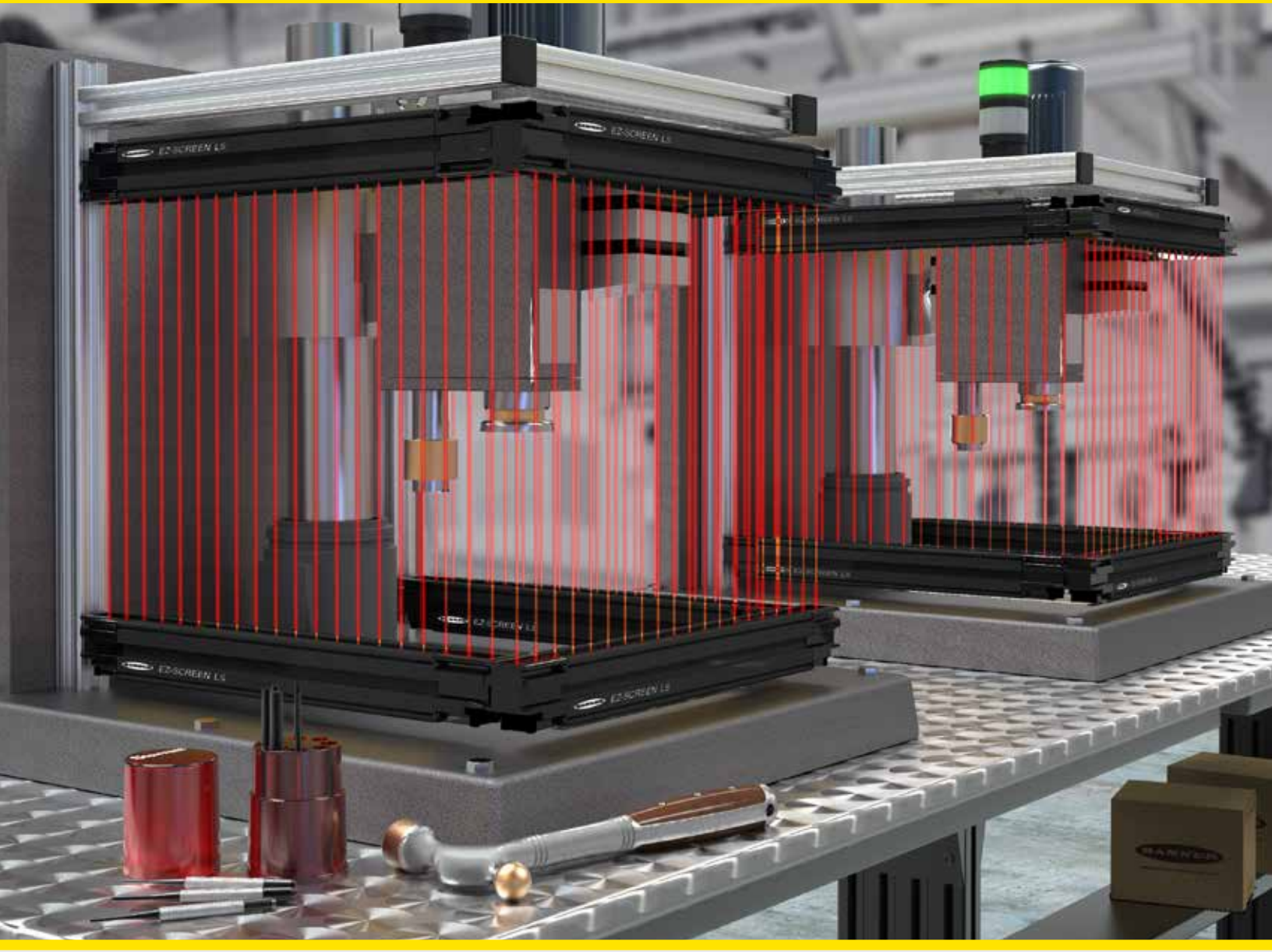
LS Series



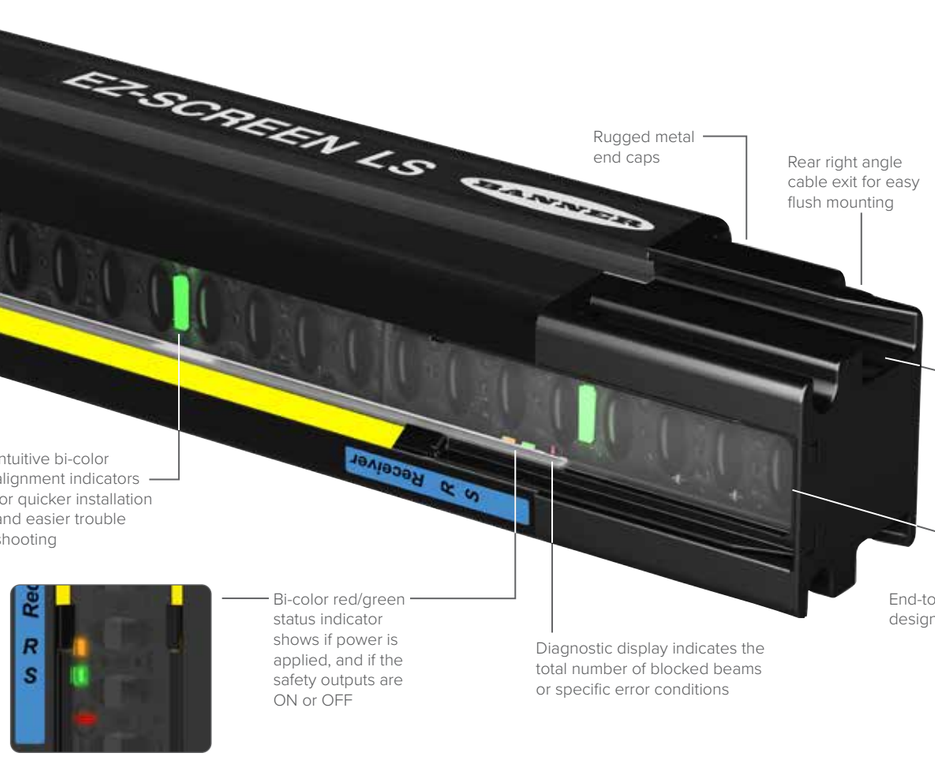
LS Heavy-Duty Type 4 Safety Light Curtains

- 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

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Heavy-Duty Type 4 Light Curtains



Rugged metal end caps

Rear right angle cable exit for easy flush mounting

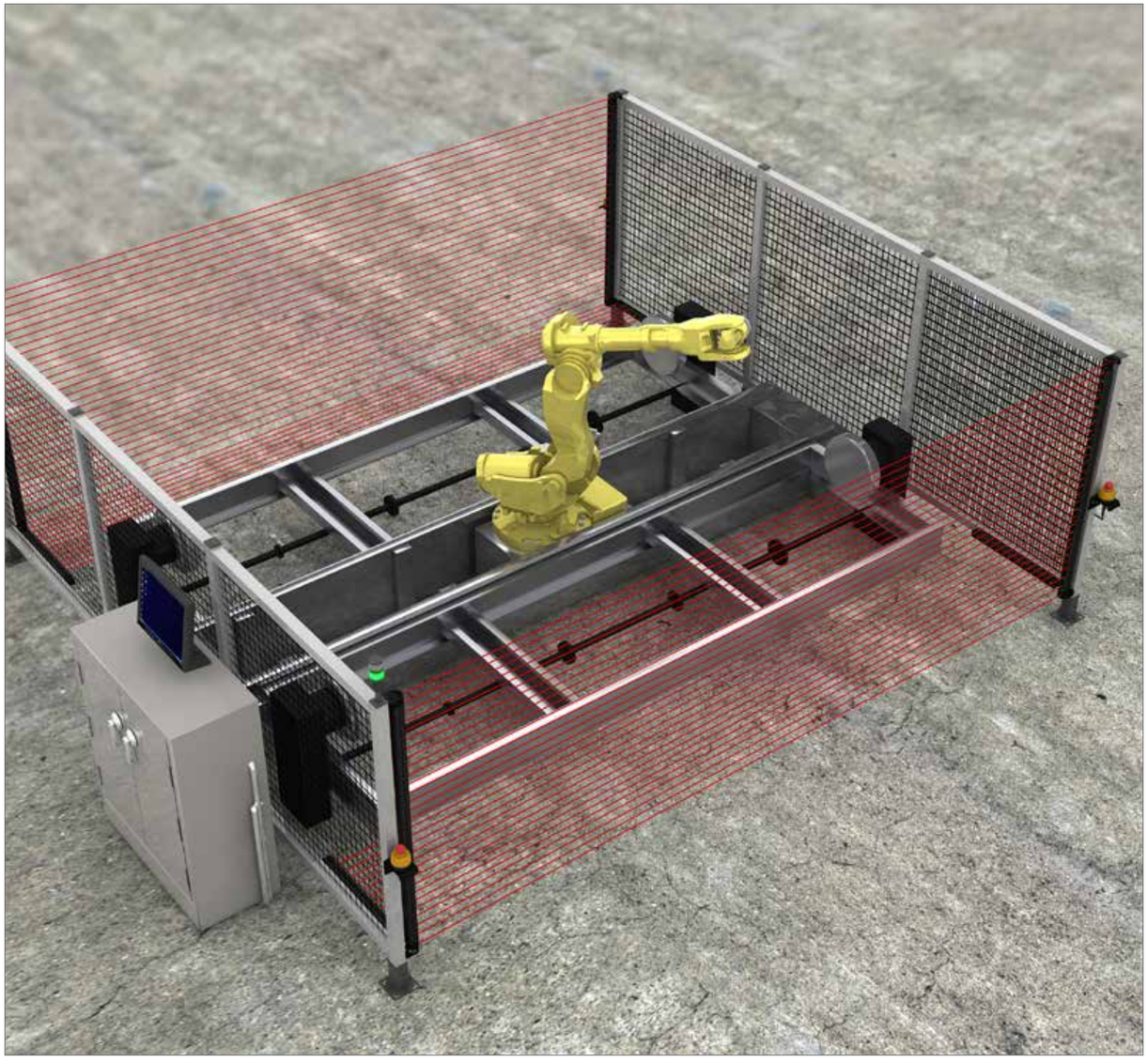
Built-in attachment slots to easily add EZLSA-MBK mounting brackets

Intuitive bi-color alignment indicators for quicker installation and easier trouble shooting

Bi-color red/green status indicator shows if power is applied, and if the safety outputs are ON or OFF

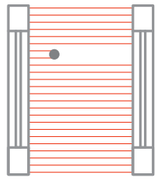
Diagnostic display indicates the total number of blocked beams or specific error conditions

End-to-end sensing design (no blind zone)



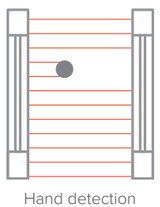
Available in Three Resolutions

14 mm



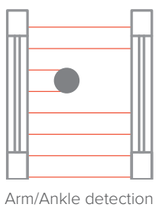
Finger detection

23 mm



Hand detection

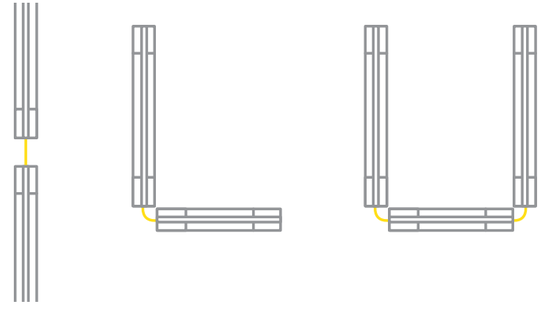
40 mm



Arm/Ankle detection

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

Family	Cascade	Device Type	Resolution	Defined Area	
SLL	**C**	**E**	**14**	— **910**	**-S**

C = Cascade
Blank = Standard

E = Emitter only
R = Receiver only

14 = 14 mm
23 = 23 mm
40 = 40 mm

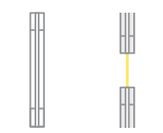
280 = 280 mm*
350 = 350 mm
420 = 420 mm
490 = 490 mm
560 = 560 mm
630 = 630 mm
700 = 700 mm
770 = 770 mm
840 = 840 mm
910 = 910 mm
980 = 980 mm
1050 = 1050 mm
1120 = 1120 mm
1190 = 1190 mm
1260 = 1260 mm
1330 = 1330 mm
1400 = 1400 mm
1470 = 1470 mm
1540 = 1540 mm
1610 = 1610 mm
1680 = 1680 mm
1750 = 1750 mm
1820 = 1820 mm
2100L = 2100 mm**
2380L = 2380 mm**

* Not available in cascade models
** 23 mm resolution, IP65, 10 m range



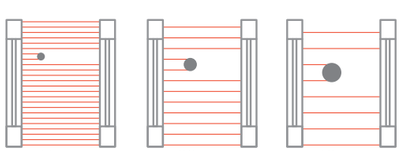
Build a Safety Solution

1. Choose your Emitter



Standard Cascade

2. Choose your resolution



14 mm 23 mm 40 mm

3. Choose your defined area



280 - 1820 mm

4. Choose your matching Receiver

5. Choose your connection and mounting options from page 6

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)

Family	Device Type	Resolution	Defined Area	Termination
EZLSA-HTE	— **R**	**23**	— **910**	—

E = Emitter
R = Receiver

23 = 23 mm

280 = 280 mm*
350 = 350 mm
420 = 420 mm
490 = 490 mm
560 = 560 mm
630 = 630 mm
700 = 700 mm
770 = 770 mm
840 = 840 mm
910 = 910 mm
980 = 980 mm
1050 = 1050 mm

Blank = 25 ft, 8-wire high durometer PVC cordset
F = Remote Fixed Blanking Recever model with additional 25 ft cordset for blanking configuration

* Not available with remote fixed blanking option



Connection Options

8-Pin



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

8-Pin M12 with Flying Leads



QDE-815D
4.5 m (15')
QDE-825D
7.6 m (25')
QDE-850D
15.2 m (50')
QDE-875D
22.8 m (75')
QDE-8100D
30.4 m (100')



8-Pin M12 Double-Ended

DEE2R-81D 0.3 m (1')	**DEE2R-825D** 7.6 m (25')
DEE2R-83D 0.9 m (3')	**DEE2R-830D** 9.1 m (30')
DEE2R-88D 2.5 m (8')	**DEE2R-850D** 15.2 m (50')
DEE2R-812D 3.6 m (12')	**DEE2R-875D** 22.9 m (75')
DEE2R-815D 4.6 m (15')	**DEE2R-8100D** 30.5 m (100')

5-Pin



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

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-53D 0.9 m (3')	**DEE2R-530D** 9.1 m (30')
DEE2R-58D 2.5 m (8')	**DEE2R-550D** 15.2 m (50')
DEE2R-512D 3.6 m (12')	**DEE2R-575D** 22.9 m (75')
DEE2R-515D 4.6 m (15')	**DEE2R-5100D** 30.5 m (100')

Cascade



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')

Accessories



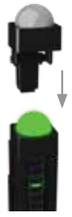
K30LGRXPQ
requires 4-pin QD



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



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-81D** 0.3 m (1')
DELSEF-41D 0.3 m (1')	**DELSEF-415D** 4.6 m (15.1')	
DELSEF-43D 1 m (3.3')		

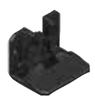
Bracket Options



EZLSA-MBK-11
- 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
- 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
- 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



XS26-2
XS26-2d
XS26-2e
XS26-2de

Expandable safety controller supports up to eight I/O modules and programs easily using icon-based software



SC26-2
SC26-2d
SC26-2e
SC26-2de

Flexible, efficient safety controller has small footprint and programs easily using icon-based software" to match XS description



SC10-2roe

Replace the functionality of two safety relay modules with one cost-effective device featuring an intuitive user interface and advanced diagnostics

Contactors



11-BG00-31-D-024

BF1801L024

Two contactors are required for higher levels of safety performance and requires monitoring by External Device Monitoring (EDM) function.

Safety Modules



SR-IM-9A
SR-IM-11A

Provides isolated safety output contacts for a primary safety device for the LS with solid-state (OSSD) outputs and external device monitoring (EDM) capability



UM-FA-9A
UM-FA-11A

Monitors solid-state PNP OSSD safety outputs for LS and LS basic models, and provides latching (manual reset) function for applications requiring a reset



MMD-TA-11B
MMD-TA-12B

Muting modules suspend safeguarding during non-hazardous portion of the machine cycle

Fixed Blanking Remote Key Switch



EZA-RBK-1

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.

Mute Arm Kits

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

	Box or Pallet Muting		
Mute Arm Kit	**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



SGSA-ML-L-LPQ20 **SGSA-ML-R-LPQ20**

Includes 2 mute arms, 2 SGSA-Q20PLPQ5 mute sensors, and 2 retroreflectors

T-Configuration



SGSA-MT-LPQ20

Includes 4 mute arms, 4 SGSA-Q20PLPQ5 mute sensors, and 4 retroreflectors

X-Configuration



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

Specifications

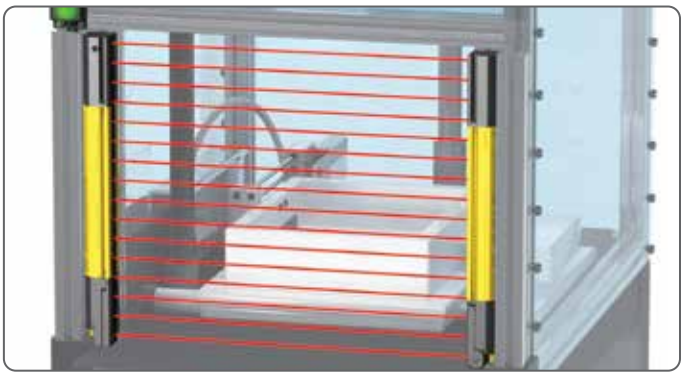
Operating Range	LS: 0.1 to 12 m (4 in to 39 ft) IP69 Hygienic: 8.4m (4 in to 27.6 ft)
Resolution	LS: 14 mm, 23 mm, or 40 mm, depending on model IP69 Hygienic: 23 mm
Output	Two redundant solid-state outputs (OSSD) 24 V dc, 0.5 A max. per OSSD
Environmental Rating	LS: IEC IP65/IEC IP67 IP69 Hygienic: IP69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



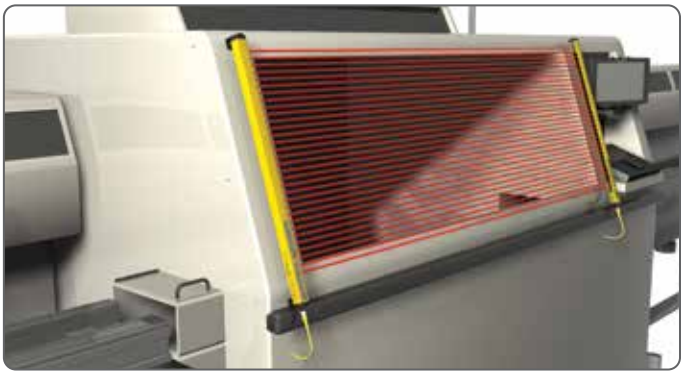
COMPACT TYPE 4

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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