Safetinex
Safety light curtains and access control barriers

CONTRINEX

NEW

IP 67 & IP 69K

Access control barriers

Multi-functional safety relay

Device and mirror columns

SAFETINEX
SAFETY LIGHT CURTAINS
AND ACCESS CONTROL BARRIERS

CONTRINEX

Contrinex, a multinational company with headquarters in Switzerland, is specialized in the development, production and worldwide sales of industrial sensors for factory automation. Contrinex employs over 500 people, including 25 highly qualified R & D engineers, operates production units in Switzerland, Hungary, China and Brazil, has its own sales offices in all the major markets, and is represented in over 60 countries.

Contrinex applies stringent quality management and production principles which are reflected in its ISO 14001:2004 and ISO 9001:2008 certification. Additionally, Contrinex is subject to several client-based audits every year. Identical quality controls and equipment as well as staff recruitment and training policies are implemented at the different production sites, thus guaranteeing consistent product quality. The product range includes inductive, photoelectric, capacitive and ultrasonic sensors, as well as RFID systems and Safetinex safety systems.

SAFETINEX SAFETY SYSTEMS

The Safetinex product line produced by Contrinex offers high-quality safeguarding solutions for both personnel and machinery. The range comprises highly sensitive type-4 devices for finger, hand and access protection in various lengths. **New:** All types are available with improved **degree of protection IP 67 and IP 69K** for use in rough environments.

Safetinex products have been developed in compliance with the applicable international safety standards and have obtained the required product certification for use in the European Union, the United States of America and all other countries where the applicable IEC standards have been adopted. Safetinex light curtains and access control barriers feature the highest safety level, i.e. they correspond to safety category 4, PL e, according to EN/ISO 13849-1 (former EN 954-1) and type 4 according to IEC 61496-1 and -2. They have successfully obtained the highly rated TÜV certification.

ACTIVE OPTOELECTRONIC PROTECTIVE DEVICES

When looking to build a safety system around a danger zone, the first consideration is whether or not optical protection is suitable at all. For this to be the case, it must be possible for the machine control to be electrically influenced by means of the device's semiconductor output. Moreover, it must also be possible to instantly terminate or exit the hazardous process in every operating phase. Further, there must be no danger of injury due to heat, radiation or from materials or components ejected by the machine. If such danger exists, then either the optical system is not suitable, or the danger must be otherwise excluded by applying additional safety measures.

The selection of a specific safeguarding measure involves an evaluation of the hazard, in order to determine the applicable safety level and resolution of the protective device.

SAFEGUARDING FUNCTION

The resolution of the safety light curtain or access control barrier must be chosen according to the application and the required safeguarding function. It is defined as the minimum size of an object that can be reliably and safely detected at any position when placed in the protective field. The choice of a specific resolution depends on the part of the body which needs protection (finger, hand or whole body). In all cases, the primary function of the protective device is to stop the machine before the hazardous point is reached and to prevent unintentional machine start-up. This function must comply with the category of the safety-related components of the machine's control system.

Detailed data sheets for these products can be found on the CONTRINEX website:

OPERATING PRINCIPLE

The Safetinex YBB 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.

Safetinex 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: Type 4, category 4, PL e devices are thus permanently self-controlled. An internal failure immediately deactivates the output signals, as would an intrusion into the protective field.

APPLICATION AREAS

The Safetinex YBB range is best suited where finger and hand protection is required close to the hazardous area (point of operation). Depending on the application, a resolution of either 14 mm (finger protection) or 30 mm (hand protection) will be advisable. Safetinex access control barriers, on the other hand, are suitable for the protection of people potentially entering a larger dangerous area.

Thanks to their type 4, category 4, PL e safety level, Safetinex devices can be used on equipment requiring high protection reliability, such as machine tools, robots, hydraulic presses, automated stock management, weaving looms, etc.

LIGHT CURTAINS FINGER PROTECTION 14 MM

MAIN FEATURES

- Resolution: 14 mm
- Operating range: 0.25 ... 3.5 m
- Protective height: 142 ... 1690 mm
- Category 4, PL e according to EN/ISO 13849-1 (former EN 954-1)
- Type 4 according to IEC 61496-1 and -2
- Certified TÜV, CE and UL
- Impervious: degrees of protection **IP 65, IP 67 & IP 69K**
- 2-channel selection
- Optical synchronization
- Permanent autocontrol

TECHNICAL DATA

Dimensions	42 x 48 x Ht mm
Supply voltage range	24 VDC ± 20 %
Current consumption sender	50 mA max. / 1.5 W max.
Current consumption receiver (excl. load)	160 mA max. / 4.7 W max.
Output current	0.2 A max. per output
Safety level (EN/ISO 13849-1)	Category 4, PL e
Safety type (IEC 61496-1 and -2)	Type 4
Protection class (IEC 61140)	III
Ambient temperature range	0 … +50 °C (+32 ... +122 °F)
Storage temperature range	-25 … +70 °C (-13 ... +158 °F)
Degree of protection (EN 60529)	IP 65 & IP 67 / IP 65, IP 67 & IP 69K (-69K)
Housing material	Aluminum
Material of optical parts	PMMA
Operating range	0.25 ... 3.5 m
Sender wavelength	IR 950 nm

HOUSING

Aluminum profile 42 x 48 mm with dual fixing groove. IP 69K models totally impervious.

ELECTRONIC PROTECTION

Safetinex light curtains are self-protected against overloads and short-circuits. They can also withstand short high-voltage overloads.

CONNECTION

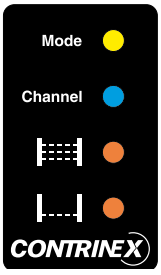
Safetinex light curtains with M12 5-pole connector are standard. Versions with PUR cable, 2 m, 5 m or 10 m long, are available on request.

DOCUMENTATION

Detailed data sheets for these products can be found on the Contrinex website www.contrinex.com or ordered free of charge from our distributors.

LEDS

LED indicators on the YBB **sender** unit



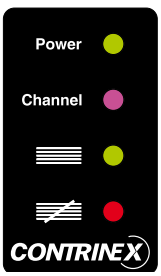
Mode : yellow when test mode is active

Channel : blue when channel 1 is selected
purple when channel 2 is selected

Alignment : steady orange when the screen is not fully aligned
flashing orange when the first third of the screen is aligned
off when screen is fully aligned

Alignment : steady orange when the lowest beam is not aligned
flashing orange when the lowest beam is aligned
off when screen is fully aligned

LED indicators on the YBB **receiver** unit



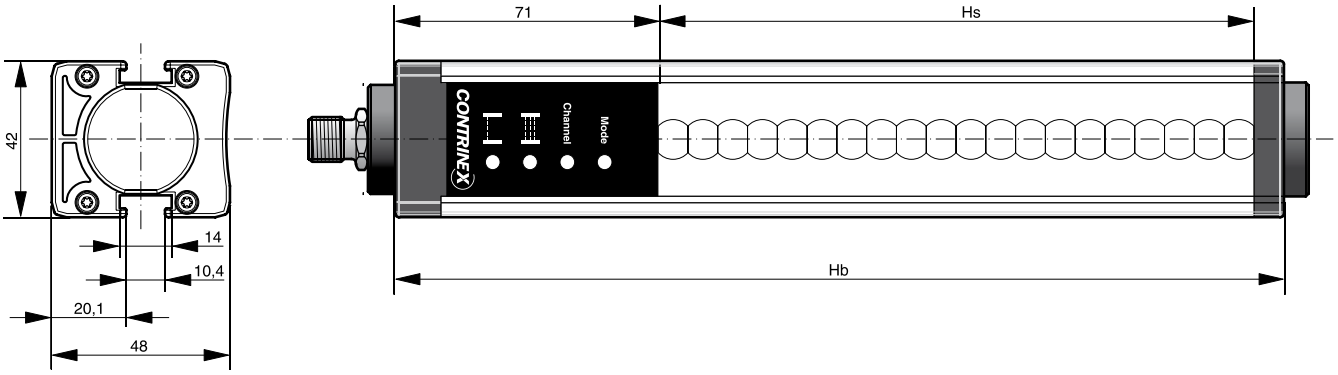
Power : green when power is ON

Channel : blue when channel 1 is selected
purple when channel 2 is selected

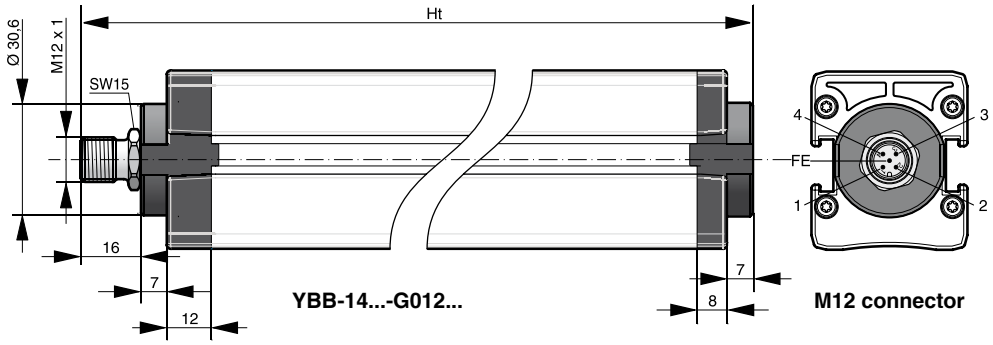
Status : green when OSSD outputs are ON

Status : red when OSSD outputs are OFF

DIMENSIONS

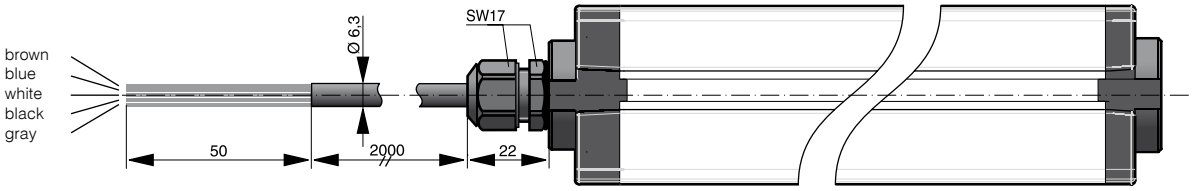


PIN ASSIGNMENT



YBB-14...-G012...

M12 connector



YBB-14...-D020...

Cable

ASSIGNMENT	FUNCTION	PINS/WIRES ON SENDER		PINS/WIRES ON RECEIVER	
		M12 CONNECTOR	CABLE	M12 CONNECTOR	CABLE
Supply voltage	24 VDC for channel 1 / 0 V for channel 2	**1**	brown	**1**	brown
Supply voltage	0 V for channel 1 / 24 VDC for channel 2	**3**	blue	**3**	blue
Test mode	0 V: test active / 24 V: test inactive	**4**	black	-	-
Output	OSSD1	-	-	**2**	white
Output	OSSD2	-	-	**4**	black
Functional earth	Shield	**FE**	gray	**FE**	gray

LIGHT CURTAINS
FINGER PROTECTION (14 MM)
AVAILABLE MODELS

TYPE-SPECIFIC DATA

Type			0150	0250	0400
	Total height (Ht) [mm] *		251	380	509
	Housing height (Hb) [mm]		221	350	479
	Protective height (Hs) [mm]		142	271	400
	Number of beams		17	33	49
	Current consumption [mA]		135	140	145
	Response time [ms]		5.2	8.4	11.6

PART REFERENCES (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YBB-14S4-0150-G012**	**YBB-14S4-0250-G012**	**YBB-14S4-0400-G012**
		Receiver	**YBB-14R4-0150-G012**	**YBB-14R4-0250-G012**	**YBB-14R4-0400-G012**
	PNP / PUR-cable 2 m	Sender	YBB-14S4-0150-D020	YBB-14S4-0250-D020	YBB-14S4-0400-D020
		Receiver	YBB-14R4-0150-D020	YBB-14R4-0250-D020	YBB-14R4-0400-D020
	PNP / PUR-cable 5 m	Sender	YBB-14S4-0150-D050	YBB-14S4-0250-D050	YBB-14S4-0400-D050
		Receiver	YBB-14R4-0150-D050	YBB-14R4-0250-D050	YBB-14R4-0400-D050
	PNP / PUR-cable 10 m	Sender	YBB-14S4-0150-D100	YBB-14S4-0250-D100	YBB-14S4-0400-D100
		Receiver	YBB-14R4-0150-D100	YBB-14R4-0250-D100	YBB-14R4-0400-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YBB-14S4-0150-G012-69K**	**YBB-14S4-0250-G012-69K**	**YBB-14S4-0400-G012-69K**
		Receiver	**YBB-14R4-0150-G012-69K**	**YBB-14R4-0250-G012-69K**	**YBB-14R4-0400-G012-69K**
	PNP / PUR-cable 2 m	Sender	YBB-14S4-0150-D020-69K	YBB-14S4-0250-D020-69K	YBB-14S4-0400-D020-69K
		Receiver	YBB-14R4-0150-D020-69K	YBB-14R4-0250-D020-69K	YBB-14R4-0400-D020-69K
	PNP / PUR-cable 5 m	Sender	YBB-14S4-0150-D050-69K	YBB-14S4-0250-D050-69K	YBB-14S4-0400-D050-69K
		Receiver	YBB-14R4-0150-D050-69K	YBB-14R4-0250-D050-69K	YBB-14R4-0400-D050-69K
	PNP / PUR-cable 10 m	Sender	YBB-14S4-0150-D100-69K	YBB-14S4-0250-D100-69K	YBB-14S4-0400-D100-69K
		Receiver	YBB-14R4-0150-D100-69K	YBB-14R4-0250-D100-69K	YBB-14R4-0400-D100-69K

TYPE-SPECIFIC DATA

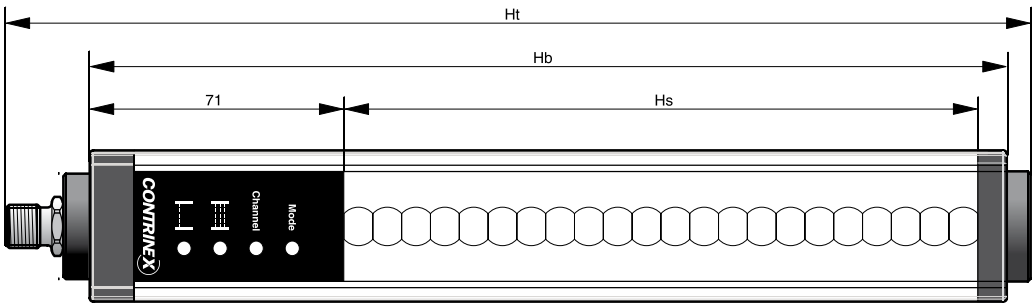
Type			1000	1200	1300
	Total height (Ht) [mm] *		1154	1283	1412
	Housing height (Hb) [mm]		1124	1253	1382
	Protective height (Hs) [mm]		1045	1174	1303
	Number of beams		129	145	161
	Current consumption [mA]		175	185	190
	Response time [ms]		27.6	30.8	34

PART REFERENCES (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YBB-14S4-1000-G012**	**YBB-14S4-1200-G012**	**YBB-14S4-1300-G012**
		Receiver	**YBB-14R4-1000-G012**	**YBB-14R4-1200-G012**	**YBB-14R4-1300-G012**
	PNP / PUR-cable 2 m	Sender	YBB-14S4-1000-D020	YBB-14S4-1200-D020	YBB-14S4-1300-D020
		Receiver	YBB-14R4-1000-D020	YBB-14R4-1200-D020	YBB-14R4-1300-D020
	PNP / PUR-cable 5 m	Sender	YBB-14S4-1000-D050	YBB-14S4-1200-D050	YBB-14S4-1300-D050
		Receiver	YBB-14R4-1000-D050	YBB-14R4-1200-D050	YBB-14R4-1300-D050
	PNP / PUR-cable 10 m	Sender	YBB-14S4-1000-D100	YBB-14S4-1200-D100	YBB-14S4-1300-D100
		Receiver	YBB-14R4-1000-D100	YBB-14R4-1200-D100	YBB-14R4-1300-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YBB-14S4-1000-G012-69K**	**YBB-14S4-1200-G012-69K**	**YBB-14S4-1300-G012-69K**
		Receiver	**YBB-14R4-1000-G012-69K**	**YBB-14R4-1200-G012-69K**	**YBB-14R4-1300-G012-69K**
	PNP / PUR-cable 2 m	Sender	YBB-14S4-1000-D020-69K	YBB-14S4-1200-D020-69K	YBB-14S4-1300-D020-69K
		Receiver	YBB-14R4-1000-D020-69K	YBB-14R4-1200-D020-69K	YBB-14R4-1300-D020-69K
	PNP / PUR-cable 5 m	Sender	YBB-14S4-1000-D050-69K	YBB-14S4-1200-D050-69K	YBB-14S4-1300-D050-69K
		Receiver	YBB-14R4-1000-D050-69K	YBB-14R4-1200-D050-69K	YBB-14R4-1300-D050-69K
	PNP / PUR-cable 10 m	Sender	YBB-14S4-1000-D100-69K	YBB-14S4-1200-D100-69K	YBB-14S4-1300-D100-69K
		Receiver	YBB-14R4-1000-D100-69K	YBB-14R4-1200-D100-69K	YBB-14R4-1300-D100-69K

* Total height given with M12 connector. For cable version, add 6 mm.

Detailed data sheets for these products can be found on the CONTRINEX website:



0500	0700	0800	0900
638	767	896	1025
608	737	866	995
529	658	787	916
65	81	97	113
150	160	165	170
14.8	18	21.2	24.4

YBB-14S4-0500-G012	**YBB-14S4-0700-G012**	**YBB-14S4-0800-G012**	**YBB-14S4-0900-G012**
YBB-14R4-0500-G012	**YBB-14R4-0700-G012**	**YBB-14R4-0800-G012**	**YBB-14R4-0900-G012**
YBB-14S4-0500-D020	YBB-14S4-0700-D020	YBB-14S4-0800-D020	YBB-14S4-0900-D020
YBB-14R4-0500-D020	YBB-14R4-0700-D020	YBB-14R4-0800-D020	YBB-14R4-0900-D020
YBB-14S4-0500-D050	YBB-14S4-0700-D050	YBB-14S4-0800-D050	YBB-14S4-0900-D050
YBB-14R4-0500-D050	YBB-14R4-0700-D050	YBB-14R4-0800-D050	YBB-14R4-0900-D050
YBB-14S4-0500-D100	YBB-14S4-0700-D100	YBB-14S4-0800-D100	YBB-14S4-0900-D100
YBB-14R4-0500-D100	YBB-14R4-0700-D100	YBB-14R4-0800-D100	YBB-14R4-0900-D100
YBB-14S4-0500-G012-69K	**YBB-14S4-0700-G012-69K**	**YBB-14S4-0800-G012-69K**	**YBB-14S4-0900-G012-69K**
YBB-14R4-0500-G012-69K	**YBB-14R4-0700-G012-69K**	**YBB-14R4-0800-G012-69K**	**YBB-14R4-0900-G012-69K**
YBB-14S4-0500-D020-69K	YBB-14S4-0700-D020-69K	YBB-14S4-0800-D020-69K	YBB-14S4-0900-D020-69K
YBB-14R4-0500-D020-69K	YBB-14R4-0700-D020-69K	YBB-14R4-0800-D020-69K	YBB-14R4-0900-D020-69K
YBB-14S4-0500-D050-69K	YBB-14S4-0700-D050-69K	YBB-14S4-0800-D050-69K	YBB-14S4-0900-D050-69K
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YBB-14S4-0500-D100-69K	YBB-14S4-0700-D100-69K	YBB-14S4-0800-D100-69K	YBB-14S4-0900-D100-69K
YBB-14R4-0500-D100-69K	YBB-14R4-0700-D100-69K	YBB-14R4-0800-D100-69K	YBB-14R4-0900-D100-69K

1400	1600	1700
1541	1670	1799
1511	1640	1769
1432	1561	1690
177	193	209
195	200	210
37.2	40.4	43.6

YBB-14S4-1400-G012	**YBB-14S4-1600-G012**	**YBB-14S4-1700-G012**
YBB-14R4-1400-G012	**YBB-14R4-1600-G012**	**YBB-14R4-1700-G012**
YBB-14S4-1400-D020	YBB-14S4-1600-D020	YBB-14S4-1700-D020
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YBB-14S4-1400-D050-69K	YBB-14S4-1600-D050-69K	YBB-14S4-1700-D050-69K
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YBB-14R4-1400-D100-69K	YBB-14R4-1600-D100-69K	YBB-14R4-1700-D100-69K

LIGHT CURTAINS HAND PROTECTION 30 MM

MAIN FEATURES

- Resolution: 30 mm
- Operating range: 0.25 ... 12 m
- Protective height: 279 ... 1827 mm
- Category 4, PL e according to EN/ISO 13849-1 (former EN 954-1)
- Type 4 according to IEC 61496-1 and -2
- Certified TÜV, CE and UL
- Impervious: degrees of protection **IP 65, IP 67 & IP 69K**
- 2-channel selection
- Optical synchronization
- Permanent autocontrol

TECHNICAL DATA

Dimensions	42 x 48 x Ht mm
Supply voltage range	24 VDC ± 20 %
Current consumption sender	45 mA max. / 1.5 W max.
Current consumption receiver (excl. load)	130 mA max. / 4.7 W max.
Output current	0.2 A max. per output
Safety level (EN/ISO 13849-1)	Category 4, PL e
Safety type (IEC 61496-1 and -2)	Type 4
Protection class (IEC 61140)	III
Ambient temperature range	0 … +50 °C (+32 ... +122 °F)
Storage temperature range	-25 … +70 °C (-13 ... +158 °F)
Degree of protection (EN 60529)	IP 65 & IP 67 / IP 65, IP 67 & IP 69K (-69K)
Housing material	Aluminum
Material of optical parts	PMMA
Operating range	0.25 ... 12 m
Sender wavelength	IR 880 nm

HOUSING

Aluminum profile 42 x 48 mm with dual fixing groove. IP 69K models totally impervious.

ELECTRONIC PROTECTION

Safetinex light curtains are self-protected against overloads and short-circuits. They can also withstand short high-voltage overloads.

CONNECTION

Safetinex light curtains with M12 5-pole connector are standard. Versions with PUR cable, 2 m, 5 m or 10 m long, are available on request.

DOCUMENTATION

Detailed data sheets for these products can be found on the Contrinex website www.contrinex.com or ordered free of charge from our distributors.

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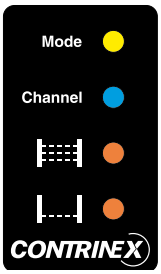

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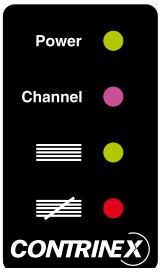
flashing orange when the lowest beam is aligned
off when screen is fully aligned

LED indicators on the YBB **receiver** unit



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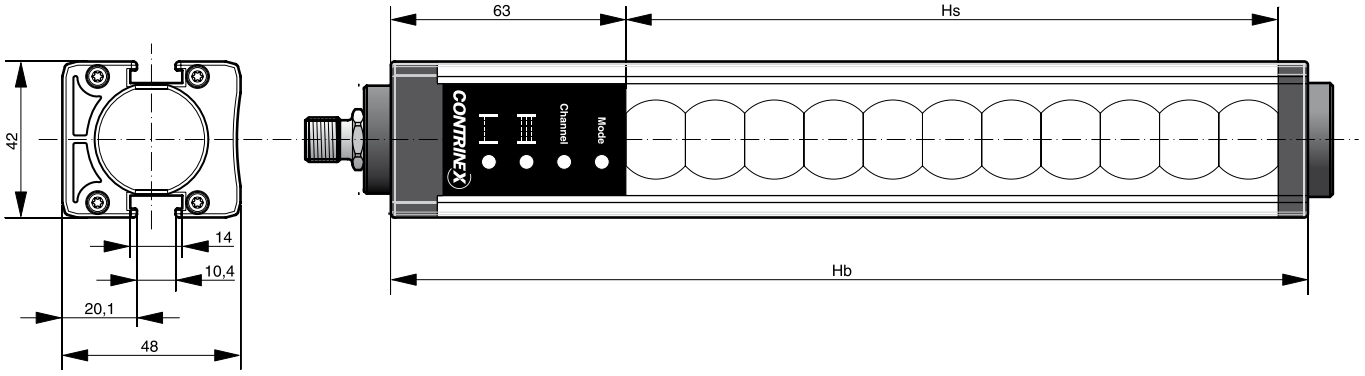
Channel : blue when channel 1 is selected
purple when channel 2 is selected

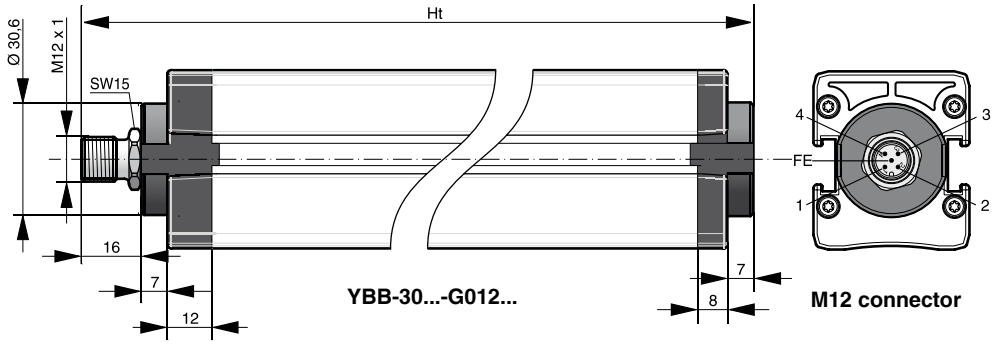
Status : green when OSSD outputs are ON

Status : red when OSSD outputs are OFF

DIMENSIONS

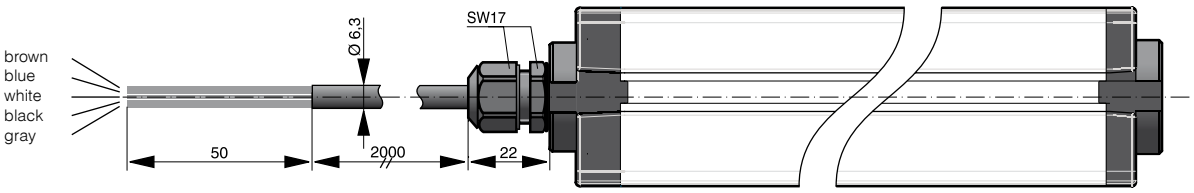


PIN ASSIGNMENT



YBB-30...-G012...

M12 connector



YBB-30...-D020...

Cable

ASSIGNMENT	FUNCTION	PINS/WIRES ON SENDER		PINS/WIRES ON RECEIVER	
		M12 CONNECTOR	CABLE	M12 CONNECTOR	CABLE
Supply voltage	24 VDC for channel 1 / 0 V for channel 2	**1**	brown	**1**	brown
Supply voltage	0 V for channel 1 / 24 VDC for channel 2	**3**	blue	**3**	blue
Test mode	0 V: test active / 24 V: test inactive	**4**	black	-	-
Output	OSSD1	-	-	**2**	white
Output	OSSD2	-	-	**4**	black
Functional earth	Shield	**FE**	gray	**FE**	gray

LIGHT CURTAINS
HAND PROTECTION (30 MM)
AVAILABLE MODELS

TYPE-SPECIFIC DATA

Type			0250	0400	0500
Total height (Ht) [mm] *			380	509	638
Housing height (Hb) [mm]			350	479	608
Protective height (Hs) [mm]			279	408	537
Number of beams			17	25	33
Current consumption [mA]			125	130	130
Response time [ms]			5.2	6.8	8.4

PART REFERENCES (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YBB-30S4-0250-G012**	**YBB-30S4-0400-G012**	**YBB-30S4-0500-G012**
		Receiver	**YBB-30R4-0250-G012**	**YBB-30R4-0400-G012**	**YBB-30R4-0500-G012**
	PNP / PUR-cable 2 m	Sender	YBB-30S4-0250-D020	YBB-30S4-0400-D020	YBB-30S4-0500-D020
		Receiver	YBB-30R4-0250-D020	YBB-30R4-0400-D020	YBB-30R4-0500-D020
	PNP / PUR-cable 5 m	Sender	YBB-30S4-0250-D050	YBB-30S4-0400-D050	YBB-30S4-0500-D050
		Receiver	YBB-30R4-0250-D050	YBB-30R4-0400-D050	YBB-30R4-0500-D050
	PNP / PUR-cable 10 m	Sender	YBB-30S4-0250-D100	YBB-30S4-0400-D100	YBB-30S4-0500-D100
		Receiver	YBB-30R4-0250-D100	YBB-30R4-0400-D100	YBB-30R4-0500-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YBB-30S4-0250-G012-69K**	**YBB-30S4-0400-G012-69K**	**YBB-30S4-0500-G012-69K**
		Receiver	**YBB-30R4-0250-G012-69K**	**YBB-30R4-0400-G012-69K**	**YBB-30R4-0500-G012-69K**
	PNP / PUR-cable 2 m	Sender	YBB-30S4-0250-D020-69K	YBB-30S4-0400-D020-69K	YBB-30S4-0500-D020-69K
		Receiver	YBB-30R4-0250-D020-69K	YBB-30R4-0400-D020-69K	YBB-30R4-0500-D020-69K
	PNP / PUR-cable 5 m	Sender	YBB-30S4-0250-D050-69K	YBB-30S4-0400-D050-69K	YBB-30S4-0500-D050-69K
		Receiver	YBB-30R4-0250-D050-69K	YBB-30R4-0400-D050-69K	YBB-30R4-0500-D050-69K
	PNP / PUR-cable 10 m	Sender	YBB-30S4-0250-D100-69K	YBB-30S4-0400-D100-69K	YBB-30S4-0500-D100-69K
		Receiver	YBB-30R4-0250-D100-69K	YBB-30R4-0400-D100-69K	YBB-30R4-0500-D100-69K

TYPE-SPECIFIC DATA

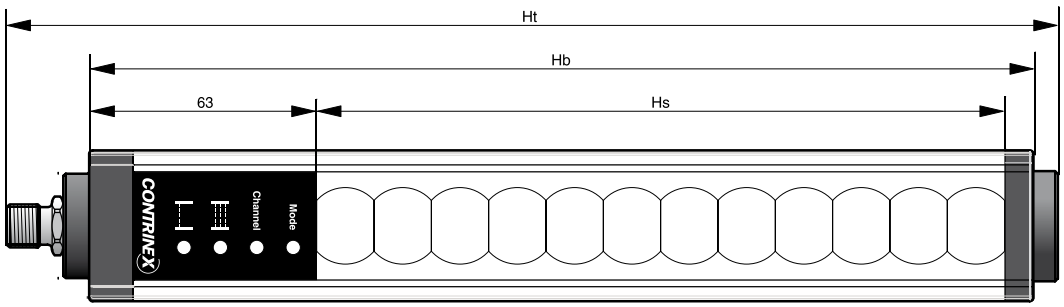
Type			1200	1300	1400
Total height (Ht) [mm] *			1283	1412	1541
Housing height (Hb) [mm]			1253	1382	1511
Protective height (Hs) [mm]			1182	1311	1440
Number of beams			73	81	89
Current consumption [mA]			150	155	160
Response time [ms]			16.4	18	19.6

PART REFERENCES (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YBB-30S4-1200-G012**	**YBB-30S4-1300-G012**	**YBB-30S4-1400-G012**
		Receiver	**YBB-30R4-1200-G012**	**YBB-30R4-1300-G012**	**YBB-30R4-1400-G012**
	PNP / PUR-cable 2 m	Sender	YBB-30S4-1200-D020	YBB-30S4-1300-D020	YBB-30S4-1400-D020
		Receiver	YBB-30R4-1200-D020	YBB-30R4-1300-D020	YBB-30R4-1400-D020
	PNP / PUR-cable 5 m	Sender	YBB-30S4-1200-D050	YBB-30S4-1300-D050	YBB-30S4-1400-D050
		Receiver	YBB-30R4-1200-D050	YBB-30R4-1300-D050	YBB-30R4-1400-D050
	PNP / PUR-cable 10 m	Sender	YBB-30S4-1200-D100	YBB-30S4-1300-D100	YBB-30S4-1400-D100
		Receiver	YBB-30R4-1200-D100	YBB-30R4-1300-D100	YBB-30R4-1400-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YBB-30S4-1200-G012-69K**	**YBB-30S4-1300-G012-69K**	**YBB-30S4-1400-G012-69K**
		Receiver	**YBB-30R4-1200-G012-69K**	**YBB-30R4-1300-G012-69K**	**YBB-30R4-1400-G012-69K**
	PNP / PUR-cable 2 m	Sender	YBB-30S4-1200-D020-69K	YBB-30S4-1300-D020-69K	YBB-30S4-1400-D020-69K
		Receiver	YBB-30R4-1200-D020-69K	YBB-30R4-1300-D020-69K	YBB-30R4-1400-D020-69K
	PNP / PUR-cable 5 m	Sender	YBB-30S4-1200-D050-69K	YBB-30S4-1300-D050-69K	YBB-30S4-1400-D050-69K
		Receiver	YBB-30R4-1200-D050-69K	YBB-30R4-1300-D050-69K	YBB-30R4-1400-D050-69K
	PNP / PUR-cable 10 m	Sender	YBB-30S4-1200-D100-69K	YBB-30S4-1300-D100-69K	YBB-30S4-1400-D100-69K
		Receiver	YBB-30R4-1200-D100-69K	YBB-30R4-1300-D100-69K	YBB-30R4-1400-D100-69K

* Total height given with M12 connector. For cable version, add 6 mm.

Detailed data sheets for these products can be found on the CONTRINEX website:



0700	0800	0900	1000
767	896	1025	1154
737	866	995	1124
666	795	924	1053
41	49	57	65
135	140	140	145
10	11.6	13.2	14.8

YBB-30S4-0700-G012	YBB-30S4-0800-G012	YBB-30S4-0900-G012	YBB-30S4-1000-G012
YBB-30R4-0700-G012	**YBB-30R4-0800-G012**	**YBB-30R4-0900-G012**	**YBB-30R4-1000-G012**
YBB-30S4-0700-D020	YBB-30S4-0800-D020	YBB-30S4-0900-D020	YBB-30S4-1000-D020
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YBB-30S4-0700-D050	YBB-30S4-0800-D050	YBB-30S4-0900-D050	YBB-30S4-1000-D050
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YBB-30S4-0700-D100	YBB-30S4-0800-D100	YBB-30S4-0900-D100	YBB-30S4-1000-D100
YBB-30R4-0700-D100	YBB-30R4-0800-D100	YBB-30R4-0900-D100	YBB-30R4-1000-D100
YBB-30S4-0700-G012-69K	**YBB-30S4-0800-G012-69K**	**YBB-30S4-0900-G012-69K**	**YBB-30S4-1000-G012-69K**
YBB-30R4-0700-G012-69K	**YBB-30R4-0800-G012-69K**	**YBB-30R4-0900-G012-69K**	**YBB-30R4-1000-G012-69K**
YBB-30S4-0700-D020-69K	YBB-30S4-0800-D020-69K	YBB-30S4-0900-D020-69K	YBB-30S4-1000-D020-69K
YBB-30R4-0700-D020-69K	YBB-30R4-0800-D020-69K	YBB-30R4-0900-D020-69K	YBB-30R4-1000-D020-69K
YBB-30S4-0700-D050-69K	YBB-30S4-0800-D050-69K	YBB-30S4-0900-D050-69K	YBB-30S4-1000-D050-69K
YBB-30R4-0700-D050-69K	YBB-30R4-0800-D050-69K	YBB-30R4-0900-D050-69K	YBB-30R4-1000-D050-69K
YBB-30S4-0700-D100-69K	YBB-30S4-0800-D100-69K	YBB-30S4-0900-D100-69K	YBB-30S4-1000-D100-69K
YBB-30R4-0700-D100-69K	YBB-30R4-0800-D100-69K	YBB-30R4-0900-D100-69K	YBB-30R4-1000-D100-69K

1600	1700	1800
1670	1799	1928
1640	1769	1898
1569	1698	1827
97	105	113
160	165	170
21.2	22.8	24.4

YBB-30S4-1600-G012	YBB-30S4-1700-G012	YBB-30S4-1800-G012
YBB-30R4-1600-G012	**YBB-30R4-1700-G012**	**YBB-30R4-1800-G012**
YBB-30S4-1600-D020	YBB-30S4-1700-D020	YBB-30S4-1800-D020
YBB-30R4-1600-D020	YBB-30R4-1700-D020	YBB-30R4-1800-D020
YBB-30S4-1600-D050	YBB-30S4-1700-D050	YBB-30S4-1800-D050
YBB-30R4-1600-D050	YBB-30R4-1700-D050	YBB-30R4-1800-D050
YBB-30S4-1600-D100	YBB-30S4-1700-D100	YBB-30S4-1800-D100
YBB-30R4-1600-D100	YBB-30R4-1700-D100	YBB-30R4-1800-D100
YBB-30S4-1600-G012-69K	**YBB-30S4-1700-G012-69K**	**YBB-30S4-1800-G012-69K**
YBB-30R4-1600-G012-69K	**YBB-30R4-1700-G012-69K**	**YBB-30R4-1800-G012-69K**
YBB-30S4-1600-D020-69K	YBB-30S4-1700-D020-69K	YBB-30S4-1800-D020-69K
YBB-30R4-1600-D020-69K	YBB-30R4-1700-D020-69K	YBB-30R4-1800-D020-69K
YBB-30S4-1600-D050-69K	YBB-30S4-1700-D050-69K	YBB-30S4-1800-D050-69K
YBB-30R4-1600-D050-69K	YBB-30R4-1700-D050-69K	YBB-30R4-1800-D050-69K
YBB-30S4-1600-D100-69K	YBB-30S4-1700-D100-69K	YBB-30S4-1800-D100-69K
YBB-30R4-1600-D100-69K	YBB-30R4-1700-D100-69K	YBB-30R4-1800-D100-69K

MAIN FEATURES

- 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 ... 1532 mm
- Category 4, PL e according to EN/ISO 13849-1 (former EN 954-1)
- Type 4 according to IEC 61496-1 and -2
- Certified TÜV and CE
- Impervious: degrees of protection **IP 65, IP 67 & IP 69K**
- 2-channel selection
- Optical synchronization
- Permanent autocontrol

TECHNICAL DATA

Dimensions	42 x 48 x Ht mm
Supply voltage range	24 VDC ± 15 %
Current consumption sender	35 mA max. / 1.0 W max.
Current consumption receiver (excl. load)	75 mA max. / 2.2 W max.
Output current	0.2 A max. per output
Safety level (EN/ISO 13849-1)	Category 4, PL e
Safety type (IEC 61496-1 and -2)	Type 4
Protection class (IEC 61140)	III
Ambient temperature range	0 … +50 °C (+32 ... +122 °F)
Storage temperature range	-25 … +70 °C (-13 ... +158 °F)
Degree of protection (EN 60529)	IP 65 & IP 67 / IP 65, IP 67 & IP 69K (-69K)
Housing material	Aluminum
Material of optical parts	PMMA
Operating range	1 ... 15 m / 10 ... 50 m (can be configured)
Sender wavelength	IR 880 nm

HOUSING

Aluminum profile 42 x 48 mm with dual fixing groove. IP 69K models totally impervious.

CONFIGURATION OF OPERATING RANGE

Depending on wiring, the maximum operating range can be fixed to either 50 m or 15 m.

ELECTRONIC PROTECTION

Safetinex access control barriers are self-protected against overloads and short-circuits. They can also withstand short high-voltage overloads.

CONNECTION

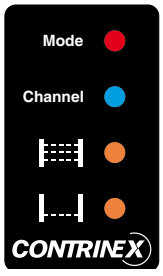
Safetinex access control barriers with M12 5-pole connector are standard. Versions with PUR cable, 2 m, 5 m or 10 m long, are available on request.

DOCUMENTATION

Detailed data sheets for these products can be found on the Contrinex website www.contrinex.com or ordered free of charge from our distributors.

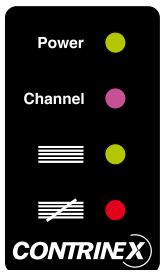
LEDS

LED indicators on YCA **sender** unit



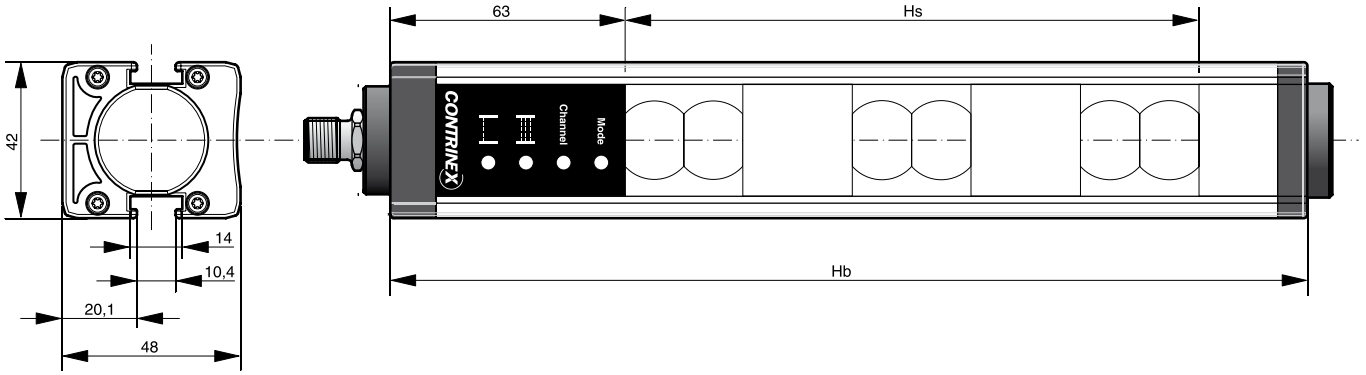
Mode	:	off when max. operating range 15 m blue when max. operating range 50 m red or purple in case of wiring error
Channel	:	blue when channel 1 selected purple when channel 2 selected
Alignment	:	steady orange when screen not fully aligned flashing orange when first third of screen aligned off when screen fully aligned
Alignment	:	steady orange when lowest beam not aligned flashing orange when lowest beam aligned off when screen fully aligned

LED indicators on YCA **receiver** unit

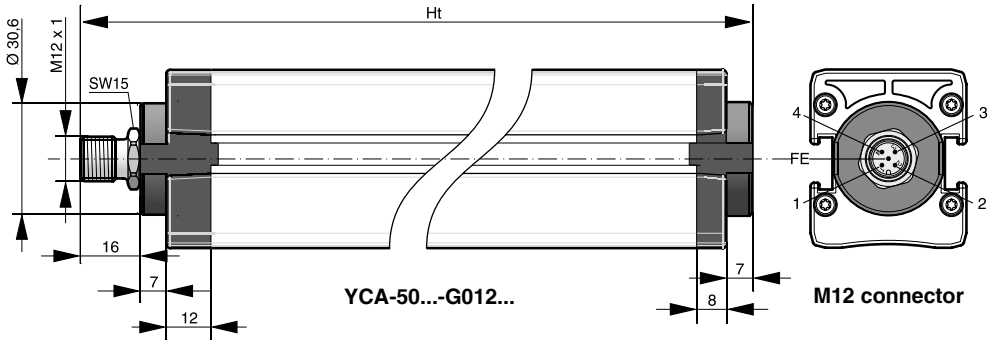


Power	:	green when power ON
Channel	:	blue when channel 1 selected purple when channel 2 selected
Status	:	green when OSSD outputs ON
Status	:	red when OSSD outputs OFF

DIMENSIONS

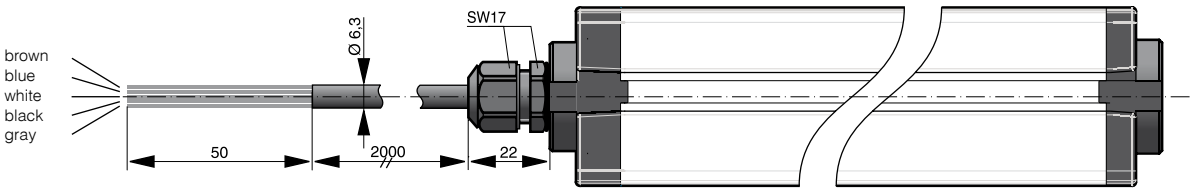


PIN ASSIGNMENT



YCA-50...-G012...

M12 connector

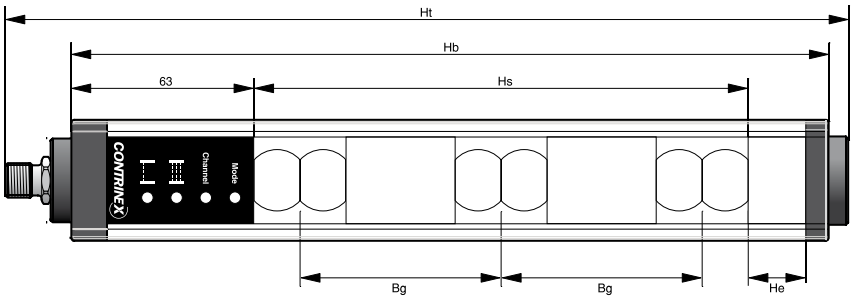


YCA-50...-D020...

Cable

ASSIGNMENT	FUNCTION	PINS/WIRES ON SENDER		PINS/WIRES ON RECEIVER	
		M12 CONNECTOR	CABLE	M12 CONNECTOR	CABLE
Supply voltage	24 VDC for channel 1 / 0 V for channel 2	**1**	brown	**1**	brown
Supply voltage	0 V for channel 1 / 24 VDC for channel 2	**3**	blue	**3**	blue
Operating range selection	24 V: operating range 10 ... 50 m 0 V: operating range 1 ... 15 m	**4**	black	-	-
Operating range selection	0 V: operating range 10 ... 50 m 24 V: operating range 1 ... 15 m	**2**	white	-	-
Output	OSSD1	-	-	**2**	white
Output	OSSD2	-	-	**4**	black
Functional earth	Shield	**FE**	gray	**FE**	gray

ACCESS CONTROL BARRIERS AVAILABLE MODELS



TYPE-SPECIFIC DATA

Number of beams	**4**	**5**	**6**
Beam gap (Bg) [mm]	**300**	**300**	**300**
Total height (Ht) [mm] *	1154	1412	1670
Housing height (Hb) [mm]	1124	1382	1640
Protective height (Hs) [mm]	932	1232	1532
Height extension (He) [mm]	121	79	37
Current consumption [mA]	110	110	110
Response time [ms]	5.0	5.9	6.7

PART REFERENCE (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YCA-50S4-4300-G012**	**YCA-50S4-5300-G012**	**YCA-50S4-6300-G012**
		Receiver	**YCA-50R4-4300-G012**	**YCA-50R4-5300-G012**	**YCA-50R4-6300-G012**
	PNP / PUR-cable 2 m	Sender	YCA-50S4-4300-D020	YCA-50S4-5300-D020	YCA-50S4-6300-D020
		Receiver	YCA-50R4-4300-D020	YCA-50R4-5300-D020	YCA-50R4-6300-D020
	PNP / PUR-cable 5 m	Sender	YCA-50S4-4300-D050	YCA-50S4-5300-D050	YCA-50S4-6300-D050
		Receiver	YCA-50R4-4300-D050	YCA-50R4-5300-D050	YCA-50R4-6300-D050
	PNP / PUR-cable 10 m	Sender	YCA-50S4-4300-D100	YCA-50S4-5300-D100	YCA-50S4-6300-D100
		Receiver	YCA-50R4-4300-D100	YCA-50R4-5300-D100	YCA-50R4-6300-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YCA-50S4-4300-G012-69K**	**YCA-50S4-5300-G012-69K**	**YCA-50S4-6300-G012-69K**
		Receiver	**YCA-50R4-4300-G012-69K**	**YCA-50R4-5300-G012-69K**	**YCA-50R4-6300-G012-69K**
	PNP / PUR-cable 2 m	Sender	YCA-50S4-4300-D020-69K	YCA-50S4-5300-D020-69K	YCA-50S4-6300-D020-69K
		Receiver	YCA-50R4-4300-D020-69K	YCA-50R4-5300-D020-69K	YCA-50R4-6300-D020-69K
	PNP / PUR-cable 5 m	Sender	YCA-50S4-4300-D050-69K	YCA-50S4-5300-D050-69K	YCA-50S4-6300-D050-69K
		Receiver	YCA-50R4-4300-D050-69K	YCA-50R4-5300-D050-69K	YCA-50R4-6300-D050-69K
	PNP / PUR-cable 10 m	Sender	YCA-50S4-4300-D100-69K	YCA-50S4-5300-D100-69K	YCA-50S4-6300-D100-69K
		Receiver	YCA-50R4-4300-D100-69K	YCA-50R4-5300-D100-69K	YCA-50R4-6300-D100-69K

TYPE-SPECIFIC DATA

Number of beams	**3**	**4**	**3**
Beam gap (Bg) [mm]	**400**	**400**	**500**
Total height (Ht) [mm] *	1025	1412	1154
Housing height (Hb) [mm]	995	1382	1124
Protective height (Hs) [mm]	832	1232	1032
Height extension (He) [mm]	92	79	21
Current consumption [mA]	110	110	110
Response time [ms]	4.2	5.0	4.2

PART REFERENCE (**BOLD**: PREFERRED TYPES)

IP 65 & IP 67	PNP / Connector M12	Sender	**YCA-50S4-3400-G012**	**YCA-50S4-4400-G012**	**YCA-50S4-3500-G012**
		Receiver	**YCA-50R4-3400-G012**	**YCA-50R4-4400-G012**	**YCA-50R4-3500-G012**
	PNP / PUR-cable 2 m	Sender	YCA-50S4-3400-D020	YCA-50S4-4400-D020	YCA-50S4-3500-D020
		Receiver	YCA-50R4-3400-D020	YCA-50R4-4400-D020	YCA-50R4-3500-D020
	PNP / PUR-cable 5 m	Sender	YCA-50S4-3400-D050	YCA-50S4-4400-D050	YCA-50S4-3500-D050
		Receiver	YCA-50R4-3400-D050	YCA-50R4-4400-D050	YCA-50R4-3500-D050
	PNP / PUR-cable 10 m	Sender	YCA-50S4-3400-D100	YCA-50S4-4400-D100	YCA-50S4-3500-D100
		Receiver	YCA-50R4-3400-D100	YCA-50R4-4400-D100	YCA-50R4-3500-D100
IP 65, IP 67 & IP 69K	PNP / Connector M12	Sender	**YCA-50S4-3400-G012-69K**	**YCA-50S4-4400-G012-69K**	**YCA-50S4-3500-G012-69K**
		Receiver	**YCA-50R4-3400-G012-69K**	**YCA-50R4-4400-G012-69K**	**YCA-50R4-3500-G012-69K**
	PNP / PUR-cable 2 m	Sender	YCA-50S4-3400-D020-69K	YCA-50S4-4400-D020-69K	YCA-50S4-3500-D020-69K
		Receiver	YCA-50R4-3400-D020-69K	YCA-50R4-4400-D020-69K	YCA-50R4-3500-D020-69K
	PNP / PUR-cable 5 m	Sender	YCA-50S4-3400-D050-69K	YCA-50S4-4400-D050-69K	YCA-50S4-3500-D050-69K
		Receiver	YCA-50R4-3400-D050-69K	YCA-50R4-4400-D050-69K	YCA-50R4-3500-D050-69K
	PNP / PUR-cable 10 m	Sender	YCA-50S4-3400-D100-69K	YCA-50S4-4400-D100-69K	YCA-50S4-3500-D100-69K
		Receiver	YCA-50R4-3400-D100-69K	YCA-50R4-4400-D100-69K	YCA-50R4-3500-D100-69K

* Total height given with M12 connector. For cable version, add 6 mm.

Detailed data sheets for these products can be found on the CONTRINEX website:

SAFETY RELAY
YRB-0131-241

MAIN FEATURES

- For safety light curtains and access control barriers with symmetric (such as Safetinex YBB and YCA models) or asymmetric outputs
- Safety Integrity Level (SIL) 3 according to IEC/EN 61508
- Claimed Level (SIL CL) 3 according to IEC/EN 62061
- Performance Level (PL) e and category 4 according to EN/ISO 13849-1
- Safety category 4 according to EN 954-1
- Certified TÜV, CE and UL
- Output: 3 N.O. safety contacts / 1 N.C. monitoring contact
- Manual or automatic restart
- LED indicator for channel 1, 2 and power supply
- 22.5 mm wide, DIN-rail-mountable housing

APPLICATION AREA

This safety relay is a SIL 3, PL e and category 4 device, designed for the protection of people and machines. It can be used in applications together with:

- Electro-sensitive protective equipment type 4 (light curtains and access control barriers)

TECHNICAL DATA

INPUT

Nominal voltage U_N		24 VDC
Voltage range		0.9 ... 1.1 U_N
Nominal consumption		DC approx. 1.7 W
Min. off-time		250 ms
Control voltage on S11 at U_N		22.5 VDC
Control current typ. over S12, S22		35 mA at U_N
Min. voltage on S12, S22 when relay is activated		21 VDC
Short-circuit protection		Internal PTC
Overvoltage protection		Internal VDR

OUTPUT

Contacts		3 N.O. safety contacts	
		1 N.C. contact **ATTENTION! N.C. contact can only**	
		be used for monitoring	
Operating delay (typ.) at U_N:	manual restart	20 ms	
	automatic restart	350 ms	
Release delay (typ.) at U_N:	disconnecting supply	20 ms	
	disconnecting S12, S22	15 ms	
Contact type		positively driven	
Nominal output voltage		250 VAC (DC: see Diagram 1)	
Switching of low loads		≥ 100 mV	
(contact 5 µ Au)		≥ 1 mA	
Thermal current I_{th}		max. 8 A per contact (see Diagram 2)	
Switching capacity (according to IEC/EN 60947-5-1)			
to AC 15:	N.O. contacts	3 A / 230 VAC	
	N.C. contacts	2 A / 230 VAC	
to DC 13:	N.O. contacts	4 A / 24 VDC	0.5 A / 110 V
	N.C. contacts	4 A / 24 VDC	
to DC 13:	N.O. contacts	8 A / 24 VDC	> 25 x 10^3
		ON: 0.4 s	OFF: 9.6 s

GENERAL DATA

Electrical contact life at 5 A, 230 VAC cos φ = 1		> 1.5 x 10^5 switching cycles	
Permissible operating frequency		max. 1200 operating cycles / h	
Short-circuit strength:	max. fuse rating	10 A gL	IEC/EN 60947-5-1
	line circuit breaker	B 6 A	
Ambient temperature range		-15 ... +55 °C (+5 ... +130 °F)	
EMC		according to IEC/EN 61000-4-2 to 5	
Degree of protection:	Housing	IP 40	IEC/EN 60529
	Terminals	IP 20	IEC/EN 60529
Wire connection		according to DIN 46228-1/-2/-3/-4	

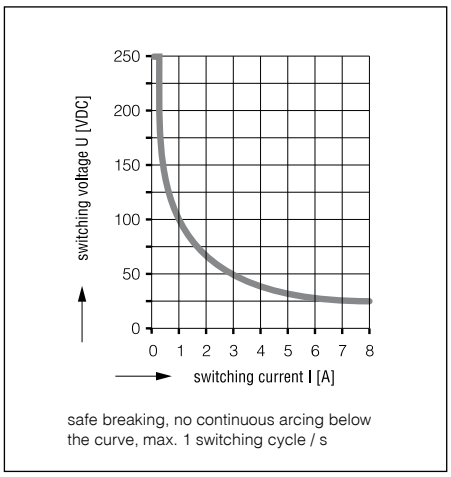


Diagram 1: limit curve for arc-free operation under resistive load

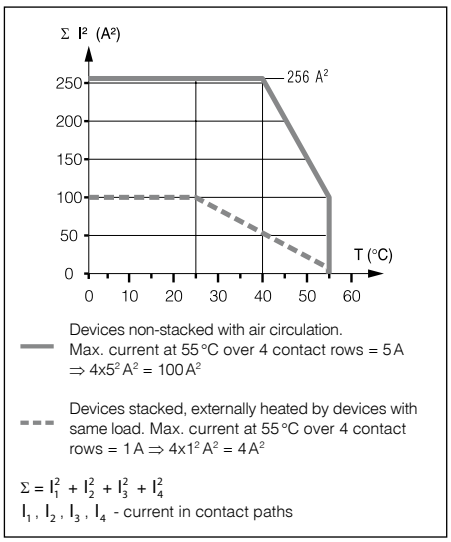
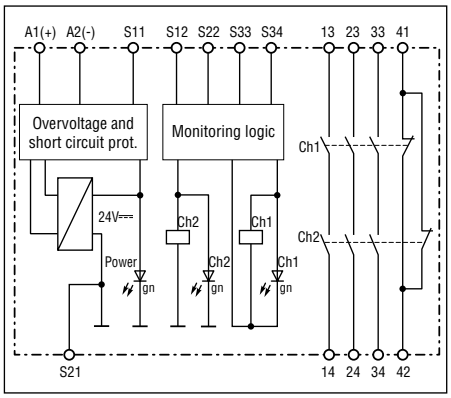


Diagram 2: total current limit curve



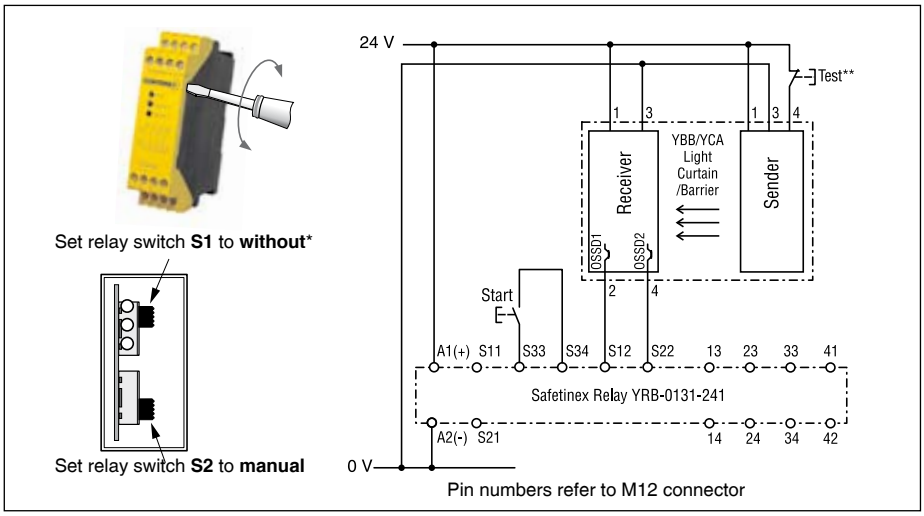
Relay block diagram

Housing material	thermoplastic, meets UL 94V-0
Mounting	on DIN rail IEC/EN 60715
Weight	220 g
Housing dimensions (W x H x D)	22.5 x 90 x 118 mm

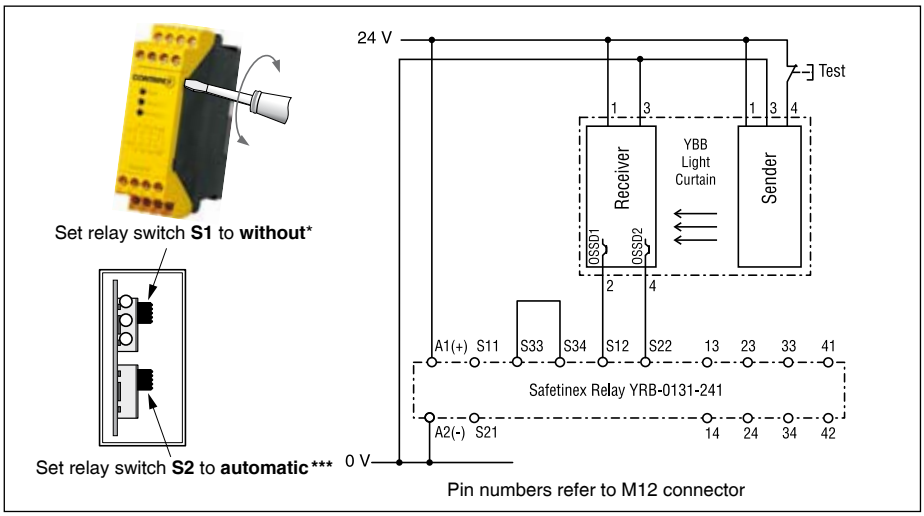
PART REFERENCE

Safety relay	YRB-0131-241

MANUAL RESTART MODE (Channel 1)



AUTOMATIC RESTART MODE (Channel 1)



* Position of switch S1:

– With symmetric outputs on light curtains or access control barriers (such as Safetinex YBB and YCA models), set switch S1 to "without".

– With asymmetric outputs on light curtains or access control barriers, set switch S1 to "with".

** Test button is only applicable for YBB models.

*** Automatic restart is **not allowed** for YCA access control devices.

MULTI-FUNCTIONAL
SAFETY RELAY
YRB-0330-242

MAIN FEATURES

- Safety Integrity Level (SIL) 3 according to IEC/EN 61508
- Claimed Level (SIL CL) 3 according to IEC/EN 62061
- Performance Level (PL) e and category 4 according to EN/ISO 13849-1
- Safety category 4 according to EN 954-1
- Certified TÜV, CE and UL
- Outputs:
  - 3 x N.O. safety contacts
  - 2 semiconductor outputs, short-circuit and overload protected
- Wire-break detection on AOPD input
- With under- and overvoltage detection and indication
- Reaction time: max. 30 ms
- LED indicators for RUN operation, channel 1/2
- 45 mm wide, DIN-rail-mountable housing

APPLICATION AREA

- The following operation types can be selected by means of a rotary switch:
  - **Protective operation**, e.g. light curtains
  - **Protective operation with muting**, e.g. conveyor belts
    - Setting of various signal cycles of muting sensors
    - Setting of max. permissible muting time
    - Override function by means of start button
  - **Stepping operation**, e.g. presses
    - 1, 2 or 3 cycles
    - Number of cycles can be set by means of key switch
- Suitable for connection of type 4 AOPDs or type 2 AOPDs according to IEC/EN 61496-1, cross-circuit monitoring in AOPDs
- Connection of max.
  - 3 2-channel AOPDs, or
  - 2 2-channel AOPDs and 2 1-channel muting sensors, or
  - 1 2-channel AOPD and 4 1-channel muting sensors, or
  - 2 2-channel AOPDs and key switch for cycle switching
  - additionally: start button and machine contact with line-fault detection

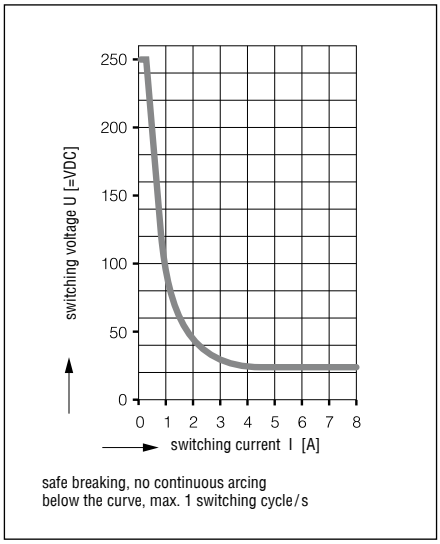
TECHNICAL DATA

INPUT

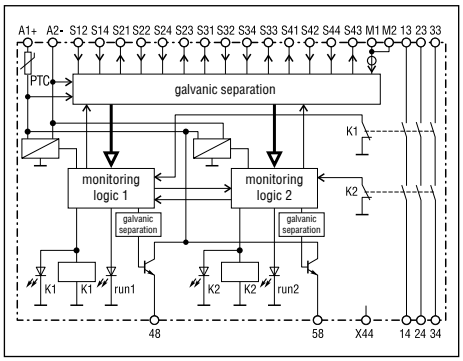
Nominal voltage U_N	24 VDC	
Voltage range at max. 5 % ripple content	0.85 ... 1.15 U_N	
Nominal consumption	max. 170 mA (no load on semiconductor outputs)	
Control voltage on		
S21, S23, S31, S33, S41, S43, 48, 58	23 VDC at U_N	
Control current on		
S12, S14, S22, S24, S32, S34, S42, S44	4.5 mA each at U_N	
Min. voltage on		
S12, S14, S22, S24, S32, S34, S42, S44	16 VDC	
Device protection	Internal by means of PTC	
Min. current on M1, M2	25 mA (lamp active)	

OUTPUT

Contacts	3 x N.O.	
Contact type	Relay, positively driven	
Operating delay (typ. at U_N):		
Manual start	max. 50 ms	
Automatic start	max. 1.5 s	
Automatic restart	max. 55 ms	
Release delay (reaction time)	max. 30 ms	
	(max. 50 ms when error on AOPD and only 1	
	input channel of AOPD off)	
Nominal output voltage	250 VAC	
	DC: see limit curve for arc-free operation	
Switching of low loads	≥ 100 mV	
Thermal current I_{th}	5 A	
Switching capacity		
to AC 15	3 A / 230 VAC	IEC/EN 60947-5-1
to DC 13 at 0.1 Hz	8 A / 24 VDC	IEC/EN 60947-5-1



Limit curve for arc-free operation



Block diagram

SEMICONDUCTOR OUTPUTS

Output (terminals 48 and 58)	Transistor outputs, plus switching
Nominal output voltage	24 VDC, max. 100 mA continuous current,
	max. 400 mA for 0.5 s internal short-circuit, over-
	temperature and overload protection

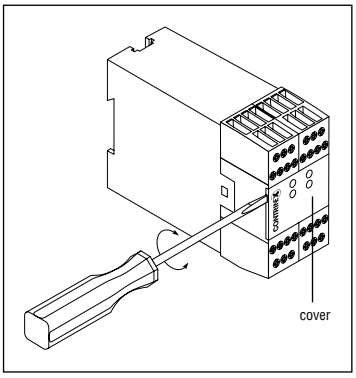
GENERAL DATA

Electrical life	10^5 switching cycles	IEC/EN 60947-5-1
to AC 15 at 2 A, AC 230 V		
Permissible operating frequency	max. 1200 switching cycles/h	
Short-circuit strength:		
max. fuse rating	6 A gL	IEC/EN 60947-5-1
line circuit breaker	C 8 A	
Mechanical life	10 x 10^6 switching cycles	
Temperature range	0 ... +50 °C (+32 ... +122 °F)	
Clearance and creepage distance:		
Nominal impulse voltage /	4 kV / 2	IEC/EN 60664-1
Pollution degree		
EMC:		
Electrostatic discharge (ESD)	8 kV (contact discharge)	IEC/EN 61000-4-2
	(according to test degree 3)	
HF irradiation	10 V / m	IEC/EN 61000-4-3
Fast transients:		
- on power supply wires A1 - A2	2 kV	IEC/EN 61000-4-4
- on signal and control wires	2 kV	IEC/EN 61000-4-4
Surge voltage:		
- between power supply wires	1 kV	IEC/EN 61000-4-5
- between wire and ground	2 kV	IEC/EN 61000-4-5
- HF-wire guided	10 V	IEC/EN 61000-4-6
Interference suppression	Limit value class B	EN 55011
Degree of protection:	according to IEC/EN 61496-1 (1997), the device	
	must be installed in a control housing with degree	
	of protection 54.	
Housing	IP 40	IEC/EN 60529
Terminals	IP 20	IEC/EN 60529
Housing	Thermoplastic polymer with V0 behavior acc. to UL	
	Subject 94	
Vibration resistance according to IEC/EN 61496-1	Amplitude 0.35 mm	
	Frequency 10 ... 55 Hz	IEC/EN 60068-2-6
Shock resistance:		
Acceleration	10 g	
Impulse length	16 ms	
Number of shocks	1000 per axis on three axes	
Climatic resistance	0 / 050 / 04	IEC/EN 60068-1
Terminals	EN 50005	
Wire connection	according to DIN 46228-1/-2/-3/-4	
Wire fixing	M3.5 captive plus-minus terminal screws	
	Box terminal with wire protection	
Mounting	DIN rail	IEC/EN 60715
Weight	320 g	
Dimensions (W x H x D)	45 x 84 x 118 mm	

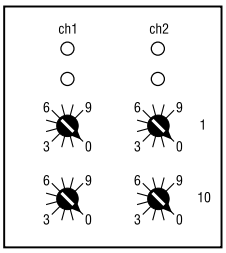
PART REFERENCE

Multi-functional safety relay	YRB-0330-242

APPLICATION EXAMPLES



Device setting



Inside view

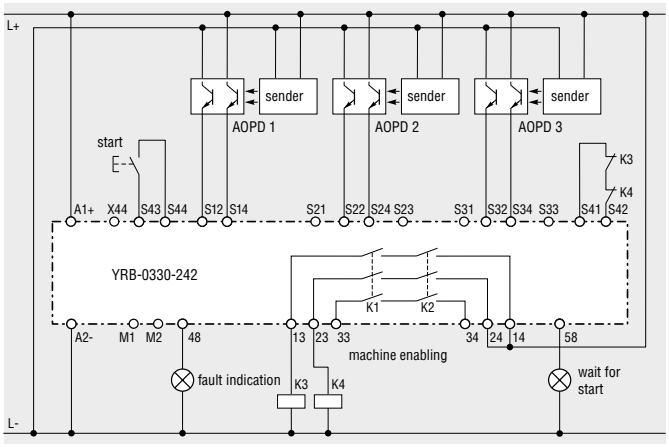


Diagram 1: Protective operation with 3 AOPDs, manual or automatic start, setting with feedback input

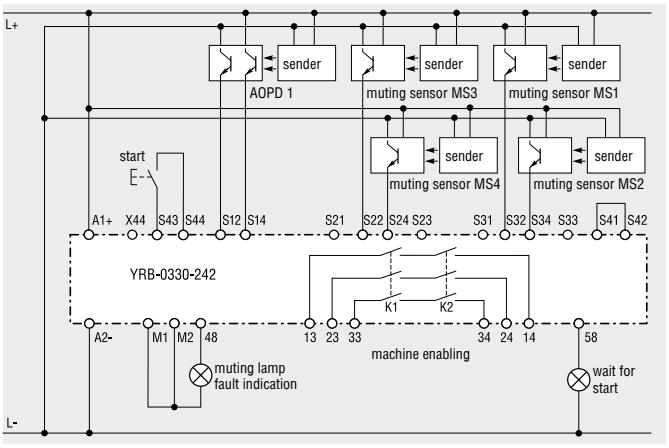


Diagram 2: Protective operation with muting, 4 muting sensors, 1 AOPD

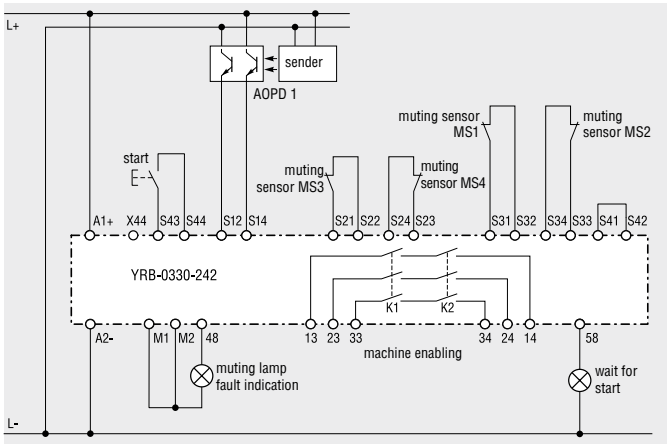


Diagram 3: Protective operation with muting via 4 muting-sensor contacts

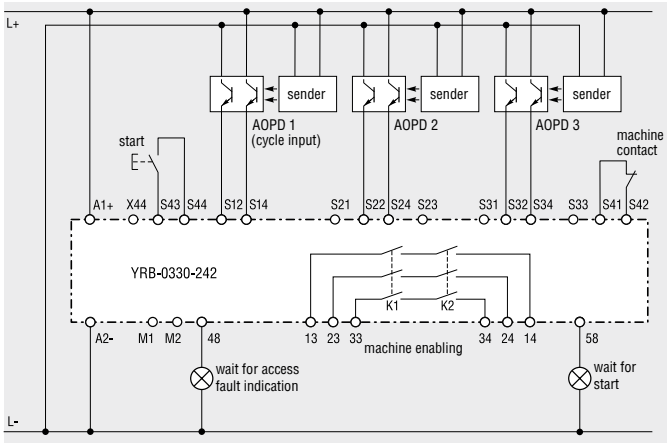


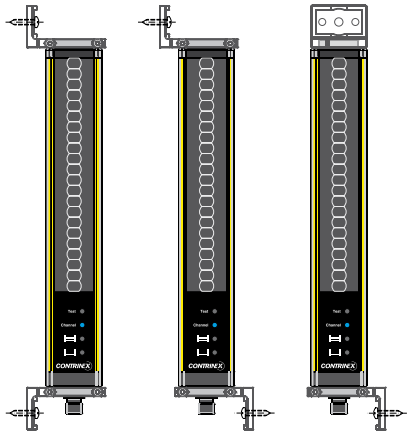
Diagram 4: Stepping operation with 3 AOPDs

ACCESSORIES

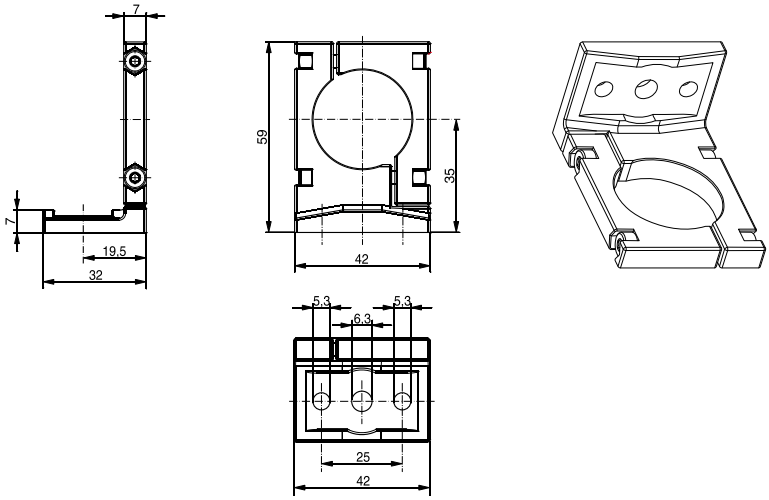
TOP/BOTTOM MOUNTING BRACKET

- Synthetic swivel mounting bracket
- Easy-to-use

A pair of mounting brackets is supplied with each light curtain or access control barrier unit.

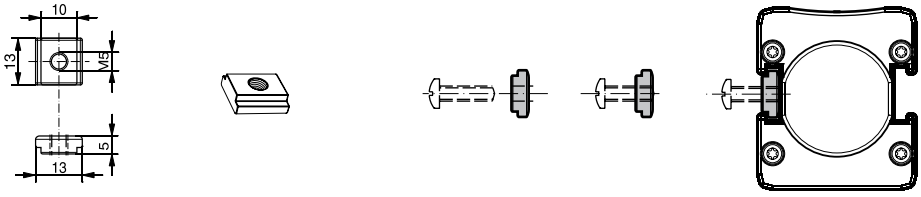


DIMENSIONS



SLIDING T-NUTS FOR SIDE MOUNTING

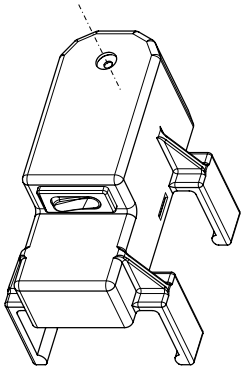
DIMENSIONS



PART REFERENCES

Top/bottom mounting brackets, synthetic (pair)	YXW-0001-000
T-nuts for side mounting, metal (pair)	YXW-0003-000

LASER ALIGNMENT TOOL



MAIN FEATURES

- Easily clippable onto Safetinex YBB and YCA devices
- Range: up to 50 m
- Output power < 1 mW
- Standard AA batteries

TECHNICAL DATA

Laser module optical output power	< 1 mW
Laser beam spot size at 10 m	< 10 mm
Range	≤ 50 m
Housing material	PA with 30% fiberglass
Dimensions	80 x 48 x 56 mm

PART REFERENCE

Laser alignment tool	YXL-0001-000

S12 4-POLE

TECHNICAL DATA

Rated voltage	250 V AC/DC max.
Rated current	4 A max.
Sleeve material	PUR non-inflammable IEC 332-2, halogen-free
	DIN VDE 0472 part 815, silicone-free, RoHS
Wire structure	4 x 0.34 mm²
Wire insulation	PP, halogen-free
Outer cable diameter	∅ 4.7 mm
Temperature range	-25 ... +80 °C (-13 ... +175 °F)
Degree of protection	IP 67
Certification	UL E227529, section 4

PART REFERENCES

PUR, unshielded, S12 4-pole, 2 m	S12-4FUG-020
PUR, unshielded, S12 4-pole, 5 m	S12-4FUG-050
PUR, unshielded, S12 4-pole, 10 m	S12-4FUG-100

S12 4-POLE WITH V4A (AISI 316L/DIN 1.4404) CONNECTORS (FOOD SAFE)

TECHNICAL DATA

Rated voltage	32 V AC/DC max.
Rated current	4 A max.
Sleeve material	PVC
Wire structure	4 x 0.34 mm²
Wire insulation	PVC
Outer cable diameter	∅ 5.2 mm ± 5 %
Temperature range	-5 ... +70 °C (+23 ... +158 °F)
Degree of protection	IP 67, IP 68 & IP 69K
Certification	CSA, Ecolab

PART REFERENCES

PVC, unshielded, S12 4-pole, 2 m	S12-4FVG-020-NNLN
PVC, unshielded, S12 4-pole, 5 m	S12-4FVG-050-NNLN
PVC, unshielded, S12 4-pole, 10 m	S12-4FVG-100-NNLN

S12 5-POLE SHIELDED

TECHNICAL DATA

Rated voltage	60 V AC/DC max.
Rated current	4 A max. per contact
Electromagnetic protection	shielded
Sleeve material	PUR
Wire structure	5 x 0.34 mm²
Wire insulation	PP
Outer cable diameter	∅ 6.3 mm ± 5 %
Temperature range	-25 ... +80 °C (-13 ... +175 °F)
Degree of protection	IP 67
Certification	UL, CSA

PART REFERENCES

PUR, shielded, S12 5-pole, 2 m	S12-5FUG-020-NBSN
PUR, shielded, S12 5-pole, 5 m	S12-5FUG-050-NBSN
PUR, shielded, S12 5-pole, 10 m	S12-5FUG-100-NBSN

DEVICE COLUMNS FOR LIGHT CURTAINS AND ACCESS CONTROL BARRIERS

- 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

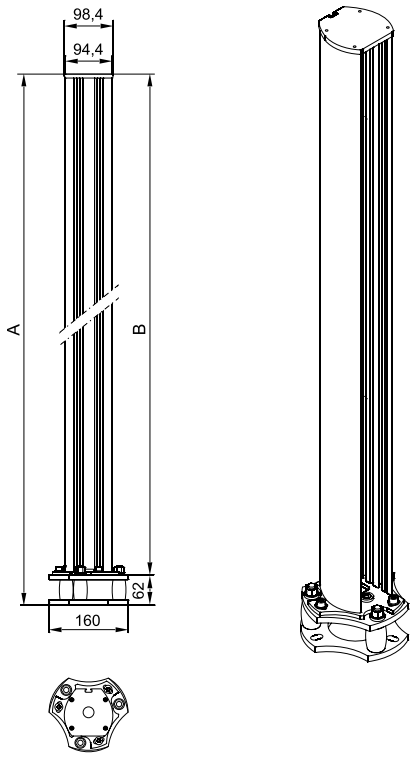
APPLICATION AREA

Free-standing floor mounting for safety light curtains and access control barriers, such as Safetinex YBB and YCA models

TECHNICAL DATA

Housing	Aluminum profile and steel floor plates
Surface	Powder-varnished, yellow (RAL 1021)

DIMENSIONS



PART REFERENCES

Device column	Total height (A) [mm]	Housing height (B) [mm]	Suitable for
YXC-1060-F00	1060	974	YBB-####-0150-#### to YBB-####-0800-####
YXC-1360-F00	1360	1274	YBB-####-0900-####, YBB-####-1000-####, YCA-####-3400-####, YCA-####-4300-####
YXC-1660-F00	1660	1574	YBB-####-1200-#### to YBB-####-1400-####, YCA-####-3500-####, YCA-####-5300-####, YCA-####-4400-####
YXC-1960-F00	1960	1874	YBB-####-1600-####, YBB-####-1700-####, YCA-####-6300-####

MIRROR COLUMNS FOR LIGHT CURTAINS AND ACCESS CONTROL BARRIERS

- 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

APPLICATION AREA

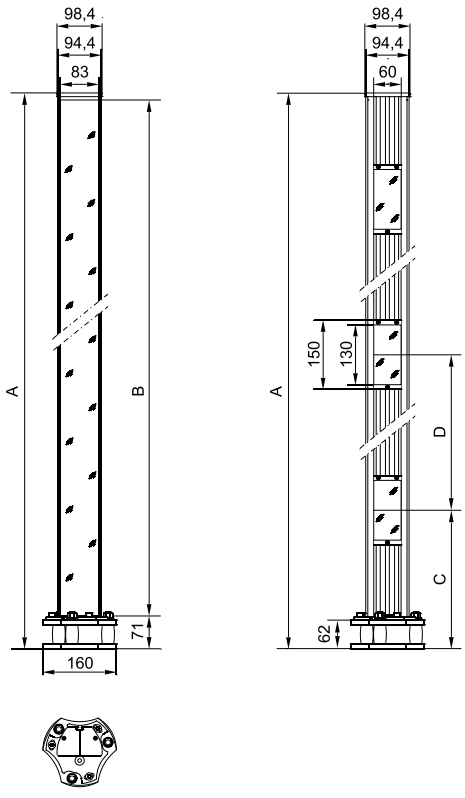
The mirror columns YXC-####-M## are used for the beam deflection of safety light curtains and access control barriers, such as Safetinex YBB and YCA models, in order to achieve multi-sided safeguarding of danger zones, while eliminating the need for additional light curtains or access control barriers. Spring elements at the base of the column provide for automatic reset following mechanical impact.

YXC-####-M11 models feature a single large mirror and are therefore suitable for use with light curtains as well as access control barriers. YXC-1360-M23/M24, on the other hand, feature 3 or 4 smaller mirrors and may consequently only be used with access control barriers.

TECHNICAL DATA

Housing	Aluminum profile and steel floor plates
Surface	Powder-varnished, yellow (RAL 1021)

DIMENSIONS



PART REFERENCES

Single-mirror column	Total height (A) [mm]	Mirror height (B) mm]
YXC-1060-M11	1060	974
YXC-1360-M11	1360	1274
YXC-1660-M11	1660	1574
YXC-1960-M11	1960	1874

Multi-mirror column	Total height (A) [mm]	Beam gap (D) [mm]	Height lowest beam (C) [mm]
YXC-1360-M23	1360	2 x 400	300
YXC-1360-M24	1360	3 x 300	300

CONTRINEX

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