LIGHT SCREENS

EZ-SCREEN® TYPE 4

14 or 30 mm Resolution

Low-Profile 14 or 25 mm Resolution

EZ-SCREEN® TYPE 2

30 mm Resolution

EZ-SCREEN® TYPE 4 Grids & Points

Grids & Points

page 517

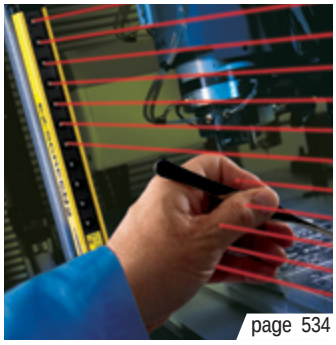
EZ-SCREEN® TYPE 4

- Provides point-of-operation, area, access and perimeter safeguarding
- Offered in a standard housing with 14 & 30 mm resolution options
- Reduced resolution and fixed blanking
- External Device Monitoring (EDM) ensures that a controller or "third box" is not required
- Easily understood advanced diagnostics allow for quick troubleshooting
- Safety PLC input compatible (per OSSD specifications)
- Rated Type 4 per IEC 61496
- Available with optional ESD-safe housing, pigtail connectors and cascading on some models

page 526

EZ-SCREEN® Low-Profile

- Features space saving design to fit perfectly into machinery
- Offered with 14 & 25 mm resolution options
- Reduced resolution and fixed blanking
- Operates in ranges up to 7 m
- Resists impact, twisting and abusive environments with a durable aluminum housing and metal endcaps
- Offers optional cascading to create up to a four sensor system that issues a single stop command



page 534

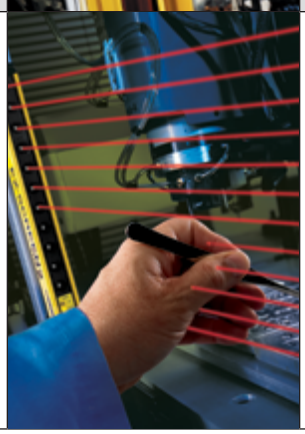
EZ-SCREEN® TYPE 2

- Designed for lower-risk applications
- Provides economical, compact optical safeguarding
- Rated Type 2 per IEC 61496
- Offered with 30 mm resolution and 15 m range

page 539

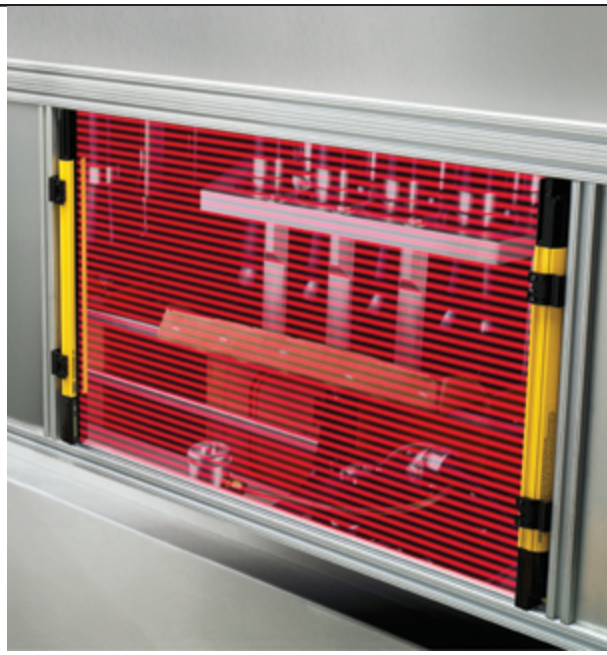
Grids & Points

- Suited to a variety of access and long-range perimeter guarding applications
- Uses 1-, 2-, 3- or 4-beams to protect personnel and machinery
- Can be combined with other devices, such as mirrors and Points, for a custom configuration
- Offers optional lens shields and enclosures for added durability

Model			Page	Safety Rating	Resolution	Supply Voltage	Maximum Range	
EZ-SCREEN® Type 4	Standard Systems		517	Type 4 Category 4 PLe SIL 3 Control Reliable	14 & 30 mm	24V dc	6 m/18 m	
	Cascade Systems				14 & 30 mm		6 m/18 m	
	V-Series				30 mm		18 mm	
	Low-Profile Systems				14 & 25 mm		7 m	
	Low-Profile Cascade Systems				14 & 25 mm		7 m	
	Low-Profile Muting Systems				14 & 25 mm		7 m	
	Grid & Point Systems			Type 4 Category 4 Control Reliable (call for other ratings)	300 to 584 mm (beam spacing)		20 m/70 m	
EZ-SCREEN® Type 2	Type 2 Systems		534	Type 2 Category 2 PL d SIL 2	30 mm	24V dc	15 m	

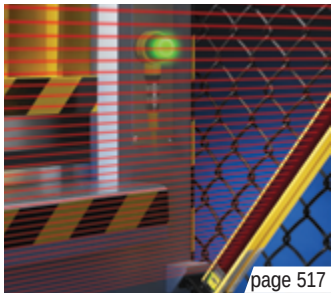
	Safety Output	Auxiliary Output	Blanking	Output Response Time	Housing Material	Environmental Rating
	2 PNP OSSD (Trip/Latch Selectable)	Yes PNP OSSD follow (when configured for 1-CH EDM)	2-beam Reduced Resolution & Fixed	9 to 56 ms	Aluminum housing with yellow polyester powder finish (other colors available) nickel-plated ESD, clear anodized aluminum or nickel-plated silver	IEC IP65
				11 to 56 ms		
				9 to 23 ms	Aluminum housing with yellow polyester powder finish, nickel-plated ESD or clear anodized aluminum	
				8 to 43.5 ms		
				9.5 to 43.5 ms		
				9 to 32 ms	Aluminum housing with yellow polyester powder finish	
		—	—	24 ms	Aluminum housing with yellow polyester powder finish	
	2 PNP OSSD (Trip or Latch)	—	—	11 to 29 ms	Aluminum housing with yellow polyester powder finish	IEC IP65

EZ-SCREEN®
Safety Light Screens



- Simple, two-piece integrated system has no control box
- EZ-SCREEN point-of-operation systems provide finger, hand and ankle detection in a standard or low-profile housing to fit any machine
- Point and Grid systems allow one-, two-, three- or four-beam perimeter and access guarding
- Type 4 models are designed with redundant microprocessor-controlled, self-checking circuitry to exceed control reliability requirements and are certified for CE (Type 4/Category 4 PLe) and cULus/cTUVus applications (dependent on model)
- Type 2 systems are suited to lower-risk applications where the result of an accident is only a slight injury and meet all requirements for CE (Type 2/Category 2 PL d) and cULus applications
- Superior optical design makes system extremely easy to align
- Status indicators and diagnostics show when alignment is complete and if there are problems with the installation
- Cascading models allow up to four systems of any length and resolution to be wired together to form a single safety device
- Systems have ranges up to 70 m, with power and range for all types of applications including long-range perimeter guarding

Interface multiple devices with the SC22-3 Safety Controller. See page 555.



page 517

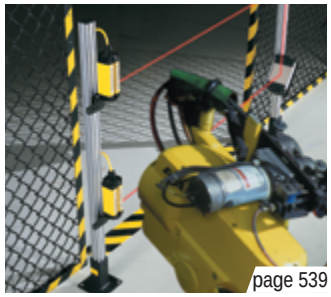
Type 4
Point-of-Operation and Area

- Provides choice of models for finger, hand and ankle detection
- Includes standard or low-profile models to fit any machine
- Meets Type 4 requirements
- Offers cascading models to allow up to four systems to be wired together to form a single safety device
- Includes ESD-safe solutions
- Provides remote (TEACH) Fixed Blanking options

page 534

Type 2
Point-of-Operation and Area

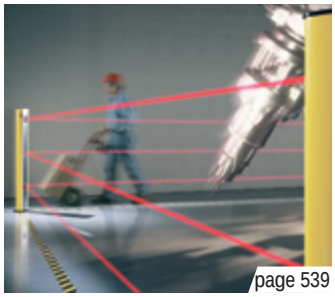
- Designed for lower-risk applications
- Meets Type 2 requirements
- Offered with 30 mm resolution and 15 m range



page 539

Type 4
Single-Point Access

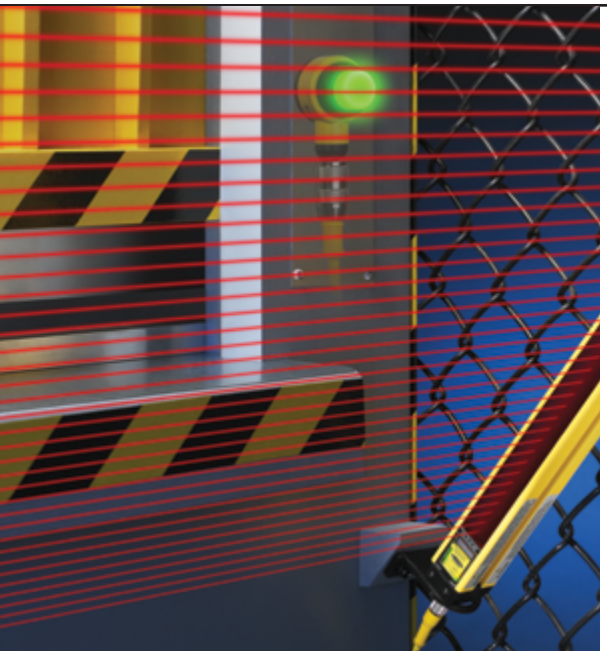
- Uses angled mirrors to simulate a two-beam system
- Allows for the use of multiple units to create custom beam patterns
- Meets Type 4 requirements



page 539

Type 4
Perimeter and Access Guarding

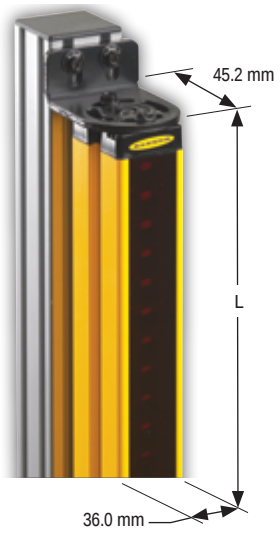
- Uses one-, two-, three- or four- beams for perimeter and long-range single-sided protection
- Guards multiple sides of a dangerous area up to 70 m long
- Meets Type 4 requirements



EZ-SCREEN®
Type 4 Point-of-Operation

- Available in 14 mm resolution for finger, hand and ankle detection or 30 mm resolution for hand and ankle detection
- Operates in ranges from 0.1 to 6 m (14 mm models) and 0.1 to 18 m (30 mm models)
- Offers fixed or 2-beam reduced resolution (floating blanking) to ignore tooling or constant inflow of materials
- Displays operating status, configuration error codes and blocked beams
- User-configurable trip or latch outputs, Scan Code 1 or 2 and Aux output
- Exceeds OSHA/ANSI Control Reliability requirements, certified to cULus NIPF, and CE certified to Type 4, Cat 4 PLe, and SIL 3
- Provides external device monitoring (EDM)
- Resists impact, twisting and abusive environments with a durable aluminum housing and metal endcaps
- Available with standard yellow, clear anodized aluminum housing or nickel-plated ESD-safe housing for protection against electrostatic discharges (other color options available)
- Offers optional cascading to create up to a four sensor system that issues a single stop command
- Offers optional lens shields and enclosures for added durability

ACCESSORIES
PAGE 525



EZ-SCREEN Systems

Some of the Available Finishes

Yellow Painted Aluminum

Clear Anodized Aluminum

Nickel-Plated ESD

ONLINE
AUTOCAD, STEP, IGES & PDF

Interface multiple devices with the SC22-3 Safety Controller. See page 555

ACCESSORIES PAGE 525

EZ-SCREEN® Systems, 14 mm Resolution Model Key, 24V dc

Model Style

- SLS = Safety Light Screen; SLSC = Cascading Safety Light Screen
- E = Emitter; R = Receiver; P = Pair***

Resolution

- 14 = 14 mm

Defined Area

	Housing Length	Response Time†	# of Beams
150* =	262 mm	11 ms	20
300 =	372 mm	15 ms	40
450 =	522 mm	19 ms	60
600 =	671 mm	23 ms	80
750 =	821 mm	27 ms	100
900 =	971 mm	32 ms	120
1050 =	1120 mm	36 ms	140
1200 =	1270 mm	40 ms	160
1350 =	1420 mm	43 ms	180
1500 =	1569 mm	48 ms	200
1650 =	1719 mm	52 ms	220
1800 =	1869 mm	56 ms	240

Finish

- Blank = Yellow powder coat
- N = Nickel-plated ESD**
- A = Clear Anodized Aluminum
- S = Nickel-plated (silver)
- B = Black powder coat
- W = White powder coat

Connection

Emitter/Receiver: Q8 = 8-pin QD; P8 = 8-pin Pigtail QD

Pair***: Q88 = Emitter with 8-pin QD, Receiver with 8-pin QD; P88 = Emitter with 8-pin pigtail QD, Receiver with 8-pin pigtail QD

* 150 mm not available in cascade models

** ESD-safe models are not available with the pigtail QD option

*** A pair includes an emitter and receiver (example, SLSP14-150Q88)

Contact Banner Engineering Corp. for additional information and/or verification of valid kit model numbers.

EZ-SCREEN® Systems, 30 mm Resolution Model Key, 24V dc

Model Style

- SLS = Safety Light Screen; SLSC = Cascading Safety Light Screen
- E = Emitter; R = Receiver; P = Pair***

Resolution

- 30 = 30 mm

Defined Area

	Housing Length	Response Time†	# of Beams
150* =	262 mm	9 ms	10
300 =	372 mm	11 ms	20
450 =	522 mm	13 ms	30
600 =	671 mm	15 ms	40
750 =	821 mm	17 ms	50
900 =	971 mm	19 ms	60
1050 =	1120 mm	21 ms	70
1200 =	1270 mm	23 ms	80
1350 =	1420 mm	25 ms	90
1500 =	1569 mm	27 ms	100
1650 =	1719 mm	30 ms	110
1800 =	1869 mm	32 ms	120
1950 =	2018 mm	34 ms	130
2100 =	2168 mm	36 ms	140
2250 =	2318 mm	38 ms	150
2400 =	2468 mm	40 ms	160

Finish

- Blank = Yellow powder coat
- N = Nickel-plated ESD**
- A = Clear Anodized Aluminum
- S = Nickel-plated (silver)
- B = Black powder coat
- W = White powder coat

Connection

Emitter/Receiver: Q8 = 8-pin QD; P8 = 8-pin Pigtail QD

Pair***: Q88 = Emitter with 8-pin QD, Receiver with 8-pin QD; P88 = Emitter with 8-pin pigtail QD, Receiver with 8-pin pigtail QD

* 150 mm not available in cascade models

** ESD-safe models are not available with the pigtail QD option

*** A pair includes an emitter and receiver (example, SLSP30-150Q88)

Contact Banner Engineering Corp. for additional information and/or verification of valid kit model numbers.

QD models: A model with a QD requires a mating cordset (see page 525).

For an emitter with TEST function, replace Q8 with Q5 on emitter model numbers (example, SLSE14-150Q5) and Q88 with Q85 on pair model numbers (example, SLSP14-150Q85).
For a 5-pin 300 mm M12/Euro pigtail QD with No EDM or TEST functions, replace Q8 with P5NT on emitter or receiver (example, SLSE14-150P5NT) and Q88 with P55NT on pair model numbers (example, SLSP14-150P55NT).
For a 4-pin 300 mm M12/Euro pigtail QD with no EDM or TEST functions (GND/PE via mounting), replace Q8 with P4NT or Q88 with P44NT (example, SLSP14-150P4NT or SLSP14-150P44NT).

† Cascading system response time: To the response time of the slowest pair, add 2 ms for each additional pair.
Example: slowest pair's response time is 15 ms, and the system has three additional pairs (four pairs total), so the system maximum response time is 15 ms + 6 ms (3 pairs x 2 ms) = 21 ms.