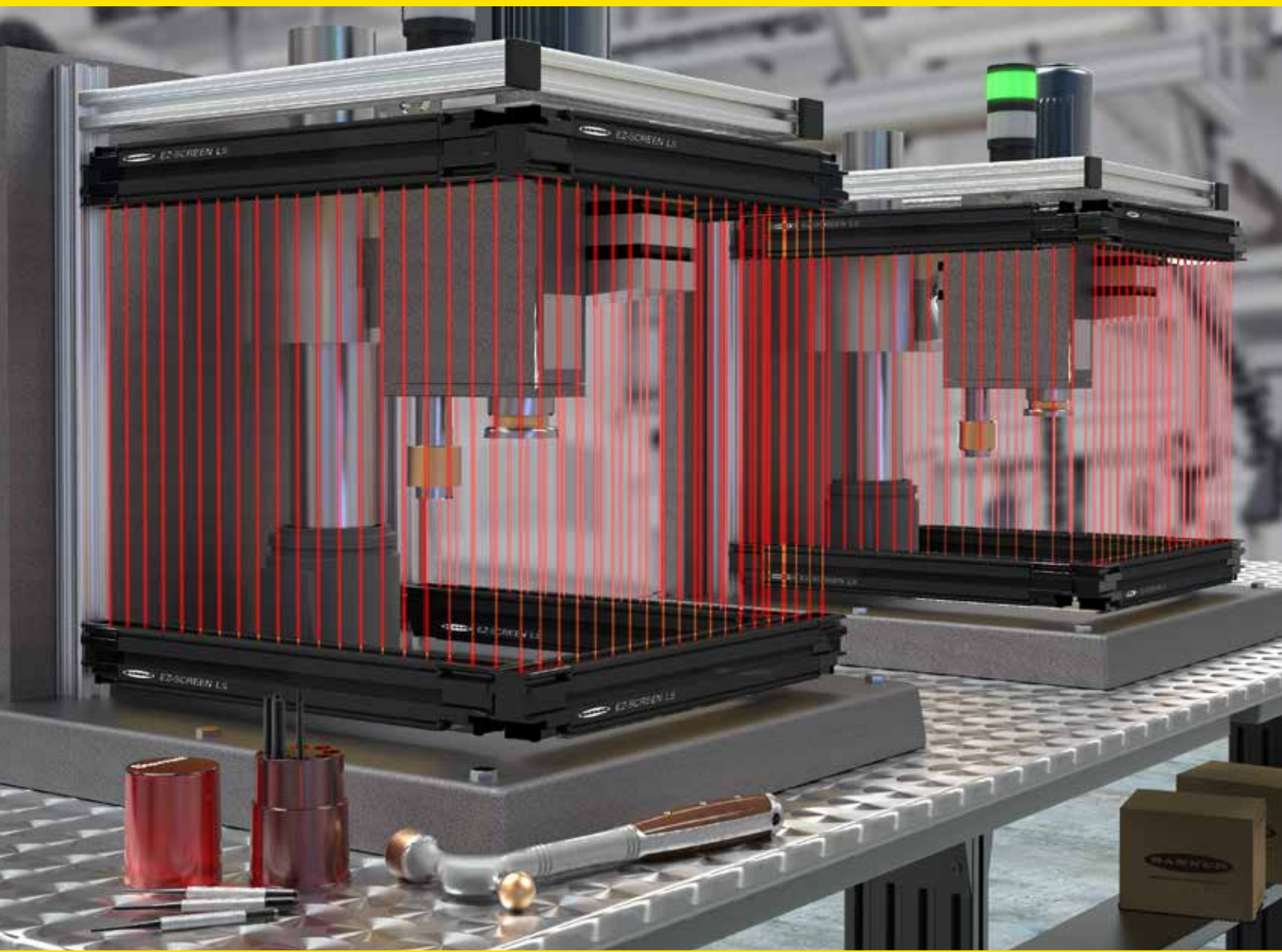


LS Series

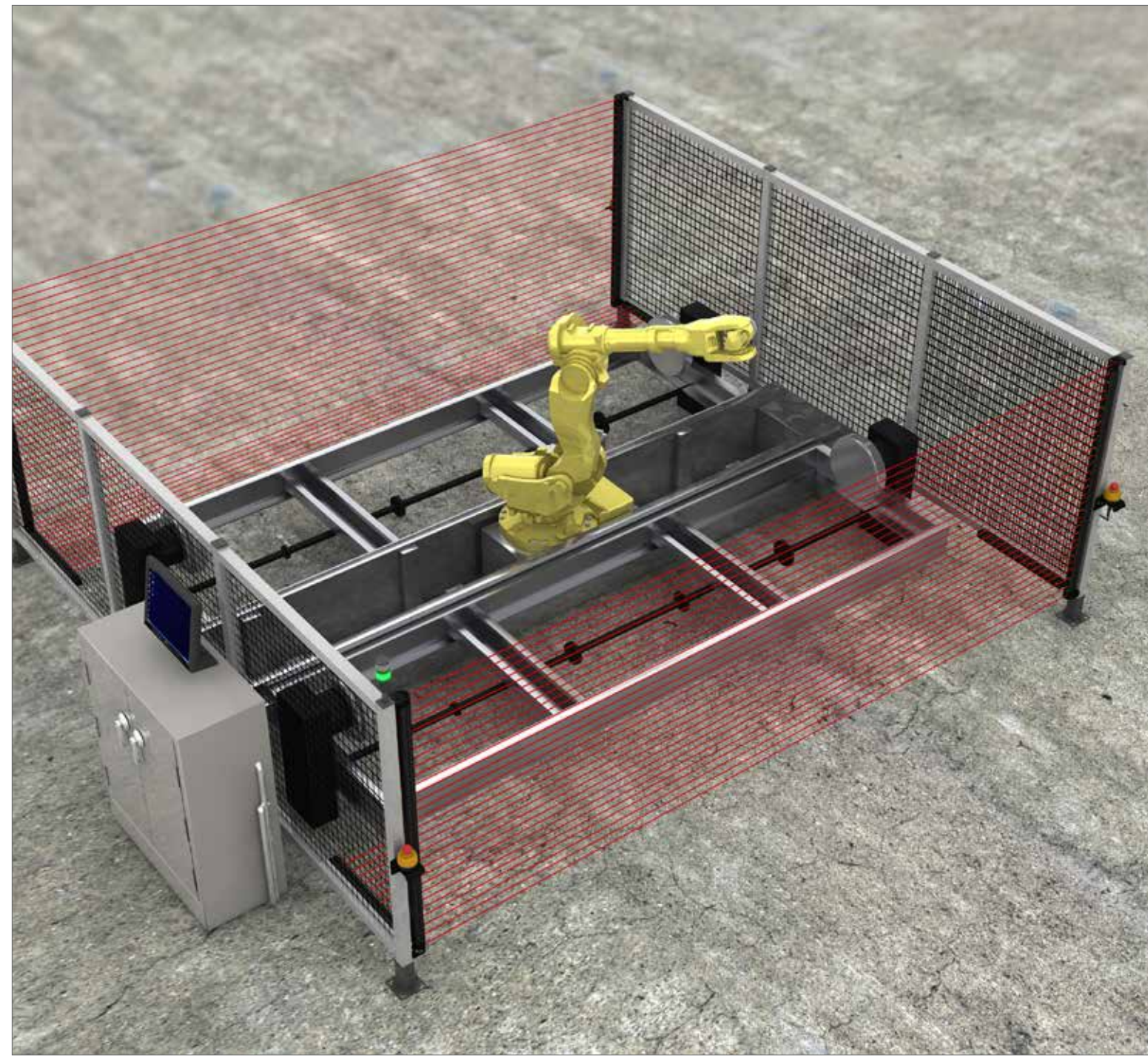
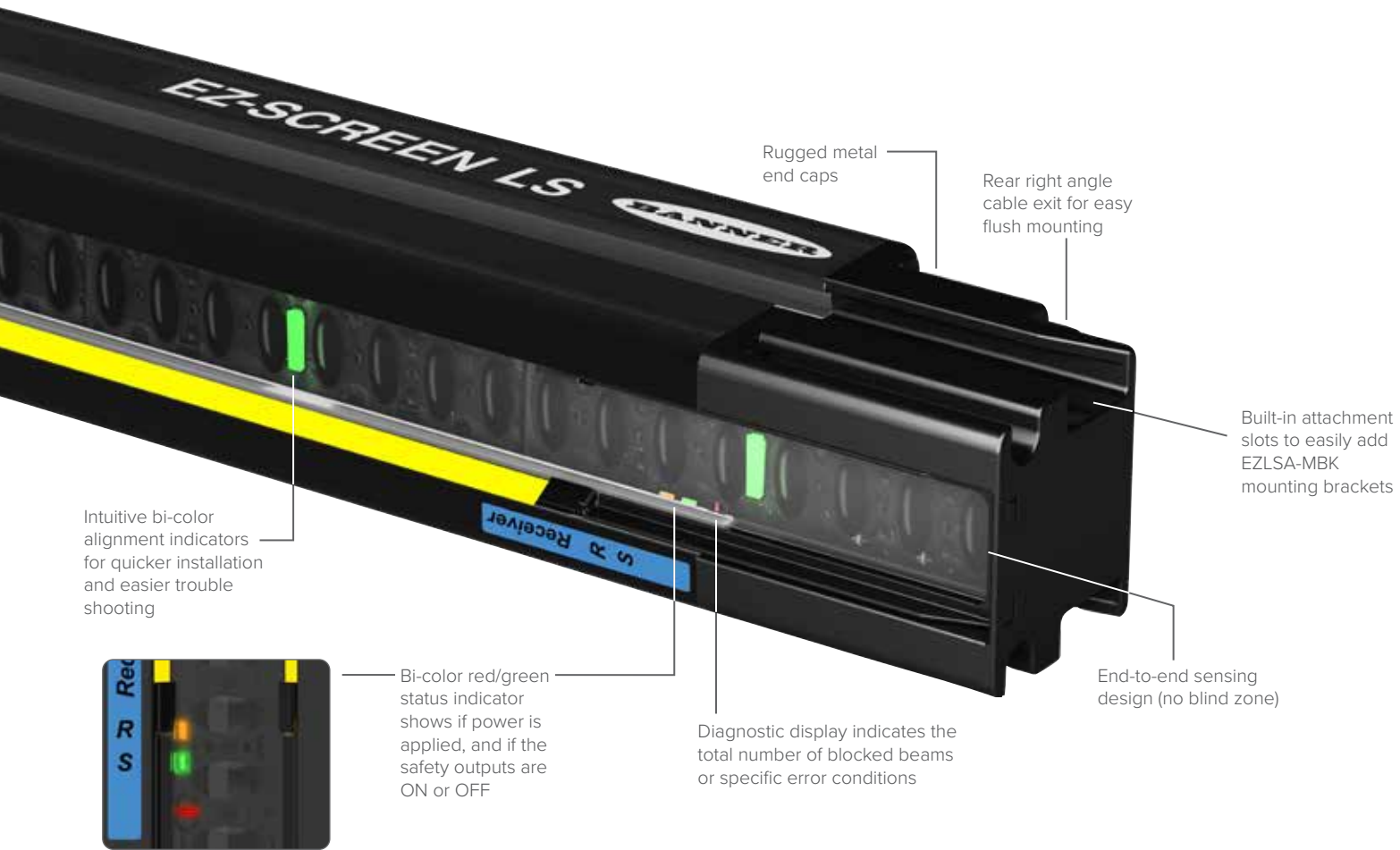


LS Heavy-Duty Type 4 Safety Light Curtains

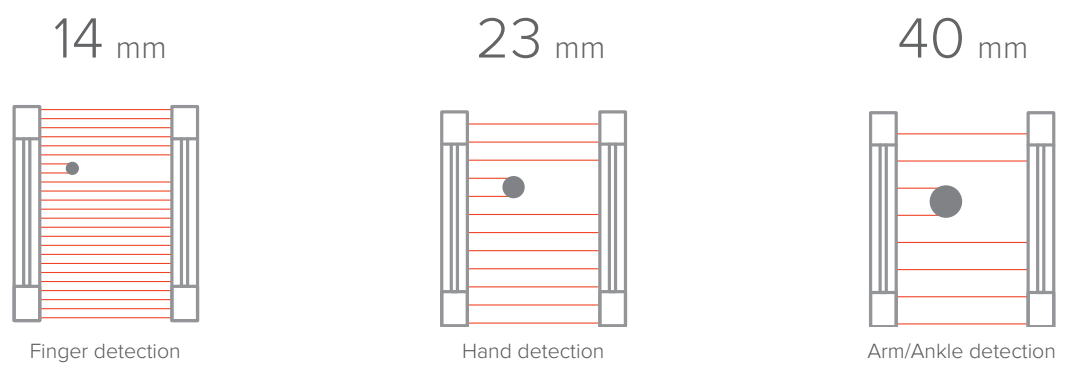
- Quick, easy set up—no DIP switches or software to configure
- End-to-end sensing for simplified integration
- Heavy-duty aluminum housing and recessed window to avoid damage in harsh environments
- Highly visible alignment and diagnostic indicators for easy set up and status
- Available in 14, 23, and 40 mm resolution for finger, hand and arm/ankle detection requirements
- Stand alone and cascade models for multi-sided protection
- IP69 Hygienic models available for washdown environments

BANNER[®]
more sensors, more solutions

Heavy-Duty Type 4 Light Curtains

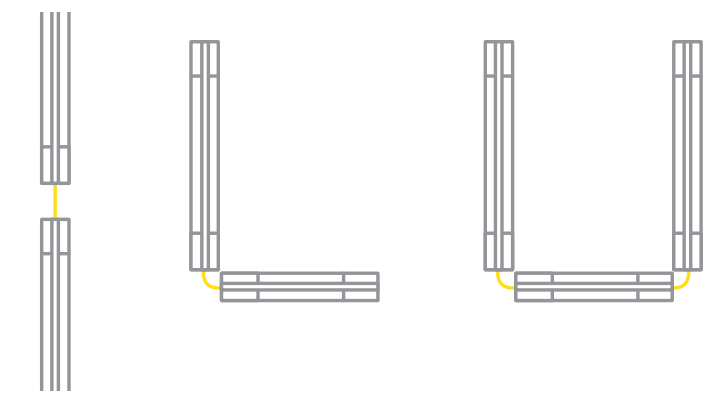


Available in Three Resolutions



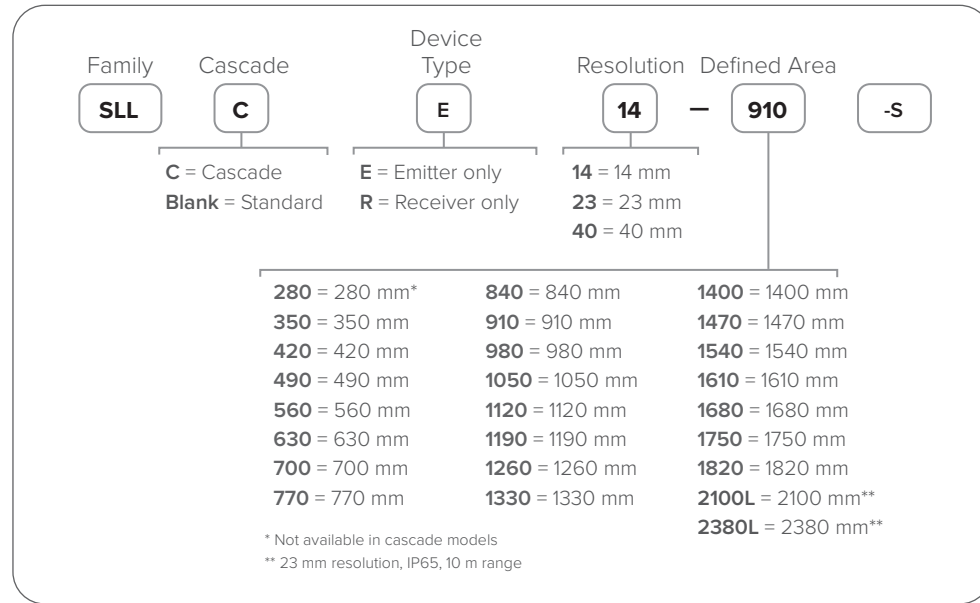
Cascade Capable

- Cascade light screens provide multi-sided protection in areas where increased access is required.
- Connect up to four pairs of EZ-SCREEN® LS Safety Light Screens
- Connect pairs of different resolutions or lengths
- Built-in automatic cascade configuration
- Each additional pair adds only 2 ms to system response time
- Scan code automatically alternates from one pair to the next



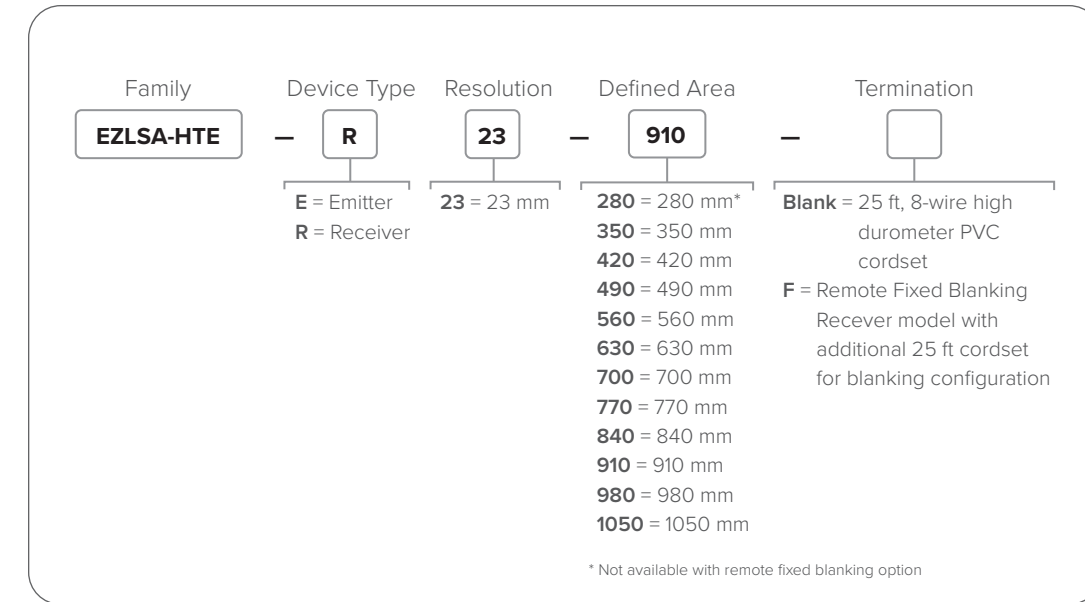
LS Safety Light Curtains

- 12 meter range
- 14, 23 and 40 mm resolution available
- 23 defined areas from 280 to 1820 mm in 70 mm increments
- External Device Monitoring, Auxiliary Fault Output and Scan Code Select included (8-pin connectors)
- Cascadable models available
- Remote Fixed Blanking to ignore stationary objects
- Optional status indicator (EZLSA-K30LGR) or fixed blanking control (EZA-RBK-1) available with cascade models



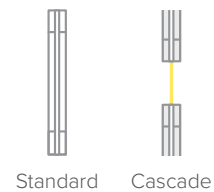
IP69 Hygienic Option

- 8.4 meter range
- 23 mm resolution
- Twelve defined areas available from 280 to 1050 mm
- IP69 Washdown-rated with easy-to-clean hygienic design
- Chemical Resistant—316 Stainless Steel and Food Grade Polycarbonate
- Hydrophobic Vent allows air to pass but not fluid – prevents condensation by allowing pressure to adjust
- Remote Fixed Blanking optional models to ignore stationary objects
- 25', 8-wire high durometer PVC cordset
- Stainless steel brackets ordered separately (see page 6)

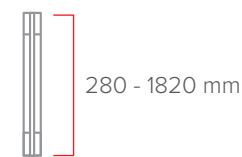


Build a Safety Solution

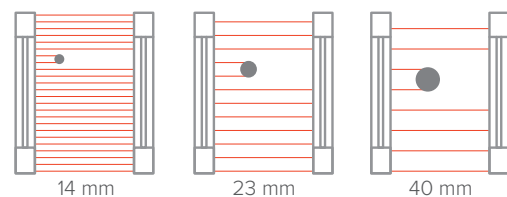
1. Choose your Emitter



3. Choose your defined area



2. Choose your resolution



4. Choose your matching Receiver

5. Choose your connection and mounting options from page 6

Connection Options

| 8-Pin | 5-Pin | Cascade |
|---|--|--|
| RD Cordsets RDLS-815D 4.6 m (15') RDLS-825D 8 m (26') RDLS-850D 15.3 m (50') 8-Pin Double-Ended DELSE-81D 0.3 m (1 ft) 8-Pin Male M12 to Dual 8-Pin Female M12 Splitter CSB-M1280M1280 No trunk/ no branches CSB-M1281M1281 0.3 m (1') trunk/2 x 0.3 m (1') branches CSB-M1288M1281 2.44 m (8') trunk/2 x 0.3 m (1') branches | RD Cordsets RDLS-515D 4.6 m (15') 5-Pin Double-Ended DELSE-51D 0.3 m (1 ft) 5-Pin Male M12 to Dual 5-Pin Female M12 Splitter CSB-M1250M1250 No trunk/ no branches CSB-M1251M1251 0.3 m (1') trunk/2 x 0.3 m (1') branches CSB-M1258M1251 2.44 m (8') trunk/2 x 0.3 m (1') branches | Double-Ended RD to RD Cordsets DELS-110E 0.05 m (0.2') DELS-111E 0.3 m (1') DELS-113E 1 m (3.3') DELS-118E 2.5 m (8.2') DELS-1115E 4.6 m (15.1') DELS-1125E 8 m (26.2') DELS-1150E 15.3 m (50.2') 5-Pin M12 with Flying Leads QDE-515D 4.5 m (15') QDE-525D 7.6 m (25') QDE-550D 15.2 m (50') QDE-575D 22.8 m (75') QDE-5100D 30.4 m (100') 5-Pin M12 Double-Ended DEE2R-51D 0.3 m (1') DEE2R-525D 7.6 m (25') DEE2R-530D 9.1 m (30') DEE2R-58D 2.5 m (8') DEE2R-512D 3.6 m (12') DEE2R-515D 4.6 m (15') DEE2R-5100D 30.5 m (100') |

Accessories

| K30LGRXPQ requires 4-pin QD K50LGRXPQ requires 4-pin QD TL50GRQ requires 4-pin QD | EZLSA-K30LGR (Green/Red) EZLSA-K30LXR (Red) Connects directly to SLLCR... cascade receiver | RD to M12 Cordsets Connects indicators/remote fixed blanking key switch to a cascade receiver <table border="1"> <thead> <tr> <th>4-Pin (use with Indicators)</th> <th>8-Pin (use with EZA-RBK-1)</th> </tr> </thead> <tbody> <tr> <td>DELSEF-40D 0.07 m (0.2')</td> <td>DELSEF-48D 2.5 m (8.2')</td> </tr> <tr> <td>DELSEF-41D 0.3 m (1')</td> <td>DELSEF-415D 4.6 m (15.1')</td> </tr> <tr> <td>DELSEF-43D 1 m (3.3')</td> <td></td> </tr> </tbody> </table> | 4-Pin (use with Indicators) | 8-Pin (use with EZA-RBK-1) | DELSEF-40D 0.07 m (0.2') | DELSEF-48D 2.5 m (8.2') | DELSEF-41D 0.3 m (1') | DELSEF-415D 4.6 m (15.1') | DELSEF-43D 1 m (3.3') | |
|---|--|--|-----------------------------|----------------------------|------------------------------------|-----------------------------------|---------------------------------|-------------------------------------|---------------------------------|--|
| 4-Pin (use with Indicators) | 8-Pin (use with EZA-RBK-1) | | | | | | | | | |
| DELSEF-40D 0.07 m (0.2') | DELSEF-48D 2.5 m (8.2') | | | | | | | | | |
| DELSEF-41D 0.3 m (1') | DELSEF-415D 4.6 m (15.1') | | | | | | | | | |
| DELSEF-43D 1 m (3.3') | | | | | | | | | | |

Bracket Options

| | | | | |
|--|---|---|---|--|
| EZLSA-MBK-11 <ul style="list-style-type: none"> • Slimmest mounting design to optimize opening while providing a wide range of adjustment • End-mount steel bracket; Includes 2 brackets and hardware • 360° rotation in 23° increments | EZLSA-MBK-12 <ul style="list-style-type: none"> • Use with EZLSA-MBK-11 for light curtains greater than or equal to 980 mm for additional support • Center-mount steel bracket; Includes 1 bracket and hardware • Rotation ± 15° | EZLSA-MBK-16 <ul style="list-style-type: none"> • Simplified mounting and alignment with an all-in-one, single set-screw, side mount bracket in a durable design • Side-mount die-cast bracket; Includes 1 bracket and hardware • Rotation +15° and -20° | EZLSA-MBK-HTE-2 Hygienic stainless steel bracket with 360° rotation for IP69 enclosure models | EZLSA-MBK-HTE-1 Stamped stainless steel bracket with 360° rotation for IP69 enclosure models |
|--|---|---|---|--|

Interface Options

| Safety Controllers | Safety Modules |
|---|--|
| XS26-2 XS26-2d XS26-2e XS26-2de SC26-2 SC26-2d SC26-2e SC26-2de SC10-2roe | SR-IM-9A SR-IM-11A UM-FA-9A UM-FA-11A MMD-TA-11B MMD-TA-12B |
| <p>Expandable safety controller supports up to eight I/O modules and programs easily using icon-based software</p> <p>Flexible, efficient safety controller has small footprint and programs easily using icon-based software" to match XS description</p> <p>Replace the functionality of two safety relay modules with one cost-effective device featuring an intuitive user interface and advanced diagnostics</p> | <p>Provides isolated safety output contacts for a primary safety device for the LS with solid-state (OSSD) outputs and external device monitoring (EDM) capability</p> <p>Monitors solid-state PNP OSSD safety outputs for LS and LS basic models, and provides latching (manual reset) function for applications requiring a reset</p> <p>Muting modules suspend safeguarding during non-hazardous portion of the machine cycle</p> |
| Contactors 11-BG00-31-D-024 BF1801L024 | Fixed Blanking Remote Key Switch EZA-RBK-1 |
| <p>Two contactors are required for higher levels of safety performance and requires monitoring by External Device Monitoring (EDM) function.</p> | <p>Used to configure fixed blanking remotely when connected to a cascade receiver using DELSEF-81D cable. Also use with DEE2R-8..D cordset to provide extension as needed.</p> |

Mute Arm Kits

- Pre-assembled for plug-and-play connection
- Adjusts easily for line changes
- Cables, mute lights and hardware accessories available



| Mute Arm Kit | Box or Pallet Muting | | |
|------------------|----------------------|---------------|----------------------|
| | Enter/Exit Direction | Width & Shape | Position on Conveyor |
| L-Configuration | One-way (exit) | Varying | Varying |
| X- Configuration | Bi-Directional | Consistent | Consistent |
| T-Configuration | Bi-Directional | Varying | Varying |

| | | |
|---|---|---|
| L-Configuration | T-Configuration | X-Configuration |
| SGSA-ML-L-LPQ20 Includes 2 mute arms, 2 SGSA-Q20PLPQ5 mute sensors, and 2 retroreflectors | SGSA-ML-R-LPQ20 Includes 4 mute arms, 4 SGSA-Q20PLPQ5 mute sensors, and 4 retroreflectors | SGSA-MX-LPQ20 Includes 4 mute arms, 2 SGSA-Q20PLPQ5 mute sensors, and 2 retroreflectors |

NOTE: EZLSA-MCB-HW allows the Mute Arms to mount directly to the LS housing
 For a list of required products and the steps necessary to create a muting solution for your Safety Light Screen, see datasheet 206632

LS Series Safety Light Curtains

Specifications

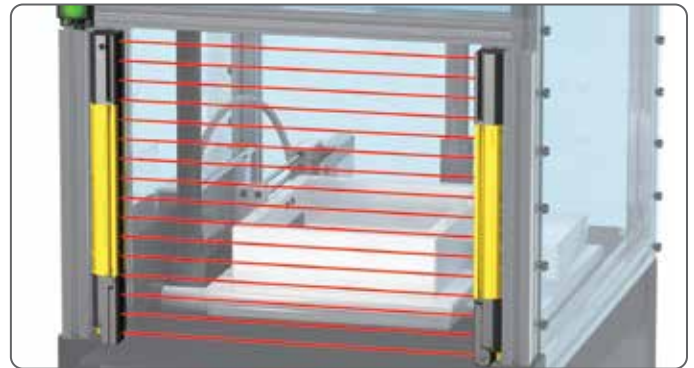
| | | | |
|-----------------------------|---|-------------------------------------|---|
| Operating Range | LS: 0.1 to 12 m (4 in to 39 ft) IP69 Hygienic: 8.4m (4 in to 27.6 ft) | Supply Voltage at the Device | 24 V dc \pm 15% (use a SELV-rated power supply according to EN IEC 60950) |
| Resolution | LS: 14 mm, 23 mm, or 40 mm, depending on model IP69 Hygienic: 23 mm | Short Circuit Protection | All inputs and outputs are protected from short circuits to +24 V dc or dc common |
| Output | Two redundant solid-state outputs (OSSD) 24 V dc, 0.5 A max. per OSSD | Electrical Safety Class | III (per IEC 61140: 1997) |
| Environmental Rating | LS: IEC IP65/IEC IP67 IP69 Hygienic: IP69 | Safety Rating | Type 4 per IEC 61496-1, -2 Category 4 PL e per EN ISO13849-1 SIL3 per IEC 61508; SIL CL3 per IEC 62061 |
| Operating Conditions | -20 °C to +55 °C (-4 °F to +131 °F) 95% maximum relative humidity (non-condensing) | Dimensions (mm) | LS: 36 W x 45 D IP69 Hygienic: \varnothing 63.5 mm Height varies by model |
| | | Certifications |   |

Banner offers intuitive, easy-to-use safety light curtains for a wide variety of safety applications



HEAVY-DUTY TYPE 4

Robust safety light curtains for harsh industrial environments.



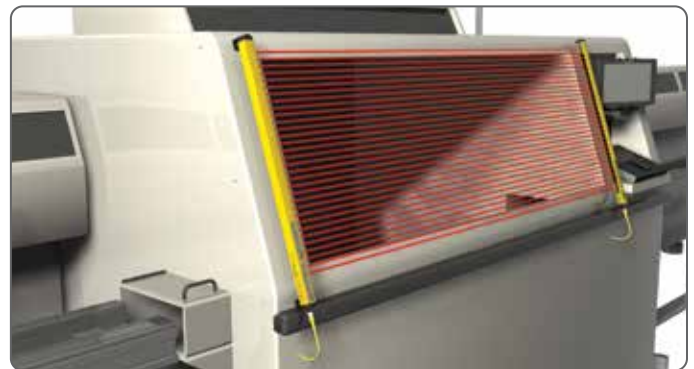
COMPACT TYPE 4

Compact safety light curtains for safety in tight spaces.



PERIMETER GUARDING TYPE 4

One to four beam safety light devices.



TYPE 2

Cost-effective safety light curtain for lower risk applications.



Banner Engineering Corp.

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