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Light Curtains



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Selection Guide

Overview

XW Series E-Stops

Interlock Switches

Enabling Switches

Safety Control

Light Curtains

AS-Interface Safety at Work

Series	Type 4 Safety Category	Type 2 Safety Category		Type 4 Safety Category	
	SE4D Hand Series	SG2 - Hand Series	SG2 - Presence Series	SG4 - Finger Series	SG4 - Hand Series
Appearance					
Page	459	464		468	
Protection Type	Type 4	Type 2		Type 4	
Resolution	25mm	30mm	50mm, 90mm	14mm	30mm
Material	Aluminum	Painted Aluminum			

SE4D Series

Key features

The IDEC SE4D Light Curtains are easy to install and use specialized technology to ensure there are no dead zones around the units. Their features increase safety, reduce downtime and improve productivity.

- Cascading with no dead zone
- Built-in muting function
- Built-in EDM function
- Fixed and floating blanking function
- Fast and Unified response time of 14ms
- Supports both PNP and NPN outputs in a single model
- Beam Axis Adjustment function
- Type 4 Hand protection
- Category 4, PLe, SIL3
- IP67 Degree of Protection



Part Numbers

Shape	Minimum Sensing Object	Sensing Distance (Note 2) (Effective Distance)	No. of Beams	Sensing Length (mm)	Part Number (Note 3)
Diagram labels: Beam No. (n), 5mm, Sensing Length, 5mm, Beam pitch 20mm, 0.3 to 9m, 0.3 to 7m, ø25mm.			12	230	SE4D-H12
			16	310	SE4D-H16
			20	390	SE4D-H20
			24	470	SE4D-H24
			28	550	SE4D-H28
			32	630	SE4D-H32
			36	710	SE4D-H36
			40	790	SE4D-H40
			48	950	SE4D-H48
			56	1,110	SE4D-H56
			64	1,270	SE4D-H64
			72	1,430	SE4D-H72
			80	1,590	SE4D-H80
			88	1,750	SE4D-H88
			96	1,910	SE4D-H96

1. Package quantity is 1 set (emitter/receiver). Mounting brackets and bottom cap cables are not included with the light curtain. Purchase a mounting bracket and bottom cap cable separately.

2. The sensing distance is the possible setting distance between the emitter and the receiver.

3. The light curtain with "E" in the part number (indicated on the nameplate) is the emitter. The light curtain with "D" in the part number (indicated on the nameplate) is the receiver.
Example for SE4D-H12: Emitter = SE4D-H12E, Receiver = SE4D-H12D

Accessories

Item	Description	Cable Length	Weight	Part Number	Remarks
	8-pin Bottom Cap Cable	3m	370g approx.	SE9Z-CCB3	Standard cable Cable diameter: ø6mm Cable color: Emitter - Gray, Receiver - Gray with black line Minimum bending diameter: R6 mm
		7m	820g approx.	SE9Z-CCB7	
		10m	1,160g approx.	SE9Z-CCB10	
		15m	1,710g approx.	SE9Z-CCB15	
	12-pin Bottom Cap Cable	3m	420g approx.	SE9Z-CCB3-MU	Used for muting function Cable diameter: ø6mm Cable color: Emitter - Gray, Receiver - Gray with black line Minimum bending diameter: R6 mm
		7m	930g approx.	SE9Z-CCB7-MU	
	Cable for Series Connection	0.5m	95g approx.	SE9Z-CSL05	Used for connecting the light curtains in series. Cable color: Gray (for emitter and receiver) Minimum bending diameter: R6 mm

Each pkg contains 2 cables.

Overview

XW Series E-Stops

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AS-Interface Safety at Work

Overview

XW Series E-Stops

Interlock Switches

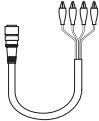
Enabling Switches

Safety Control

Light Curtains

AS-Interface Safety at Work

Controller

Name and Shape	Part Number
Controller (adapter cable, 2 pcs, included) 	SE9Z-HC
Cable for Connecting Controller 	SE9Z-WNC1

The controller is used for setting optional functions.
The cable is used for connecting the controller and the light curtain. Order the cable when purchasing the controller

Mounting Brackets

Item	Part Number	Remarks
Standard Mounting Bracket	SE9Z-SED-1	Mounting bracket for easy adjustment of the beam axis. Includes 2 hexagon socket head screws (M5) or 1 hexagon socket head screw (M8). The light curtain can be rotated 360 degrees. Material: Zinc diecast
M8 Mounting Bracket	SE9Z-SED-1-T	Mounting bracket for easy adjustment of the beam axis. The light curtain can be rotated 360 degrees. Material: Zinc diecast
Dead Space Mounting Bracket	SE9Z-SED-3	Mounting bracket that eliminates dead space. Material: Zinc diecast

Specifications

General Specifications

Applicable standards	IEC/EN 61496-1 (TÜV), IEC 61496-2 (TÜV), IEC 61508-1 to 4 (TÜV), ISO 13849-1 (TÜV), EN ISO 13849-1 (TÜV), EN 50178 (TÜV), EN 55011 (TÜV), EN 61000-6-2 (TÜV), UL 508 (UL), UL 61496-1/2 (UL), UL 1998 (UL), CSA C22.2 No.14 (c-UL), CSA C22.2 No.0.8 (c-UL)	
Minimum Sensing Object	ø25mm (opaque)	
Effective Aperture Angle	When detection distance is more than 3m: within ±2.5° maximum (IEC 61496-2, UL 61496-2)	
Rated Voltage	24V DC ±20% Ripple P-P10% maximum	
Control output (OSSD1/2)	PNP open-collector transistor / NPN open-collector transistor (switching type)	
	PNP Output Maximum source current: 200mA Applied voltage: Same as supply voltage (between control output and +V) Residual voltage: 2.5V max. (source current 200mA, using 15m length cable) Leakage current: 0.1mA max. (includes power off state) Maximum load capacity: 0.22µF (no load to max. output current) Load wiring resistance: 3W max.	NPN Output Maximum sink current: 200mA Applied voltage: Same as supply voltage (between control output and 0V) Residual voltage: 2.5V max. (sink current 200 mA, using 15m length cable) Leakage current: 0.1mA max. (includes power off state) Maximum load capacity: 0.22µF (no load to max. output current) Load wiring resistance: 3W max.
	Operation mode (Output operation)	ON when all beams are received, OFF when one or more beams are interrupted (Note 1, 2) (Also turns OFF at sensor or synchronization error)
	Protection circuit (Short-circuit)	Built-in
Auxiliary output (Non-safety output)	PNP open-collector transistor / NPN open-collector transistor (switching type)	
	PNP Output Maximum source current: 60mA Applied voltage: Same as supply voltage (between auxiliary output and +V) Residual voltage: 2.5V min. (source current 60mA, using 15m length cable)	NPN Output Maximum sink current: 60mA Applied voltage: Same as supply voltage (between auxiliary output and 0V) Residual voltage: 2.5V min. (sink current 60mA, using 15m length cable)
	Operation mode (Output operation)	When OSSDs are ON: OFF, when OSSDs are OFF: ON (factory set) [Operation modes can be changed by using the SE9Z-HC controller (optional).]
	Protection circuit (Short-circuit)	Built-in
Interference Prevention Function	OFF response: 14ms max., ON response: 80 to 90ms	
	Response Time	
	OFF response: 34ms max., ON response: 110ms max.	
	Built-in	
Emission Halt Function	Built-in	
Interlock Function		
External Device Monitoring Function		
Override Function		
Muting Function		
Optional Functions (Note 4)	Fixed blanking function, Floating blanking function, Auxiliary output switching function, Interlock setting adjust function, External relay monitoring setting adjust function, Muting setting adjust function, Protect function, Emitted light intensity control function	
Degree of Protection	IP65, IP67 (IEC 60529)	
Operating Conditions	Operating temperature: -10 to +55°C (no freezing) Relative humidity: 30 to 85%RH (no condensation) Storage temperature: -25 to +70°C (no freezing) Storage humidity: 30 to 95%RH (no condensation) Pollution Degree: 3	

General Specifications (con't)

Operating Illuminance	Incandescent lamp: 3,500 lux max. at light-receiving surface
Dielectric Strength	1,000V AC, 1 minute between power terminals connected together and enclosure
Insulation Resistance	20MW minimum (500V DC megger) between power terminals connected together and enclosure
Vibration Resistance	Damage limits: 10 to 55Hz, amplitude: 0.75mm 2 hours each in 3 axes
Shock Resistance	Damage limits: 300m/s ² (30G approx.) 3 times each in 3 axes
Light Source	Infrared LED (emission wavelength = 870nm)
Connection	Connector
Material	Enclosure: Aluminum Upper / lower case: Aluminum Sensing surface: PC / Polyester resin Cap: PBT
Accessories	SE9Z-SED-2 (intermediate supporting bracket) (Note 3), SE9Z-TR25 (test rod): 1

1. Does not turn OFF during muting even when the light beam is interrupted.
 2. When the blanking function is enabled, the operation mode changes:

Floating Blanking Function (Min. Sensing Object)			
No setting	Setting		
	1 beam	2 beam	3 beam
ø25mm	ø45mm	ø65mm	ø85mm

3. The number of intermediate supporting brackets that is included differs with each model.
 SE4D-H40/H48/H56 = 1 set, SE4D-H64/H72/H80 = 2 sets, SE4D-H88/H96 = 3 sets
 4. When using the optional functions, the controller is required.

Individual Specifications

Part Number	SE4D-H12	SE4D-H16	SE4D-H20	SE4D-H24	SE4D-H28	SE4D-H32
No. of Beams	12	16	20	24	28	32
Sensing Range	0.3 to 9m					
Beam Width	20mm					
Protective Height	230mm	310mm	390mm	470mm	550mm	630mm
Current Consumption	Emitter: 70mA max., Receiver: 95mA max.			Emitter: 80mA max., Receiver: 115mA max.		
PFHd	2.01×10 ⁻⁹	2.21×10 ⁻⁹	2.41×10 ⁻⁹	2.61×10 ⁻⁹	2.81×10 ⁻⁹	3.01×10 ⁻⁹
MTTFd	100 years minimum					
Weight (approx.)	510g	660g	810g	960g	1,110g	1,260g

Part Number	SE4D-H36	SE4D-H40	SE4D-H48	SE4D-H56	SE4D-H64	SE4D-H72
No. of Beams	36	40	48	56	64	72
Sensing Range	0.3 to 9m					0.3 to 7m
Beam Width	20mm					
Protective Height	710mm	790mm	950mm	1,110mm	1,270mm	1,430mm
Current Consumption	Emitter: 80mA max. Receiver: 115mA max.	Emitter: 90mA max. Receiver: 140mA max.	Emitter: 100mA max. Receiver: 160mA max.		Emitter: 110mA max. Receiver: 180mA max.	
PFHd	3.21×10 ⁻⁹	3.41×10 ⁻⁹	3.80×10 ⁻⁹	4.20×10 ⁻⁹	4.60×10 ⁻⁹	5.00×10 ⁻⁹
MTTFd	100 years minimum					
Weight (approx.)	1,420g	1,570g	1,870g	2,170g	2,470g	2,770g

Part Number	SE4D-H80	SE4D-H88	SE4D-H96
No. of Beams	80	88	96
Sensing Range	0.3 to 7m		
Beam Width	20mm		
Protective Height	1,590mm	1,750mm	1,910mm
Current Consumption	Emitter: 110mA max. Receiver: 180mA max.		Emitter: 120mA max. Receiver: 200mA max.
PFHd	5.40×10 ⁻⁹	5.80×10 ⁻⁹	6.20×10 ⁻⁹
MTTFd	100 years minimum		
Weight (approx.)	3,070g	3,370g	3,670g

Note: PFHd (Probability of dangerous failure per hour), MTTFd (Mean time to dangerous failure)
 Weight is the (total of emitter and receiver).

Overview

XW Series E-Stops

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Light Curtains

AS-Interface Safety at Work

Controller

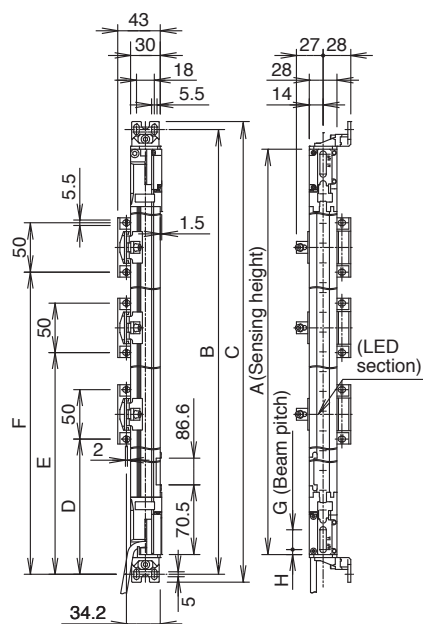
Part Number	SE9Z-HC	
Supply Voltage	24V DC ±10% Ripple P-P10 % or less (common to light curtain power supply)	
Current Consumption	65mA max.	
Communication Method	RS-485 two-way communications (exclusive procedure)	
Digital LED	4-digit red LED display × 2 (selected beams and settings are displayed)	
Functional LED	Green LED × 9 (lights on when set)	
Functions	- Fixed blanking function (factory setting: disabled) - Floating blanking function (factory setting: disabled) - Auxiliary output switching function (factory setting: negative logic of OSSD) - Emitted light intensity control function (factory setting: disabled) - Muting setting adjust function (factory setting: all beam channels enabled, A = B (Note 2), Muting lamp diagnosis function enabled, Muting sensor output operation N.O/N.O) - Interlock setting adjust function (factory setting: start /restart) - External device monitoring setting adjust function (factory setting: enabled, 300ms) - Override setting adjust function, Setting detail monitoring function - Protect function (factory setting: disabled) (factory password setting: 0000) - Initialization function - Copy function	
Operating Conditions	Operating Temperature: −10 to +55°C (no freezing) Operating Humidity: 30 to 85% RH (no condensation) Storage Temperature: −25 to +70°C (no freezing) Storage Humidity: 30 to 85% RH (no condensation)	
Dielectric Strength	1,000V AC, 1 minute between power terminals connected together and enclosure	
Insulation Resistance	20MΩ min. (500V DC megger) between power terminals connected together and enclosure	
Cable	8-core shielded cable, 0.5m 1.640 ft long, with a connector at the end (2 cables)	
Weight (approx.)	200g	
Accessories	Adapter cable: 2	

1. The operating humidity is +20° for conditions that are not specified.
2. To enable the muting function, A or B input order can be specified. The muting function is enabled, at the factory, whether muting A or B is input first.

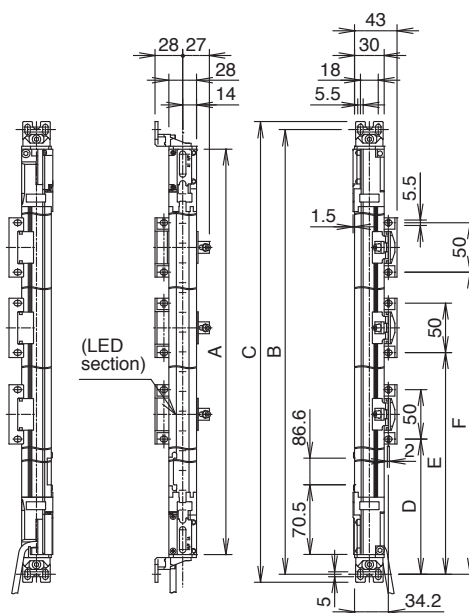
Dimensions

Light Curtains with Standard Mounting Bracket (SE9Z-SED-1) & Intermediate Supporting Bracket Side Mounting ^(Note 1)

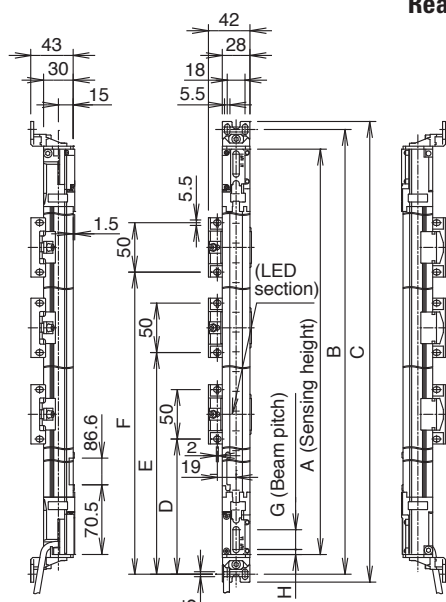
Emitter



Receiver

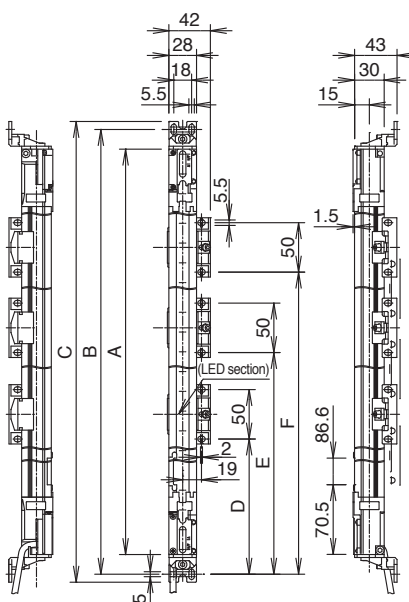


Emitter



Rear Mounting

Receiver



SE4D-H12	230	270	286	-	-	-	20	5
SE4D-H16	310	350	366	-	-	-	20	5
SE4D-H20	390	430	446	-	-	-	20	5
SE4D-H24	470	510	526	-	-	-	20	5
SE4D-H28	550	590	606	-	-	-	20	5
SE4D-H32	630	670	686	-	-	-	20	5
SE4D-H36	710	750	766	-	-	-	20	5
SE4D-H40	790	830	846	390	-	-	20	5
SE4D-H48	950	990	1,006	470	-	-	20	5
SE4D-H56	1,110	1,150	1,166	550	-	-	20	5
SE4D-H64	1,270	1,310	1,326	418	842	-	20	5
SE4D-H72	1,430	1,470	1,486	472	948	-	20	5
SE4D-H80	1,590	1,630	1,646	525	1,055	-	20	5
SE4D-H88	1,750	1,790	1,806	433	870	1,308	20	5
SE4D-H96	1,910	1,950	1,966	473	950	1,428	20	5

1. The intermediate supporting bracket (SE9Z-SED-2) is supplied (for SE4D-H40 to H96).
The number of brackets supplied varies according to the model:
SE4D-H40/H48/H56 = 1 set, SE4D-H64/H72/H80 = 2 sets, SE4D-H88/H96 = 3 sets

Type 2 SG2 Series (Basic & Extended Models)

Hand Protection



Presence Protection



Type 2 SG2 features:

- Integrated light curtain for Hand or Presence Protection
- Operating distance up to 19m
- Sensing field heights from 150 to 1800mm
- Compact 32 x 37mm profile
- Sturdy profile and rotating brackets
- Test/Restart, Auto/Manual Restart, EDM, Anti-interference
- User interface with display
- Alignment function

The SG2 Type 2 series offers two models, the SG2 basic and the SG2 extended. Available functions include Test/Restart, EDM and Anti-interference. With very fast response times, the SG2 series can be installed right next to a dangerous area, improving productivity. The adjustable mounting brackets make installation and the alignment of emitting and receiving units easy, even at long distances and in applications that use mirrors.



Part Numbers

Part Number	Protection Type	Resolution	Features
SG2-30-□-00-X			Basic Model - Test/Reset
SG2-30-□-00-E-C			Extended Model - Test/Reset, Auto/Manual Restart, EDM
SG2-50-□-00-X			Basic Model - Test/Reset
SG2-50-□-00-E-C			Extended Model - Test/Reset, Auto/Manual Restart, EDM
SG2-90-□-00-X			Basic Model - Test/Reset
SG2-90-□-00-E-C			Extended Model - Test/Reset, Auto/Manual Restart, EDM

Sensing Field Height Code

Sensing Field Height	Code
150mm ¹	015 ¹
300mm	030
450mm	045
600mm	060
750mm	075
900mm	090
1050mm	105
1200mm	120
1350mm	135
1500mm	150
1650mm	165
1800mm	180

In place of □ enter the Height code. See table on the right.

1. Not applicable to SG2 Presence Series

Accessories

M12 Unshielded Axial Connector Cable

Item	# of Poles	Used For	Cable Length	Part Number
	4	SG4 & SG2 Emitters	3m	CS-A1-02-U-03
			5m	CS-A1-02-U-05
			10m	CS-A1-02-U-10
			15m	CS-A1-02-U-15
			25m	CS-A1-02-U-25
	5	SG2 Basic Model Receivers	3m	CS-A1-03-U-03
			5m	CS-A1-03-U-05
			10m	CS-A1-03-U-10
			15m	CS-A1-03-U-15
			25m	CS-A1-03-U-25
	8	SG4 & SG2 Extended Model Receivers	3m	CS-A1-06-U-03
			5m	CS-A1-06-U-05
			10m	CS-A1-06-U-10
			15m	CS-A1-06-U-15
			25m	CS-A1-06-U-25

Mounting Brackets

Item	Description	Part Number
	Angled mounting brackets (4 pc kit)	ST-KSTD
	Anti-vibration supports (4 pc kit)	ST-K4AV
	Anti-vibration supports (6 pc kit)	ST-K6AV
	Top-Bottom adjustable mounting brackets (4 pc kit)	ST-K4ROT

Laser Pointer

Item	Description	Part Number
	Laser pointer used to aid in aligning safety light curtains.	SG-LP

Specifications

SG2 - Hand Series	SG2 - Presence Series
	

Electrical	Power supply (Vdd)	24V DC $\pm$ 20%	
	Power (TX)	2.5W max	
	Power (RX)	3.5W max (without load)	
	OSSD outputs	2 PNP (push-pull)	
	Short-circuit protection	1.4A max	
	Output current	0.5A max on each output	
	Output voltage – ON status	Vdd-1V min	
	Output voltage – OFF status	0.2V max	
	Leakage current	< 1mA	
	Capacitive load	2.2 μ F @ 24V DC max*	
Optical	Height	150 - 1800mm	300 - 1800mm
	Auxiliary functions	Test/Reset, Auto/Manual Restart (extended), EDM (extended)	
	Electrical protection	Class I / Class III	
	Connections	M12: Emitter 4 pole, Receiver 5 pole (basic), 8 pole (extended)	
	Cable length (for powering)	50m. max *	
	Light emission	Infrared LED (950nm)	
	Resolution	30mm	50mm / 90mm
	Operating distance	0.2m-19m (basic) or selectable 0.2m-9m / 0.2-19m (extended)	
	Aperture angle (EAA)	$\pm 5^\circ$	
	Ambient light rejection	IEC 61496-2	
Mechanical & Environmental	Operating temperature	0 - 55°C	
	Storage temperature	-25 to +70°C	
	Temperature class	T6	
	Humidity	15 - 95% (no condensation)	
	Mechanical protection	IP65 (EN 60529)	
	Vibration	0.35mm amplitude, 10 - 55 Hz frequency 20 sweep per axis, 1 octave/min (EN 60068-2-6)	
	Shock resistance	16ms (10g) 1.000 shock per axis, (EN 60068-2-29)	
	Housing material	Painted aluminium (yellow)	
	Protective shield material	PMMA	



* If a longer cable is needed, please verify that the capacitive load specifications are followed.

Sensing Field Heights

Height
150mm ¹
300mm
450mm
600mm
750mm
900mm
1050mm
1200mm
1350mm
1500mm
1650mm
1800mm

Number of Beams

Height	SG2 Hand	SG2 Presence	
		50mm	90mm
150	8	—	—
300	16	9	5
450	24	13	7
600	32	17	9
750	40	21	11
900	48	25	13
1050	56	29	15
1200	64	33	17
1350	72	37	19
1500	80	41	21
1650	88	45	23
1800	96	49	25

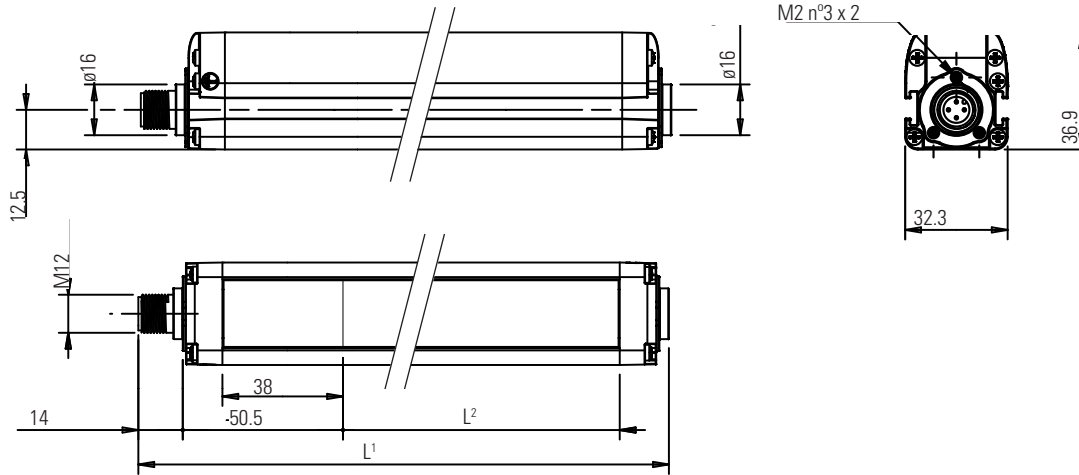
Response Time (ms)

Height	SG2 Hand	SG2 Presence	
		50mm	90mm
150	8	—	—
300	9	9	9
450	11	10	10
600	12	11	11
750	14	12	12
900	15	14	13
1050	17	15	14
1200	18	16	15
1350	20	17	16
1500	21	18	17
1650	23	19	18
1800	24	20	19



1. Not applicable to SG2 Presence Series

Dimensions (mm)



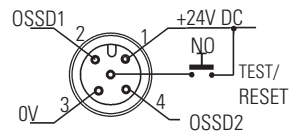
Dimension Table

Model	L ¹	L ²
150 ¹	233.3	153.3
300	383.2	303.2
450	533.2	453.3
600	683.2	603.2
750	833.2	753.3
900	983.2	903.2
1050	1133.2	1053.2
1200	1283.3	1203.3
1350	1433.2	1353.2
1500	1583.3	1503.3
1650	1733.3	1653.3
1800	1883.3	1803.3

 1. Not applicable to SG2 Presence Series

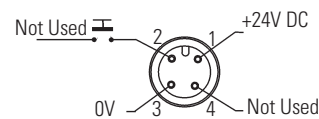
Dimensions (mm)
SG2 Basic Models

M12 5-Pole Connector



Pin	Cable Color	Function
1	brown	+24V DC
2	white	OSSD1
3	blue	0V
4	black	OSSD2
5	gray	TEST/RESET

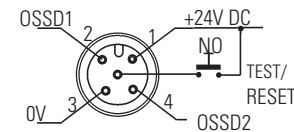
M12 4-Pole Connector



Pin	Cable Color	Function
1	brown	+24V DC
2	white	Not Used
3	blue	0V
4	black	Not Used

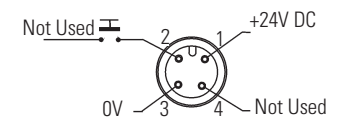
SG2 Extended Models

M12 8-Pole Connector



Pin	Cable Color	Function
1	white	RESET ¹
2	brown	+24V DC
3	green	EDM Activation
4	yellow	EDM
5	gray	OSSD1
6	pink	OSSD2
7	blue	0V
8	red	SEL MAN / AUTO RESTART

M12 4-Pole Connector



Pin	Cable Color	Function
1	brown	+24V DC
2	white	TEST
3	blue	0V
4	black	SG2: SEL operating distance

 1. Automatic RESTART - RESET function
Manual RESTART - RESET/RESTART function

Overview

XW Series E-Stops

Interlock Switches

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Safety Control

Light Curtains

AS-Interface Safety at Work

Type 4 SG4 Series

Finger Protection



Hand Protection



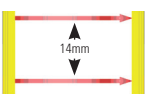
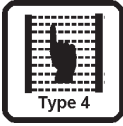
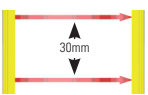
Type 4 SG4 features:

- Integrated light curtain for Finger Protection or Hand Protection
- Operating distance up to 6m for Finger Protection series and 19m for Hand Protection series
- Sensing field heights from 150 to 1800mm
- Compact 32 x 37mm profile
- Sturdy profile and adjustable brackets
- Test/Restart, Auto/Manual Restart, EDM
- User interface with display
- Alignment function

With mounting brackets that rotate, no connection is necessary between emitter and receiver, and configuration can be accomplished without external control units or supplementary cables. In addition, the light curtains can be aligned using the 7 segment display on either the emitter or receiver.



Part Numbers

Part Number	Protection Type	Resolution	Features
SG4-14-□-00-E	Finger 		Test/Reset, Auto/Manual Restart, EDM
SG4-30-□-00-E	Hand 		Test/Reset, Auto/Manual Restart, EDM

 In place of □ enter the Height code. See table on the right.

Sensing Field Height Code

Sensing Field Height	Code
150mm ¹	015 ¹
300mm	030
450mm	045
600mm	060
750mm	075
900mm	090
1050mm	105
1200mm	120
1350mm	135
1500mm	150
1650mm	165
1800mm	180

 1. Not applicable to SG2 Presence Series

Accessories

M12 Unshielded Axial Connector Cable

Item	# of Poles		Used For	Cable Length	Part Number
	4		SG4 & SG2 Emitters	3m	CS-A1-02-U-03
				5m	CS-A1-02-U-05
				10m	CS-A1-02-U-10
				15m	CS-A1-02-U-15
				25m	CS-A1-02-U-25
	8		SG4 & SG2 Extended Model Receivers	3m	CS-A1-06-U-03
				5m	CS-A1-06-U-05
				10m	CS-A1-06-U-10
				15m	CS-A1-06-U-15
				25m	CS-A1-06-U-25

Mounting Brackets

Item	Description	Part Number
	Angled mounting brackets (4 pc kit)	ST-KSTD
	Anti-vibration supports (4 pc kit)	ST-K4AV
	Anti-vibration supports (6 pc kit)	ST-K6AV
	Top-Bottom adjustable mounting brackets (4 pc kit)	ST-K4ROT

Laser Pointer

	Laser pointer used to aid in aligning safety light curtains.	SG-LP
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Overview

XW Series E-Stops

Interlock Switches

Enabling Switches

Safety Control

Specifications

SG4 - Finger Protection Type		SG4 - Hand Protection Type	
			
Electrical	Power supply (Vdd)	24V DC ± 20%	
	Power (TX)	2.5W max	
	Power (RX)	4W max (without load)	
	OSSD outputs	2 PNP (push-pull)	
	Short-circuit protection	1.4A max	
	Output current	0.5A max on each output	
	Output voltage – ON status	Vdd-1V	
	Output voltage – OFF status	0.2V max	
	Leakage current	< 1mA	
	Capacitive load	2.2 uF @ 24V DC*	
	Height	150 - 1800mm	
	Auxiliary functions	Test/Reset, Auto/Manual Restart, EDM	
	Electrical protection	Class I / Class III	
	Connections	M12: Emitter 4 pole, Receiver 8 pole	
Optical	Cable length (for powering)	50m. max *	
	Light emission	Infrared LED (950nm)	
	Resolution	14mm	30mm
	Operating distance	0.2 - 6m	0.2 - 19m
	Aperture angle (EAA)	±2.5°	
Mechanical & Environmental	Ambient light rejection	IEC 61496-2	
	Operating temperature	0 - 55°C	
	Storage temperature	-25 to +70°C	
	Temperature class	T6	
	Humidity	15 - 95% (no condensation)	
	Mechanical protection	IP65 (EN 60529)	
	Vibration	0.35mm amplitude, 10 - 55 Hz frequency 20 sweep per axis, 1 octave/min (EN 60068-2-6)	
	Shock resistance	16ms (10g) 1.000 shock per axis, (EN 60068-2-29)	
	Housing material	Painted aluminium (yellow)	
	Protective shield material	PMMA	



* If a longer cable is needed, please verify that the capacitive load specifications are followed.

Sensing Field Heights

Height
150mm
300mm
450mm
600mm
750mm
900mm
1050mm
1200mm
1350mm
1500mm
1650mm
1800mm

Number of Beams

Height	SG4 Finger	SG4 Hand
150	16	8
300	32	16
450	48	24
600	64	32
750	80	40
900	96	48
1050	112	56
1200	128	64
1350	144	72
1500	160	80
1650	176	88
1800	192	96

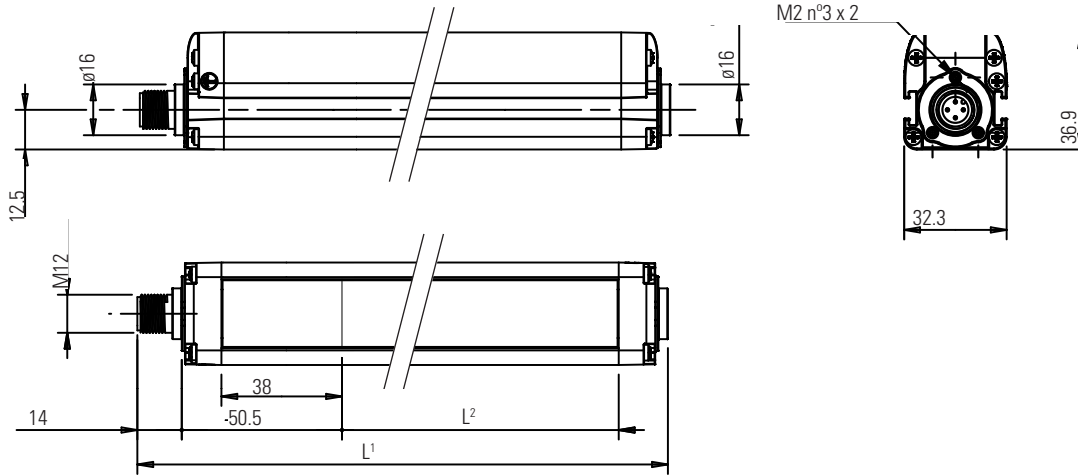
Response Time (ms)

Height	SG4 Finger	SG4 Hand
150	11	9
300	15	11
450	18	13
600	22	14
750	25	16
900	29	18
1050	33	19
1200	36	21
1350	40	23
1500	43	25
1650	47	26
1800	50	28

Light Curtains

AS-Interface Safety at Work

Dimensions (mm)

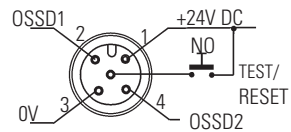


Dimension Table

Model	L ¹	L ²
150 ¹	233.3	153.3
300	383.2	303.2
450	533.2	453.3
600	683.2	603.2
750	833.2	753.3
900	983.2	903.2
1050	1133.2	1053.2
1200	1283.3	1203.3
1350	1433.2	1353.2
1500	1583.3	1503.3
1650	1733.3	1653.3
1800	1883.3	1803.3

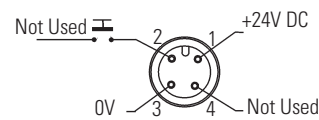
Dimensions (mm)
SG4 Models

M12 8-Pole Connector



Pin	Cable Color	Function
1	white	RESET ¹
2	brown	+24V DC
3	green	EDM Activation
4	yellow	EDM
5	gray	OSSD1
6	pink	OSSD2
7	blue	0V
8	red	SEL MAN / AUTO RESTART

M12 4-Pole Connector



Pin	Cable Color	Function
1	brown	+24V DC
2	white	TEST
3	blue	0V
4	black	SG2: SEL operating distance



1. Automatic RESTART - RESET function
Manual RESTART - RESET/RESTART function

Overview

XW Series E-Stops

Interlock Switches

Enabling Switches

Safety Control

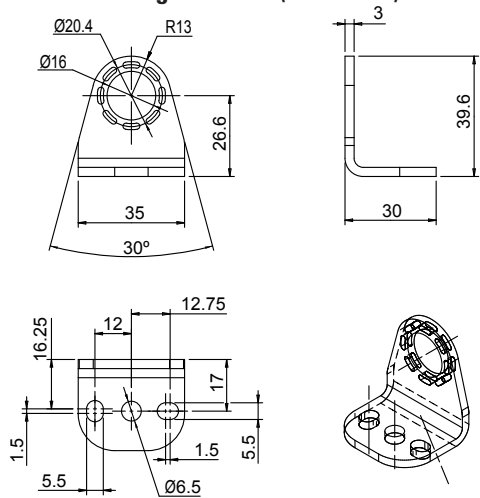
Light Curtains

AS-Interface Safety at Work

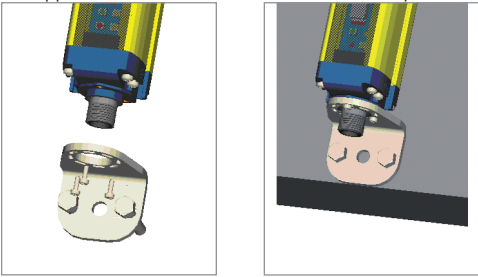
Mounting Bracket and Accessories

Mounting Brackets Dimensions (mm)

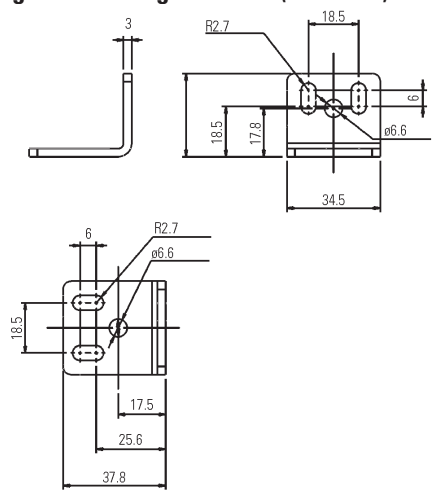
Adjustable Mounting Bracket ¹ (ST-K4ROT)



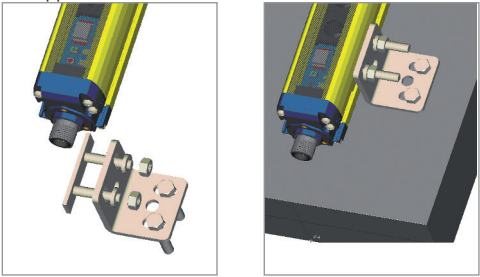
1. Supplied with the SG2 extended models only.



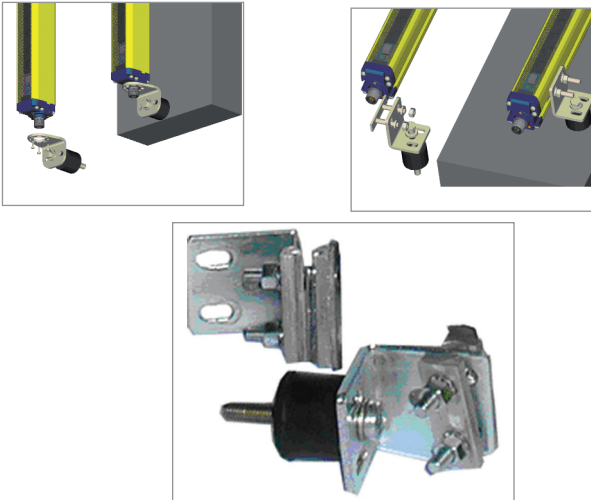
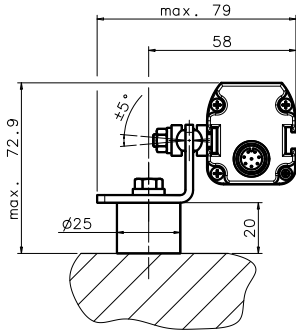
Angled Mounting Bracket ² (ST-KSTD)



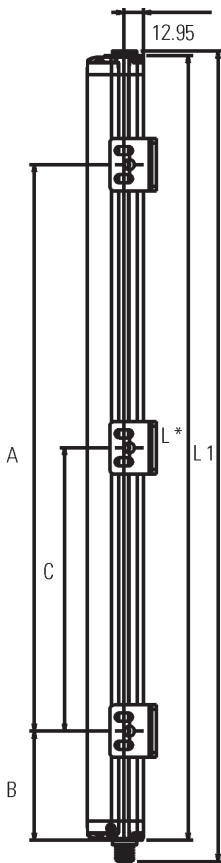
2. Supplied with SG2 standard models and all SG4 models.



Anti-vibration Support Brackets (ST-K4AV/ST-K6AV)



Mounting Bracket with Light Curtain (mm)



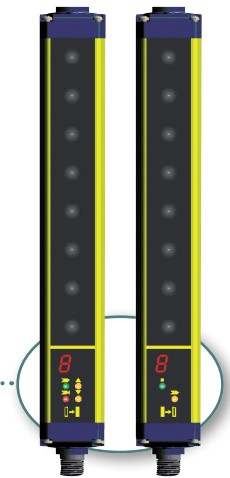
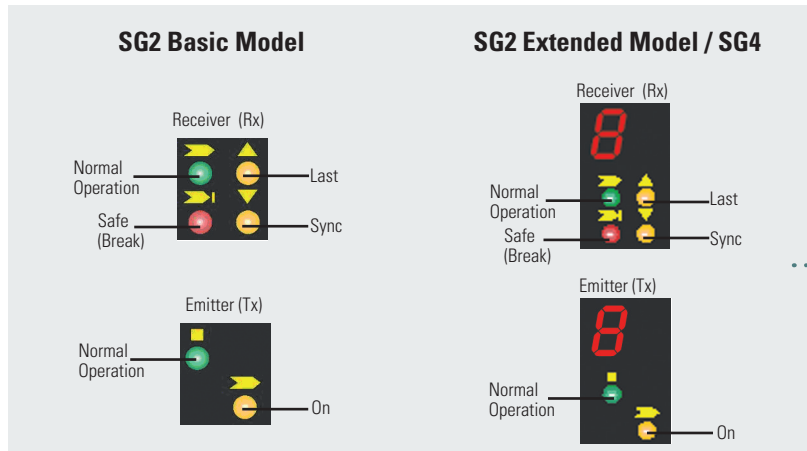
Mounting Bracket Dimension Table (mm)

Height	L	A	B	C
150*	216.3	108	54	-
300	366.2	216	75	-
450	516.3	316	100	-
600	666.2	366	150	-
750	816.3	466	175	-
900	966.2	566	200	-
1050	1116.2	666	225	-
1200	1266.3	966	150	483
1350	1416.2	1066	175	533
1500	1566.3	1166	200	583
1650	1716.3	1266	225	633
1800	1866.3	1366	250	683

1. Not applicable to SG2 Presence Series

Indicators & Settings

SG4 and SG2 light curtains are equipped with an Alignment system that shows alignment status on a visual display, making configuration quick and easy. Alignment level and any change in environment conditions (presence of dust, light disturbance, etc.) are monitored during normal operating mode. The display also gives diagnostic messages to ensure accurate and correct functioning.



Overview

XW Series E-Stops

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AS-Interface Safety at Work

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