

## 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  $-35 \dots +60^{\circ}\text{C}$  ( $-31 \dots +140^{\circ}\text{F}$ )
- ✓ 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  $-35 \dots +60^{\circ}\text{C}$  ( $-31 \dots +140^{\circ}\text{F}$ ), IP65, IP67
- ✓ Slim housing (26 × 26 mm): max operating range 8 m, no blind zone, operating temperature  $0 \dots +55^{\circ}\text{C}$  ( $+32 \dots +131^{\circ}\text{F}$ ), 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  $-35 \dots +60^{\circ}\text{C}$  ( $-31 \dots +140^{\circ}\text{F}$ )
- ✓ Standard housing (42 × 48 mm) IP65, IP67

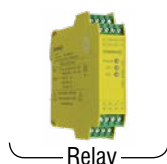


### PRODUCT OVERVIEW

	SERIES Type	FINGER 4	HAND 4/2	ACCESS 4
PROTECTIVE HEIGHT	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



# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

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



## OUTPUT

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











**Protective height rounded (mm)**

**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  
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-  **Mounting bracket No. 6**  
For YBBS & YBES  
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-  **Mounting bracket No. 7**  
For YBBS & YBES  
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-  **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)
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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	<b>YBB-30K2-0150-G012</b>
279	380	IR 850	18	16	17	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0250-G012</b>
408	509	IR 850	22	16	25	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0400-G012</b>
537	638	IR 850	26	16	33	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0500-G012</b>
666	767	IR 850	30	16	41	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0700-G012</b>
795	896	IR 850	34	16	49	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0800-G012</b>
924	1,025	IR 850	38	16	57	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-0900-G012</b>
1,053	1,154	IR 850	42	16	65	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1000-G012</b>
1,182	1,283	IR 850	46	16	73	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1200-G012</b>
1,311	1,412	IR 850	50	16	81	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1300-G012</b>
1,440	1,541	IR 850	54	16	89	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1400-G012</b>
1,569	1,670	IR 850	58	16	97	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1600-G012</b>
1,698	1,799	IR 850	62	16	105	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1700-G012</b>
1,827	1,928	IR 850	66	16	113	0 ... +50°C	IP65 / IP67	<b>YBB-30K2-1800-G012</b>
150	251	IR 850	14	16	9	0 ... +50°C	IP65 / IP67	<b>YBB-30S2-0150-G012</b>
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1,827	1,928	IR 850	66	16	113	0 ... +50°C	IP65 / IP67	<b>YBB-30S2-1800-G012</b>

# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

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



## OUTPUT

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











**Protective height rounded (mm)**

**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
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For YBB & YCA  
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-  **Sliding T-nuts for side mounting**  
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-  **Safety filter**  
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-  **Laser alignment tool**  
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-  **Device columns**  
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-  **Mirror columns**  
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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

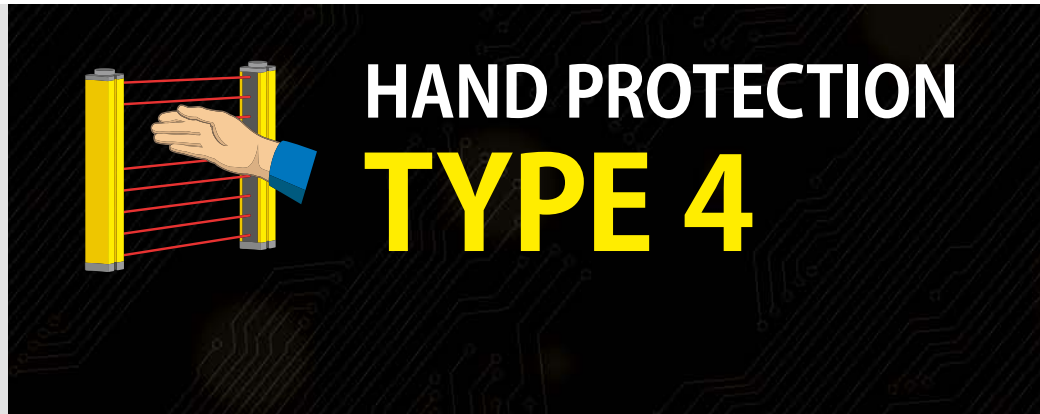


PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
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666	767	IR 850	30	16	41	0 ... +50°C	IP65 / IP67	<b>YBB-30R2-0700-G012</b>
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1,698	1,799	IR 850	62	16	105	0 ... +50°C	IP65 / IP67	<b>YBB-30R2-1700-G012</b>
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# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

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



## OUTPUT

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











**Protective height rounded (mm)**

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

**Connection type**  
 [G012] M12 connector, 5 pins

Reference key on page 258

## ACCESSORIES

-  **Relay**  
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-  **Safety filter**  
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-  **Laser alignment tool**  
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FAMILY	OPERATING RANGE (mm)	HOUSING SIZE (mm)
HAND PROTECTION – TYPE 4	0.25 ... 12 m	42 × 48 (standard)
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	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



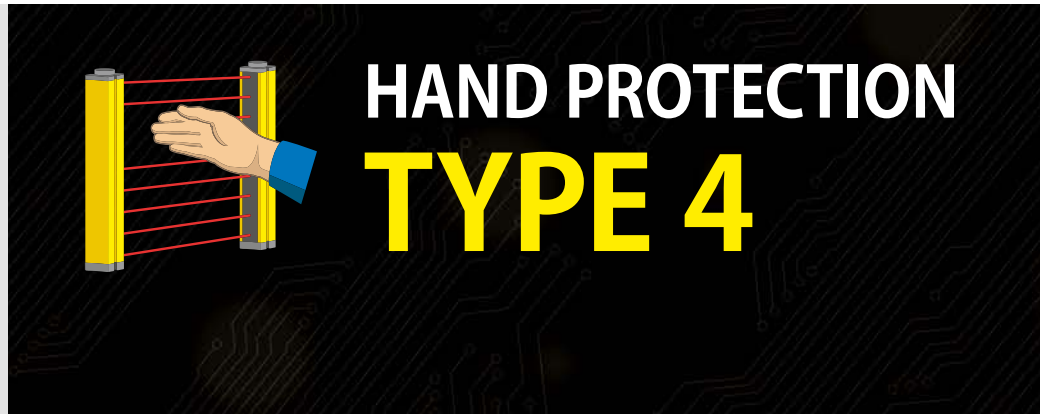
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	408	509	IR 880	6.8	16	25	-35 ... +60°C	IP65 / IP67	<b>YBB-30K4-0400-G012</b>
	537	638	IR 880	8.4	16	33	-35 ... +60°C	IP65 / IP67	<b>YBB-30K4-0500-G012</b>
	666	767	IR 880	10	16	41	-35 ... +60°C	IP65 / IP67	<b>YBB-30K4-0700-G012</b>
	795	896	IR 880	11.6	16	49	-35 ... +60°C	IP65 / IP67	<b>YBB-30K4-0800-G012</b>
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## OUTPUT

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
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Module  
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	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

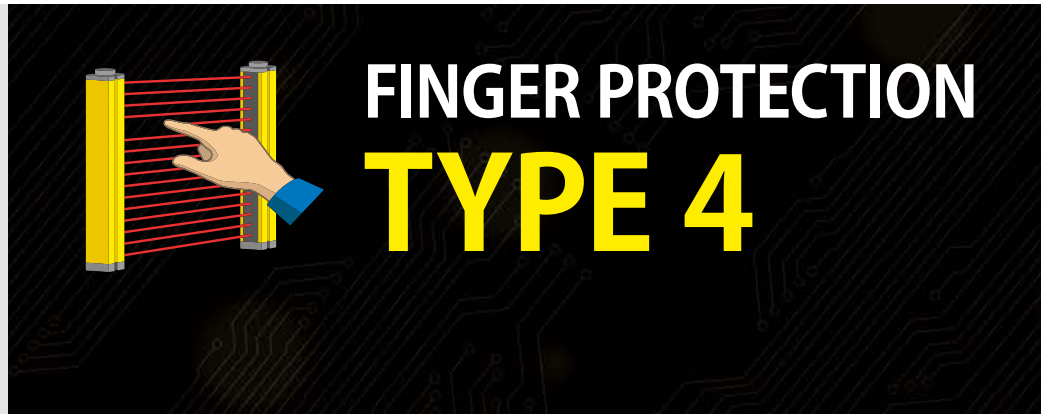


PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
537	638	IR 880	8.4	16	33	-35 ... +60°C	IP65 / IP67	<b>YBB-30R4-0500-G012</b>
666	767	IR 880	10	16	41	-35 ... +60°C	IP65 / IP67	<b>YBB-30R4-0700-G012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

# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

<b>Safety Level</b>	Cat. 4, PL e, Type 4
<b>Supply Voltage</b>	24 VDC
<b>Polarity</b>	PNP
<b>Resolution</b>	14 mm (hand)



## 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)
	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



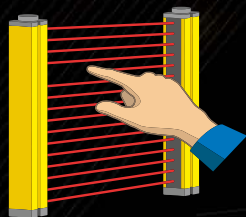
	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	142	251	IR 950	5.2	8	17	-35 ... +60°C	IP65 / IP67	YBB-14K4-0150-G012
	271	380	IR 950	8.4	8	33	-35 ... +60°C	IP65 / IP67	YBB-14K4-0250-G012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



# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

<b>Safety Level</b>	Cat. 4, PL e, Type 4
<b>Supply Voltage</b>	24 VDC
<b>Polarity</b>	PNP
<b>Resolution</b>	14 mm (hand)



## FINGER PROTECTION TYPE 4

## OUTPUT

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











**Protective height rounded (mm)**

**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 ... +60°C	IP65 / IP67	<b>YBB-14R4-0400-G012</b>
529	638	IR 950	14.8	8	65	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-0500-G012</b>
658	737	IR 950	18	8	81	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-0700-G012</b>
787	896	IR 950	21.2	8	97	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-0800-G012</b>
916	1,025	IR 950	24.4	8	113	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-0900-G012</b>
1,045	1,154	IR 950	27.6	8	129	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1000-G012</b>
1,174	1,283	IR 950	30.8	8	145	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1200-G012</b>
1,303	1,412	IR 950	34	8	161	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1300-G012</b>
1,432	1,541	IR 950	37.2	8	177	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1400-G012</b>
1,561	1,670	IR 950	40.4	8	193	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1600-G012</b>
1,690	1,799	IR 950	43.6	8	209	-35 ... +60°C	IP65 / IP67	<b>YBB-14R4-1700-G012</b>

# SAFETY LIGHT CURTAINS BASIC STANDARD

## COMMON FEATURES

<b>Safety Level</b>	Cat. 4, PL e, Type 4
<b>Supply Voltage</b>	24 VDC
<b>Polarity</b>	PNP



# ACCESS CONTROL TYPE 4

## OUTPUT

YCA-50[x]4-[x][xxx]-[xxxx]











Number of beams  
Beam gap (mm)

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)
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)	



### 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  $-35^{\circ}\text{C}$  ( $-31^{\circ}\text{F}$ )
- ✓ Housing profile  $42 \times 48$  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

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



## OUTPUT

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











**Protective height rounded (mm)**

**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

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



## OUTPUT

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











**Protective height rounded (mm)**

**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)



**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	Extended Slim	170 ... 1,290	170 ... 1,610

### ACCESSORIES

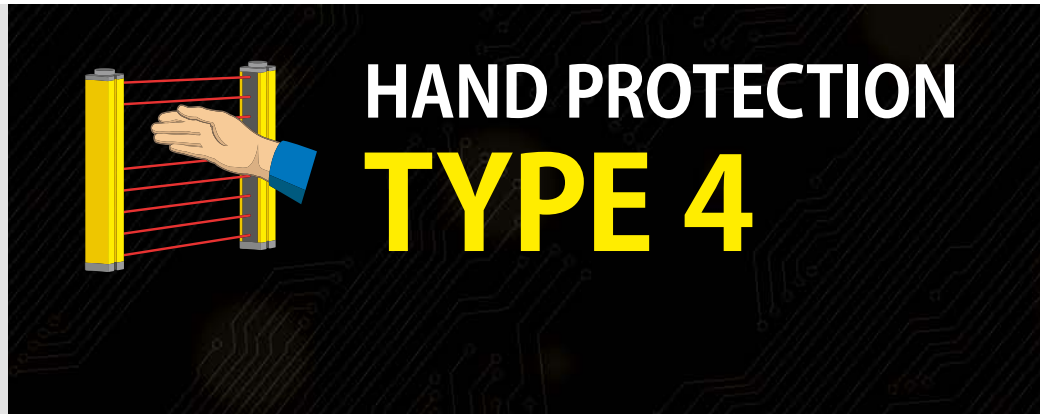
Go to pages 256 and 298 to see all the accessories



# SAFETY LIGHT CURTAINS EXTENDED SLIM

## COMMON FEATURES

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



## 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



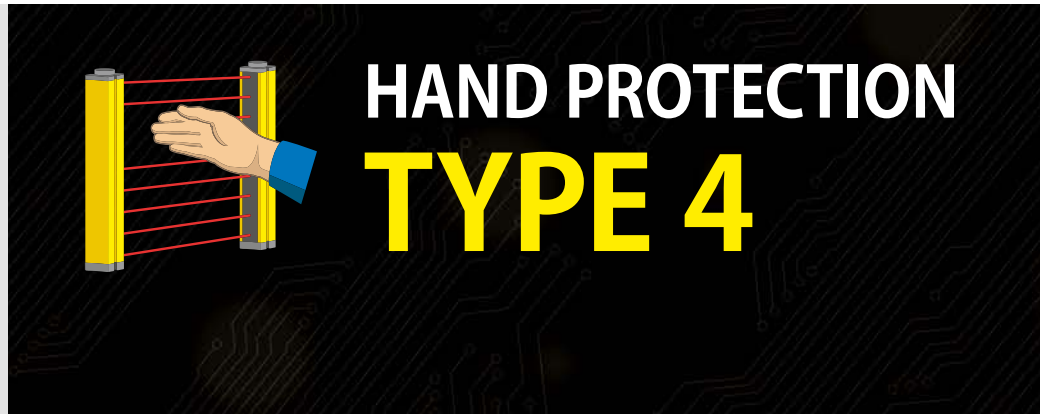
	PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
	170	170	IR 850	7.8	20	8	0 ... +55°C	IP65	YBES-30K4-0170-P012
	330	330	IR 850	9.6	20	16	0 ... +55°C	IP65	YBES-30K4-0330-P012
	490	490	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

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



## OUTPUT

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











**Protective height rounded (mm)**

**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



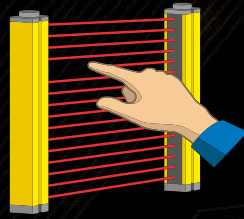
PROTECTIVE HEIGHT (mm)	TOTAL HEIGHT (mm)	SENDER WAVELENGTH (nm)	RESPONSE TIME (ms)	BEAM GAP (mm)	NUMBER OF BEAMS	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE
1,450	1,450	IR 850	22.2	20	72	0 ... +55°C	IP65	<b>YBES-30R4-1450-P012</b>
1,610	1,610	IR 850	24	20	80	0 ... +55°C	IP65	<b>YBES-30R4-1610-P012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



# SAFETY LIGHT CURTAINS EXTENDED SLIM

## COMMON FEATURES

<b>Safety Level</b>	Cat. 4, PL e, Type 4, SIL 3
<b>Supply Voltage</b>	24 VDC
<b>Polarity</b>	PNP
<b>Resolution</b>	14 mm (hand)



## FINGER PROTECTION TYPE 4

## OUTPUT

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











**Protective height rounded (mm)**

**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)



**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