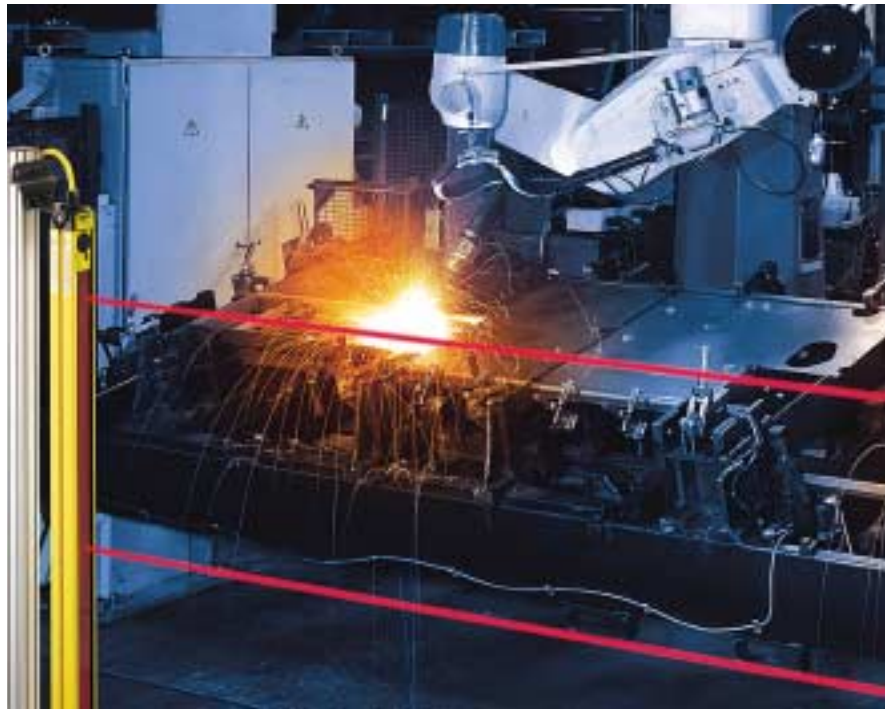


## **EZ-SCREEN™**

### **Perimeter & Access Guarding Point & Grid Systems**

- **Non-contact safety device for perimeter and access guarding from dangerous machinery**
- **Self-contained, optically synchronised two-part system for easy and economical installation**
- **Operating range from 0,8 to 20 m or from 15 to 70 m**
- **Fast 24 ms output response time**
- **Choose models with 2, 3 or 4 beams, beam spacing from 300 to 584 mm**
- **Selectable External Device Monitoring (EDM)**
- **Optional accessory interface module for AC or larger DC loads**
- **Multiple mounting options**



Guarding the perimeters of large work cells, in-line production machines and other large machines often require long-range safety light grids. In these large-area applications, personnel pass through the light grid, at which point the hazardous motion stops; then they may safely continue into the guarded area. The Banner EZ-SCREEN™ Grid system creates such an optically synchronised, microprocessor-controlled grid. Its two solid-state safety outputs will safely stop the machine within 24 ms after one or more beams are blocked.

The EZ-SCREEN requires only an emitter and receiver to operate. The solid-state safety output controls and the feedback monitoring circuits are integrated into the receiver. The system needs no external controller or sync wire between the emitter and receiver because the system is synchronised optically. All machine control and power connections are made via an easy-to-access pluggable terminal block, and no special cables are required.

This makes it extremely easy and economical to install.

The EZ-SCREEN™ Point system provides a single beam. EZ-SCREEN Grid systems are available with 2, 3 or 4 beams. To comply with the European EN 999 standard, models with beam spacing 500, 400 or 300 mm are available. Models with 584 or 533 mm beam spacing apply the ANSI/RIA R15.06 standard.

The EZ-SCREEN features dual micro-controllers. It is diverse-redundant, self-checking, and meets industry requirements (type 4, per IEC 61496-1 & 2). External Device Monitoring (EDM) inputs allow selectable single- or dual-channel monitoring of the Machine Primary Control Elements (MPCE).

The EZ-SCREEN status indicators are clearly visible on each sensor, keeping operators informed of system conditions. The emitter and receiver have seven-segment LED diagnostic displays that indicate specific problems or configuration conditions.

EZ-SCREEN systems are lensed to provide very narrow beam divergence and field of view. These systems can also operate over extremely long ranges, with a choice of emitters with an operating range of either 0,8 m to 20 m or 15 m to 70 m. The receivers are the same for either range.

Mounting brackets are included with each emitter and receiver; they allow a 30° rotation.

*Possible accessories:*

- DIN-rail mountable interface modules to provide 6 A switching capability.
- Corner mirrors to allow guarding of more than one side of a machine using only one emitter/receiver pair.
- Self-adhesive polycarbonate shields, to protect the optics from weld slag and other contaminants.
- A visible-beam laser tool for easy alignment of the system.



# EZ-SCREEN™

## Perimeter & Access Guarding Point & Grid Systems

**Wave length**

IR 880 nm

**Safety class**

4

**Supply**

Emitter 24 VDC ± 15 %  
Ripple ≤ 10 %  
No load current ≤ 150 mA (Grid)  
≤ 100 mA (Point)

**Receiver**

Ripple ≤ 10 %  
No load current 500 mA

**Effective beam diameter**

25 mm

**Range**

Distance Emitter/Receiver 0,8...20 m (short range)  
15...70 m (long range)

**Response time**

< 24 ms

**Outputs (Output Signal Switching Devices)**

OSSD1, OSSD2 solid-state safe outputs pnp  
max. 500 mA

**EDM input**

**(External Device Monitoring)**

Type 200 ms response  
selectable  
single-channel, two-channel  
or no monitoring

**Indicators**

Emitter bicolor status indicator:  
POWER, RUN, TEST,  
LOCKOUT  
7-segment diagnostic code  
Receiver bicolor status indicator per  
beam: clear, blocked, mar-  
ginal signal  
yellow reset indicator:  
RUN, RESET, OFF  
bicolor output indicator:  
ON, OFF, LOCKOUT  
7-segment diagnostic code

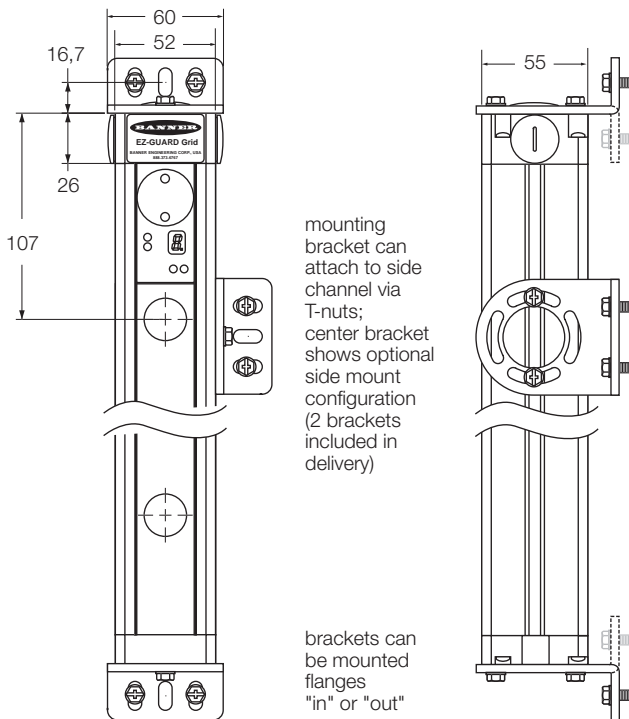
**Controls**

DIP-switches to select scan code  
trip or latch  
External Device Monitoring  
(EDM)

**Material**

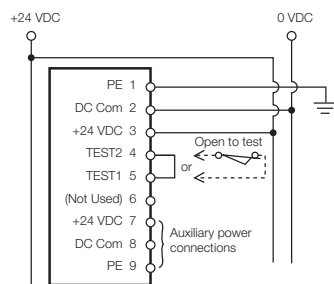
Housing aluminium,  
yellow painted finish  
Lens acrylic  
End caps PBT  
Protection class IP65  
Temperature range 0...+50 °C

**Dimensions [mm]**

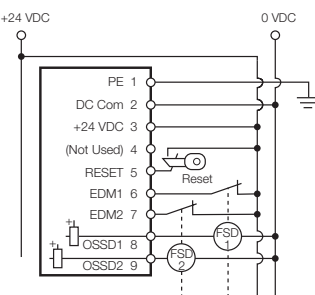


**Wiring**

**Emitter**



**Receiver**





# EZ-SCREEN™

## Perimeter & Access Guarding Point & Grid Systems

### EZ-SCREEN Point and Grid Models: Sensor Model Selection and Dimensions

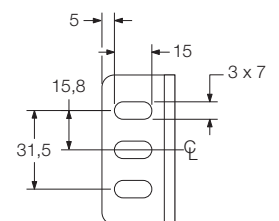
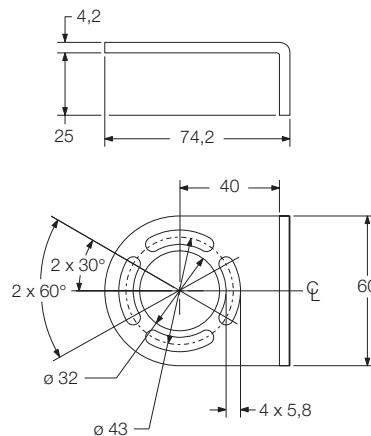
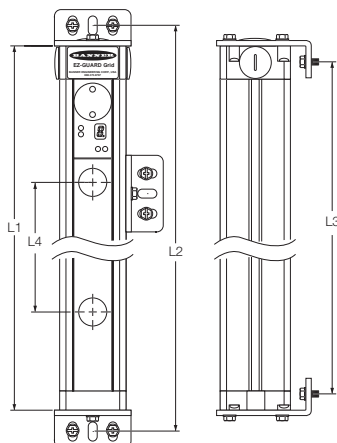
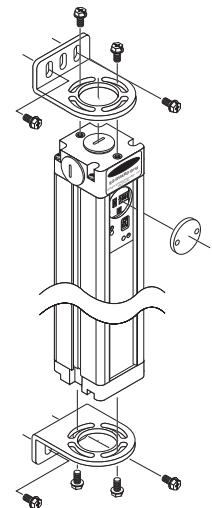
Components may be purchased individually or in kits. Kits (as listed below) include one emitter, one receiver, a keyed reset switch, two spanner wrenches, and standard mounting hardware for both sensors. When purchased separately, the emitter and receiver each include mounting hardware for one sensor and the accessory spanner wrench.

Style	Descr.	Short-Range 0,8...20 m	Part Number	Long-Range 15...70 m	Part Number	Protected Height (L4)	Nr. of Beams	Beam Spacing
Point system	Emitter	SPE1	30 618 64	SPXLE1	30 627 47	N/A	1	N/A
	Receiver	SPR1	30 618 65	SPR1	30 618 65			
	Kit	SPP1	30 618 66	SPXLP1	30 627 48			
Grid system	Emitter	SGE2-500	30 618 67	SGXLE2-500	30 627 49	500 mm	2	500 mm
	Receiver	SGR2-500	30 618 68	SGR2-500	30 618 68			
	Kit	SGP2-500	30 618 69	SGXLP2-500	30 627 50			
Grid system	Emitter	SGE3-400	30 618 73	SGXLE3-400	30 627 53	800 mm	3	400 mm
	Receiver	SGR3-400	30 618 74	SGR3-400	30 618 74			
	Kit	SGP3-400	30 618 75	SGXLP3-400	30 627 54			
Grid system	Emitter	SGE4-300	30 618 79	SGXLE4-300	30 627 57	900 mm	4	300 mm
	Receiver	SGR4-300	30 618 80	SGR4-300	30 618 80			
	Kit	SGP4-300	30 618 81	SGXLP4-300	30 627 58			
Grid system	Emitter	SGE2-584	30 618 70	SGXLE2-584	30 627 51	584 mm	2	584 mm
	Receiver	SGR2-584	30 618 71	SGR2-584	30 618 71			
	Kit	SGP2-584	30 618 72	SGXLP2-584	30 627 52			
Grid system	Emitter	SGE3-533	30 618 76	SGXLE3-533	30 627 55	1066 mm	3	533 mm
	Receiver	SGR3-533	30 618 77	SGR3-533	30 618 77			
	Kit	SGP3-533	30 618 78	SGXLP3-533	30 627 56			

### EZ-SCREEN Emitter and Receiver Dimensions (mm)

Style	Models	Beam Spacing L4	Housing Length L1	Bracket Holes L2	Bracket Holes L3
Point system	SP..1	N/A	149	182	124
Grid system	SG..2-500	500	684	717	659
Grid system	SG..3-400	400	984	1017	959
Grid system	SG..4-300	300	1084	1117	1059
Grid system	SG..2-584	584	768	802	743
Grid system	SG..3-533	533	1251	1284	1226

### Brackets (2 supplied)

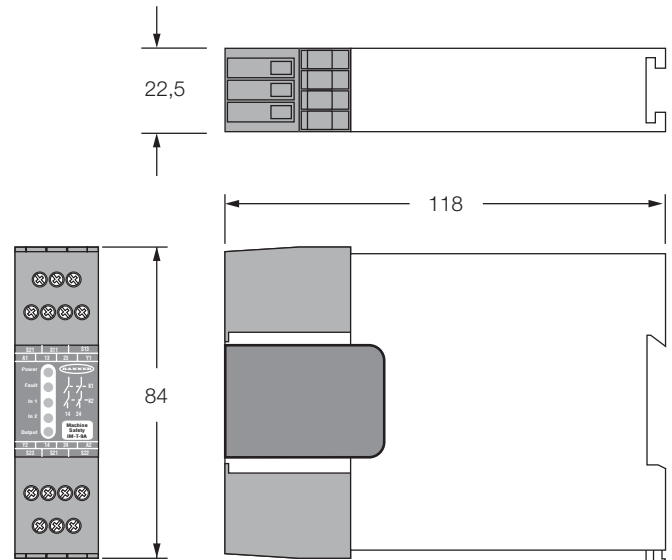


# EZ-SCREEN™

## Perimeter & Access Guarding Accessories

### Interface Module Dimensions [mm]

Model Number	P/N	Description
<b>IM-T-9A</b>	30 614 25	optional interface module with 3 N.O. forced-guided contacts
<b>IM-T-11A</b>	30 614 24	optional interface module with 2 N.O. and 1 N.C. forced-guided contacts
Specifications		
<b>Safety class</b>	4	
<b>Supply</b>	24 VDC ± 15 %, no polarity, ≤ 10 % ripple 50 mA per input channel	
<b>Response time</b>	< 20 ms	
<b>Indicators</b>	green indicators for internal relays K1 & K2	
<b>Housing</b>	polycarbonate	
<b>Protection class</b>	IP20 (IEC 60529/EN 60529)	
<b>Temp. range</b>	0...+50 °C	



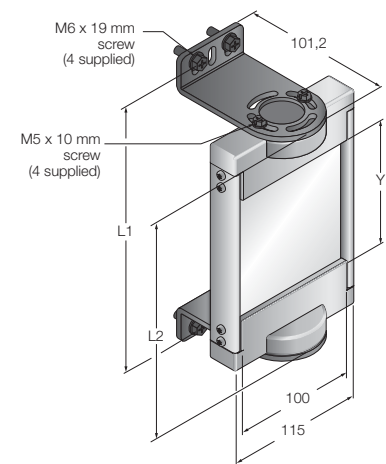
### EZ-SCREEN Polycarbonate Lens Shields

	Model Number	Fits EZ-SCREEN Models	Lens Shield Length (mm)
<b>EZ-SCREEN Point</b>	<b>EZS-149</b>	SP..1	149
<b>EZ-SCREEN Grid</b>	<b>EZS-684</b>	SG..2-500	684
<b>EZ-SCREEN Grid</b>	<b>EZS-768</b>	SG..2-584	768
<b>EZ-SCREEN Grid</b>	<b>EZS-984</b>	SG..3-400	984
<b>EZ-SCREEN Grid</b>	<b>EZS-1251</b>	SG..3-533	1251
<b>EZ-SCREEN Grid</b>	<b>EZS-1084</b>	SG..4-300	1084



### SSM Series Corner Mirrors

	Mirror Model	Fits EZ-SCREEN models	Reflect. Area Y (mm)	Brackets Out L1 (mm)	Height L2 (mm)	Brackets In L3 (mm)
<b>Point</b>	<b>SSM-100</b>	SP..1	100	211	178	153
<b>Grid</b>	<b>SSM-550</b>	SG..2-500	550	661	628	603
<b>Grid</b>	<b>SSM-675</b>	SG..2-584	675	786	753	728
<b>Grid</b>	<b>SSM-975</b>	SG..4-300/400	975	1086	1053	1028
<b>Grid</b>	<b>SSM-1175</b>	SG..3-533	1175	1286	1253	1228



Note: sensor range decreases by about 8 % per mirror used.

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