



# Orion safety light guards

## Reduce complexity and save time

Power and productivity  
for a better world™





# The Orion series

A complete range of safety light curtains and light grids



Orion1 Base

## Orion1

The **Orion1 light curtains** are used for finger or hand detection (14 mm and 30 mm), usually quite close to the dangerous machine.



## Orion2

The **Orion2 light grids** are used for body detection, usually for access protection.

With a 50 m operating distance, they are appropriate to be used with deviating mirrors.



## Orion3

The **Orion3 light grids** are used for body detection, usually for access protection.

Transmitter and receiver are both in the same active unit. The beams are reflected by the passive unit.

Orion3 reduces the need for cabling. Only the active unit has to be connected.



Orion1 Extended

## Base or Extended

All Orion models are available as **Base** and **Extended**.

Base models	Extended models
Detection	Detection
Local reset	Local reset
EDM	EDM
	Muting





## Reduce complexity

- No more functions or settings than necessary.
- A local reset button can be connected directly to the light curtain; no need for cable between the reset button and the electrical cabinet or for an extra control module.
- Each light curtain can monitor the actuators without any extra control module (EDM function).
- Muting sensors are connected directly to the Extended models with no need for a remote muting module.
- No dead zone; the resolution is guaranteed along the whole length of the Orion1 Extended with no need for extra mechanical guard.
- Cascading with Orion1 Extended standard units; no separate slave or master units.

## Speed up installation

- Integrated alignment aid for ease of installation and set-up.
- Rotation brackets also simplify alignment.
- M12 connectors speed up cabling.

## Reduce downtime

- Since the alignment level is displayed on the unit, the alignment can be improved before an unwanted stop occurs.
- Extensive error indication reduces troubleshooting time.
- Protective tubes and lens shields protect the devices in harsh environments.
- Coding protects Orion1 Extended against mutual interferences.

## Integrated features

### Blanking

When an object is allowed to always be in the detection zone during normal operation, a finger or a hand will stop the machine.

### Coding

Allows light guards to be placed close to each other without disturbing each other.

### EDM (External device monitoring)

Allows connection of e.g. contactors to the light guards and still reach the highest level of safety.

### Local reset

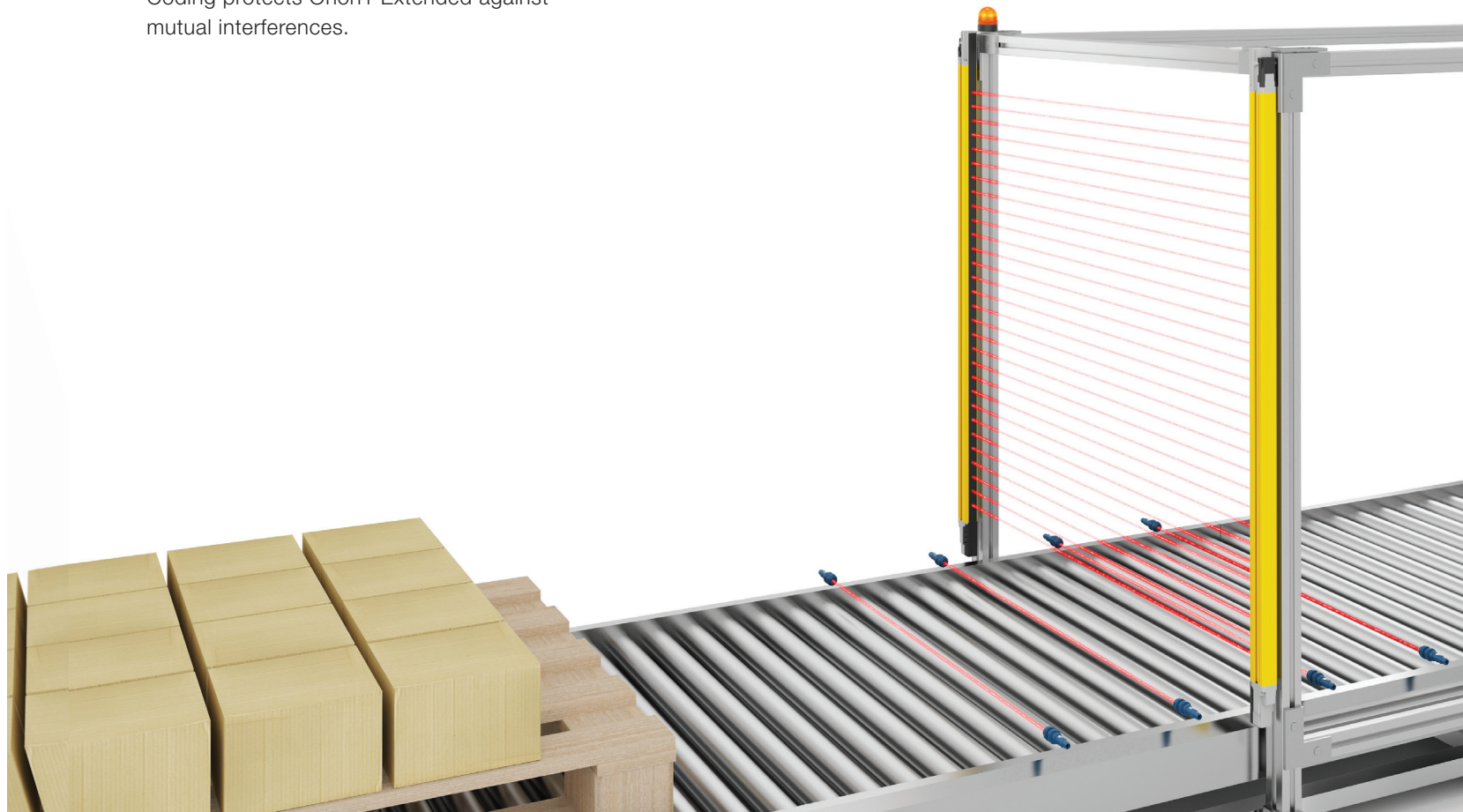
Allows connection of a reset button to the light guard.

### Muting

Allows material/pallets to travel through the light curtain without stoppages while preventing personnel from entering the hazardous area.

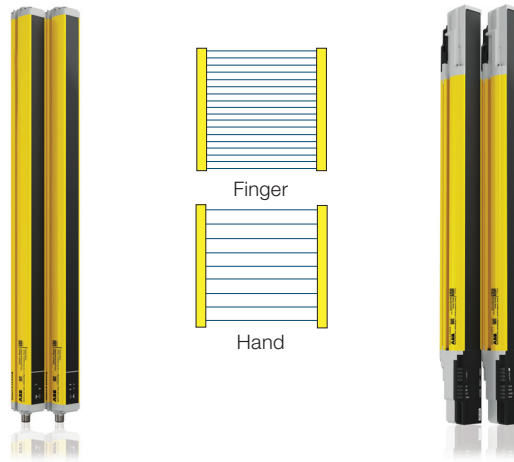
### No dead zone

The detection zone is as long as the device.


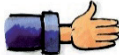


# Orion overview

## Orion1 - Light curtains, Transmitter + Receiver - Slim profile

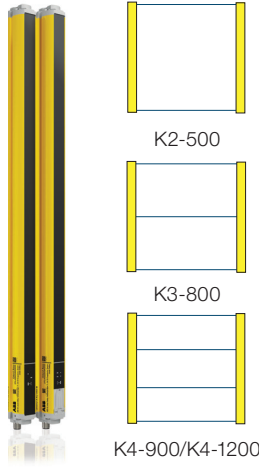


Orion1 Extended requires special cables.

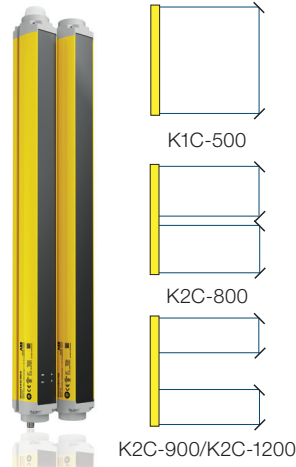
	Orion1 Base		Orion1 Extended	
Type of detection	 Finger	 Hand	 Finger	 Hand
Resolution	14 mm	30 mm	14 mm	30 mm
Type 4	Orion1-4-14-xxx-B	Orion1-4-14-xxx-B	Orion1-4-30-xxx-E	Orion1-4-30-xxx-E
Protected height	150 -1800 mm (150 mm steps) xxx= 015-180 cm (15 cm steps)	150 -1800 mm (150 mm steps) xxx= 015-180 cm (15 cm steps)	300 - 1800 mm (150 mm steps) xxx= 030-180 cm (15 cm steps)	300 - 1800 mm (150 mm steps) xxx= 030-180 cm (15 cm steps)
<b>Function</b>				
Range	6 m	19 m	7 m	20 m
Auto/manual reset	X	X	X	X
EDM	X	X	X	X
Muting			X	X
Override			X	X
Integrated muting lamp				
Blanking			X	X
No dead zone			X	X
Coding			X	X
Cascading			X	X
Don't forget to order			Cables for Transmitter (M12-C02PT2T) and Receiver (Blanking or no function: M12-C02PT6RB, Muting: M12-C02PT62RM)	
<b>Accessories</b>				
Cables (female connector on the cable)	Transmitter: M12-5 poles Receiver: M12-8 poles		Transmitter: M12-5 poles Receiver Blanking: M12-12 poles Receiver Muting: M12-12 + M12-5 poles	
Protective tube	Orion WET xxx		-	
Protective stand	Orion Stand		Orion Stand	
Lens shield	Orion Shield-xxx		-	
Deviating mirror	Orion1 Mirror + Orion Stand + JSM Orion11		Orion1 Mirror + Orion Stand + JSM Orion11	
Laser pointer	Orion Laser Pointer		Orion Laser Pointer	
Rotation bracket	JSM Orion03		-	



**Orion2 - Light grids,  
Transmitter + Receiver - Slim profile**



**Orion3 - Light grids,  
Active + passive units - Sturdy profile**



The two units are ordered separately.

**Accessories**

Orion Laser Pointer



JSM Orion03



JSM Orion04



JSM Orion05



Orion Mirror Kxxx



Orion Stand



Orion2 Base		Orion2 Extended		Orion3 Base		Orion3 Extended	
		Body				Body	
<b>Orion2-4-Kx-xxx-B</b>	<b>Orion2-4-Kx-xxx-E</b>	<b>Orion3-4-KyC-xxx-B</b>	<b>Orion3-4-KyC-xxx-E</b>				
K2-050: 500 mm	K2-050: 500 mm	K1C-050: 500 mm	K1C-050: 500 mm				
K3-080: 800 mm	K3-080: 800 mm	K2C-080: 800 mm	K2C-080: 800 mm				
K4-090: 900 mm	K4-090: 900 mm	K2C-090: 900 mm	K2C-090: 900 mm				
K4-120: 1200 mm	K4-120: 1200 mm	K2C-120: 1200 mm	K2C-120: 1200 mm				
50 m	50 m	8 m (K2C-090: 6.5m)					
X	X	X	X				
X	X	X	X				
	X		X				
	X		X				
		Passive unit Orion3-4-MyC-xxx					
Transmitter: M12-5 poles Receiver: M12-8 poles		Active unit: M12-8 poles					
Orion WET Kxxx		-					
Orion Stand		Orion Stand					
Orion Shield-Kxxx		-					
Orion Mirror Kxxx		Orion Mirror Kxxx					
Orion Laser Pointer		Orion Laser Pointer					
JSM Orion04		JSM Orion05					





# Ordering information

Orion1 Base - Transmitter + Receiver	Article number	Resolution	Height
Orion1-4-14-015-B	2TLA022300R0000	14 mm	150 mm
Orion1-4-14-030-B	2TLA022300R0100	14 mm	300 mm
Orion1-4-14-045-B	2TLA022300R0200	14 mm	450 mm
Orion1-4-14-060-B	2TLA022300R0300	14 mm	600 mm
Orion1-4-14-075-B	2TLA022300R0400	14 mm	750 mm
Orion1-4-14-090-B	2TLA022300R0500	14 mm	900 mm
Orion1-4-14-105-B	2TLA022300R0600	14 mm	1050 mm
Orion1-4-14-120-B	2TLA022300R0700	14 mm	1200 mm
Orion1-4-14-135-B	2TLA022300R0800	14 mm	1350 mm
Orion1-4-14-150-B	2TLA022300R0900	14 mm	1500 mm
Orion1-4-14-165-B	2TLA022300R1000	14 mm	1650 mm
Orion1-4-14-180-B	2TLA022300R1100	14 mm	1800 mm
Orion1-4-30-015-B	2TLA022302R0000	30 mm	150 mm
Orion1-4-30-030-B	2TLA022302R0100	30 mm	300 mm
Orion1-4-30-045-B	2TLA022302R0200	30 mm	450 mm
Orion1-4-30-060-B	2TLA022302R0300	30 mm	600 mm
Orion1-4-30-075-B	2TLA022302R0400	30 mm	750 mm
Orion1-4-30-090-B	2TLA022302R0500	30 mm	900 mm
Orion1-4-30-105-B	2TLA022302R0600	30 mm	1050 mm
Orion1-4-30-120-B	2TLA022302R0700	30 mm	1200 mm
Orion1-4-30-135-B	2TLA022302R0800	30 mm	1350 mm
Orion1-4-30-150-B	2TLA022302R0900	30 mm	1500 mm
Orion1-4-30-165-B	2TLA022302R1000	30 mm	1650 mm
Orion1-4-30-180-B	2TLA022302R1100	30 mm	1800 mm

Orion1 Extended - Transmitter + Receiver	Article number	Resolution	Height
Orion1-4-14-030-E	2TLA022301R0100	14 mm	300 mm
Orion1-4-14-045-E	2TLA022301R0200	14 mm	450 mm
Orion1-4-14-060-E	2TLA022301R0300	14 mm	600 mm
Orion1-4-14-075-E	2TLA022301R0400	14 mm	750 mm
Orion1-4-14-090-E	2TLA022301R0500	14 mm	900 mm
Orion1-4-14-105-E	2TLA022301R0600	14 mm	1050 mm
Orion1-4-14-120-E	2TLA022301R0700	14 mm	1200 mm
Orion1-4-14-135-E	2TLA022301R0800	14 mm	1350 mm
Orion1-4-14-150-E	2TLA022301R0900	14 mm	1500 mm
Orion1-4-14-165-E	2TLA022301R1000	14 mm	1650 mm
Orion1-4-14-180-E	2TLA022301R1100	14 mm	1800 mm
Orion1-4-30-030-E	2TLA022303R0100	30 mm	300 mm
Orion1-4-30-045-E	2TLA022303R0200	30 mm	450 mm
Orion1-4-30-060-E	2TLA022303R0300	30 mm	600 mm
Orion1-4-30-075-E	2TLA022303R0400	30 mm	750 mm
Orion1-4-30-090-E	2TLA022303R0500	30 mm	900 mm
Orion1-4-30-105-E	2TLA022303R0600	30 mm	1050 mm
Orion1-4-30-120-E	2TLA022303R0700	30 mm	1200 mm
Orion1-4-30-135-E	2TLA022303R0800	30 mm	1350 mm
Orion1-4-30-150-E	2TLA022303R0900	30 mm	1500 mm
Orion1-4-30-165-E	2TLA022303R1000	30 mm	1650 mm
Orion1-4-30-180-E	2TLA022303R1100	30 mm	1800 mm

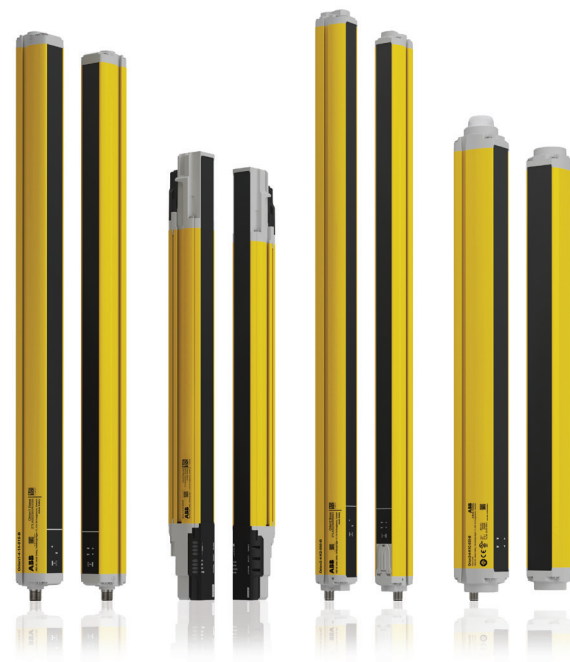
Orion2 Base - Transmitter + Receiver	Article number	No of beams	Height
Orion2-4-K2-050-B	2TLA022304R0000	2	500 mm
Orion2-4-K3-080-B	2TLA022304R0100	3	800 mm
Orion2-4-K4-090-B	2TLA022304R0200	4	900 mm
Orion2-4-K4-120-B	2TLA022304R0300	4	1200 mm

Orion2 Extended - Transmitter + Receiver	Article number	No of beams	Height
Orion2-4-K2-050-E	2TLA022305R0000	2	515 mm
Orion2-4-K3-080-E	2TLA022305R0100	3	815 mm
Orion2-4-K4-090-E	2TLA022305R0200	4	915 mm
Orion2-4-K4-120-E	2TLA022305R0300	4	1215 mm

Orion3 Base - Active unit	Article number	No of beams	Height
Orion3-4-K1C-050-B	2TLA022306R0000	2	500 mm
Orion3-4-K2C-080-B	2TLA022306R0100	3	800 mm
Orion3-4-K2C-090-B	2TLA022306R0200	4	900 mm
Orion3-4-K2C-120-B	2TLA022306R0300	4	1200 mm

Orion3 Extended - Active unit	Article number	No of beams	Height
Orion3-4-K1C-050-E	2TLA022307R0000	2	500 mm
Orion3-4-K2C-080-E	2TLA022307R0100	3	800 mm
Orion3-4-K2C-090-E	2TLA022307R0200	4	900 mm
Orion3-4-K2C-120-E	2TLA022307R0300	4	1200 mm

Orion3 - Passive unit (mirror)	Article number	Height
Orion3-4-M1C-050	2TLA022306R1000	500 mm
Orion3-4-M2C-080	2TLA022306R1100	800 mm
Orion3-4-M2C-090	2TLA022306R1300	900 mm
Orion3-4-M2C-120	2TLA022306R1400	1200 mm





### Accessories

			Orion1 Base	Orion1 Extended	Orion2 Base & Extended	Orion3 Base & Extended
Orion TP-14	2TLA022310R5200	Orion Test Piece 14 mm	X	X		
Orion TP-30	2TLA022310R5300	Orion Test Piece 30 mm	X	X		
Orion Laser	2TLA022310R5000	Orion Laser pointer	X	X	X	X
JSM Orion01	2TLA022310R0000	4 standard brackets for Orion1 & Orion2	X	X	X	
JSM Orion02	2TLA022310R1000	4 standard brackets for Orion3				X
JSM Orion03	2TLA022310R0100	4 rotation brackets for Orion1 Base	X			
JSM Orion04	2TLA022310R0200	4 rotation brackets for Orion2			X	
JSM Orion05	2TLA022310R0300	4 rotation brackets for Orion3				X
JSM Orion06	2TLA022310R0400	Kit for mounting of Orion1 & Orion2 in Stand (4 pieces)	X	X	X	
JSM Orion07	2TLA022310R0500	Kit for mounting of Orion1 & Orion2 in Stand (6 pieces)	X	X	X	
JSM Orion08	2TLA022310R0600	Kit for mounting of Orion3 in Stand (4 pieces)				X
JSM Orion09	2TLA022310R0700	Kit for mounting of Orion3 in Stand (6 pieces)				X
JSM Orion11	2TLA022310R0900	Kit for mounting of Orion1 Mirror in Stand	X	X		
Orion WET*		Protective tube	X		X	
Orion Shield*		Lens shield	X		X	
Orion Mirror K*		Deviating mirrors in stand			X	X
Orion1 Mirror*		Deviating mirror to be mounted in Orion Stand with 1 kit JSM Orion11	X	X		
Orion Stand*		Protective stand	X	X	X	X
Orion Stand Plate	2TLA022312R5000	Orion Plate kit for adjustment of protective stand				

\* These accessories are available in different sizes. More information available at [www.abb.com/jokabsafety](http://www.abb.com/jokabsafety).

### Cables

			Orion1 Base	Orion1 Extended	Orion2 Base & Extended	Orion3 Base & Extended
M12-C02PT2T	2TLA022315R0100	Transmitter cable for Orion1 Extended		X		
M12-C02PT6RB	2TLA022315R0200	Receiver cable for Orion1 Extended when no muting		X		
M12-C02PT62RM	2TLA022315R0300	Receiver cable for Orion1 Extended when muting		X		
PT-C1PT	2TLA022315R1000	Cascade cable for Orion1 Extended, 1 m		X		
PT-C05PT	2TLA022315R1100	Cascade cable for Orion1 Extended, 0.5 m		X		
PT-C005PT	2TLA022315R1200	Cascade cable for Orion1 Extended, 0.05 m		X		
M12-C61	2TLA020056R0000	Straight M12-5 female connector with 6 m shielded cable	X	X	X	X
M12-C101	2TLA020056R1000	Straight M12-5 female connector with 10 m shielded cable	X	X	X	X
M12-C201	2TLA020056R1400	Straight M12-5 female connector with 20 m shielded cable	X	X	X	X
M12-C63	2TLA020056R3000	Straight M12-8 female connector with 6 m shielded cable	X		X	X
M12-C103	2TLA020056R4000	Straight M12-8 female connector with 10 m shielded cable	X		X	X
M12-C203	2TLA020056R4100	Straight M12-8 female connector with 20 m shielded cable	X		X	X
M12-C65	2TLA020056R7200	Straight M12-12 female connector with 6 m shielded cable		X		
M12-C105	2TLA020056R7300	Straight M12-12 female connector with 10 m shielded cable		X		
M12-C205	2TLA020056R7500	Straight M12-12 female connector with 20 m shielded cable		X		



# Contact us

## ABB

ABB JOKAB SAFETY Products  
8155 T&B Boulevard  
Memphis, TN 38125  
Phone: 888-282-2123  
Fax: 800-565-9302  
Web: [www.abb.us/jokabsafety](http://www.abb.us/jokabsafety)

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