



FIRE



## **FL100 | FLR100**

LINEAR SMOKE DETECTORS

**ALL TECHNOLOGY AVAILABLE**

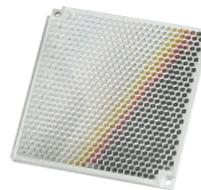
**Tx+Rx and reflection detectors for any type of operation**

**Reflection detector FLR100**

The reflection detector was **designed to protect museums, churches, historical buildings and exhibition areas**. It can have a range up to 100 metres. The operating principle is based on the interaction between detector and reflector, connected to each other through an infra-red. The smoke present inside the concerned room determines a decrease in ray intensity; as soon as ray intensity drops below a specified threshold, an alarm is triggered. The **reflectors RIFLE20, RIFLE50 and RIFLE100**, supporting **ranges up to 20, 50 and 100 metres** respectively, can be used in combination with this model.



> Detector



> Reflector

**Tx+Rx FL100 detector**

The Tx+Rx detector has been **specifically designed to protect buildings like warehouses, cinemas and theatres, supermarkets and meeting areas**. As for the reflection detectors, the operating principle is based on the **light intensity control of the infrared beam** between two points. Instead of a detector and a reflector, in this case the two interacting parts are a transmission unit and a receiving unit. This allows extending the **range to 150 metres**.



> Museums



> Churches



> Historical buildings



> Exhibition areas

**BOTH DETECTORS ARE EQUIPPED WITH:**

- ✓ three LED indicators
- ✓ two seven-segment displays
- ✓ one malfunction relay
- ✓ two pre-alarm and alarm relays
- ✓ one conventional connection

It is possible to use the detector with a digital fire alarm system (Elkron FAP500) by connecting the suitable optional IO500 interface to the alarm relay.

## A RANGE DESIGNED FOR THE INSTALLER

### The Elcron smoke detector versatility increases the number of possible applications and makes the installation

#### ✓ Fast alignment and calibration

The electronic part and the lens are located on a dampened base (fig. 1) that allows a fast **alignment with the Rx unit**. In the best configuration, the unit is fixed with three hexagon nuts (D1, D2 and D3) on the logic board sides (fig. 2). The calibration, on the other hand, is performed automatically through the regulation of the receiving amplifier gain to obtain a **valid and constant reference signal of clean air**.

#### ✓ Automatic optical compensation

**Compensation procedures of the light intensity natural reduction** that may be due to the dirt build-up on casing covers of the units or on the ceiling, or to small tolerable mechanic misalignments within certain thresholds, are carried out automatically every 15 minutes by the Rx and Tx units.

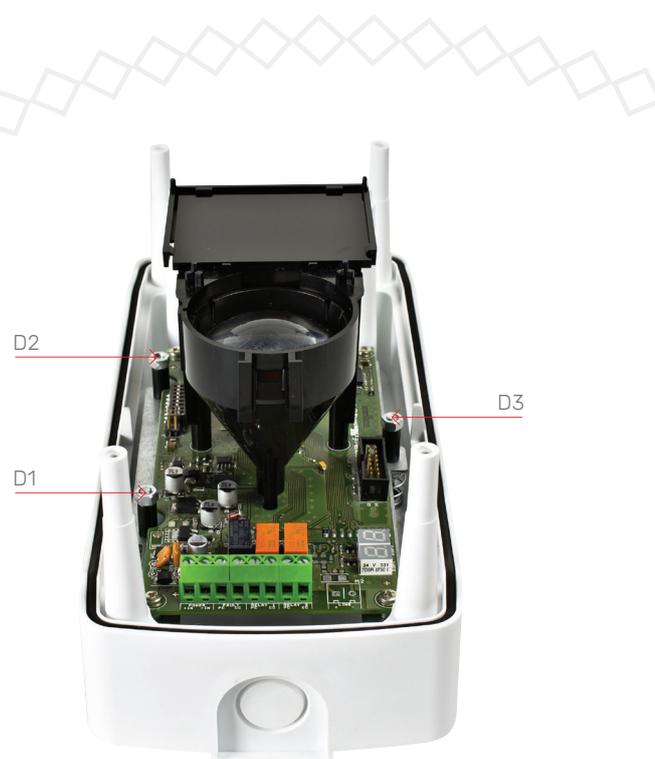
#### ✓ Useful tips for installation

Devices must be installed and positioned in compliance with the **prevailing standards**. Six technical precautions must be observed:

1. Wall free from movements, vibrations and metal supports
2. No polished surface, mirror or glass close to the devices
3. No obstacle for at least 50 cm in front of the device
4. At least 30 cm distance from ceiling
5. Ridge installation in case of sloping ceilings
6. Max. 15 metres between two devices



> fig. 1



> fig. 2



FEATURES	FL100 item no. 80IL7800121	FLR100 item no. 80IL7900121
TYPE OF LINEAR SMOKE DETECTOR	Tx + Rx	Reflection-type
SUPPLY VOLTAGE	10.8 ÷ 26.8 Vdc	10.8 ÷ 26.8 Vdc
CONSUMPTION IN STAND-BY MODE AT 24 VDC	55mA	55mA
CONSUMPTION IN STAND-BY MODE @ 12 VDC	45mA	45mA
CONSUMPTION IN ALARM CONDITIONS @ 24 VDC	60mA	50mA
CONSUMPTION IN ALARM CONDITIONS @ 12 VDC	50mA	40mA
CONSUMPTION IN FAULT CONDITIONS @ 24 VDC	45mA	35mA
CONSUMPTION IN FAULT CONDITIONS @ 12 VDC	40mA	30mA
PRE-ALARM SHADING THRESHOLDS	20%, 25%, 30%, 35%	20%, 25%, 30%, 35%
ALARM SHADING THRESHOLD	35%	35%
MINIMUM OPERATING DISTANCE	150 metres	150 metres
MAXIMUM OPERATING DISTANCE	150 metres	100 metres
TRANSMITTER BEAM WAVELENGTH	890nm	890nm
BEAM MISALIGNMENT TOLERANCE	±1°	±1°
1A PRE-ALARM RELAY, 30VDC RESISTIVE LOAD NA/NC CONTACT TO BE SELECTED THROUGH JUMPER	YES	YES
1A ALARM RELAY, 30VDC RESISTIVE LOAD NA/NC CONTACT TO BE SELECTED THROUGH JUMPER	YES	YES
1A FAULT RELAY, 30VDC RESISTIVE LOAD NA/NC CONTACT TO BE SELECTED THROUGH JUMPER	YES	YES
CONVENTIONAL LINE - INPUT VOLTAGE RANGE	10 ÷ 20Vdc	10 ÷ 20Vdc
CONVENTIONAL LINE - ABSORPTION IN PRE-ALARM CONDITIONS	20mA @ 20Vdc	20mA @ 20Vdc
CONVENTIONAL LINE - ABSORPTION IN ALARM CONDITIONS	40mA @ 20Vdc	40mA @ 20Vdc
CONVENTIONAL LINE - RESET PULSE DURATION	200mS	200mS
OPERATING TEMPERATURE RANGE	(-10 ± 3) °C ÷ (55 ± 2) °C	(-10 ± 3) °C ÷ (55 ± 2) °C
RELATIVE HUMIDITY	(93 ± 3)%	(93 ± 3)%
PROTECTION DEGREE	IP55	IP55
DIMENSIONS (W x H x D)	248 x 122 x 120 mm	248 x 122 x 120 mm
WEIGHT	900 g	900 g
CERTIFIED	EN54 part 2, No. 1293-CPR-0407	EN54 part 2, No. 1293-CPR-0406



Elkron is a trademark of Urmet S.p.A.  
Via Bologna, 188 C  
10154 Turin (ITALY)

☎ (+39) 011 39 86 711  
✉ info@elkron.it  
[www.elkron.com](http://www.elkron.com)

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