



CONTRINEX

SAFETINEX

SAFETY LIGHT CURTAINS, SAFETY SENSORS AND RELAYS

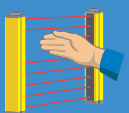
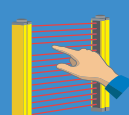
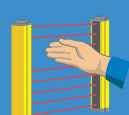
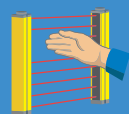
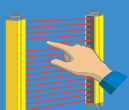
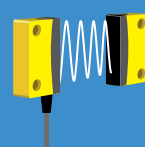
LIGHT CURTAIN HIGHLIGHTS

- ✓ Finger-, hand- and body-access resolutions
- ✓ Operating range from 0.25 ... 50 m
- ✓ Protective heights from 142 ... 1827 mm
- ✓ Category 2 or 4 according to EN/ISO 13849-1
- ✓ Certified TÜV, CE and UL
- ✓ IP65 and IP67
- ✓ Permanent autocontrol
- ✓ 2 channel selection
- ✓ Low power consumption

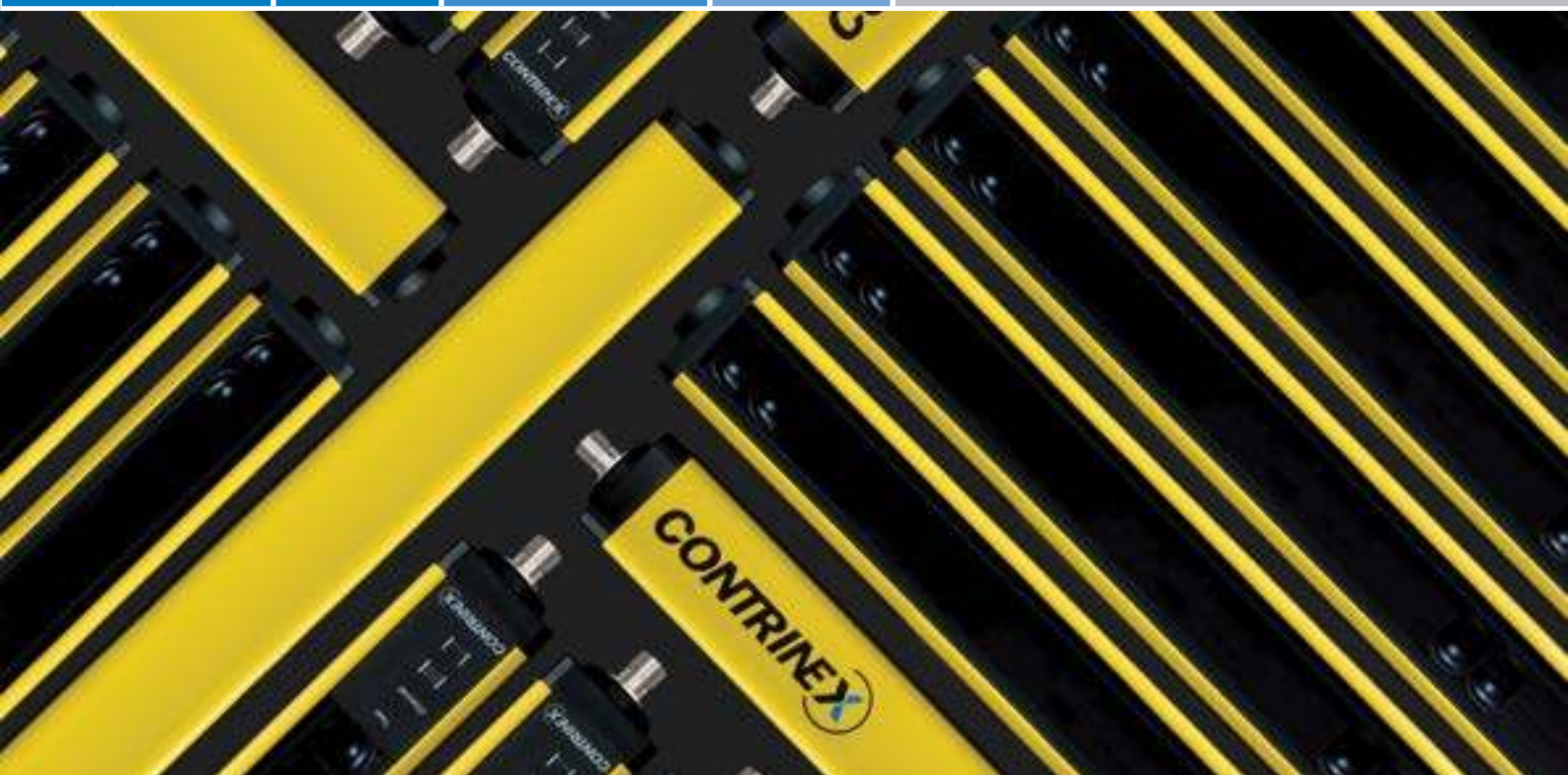
NEW

- ✓ Slim Type 2 safety light curtains
- ✓ Slim Type 4 safety light curtains with wireless configuration via Bluetooth®
- ✓ Magnetic and RFID safety sensors
- ✓ Signal filter

PROGRAM OVERVIEW

PRODUCT RANGE		RESOLUTION		CATEGORY	FEATURES
LIGHT CURTAINS	BASIC SLIM	 30 mm		Cat. 2	✓ No blind zone ✓ Flexible mounting and connection
	BASIC STANDARD	 14 mm		Cat. 4	✓ Maximum operating range 3.5 m ✓ Operating temperature –35 ... +60°C ✓ IP65, IP67
		 30 mm		Cat. 4	✓ Maximum operating range 12 m ✓ Operating temperature –35 ... +60°C ✓ IP65, IP67
		 300 mm 400 mm 500 mm		Cat. 2	✓ Maximum operating range 12 m ✓ Operating temperature 0 ... +50°C ✓ IP65, IP67
				Cat. 4	✓ Maximum operating range 50 m ✓ Operating temperature –35 ... +60°C ✓ IP65, IP67
	EXTENDED SLIM	 30 mm		Cat. 4	✓ No blind zone ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions ✓ Wireless configuration via Bluetooth®
		 14 mm		Cat. 4	✓ No blind zone ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions ✓ Wireless configuration via Bluetooth®
SAFETY SENSORS	MAGNETIC			up to Cat. 4	✓ Magnetically coded, ISO 14119 type 4 ✓ Detection through metal plate possible ✓ IP6K9K, Ecolab
	RFID			Cat. 4	✓ RFID coded, ISO 14119 type 4 ✓ Cascadable up to 30 units ✓ EDM and diagnostic function

PRODUCT RANGE			FEATURES	
ACCESSORIES	DEVICE & MIRROR COLUMNS			✓ Robust protective profile, attractive design ✓ Special spring elements automatically reset position in case of mechanical impact ✓ Complete assembly kit for both device and floor mounting included ✓ Easy to mount: vertical and axial adjustments can be quickly completed in just a few steps ✓ Single mirror or exchangeable and separately adjustable individual mirrors in accordance with EN 999
	MISCELLANEOUS			Relay ✓ Performance Level (PL) e and category 4 according to EN/ISO 13849-1 ✓ Manual or automatic restart ✓ Short response time Top/bottom mounting brackets ✓ Synthetic mounting brackets ✓ Pair of brackets supplied with each bracket Side/end mounting brackets ✓ Metal mounting brackets Safety filter ✓ Integrated RC filter for counter signal cut ✓ Possibility to connect sender and receiver unit on same connector Laser alignment tool ✓ Easily clippable onto Safetinx YBB and YCA devices ✓ Range: up to 50 m



INTRODUCTION

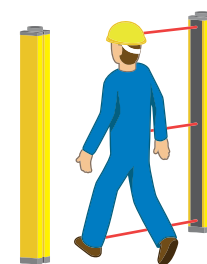
OPERATING PRINCIPLE OF LIGHT CURTAINS

Safetinx YBB, YBBS and YBES light curtains and YCA access control barriers operate with infrared beams. When the device detects a finger, a hand or a person entering the defined hazardous area, the protective equipment immediately stops the machine, or renders it harmless. When operating in manual restart mode, the reset button enabling the operator to restart the machine must be located outside the hazardous area. From there, the operator must have a full view of the hazardous area to make sure that nobody is in danger before restarting the machine.

Safetinx light curtains and access control barriers are designed to ensure protection of operators working in hazardous areas. A high reliability is achieved by implementing a fail-safe system: devices are thus permanently self-controlled. An internal failure deactivates the output signals, as would an intrusion into the protective field.

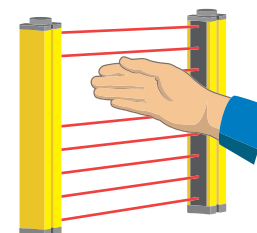
Safetinx light curtains and access control barriers are active optoelectronic protective devices (AOPDs) that include a sender and a receiver unit between which coded infrared beams are sequentially exchanged. The receiver unit is connected to a safety relay which transmits signals to the machine control system. Synchronization between the sender and receiver devices is performed optically, i.e. wired connection between the two units is not necessary.

Reception of all beams activates the two independently generated semiconductor outputs (OSSDs) of the receiver unit. The interruption of one or more beams deactivates the outputs within the response time of the AOPD. Any internal fault is detected by the device's permanent self-control function and has the same result as an intrusion into the protective field.



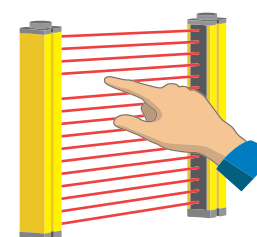
Access control

Beam separation ≥ 300 mm



Hand protection

Beam resolution 30 mm



Finger protection

Beam resolution 14 mm

EXTENDED SLIM – WIRELESS CONFIGURATION Bluetooth®





ContriApp

Download now to monitor and configure your light curtains!





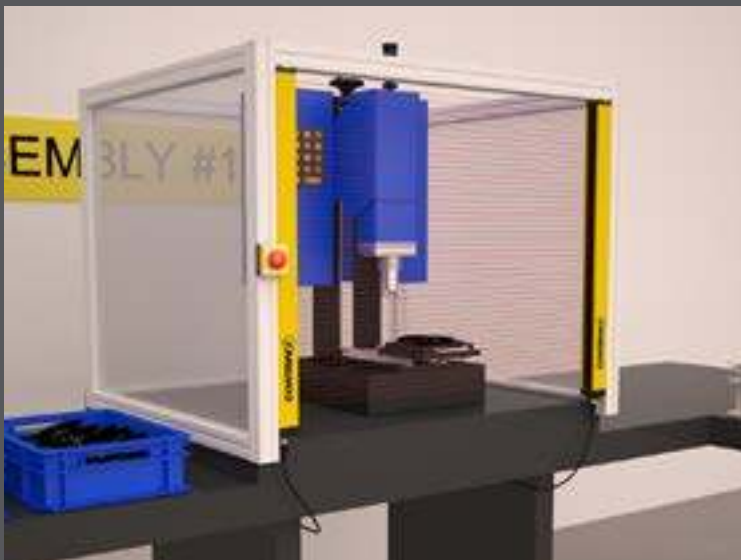
OPERATING PRINCIPLE OF SAFETY SENSORS

Safetinx YSM and YSR safety sensors comprise two parts: a main module and an actuator. They communicate with a contactless system of either magnetic or RFID coding. When the system detects that a guard door, hood or cover is open, the protective equipment immediately stops the machine, or renders it harmless.

YSM magnetic safety sensors use a coded magnet as an actuator and two reed contacts to open or close communication. Unlike light curtains, these sensors do not have OSSD outputs with self-check. They act simply as contactors that open or close depending on the presence or absence of a magnet. It is therefore necessary to apply power to the reed contacts.

YSR RFID safety sensors use an RFID tag as an actuator and a read/write module (RWM) as a contactor. These sensors have self-checking OSSD outputs, similar to light curtains. They are therefore connected in the same way as light curtains to a relay or controller. The RFID tag can be universally and randomly coded or can be teachable, which means the user pairs it with an RWM at first use to create a unique combination.





APPLICATION

Efficient and cost-effective protection with Safetinx Type 2

During semi-automated heat staking of assemblies for domestic white goods, manufacturers use light curtains to preserve operator safety without compromising production throughput. The active optoelectronic protective device (AOPD), mounted directly in front of each bench-mounted heat-press, prevents the press-head from descending if it detects any intrusion in the working area, halting the operating cycle immediately.

INDUSTRIES

Automotive production and supply, machine tool, packaging, logistics, materials handling, textile, assembly, automation, robotics



Automotive industry



Robotics



Machine tools



Textile industry

BASIC

SAFETY LIGHT CURTAINS

EXCELLENT PRICE/PERFORMANCE RATIO

Light curtains are TÜV, CE and UL-certified according to IEC 61496-1 and -2 and ISO 13849-1. Protective heights range from 142 to 1,827 mm with permanent autocontrol and low power consumption. The aluminum housings are slim (26 × 26 mm) or standard (42 × 48 mm) and connection is via an integral 5-pin M12 connector or pigtail.

KEY ADVANTAGES

FINGER TYPE 4

- ✓ Beam resolution 14 mm
- ✓ Highest protection category: Type 4
- ✓ Max. operating range 3.5 m
- ✓ Operating temperature –35 ... +60°C (–31 ... +140°F)
- ✓ Standard housing (42 × 48 mm) IP65, IP67



HAND TYPE 4 AND HAND TYPE 2

- ✓ Beam resolution 30 mm
- ✓ Two protection categories: Type 4 or Type 2
- ✓ Standard housing (42 × 48 mm): max. operating range 12 m, operating temperature –35 ... +60°C (–31 ... +140°F), IP65, IP67
- ✓ Slim housing (26 × 26 mm): max operating range 8 m, no blind zone, operating temperature 0 ... +55°C (+32 ... +131°F), IP65



ACCESS TYPE 4

- ✓ Beam gap: 300, 400 or 500 mm (3 to 6 beams)
- ✓ Highest protection category: Type 4
- ✓ Max. operating range 1 ... 15 m or 10 ... 50 m (selectable)
- ✓ Operating temperature –35 ... +60°C (–31 ... +140°F)
- ✓ Standard housing (42 × 48 mm) IP65, IP67

PRODUCT OVERVIEW

	SERIES Type	FINGER 4	HAND 4/2	ACCESS 4
PROTECTIVE HEIGHT (mm)	Basic Standard	142 ... 1,690	279 ... 1,827 (type 4) 150 ... 1,827 (type 2)	832 ... 1,532
	Basic Slim	–	170 ... 1,610	–

ACCESSORIES

Go to pages 256 and 298 to see all the accessories



Relay

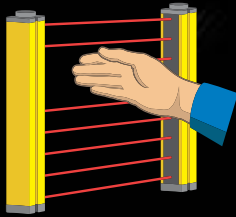


Mounting brackets

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 2, PL c, Type 2
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 2

OUTPUT

Protective height rounded (mm)

YBB-30[x]2-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 2	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
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	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 12 m
- ✓ Protective height: 150 ... 1,827 mm
- ✓ Category 2, PL c according to EN/ISO 13849-1
- ✓ Type 2 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE
- ✓ Housing profile 42 × 48 mm

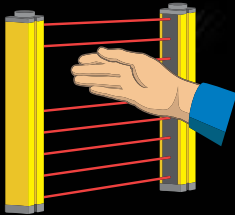


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	150	251	IR 850	14	16	9	0 ... +50°C	IP65 / IP67	YBB-30K2-0150-G012
	279	380	IR 850	18	16	17	0 ... +50°C	IP65 / IP67	YBB-30K2-0250-G012
	408	509	IR 850	22	16	25	0 ... +50°C	IP65 / IP67	YBB-30K2-0400-G012
	537	638	IR 850	26	16	33	0 ... +50°C	IP65 / IP67	YBB-30K2-0500-G012
	666	767	IR 850	30	16	41	0 ... +50°C	IP65 / IP67	YBB-30K2-0700-G012
	795	896	IR 850	34	16	49	0 ... +50°C	IP65 / IP67	YBB-30K2-0800-G012
	924	1,025	IR 850	38	16	57	0 ... +50°C	IP65 / IP67	YBB-30K2-0900-G012
	1,053	1,154	IR 850	42	16	65	0 ... +50°C	IP65 / IP67	YBB-30K2-1000-G012
	1,182	1,283	IR 850	46	16	73	0 ... +50°C	IP65 / IP67	YBB-30K2-1200-G012
	1,311	1,412	IR 850	50	16	81	0 ... +50°C	IP65 / IP67	YBB-30K2-1300-G012
	1,440	1,541	IR 850	54	16	89	0 ... +50°C	IP65 / IP67	YBB-30K2-1400-G012
	1,569	1,670	IR 850	58	16	97	0 ... +50°C	IP65 / IP67	YBB-30K2-1600-G012
	1,698	1,799	IR 850	62	16	105	0 ... +50°C	IP65 / IP67	YBB-30K2-1700-G012
	1,827	1,928	IR 850	66	16	113	0 ... +50°C	IP65 / IP67	YBB-30K2-1800-G012
	150	251	IR 850	14	16	9	0 ... +50°C	IP65 / IP67	YBB-30S2-0150-G012
	279	380	IR 850	18	16	17	0 ... +50°C	IP65 / IP67	YBB-30S2-0250-G012
	408	509	IR 850	22	16	25	0 ... +50°C	IP65 / IP67	YBB-30S2-0400-G012
	537	638	IR 850	26	16	33	0 ... +50°C	IP65 / IP67	YBB-30S2-0500-G012
	666	767	IR 850	30	16	41	0 ... +50°C	IP65 / IP67	YBB-30S2-0700-G012
	795	896	IR 850	34	16	49	0 ... +50°C	IP65 / IP67	YBB-30S2-0800-G012
	924	1,025	IR 850	38	16	57	0 ... +50°C	IP65 / IP67	YBB-30S2-0900-G012
	1,053	1,154	IR 850	42	16	65	0 ... +50°C	IP65 / IP67	YBB-30S2-1000-G012
	1,182	1,283	IR 850	46	16	73	0 ... +50°C	IP65 / IP67	YBB-30S2-1200-G012
	1,311	1,412	IR 850	50	16	81	0 ... +50°C	IP65 / IP67	YBB-30S2-1300-G012
	1,440	1,541	IR 850	54	16	89	0 ... +50°C	IP65 / IP67	YBB-30S2-1400-G012
	1,569	1,670	IR 850	58	16	97	0 ... +50°C	IP65 / IP67	YBB-30S2-1600-G012
	1,698	1,799	IR 850	62	16	105	0 ... +50°C	IP65 / IP67	YBB-30S2-1700-G012
	1,827	1,928	IR 850	66	16	113	0 ... +50°C	IP65 / IP67	YBB-30S2-1800-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 2, PL c, Type 2
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 2

OUTPUT

Protective height rounded (mm)

YBB-30[x]2-[xxxx]-[xxxx]

Module
[K] Kit (sender + receiver)
[R] Receiver
[S] Sender

Connection type
[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay

See page 256

Top/bottom mounting bracket

For YBB & YCA

See page 256

Sliding T-nuts for side mounting

See page 256

Mounting bracket No. 5

For YBBS & YBES

See page 256

Mounting bracket No. 6

For YBBS & YBES

See page 256

Mounting bracket No. 7

For YBBS & YBES

See page 256

Safety filter

See page 257

Laser alignment tool

See page 257

Device columns

See page 254

Mirror columns

See page 254

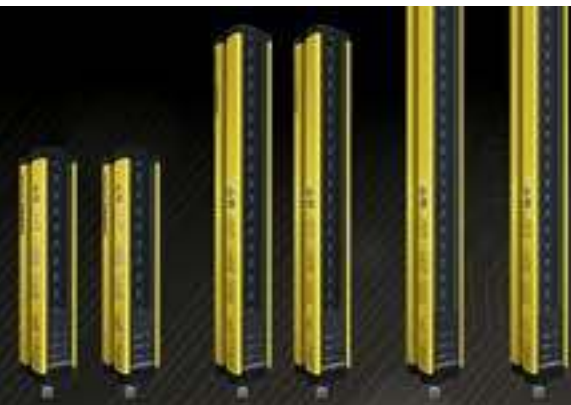
Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 2	0.25 ... 12 m	42 × 48 (standard)	
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KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 12 m
- ✓ Protective height: 150 ... 1,827 mm
- ✓ Category 2, PL c according to EN/ISO 13849-1
- ✓ Type 2 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE
- ✓ Housing profile 42 × 48 mm

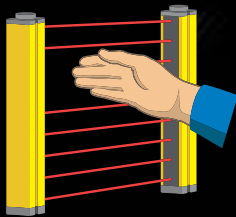


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	150	251	IR 850	14	16	9	0 ... +50°C	IP65 / IP67	YBB-30R2-0150-G012
	279	380	IR 850	18	16	17	0 ... +50°C	IP65 / IP67	YBB-30R2-0250-G012
	408	509	IR 850	22	16	25	0 ... +50°C	IP65 / IP67	YBB-30R2-0400-G012
	537	638	IR 850	26	16	33	0 ... +50°C	IP65 / IP67	YBB-30R2-0500-G012
	666	767	IR 850	30	16	41	0 ... +50°C	IP65 / IP67	YBB-30R2-0700-G012
	795	896	IR 850	34	16	49	0 ... +50°C	IP65 / IP67	YBB-30R2-0800-G012
	924	1,025	IR 850	38	16	57	0 ... +50°C	IP65 / IP67	YBB-30R2-0900-G012
	1,053	1,154	IR 850	42	16	65	0 ... +50°C	IP65 / IP67	YBB-30R2-1000-G012
	1,182	1,283	IR 850	46	16	73	0 ... +50°C	IP65 / IP67	YBB-30R2-1200-G012
	1,311	1,412	IR 850	50	16	81	0 ... +50°C	IP65 / IP67	YBB-30R2-1300-G012
	1,440	1,541	IR 850	54	16	89	0 ... +50°C	IP65 / IP67	YBB-30R2-1400-G012
	1,569	1,670	IR 850	58	16	97	0 ... +50°C	IP65 / IP67	YBB-30R2-1600-G012
	1,698	1,799	IR 850	62	16	105	0 ... +50°C	IP65 / IP67	YBB-30R2-1700-G012
	1,827	1,928	IR 850	66	16	113	0 ... +50°C	IP65 / IP67	YBB-30R2-1800-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBB-30[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
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Sliding T-nuts for side mounting
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Mounting bracket No. 5
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Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 4	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 12 m
- ✓ Protective height: 279 ... 1,827 mm
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE and UL
- ✓ IP65, IP67 with operating temperatures as low as -35°C (-31°F)
- ✓ Housing profile 42×48 mm
- ✓ 2-channel selection
- ✓ Optical synchronization
- ✓ Permanent autocontrol

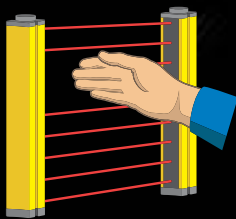


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	279	380	IR 880	5.2	16	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0250-G012
	408	509	IR 880	6.8	16	25	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0400-G012
	537	638	IR 880	8.4	16	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0500-G012
	666	767	IR 880	10	16	41	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0700-G012
	795	896	IR 880	11.6	16	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0800-G012
	924	1,025	IR 880	13.2	16	57	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-0900-G012
	1,053	1,154	IR 880	14.8	16	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1000-G012
	1,182	1,283	IR 880	16.4	16	73	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1200-G012
	1,311	1,412	IR 880	18	16	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1300-G012
	1,440	1,541	IR 880	19.6	16	89	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1400-G012
	1,569	1,670	IR 880	21.2	16	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1600-G012
	1,698	1,799	IR 880	22.8	16	105	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1700-G012
	1,827	1,928	IR 880	24.4	16	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30K4-1800-G012
	279	380	IR 880	5.2	16	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0250-G012
	408	509	IR 880	6.8	16	25	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0400-G012
	537	638	IR 880	8.4	16	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0500-G012
	666	767	IR 880	10	16	41	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0700-G012
	795	896	IR 880	11.6	16	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0800-G012
	924	1,025	IR 880	13.2	16	57	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-0900-G012
	1,053	1,154	IR 880	14.8	16	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1000-G012
	1,182	1,283	IR 880	16.4	16	73	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1200-G012
	1,311	1,412	IR 880	18	16	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1300-G012
	1,440	1,541	IR 880	19.6	16	89	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1400-G012
	1,569	1,670	IR 880	21.2	16	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1600-G012
	1,698	1,799	IR 880	22.8	16	105	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1700-G012
	1,827	1,928	IR 880	24.4	16	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30S4-1800-G012
	279	380	IR 880	5.2	16	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0250-G012
	408	509	IR 880	6.8	16	25	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0400-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBB-30[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

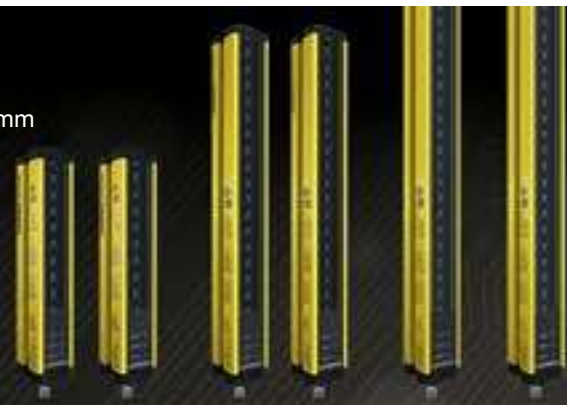
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FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 4	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	
	0.25 ... 12 m	42 × 48 (standard)	



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 12 m
- ✓ Protective height: 279 ... 1,827 mm
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE and UL
- ✓ IP65, IP67 with operating temperatures as low as -35°C (-31°F)
- ✓ Housing profile 42×48 mm
- ✓ 2-channel selection
- ✓ Optical synchronization
- ✓ Permanent autocontrol

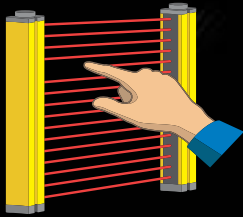


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	537	638	IR 880	8.4	16	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0500-G012
	666	767	IR 880	10	16	41	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0700-G012
	795	896	IR 880	11.6	16	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0800-G012
	924	1,025	IR 880	13.2	16	57	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-0900-G012
	1,053	1,154	IR 880	14.8	16	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1000-G012
	1,182	1,283	IR 880	16.4	16	73	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1200-G012
	1,311	1,412	IR 880	18	16	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1300-G012
	1,440	1,541	IR 880	19.6	16	89	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1400-G012
	1,569	1,670	IR 880	21.2	16	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1600-G012
	1,698	1,799	IR 880	22.8	16	105	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1700-G012
	1,827	1,928	IR 880	24.4	16	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-30R4-1800-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4
Supply Voltage	24 VDC
Polarity	PNP
Resolution	14 mm (finger)



FINGER PROTECTION TYPE 4

OUTPUT

YBB-14[x]4-[xxxx]-[xxxx]

Module
[K] Kit (sender + receiver)
[R] Receiver
[S] Sender

Connection type
[G012] M12 connector,
5 pins

Protective height
rounded (mm)

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
FINGER PROTECTION – TYPE 4	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	



KEY ADVANTAGES

- ✓ Resolution: 14 mm
- ✓ Operating range: 0.25 ... 3.5 m
- ✓ Protective height: 142 ... 1,690 mm
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE and UL
- ✓ IP65, IP67 with operating temperatures as low as -35°C (-31°F)
- ✓ Housing profile 42×48 mm
- ✓ 2-channel selection
- ✓ Optical synchronization
- ✓ Permanent autocontrol

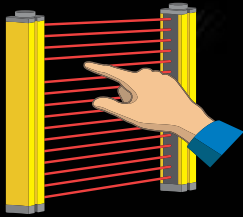


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	142	251	IR 950	5.2	8	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0150-G012
	271	380	IR 950	8.4	8	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0250-G012
	400	509	IR 950	11.6	8	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0400-G012
	529	638	IR 950	14.8	8	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0500-G012
	658	737	IR 950	18	8	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0700-G012
	787	896	IR 950	21.2	8	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0800-G012
	916	1,025	IR 950	24.4	8	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-0900-G012
	1,045	1,154	IR 950	27.6	8	129	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1000-G012
	1,174	1,283	IR 950	30.8	8	145	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1200-G012
	1,303	1,412	IR 950	34	8	161	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1300-G012
	1,432	1,541	IR 950	37.2	8	177	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1400-G012
	1,561	1,670	IR 950	40.4	8	193	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1600-G012
	1,690	1,799	IR 950	43.6	8	209	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14K4-1700-G012
	142	251	IR 950	5.2	8	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0150-G012
	271	380	IR 950	8.4	8	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0250-G012
	400	509	IR 950	11.6	8	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0400-G012
	529	638	IR 950	14.8	8	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0500-G012
	658	737	IR 950	18	8	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0700-G012
	787	896	IR 950	21.2	8	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0800-G012
	916	1,025	IR 950	24.4	8	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-0900-G012
	1,045	1,154	IR 950	27.6	8	129	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1000-G012
	1,174	1,283	IR 950	30.8	8	145	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1200-G012
	1,303	1,412	IR 950	34	8	161	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1300-G012
	1,432	1,541	IR 950	37.2	8	177	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1400-G012
	1,561	1,670	IR 950	40.4	8	193	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1600-G012
	1,690	1,799	IR 950	43.6	8	209	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14S4-1700-G012
	142	251	IR 950	5.2	8	17	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0150-G012
	271	380	IR 950	8.4	8	33	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0250-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4
Supply Voltage	24 VDC
Polarity	PNP
Resolution	14 mm (finger)



FINGER PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBB-14[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
FINGER PROTECTION – TYPE 4	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	
	0.25 ... 3.5 m	42 × 48 (standard)	



KEY ADVANTAGES

- ✓ Resolution: 14 mm
- ✓ Operating range: 0.25 ... 3.5 m
- ✓ Protective height: 142 ... 1,690 mm
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE and UL
- ✓ IP65, IP67 with operating temperatures as low as -35°C (-31°F)
- ✓ Housing profile 42×48 mm
- ✓ 2-channel selection
- ✓ Optical synchronization
- ✓ Permanent autocontrol



	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	400	509	IR 950	11.6	8	49	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0400-G012
	529	638	IR 950	14.8	8	65	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0500-G012
	658	737	IR 950	18	8	81	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0700-G012
	787	896	IR 950	21.2	8	97	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0800-G012
	916	1,025	IR 950	24.4	8	113	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-0900-G012
	1,045	1,154	IR 950	27.6	8	129	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1000-G012
	1,174	1,283	IR 950	30.8	8	145	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1200-G012
	1,303	1,412	IR 950	34	8	161	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1300-G012
	1,432	1,541	IR 950	37.2	8	177	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1400-G012
	1,561	1,670	IR 950	40.4	8	193	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1600-G012
	1,690	1,799	IR 950	43.6	8	209	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YBB-14R4-1700-G012

SAFETY LIGHT CURTAINS BASIC STANDARD

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4
Supply Voltage	24 VDC
Polarity	PNP

OUTPUT

YCA-50

[x]4

-[x]

[xxx]

-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Number of beams

Beam gap (mm)

Connection type

[G012] M12 connector, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

ACCESS CONTROL
TYPE 4

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)
ACCESS CONTROL – TYPE 4	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)
	1 ... 15 m / 10 ... 50 m	42 × 48 (standard)



KEY ADVANTAGES

- ✓ Beam gap: 300, 400 or 500 mm (3 to 6 beams)
- ✓ Operating range: 1 ... 15 m or 10 ... 50 m (can be configured)
- ✓ Protective height: 832 ... 1,532 mm
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE and UL
- ✓ IP65, IP67 with operating temperatures as low as -35°C (-31°F)
- ✓ Housing profile 42×48 mm
- ✓ 2-channel selection
- ✓ Optical synchronization
- ✓ Permanent autocontrol

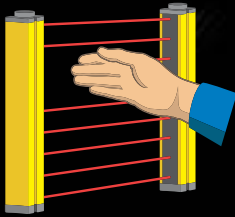


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	832	1,025	IR 880	4.2	400	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-3400-G012
	1,032	1,154	IR 880	4.2	500	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-3500-G012
	832	1,025	IR 880	4.2	400	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-3400-G012
	1,032	1,154	IR 880	4.2	500	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-3500-G012
	832	1,025	IR 880	4.2	400	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-3400-G012
	1,032	1,154	IR 880	4.2	500	3	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-3500-G012
	932	1,154	IR 880	5.0	300	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-4300-G012
	1,232	1,412	IR 880	5.0	400	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-4400-G012
	932	1,154	IR 880	5.0	300	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-4300-G012
	1,232	1,412	IR 880	5.0	400	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-4400-G012
	932	1,154	IR 880	5.0	300	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-4300-G012
	1,232	1,412	IR 880	5.0	400	4	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-4400-G012
	1,232	1,412	IR 880	5.9	300	5	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-5300-G012
	1,232	1,412	IR 880	5.9	300	5	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-5300-G012
	1,232	1,412	IR 880	5.9	300	5	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-5300-G012
	1,532	1,670	IR 880	6.7	300	6	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50K4-6300-G012
	1,532	1,670	IR 880	6.7	300	6	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50S4-6300-G012
	1,532	1,670	IR 880	6.7	300	6	$-35 \dots +60^{\circ}\text{C}$	IP65 / IP67	YCA-50R4-6300-G012

SAFETY LIGHT CURTAINS BASIC SLIM

COMMON FEATURES

Safety Level	Cat. 2, PL c, Type 2
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 2

OUTPUT

Protective height rounded (mm)

YBBS-30[x]2-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[P012] M12 pigtail, 0.3 m, 5 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 2	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	
	0.25 ... 8 m	26 × 26 (slim)	



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 8 m
- ✓ Protective height: 170 ... 1,610 mm
- ✓ No blind zone
- ✓ Category 2, PL c according to EN/ISO 13849-1
- ✓ Type 2 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE
- ✓ Enclosure rating IP65
- ✓ Housing profile 26 × 26 mm
- ✓ Optical synchronization
- ✓ Permanent autocontrol

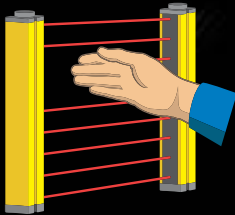


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	170	170	IR 850	6	20	8	0 ... +55°C	IP65	YBBS-30K2-0170-P012
	330	330	IR 850	9	20	16	0 ... +55°C	IP65	YBBS-30K2-0330-P012
	490	490	IR 850	11	20	24	0 ... +55°C	IP65	YBBS-30K2-0490-P012
	650	650	IR 850	14	20	32	0 ... +55°C	IP65	YBBS-30K2-0650-P012
	810	810	IR 850	16	20	40	0 ... +55°C	IP65	YBBS-30K2-0810-P012
	970	970	IR 850	19	20	48	0 ... +55°C	IP65	YBBS-30K2-0970-P012
	1,130	1,130	IR 850	21	20	56	0 ... +55°C	IP65	YBBS-30K2-1130-P012
	1,290	1,290	IR 850	24	20	64	0 ... +55°C	IP65	YBBS-30K2-1290-P012
	1,450	1,450	IR 850	26	20	72	0 ... +55°C	IP65	YBBS-30K2-1450-P012
	1,610	1,610	IR 850	29	20	80	0 ... +55°C	IP65	YBBS-30K2-1610-P012
	170	170	IR 850	6	20	8	0 ... +55°C	IP65	YBBS-30S2-0170-P012
	330	330	IR 850	9	20	16	0 ... +55°C	IP65	YBBS-30S2-0330-P012
	490	490	IR 850	11	20	24	0 ... +55°C	IP65	YBBS-30S2-0490-P012
	650	650	IR 850	14	20	32	0 ... +55°C	IP65	YBBS-30S2-0650-P012
	810	810	IR 850	16	20	40	0 ... +55°C	IP65	YBBS-30S2-0810-P012
	970	970	IR 850	19	20	48	0 ... +55°C	IP65	YBBS-30S2-0970-P012
	1,130	1,130	IR 850	21	20	56	0 ... +55°C	IP65	YBBS-30S2-1130-P012
	1,290	1,290	IR 850	24	20	64	0 ... +55°C	IP65	YBBS-30S2-1290-P012
	1,450	1,450	IR 850	26	20	72	0 ... +55°C	IP65	YBBS-30S2-1450-P012
	1,610	1,610	IR 850	29	20	80	0 ... +55°C	IP65	YBBS-30S2-1610-P012
	170	170	IR 850	6	20	8	0 ... +55°C	IP65	YBBS-30R2-0170-P012
	330	330	IR 850	9	20	16	0 ... +55°C	IP65	YBBS-30R2-0330-P012
	490	490	IR 850	11	20	24	0 ... +55°C	IP65	YBBS-30R2-0490-P012
	650	650	IR 850	14	20	32	0 ... +55°C	IP65	YBBS-30R2-0650-P012
	810	810	IR 850	16	20	40	0 ... +55°C	IP65	YBBS-30R2-0810-P012
	970	970	IR 850	19	20	48	0 ... +55°C	IP65	YBBS-30R2-0970-P012
	1,130	1,130	IR 850	21	20	56	0 ... +55°C	IP65	YBBS-30R2-1130-P012
	1,290	1,290	IR 850	24	20	64	0 ... +55°C	IP65	YBBS-30R2-1290-P012

SAFETY LIGHT CURTAINS BASIC SLIM

COMMON FEATURES

Safety Level	Cat. 2, PL c, Type 2
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 2

OUTPUT

Protective height rounded (mm)

YBBS-30[x]2-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[P012] M12 pigtail, 0.3 m, 5 pins

Reference key on page 258

ACCESSORIES

Relay

See page 256

Top/bottom mounting bracket

For YBB & YCA

See page 256

Sliding T-nuts for side mounting

See page 256

Mounting bracket No. 5

For YBBS & YBES

See page 256

Mounting bracket No. 6

For YBBS & YBES

See page 256

Mounting bracket No. 7

For YBBS & YBES

See page 256

Safety filter

See page 257

Laser alignment tool

See page 257

Device columns

See page 254

Mirror columns

See page 254

Go to page 298 for details

FAMILY

OPERATING RANGE (mm)

HOUSING SIZE (mm)

0.25 ... 8 m

26 × 26 (slim)

0.25 ... 8 m

26 × 26 (slim)

HAND PROTECTION – TYPE 2



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 8 m
- ✓ Protective height: 170 ... 1,610 mm
- ✓ No blind zone
- ✓ Category 2, PL c according to EN/ISO 13849-1
- ✓ Type 2 according to IEC 61496-1 and -2
- ✓ Certified TÜV, CE
- ✓ Enclosure rating IP65
- ✓ Housing profile 26 × 26 mm
- ✓ Optical synchronization
- ✓ Permanent autocontrol



	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	1,450	1,450	IR 850	26	20	72	0 ... +55°C	IP65	YBBS-30R2-1450-P012
	1,610	1,610	IR 850	29	20	80	0 ... +55°C	IP65	YBBS-30R2-1610-P012



APPLICATION

Wireless monitoring of hand protection system for automated solar cell assembly

Solar cell production uses potentially hazardous chemicals, and the solar cells themselves can be damaged by improper handling. In an automated assembly line, the hand-protection system must therefore ensure maximum protection of both the operator and the product, while minimizing disruption to operations. This is most efficiently achieved through a system of light curtains with wireless configuration, EDM and restart interlock. These light curtains do not require wired relays, a significant saving for scaled up operations.

INDUSTRIES

Automotive production and supply, machine tool, packaging, logistics, materials handling, textile, assembly, automation, robotics



Automotive industry



Logistics



Packaging systems



Robotics

EXTENDED SAFETY LIGHT CURTAINS

WIRELESS CONFIGURATION VIA BLUETOOTH®

Type 4 light curtains from the **Extended Slim** range are TÜV, CE and UL certified according to IEC 61496-1/2, IEC 61508-1/2/3 and ISO 13849-1. Protective heights range from 170 to 1,610 mm with integrated EDM*, restart interlock and beam coding. Since EDM includes a relay monitoring function, users can also avoid the cost of wired relays. The slim housing (26 × 26 mm) enables blind-zone free installation and connection is via an integral 5-pin or 8-pin M12 pigtail. This range of light curtains is configured and monitored wirelessly via a Bluetooth® signal and free smartphone app – a world first!

*External Device Monitoring

KEY ADVANTAGES

- ✓ Beam resolution 30 mm (hand) or 14 mm (finger)
- ✓ Highest protection category: Type 4
- ✓ Max operating range 5 m
- ✓ No blind zone
- ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions
- ✓ Wireless configuration via Bluetooth®
- ✓ Operating temperature 0... +55°C (+32... +131°F)
- ✓ Slim housing (26 × 26 mm), IP65



PRODUCT OVERVIEW

	SERIES Type	FINGER 4	HAND 4
PROTECTIVE HEIGHT (mm)	Extended Slim	170 ... 1,290	170 ... 1,610

ACCESSORIES

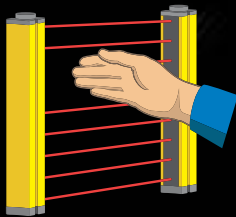
Go to pages 256 and 298 to see all the accessories



SAFETY LIGHT CURTAINS EXTENDED SLIM

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4, SIL 3
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBES-30[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[P012] M12 pigtail, 0.3 m, 5 or 8 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
HAND PROTECTION – TYPE 4	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	
	0.25 ... 5 m	26 × 26 (slim)	



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 5 m
- ✓ Protective height: 170 ... 1,610 mm
- ✓ Wireless configuration through Bluetooth®
- ✓ No blind zone
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ SIL 3 according to IEC 61508
- ✓ Certified TÜV, CE and UL
- ✓ Enclosure rating IP65
- ✓ Housing profile 26 × 26 mm
- ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions
- ✓ Optical synchronization
- ✓ Permanent autocontrol

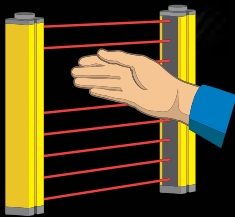


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	170	170	IR 850	7.8	20	8	0 ... +55°C	IP65	YBES-30K4-0170-P012
	330	330	IR 850	9.6	20	16	0 ... +55°C	IP65	YBES-30K4-0330-P012
	490	490	IR 850	11.4	20	24	0 ... +55°C	IP65	YBES-30K4-0490-P012
	650	650	IR 850	13.2	20	32	0 ... +55°C	IP65	YBES-30K4-0650-P012
	810	810	IR 850	15	20	40	0 ... +55°C	IP65	YBES-30K4-0810-P012
	970	970	IR 850	16.8	20	48	0 ... +55°C	IP65	YBES-30K4-0970-P012
	1,130	1,130	IR 850	18.6	20	56	0 ... +55°C	IP65	YBES-30K4-1130-P012
	1,290	1,290	IR 850	20.4	20	64	0 ... +55°C	IP65	YBES-30K4-1290-P012
	1,450	1,450	IR 850	22.2	20	72	0 ... +55°C	IP65	YBES-30K4-1450-P012
	1,610	1,610	IR 850	24	20	80	0 ... +55°C	IP65	YBES-30K4-1610-P012
	170	170	IR 850	7.8	20	8	0 ... +55°C	IP65	YBES-30S4-0170-P012
	330	330	IR 850	9.6	20	16	0 ... +55°C	IP65	YBES-30S4-0330-P012
	490	490	IR 850	11.4	20	24	0 ... +55°C	IP65	YBES-30S4-0490-P012
	650	650	IR 850	13.2	20	32	0 ... +55°C	IP65	YBES-30S4-0650-P012
	810	810	IR 850	15	20	40	0 ... +55°C	IP65	YBES-30S4-0810-P012
	970	970	IR 850	16.8	20	48	0 ... +55°C	IP65	YBES-30S4-0970-P012
	1,130	1,130	IR 850	18.6	20	56	0 ... +55°C	IP65	YBES-30S4-1130-P012
	1,290	1,290	IR 850	20.4	20	64	0 ... +55°C	IP65	YBES-30S4-1290-P012
	1,450	1,450	IR 850	22.2	20	72	0 ... +55°C	IP65	YBES-30S4-1450-P012
	1,610	1,610	IR 850	24	20	80	0 ... +55°C	IP65	YBES-30S4-1610-P012
	170	170	IR 850	7.8	20	8	0 ... +55°C	IP65	YBES-30R4-0170-P012
	330	330	IR 850	9.6	20	16	0 ... +55°C	IP65	YBES-30R4-0330-P012
	490	490	IR 850	11.4	20	24	0 ... +55°C	IP65	YBES-30R4-0490-P012
	650	650	IR 850	13.2	20	32	0 ... +55°C	IP65	YBES-30R4-0650-P012
	810	810	IR 850	15	20	40	0 ... +55°C	IP65	YBES-30R4-0810-P012
	970	970	IR 850	16.8	20	48	0 ... +55°C	IP65	YBES-30R4-0970-P012
	1,130	1,130	IR 850	18.6	20	56	0 ... +55°C	IP65	YBES-30R4-1130-P012
	1,290	1,290	IR 850	20.4	20	64	0 ... +55°C	IP65	YBES-30R4-1290-P012

SAFETY LIGHT CURTAINS EXTENDED SLIM

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4, SIL 3
Supply Voltage	24 VDC
Polarity	PNP
Resolution	30 mm (hand)



HAND PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBES-30[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[P012] M12 pigtail, 0.3 m, 5 or 8 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

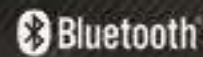
Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)
HAND PROTECTION – TYPE 4	0.25 ... 5 m	26 × 26 (slim)
	0.25 ... 5 m	26 × 26 (slim)



KEY ADVANTAGES

- ✓ Resolution: 30 mm
- ✓ Operating range: 0.25 ... 5 m
- ✓ Protective height: 170 ... 1,610 mm
- ✓ Wireless configuration through Bluetooth®
- ✓ No blind zone
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ SIL 3 according to IEC 61508
- ✓ Certified TÜV, CE and UL
- ✓ Enclosure rating IP65
- ✓ Housing profile 26 × 26 mm
- ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions
- ✓ Optical synchronization
- ✓ Permanent autocontrol

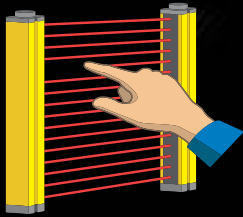


	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	1,450	1,450	IR 850	22.2	20	72	0 ... +55°C	IP65	YBES-30R4-1450-P012
	1,610	1,610	IR 850	24	20	80	0 ... +55°C	IP65	YBES-30R4-1610-P012

SAFETY LIGHT CURTAINS EXTENDED SLIM

COMMON FEATURES

Safety Level	Cat. 4, PL e, Type 4, SIL 3
Supply Voltage	24 VDC
Polarity	PNP
Resolution	14 mm (finger)



FINGER PROTECTION TYPE 4

OUTPUT

Protective height rounded (mm)

YBES-14[x]4-[xxxx]-[xxxx]

Module

[K] Kit (sender + receiver)

[R] Receiver

[S] Sender

Connection type

[P012] M12 pigtail, 0.3 m, 5 or 8 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

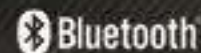
Go to page 298 for details

FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)	
FINGER PROTECTION – TYPE 4	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	
	0.4 ... 5 m	26 × 26 (slim)	



KEY ADVANTAGES

- ✓ Resolution: 14 mm
- ✓ Operating range: 0.4 ... 5 m
- ✓ Protective height: 170 ... 1,290 mm
- ✓ Wireless configuration through Bluetooth®
- ✓ No blind zone
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Type 4 according to IEC 61496-1 and -2
- ✓ SIL 3 according to IEC 61508
- ✓ Certified TÜV, CE and UL
- ✓ Enclosure rating IP65
- ✓ Housing profile 26 × 26 mm
- ✓ Beam coding (3 channels), EDM, start and restart interlock configurable functions
- ✓ Optical synchronization
- ✓ Permanent autocontrol



	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	170	170	IR 850	9.6	10	16	0 ... +55°C	IP65	YBES-14K4-0170-P012
	330	330	IR 850	13.2	10	32	0 ... +55°C	IP65	YBES-14K4-0330-P012
	490	490	IR 850	16.8	10	48	0 ... +55°C	IP65	YBES-14K4-0490-P012
	650	650	IR 850	20.4	10	64	0 ... +55°C	IP65	YBES-14K4-0650-P012
	810	810	IR 850	24	10	80	0 ... +55°C	IP65	YBES-14K4-0810-P012
	970	970	IR 850	27.6	10	96	0 ... +55°C	IP65	YBES-14K4-0970-P012
	1,130	1,130	IR 850	31.2	10	112	0 ... +55°C	IP65	YBES-14K4-1130-P012
	1,290	1,290	IR 850	34.8	10	128	0 ... +55°C	IP65	YBES-14K4-1290-P012
	170	170	IR 850	9.6	10	16	0 ... +55°C	IP65	YBES-14S4-0170-P012
	330	330	IR 850	13.2	10	32	0 ... +55°C	IP65	YBES-14S4-0330-P012
	490	490	IR 850	16.8	10	48	0 ... +55°C	IP65	YBES-14S4-0490-P012
	650	650	IR 850	20.4	10	64	0 ... +55°C	IP65	YBES-14S4-0650-P012
	810	810	IR 850	24	10	80	0 ... +55°C	IP65	YBES-14S4-0810-P012
	970	970	IR 850	27.6	10	96	0 ... +55°C	IP65	YBES-14S4-0970-P012
	1,130	1,130	IR 850	31.2	10	112	0 ... +55°C	IP65	YBES-14S4-1130-P012
	1,290	1,290	IR 850	34.8	10	128	0 ... +55°C	IP65	YBES-14S4-1290-P012
	170	170	IR 850	9.6	10	16	0 ... +55°C	IP65	YBES-14R4-0170-P012
	330	330	IR 850	13.2	10	32	0 ... +55°C	IP65	YBES-14R4-0330-P012
	490	490	IR 850	16.8	10	48	0 ... +55°C	IP65	YBES-14R4-0490-P012
	650	650	IR 850	20.4	10	64	0 ... +55°C	IP65	YBES-14R4-0650-P012
	810	810	IR 850	24	10	80	0 ... +55°C	IP65	YBES-14R4-0810-P012
	970	970	IR 850	27.6	10	96	0 ... +55°C	IP65	YBES-14R4-0970-P012
	1,130	1,130	IR 850	31.2	10	112	0 ... +55°C	IP65	YBES-14R4-1130-P012
	1,290	1,290	IR 850	34.8	10	128	0 ... +55°C	IP65	YBES-14R4-1290-P012



APPLICATION

Interlock system with RFID coding protects multiple access points on enclosed conveyor

Enclosed conveyors are an efficient way of preventing contamination in hygienic production systems. Doors onto the conveyor are provided wherever the operator needs access for set-up, maintenance or trouble-shooting. To protect the operator and preserve process hygiene, RFID-coded safety sensors are fitted to each door. These cascadable devices with IP6K9K protection and Ecolab approval, are ideal for hygienic conveyor systems, where they reliably inhibit operation as soon as any door is opened.

INDUSTRIES

Automotive production and supply, machine tool, packaging, logistics, materials handling, assembly, automation, robotics



Robotics



Machine tools



Automotive industry



Logistics systems

SAFETY SENSORS

MAGNETIC AND RFID

NON-CONTACT MONITORING OF DOORS

Magnetic and **RFID** safety sensors are ideal for monitoring guard doors, hoods or covers. Their compact housings with standard fixing are particularly suitable for washdown applications in the food industry. RFID types are also ideal for multi-sensor applications, such as long assembly lines. Thanks to non-contact operation and coded communication, service life is very long.

KEY ADVANTAGES

- ✓ Up to category 4, PL e according to EN/ISO 13849-1
- ✓ Operating distance up to 18 mm
- ✓ PVC cable or M12 pigtail connection
- ✓ Certified TÜV, CE and UL
- ✓ IP6K9K, Ecolab

MAGNETIC

- ✓ Safety sensor with frontal or 90° actuation
- ✓ Magnetically coded, ISO 14119 type 4
- ✓ Detection through metal plate possible
- ✓ Sizes 36 × 26 × 13 mm and 88 × 25 × 13 mm

RFID

- ✓ Safety sensor with RFID coding (random or teachable) ISO 14119 type 4
- ✓ Compact size 36 × 26 × 13 mm
- ✓ Cascadable up to 30 units
- ✓ EDM and diagnostic function

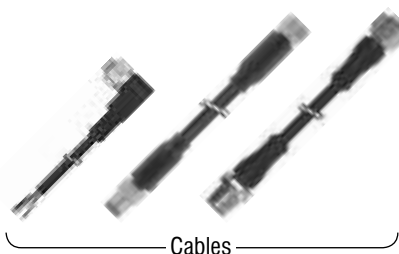


PRODUCT OVERVIEW

	SERIES Housing size mm	CUBIC 36 × 26 × 13	RECTANGULAR 88 × 25 × 13
OPERATING RANGE (mm)	Magnetic	4 ... 18	8 ... 18
	RFID	8 ... 18	—

ACCESSORIES

Go to pages 256 and 298 to see all the accessories



Cables



Relay

SAFETY SENSORS MAGNETIC

COMMON FEATURES

Safety Level	Cat. 4, PL e, SIL 3
Supply Voltage	24 VDC
Temperature Range	– 25 ... + 80°C
Enclosure Rating	IP6K9K

OUTPUT

Hole spacing
[22] 22 mm [78] 78 mm

see p. 258

YSM-[xx][x]4-[xxxx]-[xxxx]

Module
[K] Kit (sender + receiver)

Connection type
[C050] Cable, 5 m, PVC
[P012] M12 pigtail,
0.3 m, 4 pins

Reference key on page 258

ACCESSORIES



Relay
See page 256



Top/bottom mounting bracket
For YBB & YCA
See page 256



Sliding T-nuts for side mounting
See page 256



Mounting bracket No. 5
For YBBS & YBES
See page 256



Mounting bracket No. 6
For YBBS & YBES
See page 256



Mounting bracket No. 7
For YBBS & YBES
See page 256



Safety filter
See page 257



Laser alignment tool
See page 257

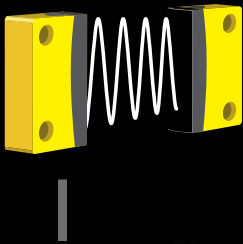


Device columns
See page 254



Mirror columns
See page 254

Go to page 298 for details



SAFETY SENSORS MAGNETIC

FAMILY	SAFE SWITCH ON DISTANCE SAO (mm)	SAFE SWITCH OFF DISTANCE SAR (mm)	
CUBIC STANDARD	4	10	
	4	10	
	4	10	
	4	10	
CUBIC EXTENDED	8	17	
	8	17	
	8	17	
	8	17	
	8	17	
RECTANGULAR EXTENDED	8	18	
	8	18	
	8	18	
	8	18	
	8	18	





KEY ADVANTAGES

- ✓ Safety sensor with frontal or 90° actuation
- ✓ Magnetically coded, ISO 14119 type 4
- ✓ Up to category 4, PL e according to EN/ISO 13849-1
- ✓ Operating distance up to 18 mm
- ✓ PVC cable or M12 pigtail connection
- ✓ Sizes 36 × 26 × 13 mm and 88 × 25 × 13 mm
- ✓ Certified TÜV, CE and UL
- ✓ IP6K9K, Ecolab



	HOUSING SIZE (mm)	ACTUATION	NUMBER OF OUTPUTS	CABLE	CONNECTOR	PART REFERENCE
	36 × 26 × 13	Frontal	2 × NO	5 m PVC		YSM-22K4-MSFN-C050
	36 × 26 × 13	Frontal 90°	2 × NO	5 m PVC		YSM-22K4-MSAN-C050
	36 × 26 × 13	Frontal	2 × NO	0.15 m PVC	M12	YSM-22K4-MSFN-P012
	36 × 26 × 13	Frontal 90°	2 × NO	0.15 m PVC	M12	YSM-22K4-MSAN-P012
	36 × 26 × 13	Frontal	2 × NO	5 m PVC		YSM-22K4-MEFN-C050
	36 × 26 × 13	Frontal 90°	2 × NO	5 m PVC		YSM-22K4-MEAN-C050
	36 × 26 × 13	Frontal	2 × NO	0.15 m PVC	M12	YSM-22K4-MEFN-P012
	36 × 26 × 13	Frontal 90°	2 × NO	0.15 m PVC	M12	YSM-22K4-MEAN-P012
	36 × 26 × 13	Frontal	NO, NC	5 m PVC		YSM-22K4-MEFL-C050
	88 × 25 × 13	Frontal	2 × NO	5 m PVC		YSM-78K4-MEFN-C050
	88 × 25 × 13	Frontal 90°	2 × NO	5 m PVC		YSM-78K4-MEAN-C050
	88 × 25 × 13	Frontal	2 × NO	0.15 m PVC	M12	YSM-78K4-MEFN-P012
	88 × 25 × 13	Frontal 90°	2 × NO	0.15 m PVC	M12	YSM-78K4-MEAN-P012
	88 × 25 × 13	Frontal	NO, NC	5 m PVC		YSM-78K4-MEFL-C050

SAFETY SENSORS RFID

COMMON FEATURES

Safety Level	Cat. 4, PL e, SIL 3
Supply Voltage	24 VDC
Temperature Range	– 25 ... + 70°C
Enclosure Rating	IP6K9K

OUTPUT

Hole spacing
[22] 22 mm

see p. 258

YSR-[xx][x]4-[xxxx]-[xxxx]

Module
[K] Kit (sender + receiver)

Connection type
[C050] Cable, 5 m, PVC
[P012] M12 pigtail,
0.3 m, 8 pins

Reference key on page 258

ACCESSORIES

Relay
See page 256

Top/bottom mounting bracket
For YBB & YCA
See page 256

Sliding T-nuts for side mounting
See page 256

Mounting bracket No. 5
For YBBS & YBES
See page 256

Mounting bracket No. 6
For YBBS & YBES
See page 256

Mounting bracket No. 7
For YBBS & YBES
See page 256

Safety filter
See page 257

Laser alignment tool
See page 257

Device columns
See page 254

Mirror columns
See page 254

Go to page 298 for details

SAFETY SENSORS RFID

FAMILY	SAFE SWITCH ON DISTANCE SAO (mm)	SAFE SWITCH OFF DISTANCE SAR (mm)	
CUBIC RANDOM	8	18	
	8	18	
CUBIC TEACH	8	18	
	8	18	





KEY ADVANTAGES

- ✓ Safety sensor with RFID coding (random or teachable) ISO 14119 type 4
- ✓ Category 4, PL e according to EN/ISO 13849-1
- ✓ Operating distance up to 18 mm
- ✓ PVC cable or M12 pigtail connection
- ✓ Compact size 36 × 26 × 13 mm
- ✓ Cascadable up to 30 units
- ✓ EDM and diagnostic function
- ✓ Certified TÜV, CE and UL
- ✓ IP6K9K, Ecolab



	HOUSING SIZE (mm)	ACTUATION	NUMBER OF OUTPUTS	CABLE	CONNECTOR	PART REFERENCE
	36 × 26 × 13	RFID random	2 × OSSD	5 m PVC		YSR-22K4-RESE-C050
	36 × 26 × 13	RFID random	2 × OSSD	0.15 m PVC	M12	YSR-22K4-RESE-P012
	36 × 26 × 13	RFID teachable	2 × OSSD	5 m PVC		YSR-22K4-TESE-C050
	36 × 26 × 13	RFID teachable	2 × OSSD	0.15 m PVC	M12	YSR-22K4-TESE-P012



Some light curtain applications require special accessories. For example, mirror columns can be used to deflect light beams for multi-sided protection. Also if the distance between the light-curtain sender and receiver is long, a laser tool simplifies alignment. Many other accessories are available in the Accessories section of this catalog (page 298).

ACCESSORIES

SAFETY

MIRROR & DEVICE COLUMNS

MISCELLANEOUS

KEY ADVANTAGES

MIRROR & DEVICE COLUMNS

- ✓ Multiple or single mirrors available
- ✓ Different heights available

MISCELLANEOUS

Relay

- ✓ Performance Level (PL) e and category 4 according to EN/ISO 13849-1
- ✓ Manual or automatic restart
- ✓ Short response time

Mounting Brackets

Top/bottom mounting brackets

- ✓ Synthetic mounting brackets
- ✓ Pair of brackets supplied with each bracket

Side/end mounting brackets

- ✓ Metal mounting brackets

Safety Filter

- ✓ Integrated RC filter for counter signal cut
- ✓ Possibility to connect sender and receiver unit on same connector

Laser alignment tool

- ✓ Easily clippable onto Safetindex YBB and YCA devices
- ✓ Range: up to 50 m



PRODUCT OVERVIEW

	Mirror and Device Columns	Relay	Mounting brackets	Safety filter	Laser alignment tool
					
Compatible with:	All light curtains	All light curtains and safety sensors	Extended Slim light curtains	All light curtains	All standard basic light curtains

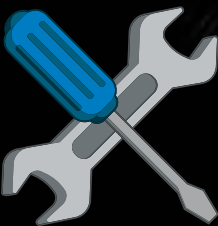
OUTPUT

Column height
in mm

YXC-[xxxx]-[xxx]

Column type
[F00] Device (protection) column
[M11] Single mirror column
[M23] 3 mirror column
[M24] 4 mirror column

Reference key on page 259



SAFETY
ACCESSORIES
DEVICE AND MIRROR
COLUMNS

ACCESSORIES



Relay
See page 256



Top/bottom mounting bracket
For YBB & YCA
See page 256



Sliding T-nuts for side mounting
See page 256



Mounting bracket No. 5
For YBBS & YBES
See page 256



Mounting bracket No. 6
For YBBS & YBES
See page 256



Mounting bracket No. 7
For YBBS & YBES
See page 256



Safety filter
See page 257



Laser alignment tool
See page 257

Go to page 298 for details

FAMILY	COLUMN TYPE	PART REFERENCE	
DEVICE AND MIRROR COLUMNS	Protective	YXC-0985-F00	
	Protective	YXC-1285-F00	
	Protective	YXC-1740-F00	
	Protective	YXC-2040-F00	
	Single mirror	YXC-1280-M11	
	Single mirror	YXC-1715-M11	
	Single mirror	YXC-2015-M11	
	Single mirror	YXC-2215-M11	
	Multiple mirror	YXC-1185-M23	
	Multiple mirror	YXC-1285-M24	

PROTECTIVE
COLUMN





KEY ADVANTAGES

- ✓ Robust protective profile, attractive design
- ✓ Special spring elements automatically reset position in case of mechanical impact
- ✓ Complete assembly kit for both device and floor mounting included
- ✓ Easy to mount: vertical and axial adjustments can be quickly completed in just a few steps
- ✓ Single mirror or exchangeable and separately adjustable individual mirrors in accordance with EN 999



	LENGTH L1 (mm)	LENGTH L2 (mm)	LENGTH L3 (mm)	LENGTH L4 (mm)	LENGTH L5 (mm)
	965	985	–	–	–
	1,265	1,285	–	–	–
	1,720	1,740	–	–	–
	2,020	2,040	–	–	–
	1,082	–	–	–	1,281
	1,532	–	–	–	1,716
	1,682	–	–	–	2,016
	1,832	–	–	–	2,216
	300	400	400	–	1,185
	300	300	300	300	1,285

SINGLE MIRROR COLUMN



MULTIPLE MIRROR COLUMN



RELAY



YRB-4EML-31S

TYPE	TYPICAL RESPONSE TIME	NUMBER OF CONTACTS	MAX. SWITCHING VOLTAGE	COMPATIBLE WITH	PART REFERENCE
SIL 3, PL e Cat 4	25 ms (manual start) / 100 ms (automatic start)	3 × NO / 1 × NC	250 V AC/DC	Light curtains and sensors	YRB-4EML-31S

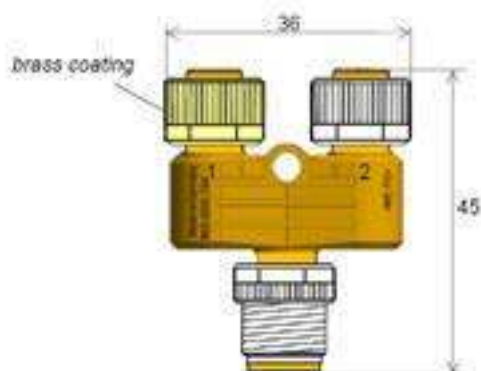
MOUNTING BRACKETS



DESCRIPTION	MATERIAL	COMPATIBLE WITH	PART REFERENCE
Top/bottom mounting bracket	Plastic	YBB and YCA series	YXW-0001-000
Sliding T-Nut for side mounting	Metal	YBB and YCA series	YXW-0003-000
Top/bottom mounting brackets	Plastic	YBES and YBBS series	YXW-0005-000
Side/end mounting brackets	Metal	YBES and YBBS series	YXW-0006-000
Side/end mounting brackets	Metal	YBES and YBBS series	YXW-0007-000



T-CONNECTOR SAFETY FILTER



CONNECTOR A SIDE	PINS	RC FILTER	CONNECTION B SIDE	PART REFERENCE
 M12  M12	5 pins	✓	 M12	YXF-0002-000

LASER ALIGNMENT TOOL



RANGE	LASER BEAM SPOT SIZE	LASER CLASS	POWER SUPPLY	COMPATIBLE WITH	PART REFERENCE
≤ 50 m	< 10 mm	1 mV (class 2)	AA batteries	YBB and YCA series	YXL-0001-000

SAFETY REFERENCE KEY

LIGHT CURTAINS AND SAFETY SENSORS

YBB-30S4-0800-G012

SAFETY PRODUCT Y

PRODUCT TYPE

Basic standard barrier (light curtain)	BB
Access control barrier (light curtain)	CA
Basic slim barrier	BBS
Extended slim barrier	BES
Magnetic sensor	SM
RFID sensor	SR

ADDITIONNAL INFORMATION

Resolution (YBB)	
14 mm (finger)	14
30 mm (hand)	30
Operating distance (YCA)	
50 m	50
Hole spacing (YSM, YSR)	
22 mm	22
78 mm	78

MODULE

Receiver	R
Sender	S
Kit (sender + receiver)	K
Reed sensor	R
Read/write RFID sensor	L
Actuator	A

CONNECTION TYPE

Cable, 5 m, PVC	C050
M12 connector, 5 pins	G012
M12 Pigtail, 0.3 m, 5 or 8 pins	P012

ADDITIONNAL INFORMATION

Light curtain	
Protective height rounded in mm	####
Coding (safety sensor)	
Random RFID	R###
Teachable RFID	T###
Magnetic	T###
Distance (safety sensor)	
Standard	#S##
Extended	#E##
Actuation (safety sensor)	
Frontal	##F#
90°	##A#
All sides	##S#
Options (safety sensor)	
No option	N
Restart button	R
EDM	E
with LED	L

CATEGORY

Category 2	2
Category 4	4



SAFETY ACCESSORIES

YRB-4EML-241

SAFETY PRODUCT Y

PRODUCT TYPE

Basic relay	RB
Light curtain column	XC
Laser alignment tool	XL
Mounting brackets	XW
Filter	XF
Spacer	XS

ADDITIONAL INFORMATION

Relay (YRB)	
Standard functions, 3 NO, 1 NC contacts	4EML
Muting functions, 3 NO contacts	0330
Column (YXC)	
Column height in mm (e.g. 1,060 mm)	1060
Laser alignment tool (YXL)	
Standard <1 mW (class 2)	0001
Filter (YXF)	
Standard filter	0001
Spacer (YXS)	
For YSM-22 series	2200
For YSM-78 series	7800
Mounting brackets (YXW)	
Top/bottom brackets (YBB/YCA)	0001
Sliding T-nuts (YBB/YCA)	0003
Top/bottom brackets (YBBS/YBES)	0005
Side brackets (YBBS/YBES)	0006
Side/end brackets (YBBS/YBES)	0007

MIRROR / DEVICE COLUMN

Device (protection) column	F00
Single mirror column	M11
3 mirror column	M23
4 mirror column	M24

STANDARD ACCESSORIES 000

RELAY

2 channels, type 4, width 22.5 mm	31S
2 channels, type 4, width 45 mm	242