

## Linear optical smoke detectors

"... For linear optical detector means a fire detection device that uses the attenuation and / or changes of one or more optical beams. The detector consists of at least one transmitter and one or more receivers or even a complex transmitter / receiver and one or more optical reflectors. ... "

These devices represent a valuable tool for fire detection in environments of high surface area, and where it is not necessary to have the identification of single-point alarm, such as warehouses for logistics, deposits of various kinds, industrial buildings, hangars and storage of vehicles etc..

In all these cases the use of linear optical detectors is a good proposal that meets the safety requirements stated by standards and the best solution from economic point of view.

**E-BEAM/I** can be connected directly to the analogue loop of the CIE and require no source of auxiliary power supply. For all these models it's possible to select different alarm thresholds, between 3 and 6 levels of sensitivity.

**E-BEAM/R** has always to be connected, to CIE loop, by an interface module and powered from an external auxiliary power supply.

All linear optical smoke detectors are certified in respect of European product standard EN 54-12. They are endowed with agreement CE mark according to ZA directive enclosure "The Construction Products" 89/106/CEE.

Moreover, they are compliant to European directive 2002/95/CE, concerning the use of dangerous substances inside electrical products, in particular about the use of lead.

## Linear Detectors



### Type of detectors

#### - E-BEAM/I

Orion interactive linear optical smoke detector. Covered distance 3 ÷ 40 m.

#### - E-BEAM/R

Orion interactive linear optical smoke detector, relays version.

Covered distance 3 ÷ 40 m..

#### - KIT-3MIR

Kit of 3 reflectors to increase the distance of E-BEAM up to 80 m.

#### - KIT-8MIR

Kit of 3 reflectors to increase the distance of E-BEAM up to 100 m.

#### - E-BEAM/RB

Optional remote box, for interfacing and managing E-BEAM linear detectors.

## Linear Detectors



### DEF International Operations

Parc d'Activités du Moulin de Massy - 9, rue du Saule Trapu BP211 - 91882 Massy Cedex France

Tel: 0033 (0)1 60 13 81 66 - Fax: 0033 (0)1 60 13 81 49 - def.international@def-online.com - [www.def-online.net](http://www.def-online.net)

## E-BEAM/I Interactive linear optical detector

**E-BEAM/I** is an analogic interactive linear optical detector, certified in respect of European product standard EN 54-12, EN 54-17 and EN 54-18. It is endowed with agreement CE mark according to ZA directive enclosure "The Construction Products" 89/106/CEE.

**E-BEAM/I** detector is compliant to European directive 2002/95/CE, concerning the use of dangerous substances inside electrical products, in particular about the use of lead.

**E-BEAM/I** is the ideal detector for the protection of large areas, such as large halls, or suitable for covering long distances as can be in the case of corridors.

It is also suitable for high environments, where a normal punctual detector does not fall within the parameters of the installation, set by the standards. Its ability to effectively cover distances between 3 and 100 m, places it to the top of the actual market of linear detectors. Depending on the distance to be covered, will be available reflectors panels of different sizes.

**The linear detector E-BEAM/I is directly connected to the analogue detection line (loop or open) or to conventional detection zone, without the need of particular interfaces, requires no external power supply and is electronically addressable.**

The linear detector **E-BEAM/I** provides some functions adjustable directly on the detector such as checking for parasitic reflections.

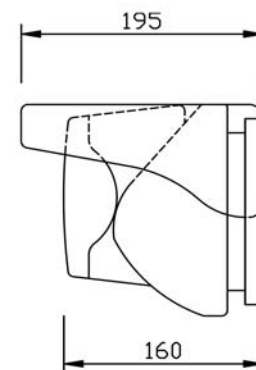
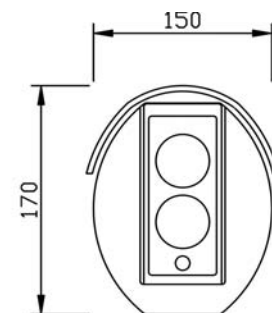
This feature allows you to detect the presence of reflections from objects found in the environment to be protected. In this case the linear detector **E-BEAM/I** will compensate for this value of reflection.

**In combination with conventional CIEs:** the alarm threshold can be set on 3 levels of sensitivity depending on the needs and environmental characteristics where the detection is made.

**In combination with analogic CIEs:** the feature "day / night", allows you to set the detection criteria, according to the configured time slots, based on the activities of the area to be protected. By day, when the activity may generate heat, steam or aerosol as a result of the phenomena of combustion or heating may be appropriate to reinforce the conditions of alarm. During the night, however, in the absence of activity and with an environment less perturbed, will be more appropriate to set an alarm threshold with sensitivity standard or increased, in order to have faster detection. The alarm threshold can be set, by CIE, at 6 levels of sensitivity depending on the needs and characteristics of the environment where detection is made. **E-BEAM / I** addressing is electronic and can be made on site or in the office, via a dedicated encoding tool. The interface enables to encode the detectors **E-BEAM / I** one to one, or by zone, and associate it text and formulas for creating actuation logics. **The insulator mounted inside each detector E-BEAM / I allows to obtain an installation extremely reliable in all circumstances ("cut of line", "short-circuit", etc..).**

The alignment of **E-BEAM/I** is possible through pan and tilt of the same, thanks to the action of micrometer step rollers.

**E-BEAM/I** can also be equipped with a remote box, to be installed at man height. Thus allows the exclusion and reset by means of a key, also allows the connection to the instrument verification and configuration **TLC**, particularly useful to simplify and expedite maintenance operations.



### TECHNICAL CHARACTERISTICS

Power Supply:	12 ÷ 30Vdc
Consumption:	
Start-up:	25 mA - 15ms
Stand-by:	2,8mA
Alarm:	27 mA
Fault:	2,8 mA
Alignment:	22 mA
Verification:	5 mA
Sensitivity:	3 configurable
thresholds	
from E-BEAM/I (conv.vers.)	6 configurable
thresholds	
from CIE (Analogue vers.)	6 configurable
Wavelength:	635 nm
Insulator:	controlled
Max. cable diameter:	2 x 2,5 mm tw + shield
Dimensions (HxLxP):	170 x 150 x 160 mm
Reflector dim. (HxL):	130 x 100 x 18 mm
Pan and Tilt:	+8° / -8°
Operating temperature:	-10 °C ÷ +55 °C
IP protection:	IP31 product IP51 optics
Material:	ABS
Colour:	White RAL 9016
Weight:	1000 g
Compliance:	EN 54-12 e EN 54-17
CE Certificate:	0333 CPD075 019

#### DEF International Operations

Parc d'Activités du Moulin de Massy - 9, rue du Saule Trapu BP211 - 91882 Massy Cedex France

Tel: 0033 (0)1 60 13 81 66 - Fax: 0033 (0)1 60 13 81 49 - def.international@def-online.com - [www.def-online.net](http://www.def-online.net)

## E-BEAM/R Relay linear optical detector

**E-BEAM/R** is a linear optical detector, certified in respect of European product standard EN 54-12, EN 54-17 and EN 54-18. It is endowed with agreement CE mark according to ZA directive enclosure "The Construction Products" 89/106/CEE.

**E-BEAM/R** detector is compliant to European directive 2002/95/CE, concerning the use of dangerous substances inside electrical products, in particular about the use of lead.

**E-BEAM/R** is the ideal detector for the protection of large areas, such as large halls, or suitable for covering long distances as can be in the case of corridors.

It is also suitable for high environments, where a normal punctual detector does not fall within the parameters of the installation, set by the standards.

Its ability to effectively cover distances between 3 and 100 m, places it to the top of the actual market of linear detectors. Depending on the distance to be covered, will be available reflectors panels of different sizes.

The linear detector **E-BEAM/R** provides two relays, for the management of the alarm and fault conditions, which will be connected to conventional zone detection or to the analog loop by means of interface modules, in these cases must be provided external power supply.

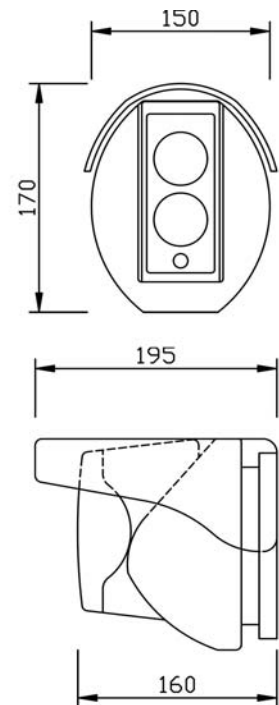
The linear detector **E-BEAM/R** provides some functions adjustable directly on the detector such as checking for parasitic reflections.

This feature allows you to detect the presence of reflections from objects found in the environment to be protected. In this case the linear detector **E-BEAM/R** will compensate for this value of reflection.

The alarm threshold can be set on 3 levels of sensitivity depending on the needs and environmental characteristics where the detection is made.

The alignment of **E-BEAM/R** is possible through pan and tilt of the same, thanks to the action of micrometer step rollers.

**E-BEAM/R** can also be equipped with a remote box, to be installed at man height. Thus allows the exclusion and reset by means of a key, also allows the connection to the instrument verification and configuration **TLC**, particularly useful to simplify and expedite maintenance operations.



### TECHNICAL CHARACTERISTICS

Power Supply:	12 ÷ 30Vdc
Consumption:	
Start-up:	25 mA - 15ms
Stand-by:	2,8mA
Alarm:	27 mA
Fault:	2,8 mA
Alignment:	22 mA
Verification:	5 mA
Sensitivity:	3 configurable thresholds from E-BEAM/R
Wavelength:	635 nm
Insulator:	controlled
Max. cable diameter:	2 x 2,5 mm tw + shield
Dimensions (HxLxP):	170 x 150 x 160 mm
Reflector dim. (HxL):	130 x 100 x 18 mm
Pan and Tilt:	+8° / -8°
Operating temperature:	-10 °C ÷ +55 °C
IP protection:	IP31 product IP51 optics
Material:	ABS
Colour:	White RAL 9016
Weight:	1000 g
Compliance:	EN 54-12 e EN 54-17
CE Certificate:	0333 CPD075 019

#### DEF International Operations

Parc d'Activités du Moulin de Massy - 9, rue du Saule Trapu BP211 - 91882 Massy Cedex France

Tel: 0033 (0)1 60 13 81 66 - Fax: 0033 (0)1 60 13 81 49 - def.international@def-online.com - [www.def-online.net](http://www.def-online.net)

## E-BEAM/RB Remote Box for linear optical smoke detector

**E-BEAM/RB** is a box for remote connection to the linear optical smoke detector **E-BEAM** and allows its management.

It allows to manage the enabling / disabling via a key, and connect the verification and configuration **TLC**.

This module is particularly suitable when the **E-BEAM** is mounted at high positions or is difficult to reach.

### TECHNICAL CHARACTERISTICS

Key selector:	Enabling / Disabling. Beam reset (only for relay version)
Connection:	2x1mm (RS485) + 2x1mm (Reset) Max. length 500m

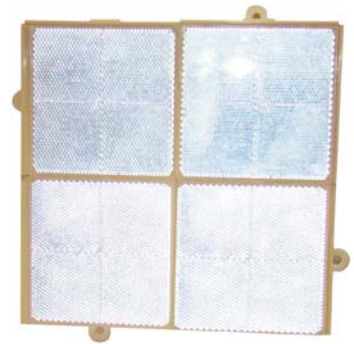


## KIT-3MIR Reflectors kit for distances up to 80m

**KIT-3MIR** is composed of 3 additional reflectors to be joined interlocking with that provided in the **E-BEAM** base package, to allow a reflection of the beam up to a distance of 80m.

### TECHNICAL CHARACTERISTICS

Composition:	3 pcs						
Dimensions:	<table border="0"> <tr> <td style="padding-right: 20px;">Single</td> <td>130 x 100 x 18 mm (fixing included)</td> </tr> <tr> <td>2 joined up to 60m</td> <td>230 x 100 x 18 mm (fixing included)</td> </tr> <tr> <td>4 joined up to 80m</td> <td>230 x 230 x 18 mm (fixing included)</td> </tr> </table>	Single	130 x 100 x 18 mm (fixing included)	2 joined up to 60m	230 x 100 x 18 mm (fixing included)	4 joined up to 80m	230 x 230 x 18 mm (fixing included)
Single	130 x 100 x 18 mm (fixing included)						
2 joined up to 60m	230 x 100 x 18 mm (fixing included)						
4 joined up to 80m	230 x 230 x 18 mm (fixing included)						



## KIT-8MIR Reflectors kit for distances up to 100m

**KIT-8MIR** is composed of 8 additional reflectors, to be joined interlocking with that provided in the **E-BEAM** base package, to allow a reflection of the beam up to a distance of 100m.

### TECHNICAL CHARACTERISTICS

Composition:	8 pcs				
Dimensions:	<table border="0"> <tr> <td style="padding-right: 20px;">Single</td> <td>130 x 100 x 18 mm (fixing included)</td> </tr> <tr> <td>9 joined</td> <td>330 x 330 x 18 mm (fixing included)</td> </tr> </table>	Single	130 x 100 x 18 mm (fixing included)	9 joined	330 x 330 x 18 mm (fixing included)
Single	130 x 100 x 18 mm (fixing included)				
9 joined	330 x 330 x 18 mm (fixing included)				

