

SAFETY LIGHT CURTAIN

YBB-14 □4-0400-□□□□



RESOLUTION 14 MM

TYPE 4 / PL e

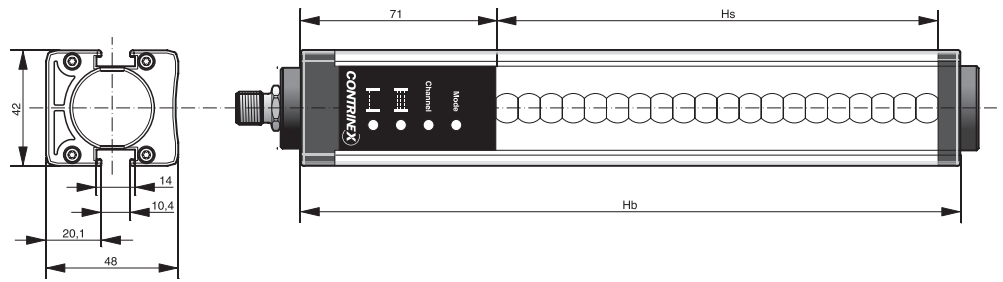
OUTSTANDING FEATURES

- Protective height: 400 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 |
| Dimensions | 42 mm x 48 mm x Ht (total height with M12 connector) |
| Total height (Ht) | 509 mm |
| Housing height (Hb) | 479 mm |
| Protective height (Hs) | 400 mm |
| Number of beams | 49 |
| Response time | 11.6 ms |
| Supply voltage range | 24 VDC ± 20 % |
| Current consumption | sender: 50 mA max. / receiver: 100 mA max. (excl. load) |
| Dissipated power | sender: 1.4 W max. / receiver: 2.9 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 950 nm |
| Safety level | Category 4, Type 4 (IEC 61496-1/2) PL e, MTTF _d = 96 years, DC _{avg} = 95% (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 | 1000 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 |

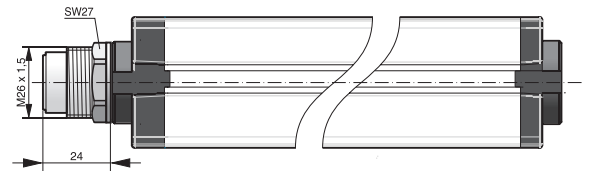
DIMENSIONS



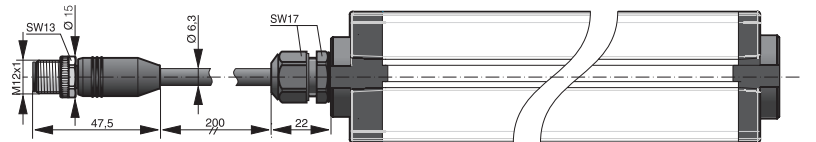
connector M12
YBB-14S4-0400-G012
YBB-14R4-0400-G012



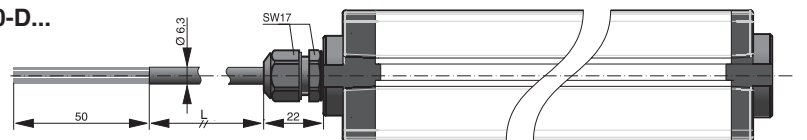
connector M26
YBB-14S4-0400-G026
YBB-14R4-0400-G026



pigtail M12
YBB-14S4-0400-P012
YBB-14R4-0400-P012



cable
YBB-14S4-0400-D...
YBB-14R4-0400-D...

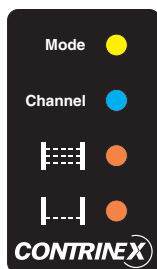


PART REFERENCE

| Output type | Sender | Receiver |
|----------------------|--------------------|--------------------|
| PNP / Connector M12 | YBB-14S4-0400-G012 | YBB-14R4-0400-G012 |
| PNP / Connector M26 | YBB-14S4-0400-G026 | YBB-14R4-0400-G026 |
| PNP / Pigtail M12 | YBB-14S4-0400-P012 | YBB-14R4-0400-P012 |
| PNP / PUR cable 2 m | YBB-14S4-0400-D020 | YBB-14R4-0400-D020 |
| PNP / PUR cable 5 m | YBB-14S4-0400-D050 | YBB-14R4-0400-D050 |
| PNP / PUR cable 10 m | YBB-14S4-0400-D100 | YBB-14R4-0400-D100 |

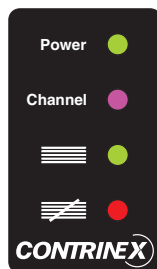
LED INDICATORS

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

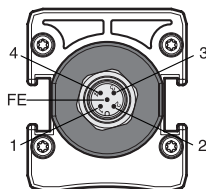
LED indicators on the YBB **receiver** unit



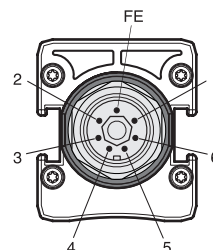
- Power : green when power is ON
- Channel : blue when channel 1 is selected
purple when channel 2 is selected
- Status : green when OSSD outputs are ON
- Status : red when OSSD outputs are OFF

PIN ASSIGNMENT

M12 connector



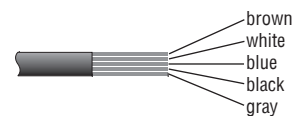
M26 connector



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 |