 x Z33 mm
Temperature range	-20/ +55°C

Note: the light barrier by itself **is not a complete security product**; it is only a part of the system. According to the current legislation for an automatic door, regulations that allow to declare conformity on the manufactured product will have to be taken into account.

CE DECLARATION OF CONFORMITY

The company ELSON SISTEMAS, S. L.
Pol. Torrelarragoiti, P6 - A3
48170 Zamudio - Vizcaya (SPAIN)

Declares:
The product FC-330 adjustable IR light barrier
Manufactured by: ELSON ELECTRÓNICA, S.A.
Under the trademark: **SMINN**
For use in: Residential, commercial or light industry
environments.

It complies with the relevant provisions of the following directives:

Directive 2014/35/EU	Low voltage
Directive 2014/30/EU	Electromagnetic compatibility
Directive 2011/65/EU	RoHs
Directive 2012/19/EU	WEEE

In addition, partially or fully complying with the applicable part of the standards:

- EN 13241:2004+A2:2017
- EN 12453:2018+A1:2022
- EN 12978:2003+A1:2010
- EN IEC 61496-1:2021

2016.11.16, Zamudio


José Miguel Blanco Pérez
Chief Technical Officer

SMINN
innovative in electronics

T. +34 944 525 120
www.sminn.com
info@sminn.com
Pol. Torrelarragoiti, P6 A3
48170 Zamudio Bizkaia
SPAIN

Fig. 1

3 different positions of the lens. 180° horizontal rotation.

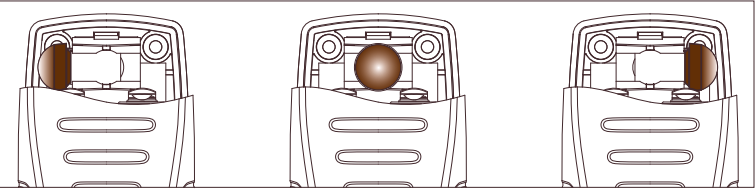


Fig. 2

Jumper configuration

Feature - Device	Jumper	ON	OFF
Gain - RX	J1 (RX)	Normal	High
Frequency - TX	J2	Fast	Slow
Resistive Security Edge - TX	J3	Not connected	Connected
NC Security Edge - TX	J1 (TX)	Not connected	Connected

NOTE:
The fast transmission mode (J2 = ON) halves the battery life.
In slow mode (J2 = OFF) batteries can last up to 2 years depending on temperature, humidity and initial charge.

Fig. 3

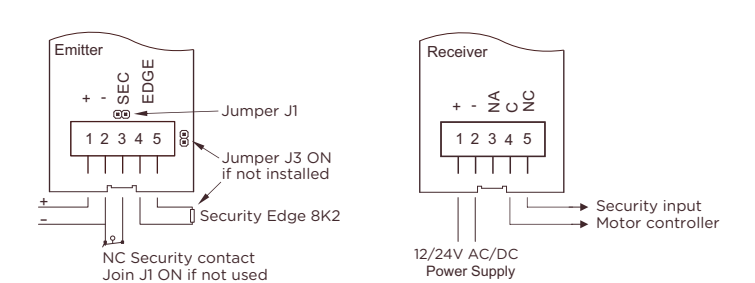


Fig. 4

Placement

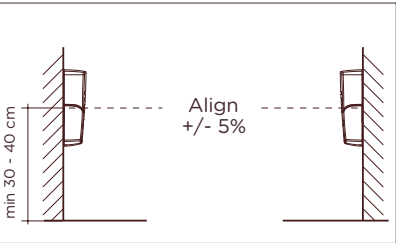


Fig. 5

Security Edge connection

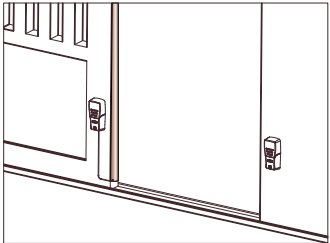


Fig. 6

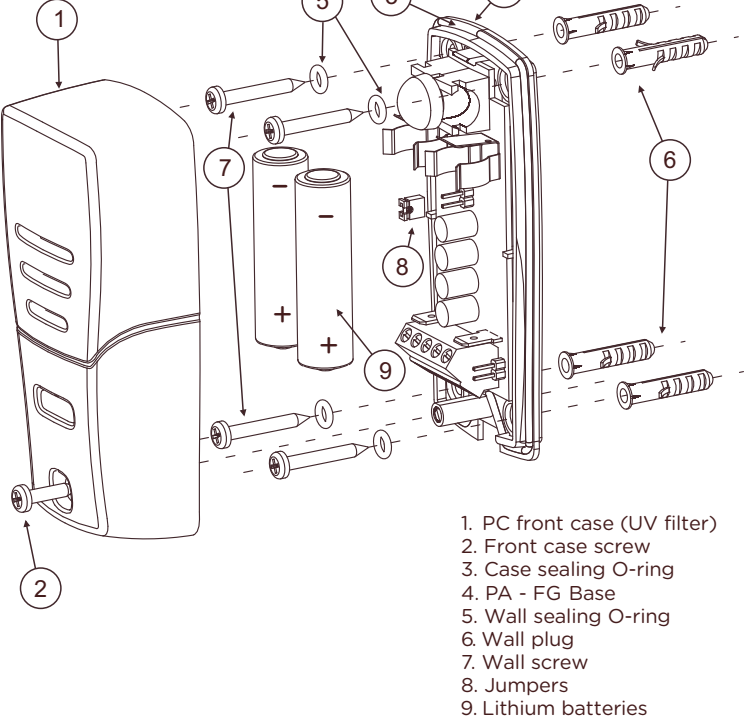


Fig. 7

