

SAFETY LIGHT CURTAIN

YBB-14x4-xxxx-G012



RESOLUTION 14 MM

TYPE 4 / PL e

OUTSTANDING FEATURES

- Protective height: 137 mm ... 1685 mm
- Operating range: 0.25 ... 3.5 m
- Category 4, PL e according to EN/ISO 13849-1 (former EN 954-1)
- Type 4 according to IEC 61496-1/2
- 2-channel selection
- Optically synchronized units
- Permanent autocontrol

TECHNICAL DATA (at +23°C ±5°C, 24 VDC)

Resolution	14 mm
Beam axis interval	8 mm
Effective aperture angle	< ± 2.5° (when operating distance ≥ 3 m)
Operating range	0.25 ... 3.5 m
Housing size	42 mm x 48 mm x Ht
Total height (Ht)	see type-specific data (page 2)
Housing height (Hb)	see type-specific data (page 2)
Protective height (Hs)	see type-specific data (page 2)
Number of beams	see type-specific data (page 2)
Response time	see type-specific data (page 2)
Supply voltage	24 VDC ± 20%
Current consumption	see type-specific data (page 2)
Dissipated power	see type-specific data (page 2)
Polarity	2 PNP outputs
Output protection	short-circuit, overload protected
Output monitoring	cross-circuit monitored
Output current	max. 200 mA per output (at 50°C / 122°F)
Output voltage ON min.	18 -23 V for supply voltage 24 VDC ± 20%
Output voltage OFF max.	1.0 V
Output monitoring frequency	500 Hz
Leakage current when OFF state	< 1 mA
Maximum load inductance	100 mH
Sender wavelength	IR 950 nm
Safety level	Category 4, Type 4 (IEC 61496-1/2), PLe (see also type-specific data on page 2)
Electrical protection class	III (IEC 61140)
Startup delay	< 0.5 s
Vibration resistance	10 to 55 Hz, 0.35 mm amplitude, 1 octave/min., 20 sweeps for each axis
Shock resistance	10 g during 16 ms, 1000 times for each axis
Light immunity	incandescent lamp: 3000 lx max. (light intensity on receiver surface); xenon flash tube: flash duration 1.2 ms max. with a frequency of 2 Hz max. (IEC 61496-2)
Ambient temperature range	-35 ... +60°C (-31 ... +140°F)
Storage temperature range	-40 ... +70°C (-40 ... +158°F)
Air humidity	15 ... 95% (non-condensing)
Enclosure rating	IP65 + IP67 (EN 60529/A1)
Housing material	aluminum profile, PMMA front screen
Material of upper and lower cover	PA + 30% fiberglass
Cable runs	100 m max. (at 10 nF capacitive load)
Weight	see type-specific data (page 2)
Reference standards:	safety
	environment
	EMC
	radio disturbance

TYPE-SPECIFIC DATA

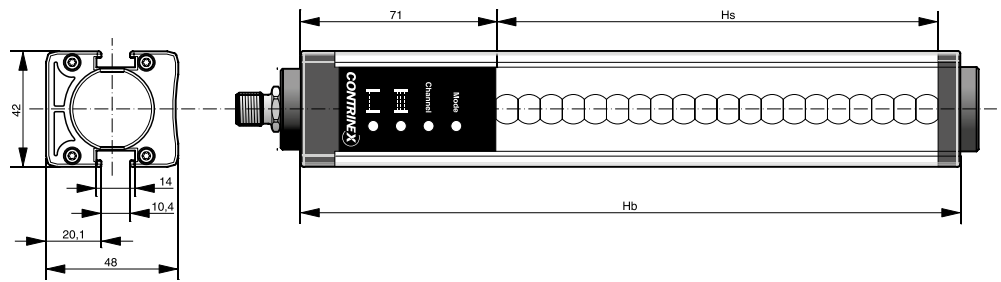
BEAM RESOLUTION: 14 MM

Part reference	Protective Height Hs [mm]	Housing Height Hb [mm]	Total Height Ht [mm]	Number of Beams	Current Consumption [mA max.]*	Response Time [ms]	MTTF ^d [years]	DC ^{avg}	Dissipated power [W max.]*	Weight [g]
YBB-14x4-0150-G012	137	221	251	17	50 (S)/90 (R)	5.2	142	96%	1.4 (S)/2.6 (R)	470
YBB-14x4-0250-G012	266	350	380	33	50 (S)/95 (R)	8.4	114	96%	1.4 (S)/2.7 (R)	740
YBB-14x4-0400-G012	395	479	509	49	50 (S)/ 100 (R)	11.6	96	95%	1.4 (S)/2.9 (R)	1000
YBB-14x4-0500-G012	524	608	638	65	50 (S)/110 (R)	14.8	83	95%	1.4 (S)/3.2 (R)	1270
YBB-14x4-0700-G012	653	737	767	81	50 (S)/115 (R)	18	73	95%	1.4 (S)/3.3 (R)	1540
YBB-14x4-0800-G012	782	866	896	97	50 (S)/120 (R)	21.2	65	94%	1.4 (S)/3.5 (R)	1800
YBB-14x4-0900-G012	911	995	1025	113	50 (S)/125 (R)	24.4	59	94%	1.4 (S)/3.6 (R)	2070
YBB-14x4-1000-G012	1040	1124	1154	129	50 (S)/130 (R)	27.6	53	94%	1.4 (S)/3.7 (R)	2340
YBB-14x4-1200-G012	1169	1253	1283	145	50 (S)/140 (R)	30.8	49	94%	1.4 (S)/4.0 (R)	2600
YBB-14x4-1300-G012	1298	1382	1412	161	50 (S)/145 (R)	34	45	94%	1.4 (S)/4.2 (R)	2870
YBB-14x4-1400-G012	1427	1511	1541	177	50 (S)/150 (R)	37.2	42	94%	1.4 (S)/4.3 (R)	3140
YBB-14x4-1600-G012	1556	1640	1670	193	50 (S)/155 (R)	40.4	39	94%	1.4 (S)/4.5 (R)	3400
YBB-14x4-1700-G012	1685	1769	1799	209	50 (S)/160 (R)	43.6	37	94%	1.4 (S)/4.6 (R)	3670

x = S for sender / R for receiver / K for kit (sender + receiver)

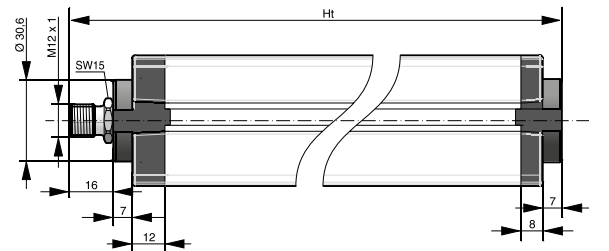
* Excl. load

HOUSING SIZE



Connector M12

YBB-14S4-####-G012
YBB-14R4-####-G012
YBB-14K4-####-G012

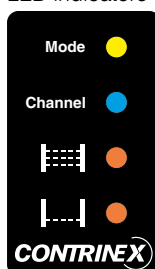


PART REFERENCE

Output type	Sender	Receiver	Kit (Sender + Receiver)
PNP / Connector M12	YBB-14S4-0150-G012	YBB-14R4-0150-G012	YBB-14K4-0150-G012
PNP / Connector M12	YBB-14S4-0250-G012	YBB-14R4-0250-G012	YBB-14K4-0250-G012
PNP / Connector M12	YBB-14S4-0400-G012	YBB-14R4-0400-G012	YBB-14K4-0400-G012
PNP / Connector M12	YBB-14S4-0500-G012	YBB-14R4-0500-G012	YBB-14K4-0500-G012
PNP / Connector M12	YBB-14S4-0700-G012	YBB-14R4-0700-G012	YBB-14K4-0700-G012
PNP / Connector M12	YBB-14S4-0800-G012	YBB-14R4-0800-G012	YBB-14K4-0800-G012
PNP / Connector M12	YBB-14S4-0900-G012	YBB-14R4-0900-G012	YBB-14K4-0900-G012
PNP / Connector M12	YBB-14S4-1000-G012	YBB-14R4-1000-G012	YBB-14K4-1000-G012
PNP / Connector M12	YBB-14S4-1200-G012	YBB-14R4-1200-G012	YBB-14K4-1200-G012
PNP / Connector M12	YBB-14S4-1300-G012	YBB-14R4-1300-G012	YBB-14K4-1300-G012
PNP / Connector M12	YBB-14S4-1400-G012	YBB-14R4-1400-G012	YBB-14K4-1400-G012
PNP / Connector M12	YBB-14S4-1600-G012	YBB-14R4-1600-G012	YBB-14K4-1600-G012
PNP / Connector M12	YBB-14S4-1700-G012	YBB-14R4-1700-G012	YBB-14K4-1700-G012

LED INDICATORS

LED indicators on the YBB **sender** unit



Test	:	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 blinking 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 blinking orange when the lowest beam is aligned OFF when screen is fully aligned

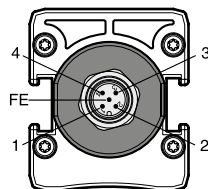
LED indicators on the YBB **receiver** unit



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

PIN ASSIGNMENT

M12 connector



ASSIGNMENT	FUNCTION	PINS/WIRES ON SENDER		PINS/WIRES ON RECEIVER	
		M12	OPEN CABLE	M12	OPEN CABLE
Power supply	24 VDC for channel 1 0 V for channel 2	1	brown	1	brown
Power supply	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

Operators of the products we supply are responsible for compliance with measures for the protection of persons. The use of our equipment in applications where the safety of persons might be at risk is only authorized if the operator observes and implements separate, appropriate and necessary measures for the protection of persons and machines. Terms of delivery and right to change design reserved. Please check our website for updates.