

Safety Solutions



more sensors, more solutions





Contents

Complete Safety Solutions from Banner	4
Network Technology down to the Sensor Level	6
Hand and Finger Detection	
Type 4 Heavy-Duty Light Curtains.....	8
Type 4 Compact Light Curtains	9
Safety Light Curtain – Selection.....	10
Safety Light Curtains – Model Keys	12
Safety Light Curtains – Accessories.....	15
Body Detection	
Type 4 Safety Light Grids	16
Muting Options for Safety Light Grids	17
Safety Light Grids – Selection.....	18
Safety Light Grids – Model Keys.....	20
Safety Light Grids – Accessories	21
Area Detection	
Safety Scanner System	22
Safety Scanner System – Software.....	24
Safety Scanner System – Models and Accessories.....	25
Safety Relays and Controllers	
Safety Relays and Controllers – Overview	26
Safety Relays and Controllers – Selection	28
In-Series Diagnostics Functionality	31
Build System and Select Equipment.....	32
Safety Relays – Models	34
Safety Controllers – Models.....	35
Safety Switches	
Safety Switches – Overview	36
Non-Contact RFID Safety Switches.....	37
Safety Switches – Selection	38
Safety Switches – Model Keys	40
Operator Controls	
Enabling Devices – Models.....	43
Two-Hand Control – Models	43
Two Hand Control Run Bars – Models.....	43
E-Stop Devices – Selection	44
E-Stop Devices – Model Keys	46

Complete Safety Solutions from Banner



EZ-SCREEN LS Safety Light Curtains

- Intuitive and easy-to-use and set up
- End-to-end sensing
- Heavy-duty aluminum housing and recessed window to avoid damage in harsh environments
- Highly visible alignment and diagnostic indicators
- IP69 Hygienic models available for washdown environments
- Cascade capable models available
- See page 8

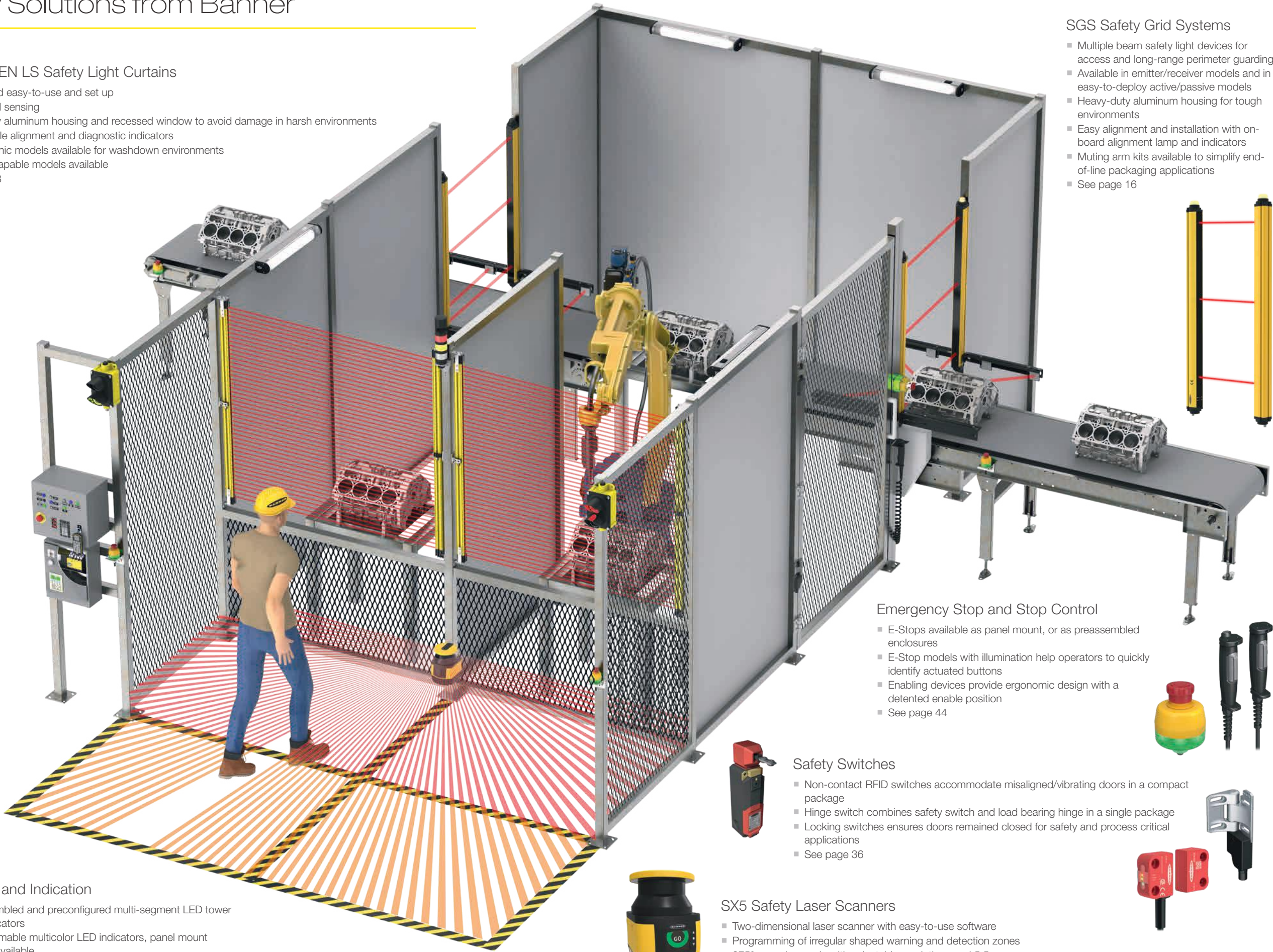
XS26-2 Expandable Safety Controllers

- Up to eight expansion I/O modules can be added as your safety application grows or changes
- Configuration software is so simple that you will be programming in minutes
- Simulator functionality allows users to test their configurations without being connected to a controller
- See page 27



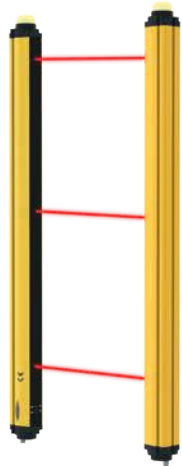
Lighting and Indication

- Preassembled and preconfigured multi-segment LED tower light indicators
- Programmable multicolor LED indicators, panel mount models available
- Pro Editor software offers a wide variety of color and animation options



SGS Safety Grid Systems

- Multiple beam safety light devices for access and long-range perimeter guarding
- Available in emitter/receiver models and in easy-to-deploy active/passive models
- Heavy-duty aluminum housing for tough environments
- Easy alignment and installation with on-board alignment lamp and indicators
- Muting arm kits available to simplify end-of-line packaging applications
- See page 16



Emergency Stop and Stop Control

- E-Stops available as panel mount, or as preassembled enclosures
- E-Stop models with illumination help operators to quickly identify actuated buttons
- Enabling devices provide ergonomic design with a detented enable position
- See page 44



Safety Switches

- Non-contact RFID switches accommodate misaligned/vibrating doors in a compact package
- Hinge switch combines safety switch and load bearing hinge in a single package
- Locking switches ensure doors remained closed for safety and process critical applications
- See page 36

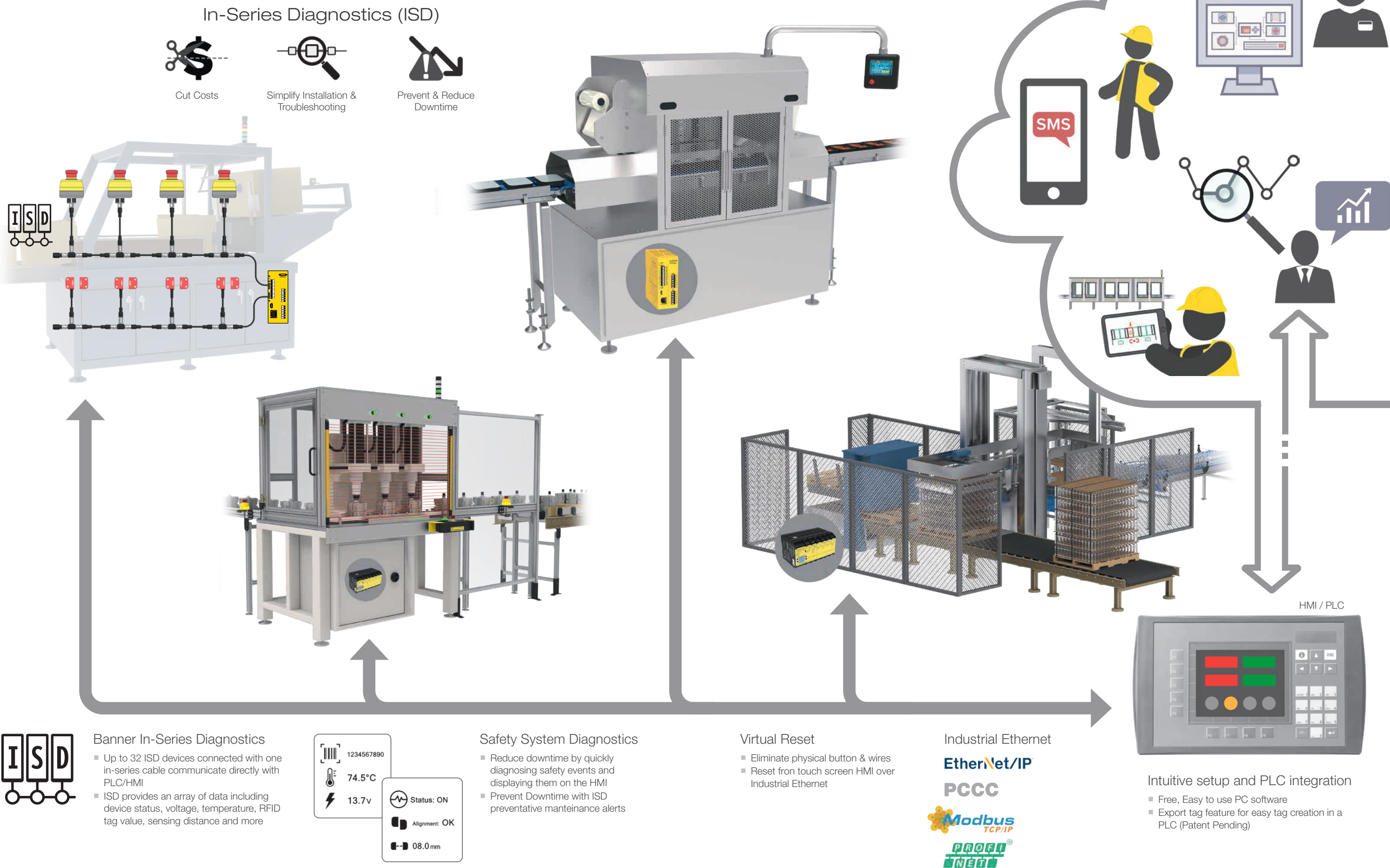


SX5 Safety Laser Scanners

- Two-dimensional laser scanner with easy-to-use software
- Programming of irregular shaped warning and detection zones
- 275° scanning angle with selectable resolutions and 5.5 m range
- See page 22



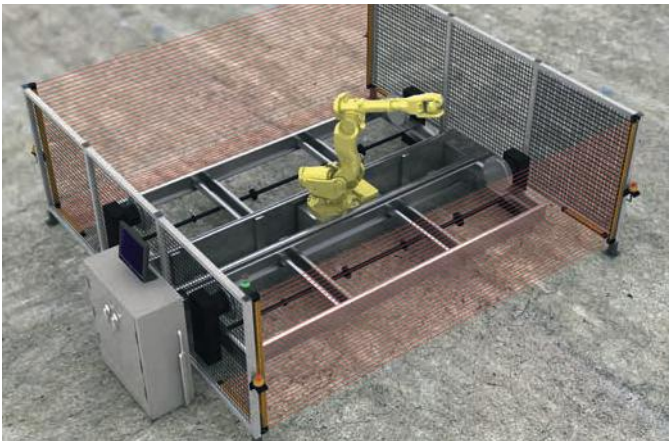
Network Technology down to the Sensor Level



Type 4 Heavy-Duty Light Curtains

Robust safety light curtains for harsh industrial environments

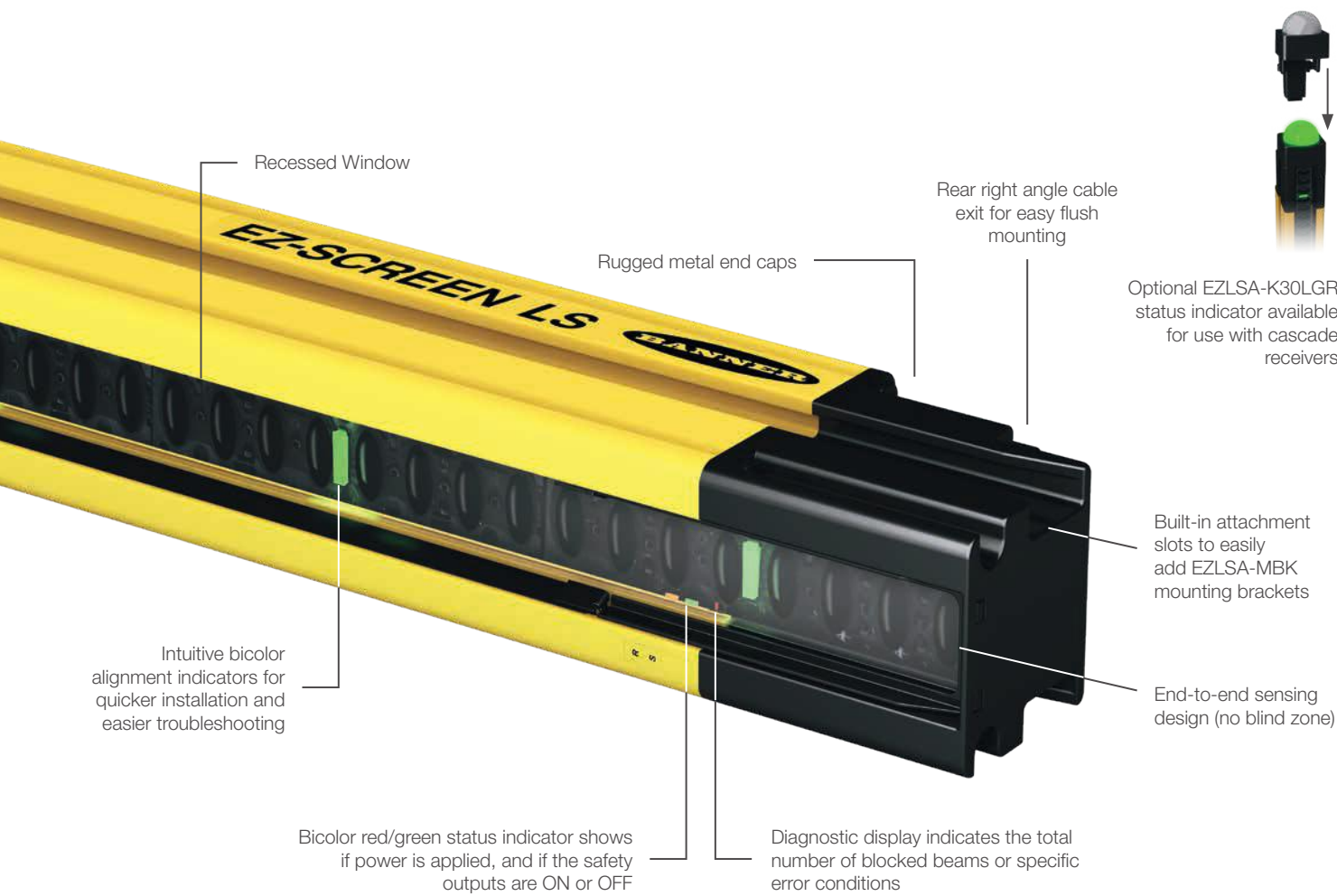
Banner Engineering's easy-to-use, heavy-duty Type 4 safety light curtains with several resolution options available to detect fingers, hands, arms, or legs. Our heavy duty light curtains are built to withstand harsh industrial environments.



Due to its robust design, the EZ-SCREEN LS is the perfect fit in large robotic cell applications that require sturdy safety devices and heavy duty enclosures.



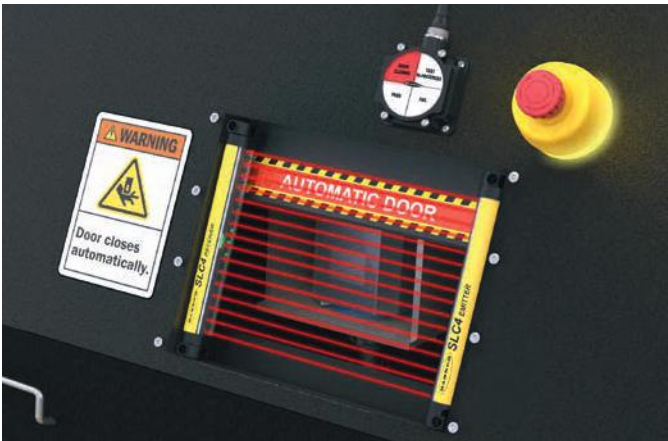
EZ-SCREEN LS light curtains in hygienic tubular enclosures successfully protect operators from injury and remain hygienic for easy cleaning procedures.



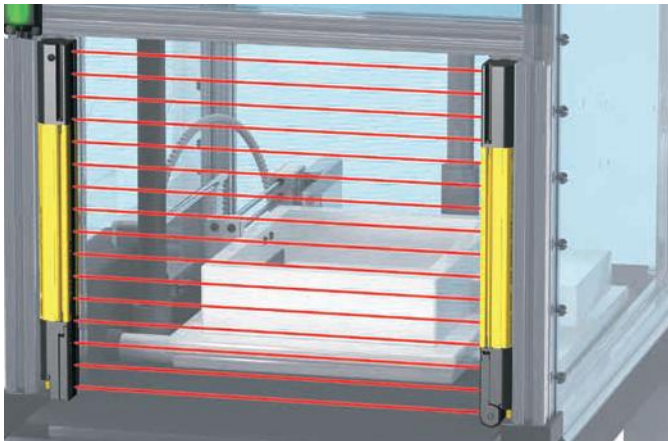
Type 4 Compact Light Curtains

Compact safety light curtains for safety in tight spaces

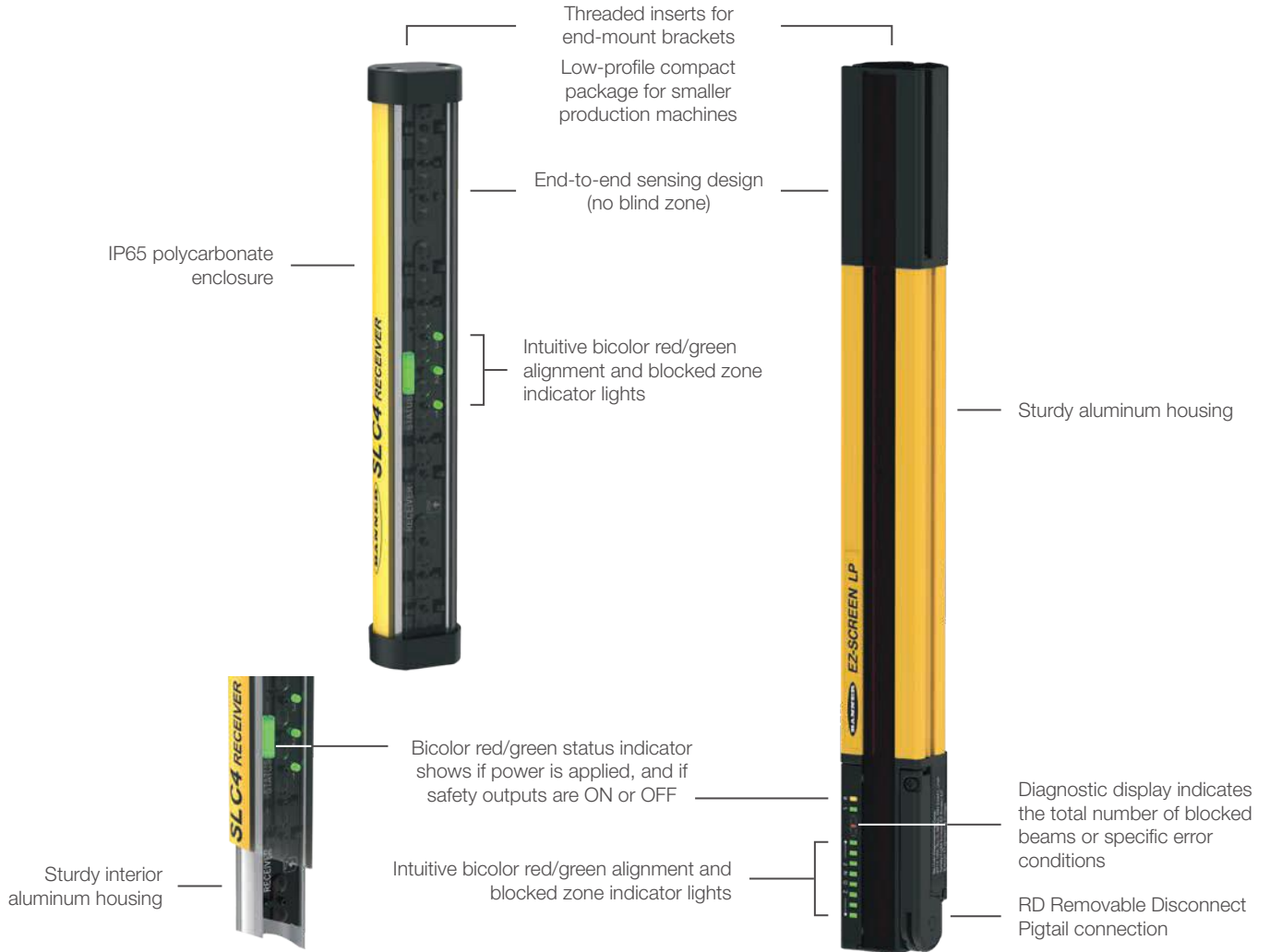
Banner Engineering's easy-to-use, compact Type 4 safety light curtains are available with several resolution options available to detect fingers, hands, arms, or legs. Our compact safety light curtains are ideal for smaller machines and other space-constrained areas.



SLC4 are Type 4 safety light curtains specifically designed to safeguard smaller points of operation and access on compact machines.



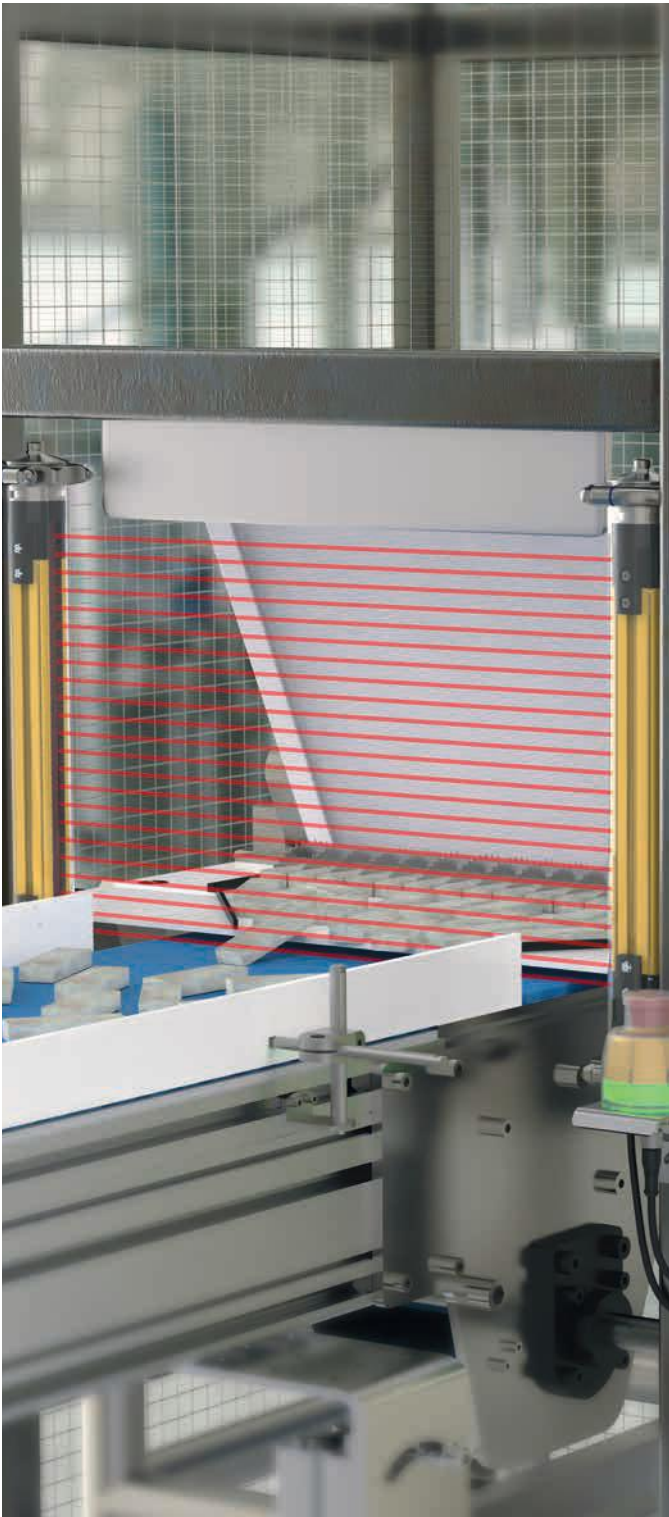
The EZ-SCREEN LP safety light screen is compact and mounts in tight spaces with its continual end-to-end sensing that leaves no gaps.














Safety Light Curtain Selection

Choose your safety light curtain, suitable for a wide variety of safety applications.

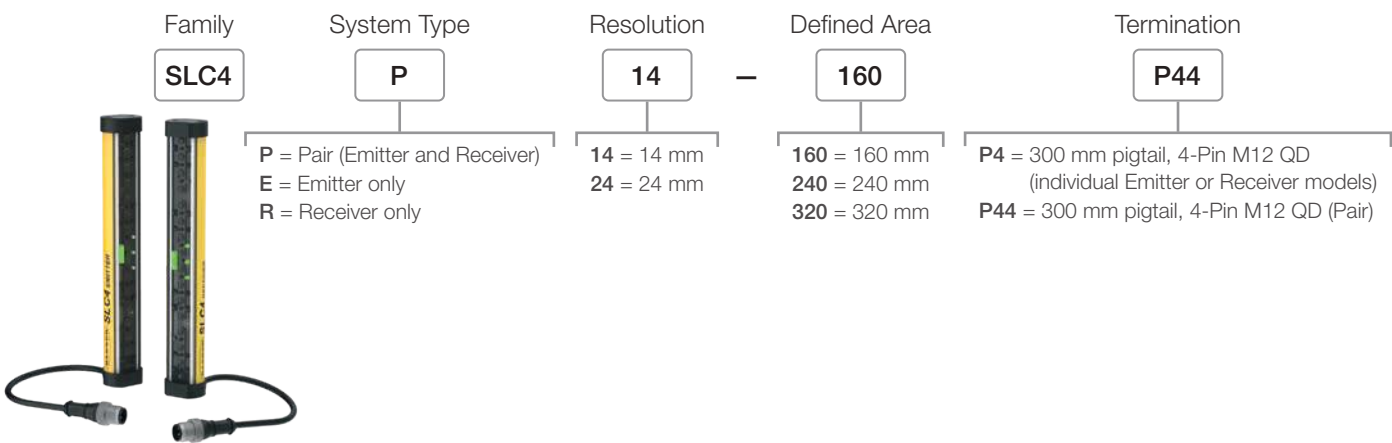
- Heavy-Duty Type 4 robust safety light curtains for harsh industrial environments
- Compact Type 4 safety light curtains for safety in tight spaces
- Type 2 cost-effective safety light curtains for lower risk applications



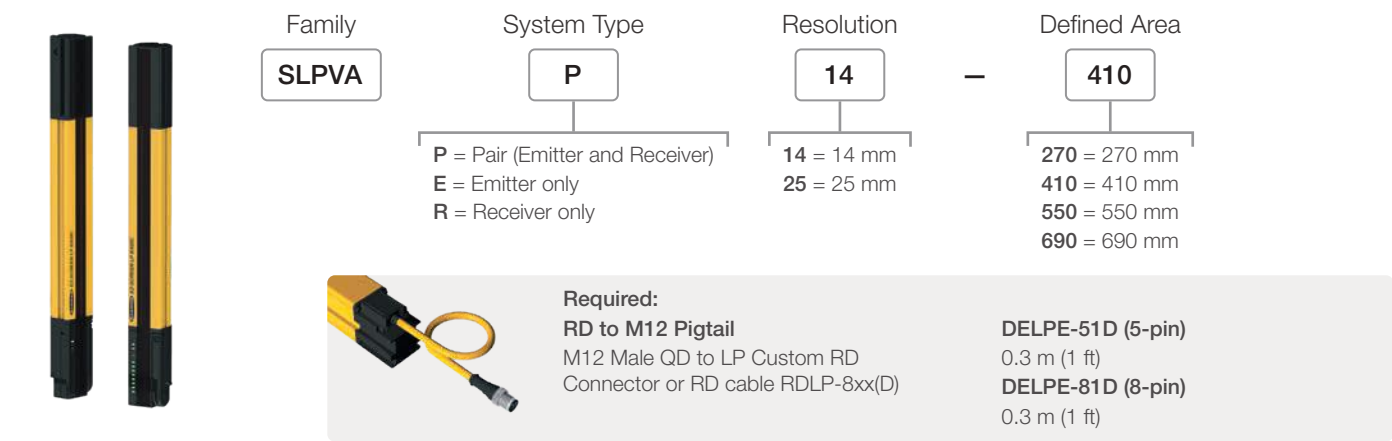
	Compact Type 4			Compact Type 4		Heavy-Duty Type 4		Type 2
	SLC4	EZ-SCREEN LP Basic		EZ-SCREEN LP	EZ-SCREEN LP with Muting	EZ-SCREEN LS	EZ-SCREEN	EZ-SCREEN
Finger Detection								
Hand Detection								
Muting/Presence Detection								
Family	SLC4	SLPVA		SLP	SLPMP	SLL	SLS	LS2
Type IEC 61496-1, -2	Type 4	Type 4		Type 4	Type 4	Type 4	Type 4	Type 2
Safety Rating EN ISO 13849-1; IEC 61508; IEC 62061	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3		Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 2 PL c
Dimensions W x D (mm)	26.7 x 22.1	28 x 26		28 x 26	28 x 26	36 x 45	36 x 45.2	25.4 x 31.8
Resolution (mm)	14, 24 mm	14, 25 mm		14, 25 mm	14, 25 mm	14, 23, 40 mm	14, 30 mm	30 mm
Max Sensing Range (m)	0.1 to 2 m	0.1 to 4 m		0.1 to 7 m	0.1 to 7 m	0.1 to 12 m	14: 0.1 to 6 m 30: 0.1 to 18 m	0.2 to 15 m
Defined Area (mm)	160 mm 240 mm 320 mm	270, 410, 550, 690 mm		270 to 1250 mm	410 to 1250 mm	280 to 1820 mm	14: 150 to 1800 mm 30: 150 to 2400 mm	150 to 1800 mm
Increments (mm)	Not applicable	Not applicable		140 mm	140 mm	70 mm	150 mm	150 mm
Functions								
Reset	—	—		✓	✓	—	✓	✓
EDM	—	—		✓	✓	✓	✓	✓
Scan Code	—	—		✓	✓	✓	✓	—
Reduced Resolution	—	—		✓	✓	—	✓	—
Fixed Blanking	—	—		✓	✓	✓	✓	—
Integrated Muting	—	—		—	✓	See page 17	—	—
Cascade	—	—		SLPC	—	SLLC	SLSC	—
E-Stop/Safety Switch Connect	—	—		SLPC	—	SLLC	SLSC	—
Brackets Included	—	—		✓	✓	✓	✓	✓
Connection	4-pin Integral Pigtail M12 Included	5-pin Pigtail M12 or 8-pin Pigtail M12 Order separately		8-pin Pigtail M12 Included or order separately	8-pin Pigtail M12 and 12-pin Pigtail M12 Included or order separately	5-pin Pigtail M12 or 8-pin Pigtail M12 Included or order separately	8-pin M12 or 8-pin Pigtail M12 Included (Pigtail)	8-pin M12
Options								
LED on Top	—	—		—	Accessory	Accessory	—	—
Different Housing	—	—		—	—	EZLSA-HTE IP69	Tubular Enclosures IP67	—
Available Finishing	—	—		- Yellow Painted Aluminum - Clear Anodized Aluminum - Nickel-Plated ESD	—	—	- Yellow Painted Aluminum - Clear Anodized Aluminum - Nickel-Plated ESD	—

Safety Light Curtains – Model Keys

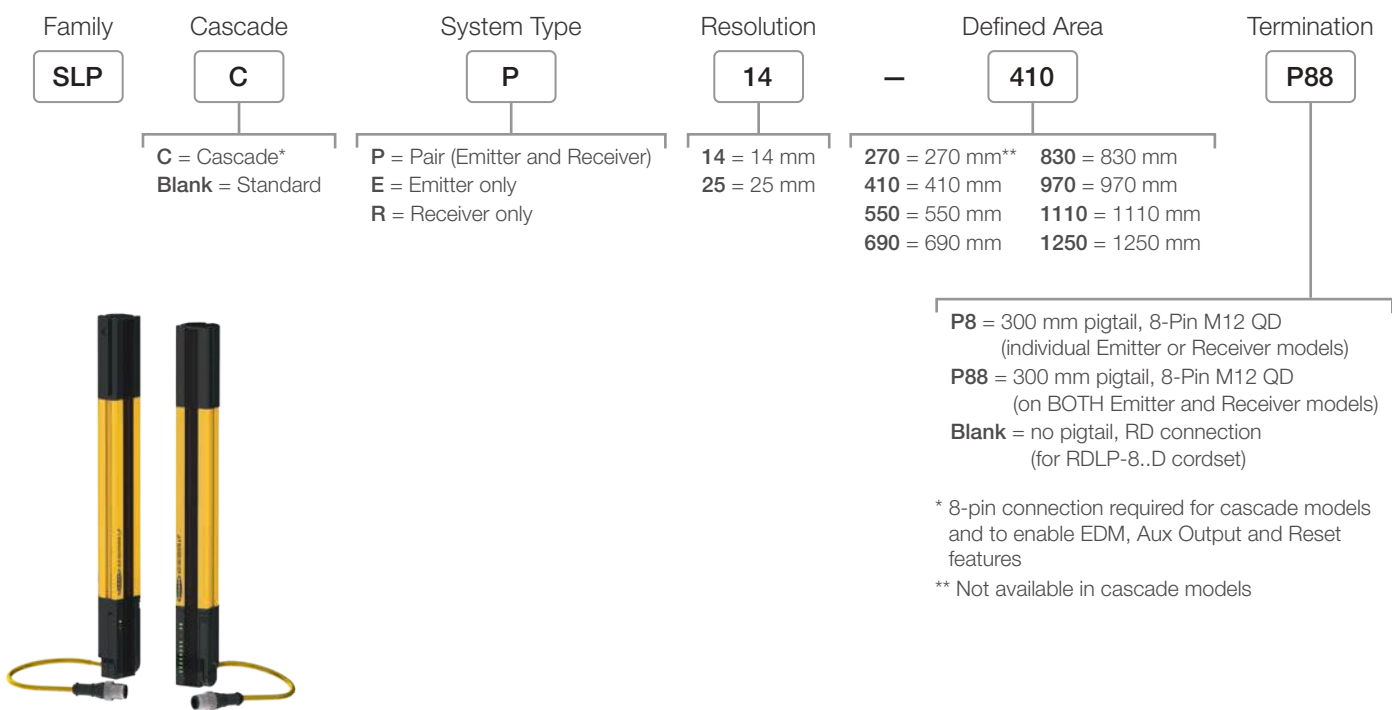
Compact Type 4: SLC4



Compact Type 4: EZ-SCREEN LP Basic

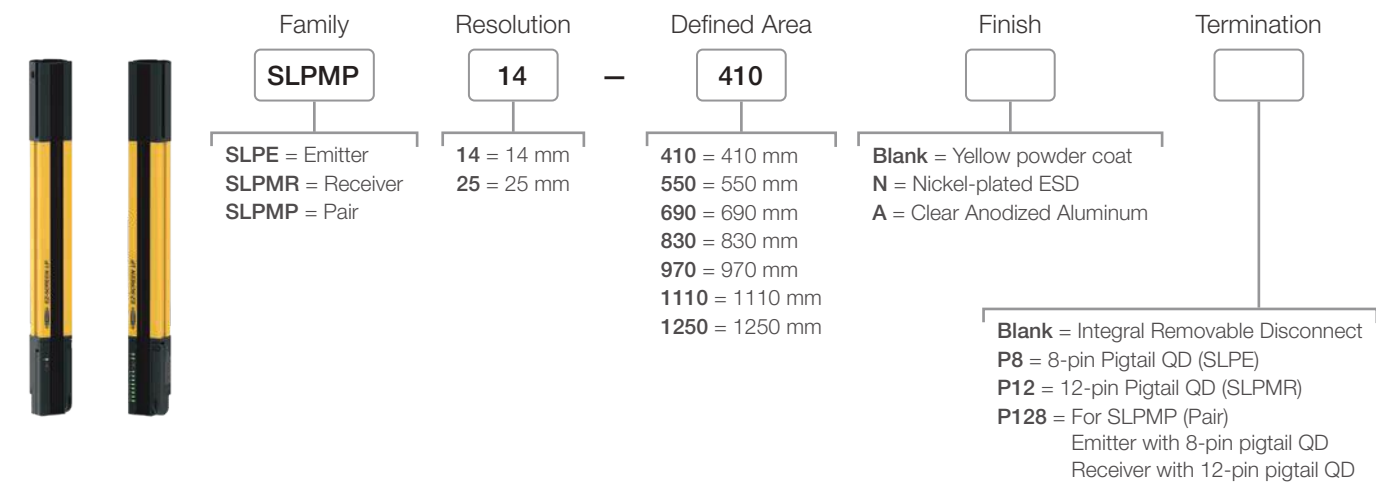


Compact Type 4: EZ-SCREEN LP

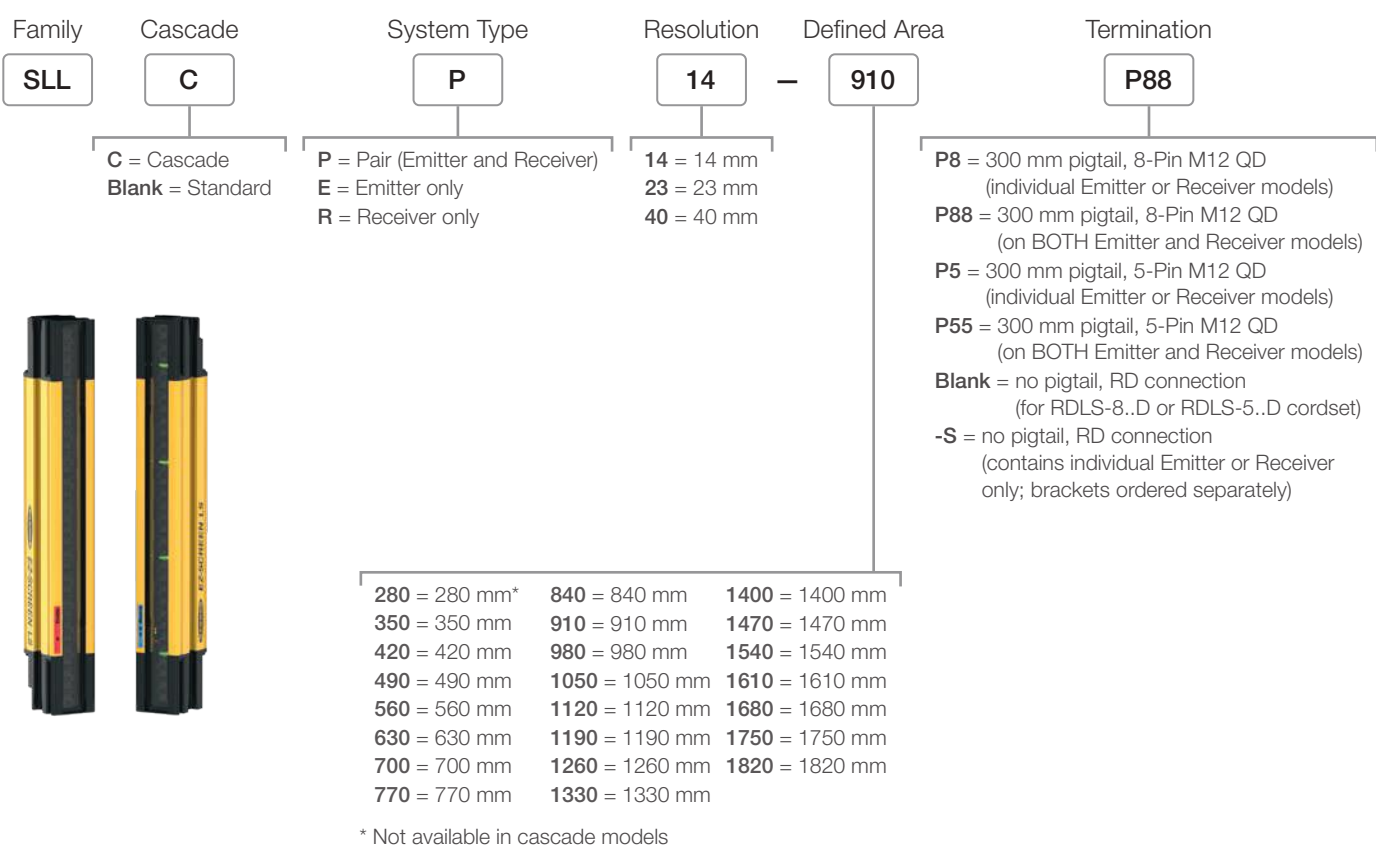


Safety Light Curtains – Model Keys

Compact Type 4: EZ-SCREEN LP with Muting



Heavy-Duty Type 4: EZ-SCREEN LS



Safety Light Curtains – Model Keys

Heavy-Duty Type 4 IP69 Hygienic: EZ-SCREEN LS

Family	System 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 Receiver model with additional 25 ft cordset for blanking configuration

* Not available with remote fixed blanking option

Heavy-Duty Type 4: EZ-SCREEN

Family	Cascade	System Type	Resolution	Defined Area	Finish	Termination
SLS	C	P	14	150		Q88
	C = Cascade Blank = No cascading	E = Emitter R = Receiver P = Pair	14 = 14 mm 30 = 30 mm	150 = 150 mm* 300 = 300 mm 450 = 450 mm 600 = 600 mm 750 = 750 mm 900 = 900 mm 1050 = 1050 mm 1200 = 1200 mm 1350 = 1350 mm 1500 = 1500 mm 1650 = 1650 mm 1800 = 1800 mm 1950 = 1950 mm** 2100 = 2100 mm** 2250 = 2250 mm** 2400 = 2400 mm**	Blank = Yellow powder coat N = Nickel-plated ESD (ESD-safe models are not available with pigtail QD) A = Clear Anodized Aluminum S = Nickel-plated (silver)	Q8 = 8-pin QD (individual Emitter or Receiver models) P8 = 8-pin Pigtail QD (individual Emitter or Receiver models) Q88 = For Pair Emitter with 8-pin QD Receiver with 8-pin QD P88 = For Pair Emitter with 8-pin pigtail QD Receiver with 8-pin pigtail QD

* Not available in cascade models
** Only available in 30 mm resolution

Type 2: EZ-SCREEN LS2

Family	System Type	Resolution	Defined Area	Termination
LS2	TP	30	150	Q88
	E = Emitter TR = Trip Receiver TP = Trip Pair LR = Latch Receiver LP = Latch Pair	30 = 30 mm	150 = 150 mm 300 = 300 mm 450 = 450 mm 600 = 600 mm 750 = 750 mm 900 = 900 mm 1050 = 1050 mm 1200 = 1200 mm 1350 = 1350 mm 1500 = 1500 mm 1650 = 1650 mm 1800 = 1800 mm	Q8 = 8-pin QD (individual Emitter or Receiver models) Q88 = For Pair Emitter with 8-pin QD Receiver with 8-pin QD

Safety Light Curtains – Accessories






SLC4 Brackets

SLC4A-MBK-10	SLC4A-MBK-11	SLC4A-MBK-12	LPA-MBK-21
 <ul style="list-style-type: none">End Mount BracketRotation: +/- 20°Includes 4 brackets and hardware14 ga. steel, black zinc-plated	 <ul style="list-style-type: none">End Mount BracketRotation: FixedIncludes 4 brackets and hardwareGlass-filled polycarbonate	 <ul style="list-style-type: none">Side mount bracketRotation: +/- 15°Includes 2 bracketsGlass-filled polycarbonate	 <ul style="list-style-type: none">Pivoting cascade mounting bracketIncludes 2 brackets and hardware14 ga. steel, black zinc-plated

LP Brackets

LPA-MBK-10	LPA-MBK-11	LPA-MBK-12	LPA-MBK-16	EZLSA-MBK-11
 <ul style="list-style-type: none">End mount bracketRotation: 40°Includes 2 brackets and hardware14 ga. steel, black zinc-plated	 <ul style="list-style-type: none">Standard end mount bracketRotation: 360°Includes 2 brackets and hardware14 ga. steel, black zinc-plated	 <ul style="list-style-type: none">Standard side mount bracketRotation: +10° and -30°Includes 1 bracket and hardware14 ga. steel, black zinc-plated	 <ul style="list-style-type: none">Side mount bracketRotation: +15° and -20°Includes 1 bracket and hardwareBlack zinc die-cast	 <ul style="list-style-type: none">End mount steel bracket360° rotation in 23° incrementsTwo supplied with each sensorNot included with LS Basic or IP69 Hygienic models

LS Brackets

EZLSA-MBK-12	EZLSA-MBK-16	EZLSA-MBK-20	EZLSA-MBK-HTE-1	EZLSA-MBK-HTE-2
 <ul style="list-style-type: none">Center mount steel bracketRotation: +/- 15°One supplied with each sensor ≥ 980 mmNot included with LS Basic or IP69 Hygienic models	 <ul style="list-style-type: none">Side mount die-cast bracketRotation: +15° and -20°One bracket per optional kit	 <ul style="list-style-type: none">8-ga. black cold-rolled steelOptional end-mount bracket for slotted aluminum framing	 <ul style="list-style-type: none">Stamped stainless steel bracket360° rotation for IP69 enclosure modelsTwo brackets per optional kit	 <ul style="list-style-type: none">Hygienic stainless steel bracket360° rotation for IP69 enclosure modelsTwo brackets per optional kit

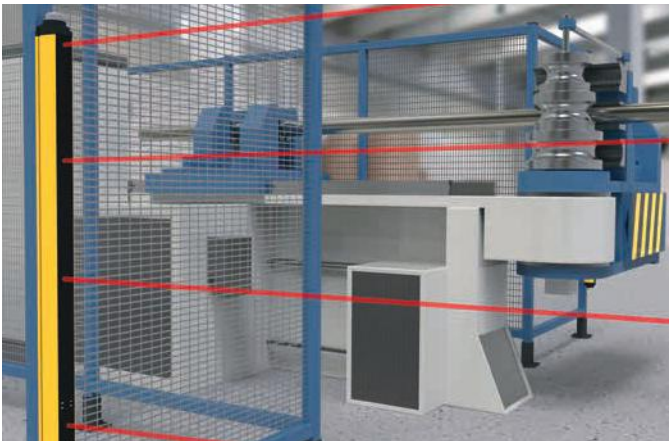
Safety Light Curtains Cables

5-Pin M12/Euro-Style		8-Pin M12/Euro-Style	
			
QDE-515D 4.5 m (15')	QDE-575D 22.8 m (75')	QDE-815D 4.5 m (15')	QDE-875D 22.8 m (75')
QDE-525D 7.6 m (25')	QDE-5100D 30.4 m (100')	QDE-825D 7.6 m (25')	QDE-8100D 30.4 m (100')
QDE-550D 15.2 m (50')		QDE-850D 15.2 m (50')	

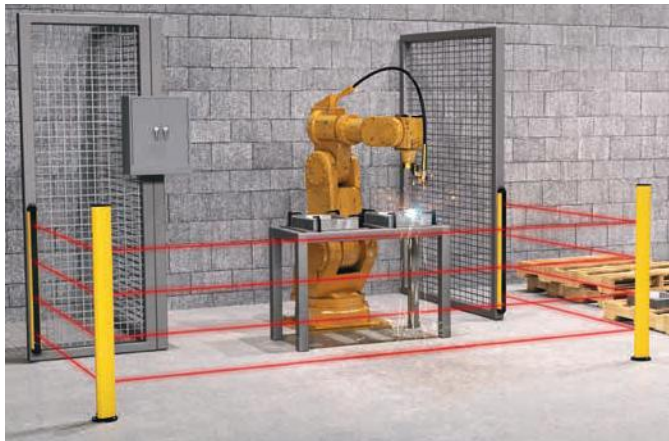
Type 4 Safety Light Grids

Easy-to-use, heavy-duty Type 4 grids for perimeter guarding

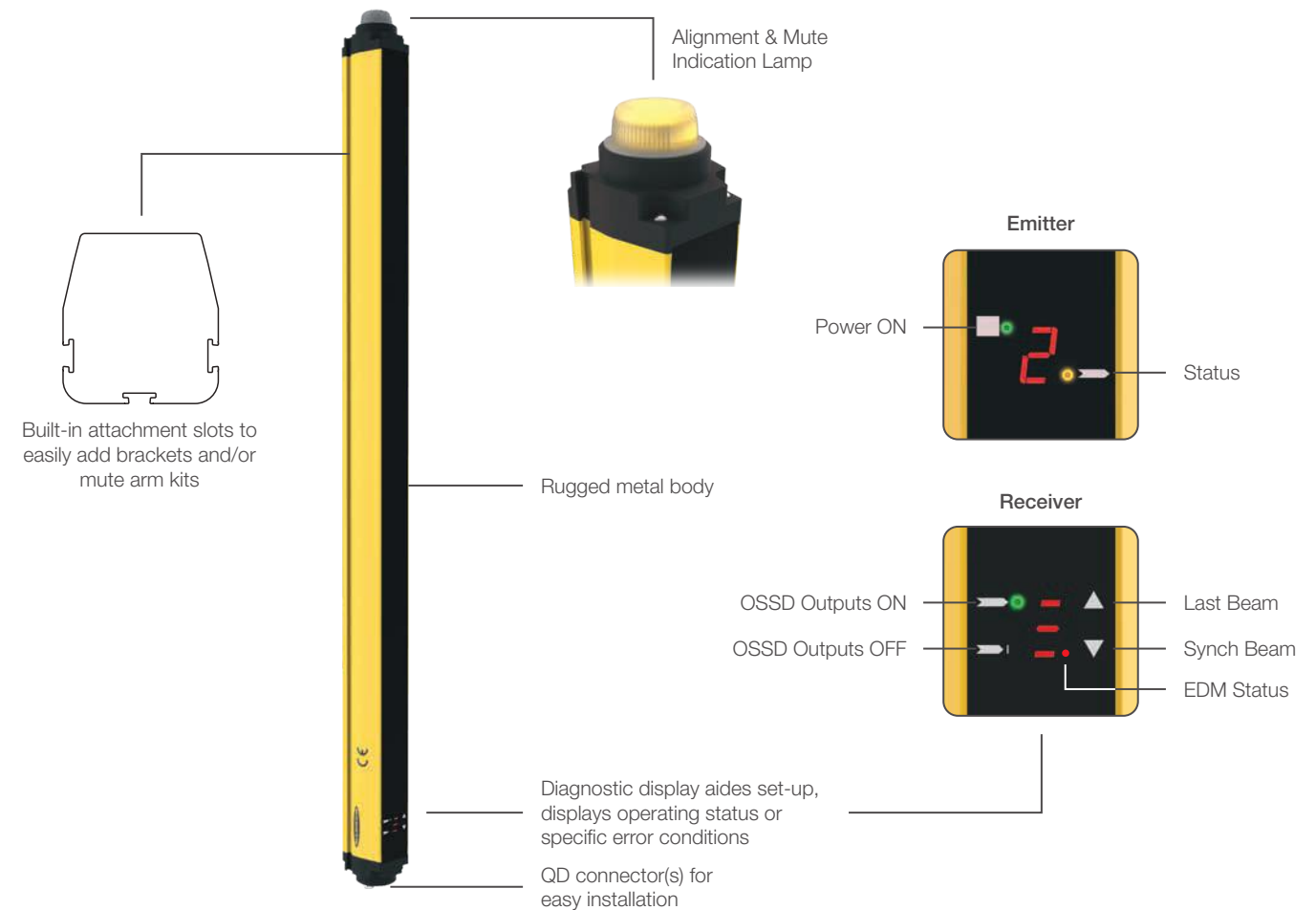
Two to four beam Type 4 safety light grids protect personnel from injury and machines from damage by guarding access, areas, and perimeters. Able to detect a body in a cost-effective and heavy-duty safety light curtain package.



SGS Safety Grid Systems, with two, three, or four beams, are used to monitor the perimeter of the work area.



SGS Safety Grid Systems are available in Emitter/Receiver models capable of safeguarding over very long distances and in easy-to-deploy Active/Passive models.



Muting Options for Safety Light Grids

Certain SGS models are available with integral muting for specific types of entry/exit applications

Integral Muting allows monitoring of redundant mute device inputs and automatically suspends (mutes) the safeguarding function of a device during the non-hazardous portion of the machine cycle.



Integral muting models have muting technology built into the device eliminating the need for an external muting controller. Preassembled muting arm kits are available in T, L and X configurations. The muting kits use premounted hardware and Q20 retroreflective sensors and reflectors.

Benefits of Muting

- Maintain high safety standards while allowing for a predetermined object to break a beam
- Limit downtime by not unnecessarily shutting down a conveyor or robot cell

Applications

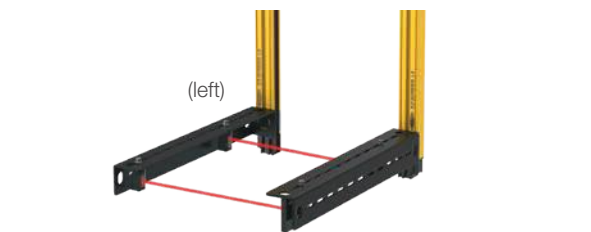
- Assembly and packaging machines
- Automated production equipment
- Robotic work cells
- Automated warehouses
- Palletizers

Mute Arm Kits

Preassembled (with mounting hardware) for plug-and-play connection to the SGS grid and LS Safety Light Curtains

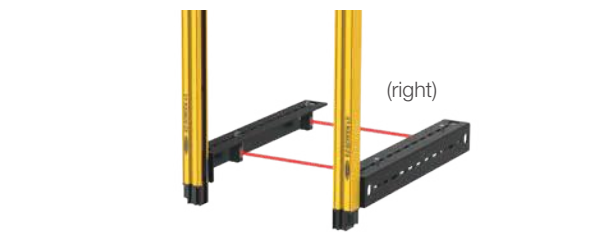
- Wiring connection block or cable accessories available
- Adjusts easily for line changes

L-Configuration



SGSA-ML-L-LPQ20

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



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

SGS Selection

- Choose your safety light grids for perimeter guarding.
- 2, 3 & 4 beam Emitter/Receiver models with a broad feature set
 - 2, 3 & 4 beam easy-to-deploy Active/Passive models, only require wiring to the active side



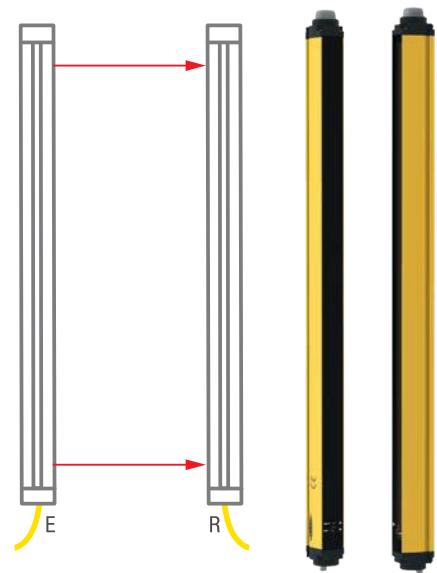
Perimeter Guarding Type 4

		SGS Active/Passive Use with SGSB	SGS Emitter/ Receiver	SGS Long Distance	SGS Active/Passive with Muting Use with SGSB	SGS Emitter/ Receiver with Muting	SGS Mirror Use with SGSSA/SGSMA
Body Detection							
Muting							
Family		SGSSA	SGSSP	SGSXP	SGSMA	SGSMP	GSGB
Type IEC 61496-1, -2		Type 4	Type 4	Type 4	Type 4	Type 4	/
Safety Rating EN ISO 13849-1; IEC 61508; IEC 62061		Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	Category 4 PL e; SIL3; SIL CL3	/
Dimensions W x D (mm)		52 x 56.9	52 x 56.9	52 x 56.9	52 x 56.9	52 x 56.9	52 x 56.9
Unit Type		Active/Passive	Emitter/Receiver	Emitter/Receiver	Active/Passive	Emitter/Receiver	Mirror Assembly
Max Sensing Range (m)		0.5 to 8 m (6.5 m [†])	0.5 to 30 m	6 to 60 m	0.5 to 8 m (6.5 m [†])	0.5 to 30 m	/
Number of Beams		2/3/4	2/3/4	2/3/4	2/3/4	2/3/4	2/3/4
Beam Spacing		300 [†] /400/500 mm	300/400/500 mm	300/400/500 mm	300 [†] /400/500 mm	300/400/500 mm	300/400/500 mm
Functions							
Reset		✓	✓	✓	✓	✓	/
EDM		✓	✓	✓	✓	✓	/
Scan Code		—	✓	✓	—	✓	/
Integrated Muting		—	—	—	✓	✓	/
Integrated Muting Lamp		—	—	—	✓	✓	/
Override Input		—	—	—	✓	✓	/
Connection		8-pin M12	8-pin M12	8-pin M12	12-pin M12 and 5-pin M12 for muting sensors	E: 8-pin M12 R: 12-pin M12 E & R: 5-pin M12 for muting sensors	/
Options							
Brackets		✓	✓	✓	✓	✓	✓
Muting Arms		—	—	—	✓	✓	✓

Safety Light Grids – Model Keys

SGS Emitter/Receiver

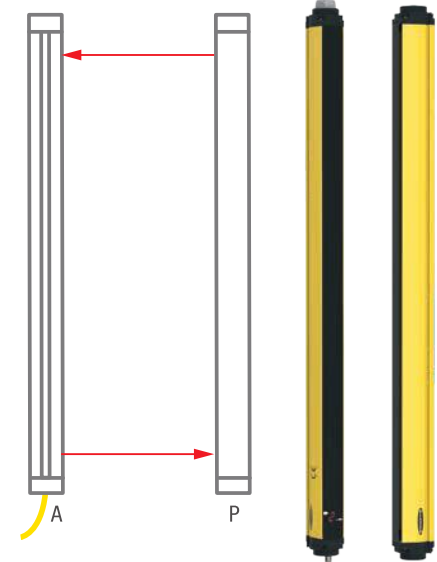
- When compared to higher resolution light screens, a lower cost option for body detection applications
- Available with integral muting
- Long range, up to 60 m



Type	Protective Height (mm)	Range (m)	Integral Muting	Model
Emitter & Receiver	500 (2 beams)	6 to 60	No	SGSXP2-500Q88
	800 (3 beams)			SGSXP3-400Q88
	900 (4 beams)			SGSXP4-300Q88
	1200 (4 beams)			SGSXP4-400Q88
Emitter & Receiver	500 (2 beams)	0.5 to 30	No	SGSSP2-500Q88
	800 (3 beams)			SGSSP3-400Q88
	900 (4 beams)			SGSSP4-300Q88
	1200 (4 beams)			SGSSP4-400Q88
Emitter & Receiver	500 (2 beams)	0.5 to 30	Yes	SGSMP2-500Q128
	800 (3 beams)			SGSMP3-400Q128
	900 (4 beams)			SGSMP4-300Q128
	1200 (4 beams)			SGSMP4-400Q128

SGS Active/Passive




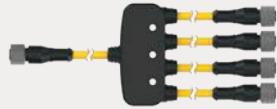
- Active transceiver contains emitter and receiver
- Reduces overall wiring costs
- Available with integral muting
- Up to 8 m range




Type	Protective Height (mm)	Range (m)	Integral Muting	Model
Active Transceiver	500 (2 beams)	0.5 to 8	No	SGSSA2-500Q8
	800 (3 beams)	0.5 to 8		SGSSA3-400Q8
	900 (4 beams)	0.5 to 6.5		SGSSA4-300Q8
	1200 (4 beams)	0.5 to 8		SGSSA4-400Q8
Active Transceiver	500 (2 beams)	0.5 to 8	Yes	SGSMA2-500Q12
	800 (3 beams)	0.5 to 8		SGSMA3-400Q12
	900 (4 beams)	0.5 to 6.5		SGSMA4-300Q12
	1200 (4 beams)	0.5 to 8		SGSMA4-400Q12
Passive Mirror				
Type	Protective Height (mm)	Range (m)		Model
Passive Mirror Assembly	500 (2 beams)	Pair with Active Transceivers with matching beams and protective heights		SGSB2-500
	800 (3 beams)			SGSB3-400
	900 (4 beams)			SGSB4-300
	1200 (4 beams)			SGSB4-400

Safety Light Grids – Accessories

Connection Options

8-Pin M12/Euro-Style			12-Pin M12/Euro-Style	
QDEG-815D 4.5 m (15')	QDEG-875D 22.8 m (75')		QDEG-1215E 4.5 m (15')	QDEG-1275E 22.8 m (75')
QDEG-825D 7.6 m (25')	QDEG-8100D 30.4 m (100')		QDEG-1225E 7.6 m (25')	QDEG-12100E 30.4 m (100')
QDEG-850D 15.2 m (50')			QDEG-1250E 15.2 m (50')	
Mute Connection Options				
Model		Description		
SGSA-MCB	Connection box for X, L or T mute arm kits			
SGSA-MCS-2	Connection cable for X and L mute arm kits			
SGSA-MCS-4	Connection cable for T mute arm kits			
SGSA-MCB-HW	Optional hardware kit for mounting mute connection box, or mute connection cable to the t-slot of SGS Receiver or Active Unit			


Bracket




SGSA-MBK-10-4

- End-mount bracket


Stands and Corner Mirrors



SGSA-S Series Enclosures					
Enclosure Model	Fits SGS Models	# of Windows	Enclosure Height	Distance from Floor to Bottom Window	Distance between Beams
SGSA4-S300	SGS..4-300Q..	4	1543 mm (60.75")	300 mm (11.8")	300 mm (11.8")
SGSA4-S300-M					
SGSA3-S400	SGS..3-400Q..	3	1238 mm (48.78")	300 mm (11.8")	400 mm (15.8")
SGSA3-S400-M					
SGSA4-S400	SGS..4-400Q..	4	1618 mm (63.69")	300 mm (11.8")	400 mm (15.8")
SGSA4-S400-M					
SGSA2-S500	SGS..2-500Q..	2	1035 mm (40.75")	400 mm (15.8")	500 mm (19.7")
SGSA2-S500-M					



SSM Series Corner Mirrors				
Mirror Model	Fits SGS Models	Reflective Area	Mounting Area	Mirror Height
SSM-550	SGS..2-500..	550 mm (21.7")	661 mm (26.0")	628 mm (24.7")
SSM-825	SGS..3-400..	825 mm (32.5")	936 mm (36.9")	903 mm (35.6")
SSM-975	SGS..4-300..	975 mm (38.4")	1086 mm (42.8")	1053 mm (41.5")
SSM-1275	SGS..4-400..	1275 mm (50.2")	1386 mm (54.6")	1353 mm (53.3")



MSA Series Stands		
Stand Model	Pole Height	Usable Stand Height
MSA-S66-1	1676 mm (66")	1550 mm (61")
MSA-A84-1	2134 mm (84")	2007 mm (79")
MSA-S105-1	2667 mm (105")	2667 mm (100")

Safety Scanner System

Horizontal or vertical monitoring of both personnel and stationary or mobile systems

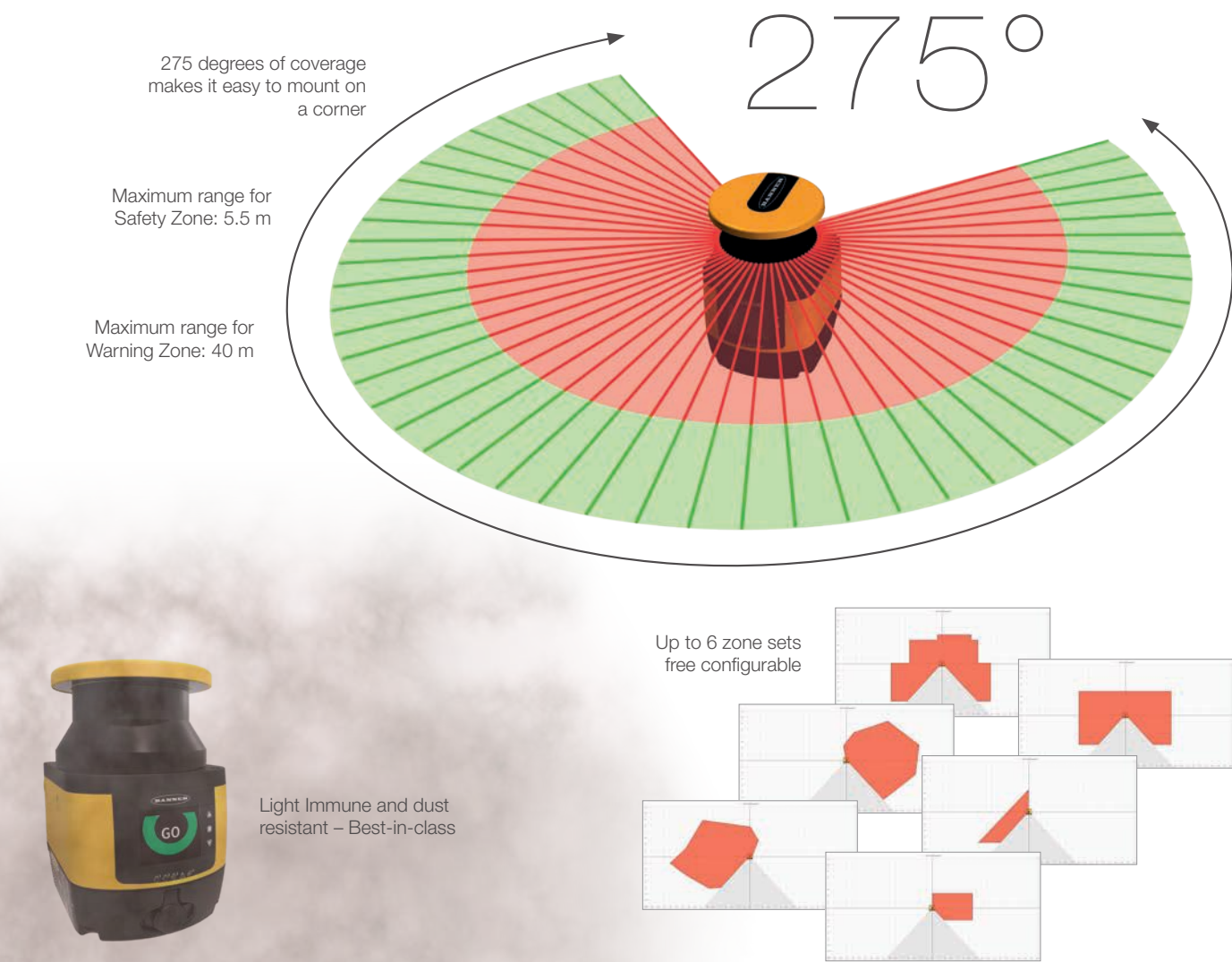
SX Series safety laser scanners protect personnel, equipment, and mobile systems by continuously scanning a user-defined area of up to 275° to create a two-dimensional protected zone.



SX5 software configuration allows for Zone switching for FULL, RIGHT-SIDE and LEFT-SIDE Safety Protection during this forklift access application.



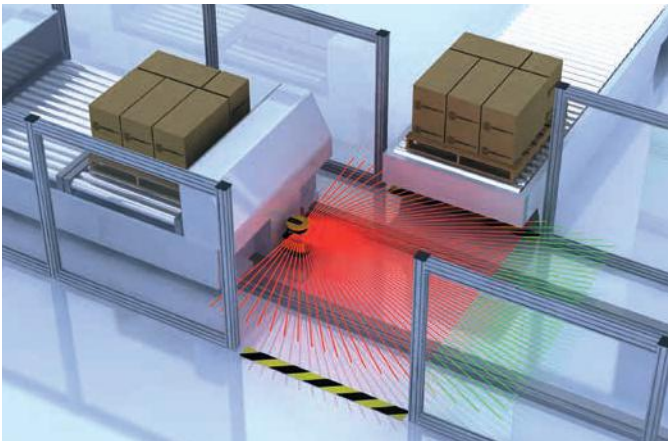
Software interface makes it easy to create custom safety and warning zones to safeguard large, complex, and irregularly shaped areas.



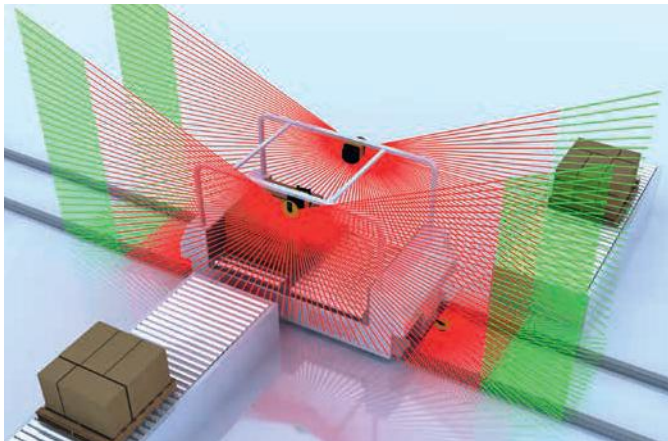
Safety Scanner System

Increased Machine Uptime

The SX5-B has on-board LED indicators and a large multi-segment color display that provide at-a-glance system status information so users can quickly identify zone breaches and resolve issues with a minimal amount of equipment downtime.



Compact, one-piece safety device installs easily above and away from area hazards without requiring time-consuming alterations to area infrastructure.



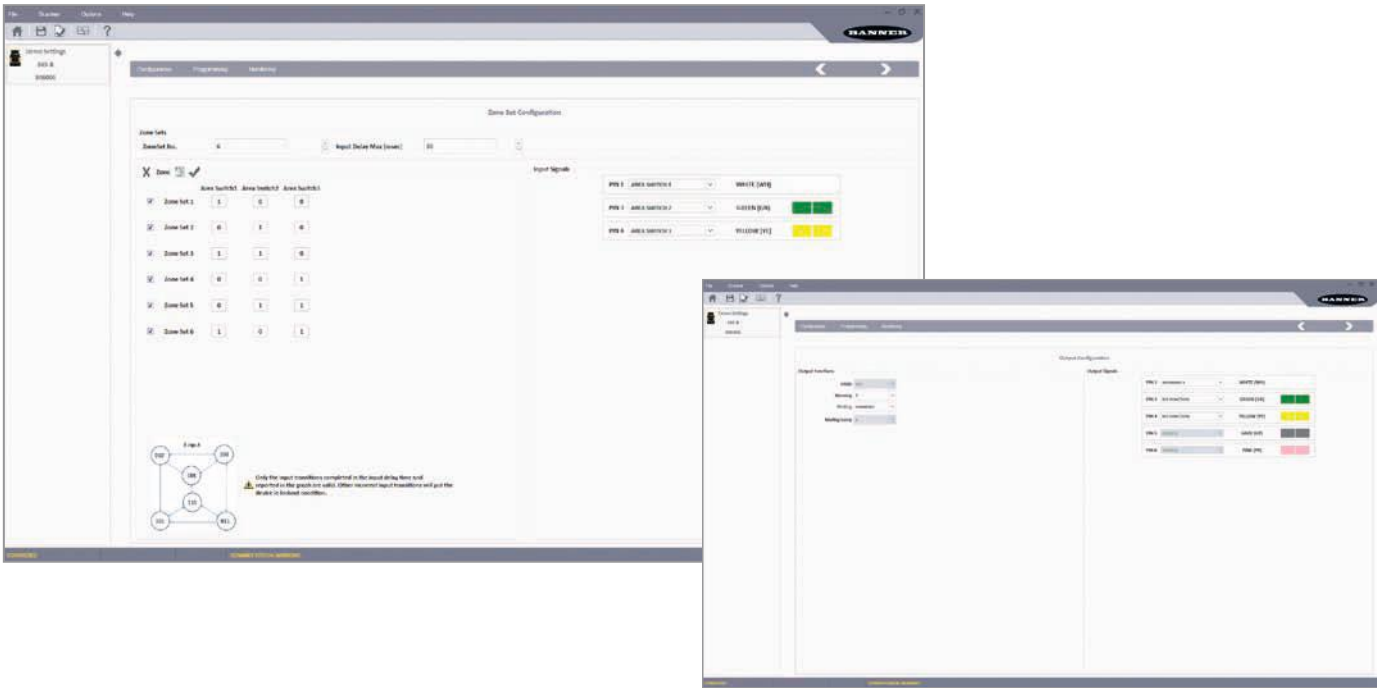
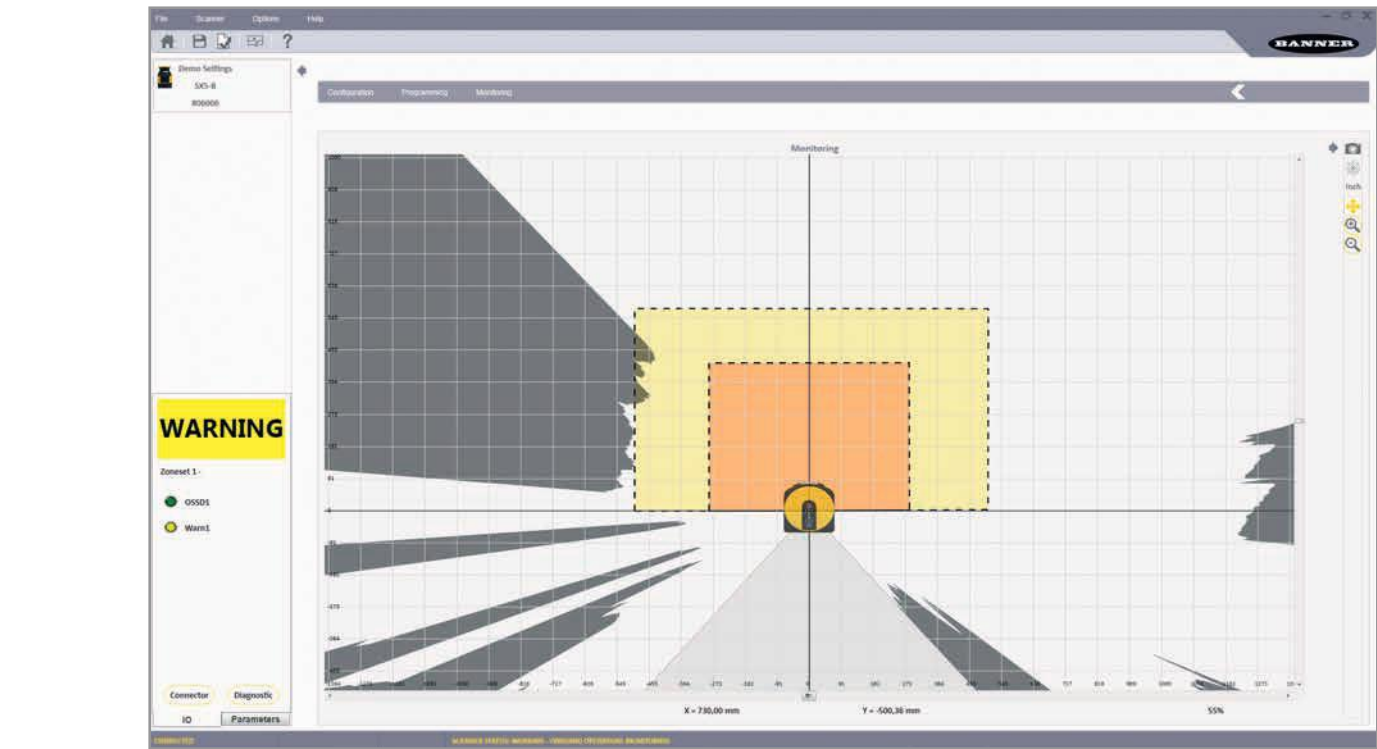
An alert is triggered if an object enters the warning zone and equipment will come to a stop if the safety zone is breached.



Safety Scanner System – Software

Simple Setup for Rapid Deployment

The SX5-B can be set up in just a few simple steps using Banner's free configuration software. This robust software features menu-driven tools that guide users through setup and make it easy to design custom safety and warning zones to accommodate existing infrastructure and meet the specific needs of any application.




The software displays a graphic rendering of the monitored area, and provides configuration and management tools, such as drop-down menus, function-specific worksheets...



- Administrative data: file title header, application description and more
- Safety-relevant data: startup process information
- Safety Zone or Warning Zone configuration data: contours and limits

Safety Scanner System – Models and Accessories

SX Series Safety Scanners

	Model	Protective Field Range	Warning Field Range	Scanning Angle	Dimensions H x W x D (mm)	Features
	SX5-B	0.05 m to 5.5 m	40 m	275°	152 x 112.5 x 102	LCD Display, Muting

SX Series Safety Scanners Specifications

Detection Capability	40 mm, 70 mm	Current Consumption (24V dc)	No output load: 0.3A at 24V dc With maximum output load: 1.1A at 24V dc
OSSD (Safety Outputs)	2 OSSD All inputs and outputs are protected from short circuits to +24V dc or dc common	Mechanical Data	Housing material: Aluminum Alloy Housing color: Yellow RAL1003 Optics cover material: PC Optics cover surface: Acrylic
Zone Sets	Six	Safety Data	Type 3 (EN 61496-1) SIL 2 (IEC 61508) Category 3 (EN ISO 13849-1) SIL CL 2 (EN 62061) PL d (EN ISO 13849-1)
Environmental Rating	IEC IP65	Optical Data	Wavelength: 905 nm Pulse duration: 3 nsec Laser class: CLASS 1 (EN 60825-1)
Operating Conditions	0° C to +50° C (+32° F to +122° F) 95% maximum relative humidity (non-condensing)	Certifications	  LISTED

SX Series Safety Scanners Brackets



SXA-MBK-1

- Pitch and roll angle adjustment bracket
- Bracket memory feature allows for fast scanner swap out





SXA-MBK-2

- Protection bracket



SX Series Safety Scanners Cables

8-Pin M12/Euro-Style Straight connector		4-Pin M12 D-Code to RJ45 Double ended	
			
SXA-815D 4.5 m (15')	SXA-850D 15.2 m (50')	STP-M12D-406 1.83 m (6')	STP-M12D-430 9.14 m (30')
SXA-825D 7.6 m (25')	SXA-8100D 30.4 m (100')	STP-M12D-415 4.5 m (15')	

Safety Relays and Safety Controllers



Industrial safety controllers and relays provide an interface between safety devices and the machines and processes those devices monitor for a complete and easy-to-use safety control solution.

Safety Relays



- Cost-effective for simple safety circuits
- Preset Functionality: Configuration not required
 - Safety Inputs: 1
 - Independently controlled Safety Outputs: 1; 4 to 7A

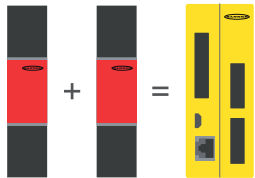


Safety controllers can be tailored for a wide variety of machines, including machines with multiple processes.

Hybrid Safety Controller plus 2 Safety Relays



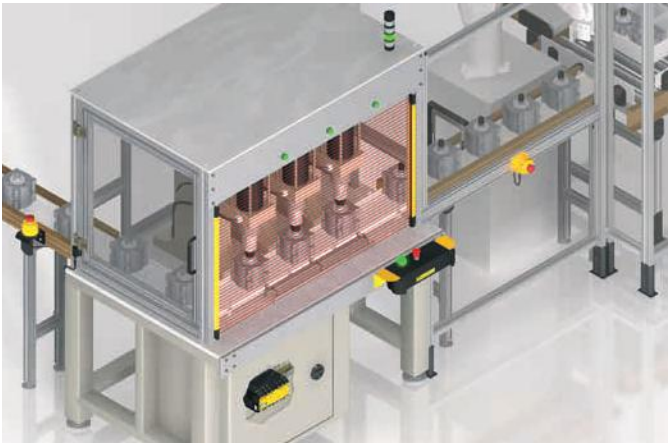
- Flexible and cost-effective solution for machines typically using 2 Safety Relays
- PC Configurable: Flexible and easy-to-use
 - Safety Inputs: up to 10; up to 70 with ISD
 - Independently controlled Safety Outputs: 2; 6A each
 - Convertible Safety Inputs: 4
 - Terminal LEDs for easy troubleshooting
 - Industrial Ethernet



- Connect safety devices easily to the safety controller
- Universal input safety relays
 - Safe speed monitoring relays
 - E-Stop monitoring safety relays
 - Safety mat relays
 - Muting safety relays
 - Safety extension relays



Safety Relays and Safety Controllers

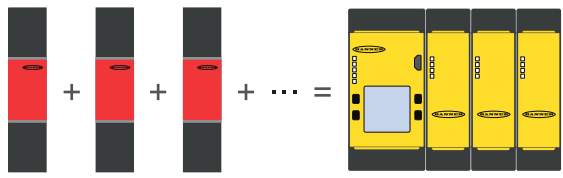


Configurable controllers monitor multiple safety devices, such as E-stop buttons, safety switches, safety light screens, two-hand controls and rope pull switches.

Expandable Safety Controller



- Expandable for Complex Safety applications where 3 or more safety relays are typically used
- PC Configurable: Flexible and easy-to-use
 - Safety Inputs: 26 (base unit) up to 154
 - Independently controlled Safety Outputs: up to 68; 0.5A to 6A each
 - Convertible Safety Inputs: 8 (Base Unit) up to 40
 - LCD Display for easy troubleshooting
 - Industrial Ethernet

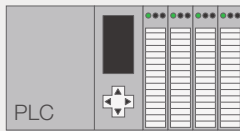


In-Series Diagnostics (ISD)

- Easy-to-Implement
- Diagnostic Capabilities for Complex Safety Systems



In-Series Diagnostics (ISD) makes it easy to access diagnostic data from devices in a safety system without special equipment or designated cabling. Users can troubleshoot machine safety systems, prevent system faults, and reduce equipment downtime.




























Relay and Controller Selection

Choose a safety relay or safety controller.

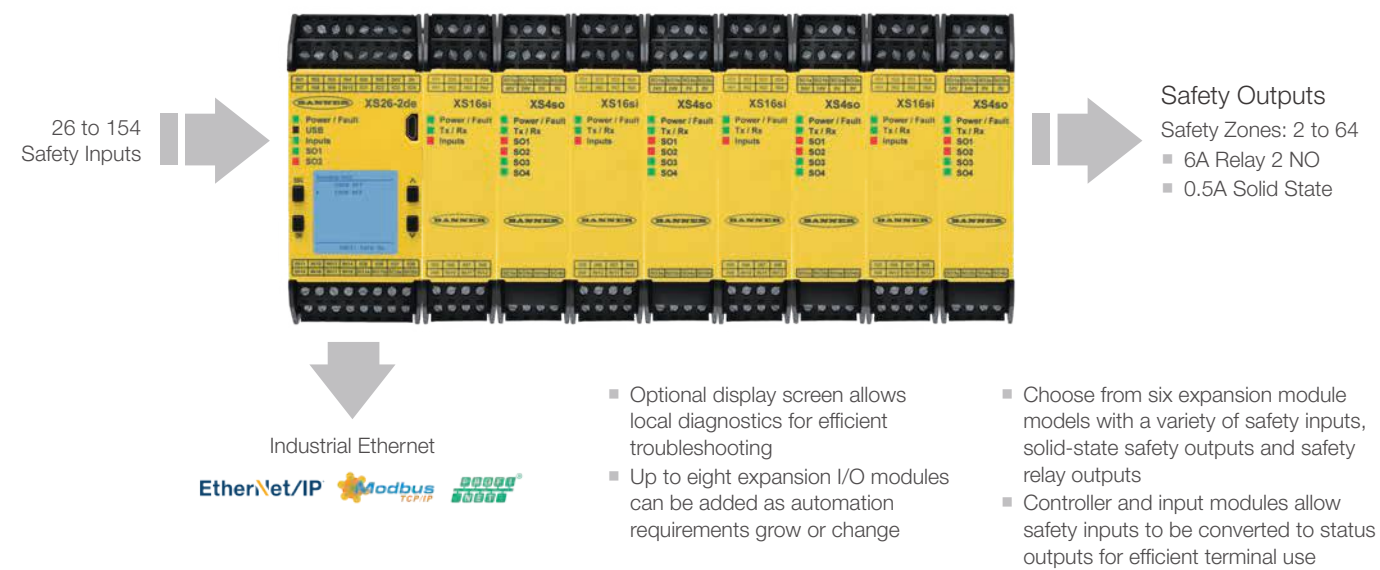
- Configurable (expandable) safety controllers
- Preconfigured safety relay modules



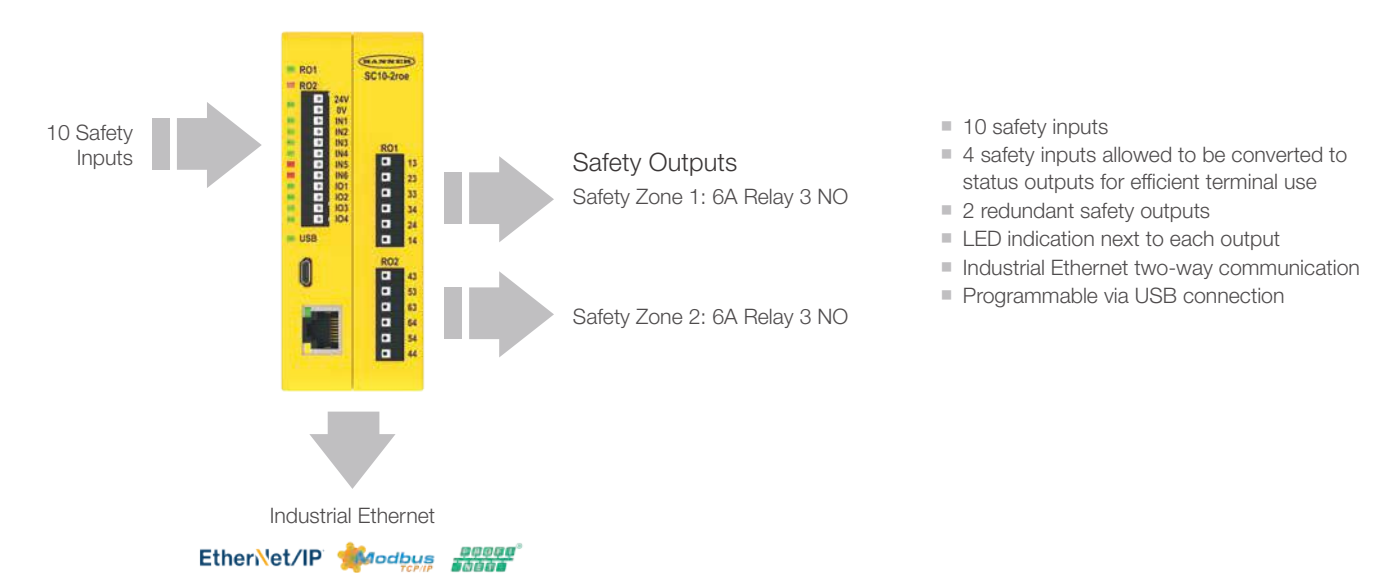
		Preconfigured Safety Relay Modules										Configurable Controllers	
		GM/ES	UM		SM	AT	MMD	SSM	SR	IM	EM	SC10	SC26/XS26
													
Self Testing Safety Device			✓				✓					✓	✓
Self Testing Safety Device with EDM Function			✓				✓		✓	✓		✓	✓
E-Stop		✓	✓				(secondary function) ✓					✓	✓
Rope Pull		✓	✓				(secondary function) ✓					✓	✓
Gate Switch (potential free contacts)		✓	✓				✓					✓	✓
RFID Gate Switch (OSSD contacts)			✓				✓					✓	✓
ISD Functionality												✓	
Safety Mat Monitoring					✓							✓	✓
Two-Hand Control						✓						✓	✓
Enabling Device		✓	✓									✓	✓
Expandable											✓		✓
Muting							✓					✓	✓
ON/OFF Delay											OFF Delay available	✓	✓
Speed Monitoring								✓					
Safety Standard		Cat. 4 PL e, per EN ISO 13849-1; SIL 3 per IEC 61508 and IEC 62061											
Inputs		1 NC & 1 NO (single or dual) 1 NC (single) 2 NC (dual)	1 NC (single) or 2 NC (dual) or 2 PNP		1 (or multiple in series) 4-wire safety mat	2 STB or buttons with complementary contacts	2 NC muteable (dual) & 2 NC SSI (dual)	2 PNP	2 NC (dual) or 2 PNP	2 NC (dual) or 2 PNP	1 NC (single) or 2 NC (dual)	10	SC26: up to 26 XS26: up to 154
Safety Outputs		2 NO / 3 NO / 4 NO	3 NO or 2 NO		4 NO	2 NO	2 PNP OSSD or 2 NO	2 NO	2 NO / 3 NO	2 NO / 3 NO	4 NO or 4 NO with delay	2x 3 NO	SC: 2 XS: up to 68
Maximum Safety Output Rating		6A / 7A	7A		6A	6A	6A	4A	6A	6A	6A	6A each	0.5A each
Auxiliary Outputs		1 NC or 1 NC & 2 PNP	1 NC, depending on model		1 NC & 2 PNP	/	1 PNP or 1 NC	1 NC	1 NC	1 NC, depending on model	/	depending on configuration	depending on configuration
Power Supply		24V ac/dc 115V ac & 12-24V dc or 230V ac & 12-24V dc	24V ac/dc		115V ac & 12-24V dc or 230V ac & 12-24V dc	24V ac/dc	24V dc	24V dc	24V dc	24V dc	24V dc or 24V ac/dc, depending on model	24V dc	24V dc

Safety Controllers

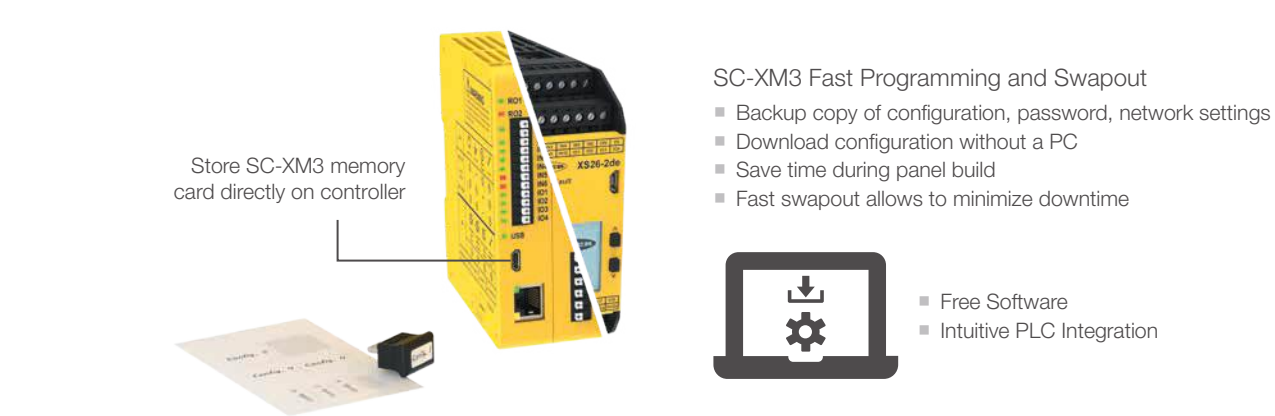
XS26 Expandable Safety Controller



SC10 Safety Controller

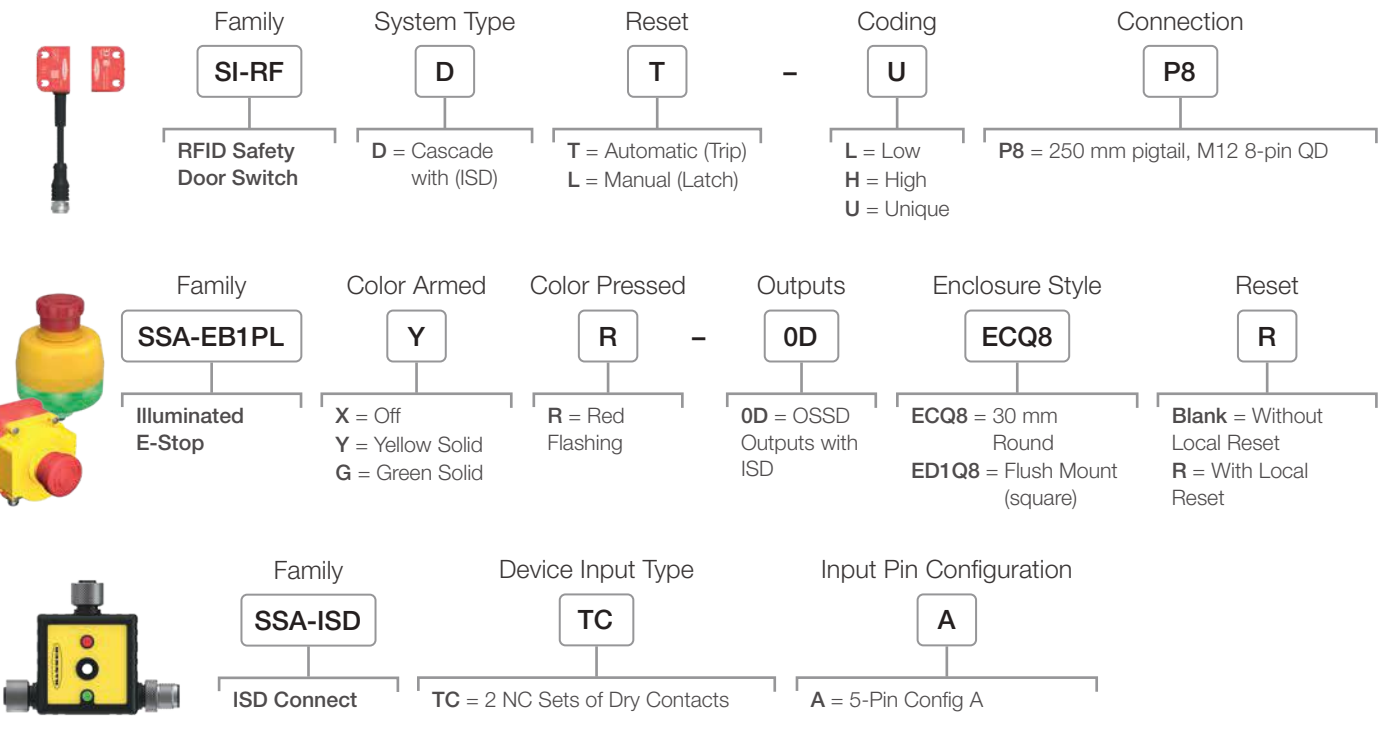
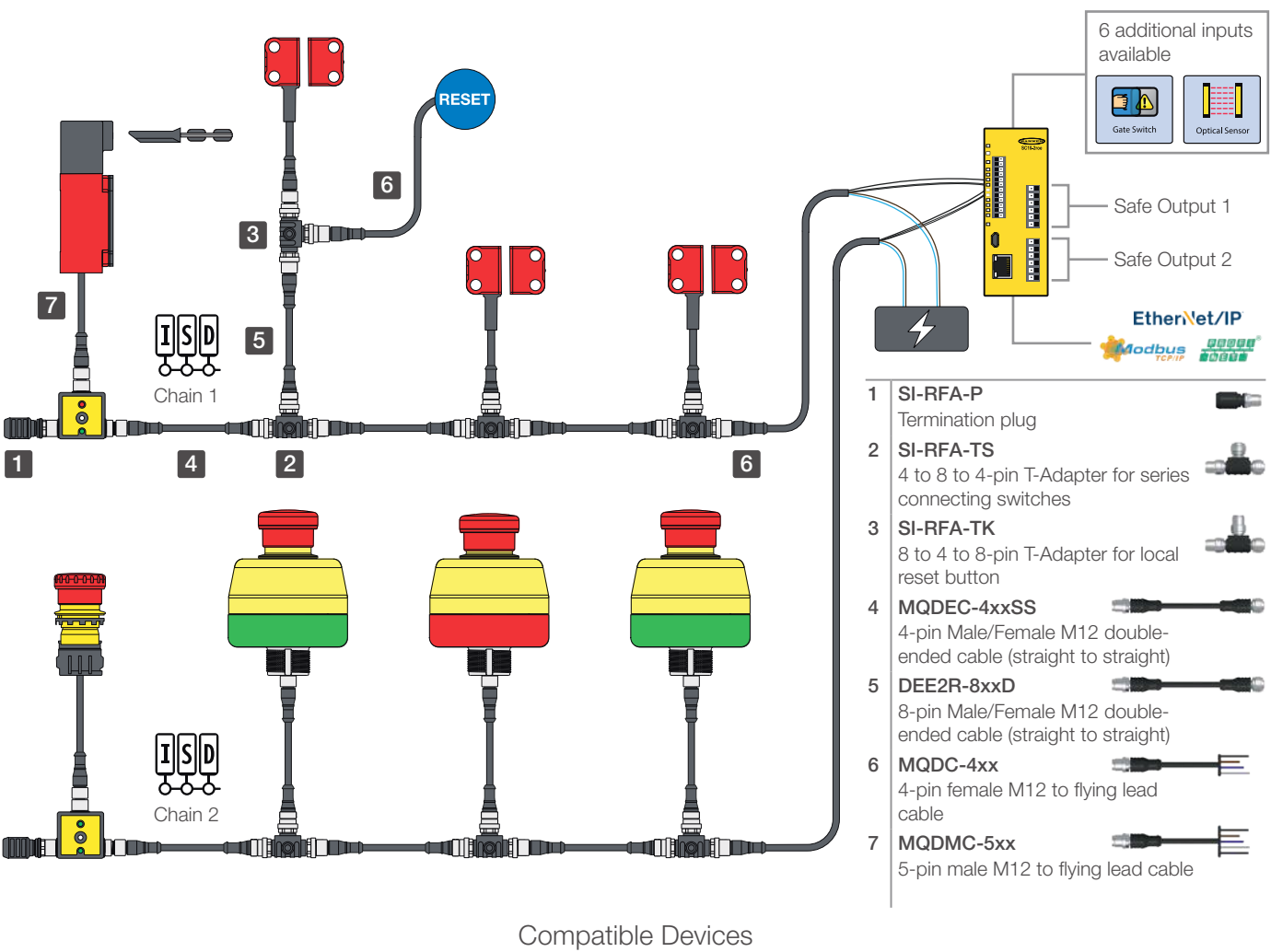


Easy to Configure and Integrate with a PLC



In-Series Diagnostics Functionality

In-Series Diagnostics allows you to connect up to 32 devices with one in-series connection and communicate directly with the most commonly used PLCs. Achieves up to CAT4, SIL3, PLe safety rating.



Build System and Select Equipment

The feature-rich SC10 and SC/XS26 safety controller software provides a seamless user interface for setting up and managing safety systems. The software features an intuitive icon-based, drag-and-drop user interface to reduce the learning curve and speed up commissioning.

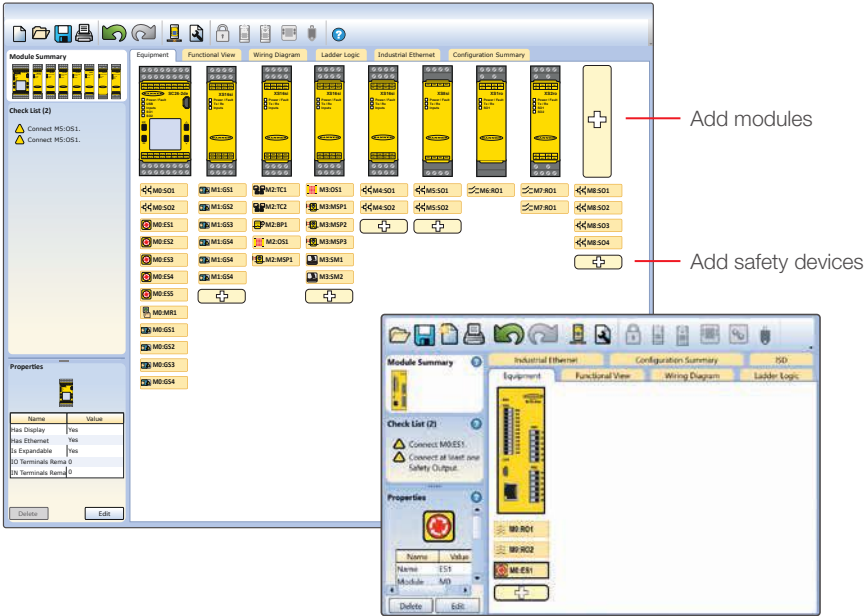
- Complex configurations made easy
- Simulate configurations before implementation
- Auto configure Industrial Ethernet for remote monitoring and diagnostics

Start using the **free software** today. Go to www.bannerengineering.com/safetycontroller

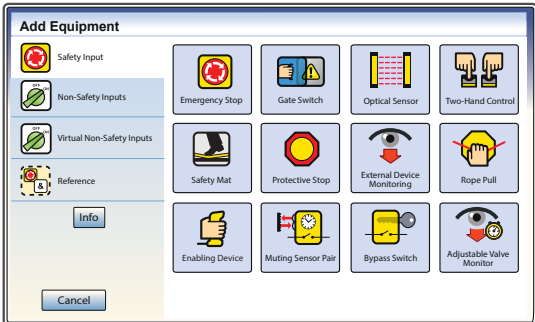
1. Choose Controller



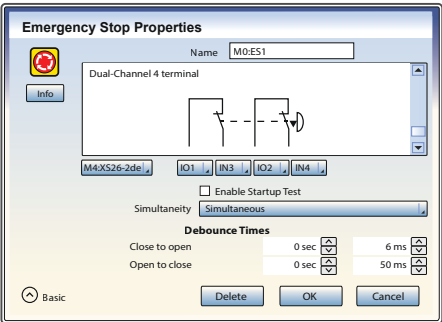
2. Equipment View



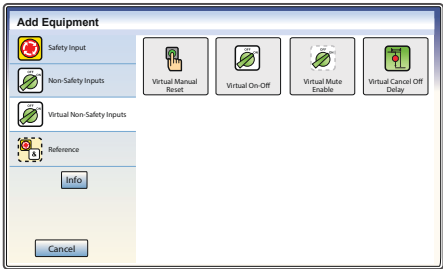
3. Add safety devices



4. Select safety device properties

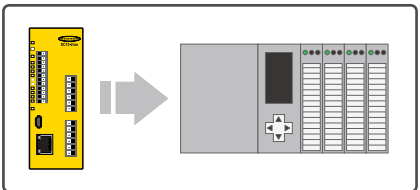


5. Add virtual non-safety inputs

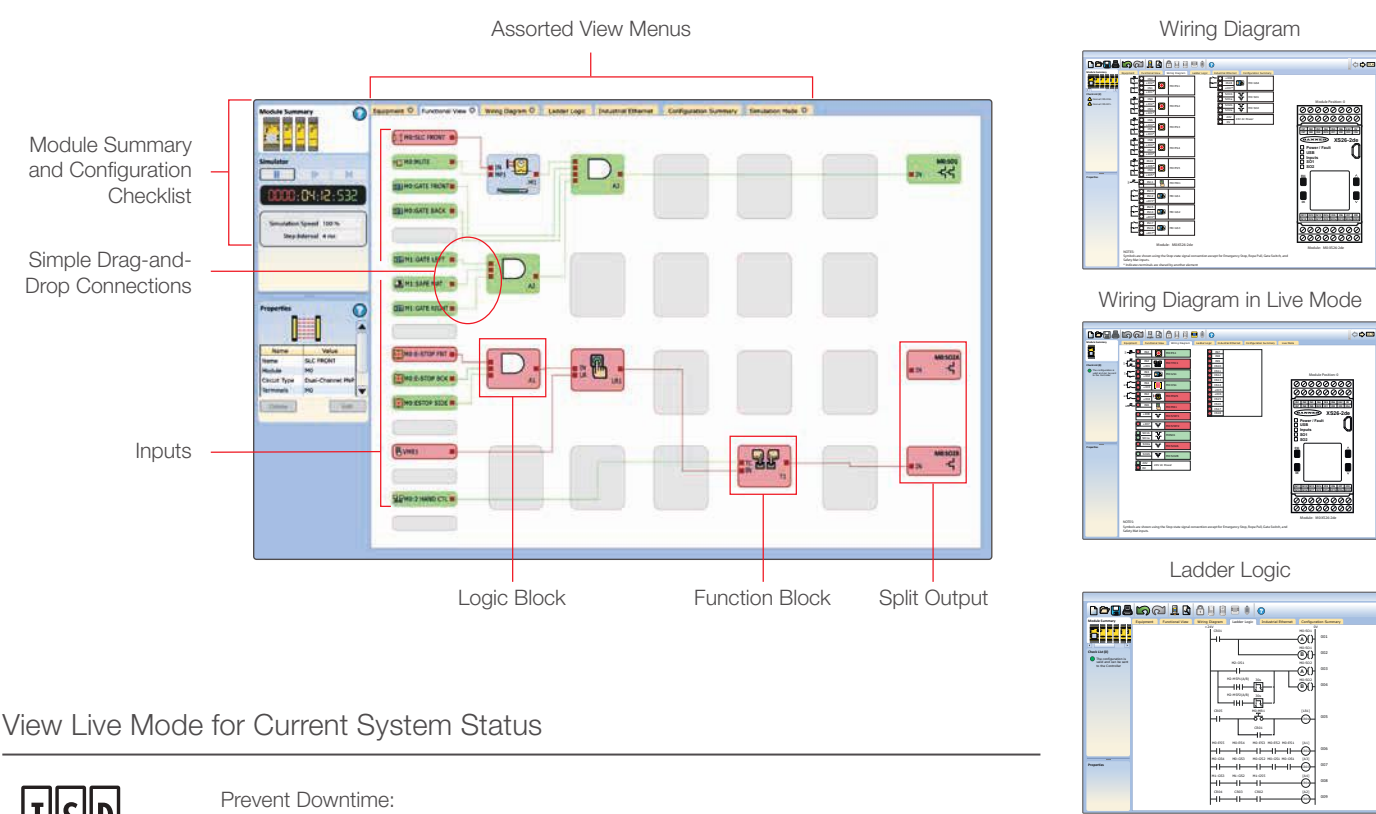


Intuitive setup and PLC integration

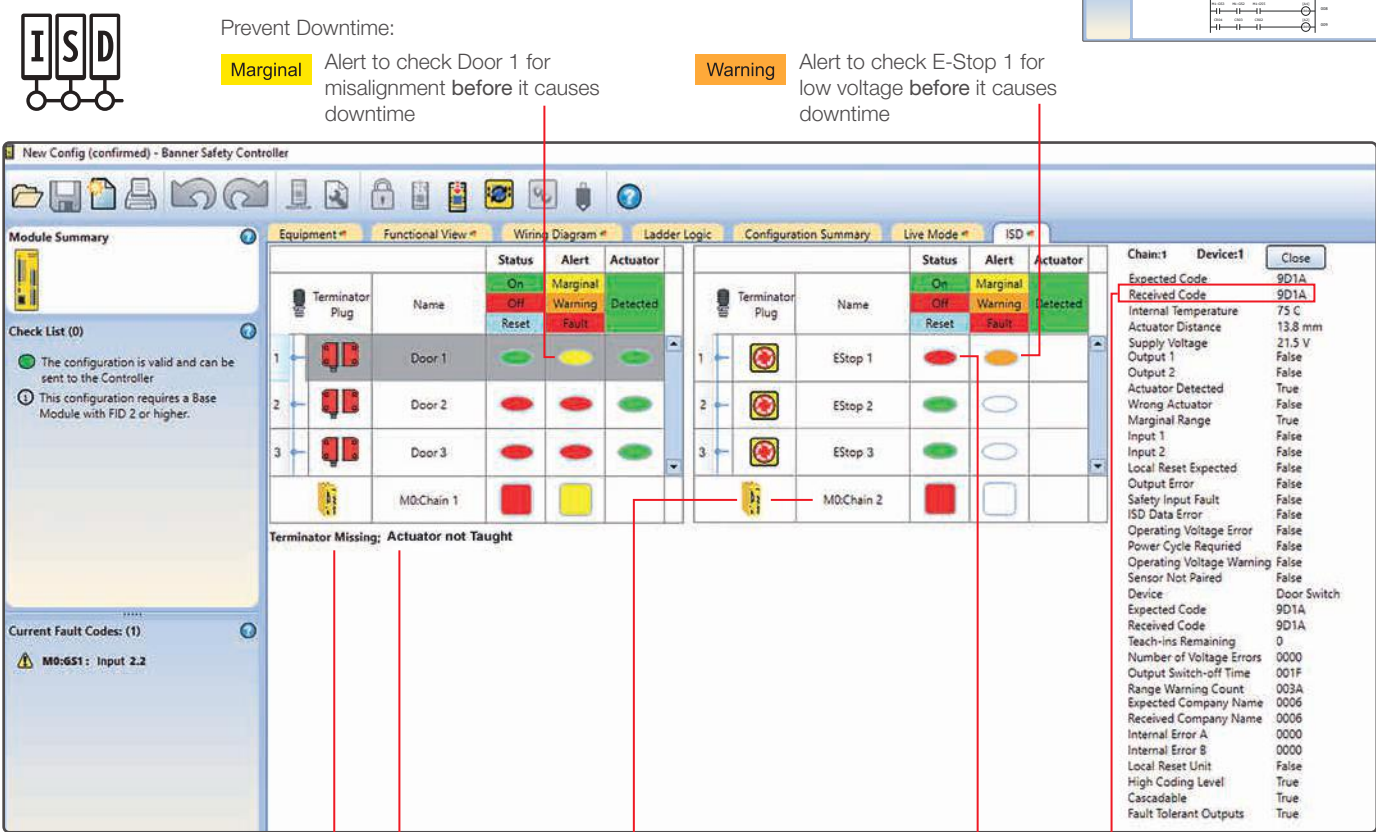
- Expedite PLC Integration with Tag Export Feature
- Eliminates error-prone manual entries
- Import tags to PLC via .csv or .xml files
- Defines actionable In-Series Diagnostic data within the PLC
- For more information visit bannerengineering.com/safetycontroller



Configure your system in minutes




View Live Mode for Current System Status




Safety Relays – Models


E-Stop and Guard Safety Modules

	Model	Supply Voltage	Inputs	Safety Outputs	Aux. Outputs	Output Rating	Output Response Time
	GM-FA-10J	24 V ac/dc	1 NC & 1 NO (single or dual)	2 NO	–	6 A	35 ms
	ES-FA-9AA	24 V ac/dc	1 NC (single) or 2 NC (dual)	3 NO	–	6 A	25 ms
	ES-FA-11AA	24 V ac/dc	1 NC (single) or 2 NC (dual)	2 NO	1 NC	7 A	25 ms
	ES-FA-6G	24 V ac/dc	1 NC (single)	3 NO	1 NC	6 A	35 ms
	ES-UA-5A	115 V ac & 12-24 V dc	1 NC (single) or 2 NC (dual)	4 NO	1 NC & 2 PNP	6 A	25 ms
	ES-VA-5A	230 V ac & 12-24 V dc	1 NC (single) or 2 NC (dual)	4 NO	1 NC & 2 PNP	6 A	25 ms


Universal Safety Input Modules

	Model (24 V ac/dc)	Inputs	Safety Outputs	Aux. Output	Output Rating	Output Response Time
	UM-FA-9A	1 NC (single) or 2 NC (dual) or 2 PNP	3 NO	–	6 A	25 ms
	UM-FA-11A	1 NC (single) or 2 NC (dual) or 2 PNP	2 NO	1 NC	7 A	25 ms

Safety Mat Monitoring Modules

	Model	Supply Voltage	Inputs	Safety Outputs	Aux. Outputs	Output Rating	Output Response Time
	SM-GA-5A	115 V ac & 12-24 V dc	1 (or multiple in series) 4-wire Safety Mat	4 NO	1 NC & 2 PNP	6 A	50 ms
	SM-HA-5A	230 V ac & 12-24 V dc	1 (or multiple in series) 4-wire Safety Mat	4 NO	1 NC & 2 PNP	6 A	50 ms


Muting Modules

	Model (24 V dc)	Input Device	Inputs	Safety Outputs	Aux. Outputs	Output Rating	Output Response Time
	MMD-TA-12B	Electromechanical & Solid State	2 NC Muteable (dual) & 2 NC SSI (dual)	2 PNP OSSD	1 PNP	0.5 A	10 ms
	MMD-TA-11B	Electromechanical & Solid State	2 NC Muteable (dual) & 2 NC SSI (dual)	2 NO	1 NC	6 A	20 ms

Safe Speed Monitoring Modules



	Model	Supply Voltage	Inputs	Safety Outputs	Aux. Outputs	Ranges (lpm)	Output Rating
	SSM-FM-11A10	24 V ac/dc	2 PNP	2 NO	1 NC	5-40, 35-340, 300-2700, 1200-10500	4 A
	SSM-FM-11A20	24 V ac/dc	2 PNP	2 NO	1 NC	10-80, 80-650, 600-5300, 2400-20000	4 A

Interface Modules


	Models	Supply Voltage	Inputs	Safety Outputs	Aux. Outputs	Output Rating	Output Response Time
	SR-IM-9A	24 V dc	2 NC	3 NO	–	6 A	20 ms
	SR-IM-11A	24 V dc	2 NC	2 NO	1 NC	6 A	20 ms
	IM-T-9A	24 V dc	2 NC	3 NO	–	6 A	20 ms
	IM-T-11A	24 V dc	2 NC	2 NO	1 NC	6 A	20 ms

Safety Controllers – Models


Non-expandable SC26 and SC10 Safety Controllers

	Model (24V dc)	Description	Housing (H x W x D in mm)	Inputs/Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
	SC26-2d SC26-2de	Base Controller, non-expandable, with LCD	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
	SC26-2 SC26-2e	Base Controller, non-expandable	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
	Model (24V dc)	Description	Housing (H x W x D in mm)	Inputs/Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
	SC10-2roe	Base Controller	115 x 45 x 100	10/4	2 Dual Channel Relays	2x 3 NO: 6A 250V ac / 24V dc



Expandable XS26 Safety Controllers

	Model (24V dc)	Description	Housing (H x W x D in mm)	Inputs/Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
	XS26-2d XS26-2de	Base Controller, expandable, with LCD	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
	XS26-2 XS26-2e	Base Controller, expandable	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
	XS8si	Safety Input Module	W: 22.5 mm	8/2	/	/
	XS16si	Safety Input Module	W: 22.5 mm	16/4	/	/
	XS2so	Safety Output Module	W: 22.5 mm	/	2 Dual Channel PNP	0.75A @ 24V dc
	XS4so	Safety Output Module	W: 22.5 mm	/	4 Dual Channel PNP	0.5A @ 24V dc
	XS1ro	Safety Relay Output Module	W: 22.5 mm	/	1 Dual Channel Relay	6A; 2 NO, 1 NC Aux
	XS2ro	Safety Relay Output Module	W: 22.5 mm	/	2 Dual Channel Relays	6A; 2x 2 NO, 2x 1 NC Aux

Expansion Modules

	Model	Supply Voltage	Inputs	Safety Outputs	Output Rating	Aux. Outputs	Output Response Time	Delay
	EM-T-7A	24 V dc	1 NC (single) or 2 NC (dual)	4 NO	6 A	–	20 ms	–
	EM-F-7G	24 V ac/dc	1 NC (single)	4 NO	6 A	–	35 ms	–
	EM-FD-7G2	24 V ac/dc	1 NC (single)	4 NO w/delay	6 A	–	–	0.5 s
	EM-FD-7G3	24 V ac/dc	1 NC (single)	4 NO w/delay	6 A	–	–	1.0 s
	EM-FD-7G4	24 V ac/dc	1 NC (single)	4 NO w/delay	6 A	–	–	2.0 s

Accessories

			
SC-USB2 ■ USB Cable	SC-XM2 ■ Memory Card for XS26 and SC26	SC-XM3 ■ Memory Card for SC10	SC-XMP2 ■ SC-XM2/3 Configuration Tool

Safety Switches



Hinge Switches



Non-Contact Switches



- One-piece sensor and actuator with hinge function
- Fast installation and set-up with repositionable safety switch point
- Stainless steel and IP69 available
- Matching hinges without sensing available for additional door support
- Available with up to 270° safety switch point operation range



- Two-piece design where sensor and actuator do not contact
- Coded magnets/tags minimize the potential for intentional defeat
- A single pair can achieve up to Category 4/PLe safety rating
- Accommodating to misalignment
- Non contact solution minimizes device wear and tear, even in applications with persistent use
- Up to IP69 solutions available

Mechanical Switches



- Two-piece design with mechanical operator feedback
- Flexible actuator options for misalignment
- Rotatable heads for flexible installation
- Mechanically coded actuator to minimize tampering
- Up to 15N latching force to reduce downtime due to vibrating doors
- One-piece limit switches available

Locking Switches



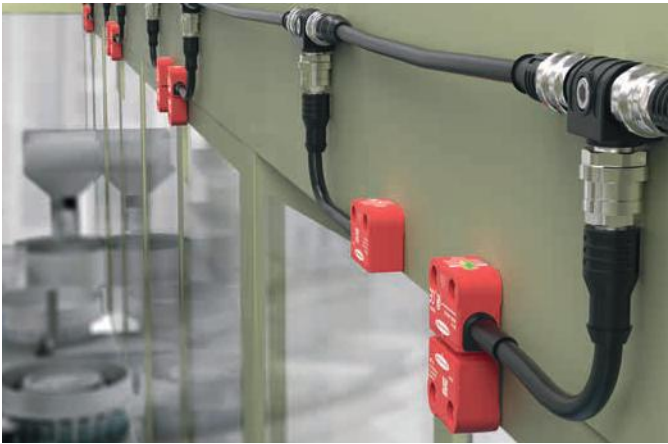
- Two-piece design with up to 2000N locking force for safety or process critical applications
- Flexible actuator options for misalignment
- Rotatable heads for flexible installation
- Mechanically coded actuator to minimize tampering
- Up to 15N latching force to position door prior to locking

Limit Switches



- Cost effective one piece sensor
- No actuator allows for fewer alignment issues
- Hideable making them more tamper-resistant
- Mechanically coded actuators use two independent operating elements to minimize intentional tampering or defeat
- Rotating head and top or side engagement allows for eight different actuator positions
- Design meets positive opening requirements for safety switches

Non-Contact RFID Safety Switches



RFID SI-RF Switches



Single door RFID non-contact gate/door sensing solution

- Basic, medium and high tamper resistance
- Misalignment tolerance of 10 mm
- Resistant to high vibration and operations with metallic shavings
- On-board LED for status and diagnostics

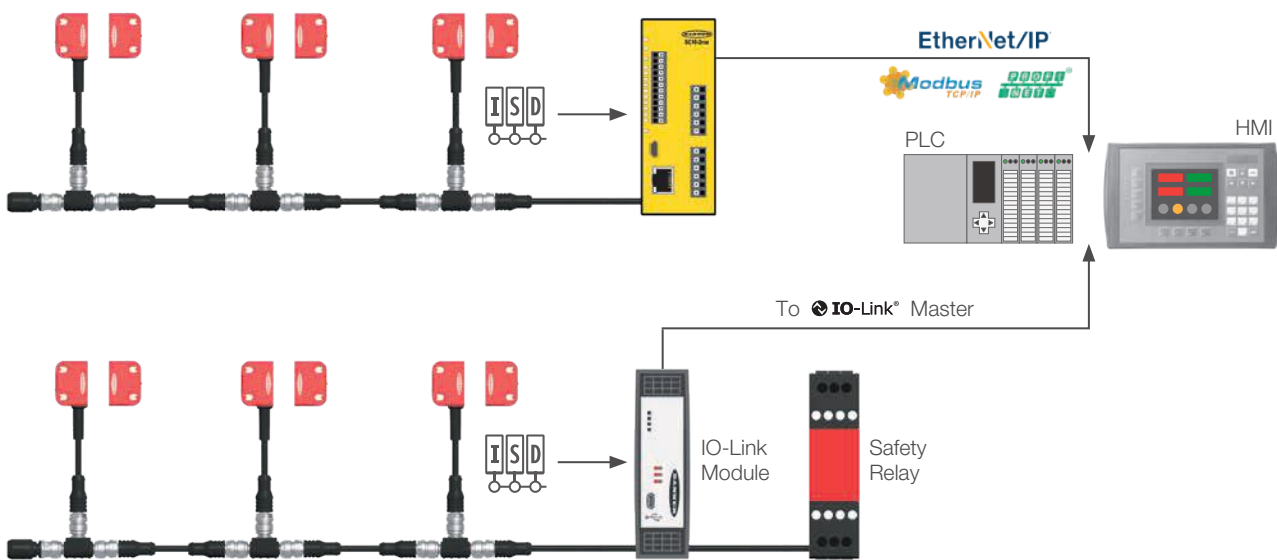
RFID SI-RF Switches – Cascade



Multiple door RFID non-contact gate/door sensing solution

- Basic, medium and high tamper resistance
- Misalignment tolerance of 10 mm
- Resistant to high vibration and operations with metallic shavings
- On-board LED for status and diagnostics
- Connect up to 32 sensors in cascade while maintaining the the highest level of safety
- 4-pin QD connections for cost-effective, simple, error-free installation

RFID Cascade with In-Series Diagnostics



















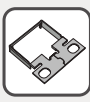






In-Series Diagnostics (ISD) provides users with status and performance data from each sensor in a cascade chain. The ISD data collected is converted to industrial Ethernet/IO-Link so it can be accessed with an HMI or similar device.

Users receive notification when an event has occurred as well as where in the series the event occurred. Events include the opening or closing of a door, door misalignment, wrong actuator, and a number of switch health attributes.

Safety Switches Selection

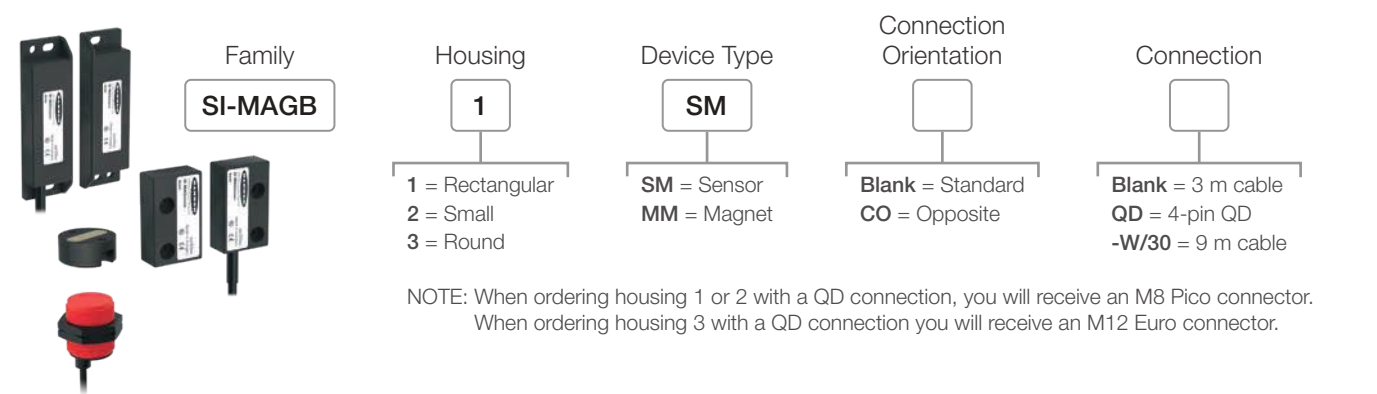
- Choose a safety switch.
- Magnetic safety switches
 - Plastic or metal compact safety switches
 - Hinge safety switches
 - Guard locking safety switches
 - Rotary Lever, Plunger, Roller and Spindle-Mount Safety Limit Switches



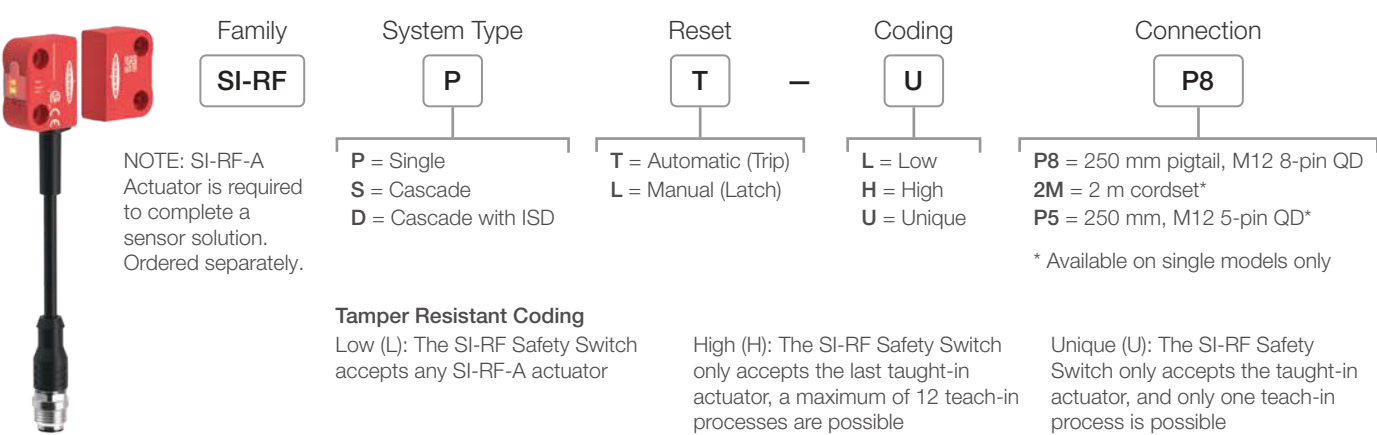
		Non-Contact Switches		Switches with Separate Actuator						Limit Switches		Hinge Switches		
		Magnetic	RFID	Lockable								Hinge		Rotating Head
		SI-MAG	SI-RF	SI-LS	SI-QS	SI-LM40	SI-LS42	SI-LM40	SI-LS31/83	SI-HG63	SI-HG80	SI-LS31		
														
Non-Locking		✓	✓		✓	✓	✓		✓		✓	✓	✓	
Locking								✓						
Position		✓	✓						Plunger Roller Spindle-mount Lever	Plunger Roller Spindle-mount Lever			✓	
Contacts		1 NC / 1 NO	OSSD PNP		2 NC / 1 NO 1 NC / 1 NO 2 NC	1 NC / 1 NO 2 NC 2 NC / 1 NO 1 NC	1 NC / 1 NO 2 NC 2 NC / 1 NO	1 NC / 1 NO 2 NC / 1 NO 1 NC 2 NC 3 NC	1 NC / 1 NO 2 NC 2 NC / 1 NO	1 NC / 1 NO 2 NC 2 NC / 1 NO	2 NC / 1 NO	SPDT	1 NC / 1 NO 2 NC	
Locking or Unlocking Power								24V ac/dc 110V ac/ 230V ac						
Straight Rigid In-Line					✓		✓	✓						
Rigid In-Line					✓	✓								
Flexible In-Line					✓	✓	✓	✓						
High-Force Accessory						✓								
LED Status Indication			✓											
Cascadable			✓											
ISD (In-Series Diagnostics)			✓											
Coding level/Manipulation protection EN ISO 14119		Low coding	Unique/Low/ High coding		Low coding	Low coding	Low coding	Low coding	Uncoded	Uncoded	Uncoded	Uncoded	Uncoded	
Housing Material		Plastic	Plastic		Plastic	Plastic	Metal	Plastic	Metal	Plastic	Metal	Metal	Metal	
Locking		Spring lock Solenoid lock												
Actuation Extraction Force					10 N	10 N High-Force models: ad- justable from 50-100 N	10 N/20 N	2000 N when locked					10 N/15 N	

Safety Switches – Model Keys

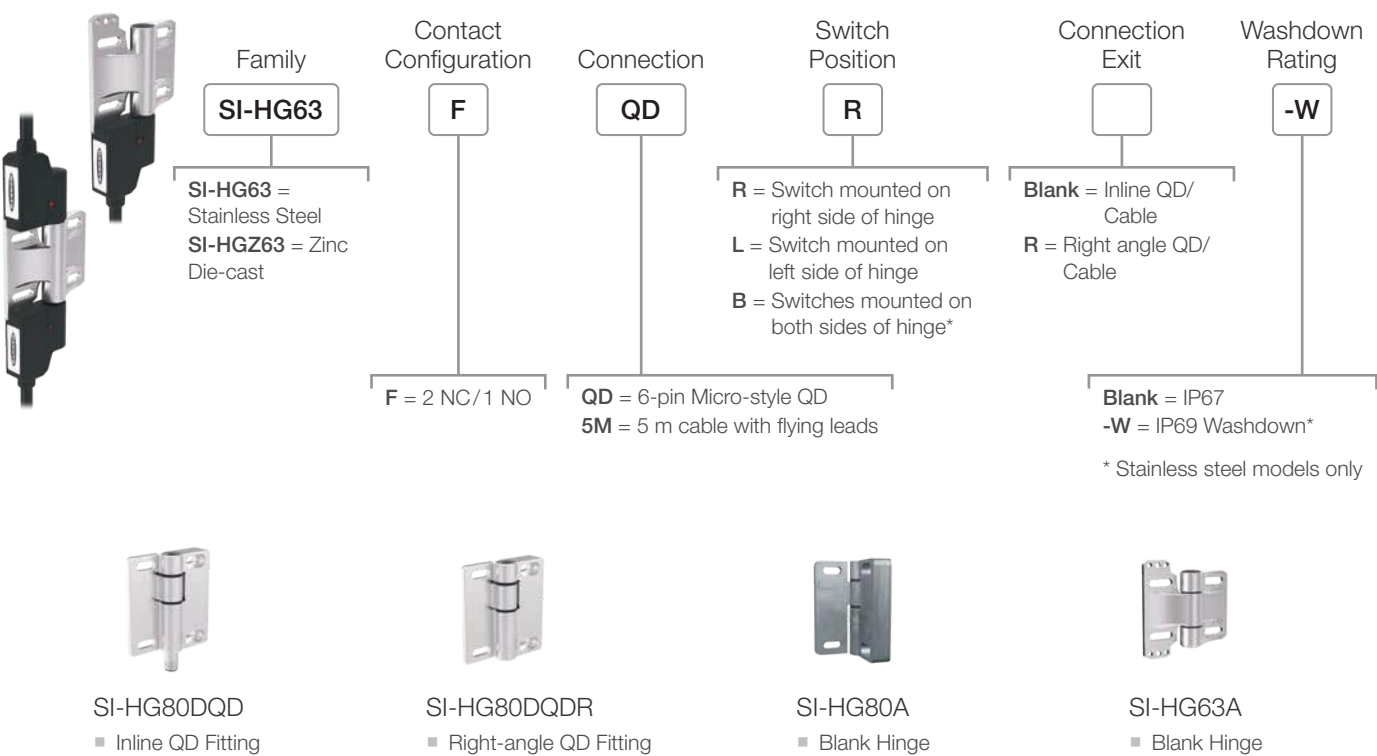
Magnetic Switches



RFID Switches

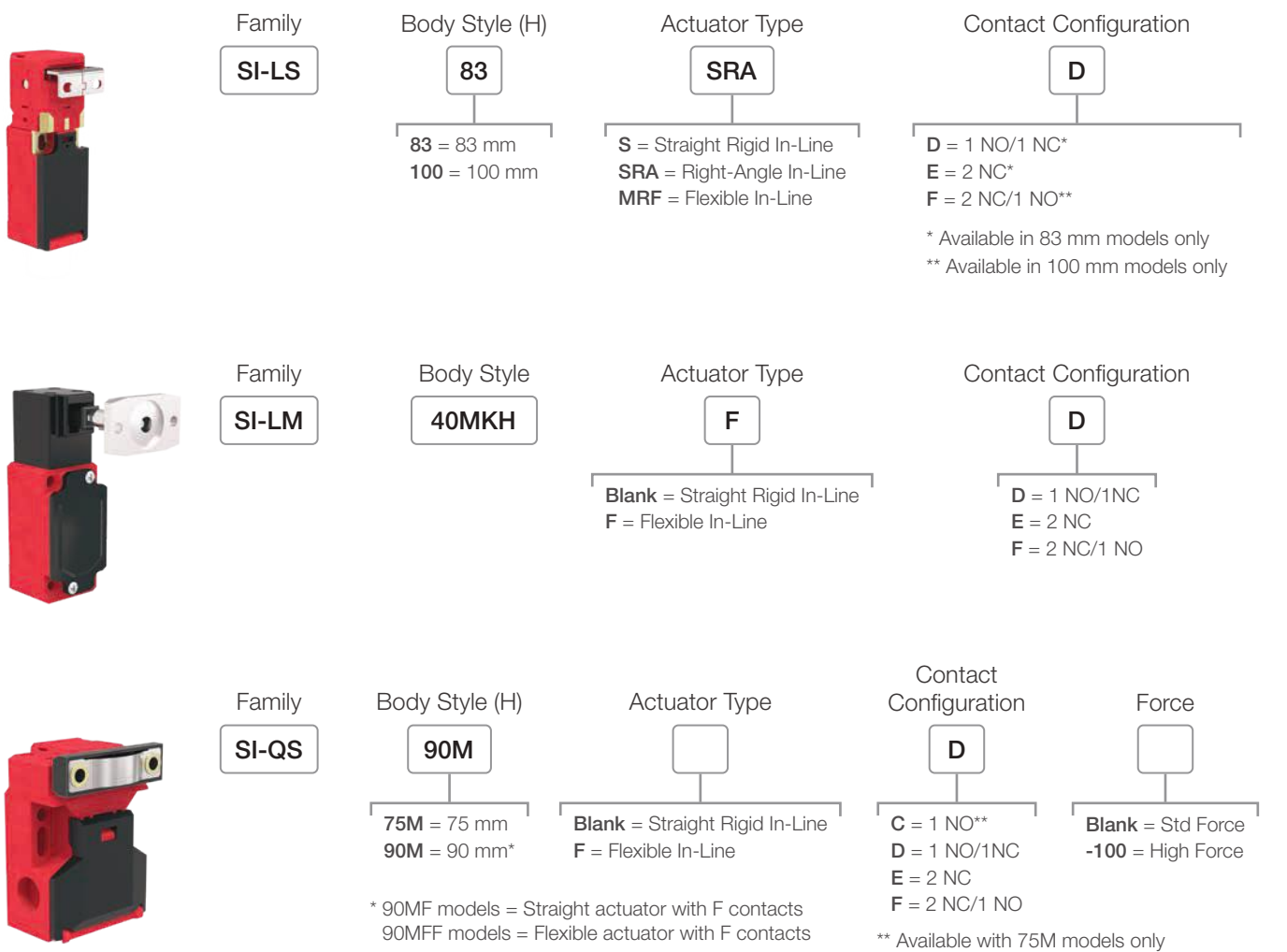


Hinge Switches

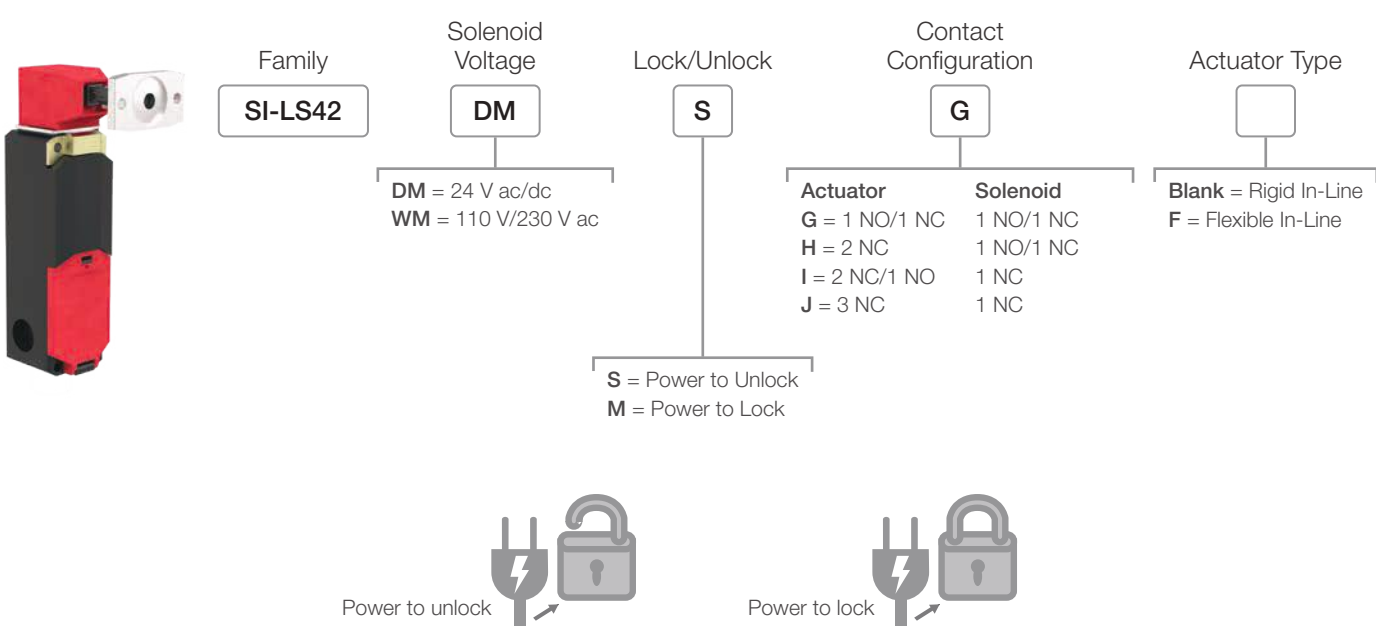


Safety Switches – Model Keys

Mechanical Switches




Locking Switches



Safety Switches – Model Keys

Limit Switches



Family

SI-LM

Body Style

40

Actuator Type

PB

Contact Configuration

D

PB = Plunger

RC18 = Roller


LA18 = Spindle-mount lever (18 mm roller)

L20 = Lever (20 mm roller)

D = 1 NO/1 NC

E = 2 NC

F = 2 NC/1 NO



Family

SI-LS

Body Style

31

Actuator Type

PB

Contact Configuration

D

PB = Plunger

RC10 = Roller

LA18 = Spindle-mount lever (18 mm roller)


LE11 = Lever (11 mm roller)

L22 = Lever (22 mm roller)

D = 1 NO/1 NC

E = 2 NC

F = 2 NC/1 NO



Family

SI-LS

Body Style

83

Actuator Type

PB

Contact Configuration

D

PB = Plunger

RC10 = Roller


LA18 = Spindle-mount lever (18 mm roller)

LE13 = Lever (13 mm roller)

D = 1 NO/1 NC

E = 2 NC

Hinge Switches



Family

SI-LS

Body Style

31

Actuator Type

HG

Contact Configuration

D


HG = Vertical hinged lever ±90°

HGR = Right-hand hinged lever 180°

HGL = Left-hand hinged lever 180°

D = 1 NO/1 NC

E = 2 NC



Family

SI-LS

Body Style

31

Actuator Type

RT

Contact Configuration

D

RT = Rotary shaft

D = 1 NO/1 NC

E = 2 NC

Enabling Devices



A two-hand control safeguarding system will prevent the operator from approaching the machine while a hazard is present. Duo-Touch Run Bar provides an all-in-one solution.

Handheld grip-styled switches are used for manual control of machine functions, including visual observations, minor adjustments, calibration and more.

Two-Hand Control

STB Self-Checking Touch Buttons				
Model	Connection	Touch Surface Material	Output	Power Supply
STBVP6	2 m cable	Polyetherimide (PEI)	Solid-state 2 Complementary PNP (1 ON, 1 OFF)	10-30V dc
STBVP6Q5	4-pin M12 QD			
STBVR81	2 m cable	Polyetherimide (PEI)	E/M Relay 2 Complementary SPST (1 NC, 1 NO)	20-30V ac/dc
STBVR81Q6	5-pin M12 QD			

STB buttons include yellow field cover to prevent unintended switching. To comply to safety standards, STB buttons must be used with appropriate Two-Hand control modules, SC26, XS26 or SC10 Safety Controller or comparable Type IIIC Two-Hand system.

DUO-TOUCH Two-Hand Control Kits with STB Touch Buttons					
2 NO Safety Outputs, no auxiliary outputs, 24V ac/dc power supply, meets Cat 4 and Type IIIC					
Kit	Module	IP Rating	STB Buttons (2 pieces)	IP Rating	Connection
ATK-VP6	AT-FM-10K	IP20	STBVP6	IP66	2 m cable
ATK-VP6Q5	AT-FM-10K	IP20	STBVP6Q5	IP66	4-pin M12 QD

Kit does not include run bar

Two Hand Control Run Bars

Run Bars with STBVP6		
Model	Connection	E-Stop
STBVP6-RB2	Terminal strip	Not included
STBVP6-RB2Q8	8-pin 7/8 QD	Not included
STBVP6-RB2E02	Terminal strip	SSA-EBM-02L

Enabling Devices

ED1G Enabling Devices		
Model	Contact Configuration	Momentary Push Button
ED1G-L21SM-1N	2 NO & 1 NC Aux	/
ED1G-L21SMB-1N	2 NO & 1 NC Aux	1 NO
ED1G-L20MB-1N	2 NO	2 NO

E-Stop Devices Selection

Choose an E-Stop; Safely Start and Stop Machines.

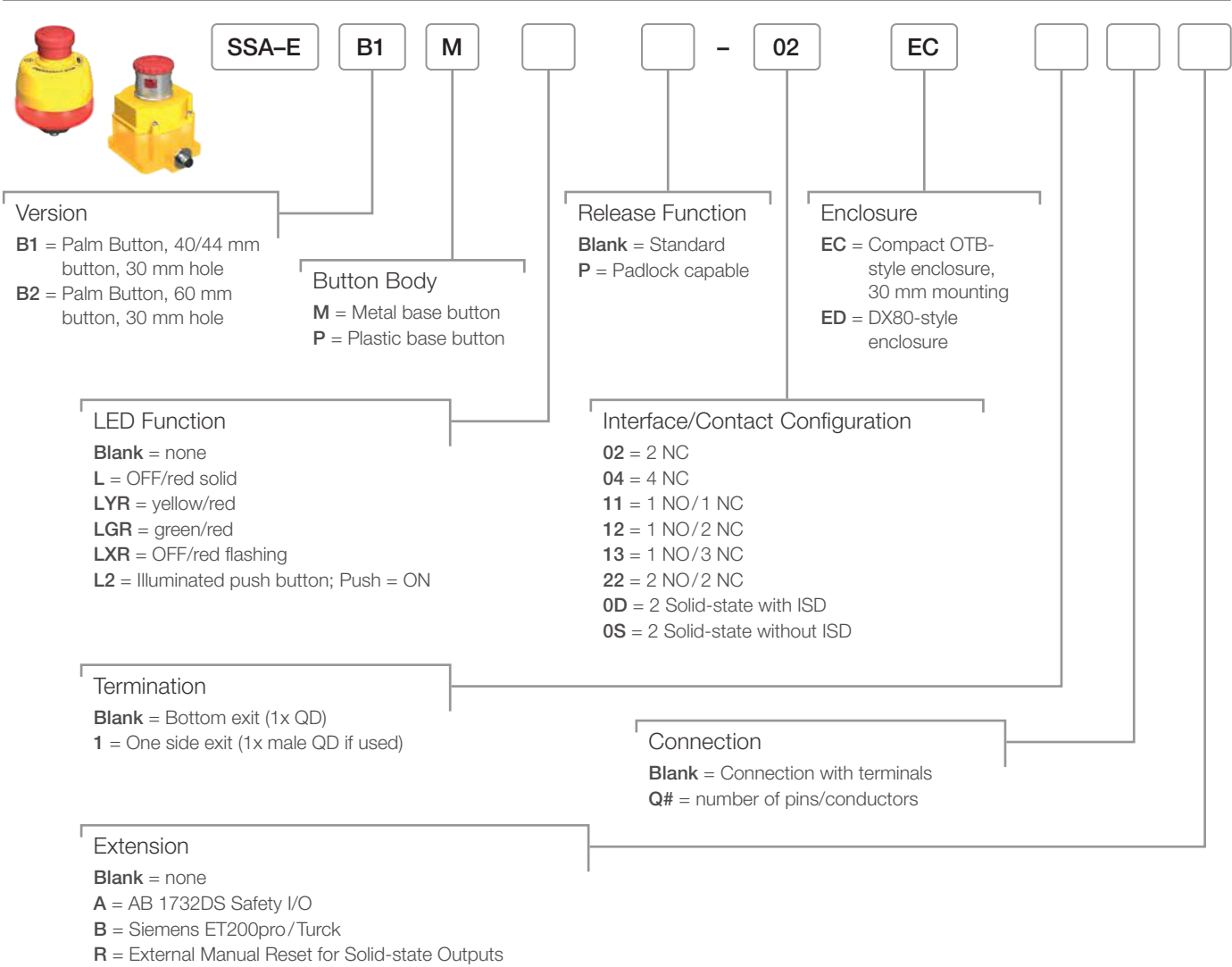
- Emergency Stop Buttons
- Illuminated Emergency Stop Button
- Rope Pulls and Domed Indicators



		SSA-EBM		SSA-EB	Emergency Stop Switches			Rope Pull Emergency Stop Switches				
					SSA-EB1PL	SSA-EB1P	SSA-EB1M	RP-RM83	RP-LS42	RP-QM(T)72	RP-LM40	RP-QM90
E-Stop		✓	✓		✓	✓	✓	✓	✓ (specific models)			
Rope Pull								✓	✓	✓ (only stop control)	✓ (only stop control)	✓
Button Size (mm)		40 mm	40 / 44 / 60 mm		40 / 60 mm	40 / 60 mm	44 mm	32 mm	32 mm			
Illuminated Housing					✓		✓					
Illuminated Button			✓		✓ (specific models)	✓ (specific models)						
Release		✓	✓		✓	✓	✓	✓				
Lock/Unlock Button							✓					
Rope Length (m)								38 m 70 m	25 m 37.2 m 75 m	6 m 12 m 20 m	6 m	50 + 50 m
Rope Connection								Built-in turnbuckle / Ring connection	Built-in turnbuckle / Ring connection	Ring connection	Ring connection	Ring connection
ISD (In-Series Diagnostics)					✓	✓						
Safety Contacts		1 NC 2 NC	1 NC 2 NC 3 NC 4 NC		1 NC 2 NC 4 NC	1 NC 2 NC 4 NC	1 NC 2 NC 4 NC	2 NC	2 NC	2 NC 4 NC	2 NC	2 NC
Auxiliary Contacts		1 NO	1 NO 2 NO		1 NO 2 NO	1 NO 2 NO	1 NO 2 NO	2 NO	2 NO	1 NO (specific models)		2 NO
OSSD Outputs					✓	✓						
Connection		Screw terminals	Screw terminals		M12 / Screw terminals	M12 / Screw terminals	M12 / Screw terminals	Screw terminals	Screw terminals	Screw terminals	Screw terminals	Screw terminals
Panel/Bracket Hole (mm)		22 mm	30 mm		30 mm	30 mm						

E-Stop Devices – Model Keys

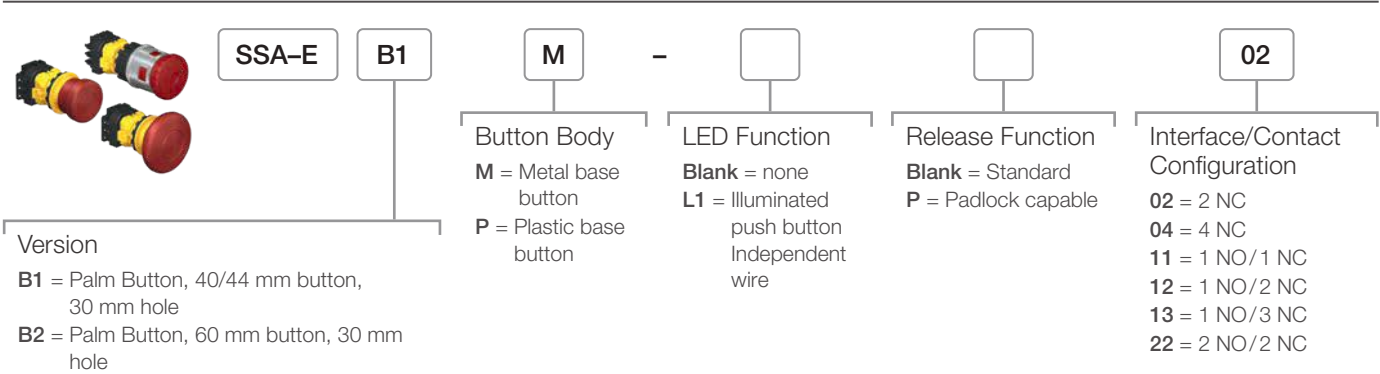
E-Stop Buttons



Accessories

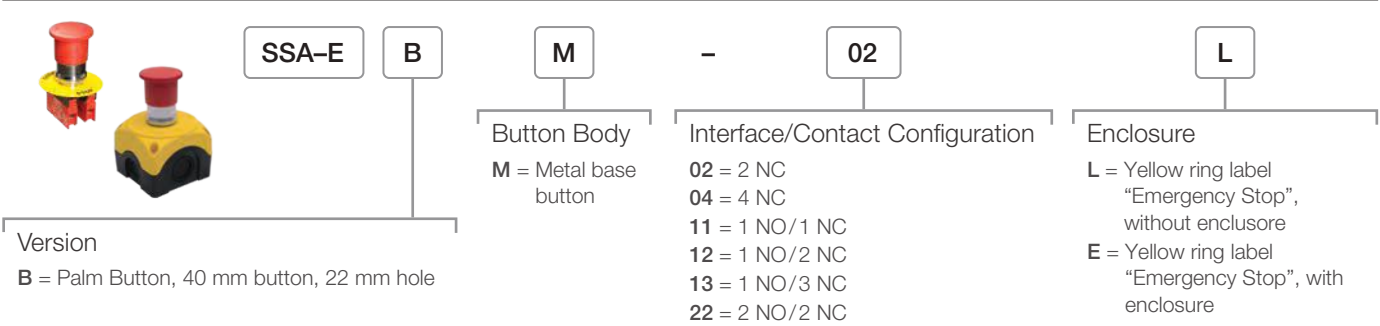


Panel Mount E-Stop Buttons



E-Stop Devices – Model Keys

E-Stop Buttons Kits



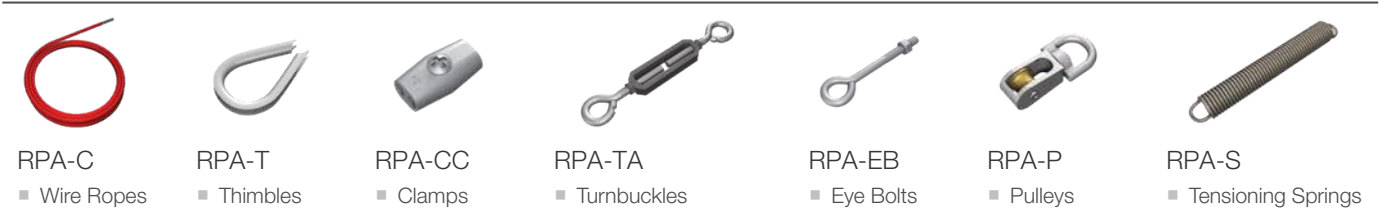
Rope Pull E-Stop Devices

Model	Maximum Rope Length	Safety Contacts	Auxiliary Contacts	Actuation	Housing Material
RP-RM83F-..L..	38 m – 75 m	2 NC in	2 NO in	Latch	Metal, IP67
Models with T suffix have a built-in turnbuckle for rope Models with R suffix have a ring connection to rope Models with E suffix have an auxiliary status output					
RP-LS42F-..LE	25 m – 37.5 m – 75 m	2 NC in	2 NO in	Latch	Plastic
Models with LE suffix have a built-in turnbuckle for rope					

Rope Pull Switches

Model	Maximum Rope Length	Safety Contacts	Auxiliary Contacts	Actuation	Housing Material
RP-LS42F-..L RP-LS42F-..LF	25 m – 37.5 m – 75 m	2 NC in	2 NO in	Latch	Plastic
Models with LF suffix have a built-in turnbuckle for rope Models with L suffix have a ring connection to rope					
RP-QM72D-6L RP-QM72D-12L RP-QM72D-20L	6 m 12 m 20 m	2 NC in	/	Latch	Metal
RP-QMT72F-12L RP-QMT72E-12L	12 m	4 NC in 2 NC in	/ 1 NO in	Latch	Metal
RP-LM40D-6 RP-LM40D-6L	6 m	2 NC in	/	Trip Latch	Metal
RP-QM90F-100L	100 m (50 m each side)	2 NC in	2 NO in	Latch	Metal

Components for Wire Rope Assembly



Hardware kits are available (RPAK)

How to Reach Us

Global Sales and Support

Need additional assistance?

Banner has a network of more than 3,500 factory and field representatives around the world ready to help you. Our highly skilled application engineers and industry experts are ready to support you wherever you are. For a complete listing, go to bannerengineering.com and find your local Banner Representative.



To contact a Banner Engineer about your application, visit our website at www.bannerengineering.com

