



*Your future's safe!*



# EOS

type 4 and type 2 safety light curtains

*product catalogue*

Watch the video!



Aluminum casing  
Powder-coated

-30 to +55° C  
Operating temperature  
Ideal also in cold storage facilities

Protected height  
up to 2,2 meters

Caps  
Glass reinforced  
polypropylene

Zero-Dead-Zone  
On one side of the curtain

Finger, Hand and Body detection  
and Multi-beam for access control  
The most comprehensive range in  
today's market

# EOS

## Safety Light Curtains and Grids



Compact size  
Only 30 x 28 mm

IP65 and IP67

Status indicating display  
Including alignment aids

Hardware configuration  
No programming necessary  
Easy to install and replace

M12 connectors  
Cables easy to source and replace  
No shielded cables needed

SAFETY LEVEL	SAFETY LEVEL
<b>TYPE 4</b>	<b>TYPE 2</b>
SIL 3 - SILCL 3 PL e - Cat. 4	SIL 1 - SILCL 1 PL c - Cat. 2

one simple product range to cover  
most of today's industrial applications

## Unique features and a comprehensive range

EOS is a compact light curtain range with competitive performance and innovative features.

Includes models with integrated safety functions, including self-monitoring of static outputs, control of external contactors (EDM) and selectable automatic/manual restart.

2 safety PNP static outputs.

Easy connection and installation thanks to the M12 connectors and the use of unshielded cables up to 100 m.

### EOS4 ATEX, Safety light curtain for explosive atmosphere.

Ideal for access protection in environments with potentially explosive atmosphere.



Models in conformity with the "ATEX Directive" 2014/34/CE

- Classified Zone 2, 22
- Gas: II 3G Ex nA IIC T6 Gc  
Dust: II 3D Ex tc IIIC T 60 °C Dc

See "EOS4 ATEX" on page 20.



## Special versions

**WTF and WTHF models (IP69K certified, Ecolab food-graded) for harsh working environments applications.**

Watertight enclosures allow light curtains and light grids to be used in a harsh working environments with exposure to water and steam.

The use of inert and non-toxic components allow WTF and WTHF enclosures to be used in the Food & Beverage industry, where frequent wash down procedures are requested.

**ECOLAB** Material resistance test according to cleaning procedures for food and beverage industry.

See "EOS4 WTF/WTHF" on page 22 and "EOS2 WTF/WTHF" on page 33.



### T versions (Textile)

Special versions resistant to high vibrations for applications in the textile industry.

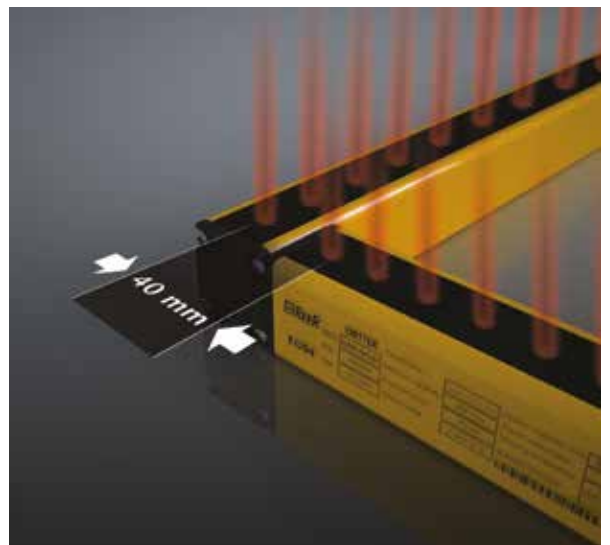
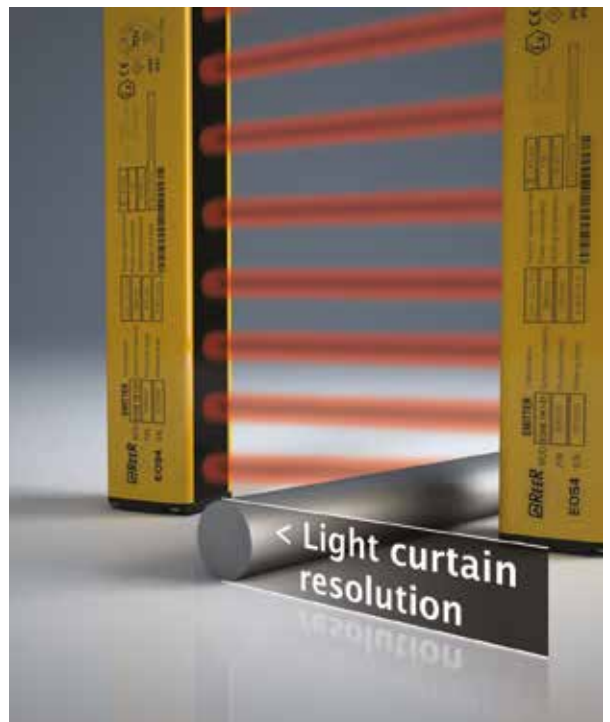
These versions are able to maintain the alignment of the beams also the presence of strong mechanical stresses and vibrations.

See "EOS4 Textile" on page 24 and "EOS2 Textile" on page 35.



## MAIN FEATURES

- Minimal cross section: 28 x 30 mm
- Start-up time:  $\leq 2$  sec
- Master/Slave versions for cascade connection of two or three curtains
- No blind area on one side  
The position of first beam ensures that the sensitive area extends to end of the light curtain.  
The protected area extends until the light curtain end, maintaining the resolution
- The solution with two L-mounted light curtains, e.g. Master/Slave, maintains a 40 mm resolution in corners (models with resolution up to 40 mm)



-30 ... +55 °C operating temperature for all models with operating range up to 12 m.

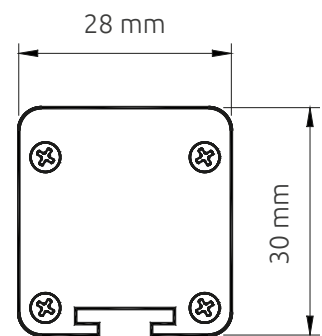
-20 ... +55 °C operating temperature for H models (operating range up to 20 m) and 14 mm resolution models.



IP65 and IP67 protection rate.



Special versions resistant to vibrations and shocks.  
See [EOS4 Textile](#) on page 24 and [EOS2 Textile](#) on page 35.



Real dimensions



IP69K watertight enclosure (WTF and WTHF), suitable for the Food & Beverage industry.  
See ["EOS4 WTF / WTHF"](#) on page 22 and ["EOS2 WTF / WTHF"](#) on page 33.

## THE EOS RANGE

### EOS4 - COMPACT TYPE 4 SAFETY LIGHT CURTAINS AND GRIDS

STANDARD (A)		INTEGRATED FUNCTIONS (X)		CASCADING FUNCTION
EOS4 A / AT / ATL	EOS4 AH (high range)	EOS4 X / XT / XTL	EOS4 XH (high range)	EOS4 XM - XS - XS2
Selectable operating range: 0 ... 4 m - low range 0 ... 12 m - high range  14 mm resolution models: 0 ... 3 m - low range 1 ... 6 m - high range  ATL versions: 0 ... 2 m - low range 0 ... 6 m - high range	Selectable operating range: 0 ... 10 m - low range 3 ... 20 m - high range	Selectable operating range: 0 ... 4 m - low range 0 ... 12 m - high range  14 mm resolution models: 0 ... 3 m - low range 1 ... 6 m - high range  XTL versions: 0 ... 2 m - low range 0 ... 6 m - high range	Selectable operating range: 0 ... 10 m - low range 3 ... 20 m - high range	Selectable operating range: 0 ... 4 m - low range 0 ... 12 m - high range  14 mm resolution models: 0 ... 3 m - low range 1 ... 6 m - high range
Automatic Start/Restart		Selectable manual or automatic Start/Restart		
-		-		Master and Slave versions for series connection of 2 or 3 light curtains (regardless of height or resolution)
External relay monitoring (EDM) through external AD SR1, Mosaic or safety PLC interface		Integrated feedback input for external relay monitoring (EDM)		
Electrical connections: M12 5-pole connectors for emitter and receiver		Electrical connections: M12 5-pole connector for emitter, M12 8-pole connector for receiver		
Protected height range: 14 and 20 mm resolution: 160 to 1950 mm. All other models: 160 to 2250 mm				
Types of detection: Finger detection (14 mm resolution) - Hand detection (20 - 30 - 40 mm resolution) - Body detection (50 - 90 mm resolution) - Access control (2 - 3 - 4 beams)				

2 safety static outputs PNP with auto-test protected against short circuits and overloads

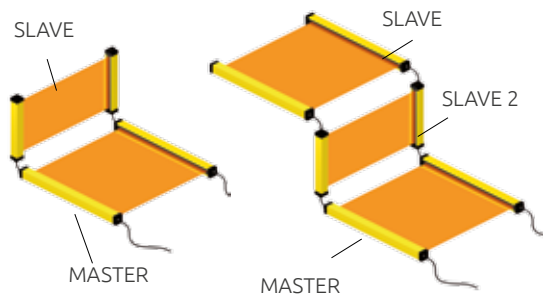
### EOS2 - COMPACT TYPE 2 SAFETY LIGHT CURTAINS AND GRIDS

STANDARD (A)		INTEGRATED FUNCTIONS (X)		CASCADING FUNCTION
EOS2 A / AT / ATL		EOS2 X / XT / XTL		EOS4 XM - XS - XS2
Automatic Start/Restart		Selectable manual or automatic Start/Restart		
-		-		Master and Slave versions for series connection of two or three light curtains regardless of height or resolution
External relay monitoring (EDM) through external AD SR1 interface, Mosaic or safety PLCs		Integrated feedback input for external relay monitoring (EDM)		
Electrical connections: M12 5-pole connectors for emitter and receiver		Electrical connections: M12 5-pole connector for emitter M12 8-pole connector for receiver		
Selectable operating range: 0 ... 4 m - low range 0 ... 12 m - high range  ATL versions: 0 ... 2 m - low range 0 ... 6 m - high range		XTL versions: 0 ... 2 m - low range 0 ... 6 m - high range		
Protected height range: 160 to 2250 mm				
Types of detection: Hand detection (30 - 40 mm resolution) - Body detection (50 - 90 mm resolution) - Access control (2 - 3 - 4 beams)				

2 safety static outputs PNP with auto-test protected against short circuits and overloads

## CASCADING FUNCTION

### MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS



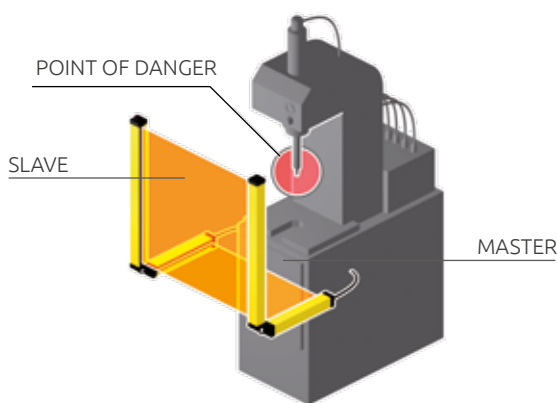
Master/Slave versions allow series connection of up to three light curtains with the following major benefits:

- Combined detection (hand + presence of a person or protection of more sides of the machine)
- Single pair of safety outputs is used
- No interference between light curtains installed adjacent to one another

All electrical connections made using M12 5-pole connectors, except for Master receivers which require the use of M12 8-pole connectors.

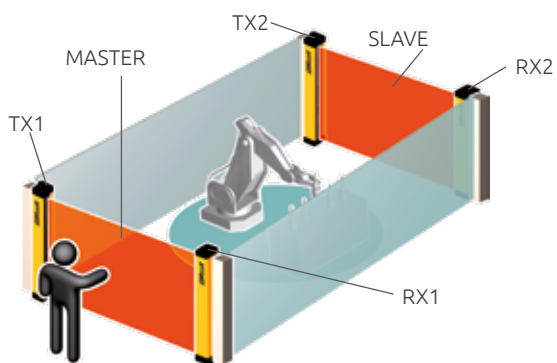
Pre-wired cables with twin connectors are available for the connection between Master and Slave.

### APPLICATION EXAMPLES



The application shows a horizontal curtain used to prevent the operator from being undetected in the space between vertical light curtain and dangerous machine, upon system start-up or restarting.

The master light curtain is placed horizontally for the detection of the standing person, while the slave light curtain is placed vertically to detect operator's fingers or hands.



Example of series connection of master and slave light curtains for protection of two sides of the machine.

Thus, two series connected curtains may be located one at the front of the machine and the other at the rear, with a single connection to the machine power and control circuitry.



Example of series connection of one master and two slave light curtains for the protection of three sides of the machine.

Benefit: unimpeded operator access to work area from front and sides.



## APPROVALS

### EOS4

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2:2013 (Type 4) "Safety of machinery - Electro sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 61508-1 (ed. 2) (SIL 3) "Functional safety of electrical/electronic programmable electronic safety related systems: General requirements"
- IEC 61508-2 (ed. 2) (SIL 3) "Functional safety of electrical/electronic/programmable electronic safety related systems: Requirements for electrical/electronic/programmable electronic safety-related systems"
- IEC 61508-3 (ed. 2) (SIL 3) "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements"
- IEC 61508-4 (ed. 2) (SIL 3) "Functional safety of electrical/electronic programmable electronic safety related systems: Definitions and abbreviations"
- IEC 62061:2005/A2:2015 (SILCL 3) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1:2015 (Cat. 4, PL e) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2006 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- EN 60068-2-6:2009 "Environmental testing Part 2-6: Tests - Test Fc: Vibration (sinusoidal)"
- UL (C+US) mark for USA and Canada
- ANSI / UL 1998: "Safety Software in Programmable Components"
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe
- The mark TS indicates that the product has been approved by the government of Taiwan

SAFETY LEVEL

**TYPE 4**

SIL 3 - SILCL 3  
PL e - Cat. 4



### EOS2

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- EN 61496-1:2013 (Type 2) "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2:2013 (Type 2) "Safety of machinery - Electro sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 61508-1 (ed. 2) (SIL 1) "Functional safety of electrical/electronic programmable electronic safety related systems: General requirements"
- IEC 61508-2 (ed. 2) (SIL 1) "Functional safety of electrical/electronic/programmable electronic safety related systems: Requirements for electrical/electronic/programmable electronic safety-related systems"
- IEC 61508-3 (ed. 2) (SIL 1) "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements"
- IEC 61508-4 (ed. 2) (SIL 1) "Functional safety of electrical/electronic programmable electronic safety related systems: Definitions and abbreviations"
- IEC 62061:2005/A2:2015 (SILCL1) "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- EN ISO 13849-1:2015 (Cat. 2, PL c) "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2006 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- EN 60068-2-6:2009 "Environmental testing Part 2-6: Tests - Test Fc: Vibration (sinusoidal)"
- UL (C+US) mark for USA and Canada
- ANSI / UL 1998: "Safety Software in Programmable Components"
- The mark TS indicates that the product has been approved by the government of Taiwan

SAFETY LEVEL

**TYPE 2**

SIL 1 - SILCL 1  
PL c - Cat. 2



### Safety parameters for Type 2 light curtains

With the publication of Edition 3 of the harmonized EN 61496-1 standard it is no longer possible to use a Type 2 safety light curtains for safety functions assessed as SIL 2 / PL d.

If a safety level of SIL 2 / PL d (or higher) is required and it is nevertheless intended to use a safety light curtain, then it will be necessary to use a Type 4 safety light curtain. This regulatory requirement derives from the fact that the reduction of risk that can be obtained via a photoelectric safety light curtain is not only a function of the safety level of its electronic parts, but is also determined by its systematic capabilities (for example: environmental influences, EMC, optical performance and detection principle).

The systematic capability of a Type 2 photoelectric light curtain may in fact not be sufficient to ensure adequate risk reduction for SIL 2 / PL d applications. The standard also establishes that the labelling of Type 2 safety light curtains must indicate such limitation to SIL 1 / PL c. The PFH<sub>e</sub> values declared for the electronic control part of the device, on the other hand, are not limited and therefore it is possible to use the PFH<sub>d</sub> value provided by the manufacturer of the device in the Global assessment of the safety function, even if it exceeds the SIL 1 / PL c range.

# EOS4 A - AH

WITH AUTOMATIC START/RESTART



<b>Resolution (mm)</b>	<b>Start/Restart</b>
14, 20, 30, 40, 50, 90	Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2



Connections and configurations through M12 5-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 2260 mm.

## TECHNICAL FEATURES

Max. range (m)	Selectable 3 or 6 for 14 mm resolution models Selectable 4 or 12 for all other models Selectable 10 or 20 for H versions
Response time (ms)	2,5 ... 20
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

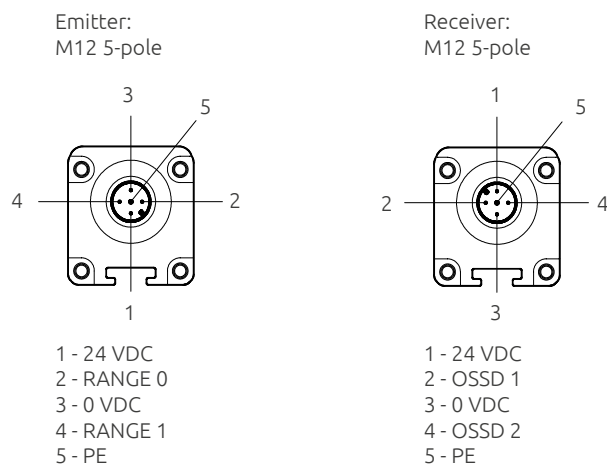
## CABLES NEEDED

- Emitter: M12 5-pole.  
See [page 43](#) (CDx, CDx SB, CD9x, CDM9)
- Receiver: M12 5-pole.  
See [page 43](#) (CDx, CDx SB, CD9x, CDM9)

## ACCESSORIES

- Start/Restart interlock and EDM.  
See [AD SR1 on page 40](#)
- Muting interface. See [AD SRM on page 41](#)
- Support columns. See [page 47](#)
- Deflecting mirrors. See [page 51](#)
- Laser alignment device. See [LAD 4 on page 53](#)
- Vibration dampers. See [page 53](#)
- Brackets. See [page 52](#)

## CONNECTORS



### PART NUMBERS



Finger resolution A versions - Max. range: selectable 3 or 6 m

#### Resolution 14 mm

A versions	EOS4 151 A	-	EOS4 301 A	EOS4 451 A	EOS4 601 A	EOS4 751 A	EOS4 901 A	EOS4 1051 A	EOS4 1201 A	EOS4 1351 A	EOS4 1501 A	EOS4 1651 A	EOS4 1801 A	EOS4 1951 A
Part number	1310000	-	1310001	1310002	1310003	1310004	1310005	1310006	1310007	1310008	1310009	1310070	1310071	1310711
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960
Nr. of beams	15		30	45	60	75	90	105	120	135	150	165	180	195
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013



Hand resolution A versions - Max. range: selectable 4 or 12 m  
AH versions - Max. range: selectable 10 or 20 m

#### Resolution 20 mm

AH versions	EOS4 152 AH	-	EOS4 302 AH	EOS4 452 AH	EOS4 602 AH	EOS4 752 AH	EOS4 902 AH	EOS4 1052 AH	EOS4 1202 AH	EOS4 1352 AH	EOS4 1502 AH	EOS4 1652 AH	EOS4 1802 AH	EOS4 1952 AH
Part number	1310150	-	1310151	1310152	1310153	1310154	1310155	1310156	1310157	1310158	1310159	1310180	1310181	1310715
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960
Nr. of beams	15		30	45	60	75	90	105	120	135	150	165	180	195
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013

#### Resolution 30 mm

A versions	EOS4 153 A	EOS4 253 A	EOS4 303 A	EOS4 453 A	EOS4 603 A	EOS4 753 A	EOS4 903 A	EOS4 1053 A	EOS4 1203 A	EOS4 1353 A	EOS4 1503 A	EOS4 1653 A	EOS4 1803 A	EOS4 1953 A	EOS4 2103 A	EOS4 2253 A
Part number	1310200	1311205	1310201	1310202	1310203	1310204	1310205	1310206	1310207	1310208	1310209	1310270	1310271	1310719	1310720	1310721
AH versions	EOS4 153 AH	-	EOS4 303 AH	EOS4 453 AH	EOS4 603 AH	EOS4 753 AH	EOS4 903 AH	EOS4 1053 AH	EOS4 1203 AH	EOS4 1353 AH	EOS4 1503 AH	EOS4 1653 AH	EOS4 1803 AH	EOS4 1953 AH	EOS4 2103 AH	EOS4 2253 AH
Part number	1310250	-	1310251	1310252	1310253	1310254	1310255	1310256	1310257	1310258	1310259	1310280	1310281	1310736	1310737	1310738
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

#### Resolution 40 mm

A versions	EOS4 154 A	EOS4 254 A	EOS4 304 A	EOS4 454 A	EOS4 604 A	EOS4 754 A	EOS4 904 A	EOS4 1054 A	EOS4 1204 A	EOS4 1354 A	EOS4 1504 A	EOS4 1654 A	EOS4 1804 A	EOS4 1954 A	EOS4 2104 A	EOS4 2254 A
Part number	1310300	1311202	1310301	1310302	1310303	1310304	1310305	1310306	1310307	1310308	1310309	1310370	1310371	1310723	1310724	1310725
AH versions	EOS4 154 AH	-	EOS 304 AH	EOS4 454 AH	EOS4 604 AH	EOS4 754 AH	EOS4 904 AH	EOS4 1054 AH	EOS4 1204 AH	EOS4 1354 AH	EOS4 1504 AH	EOS4 1654 AH	EOS4 1804 AH	EOS4 1954 AH	EOS4 2104 AH	EOS4 2254 AH
Part number	1310350	-	1310351	1310352	1310353	1310354	1310355	1310356	1310357	1310358	1310359	1310380	1310381	1310754	1310755	1310756
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	9	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

# EOS4 A - AH

## WITH AUTOMATIC START/RESTART



**Body resolution** A versions - Max. range: selectable 4 or 12 m  
AH versions - Max. range: selectable 10 or 20 m

### Resolution 50 mm

A versions	EOS4 155 A	EOS4 305 A	EOS4 455 A	EOS4 605 A	EOS4 755 A	EOS4 905 A	EOS4 1055 A	EOS4 1205 A	EOS4 1355 A	EOS4 1505 A	EOS4 1655 A	EOS4 1805 A	EOS4 1955 A	EOS4 2105 A	EOS4 2255 A
Part number	1310400	1310401	1310402	1310403	1310404	1310405	1310406	1310407	1310408	1310409	1310470	1310471	1310769	1310770	1310771
AH versions	EOS4 155 AH	EOS4 305 AH	EOS4 455 AH	EOS4 605 AH	EOS4 755 AH	EOS4 905 AH	EOS4 1055 AH	EOS4 1205 AH	EOS4 1355 AH	EOS4 1505 AH	EOS4 1655 AH	EOS4 1805 AH	EOS4 1955 AH	EOS4 2105 AH	EOS4 2255 AH
Part number	1310450	1310451	1310452	1310453	1310454	1310455	1310456	1310457	1310458	1310459	1310480	1310481	1310775	1310776	1310777
Protected height (mm)	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm)	213	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

### Resolution 90 mm

A versions	-	EOS4 309 A	EOS4 459 A	EOS4 609 A	EOS4 759 A	EOS4 909 A	EOS4 1059 A	EOS4 1209 A	EOS4 1359 A	EOS4 1509 A	EOS4 1659 A	EOS4 1809 A	EOS4 1959 A	EOS4 2109 A	EOS4 2259 A
Part number	-	1310501	1310502	1310503	1310504	1310505	1310506	1310507	1310508	1310509	1310570	1310571	1310790	1310791	1310792
AH versions	-	EOS4 309 AH	EOS4 459 AH	EOS4 609 AH	EOS4 759 AH	EOS4 909 AH	EOS4 1059 AH	EOS4 1209 AH	EOS4 1359 AH	EOS4 1509 AH	EOS4 1659 AH	EOS4 1809 AH	EOS4 1959 AH	EOS4 2109 AH	EOS4 2259 AH
Part number	-	1310551	1310552	1310553	1310554	1310555	1310556	1310557	1310558	1310559	1310580	1310581	1310795	1310796	1310797
Protected height (mm)		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams		4	6	8	10	12	14	16	18	20	22	24	26	28	30
Overall height (mm)		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



**Access control** A versions - Max. range: selectable 4 or 12 m  
AH versions - Max. range: selectable 10 or 20 m

### 2, 3, 4 beams

A versions	EOS4 2B A	EOS4 3B A	EOS4 4B A
Part number	1310600	1310601	1310602
AH versions	EOS4 2B AH	EOS4 3B AH	EOS4 4B AH
Part number	1310650	1310651	1310652
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm)	653	953	1053

## WITH BUILT-IN CONTROL FUNCTIONS



Resolution (mm)	Start/Restart
14, 20, 30, 40, 50, 90	Manual or Automatic
Access control	Safety outputs
2, 3, 4 beams	2



Selectable manual/automatic Start/Restart.

Integrated feedback input, with selectable enabling, for external relays monitoring (EDM).

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 2260 mm.



### TECHNICAL FEATURES

Max. range (m)	Selectable 3 or 6 for 14 mm resolution models Selectable 4 or 12 for all other models Selectable 10 or 20 for H versions
Response time (ms)	2,5 ... 20
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

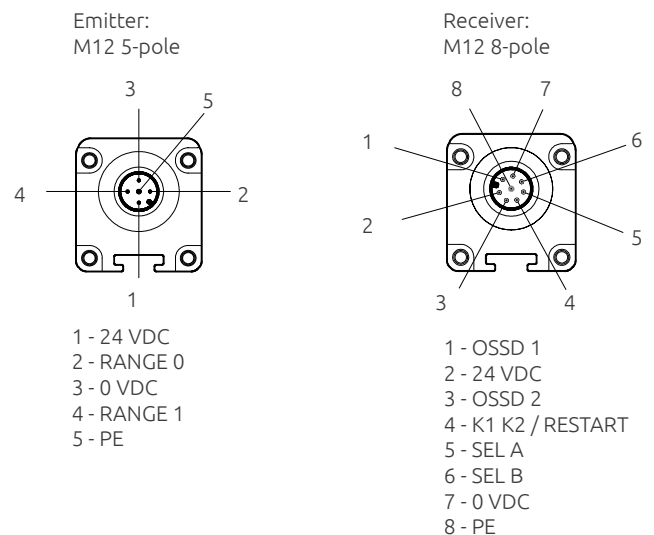
### CABLES NEEDED

- Emitter: M12 5-pole.  
See [page 43](#) (CDx CDx SB, CD9x, CDM 9, CDM99)
- Receiver: M12 8-pole.  
See [page 44](#) (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)

### ACCESSORIES

- Safety relay. See [AD SR0 - AD SR0A on page 42](#)
- Support columns. See [page 47](#)
- Deflecting mirrors. See [page 51](#)
- Laser alignment device. See [LAD 4 on page 53](#)
- Vibration dampers. See [page 53](#)
- Brackets. See [page 52](#)

### CONNECTORS



# EOS4 X - XH

## WITH BUILT-IN CONTROL FUNCTIONS

### PART NUMBERS



Finger resolution X versions - Max. range: selectable 3 or 6 m

#### Resolution 14 mm

X versions	EOS4 151 X	-	EOS4 301 X	EOS4 451 X	EOS4 601 X	EOS4 751 X	EOS4 901 X	EOS4 1051 X	EOS4 1201 X	EOS4 1351 X	EOS4 1501 X	EOS4 1651 X	EOS4 1801 X	EOS4 1951 X
Part number	1310010	-	1310011	1310012	1310013	1310014	1310015	1310016	1310017	1310018	1310019	1310072	1310073	1310712
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960
Nr. of beams	15		30	45	60	75	90	105	120	135	150	165	180	195
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013



Hand resolution X versions - Max. range: selectable 4 or 12 m  
XH versions - Max. range: selectable 10 or 20 m

#### Resolution 20 mm

XH versions	EOS4 152 XH	-	EOS4 302 XH	EOS4 452 XH	EOS4 602 XH	EOS4 752 XH	EOS4 902 XH	EOS4 1052 XH	EOS4 1202 XH	EOS4 1352 XH	EOS4 1502 XH	EOS4 1652 XH	EOS4 1802 XH	EOS4 1952 XH
Part number	1310160	-	1310161	1310162	1310163	1310164	1310165	1310166	1310167	1310168	1310169	1310182	1310183	1310716
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960
Nr. of beams	15		30	45	60	75	90	105	120	135	150	165	180	195
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013

#### Resolution 30 mm

X versions	EOS4 153 X	EOS4 253 X	EOS4 303 X	EOS4 453 X	EOS4 603 X	EOS4 753 X	EOS4 903 X	EOS4 1053 X	EOS4 1203 X	EOS4 1353 X	EOS4 1503 X	EOS4 1653 X	EOS4 1803 X	EOS4 1953 X	EOS4 2103 X	EOS4 2253 X
Part number	1310210	1311200	1310211	1310212	1310213	1310214	1310215	1310216	1310217	1310218	1310219	1310272	1310273	1310733	1310734	1310735
XH versions	EOS4 153 XH	-	EOS4 303 XH	EOS4 453 XH	EOS4 603 XH	EOS4 753 XH	EOS4 903 XH	EOS4 1053 XH	EOS4 1203 XH	EOS4 1353 XH	EOS4 1503 XH	EOS4 1653 XH	EOS4 1803 XH	EOS4 1953 XH	EOS4 2103 XH	EOS4 2253 XH
Part number	1310260	-	1310261	1310262	1310263	1310264	1310265	1310266	1310267	1310268	1310269	1310282	1310283	1310739	1310740	1310741
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

#### Resolution 40 mm

X versions	EOS4 154 X	EOS4 254 X	EOS4 304 X	EOS4 454 X	EOS4 604 X	EOS4 754 X	EOS4 904 X	EOS4 1054 X	EOS4 1204 X	EOS4 1354 X	EOS4 1504 X	EOS4 1654 X	EOS4 1804 X	EOS4 1954 X	EOS4 2104 X	EOS4 2254 X
Part number	1310310	1311209	1310311	1310312	1310313	1310314	1310315	1310316	1310317	1310318	1310319	1310372	1310373	1310751	1310752	1310753
XH versions	EOS4 154 XH	-	EOS 304 XH	EOS4 454 XH	EOS4 604 XH	EOS4 754 XH	EOS4 904 XH	EOS4 1054 XH	EOS4 1204 XH	EOS4 1354 XH	EOS4 1504 XH	EOS4 1654 XH	EOS4 1803 XH	EOS4 1954 XH	EOS4 2104 XH	EOS4 2254 XH
Part number	1310360	-	1310361	1310362	1310363	1310364	1310365	1310366	1310367	1310368	1310369	1310382	1310383	1310757	1310758	1310759
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	9	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



**Body resolution** X versions - Max. range: selectable 4 or 12 m  
XH versions - Max. range: selectable 10 or 20 m

### Resolution 50 mm

X versions	EOS4 155 X	EOS4 305 X	EOS4 455 X	EOS4 605 X	EOS4 755 X	EOS4 905 X	EOS4 1055 X	EOS4 1205 X	EOS4 1355 X	EOS4 1505 X	EOS4 1655 X	EOS4 1805 X	EOS4 1955 X	EOS4 2105 X	EOS4 2255 X
Part number	1310410	1310411	1310412	1310413	1310414	1310415	1310416	1310417	1310418	1310419	1310472	1310473	1310772	1310773	1310774
XH versions	EOS4 155 XH	EOS4 305 XH	EOS4 455 XH	EOS4 605 XH	EOS4 755 XH	EOS4 905 XH	EOS4 1055 XH	EOS4 1205 XH	EOS4 1355 XH	EOS4 1505 XH	EOS4 1655 XH	EOS4 1805 XH	EOS4 1955 XH	EOS4 2105 XH	EOS4 2255 XH
Part number	1310460	1310461	1310462	1310463	1310464	1310465	1310466	1310467	1310468	1310469	1310482	1310483	1310778	1310779	1310780
Protected height (mm)	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm)	213	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

### Resolution 90 mm

X versions	-	EOS4 309 X	EOS4 459 X	EOS4 609 X	EOS4 759 X	EOS4 909 X	EOS4 1059 X	EOS4 1209 X	EOS4 1359 X	EOS4 1509 X	EOS4 1659 X	EOS4 1809 X	EOS4 1959 X	EOS4 2109 X	EOS4 2259 X
Part number	-	1310511	1310512	1310513	1310514	1310515	1310516	1310517	1310518	1310519	1310572	1310573	1310793	1310707	1310794
XH versions	-	EOS4 309 XH	EOS4 459 XH	EOS4 609 XH	EOS4 759 XH	EOS4 909 XH	EOS4 1059 XH	EOS4 1209 XH	EOS4 1359 XH	EOS4 1509 XH	EOS4 1659 XH	EOS4 1809 XH	EOS4 1959 XH	EOS4 2109 XH	EOS4 2259 XH
Part number	-	1310561	1310562	1310563	1310564	1310565	1310566	1310567	1310568	1310569	1310582	1310583	1310798	1310799	1310800
Protected height (mm)		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams		4	6	8	10	12	14	16	18	20	22	24	26	28	30
Overall height (mm)		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



**Access control** X versions - Max. range: selectable 4 or 12 m  
XH versions - Max. range: selectable 10 or 20 m

### 2, 3, 4 beams

X versions	EOS4 2B X	EOS4 3B X	EOS4 4B X
Part number	1310610	1310611	1310612
XH versions	EOS4 2B XH	EOS4 3B XH	EOS4 4B XH
Part number	1310660	1310661	1310662
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm)	653	953	1053

# EOS4 XM / XS / XS2

## MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS



Resolution (mm)	Start/Restart
14, 30, 40, 50, 90	Manual or Automatic
Access control	Safety outputs
2, 3, 4 beams	2



Master, Slave and Slave 2 versions allow series connection of up to three light curtains.

Selectable manual/automatic Start/Restart.

Integrated feedback input, with selectable enabling, for external relays monitoring (EDM).

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain (50 m between Master and Slave with M12 5-pole for emitter and receiver).

Protected heights: 160 mm ... 2260 mm.

### TECHNICAL FEATURES

Max. range (m)	Selectable 3 or 6 for 14 mm resolution models Selectable 4 or 12 for all other models
Response time (ms) Master + 1 Slave	14 mm resolution models: $t_{tot} = [0,06 * (N_{slave} + N_{master}) + 0,9636] * 2$ all other models: $t_{tot} = [0,11 * (N_{slave} + N_{master}) + 0,9376] * 2$
Response time (ms) Master + 2 Slave	14 mm resolution models: $t_{tot} = [0,06 * (N_{slave1} + N_{slave2} + N_{master}) + 1,0036] * 2$ all other models: $t_{tot} = [0,11 * (N_{slave1} + N_{slave2} + N_{master}) + 1,0508] * 2$
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

### CABLES NEEDED

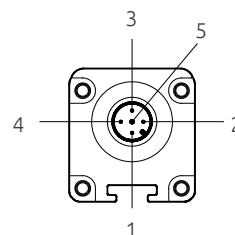
- Emitter: M12 5-pole.  
See page 43 (CDx CDx SB, CD9x, CDM9, CDM99)
- Receiver: M12 8-pole.  
See page 44 (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)
- Between Master and Slave: M12 5-pole.  
See page 46 (CDS03, CJBEx)

### ACCESSORIES

- Vibration dampers. See page 53
- Brackets. See page 52

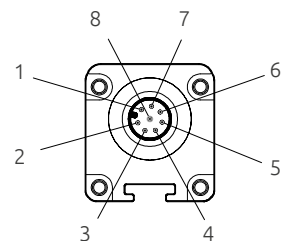
### CONNECTORS

Master secondary connector  
Slave1 and Slave 2:  
M12 5-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE

Master Receiver:  
M12 8-pole



- 1 - OSSD 1
- 2 - 24 VDC
- 3 - OSSD 2
- 4 - K1 K2 / RESTART
- 5 - SEL A
- 6 - SEL B
- 7 - 0 VDC
- 8 - PE





## MASTER/SLAVE VERSION WITH BUILT-IN CONTROL FUNCTIONS

### PART NUMBERS



Finger resolution XM, XS, XS2 versions - Max. range: selectable 3 or 6 m

#### Resolution 14 mm

MASTER	-	-	EOS4 301 XM	EOS4 451 XM	EOS4 601 XM	EOS4 751 XM	EOS4 901 XM	EOS4 1051 XM	EOS4 1201 XM	EOS4 1351 XM	EOS4 1501 XM	EOS4 1651 XM	EOS4 1801 XM	EOS4 1951 XM
Part number	-	-	1310021	1310022	1310023	1310024	1310025	1310026	1310027	1310028	1310029	1310074	1310075	1310713
SLAVE	EOS4 151 XS	-	EOS4 301 XS	EOS4 451 XS	EOS4 601 XS	EOS4 751 XS	EOS4 901 XS	EOS4 1051 XS	EOS4 1201 XS	EOS4 1351 XS	EOS4 1501 XS	EOS4 1651 XS	EOS4 1801 XS	EOS4 1951 XS
Part number	1310030	-	1310031	1310032	1310033	1310034	1310035	1310036	1310037	1310038	1310039	1310076	1310076	1310729
SLAVE 2	-	-	EOS4 301 XS2	EOS4 451 XS2	EOS4 601 XS2	EOS4 751 XS2	EOS4 901 XS2	EOS4 1051 XS2	EOS4 1201 XS2	EOS4 1351 XS2	EOS4 1501 XS2	EOS4 1651 XS2	EOS4 1801 XS2	EOS4 1951 XS2
Part number	-	-	1310041	1310042	1310043	1310044	1310045	1310046	1310047	1310048	1310049	1310078	1310079	1310730
Protected height (mm)	160	-	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960
Nr. of beams	15	-	30	45	60	75	90	105	120	135	150	165	180	195
Overall height (mm) Master / Slave 2 *	236.5	-	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2036.5



Hand resolution XM, XS, XS2 versions - Max. range: selectable 4 or 12 m

#### Resolution 30 mm

MASTER	-	EOS4 253 XM	EOS4 303 XM	EOS4 453 XM	EOS4 603 XM	EOS4 753 XM	EOS4 903 XM	EOS4 1053 XM	EOS4 1203 XM	EOS4 1353 XM	EOS4 1503 XM	EOS4 1653 XM	EOS4 1803 XM	EOS4 1953 XM	EOS4 2103 XM	EOS4 2253 XM
Part number	-	1311206	1310221	1310222	1310223	1310224	1310225	1310226	1310227	1310228	1310229	1310274	1310275	1310742	1310743	1310744
SLAVE	EOS4 153 XS	EOS4 253 XS	EOS4 303 XS	EOS4 453 XS	EOS4 603 XS	EOS4 753 XS	EOS4 903 XS	EOS4 1053 XS	EOS4 1203 XS	EOS4 1353 XS	EOS4 1503 XS	EOS4 1653 XS	EOS4 1803 XS	EOS4 1953 XS	EOS4 2103 XS	EOS4 2253 XS
Part number	1310230	1311207	1310231	1310232	1310233	1310234	1310235	1310236	1310237	1310238	1310239	1310276	1310277	1310745	1310746	1310747
SLAVE 2	-	EOS4 253 XM2	EOS4 303 XS2	EOS4 453 XS2	EOS4 603 XS2	EOS4 753 XS2	EOS4 903 XS2	EOS4 1053 XS2	EOS4 1203 XS2	EOS4 1353 XS2	EOS4 1503 XS2	EOS4 1653 XS2	EOS4 1803 XS2	EOS4 1953 XS2	EOS4 2103 XS2	EOS4 2253 XS2
Part number	-	1311208	1310241	1310242	1310243	1310244	1310245	1310246	1310247	1310248	1310249	1310278	1310279	1310748	1310749	1310750
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm) Master / Slave 2 *	236.5	336.5	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2036,5	2186,5	2336,5

#### Resolution 40 mm

MASTER	-	EOS4 254 XM	EOS4 304 XM	EOS4 454 XM	EOS4 604 XM	EOS4 754 XM	EOS4 904 XM	EOS4 104 XM	EOS4 1204 XM	EOS4 1354 XM	EOS4 1504 XM	EOS4 1654 XM	EOS4 1804 XM	EOS4 1954 XM	EOS4 2104 XM	EOS4 2254 XM
Part number	-	1311210	1310321	1310322	1310323	1310324	1310325	1310326	1310327	1310328	1310329	1310374	1310375	1310760	1310761	1310762
SLAVE	EOS4 154 XS	EOS4 254 XS	EOS4 304 XS	EOS4 454 XS	EOS4 604 XS	EOS4 754 XS	EOS4 904 XS	EOS4 1054 XS	EOS4 1204 XS	EOS4 1354 XS	EOS4 1504 XS	EOS4 1654 XS	EOS4 1804 XS	EOS4 1954 XS	EOS4 2104 XS	EOS4 2254 XS
Part number	1310330	1311211	1310331	1310332	1310333	1310334	1310335	1310336	1310337	1310338	1310339	1310376	1310377	1310763	1310764	1310765
SLAVE 2	-	EOS4 254 XM2	EOS4 304 XS2	EOS4 454 XS2	EOS4 604 XS2	EOS4 754 XS2	EOS4 904 XS2	EOS4 1054 XS2	EOS4 1204 XS2	EOS4 1354 XS2	EOS4 1504 XS2	EOS4 1654 XS2	EOS4 1804 XS2	EOS4 1954 XS2	EOS4 2104 XS2	EOS4 2254 XS2
Part number	-	1311212	1310341	1310342	1310343	1310344	1310345	1310346	1310347	1310348	1310349	1310378	1310379	1310766	1310767	1310768
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	9	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm) Master / Slave 2 *	236.5	336.5	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2036,5	2186,5	2336,5

# EOS4 XM / XS / XS2

## MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS



Body resolution XM, XS, XS2 versions - Max. range: selectable 4 or 12 m

Resolution 50 mm

MASTER	-	-	EOS4 305 XM	EOS4 455 XM	EOS4 605 XM	EOS4 755 XM	EOS4 905 XM	EOS4 105 XM	EOS4 1205 XM	EOS4 1355 XM	EOS4 1505 XM	EOS4 1655 XM	EOS4 1805 XM	EOS4 1955 XM	EOS4 2105 XM	EOS4 2255 XM
Part number	-	-	1310421	1310422	1310423	1310424	1310425	1310426	1310427	1310428	1310429	1310474	1310475	1310781	1310782	1310783
SLAVE	EOS4 155 XS	-	EOS4 305 XS	EOS4 455 XS	EOS4 605 XS	EOS4 755 XS	EOS4 905 XS	EOS4 1055 XS	EOS4 1205 XS	EOS4 1355 XS	EOS4 1505 XS	EOS4 1655 XS	EOS4 1805 XS	EOS4 1955 XS	EOS4 2105 XS	EOS4 2255 XS
Part number	1310430	-	1310431	1310432	1310433	1310434	1310435	1310436	1310437	1310438	1310439	1310476	1310477	1310784	1310785	1310786
SLAVE 2	-	-	EOS4 305 XS2	EOS4 455 XS2	EOS4 605 XS2	EOS4 755 XS2	EOS4 905 XS2	EOS4 1055 XS2	EOS4 1205 XS2	EOS4 1355 XS2	EOS4 1505 XS2	EOS4 1655 XS2	EOS4 1805 XS2	EOS4 1955 XS2	EOS4 2105 XS2	EOS4 2255 XS2
Part number	-	-	1310441	1310442	1310443	1310444	1310445	1310446	1310447	1310448	1310449	1310478	1310479	1310787	1310788	1310789
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4		8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm) Master / Slave 2 *	236.5		386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2036.5	2186.5	2336.5

Resolution 90 mm

MASTER	-	-	EOS4 309 XM	EOS4 459 XM	EOS4 609 XM	EOS4 759 XM	EOS4 909 XM	EOS4 1059 XM	EOS4 1209 XM	EOS4 1359 XM	EOS4 1509 XM	EOS4 1659 XM	EOS4 1809 XM	EOS4 1959 XM	EOS4 2109 XM	EOS4 2259 XM
Part number	-	-	1310521	1310522	1310523	1310524	1310525	1310526	1310527	1310528	1310529	1310574	1310575	1310801	1310802	1310803
SLAVE	-	-	EOS4 309 XS	EOS4 459 XS	EOS4 609 XS	EOS4 759 XS	EOS4 909 XS	EOS4 1059 XS	EOS4 1209 XS	EOS4 1359 XS	EOS4 1509 XS	EOS4 1659 XS	EOS4 1809 XS	EOS4 1959 XS	EOS4 2109 XS	EOS4 2259 XS
Part number	-	-	1310531	1310532	1310533	1310534	1310535	1310536	1310537	1310538	1310539	1310576	1310577	1310804	1310805	1310806
SLAVE 2	-	-	EOS4 309 XS2	EOS4 459 XS2	EOS4 609 XS2	EOS4 759 XS2	EOS4 909 XS2	EOS4 1059 XS2	EOS4 1209 XS2	EOS4 1359 XS2	EOS4 1509 XS2	EOS4 1659 XS2	EOS4 1809 XS2	EOS4 1959 XS2	EOS4 2109 XS2	EOS4 2259 XS2
Part number	-	-	1310541	1310542	1310543	1310544	1310545	1310546	1310547	1310548	1310549	1310578	1310579	1310807	1310808	1310809
Protected height (mm)			310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams			4	6	8	10	12	14	16	18	20	22	24	52	56	60
Overall height (mm) Master / Slave 2 *			386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2036.5	2186.5	2336.5



Access control XM, XS, XS2 versions - Max. range: selectable 4 or 12 m

2, 3, 4 beams

MASTER	EOS4 2B XM	EOS4 3B XM	EOS4 4B XM
Part number	1310620	1310621	1310622
SLAVE	EOS4 2B XS	EOS4 3B XS	EOS4 4B XS
Part number	1310630	1310631	1310632
SLAVE 2	EOS4 2B XS2	EOS4 3B XS2	EOS4 4B XS2
Part number	1310640	1310641	1310642
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm) Master / Slave 2 *	677	977	1077

\* On Slave versions, the overall height of the light curtain is the same of the standard model.

On Master and Slave 2, the total height of the light curtain is 24 mm greater due to the addition of the secondary connector.



Resolution (mm)	Start/Restart
30	Automatic
Access control	Safety outputs
2, 3, 4 beams	2

SAFETY LEVEL

**TYPE 4**

SIL 3 - SILCL 3  
PL e - Cat. 4

EOS4 AH versions with ATEX protective housing. Designed to secure operators working in potentially explosive atmospheres.



### TECHNICAL FEATURES

Technical features for the light curtain	EOS4 AH
Degree of protection	IP65
ATEX degree of protection (2014/34/EU)	Gas: II 3G Ex nA IIC T6 Gc Dust: II 3D Ex tc IIIC T 60°C Dc
Operating temperature (°C)	-10 ... +55
Transparent slit material	Polycarbonate tube Ø 50 mm
Protective tube material	Yellow painted aluminum RAL1003
Sealing caps material	Stainless steel (AISI 316L) - Ø 56 mm / Silicone O-RING
Fastenings brackets material	Stainless steel (AISI 316L)



Integrated anti-condensation system through the GORE™ vent

### APPLICATIONS

Paint systems, industries for the processing and packaging of farinaceous, chemical industries, industries for the processing of oil and derivatives.



Paint systems applications

### PART NUMBERS



Hand resolution AH EX versions - Max. range: 17 m

Resolution 30 mm

AH EX versions	EOS4 603 AH EX	EOS4 903 AH EX	EOS4 1203 AH EX	EOS4 1503 AH EX
Part number	1010253	1010255	1010257	1010259
Protected height (mm)	610	910	1210	1510
Nr. of beams	31	46	61	76
Overall height (mm)	780	1080	1380	1680



Access control AH EX versions - Max. range: 17 m

2, 3, 4 beams

AH EX versions	EOS4 2B AH EX	EOS4 3B AH EX	EOS4 4B AH EX
Part number	1010650	1010651	1010652
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm)	780	1080	1180

The safety light curtain/grid is delivered already enclosed into its watertight tube with a 10m long pre-wired cable and the related fastening brackets.

## WATERTIGHT ENCLOSURE, FOOD-GRADED, IP69K CERTIFIED



HEATED VERSION AVAILABLE

<b>Resolution (mm)</b>	<b>Start/Restart</b>
14, 30	Manual or Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2

SAFETY LEVEL

**TYPE 4**

SIL 3 - SILCL 3  
PL e - Cat. 4

Watertight enclosures allow light curtains and light grids to be used in a harsh working environments with exposure to water and steam.

The use of inert and non-toxic components allow WTF and WTHF enclosures to be used in the Food & Beverage industry, where frequent wash down procedures are requested.

WTHF versions (heated) have a thermostatically controlled heating system and can work down to -25 °C.

Protected height: 160 ... 1810 mm.

### TECHNICAL FEATURES

Technical features for the light curtain	EOS4 X (14 mm resolution) EOS4 XH
Operating temperature (°C)	WTF: 0 ... +55 WTHF: -25 ... +50 (with heating system)
Max. water pressure jets	80 ... 100 bar at 80° C (± 5° C)
Max. range (m)	Selectable 2 or 5 for 14 mm resolution models Selectable 8 or 17 for H versions
Electrical connections	10-meter cable pre-wired with cable gland
WTHF heated power consumption	24 VDC - 20 W x Protected height (m)
Fastening	Fastening brackets included



The small EOS WTF and WTHF cylindrical enclosure (only 56 mm diameter) is IP69K protection-rate tested and can withstand up to 80 bar of water jets pressure at the temperature of +80 °C.

Enclosure incorporates a valve to drain humidity and to avoid condensation.



Material resistance test according to cleaning procedures for food and beverage industry.

Test procedure: Ecolab-test F&E Nr. 40-1

- Dipping test - Complete immersion in solution/liquid, Test Period: 28 days
- Rinsing with water +40, +50 °C - Rinsing with low pressure. Rinsing from top to bottom in the direction of the drains
- Cleaning of the drains
- Foaming from bottom to top - Alkaline: P3-topax 66 - Acid: P3-topax 56 - Temperature: cold up to +40 °C - Contact time: 15 min. recommended
- Rinsing with water +40, +50 °C - Rinsing from top to bottom with low pressure
- Disinfection - P3-topactive DES 1-3% 10-30 min

# EOS4 WTF / WTHF

## WATERTIGHT ENCLOSURE, FOOD-GRADED, IP69K CERTIFIED



### WATERTIGHT ENCLOSURE

The watertight enclosure is made of:

- PMMA (polymethyl methacrylate) transparent enclosure
- POM-C (acetal resin – DELRIN®) sealing caps
- Anti-condensation system trough integrated GORE™ valve
- POM-C and stainless steel fastening brackets (AISI 316L)

### APPLICATIONS

- Washing systems
- Food and beverage industry applications
- Any system that requires a wash down procedure or constantly exposed to high pressure water and steam

### PART NUMBERS



Finger resolution X WTF and WTHF versions - Max. range: 5m

Resolution 14 mm

X WTF versions	EOS4 151 X WTF	EOS4 301 X WTF	EOS4 451 X WTF	EOS4 601 X WTF	EOS4 751 X WTF	EOS4 901 X WTF	EOS4 1051 X WTF	EOS4 1201 X WTF	EOS4 1351 X WTF	EOS4 1501 X WTF	EOS4 1651 X WTF	EOS4 1801 X WTF
Part number	1110030	1110031	1110032	1110033	1110034	1110035	1110036	1110037	1110038	1110039	1110051	1110052
X WTHF versions	EOS4 151 X WTHF	EOS4 301 X WTHF	EOS4 451 X WTHF	EOS4 601 X WTHF	EOS4 751 X WTHF	EOS4 901 X WTHF	EOS4 1051 X WTHF	EOS4 1201 X WTHF	EOS4 1351 X WTHF	EOS4 1501 X WTHF	EOS4 1651 X WTHF	EOS4 1801 X WTHF
Part number	1110040	1110041	1110042	1110043	1110044	1110045	1110046	1110047	1110048	1110049	1110055	1110056
Protected height (mm)	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Nr. of beams	15	30	45	60	75	90	105	120	135	150	165	180
Overall height (mm)	337	487	637	787	937	1087	1237	1387	1537	1687	1837	1987



Hand resolution XH WTF and WTHF versions - Max. range: 17 m

Resolution 30 mm

XH WTF versions	EOS4 153 XH WTF	EOS4 303 XH WTF	EOS4 453 XH WTF	EOS4 603 XH WTF	EOS4 753 XH WTF	EOS4 903 XH WTF	EOS4 1053 XH WTF	EOS4 1203 XH WTF	EOS4 1353 XH WTF	EOS4 1503 XH WTF	EOS4 1653 XH WTF	EOS4 1803 XH WTF
Part number	1110280	1110281	1110282	1110283	1110284	1110285	1110286	1110287	1110288	1110289	1110053	1110054
XH WTHF versions	EOS4 153 XH WTHF	EOS4 303 XH WTHF	EOS4 453 XH WTHF	EOS4 603 XH WTHF	EOS4 753 XH WTHF	EOS4 903 XH WTHF	EOS4 1053 XH WTHF	EOS4 1203 XH WTHF	EOS4 1353 XH WTHF	EOS4 1503 XH WTHF	EOS4 1653 XH WTHF	EOS4 1803 XH WTHF
Part number	1110290	1110291	1110292	1110293	1110294	1110295	1110296	1110297	1110298	1110299	1110057	1110058
Protected height (mm)	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Nr. of beams	8	16	23	31	38	46	53	61	68	76	83	91
Overall height (mm)	337	487	637	787	937	1087	1237	1387	1537	1687	1837	1987



Access control XH WTF version - Max. range: 17 m

2, 3, 4 beams

XH WTF versions	EOS4 2B XH WTF	EOS4 3B XH WTF	EOS4 4B XH WTF	XH WTHF versions	EOS4 2B XH WTHF	EOS4 3B XH WTHF	EOS4 4B XH WTHF
Part number	1110670	1110671	1110672		1110675	1110676	1110677
Nr. of beams	2	3	4		2	3	4
Beam spacing (mm)	500	400	300		500	400	300
Protected height (mm)	510	810	910		510	810	910
Overall height (mm)	777	1077	1177		777	1077	1177

**NOTE:** versions with different resolution and protected height can be manufactured upon request. Please enquire within.

WITH AUTOMATIC START/RESTART, RESISTANT TO HIGH VIBRATIONS



Resolution (mm)
14, 20, 30, 40, 50, 90

Start/Restart
Automatic

Access control
2, 3, 4 beams

Safety outputs
2



EN 60068-2-6:2009



AT and ATL (Textile) versions are able to maintain the alignment of the beams also in the presence of strong mechanical stresses and vibrations according to EN 60068-2-6:2009. The use of Vibration Dampers is highly recommended.

Connections and configurations through M12 5-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 610 mm.

## ACCESSORIES

- Start/Restart interlock and EDM. See [AD SR1](#) on page 40
- Vibration dampers. See [page 53](#)
- Brackets. See [page 52](#)

Different heights and resolutions available on request



## TECHNICAL FEATURES

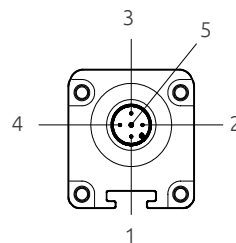
Max. range (m)	Selectable 4 or 12 for AT versions
	Selectable 2 or 6 for ATL versions
Response time (ms)	2,5 ... 20
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

## CABLES NEEDED

- Emitter: M12 5-pole. See [page 43](#) (CDx, CDx SB, CD9x, CDM9)
- Receiver: M12 5-pole. See [page 43](#) (CDx, CDx SB, CD9x, CDM9)

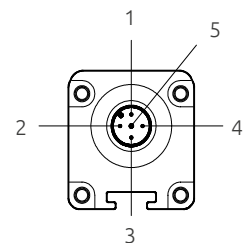
## CONNECTORS

Emitter:  
M12 5-pole



1 - 24 VDC  
2 - RANGE 0  
3 - 0 VDC  
4 - RANGE 1  
5 - PE

Receiver:  
M12 5-pole



1 - 24 VDC  
2 - OSSD 1  
3 - 0 VDC  
4 - OSSD 2  
5 - PE

## PART NUMBERS



Hand resolution AT versions - Max. range: 12 m  
ATL versions - Max. range: 6 m

Resolution 30 mm

	AT versions	EOS4 153 AT	EOS4 303 AT	EOS4 453 AT	EOS4 603 AT
Part number		1310821	1310822	1310823	1310824
	ATL versions	EOS4 153 ATL	EOS4 303 ATL	EOS4 453 ATL	EOS4 603 ATL
Part number		1310825	1310826	1310827	1310828
Protected height (mm)		160	310	460	610
Nr. of beams		8	16	23	31
Overall height (mm)		213	363	513	663

# EOS4 XT / XTL - TEXTILE

WITH BUILT-IN CONTROL FUNCTIONS, RESISTANT TO HIGH VIBRATIONS



EN 60068-2-6:2009

<b>Resolution (mm)</b>	<b>Start/Restart</b>
14, 20, 30, 40, 50, 90	Manual or Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2



Selectable manual/automatic Start/Restart. Integrated feedback input, with selectable enabling, for external relays monitoring (EDM).

XT and XTL (Textile) versions are able to maintain the alignment of the beams also in the presence of strong mechanical stresses and vibrations according to EN 60068-2-6:2009. The use of Vibration Dampers is highly recommended.

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 610 mm.

## ACCESSORIES

- Safety relay. See AD SR0 - AD SR0A on page 42
- Vibration dampers. See page 53
- Brackets. See page 52

Different heights and resolutions available on request



## TECHNICAL FEATURES

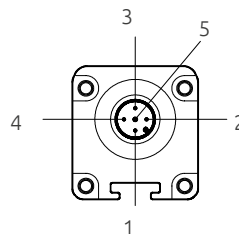
Max. range (m)	Selectable 4 or 12 for XT versions Selectable 2 or 6 for XTL versions
Response time (ms)	2,5 ... 20
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

## CABLES NEEDED

- Emitter: M12 5-pole.  
See page 43 (CDx CDx SB, CD9x, CDM9, CDM99)
- Receiver: M12 8-pole.  
See page 44 (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)

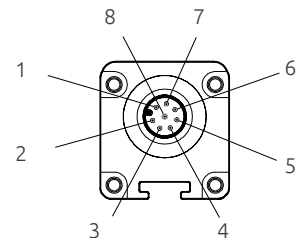
## CONNECTORS

Emitter:  
M12 5-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE

Receiver:  
M12 8-pole



- 1 - OSSD 1
- 2 - 24 VDC
- 3 - OSSD 2
- 4 - K1 K2 / RESTART
- 5 - SEL A
- 6 - SEL B
- 7 - 0 VDC
- 8 - PE

## PART NUMBERS



Hand resolution XT versions - Max. range: 12 m  
XTL versions - Max. range: 6 m

Resolution 30 mm

	EOS4 153 XT	EOS4 303 XT	EOS4 453 XT	EOS4 603 XT
XT versions				
Part number	1310816	1310817	1310818	1310810
XTL versions				
Part number	1310819	1310702	1310820	1310815
Protected height (mm)	160	310	460	610
Nr. of beams	8	16	23	31
Overall height (mm)	213	363	513	663



## WITH AUTOMATIC START/RESTART



Resolution (mm)
30, 40, 50, 90

Start/Restart
Automatic

Access control
2, 3, 4 beams

Safety outputs
2



Connections and configurations through M12 5-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 2260 mm.

### TECHNICAL FEATURES

Max. range (m)	Selectable 4 or 12
Response time (ms)	2,5 ... 18,5
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

### CABLES NEEDED

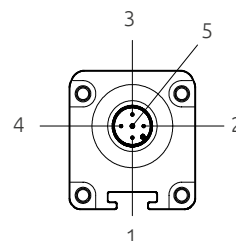
- Emitter: M12 5-pole. See [page 43](#) (CDx, CDx SB, CD9x, CDM 9)
- Receiver: M12 5-pole. See [page 43](#) (CDx, CDx SB, CD9x, CDM 9)

### ACCESSORIES

- Start/Restart interlock and EDM interface. See [AD SR1 on page 40](#)
- Support columns. See [page 47](#)
- Deflecting mirrors. See [page 51](#)
- Laser alignment device. See [LAD 4 on page 53](#)
- Vibration dampers. See [page 53](#)
- Brackets. See [page 52](#)

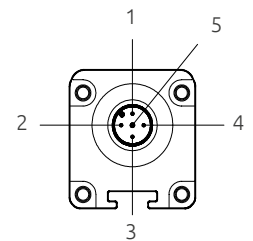
### CONNECTORS

Emitter:  
M12 5-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE

Receiver:  
M12 5-pole



- 1 - 24 VDC
- 2 - OSSD 1
- 3 - 0 VDC
- 4 - OSSD 2
- 5 - PE



### PART NUMBERS



Hand resolution A versions - Max. range: 12 m

Resolution 30 mm

A versions	EOS2 153 A	EOS2 253 A	EOS2 303 A	EOS2 453 A	EOS2 603 A	EOS2 753 A	EOS2 903 A	EOS2 1053 A	EOS2 1203 A	EOS2 1353 A	EOS2 1503 A	EOS2 1653 A	EOS2 1803 A	EOS2 1953 A	EOS2 2103 A	EOS2 2253 A
Part number	1320200	1321205	1320201	1320202	1320203	1320204	1320205	1320206	1320207	1320208	1320209	1320270	1320271	1320719	1320720	1320721
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

Resolution 40 mm

A versions	EOS2 154 A	EOS2 254 A	EOS2 304 A	EOS2 454 A	EOS2 604 A	EOS2 754 A	EOS2 904 A	EOS2 1054 A	EOS2 1204 A	EOS2 1354 A	EOS2 1504 A	EOS2 1654 A	EOS2 1804 A	EOS2 1954 A	EOS2 2104 A	EOS2 2254 A
Part number	1320300	1321202	1320301	1320302	1320303	1320304	1320305	1320306	1320307	1320308	1320309	1320370	1320371	1320723	1320724	1320725
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	9	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



Body resolution A versions - Max. range: 12 m

Resolution 50 mm

A versions	EOS2 155 A	-	EOS2 305 A	EOS2 455 A	EOS2 605 A	EOS2 755 A	EOS2 905 A	EOS2 1055 A	EOS2 1205 A	EOS2 1355 A	EOS2 1505 A	EOS2 1655 A	EOS2 1805 A	EOS2 1955 A	EOS2 2105 A	EOS2 2255 A
Part number	1320400	-	1320401	1320402	1320403	1320404	1320405	1320406	1320407	1320408	1320409	1320470	1320471	1320769	1320770	1320771
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4		8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

Resolution 90 mm

A versions	-	-	EOS2 309 A	EOS2 459 A	EOS2 609 A	EOS2 759 A	EOS2 909 A	EOS2 1059 A	EOS2 1209 A	EOS2 1359 A	EOS2 1509 A	EOS2 1659 A	EOS2 1809 A	EOS2 1959 A	EOS2 2109 A	EOS2 2259 A
Part number	-	-	1320501	1320502	1320503	1320504	1320505	1320506	1320507	1320508	1320509	1320570	1320571	1320790	1320791	1320792
Protected height (mm)			310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams			4	6	8	10	12	14	16	18	20	22	24	26	28	30
Overall height (mm)			363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



Access control A versions - Max. range: 12 m

2, 3, 4 beams

A versions	EOS2 2B A	EOS2 3B A	EOS2 4B A
Part number	1320600	1320601	1320602
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm)	653	953	1053

## WITH BUILT-IN CONTROL FUNCTIONS



<b>Resolution (mm)</b>	<b>Start/Restart</b>
30, 40, 50, 90	Manual or Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2



Selectable manual/automatic Start/Restart.

Integrated input, with selectable enabling, for external relays monitoring (EDM).

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 2260 mm.

### TECHNICAL FEATURES

Max. range (m)	Selectable 4 or 12
Response time (ms)	2,5 ... 18,5
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

### CABLES NEEDED

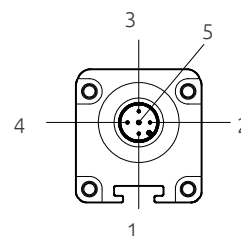
- Emitter: M12 5-pole.  
See [page 43](#) (CDx CDx SB, CD9x, CDM9, CDM99)
- Receiver: M12 8-pole.  
See [page 44](#) (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)

### ACCESSORIES

- Safety relay. See [AD SR0 - AD SR0A](#) on [page 42](#)
- Support columns. See [page 47](#)
- Deflecting mirrors. See [page 51](#)
- Laser alignment device. See [page 53](#)
- Vibration dampers. See [page 53](#)
- Brackets. See [page 52](#)

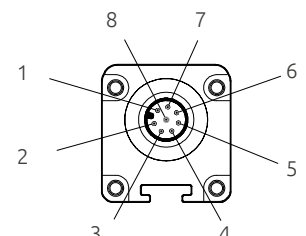
### CONNECTORS

Emitter:  
M12 5-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE

Receiver:  
M12 8-pole



- 1 - OSSD 1
- 2 - 24 VDC
- 3 - OSSD 2
- 4 - K1 K2 / RESTART
- 5 - SEL A
- 6 - SEL B
- 7 - 0 VDC
- 8 - PE



### PART NUMBERS



Hand resolution X versions - Max. range: 12 m

Resolution 30 mm

X versions	EOS2 153 X	EOS2 253 X	EOS2 303 X	EOS2 453 X	EOS2 603 X	EOS2 753 X	EOS2 903 X	EOS2 1053 X	EOS2 1203 X	EOS2 1353 X	EOS2 1503 X	EOS2 1653 X	EOS2 1803 X	EOS2 1953 X	EOS2 2103 X	EOS2 2253 X
Part number	1320210	1321200	1320211	1320212	1320213	1320214	1320215	1320216	1320217	1320218	1320219	1320272	1320273	1320733	1320734	1320735
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

Resolution 40 mm

X versions	EOS2 154 X	EOS2 254 X	EOS2 304 X	EOS2 454 X	EOS2 604 X	EOS2 754 X	EOS2 904 X	EOS2 1054 X	EOS2 1204 X	EOS2 1354 X	EOS2 1504 X	EOS2 1654 X	EOS2 1804 X	EOS2 1954 X	EOS2 2104 X	EOS2 2254 X
Part number	1320310	1321209	1320311	1320312	1320313	1320314	1320315	1320316	1320317	1320318	1320319	1320372	1320373	1320751	1320752	1320753
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	8	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



Body resolution X versions - Max. range: 12 m

Resolution 50 mm

X versions	EOS2 155 X	-	EOS2 305 X	EOS2 455 X	EOS2 605 X	EOS2 755 X	EOS2 905 X	EOS2 1055 X	EOS2 1205 X	EOS2 1355 X	EOS2 1505 X	EOS2 1655 X	EOS2 1805 X	EOS2 1955 X	EOS2 2105 X	EOS2 2255 X
Part number	1320410	-	1320411	1320412	1320413	1320414	1320415	1320416	1320417	1320418	1320419	1320472	1320473	1320772	1320773	1320774
Protected height (mm)	160		310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4		8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm)	213		363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313

Resolution 90 mm

X versions	-	-	EOS2 309 X	EOS2 459 X	EOS2 609 X	EOS2 759 X	EOS2 909 X	EOS2 1059 X	EOS2 1209 X	EOS2 1359 X	EOS2 1509 X	EOS2 1659 X	EOS2 1809 X	EOS2 1959 X	EOS2 2109 X	EOS2 2259 X
Part number	-	-	1320511	1320512	1320513	1320514	1320515	1320516	1320517	1320518	1320519	1320572	1320573	1320793	1320707	1320794
Protected height (mm)			310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams			4	6	8	10	12	14	16	18	20	22	24	26	28	30
Overall height (mm)			363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313



Access control X versions - Max. range: 12 m

2, 3, 4 beams

X version	EOS2 2B X	EOS2 3B X	EOS2 4B X
Part number	1320610	1320611	1320612
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected height (mm)	510	810	910
Overall height (mm)	653	953	1053

## MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS



<b>Resolution (mm)</b>	<b>Start/Restart</b>	<b>SAFETY LEVEL</b> <b>TYPE 2</b> SIL 1 - SILCL 1 PL c - Cat. 2
30, 40, 50, 90	Manual or Automatic	
<b>Access control</b>	<b>Safety outputs</b>	
2, 3, 4 beams	2	

Master, Slave and Slave 2 versions allow series connection of up to three light curtains.

Selectable manual/automatic Start/Restart.

Integrated feedback input, with selectable enabling, for external relays monitoring (EDM).

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain (50 m between Master and Slave with M12 5-pole for emitter and receiver).

Electrical connections between Master and Slave with M12 5-pole for emitter and receiver.

Protected heights: 160 mm ... 2260 mm.



### TECHNICAL FEATURES

Max. range (m)	Selectable 4 or 12
Response time (ms) Master + 1 Slave	$t_{tot} = [0,1104 * (N_{rslave} + N_{master}) + 1,1044] * 2$
Response time (ms) Master + 2 Slave	$t_{tot} = [0,1104 * (N_{rslave1} + N_{rslave2} + N_{master}) + 1,3228] * 2$
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

### CABLES NEEDED

- Emitter: M12 5-pole. See page 43 (CDx CDx SB, CD9x, CDM9, CDM99)
- Receiver: M12 8-pole. See page 44 (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)
- Between Master and Slave: M12 5-pole. See page 46 (CDS03, CJBEx)

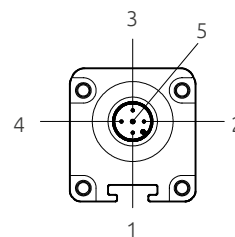
### ACCESSORIES

- Vibration dampers. See page 53
- Brackets. See page 52

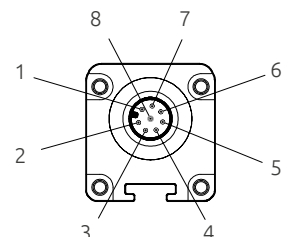
### CONNECTORS

Master secondary connector, Slave1 and Slave 2  
M12 5-pole

Master Receiver  
M12 8-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE



- 1 - OSSD 1
- 2 - 24 VDC
- 3 - OSSD 2
- 4 - K1 K2 / RESTART
- 5 - SEL A
- 6 - SEL B
- 7 - 0 VDC
- 8 - PE

# EOS2 XM / XS / XS2

## MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS

### PART NUMBERS



Hand resolution XM, XS, XS2 versions - Max. range: 12 m

Resolution 30 mm

MASTER	-	EOS 2 253 XM	EOS2 303 XM	EOS2 453 XM	EOS2 603 XM	EOS2 753 XM	EOS2 903 XM	EOS2 1053 XM	EOS2 1203 XM	EOS2 1353 XM	EOS2 1503 XM	EOS2 1653 XM	EOS2 1803 XM	EOS2 1953 XM	EOS2 2103 XM	EOS2 2253 XM
Part number	-	1321206	1320221	1320222	1320223	1320224	1320225	1320226	1320227	1320228	1320229	1320274	1320275	1320742	1320743	1320744
SLAVE	EOS2 153 XS	EOS 2 253 XS	EOS2 303 XS	EOS2 453 XS	EOS2 603 XS	EOS2 753 XS	EOS2 903 XS	EOS2 1053 XS	EOS2 1203 XS	EOS2 1353 XS	EOS2 1503 XS	EOS2 1653 XS	EOS2 1803 XS	EOS2 1953 XS	EOS2 2103 XS	EOS2 2253 XS
Part number	1320230	1321207	1320231	1320232	1320233	1320234	1320235	1320236	1320237	1320237	1320239	1320276	1320277	1320745	1320746	1320747
SLAVE 2	-	EOS 2 253 XM2	EOS2 303 XS2	EOS2 453 XS2	EOS2 603 XS2	EOS2 753 XS2	EOS2 903 XS2	EOS2 1053 XS2	EOS2 1203 XS2	EOS2 1353 XS2	EOS2 1503 XS2	EOS2 1653 XS2	EOS2 1803 XS2	EOS2 1953 XS2	EOS2 2103 XS2	EOS2 2253 XS2
Part number	-	1321208	1320241	1320242	1320243	1320244	1320245	1320246	1320247	1320248	1320249	1320278	1320279	1320748	1320749	1320750
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	8	13	16	23	31	38	46	53	61	68	76	83	91	98	106	113
Overall height (mm)	236.5	336.5	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2013	2163	2313

Resolution 40 mm

MASTER	-	EOS2 254 XM	EOS2 304 XM	EOS2 454 XM	EOS2 604 XM	EOS2 754 XM	EOS2 904 XM	EOS2 104 XM	EOS2 1204 XM	EOS2 1354 XM	EOS2 1504 XM	EOS2 1654 XM	EOS2 1804 XM	EOS2 1954 XM	EOS2 2104 XM	EOS2 2254 XM
Part number	-	1321210	1320321	1320322	1320323	1320324	1320325	1320326	1320327	1320328	1320329	1320374	1320375	1320760	1320761	1320762
SLAVE	EOS2 154 XS	EOS2 254 XS	EOS2 304 XS	EOS2 454 XS	EOS2 604 XS	EOS2 754 XS	EOS2 904 XS	EOS2 1054 XS	EOS2 1204 XS	EOS2 1354 XS	EOS2 1504 XS	EOS2 1654 XS	EOS2 1804 XS	EOS2 1954 XS	EOS2 2104 XS	EOS2 2254 XS
Part number	1320330	1321211	1320331	1320332	1320333	1320334	1320335	1320336	1320337	1320338	1320339	1320376	1320377	1320763	1320764	1320765
SLAVE 2	-	EOS2 254 XS2	EOS2 304 XS2	EOS2 454 XS2	EOS2 604 XS2	EOS2 754 XS2	EOS2 904 XS2	EOS2 1054 XS2	EOS2 1204 XS2	EOS2 1354 XS2	EOS2 1504 XS2	EOS2 1654 XS2	EOS2 1804 XS2	EOS2 1954 XS2	EOS2 2104 XS2	EOS2 2254 XS2
Part number	-	1321212	1320341	1320342	1320343	1320344	1320345	1320346	1320347	1320348	1320349	1320378	1320379	1320766	1320767	1320768
Protected height (mm)	160	260	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	6	9	11	16	21	26	31	36	41	46	51	56	61	66	71	76
Overall height (mm)	236.5	336.5	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2013	2163	2313



Body resolution XM, XS, XS2 versions - Max. range: 12 m

Resolution 50 mm

MASTER	-	-	EOS2 305 XM	EOS2 455 XM	EOS2 605 XM	EOS2 755 XM	EOS2 905 XM	EOS2 105 XM	EOS2 1205 XM	EOS2 1355 XM	EOS2 1505 XM	EOS2 1655 XM	EOS2 1805 XM	EOS2 1955 XM	EOS2 2105 XM	EOS2 2255 XM
Part number	-	-	1320421	1320422	1320423	1320424	1320425	1320426	1320427	1320428	1320429	1320474	1320475	1320781	1320782	1320783
SLAVE	EOS2 155 XS	-	EOS2 305 XS	EOS2 455 XS	EOS2 605 XS	EOS2 755 XS	EOS2 905 XS	EOS2 1055 XS	EOS2 1205 XS	EOS2 1355 XS	EOS2 1505 XS	EOS2 1655 XS	EOS2 1805 XS	EOS2 1955 XS	EOS2 2105 XS	EOS2 2255 XS
Part number	1320430	-	1320431	1320432	1320433	1320434	1320435	1320436	1320437	1320438	1320439	1320476	1320477	1320784	1320785	1320786
SLAVE 2	-	-	EOS2 305 XS2	EOS2 455 XS2	EOS2 605 XS2	EOS2 755 XS2	EOS2 905 XS2	EOS2 1055 XS2	EOS2 1205 XS2	EOS2 1355 XS2	EOS2 1505 XS2	EOS2 1655 XS2	EOS2 1805 XS2	EOS2 1955 XS2	EOS2 2105 XS2	EOS2 2255 XS2
Part number	-	-	1320441	1320442	1320443	1320444	1320445	1320446	1320447	1320448	1320449	1320478	1320479	1320787	1320788	1320789
Protected height (mm)	160	-	310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams	4	-	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Overall height (mm)	236.5	-	386.5	536.5	686.5	836.5	986.5	1136.5	1286.5	1436.5	1586.5	1736.5	1886.5	2013	2163	2313

## MASTER/SLAVE VERSIONS WITH BUILT-IN CONTROL FUNCTIONS

Resolution 90 mm

MASTER	-	-	EOS2 309 XM	EOS2 459 XM	EOS2 609 XM	EOS2 759 XM	EOS2 909 XM	EOS2 1059 XM	EOS2 1209 XM	EOS2 1359 XM	EOS2 1509 XM	EOS2 1659 XM	EOS2 1809 XM	EOS2 1959 XM	EOS2 2109 XM	EOS2 2259 XM
Part number	-	-	1320521	1320522	1320523	1320524	1320525	1320526	1320527	1320528	1320529	1320574	1320575	1320801	1320802	1320803
SLAVE	-	-	EOS2 309 XS	EOS2 459 XS	EOS2 609 XS	EOS2 759 XS	EOS2 909 XS	EOS2 1059 XS	EOS2 1209 XS	EOS2 1359 XS	EOS2 1509 XS	EOS2 1659 XS	EOS2 1809 XS	EOS2 1959 XS	EOS2 2109 XS	EOS2 2259 XS
Part number	-	-	1320531	1320532	1320533	1320534	1320535	1320536	1320537	1320538	1320539	1320576	1320577	1320804	1320805	1320806
SLAVE 2	-	-	EOS2 309 XS2	EOS2 459 XS2	EOS2 609 XS2	EOS2 759 XS2	EOS2 909 XS2	EOS2 1059 XS2	EOS2 1209 XS2	EOS2 1359 XS2	EOS2 1509 XS2	EOS2 1659 XS2	EOS2 1809 XS2	EOS2 1959 XS2	EOS2 2109 XS2	EOS2 2259 XS2
Part number	-	-	1320541	1320542	1320543	1320544	1320545	1320546	1320547	1320548	1320549	1320578	1320579	1320807	1320808	1320809
Protected heights (mm)			310	460	610	760	910	1060	1210	1360	1510	1660	1810	1960	2110	2260
Nr. of beams			4	6	8	10	12	14	16	18	20	22	24	26	28	30
Overall height (mm)			386.5	536.5	686.5	836.5	986.5	1136.5	1266.5	1436.5	1586.5	1736.5	1886.5	2013	2163	2313



Access control XM, XS, XS2 versions - Max. range: 12 m

2, 3, 4 beams

MASTER	EOS2 2B XM	EOS2 3B XM	EOS2 4B XM
Part number	1320620	1320621	1320622
SLAVE	EOS2 2B XS	EOS2 3B XS	EOS2 4B XS
Part number	1320630	1320631	1320632
SLAVE 2	EOS2 2B XS2	EOS2 3B XS2	EOS2 4B XS2
Part number	1320640	1320641	1320642
Nr. of beams	2	3	4
Beam spacing (mm)	500	400	300
Protected heights (mm)	510	810	910
Overall height (mm)*	677	977	1077

\* On Slave versions, the overall height of the light curtain is the same of the standard model.

On Master and Slave 2 the total height of curtain is 24 mm due to the addition of the secondary connector.

# EOS2 WTF / WTHF

WATERTIGHT ENCLOSURE, FOOD-GRADED, IP69K CERTIFIED



HEATED  
VERSION  
AVAILABLE

Resolution (mm)
30

Start/Restart
Manual or Automatic

Access control
2, 3, 4 beams

Safety outputs
2

SAFETY LEVEL
<b>TYPE 2</b>
SIL 1 - SILCL 1 PL c - Cat. 2

Watertight enclosures allow safety light curtains and access control barriers to be used in harsh working environments with exposure to water and steam.

Thanks to its inert (non-toxic) components, no residuals are left when the light curtains are washed down or when they come directly in contact with food. This makes WTF and WTHF enclosures suitable for the Food & Beverage industry.

WTHF version (heated) has a thermostatically controlled heating system and can work down to  $-25^{\circ}\text{C}$ .

Protected height: 160 ... 1810 mm.

## TECHNICAL FEATURES

Technical features for the light curtain	EOS2 X
Operating temperature ( $^{\circ}\text{C}$ )	WTF: 0 ... +55 WTHF: -25 ... +50 (with heating system)
Max. water pressure jets	80 ... 100 bar at $80^{\circ}\text{C}$ ( $\pm 5^{\circ}\text{C}$ )
Max. range (m)	Selectable 3 or 10
Electrical connections	10 m cable pre-wired with cable gland
WTHF heated power consumption	24 VDC - 20 W x Protected height (m)
Fastening	Fastening brackets included



See IP69K and Ecolab marking characteristics on page 22.

## WATERTIGHT ENCLOSURE

The watertight enclosure is made of:

- PMMA (polymethyl methacrylate) transparent enclosure
- POM-C (acetal resin – DELRIN®) sealing caps
- Anti-condensation system trough integrated GORE™ valve
- POM-C and stainless steel fastening brackets (AISI 316L)

## APPLICATIONS

- Washing systems
- Food and beverage industry applications
- Any system that requires a wash down procedure or constantly exposed to high pressure water and steam



### PART NUMBERS



Hand resolution X WTF and WTHF versions - Max. range: 10 m

Resolution 30 mm

X WTF versions	EOS2 153 X WTF	EOS2 303 X WTF	EOS2 453 X WTF	EOS2 603 X WTF	EOS2 753 X WTF	EOS2 903 X WTF	EOS2 1053 X WTF	EOS2 1203 X WTF	EOS2 1353 X WTF	EOS2 1503 X WTF	EOS2 1653 X WTF	EOS2 1803 X WTF
Part number	1120230	1120231	1120232	1120233	1120234	1120235	1120236	1120237	1120238	1120239	1120050	1120051
X WTHF versions	EOS2 153 X WTHF	EOS2 303 X WTHF	EOS2 453 X WTHF	EOS2 603 X WTHF	EOS2 753 X WTHF	EOS2 903 X WTHF	EOS2 1053 X WTHF	EOS2 1203 X WTHF	EOS2 1353 X WTHF	EOS2 1503 X WTHF	EOS2 1653 X WTHF	EOS2 1803 X WTHF
Part number	1120240	1120241	1120242	1120243	1120244	1120245	1120246	1120247	1120248	1120249	1120052	1120053
Protected height (mm)	160	310	460	610	760	910	1060	1210	1360	1510	1660	1810
Nr. of beams	8	16	23	31	38	46	53	61	68	76	83	91
Overall height (mm)	337	487	637	787	937	1087	1237	1387	1537	1687	1837	1987



Access control X WTF version - Max. range: 10 m

2, 3, 4 beams

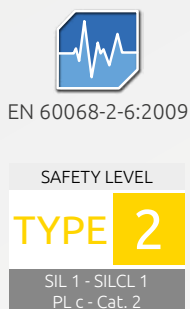
X WTF versions	EOS2 2B X WTF	EOS2 3B X WTF	EOS2 4B X WTF	X WTHF versions	EOS2 2B X WTHF	EOS2 3B X WTHF	EOS2 4B X WTHF
Part number	1120620	1120621	1120622		1120625	1120626	1120627
Nr. of beams	2	3	4		2	3	4
Beam spacing (mm)	500	400	300		500	400	300
Protected heights (mm)	510	810	910		510	810	910
Overall height (mm)	777	1077	1177		777	1077	1177

# EOS2 AT / ATL - TEXTILE

WITH AUTOMATIC START/RESTART, RESISTANT TO HIGH VIBRATIONS



<b>Resolution (mm)</b>	<b>Start/Restart</b>
30, 40, 50, 90	Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2



AT and ATL (Textile) versions are able to maintain the alignment of the beams also in the presence of strong mechanical stresses and vibrations according to EN 60068-2-6:2009. The use of Vibration Dampers is highly recommended.

Connections and configurations through M12 5-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 610 mm.

## ACCESSORIES

- Start/Restart interlock and EDM. See AD SR1 on page 40
- Vibration dampers. See page 53
- Brackets. See page 52

Different heights and resolutions available on request



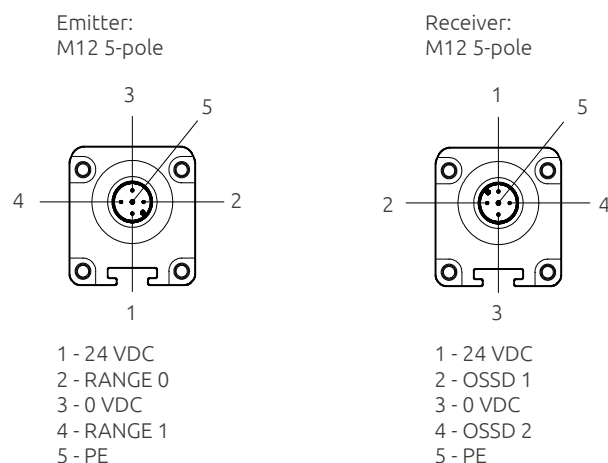
## TECHNICAL FEATURES

Max. range (m)	Selectable 2 or 6 for ATL versions
	Selectable 4 or 12 for AT versions
Response time (ms)	2,5 ... 18,5
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

## CABLES NEEDED

- Emitter: M12 5-pole. See page 43 (CDx, CDx SB, CD9x, CDM9)
- Receiver: M12 5-pole. See page 43 (CDx, CDx SB, CD9x, CDM9)

## CONNECTORS



## PART NUMBERS



Hand resolution AT versions - Max. range: 12 m  
ATL versions - Max. range: 6 m

Resolution 30 mm

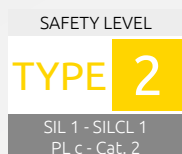
AT versions	EOS2 153 AT	EOS2 303 AT	EOS2 453 AT	EOS2 603 AT
Part number	1321222	1321201	1321223	1321224
ATL versions	EOS2 153 ATL	EOS2 303 ATL	EOS2 453 ATL	EOS2 603 ATL
Part number	1321225	1321226	1321227	1321228
Protected heights (mm)	160	310	460	610
Nr. of beams	8	16	23	31
Overall height (mm)	213	363	513	663

WITH BUILT-IN CONTROL FUNCTIONS, RESISTANT TO HIGH VIBRATIONS



EN 60068-2-6:2009

<b>Resolution (mm)</b>	<b>Start/Restart</b>
30, 40, 50, 90	Manual or Automatic
<b>Access control</b>	<b>Safety outputs</b>
2, 3, 4 beams	2



Selectable manual/automatic Start/Restart. Integrated feedback input, with selectable enabling, for external relays monitoring (EDM).

XT and XTL (Textile) versions are able to maintain the alignment of the beams also in the presence of strong mechanical stresses and vibrations according to EN 60068-2-6:2009. The use of Vibration Dampers is highly recommended.

Connections and setting adjustments through M12 5-pole and 8-pole connectors. Unshielded cables up to 100 meters long can be used to connect the light curtain.

Protected heights: 160 mm ... 610 mm.

## ACCESSORIES

- Safety relay. See [AD SR0 - AD SR0A](#) on page 42
- Vibration dampers. See page 53
- Brackets. See [page 52](#)

Different heights and resolutions available on request



## TECHNICAL FEATURES

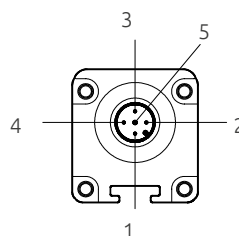
Max. range (m)	Selectable 2 or 6 for XTL versions
	Selectable 4 or 12 for XT versions
Response time (ms)	2,5 ... 18,5
Safety outputs	2 PNP - 400 mA at 24 VDC with short-circuit, overload, polarity reversal protection
Status display	LEDs for light curtain's status and diagnostic
Power supply (VDC)	24 ± 20%
Fastening	Via back slot with provided standard brackets or to the top and lower end with optional rotating brackets. See Accessories

## CABLES NEEDED

- Emitter: M12 5-pole. See [page 43](#) (CDx CDx SB, CD9x, CDM9, CDM99)
- Receiver: M12 8-pole. See [page 44](#) (C8Dx, C8Dx SB, C8D9x, C8DM9, C8DM11)

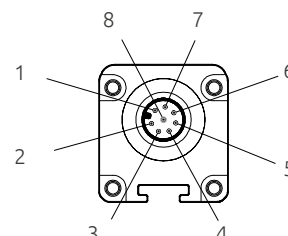
## CONNECTORS

Emitter:  
M12 5-pole



- 1 - 24 VDC
- 2 - RANGE 0
- 3 - 0 VDC
- 4 - RANGE 1
- 5 - PE

Receiver:  
M12 8-pole



- 1 - OSSD 1
- 2 - 24 VDC
- 3 - OSSD 2
- 4 - K1 K2 / RESTART
- 5 - SEL A
- 6 - SEL B
- 7 - 0 VDC
- 8 - PE

## PART NUMBERS



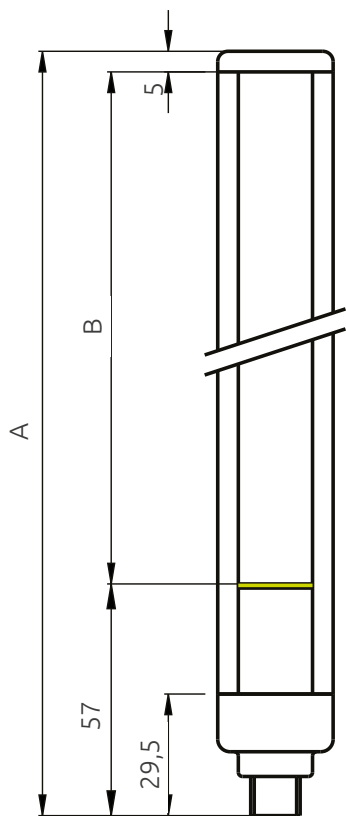
Hand resolution XT versions - Max. range: 12 m  
XTL versions - Max. range: 6 m

Resolution 30 mm

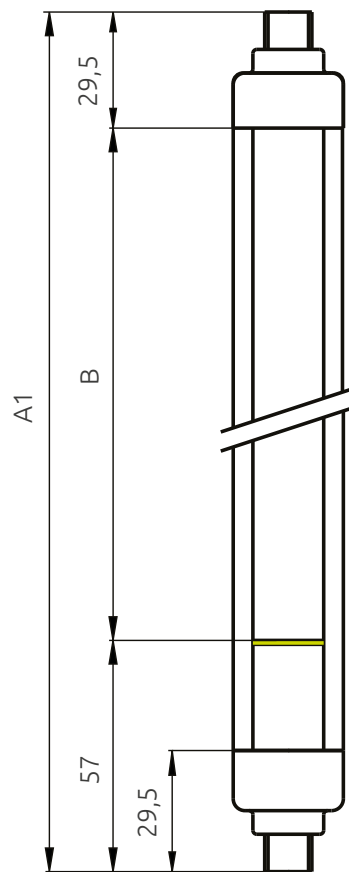
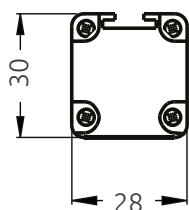
XT versions	EOS2 153 XT	EOS2 303 XT	EOS2 453 XT	EOS2 603 XT
Part number	1321214	1321213	1321216	1321217
XTL versions	EOS2 153 XTL	EOS2 303 XTL	EOS2 453 XTL	EOS2 603 XTL
Part number	1321218	1321219	1321220	1321221
Protected heights (mm)	160	310	460	610
Nr. of beams	8	16	23	31
Overall height (mm)	213	363	513	663

## MECHANICAL DATA

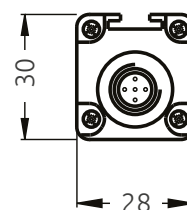
### EOS4 - EOS2 EMITTER AND RECEIVER (STANDARD, MASTER, SLAVE AND SLAVE 2 MODELS)



Emitter - Receiver  
Standard model and Slave model



Emitter - Receiver  
Master model and Slave 2 model

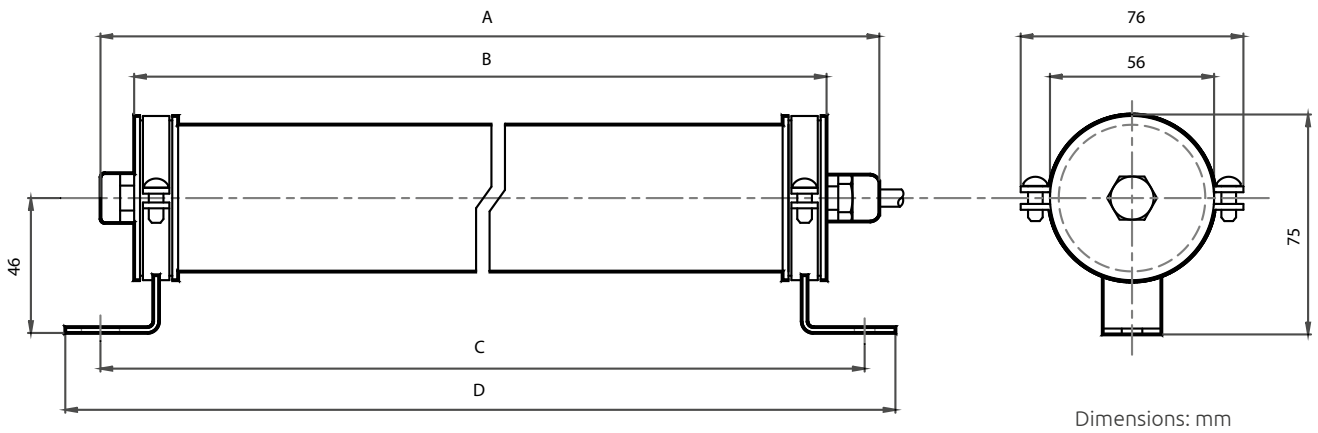


Dimensions: mm

Models	2B	3B	4B
A (mm)	653	953	1053
A1 (mm)	677	977	1077
B (mm)	590	890	990
Mounting	Set of 4 LE type brackets included		

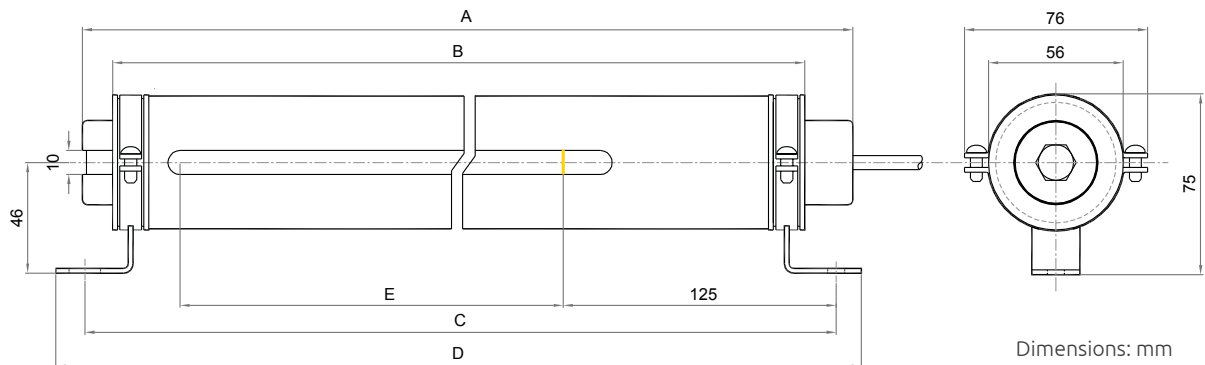
Models	150	250	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250
A (mm)	213	313	363	513	663	813	963	1113	1263	1413	1563	1713	1863	2013	2163	2313
A1 (mm)	236	-	386	536	686	836	986	1136	1286	1436	1586	1736	1986	2036	2186	2336
B (mm)	150	250	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250
Mounting	Set of 4 LE type brackets included								Set of 6 LE type brackets included							

## EOS4 - EOS2 WATERTIGHT ENCLOSURE



Model	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	2B	3B	4B
A (mm)	320	470	620	770	920	1070	1220	1370	1520	1670	1820	1970	760	1060	1160
B (mm)	290	440	620	740	890	1040	1190	1340	1490	1640	1790	1940	730	1030	1130
C ± 3 (mm)	315	465	590	765	915	1065	1215	1365	1515	1665	1815	1965	755	1055	1155
D (mm)	337	487	637	787	937	1087	1237	1387	1537	1687	1837	1987	777	1077	1177

## EOS4 ATEX PROTECTIVE HOUSING



Model	600	900	1203	1503	2B	3B	4B
A (mm)	767	1067	1367	1667	767	1067	1167
B (mm)	735	1035	1335	1635	735	1035	1135
C ± 3 (mm)	760	1060	1360	1660	760	1060	1160
D (mm)	780	1080	1380	1680	780	1080	1180
E (mm)	600	900	1200	1500	600	900	1000

## STATUS DISPLAY

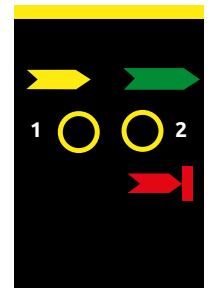
### Emitter - All models

Three colour LED	Meaning
●	System power-on - Initial TEST
● 2 blinks	System power-on - HIGH working range selected
● blinking	FAIL condition - The type of fault is identified by the number of flashes - See technical manual
●	TEST condition
●	Normal operating condition



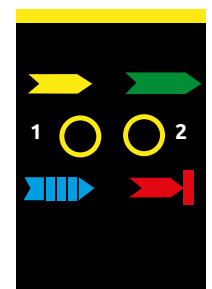
### Receiver - All models except EOS4 14 mm and H (range 20 m) versions

1 - Yellow LED	2 - Two colour LED	Meaning
●	●	System power-on - Initial TEST
○	●	BREAK condition
●	○	CLEAR condition - EOS4 X (With integrated control functions) only
● blinking	● blinking	BREAK_K condition - EOS4 X (With integrated control functions) only
○	●	GUARD condition
○	● blinking	FAIL condition - The type of fault is identified by the number of flashes - See technical manual
● blinking	●	MASTER light curtain free; SLAVE light curtain(s) occupied

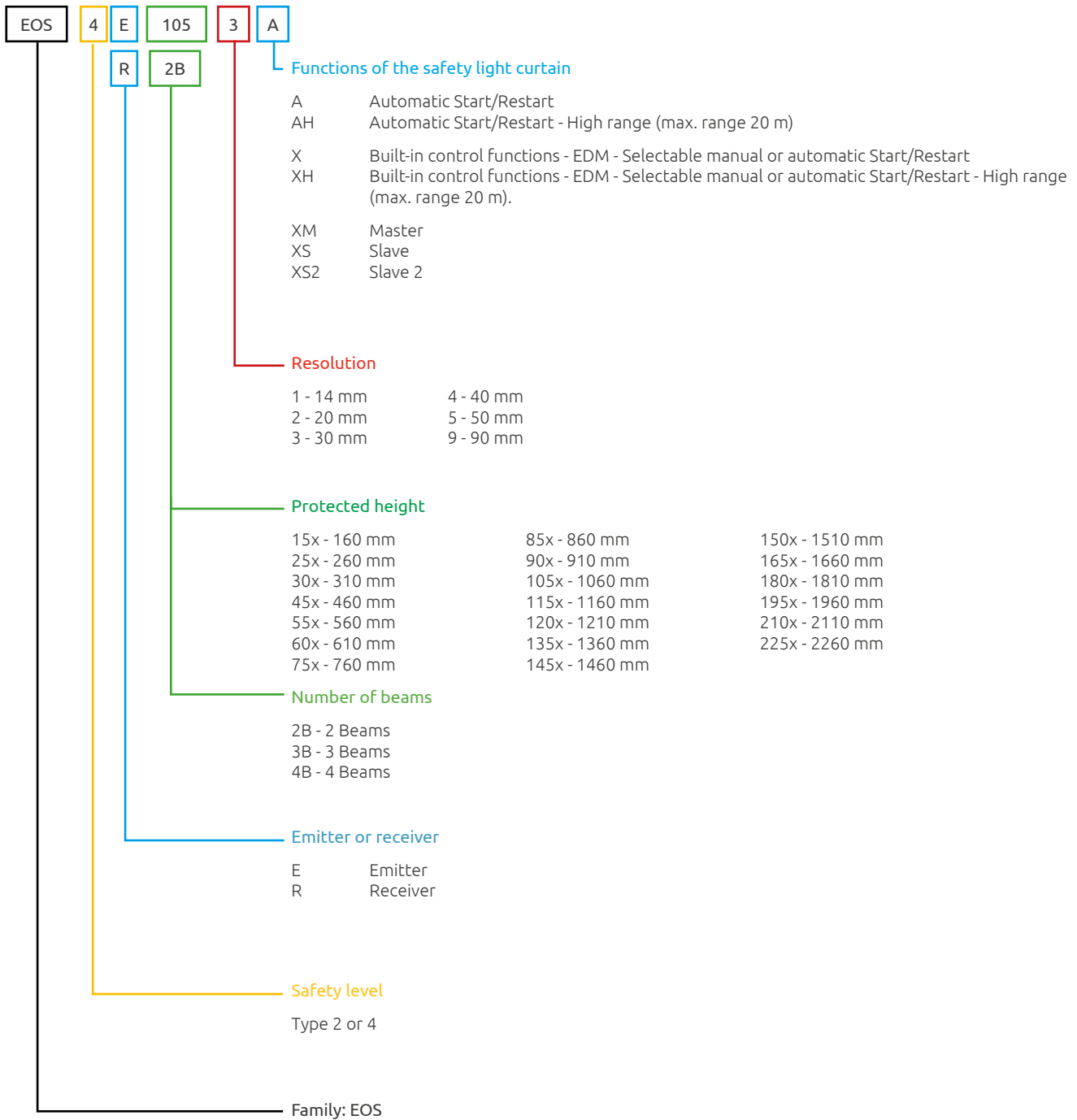


### Receiver - EOS4 14 mm and H (range 20 m) versions

1 - Two colour LED	2 - Two colour LED	Meaning
●	●	System power-on - Initial TEST
○	●	BREAK condition
●	○	CLEAR condition - EOS4 X (With integrated control functions) only
● blinking	● blinking	BREAK_K condition - EOS4 X (With integrated control functions) only
○	●	GUARD condition
○	● blinking	FAIL condition - The type of fault is identified by the number of flashes - See technical manual
●	●	GUARD condition with weak signal
● ● alternating	○	CLEAR condition with weak signal
●	●	BREAK condition with weak signal
● ● alternating blinking	● blinking	BREAK_K condition with weak signal - EOS4 X (With integrated control functions) only



## CODE LEGEND



Example:

- EOS4E 305 XM =
- Type 4 safety light curtain EOS family
  - Emitter
  - Protected height: 310 mm
  - Master
  - Resolution: 50 mm
  - Built-in control functions - EDM - Selectable manual or automatic Start/Restart



Interface module with self-testing solid state safety outputs for safety light curtains EOS4 A and EOS2 A.

- Guided-contact safety relays
- Start/Restart interlock
- EDM feedback input for extra external contactors monitoring

## APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- IEC 61496-1:2012 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2:2013 "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 62061:2005 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- ISO 13849-1:2006 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2010 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- UL (C+US) mark for USA and Canada
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe

## AD SR1 TYPE 4 SAFETY INTERFACE

### TECHNICAL FEATURES

Safety relay outputs	2 NO - 2 A 250 VAC
Status output	PNP - 100 mA at 24 VDC
Response time (ms)	≤ 20
Start/Restart command according to IEC 61496-1	Manual or automatic Start/Restart selectable on terminal block
Status display	LED indication of input/output status and diagnosis
Power supply (VDC)	24 ± 20%
Electrical connections	On terminal blocks
Operating temperature (°C)	0 ... +55
Protection rating	IP20 for housing IP2X for terminal blocks
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 22,5 x 114

### PART NUMBERS

AD SR1: 1330900







SAFETY LEVEL  
**TYPE 4**  
 SILCL 3  
 PL e - Cat. 4

Interface module with self-testing solid state safety outputs and 2 sensor logic integrated Muting for safety light curtains EOS4 and EOS2.

- Guided contact safety relays
- Start/Restart interlock
- EDM feedback input for extra external contactors monitoring
- Muting time-out selectable
- Integrated Override with 2 operating modes selectable
- Muting Enable input

## APPROVALS

- 2006/42/EC: "Machine Directive"
- 2014/30/EU: "Electromagnetic Compatibility Directive"
- 2014/35/EU: "Low Voltage Directive"
- IEC 61496-1:2012 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests"
- EN 61496-2:2013 "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)"
- IEC 62061:2005 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems"
- ISO 13849-1:2006 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design"
- EN 50178:1997 "Electronic equipment for use in power installations"
- EN 55022:2010 "Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurement"
- UL (C+US) mark for USA and Canada
- The S-Mark carries the same weight in Korea as the CE-Mark does in Europe

## AD SRM

### TYPE 4 SAFETY INTERFACE WITH MUTING

#### TECHNICAL FEATURES

Inputs for Muting sensors	2 inputs 0 or 24 VDC - PNP or Relay - Dark-on
Muting Enable input	0 or 24 VDC - PNP or Relay
Safety relay outputs	2 NO - 2A 250 VAC.
Status output	PNP - 100 mA at 24 VDC
Muting lamp output	24 VDC; 0,5 ... 5 W
Response time (ms)	≤ 20
Start/Restart command according to IEC 61496-1	Manual or Automatic Start/Restart selectable on terminal block
Status display	LED indications of input/output status, Muting sensor inputs, diagnosis
Muting time-out	30 sec. or infinite, selectable
Override	2 operating modes selectable: - manual action with hold to run - automatic with pulse command
Override time-out (min.)	15
Power supply (VDC)	24 ± 20%
Electrical connections	On terminal block
Operating temperature (°C)	0 ... +55
Protection rating	IP20 for housing IP2X for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	99 x 35 x 114

#### PART NUMBERS

AD SRM: 1330904





Interface relay modules for safety light curtains EOS4 X and EOS2 X with feedback input for EDM.

- Guided-contact safety relays
- Additional NC contact line for the monitoring by light curtain (EDM)

**NOTE:** AD SR0 and AD SR0A modules can only be connected to safety sensors equipped with feedback input for monitoring external relays (EDM).

Certified by  
**TÜV Rheinland**  
Product Safety GmbH

This product uses two guided contact safety relays manufactured by DOLD (type OA or OA 5643 5644) and certified by TUEV Rheinland.



## AD SR0 - AD SR0A

SAFETY RELAY MODULES FOR DEVICES WITH INTEGRATED FEEDBACK INPUT FOR EDM

### TECHNICAL FEATURES

Safety relay outputs	AD SR0 2 NO + 1 NC - 2 A 250 VAC Each NO safety output line is interrupted twice by the two relays
	AD SR0A 2 NO - 2 A 250 VAC
Response time (ms)	≤ 20
Power supply (VDC)	24 ± 20%
Electrical connections	On terminal block
Operating temperature (°C)	0 ... +55
Protection rating	IP20 for housing IP2X for terminal block
Fastening	DIN rail fastening according to EN 50022-35 standard
Dimensions h x w x d (mm)	101 x 35 x 120

### PART NUMBERS

AD SR0: 1330902

AD SR0A: 1330903

## CDx

### M12 FEMALE STRAIGHT CONNECTOR 5-POLE

Model	Part number	Description
CD5	1330950	Pre-wired cable 5 m
CD10	1330956	Pre-wired cable 10 m
CD15	1330952	Pre-wired cable 15 m
CD20	1330957	Pre-wired cable 20 m
CD25	1330949	Pre-wired cable 25 m
CD40	1330907	Pre-wired cable 40 m
CD50	1330965	Pre-wired cable 50 m
CD80	1330936	Pre-wired cable 80 m

## CDx SB

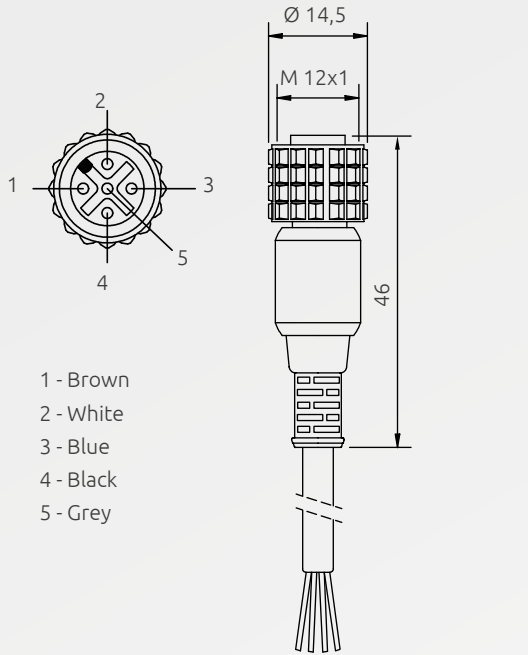
### M12 FEMALE STRAIGHT CONNECTOR 5-POLE, SHIELDED

Model	Part number	Description
CD5 SB	1330850	Pre-wired shielded cable 5 m
CD10 SB	1330856	Pre-wired shielded cable 10 m
CD15 SB	1330852	Pre-wired shielded cable 15 m

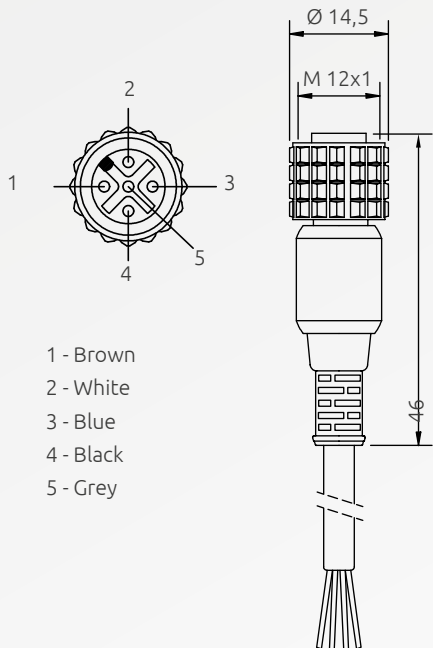
## CD9x

### M12 FEMALE 90° ANGLE CONNECTOR 5-POLE

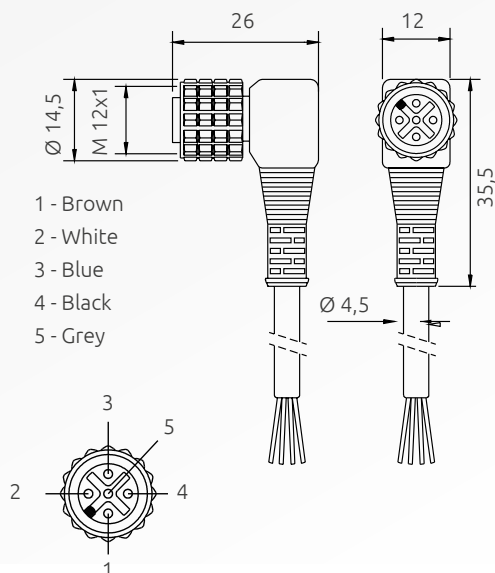
Model	Part number	Description
CD95	1330951	Pre-wired cable 5 m
CD910	1330958	Pre-wired cable 10 m
CD915	1330953	Pre-wired cable 15 m



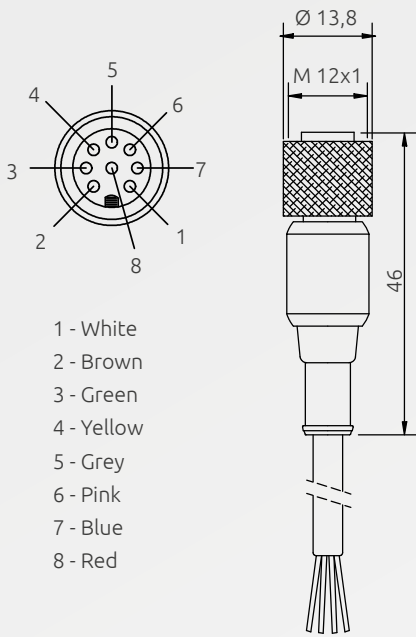
- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black
- 5 - Grey



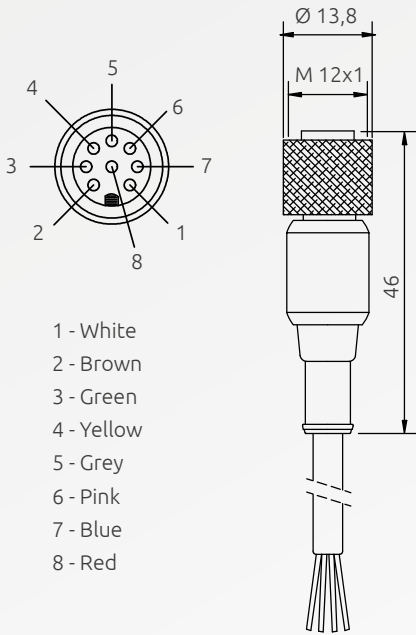
- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black
- 5 - Grey



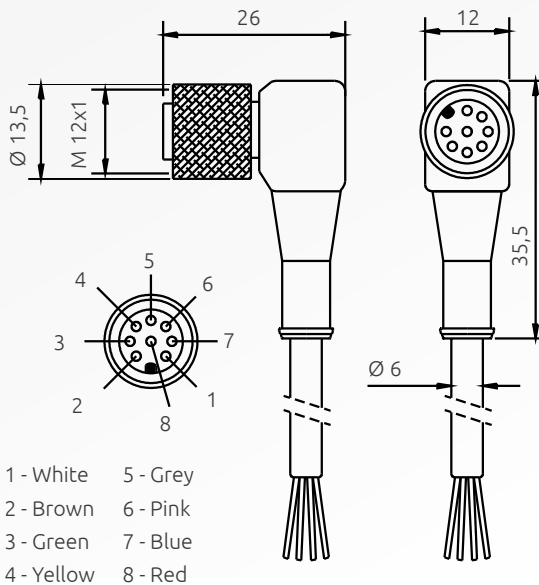
- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black
- 5 - Grey



- 1 - White
- 2 - Brown
- 3 - Green
- 4 - Yellow
- 5 - Grey
- 6 - Pink
- 7 - Blue
- 8 - Red



- 1 - White
- 2 - Brown
- 3 - Green
- 4 - Yellow
- 5 - Grey
- 6 - Pink
- 7 - Blue
- 8 - Red



- 1 - White
- 2 - Brown
- 3 - Green
- 4 - Yellow
- 5 - Grey
- 6 - Pink
- 7 - Blue
- 8 - Red

## C8Dx

### M12 FEMALE STRAIGHT CONNECTOR 8-POLE

Model	Part number	Description
C8D5	1330980	Pre-wired cable 5 m
C8D10	1330981	Pre-wired cable 10 m
C8D15	1330982	Pre-wired cable 15 m
C8D20	1330908	Pre-wired cable 20 m
C8D25	1330967	Pre-wired cable 25 m
C8D40	1330966	Pre-wired cable 40 m
C8D50	1330909	Pre-wired cable 50 m
C8D70	1330937	Pre-wired cable 70 m

## C8Dx SB

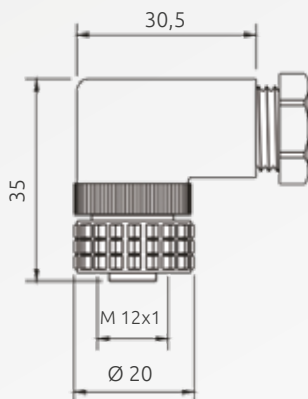
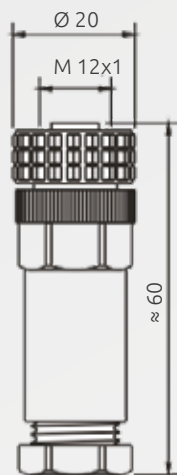
### M12 FEMALE STRAIGHT CONNECTOR 8-POLE, SHIELDED

Model	Part number	Description
C8D5 SB	1330880	Pre-wired shielded cable 5 m
C8D10 SB	1330881	Pre-wired shielded cable 10 m
C8D15 SB	1330882	Pre-wired shielded cable 15 m

## C8D9x

### M12 FEMALE 90° ANGLE CONNECTOR 8-POLE

Model	Part number	Description
C8D95	1330983	Pre-wired cable 5 m
C8D910	1330984	Pre-wired cable 10 m
C8D915	1330985	Pre-wired cable 15 m



## CDM9

M12 FEMALE STRAIGHT CONNECTOR  
5-POLE SCREW TERMINAL, PG9 CABLE  
GLAND

Model	Part number
CDM9	1330954

## C8DM9

M12 FEMALE STRAIGHT CONNECTOR  
8-POLE SCREW TERMINAL, PG9 CABLE  
GLAND

Model	Part number
C8DM9	1330986

## CDM99

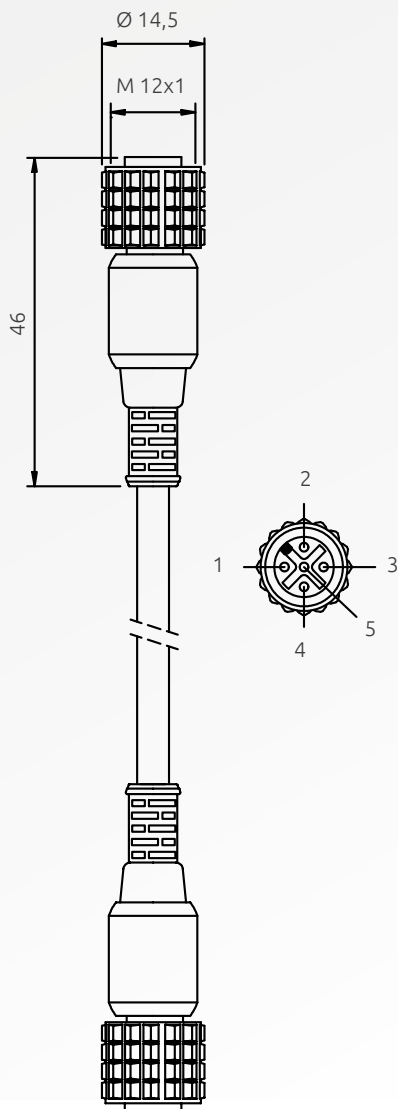
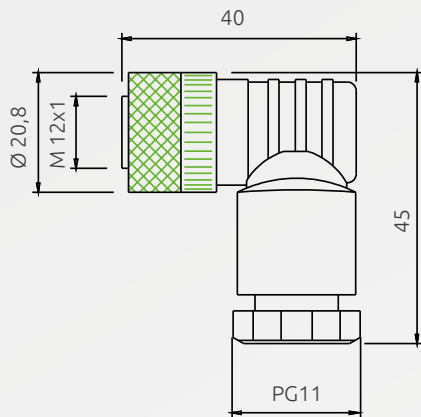
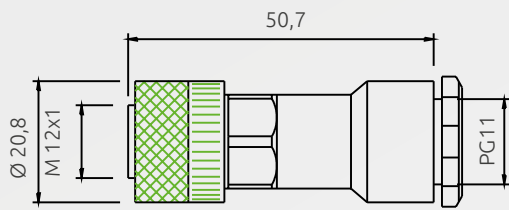
M12 FEMALE 90° ANGLE CONNECTOR  
5-POLE SCREW TERMINAL, PG9 CABLE  
GLAND

Model	Part number
CDM99	1330955

## C8DM99

M12 FEMALE 90° ANGLE CONNECTOR  
8-POLE SCREW TERMINAL, PG9 CABLE  
GLAND

Model	Part number
C8DM99	1330987



## C8DM11

M12 FEMALE STRAIGHT CONNECTOR  
8-POLE SCREW TERMINAL, PG11 CABLE  
GLAND

Model	Part number
C8DM11	1330978

## C8DM911

M12 FEMALE 90° ANGLE CONNECTOR  
8-POLE SCREW TERMINAL, PG11 CABLE  
GLAND

Model	Part number
C8DM911	1330979

## CDS03

CABLE WITH 2 FEMALE STRAIGHT  
CONNECTORS M12 5-POLE

Model	Part number	Description
CDS03	1330990	0,3 m pre-wired cable with 2 straight connectors M12 5-pole
CDS01	1330968	1 m pre-wired cable with 2 straight connectors M12 5-pole

## CJBEx

CABLE WITH 2 FEMALE STRAIGHT  
CONNECTORS M12 5-POLE

Model	Part number	Description
CJBE3	1360960	Pre-wired cable 3 m
CJBE5	1360961	Pre-wired cable 5 m
CJBE10	1360962	Pre-wired cable 10 m
CJBE25	1360963	Pre-wired cable 25 m



Support columns for EOS safety light curtains, designed to provide secure fastening to the floor, fast installation, and a simple and precise adjustment of the optical alignment of the system.

Columns made by aluminium extrusion poles, with adjustable angular orientation. Easy assembling and disassembling of the light curtain with easy adjustment of the first beam's height.

Built-in spirit level for a correct positioning of the vertical axis.

Steel base with springs for a perfect adjustment of the column vertical axis.

Steel foundation inserts included with the product.



FMC EBR models for light curtains complete with PG11 rear union for light curtain cable sheath.

PG11 cable gland  
FMC EBR Models

## FMC EB / FMC EBR

### FLOOR SUPPORT COLUMNS FOR LIGHT CURTAINS

#### PART NUMBERS

##### Columns

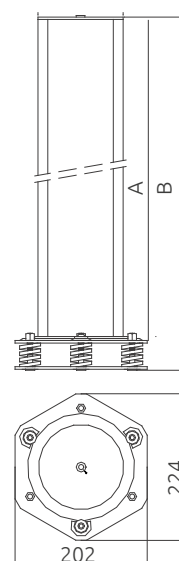
Model	FMC EB 2	FMC EB 4	FMC EB 1700	FMC EB 2000	FMC EB 2200	FMC EB 2400
Part number	1207814	1207815	1207816	1207817	1207819	1207819
Models with PG11 rear union for cable sheath	FMC EB 2 R	FMC EB 4 R	FMC EB 1700 R	FMC EB 2000 R	-	-
Part number	1207824	1207825	1207826	1207827	-	-
A - Height (mm)	1000	1200	1670	1970	2100	2400
B - Overall height with FMC CB base (mm)	1055	1255	1725	2025	2155	2455
B - Overall height with FMC CBL base (mm)	1037	1237	1707	2007	2137	2437

##### Bases for columns

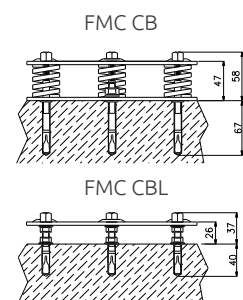
Model	FMC CB	FMC CBL
Part number	1200500	1200501
Description	Base for column	Base for column with reduced height
Height (mm)	55	37

##### Note for ordering

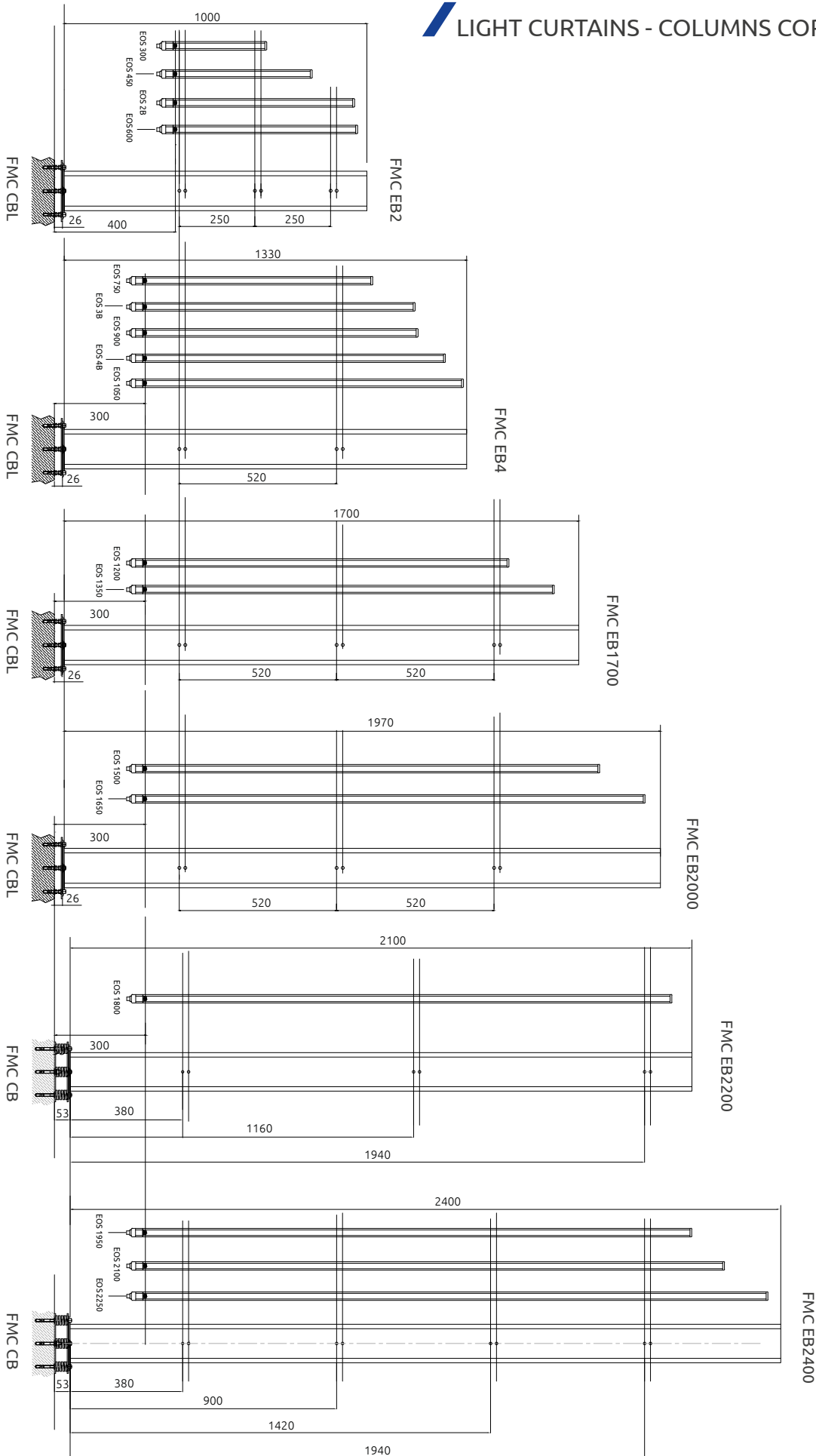
The columns part number do not include the base which must be ordered separately (FMC CB or FMC CBL models).



A: column height  
B: column height with base FMC CB or FMC CBL



## LIGHT CURTAINS - COLUMNS CORRESPONDANCE



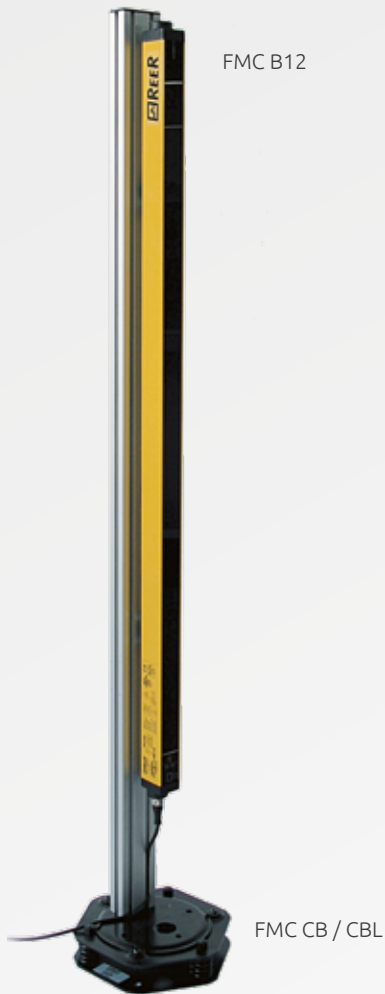
Dimensions: mm



## FMC B12 / B18 SUPPORT COLUMNS

### PART NUMBERS

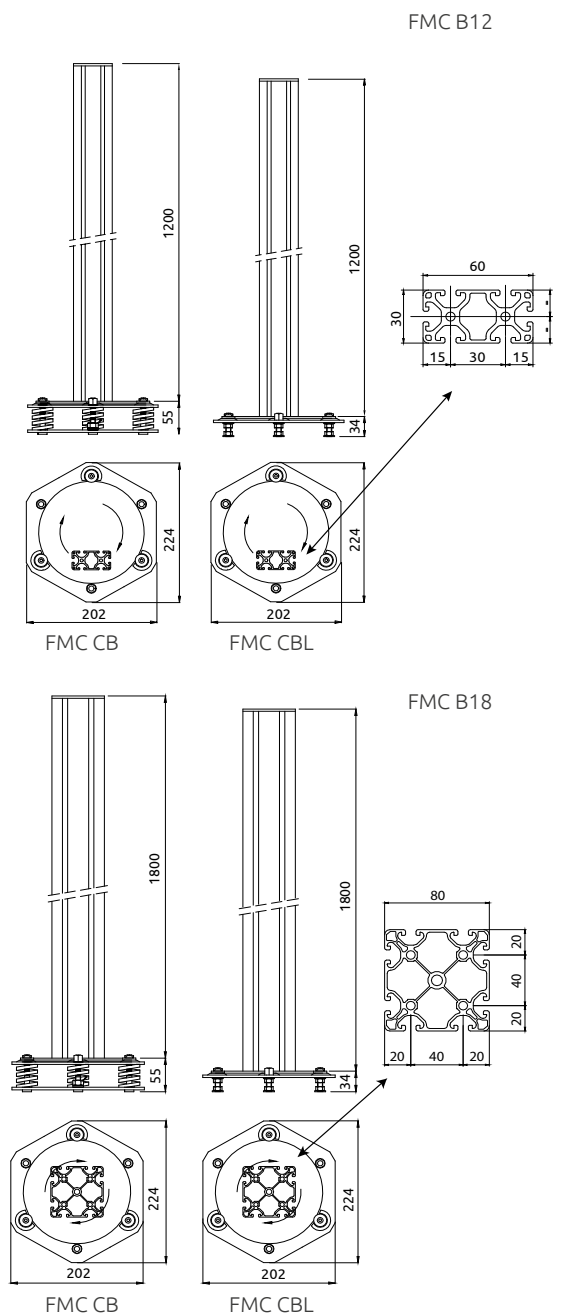
Model	FMC B12	FMC B18
Part number	1200502	1200505
Dimensions (mm)	60 x 30	80 x 80
Height (mm)	1200	1800
Overall height with FMC CB base (mm)	1255	1255
Overall height with FMC CBL base (mm)	1237	1237



Simplified version for EOS safety light curtains. It allows the use of light curtains with integrated Muting sensors.

#### Note for ordering

The columns part number do not include the base which must be ordered separately (FMC CB and FMC CBL models).



## FMC S / FMC SB

### COLUMNS WITH DEFLECTING MIRROR

#### PART NUMBERS

Model	FMC S2	FMC S3	FMC S4	FMC S 1700	FMC S 2000
Part number	1200620	1200621	1200622	1200625	1200623
Description	single mirror for 2 beams and controlled height up to 700 mm light curtains	single mirror for 3 beams and controlled height up to 900 mm light curtains	single mirror for 4 beams and controlled height up to 900 mm light curtains	single mirror for controlled height up to 1360 mm	single mirror for controlled height up to 1660 mm
A - Height (mm)	1000	1200	1330	1670	1970
B - Overall height with FMC CB base (mm)	1055	1255	1385	1725	2025
B - Overall height with FMC CBL base (mm)	1037	1237	1367	1707	2007

Model	FMC SB2	FMC SB3	FMC SB4
Part number	1200645	1200646	1200647
Description	2 mirrors for 2 beams light curtains	3 mirrors for 3 beams light curtains	4 mirrors for 4 beams light curtains
A - Height (mm)	1000	1200	1330
B - Overall height with FMC CB base (mm)	1055	1255	1385
B - Overall height with FMC CBL base (mm)	1037	1237	1367

#### Note for ordering

The column part number does not include the base which must be ordered separately (CB FMC and FMC CBL models).



Support columns with deflecting mirrors, designed to provide secure fastening to the floor, fast installation, and a simple and precise adjustment of the optical alignment of the system.

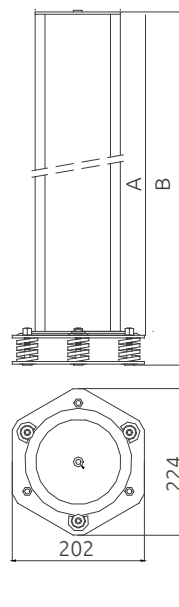
**FMC S models** with pre-assembled deflecting mirrors, allow perimeter protections of up to 4 sides.

**FMC SB models** with pre-installed independent adjustable deflecting mirrors for safety light grids with 2, 3 and 4 beams. For applications with multiple sides and/or with a large protected perimeter is recommended the use of this models.

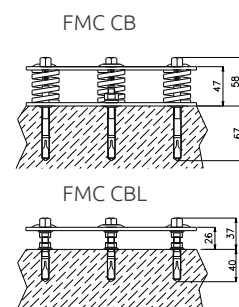
Optical power reduction factor: 15% for each mirror.

Special models equipped with mirror with protective anti-fragmentation film available on request.

**NOTE:** for more information on how to chose mirrors, please refers to Reer website, section "Light Curtains - Applications".



A: column height  
B: column height with base FMC CB or FMC CBL



## SP DEFLECTING MIRRORS

### TECHNICAL FEATURES

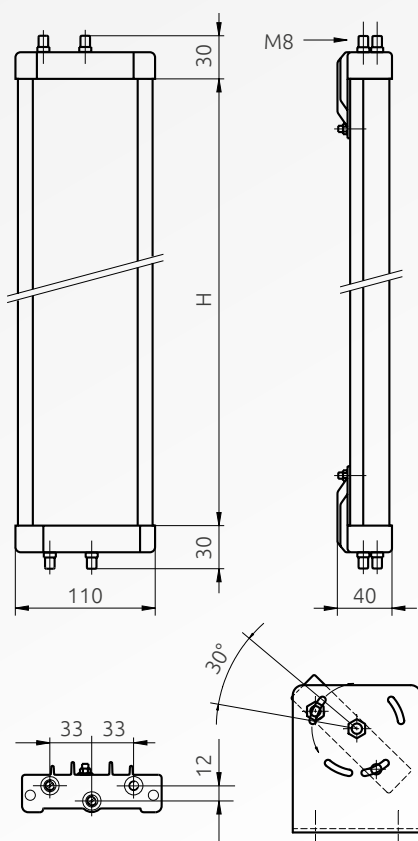
Section bar	Extruded aluminium
Mirror pre-fitted with heights (mm)	250 ... 1900
Angular orientation	Adjustable using supplied brackets
Optical power reduction factor	15% (for each mirror)
Protective anti-fragmentation film	Available on request

### PART NUMBERS

Model	Part number	Height H in picture (mm)	For light curtains with protected height (mm)	For light grids with:
SP 100 S	1201805	250	160	
SP 200 S	1201800	370	250	
SP 300 S	1201806	400	310	
SP 400 S	1201801	540	460	
SP 600 S	1201811	715	610	2 beams
SP 700 S	1201802	885	760	
SP 900 S	1201812	1065	910	3 beams
SP 1100 S	1201803	1230	1060	4 beams
SP 1200 S	1201810	1400	1210	
SP 1300 S	1201807	1450	1360	
SP 1500 S	1201808	1600	1510	
SP 1600 S	1201813	1750	1660	
SP 1800 S	1201809	1900	1810	

The SP deflecting mirrors allow to create perimeter protection of areas with access points on multiple sides, with a considerable reduction of costs.

This solution eliminates the need to use multiple safety light curtains allowing perimeter protection of up to 4 sides.



The following rules should be taken into consideration when using deflecting mirrors:

- Total working distance (range) given by the sum of the lengths of all sides giving access to the protected area
- Each mirror used will decrease the maximum working range between the Emitter and the Receiver by 15%
- In order to ensure compliance mirrors must be placed at the minimum safety distance on each side from the danger zone
- The use of the LAD laser alignment device is recommended for a quick and reliable alignment of the system especially when using longer range light curtains or grids

**NOTE:** for more information on how to choose mirrors, please refer to Reer website, section "Light Curtains - Applications".

The SFB 4E / SFB 6E swivel brackets allow the rotation of the light curtain around its longitudinal axis, as well as the adjustment of its vertical and horizontal position.



The use of the SFB 4E / SFB 6E swivel brackets is recommended to align those light curtains which are employed in applications having a long range or using deflecting mirrors.

The SFB E180 swivel brackets allow the 180° rotation of the light curtain around its longitudinal axis, as well as the adjustment of its vertical and horizontal position.



The use of the SFB E180 swivel brackets is recommended to align those light curtains which are employed in applications having a long range or using deflecting mirrors.

The FE 4 brackets, with a thickness of only 4 mm, allow proper fastening of EOS light curtains.



The fast-coupling SFB FAST brackets allow a fast and accurate mechanical fixing of the EOS series barriers.

A fine adjustment on the rotation axis of the light curtains of  $\pm 6^\circ$  is allowed.

Made of PA 6.6 reinforced with glass fiber plastic, these brackets are extremely durable.



## SFB 4E / SFB 6E SWIVEL BRACKETS

### PART NUMBERS

Model	Part number	Description
SFB 4E	1310976	Set of 4 swivel brackets for EOS with length $\leq 1200$ mm
SFB 6E	1310977	Set of 6 swivel brackets for EOS with length $\geq 1200$ mm

One set must be ordered for each pair of light curtain (emitter + receiver)

## SFB E180 180° SWIVEL BRACKETS

### PART NUMBERS

Model	Part number	Description
SFB E180	1310980	Set of 4 180° swivel brackets for EOS

One set must be ordered for each pair of light curtain (emitter + receiver)

## FLAT FE 4 FLAT BRACKETS

### PART NUMBERS

Model	Part number	Description
FE 4	1310997	Set of 4 flat brackets for EOS

One set must be ordered for each pair of light curtain (emitter + receiver)

## SFB FAST FAST-COUPLING BRACKETS

### PART NUMBERS

Model	Part number	Description
SFB FAST	1310969	Set of 4 fast-coupling brackets

One set must be ordered for each pair of light curtain (emitter + receiver)



LAD 4 laser alignment device allows a fast and reliable optical alignment of Reer safety light curtains; also compatible with the use of the FMC floor mounting columns.

LAD 4 devices emit a laser beam with visible red light with useful range up to 100 m.

The use is recommended for aligning light curtains that operate over long distances or multiple sides with the use of deflecting mirrors.



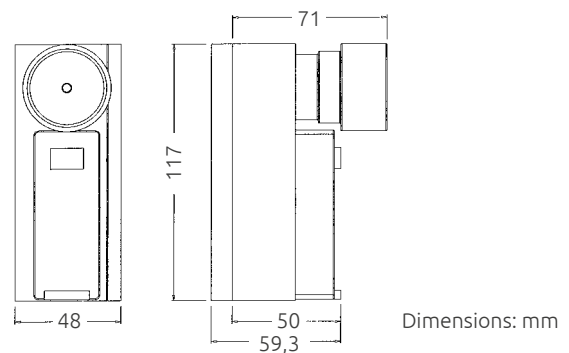
The SAV vibration dampers have been designed to avoid mechanical damage to the light curtains installed in those applications with a high level of vibrations.

The unprotected light curtains might resent the vibrations produced by e.g. presses, weaving machines, etc.

## LAD 4 LASER ALIGNMENT DEVICE

### TECHNICAL FEATURES

Light source	Laser diode – wavelength 650 nm
Class light source	II – EN 60825-1
Range (m)	100
Beam divergence (mrd)	< 0,5
Max. power (mW)	1
Power supply (VDC)	3 (2 AAA batteries)
Fastening	Quick fastening to the light curtains
Dimensions h x w x d (mm)	117 x 48 x 80



### PART NUMBERS

LAD4: 1310975

## SAV 4E, SAV 8E, SAV 12E VIBRATION DAMPERS

### PART NUMBERS

Model	Part number	Description	For light curtains with protected height mm / beams
SAV 4E	1310972	Set of 4 vibrations dampers	160
SAV 8E	1310973	Set of 8 vibrations dampers	310 ... 1050
SAV 12E	1310974	Set of 12 vibrations dampers	1210 ... 1810 / 2, 3, 4

One set must be ordered for each pair of light curtain (emitter + receiver)



PSE is a polycarbonate protective screen that preserves the light curtain's front screen from damages due to welding sparks or due to the presence of acids in the workspace.

Protective screens can be quickly replaced thanks to the fast and easy stainless steel clamping system.

## SFS - PSE

### PROTECTIVE SCREENS

#### PART NUMBERS

Each kit includes:

- SFS E (part number 1310981) - 1 set of stainless steel clamps for one safety light curtain (emitter and receiver)
- PSEx (part number from 1310982 to 1310995 according to the length of light curtain) - 4 protective screens (2 as spare parts)

For each pairs of safety light curtain (emitter and receiver) it's necessary ordered both codes.

Model	PSE 150	PSE 300	PSE 450	PSE 600	PSE 750	PSE 900
Part number	1310982	1310983	1310984	1310985	1310986	1310987
Model	PSE 1050	PSE 1200	PSE 1350	PSE 1500	PSE 1650	PSE 1800
Part number	1310988	1310989	1310990	1310991	1310992	1310996
Model	PSE 2B	PSE 3B	PSE 4B			
Part number	1310993	1310994	1310995			

## TR

### TEST RODS

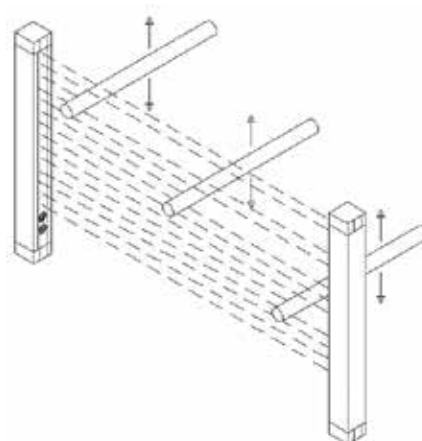
#### PART NUMBERS

Model	Part number	Diameter
TR 14	1330960	ø 14 mm
TR 20	1330961	ø 20 mm
TR 30	1330962	ø 30 mm
TR 40	1330963	ø 40 mm
TR 50	1330964	ø 50 mm



The test rod is an opaque cylinder used after the installation of a safety light curtain to verify that no beams are bypassed due to the presence of reflecting surfaces.

The test is carried out by slowly moving the test rod ( $\emptyset$  = Resolution) in the centre and then along each side of the protected area. During this procedure the Green led on the Receiver must always remain in the off state.





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Issue 2 - Rev 1.5  
February 2021  
8946223  
EOS - English

*Printed in Italy*

