

SAFETY LIGHT CURTAIN

YBB-30 □4-1600-□□□□



RESOLUTION 30 MM

TYPE 4 / PL e

OUTSTANDING FEATURES

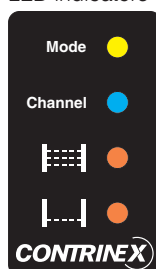
- Protective height: 1569 mm
- Operating range: 0.25 ... 12 m
- Category 4, PL e according to ISO 13849-1 (former EN 954-1)
- Type 4 according to IEC 61496-1/2
- 2-channel selection
- Optically synchronized units
- Permanent autocontrol

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

Resolution	30 mm
Beam axis interval	16 mm
Effective aperture angle	< ± 2.5° (when operating distance ≥ 3 m)
Operating range	0.25 ... 12 m
Dimensions	42 mm x 48 mm x Ht (total height with M12 connector)
Total height (Ht)	1670 mm
Housing height (Hb)	1640 mm
Protective height (Hs)	1569 mm
Number of beams	97
Response time	21.2 ms
Supply voltage range	24 VDC ± 20 %
Current consumption	sender: 45 mA max. / receiver: 120 mA max. (excl. load)
Dissipated power	sender: 1.3 W max. / receiver: 3.5 W max. (excl. load)
Output type	2 PNP outputs
Output protection	short-circuit, overload protected
Output monitoring	cross-circuit monitored
Load current	max. 200 mA per output (at 50 °C / 122 °F)
Output voltage ON min.	-1.0 V of the operating voltage
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 880 nm
Safety level	Category 4, Type 4 (IEC 61496-1/2)
	PL e, MTTF _d = 65 years, DC _{avg} = 94% (EN/ISO 13849-1)
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. (TS 61496-2:2006)
Ambient temperature range	-35 ... +60 °C (-31 ... +140 °F)
Storage temperature range	-40 ... +70 °C (-40 ... +158 °F)
Air humidity	15 ... 95 % (non-condensing)
Degree of protection	IP 65 + IP 67 (EN 60529/A1:2000)
Housing material	aluminum profile, PMMA front screen
Material of upper and lower cover	PA + 30% fiberglass
Cable runs	10 m max. (at 10 nF capacitive load)
Weight	3510 g per unit (with M12 connector)
Reference standards:	safety IEC 61496-1:2004, IEC 61496-2:2006, EN 60204-1:2006, EN 50178:1997
	environment EN 60068-2-1,2,3,6,29
	EMC EN 61000-4-2,3,4,5,6,11
	radio disturbance EN 55011/A2:2007

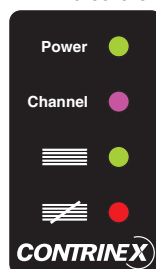
LED INDICATORS

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 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

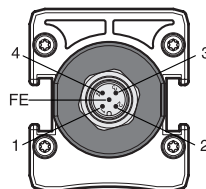
LED indicators on the YBB **receiver** unit



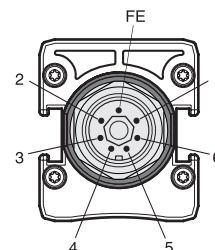
Power	:	green when power is ON
Channel	:	blue when channel 1 is selected purple when channel 2 is selected
Status	:	green when OSSD outputs are ON
Status	:	red when OSSD outputs are OFF

PIN ASSIGNMENT

M12 connector



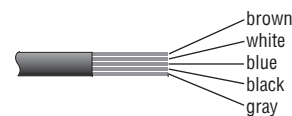
M26 connector



Pigtail M12



cable



ASSIGNMENT	FUNCTION	PINS/WIRES ON SENDER			PINS/WIRES ON RECEIVER		
		M12 / PIGTAIL	M26	OPEN CABLE	M12 / PIGTAIL	M26	OPEN CABLE
Power supply	24 VDC for channel 1 0 V for channel 2	1	1	brown	1	1	brown
Power supply	0 V for channel 1 24 VDC for channel 2	3	2	blue	3	2	blue
Test mode	0 V: test active 24 V: test inactive	4	3	black	-	-	-
Output	OSSD1	-	-	-	2	3	white
Output	OSSD2	-	-	-	4	4	black
Functional earth	Shield	FE	FE	gray	FE	FE	gray