



Orion safety light guards

Reduce complexity and save time

The Orion series

A complete range of safety light curtains and light grids



Orion1

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

Orion1 Base



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.



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 |

Orion1 Extended

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.

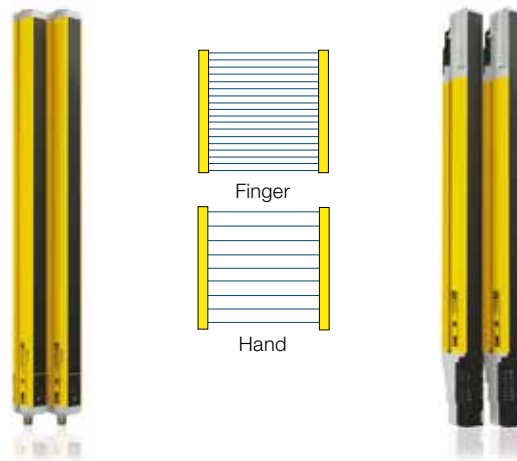
No dead zone

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) |

| Function | Orion1 Base | | Orion1 Extended | |
|------------------------|-------------|------|-----------------|------|
| 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) |
|-----------------------|--|--|

| Accessories | Orion1 Base | Orion1 Extended |
|--|---|--|
| 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 | - |

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.

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

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