Presence Sensing Safety Devices

TAYLOR
MATERIAL HANDLING & CONVEYOR
Phone: 419-867-3560
www.taylormhc.com

GuardShield POC Type 4
440L

- Point of Operation Control (POC) for finger or hand protection
- Heavy-duty IP65 housing
- Large operating range 0.3…16 m (0.98…52.49 ft)
- Dip switch selectable functions: blanking (including teach-in), beam coding, EDM (External Device Monitoring), and start mode
- Available options: cascading, integrated laser alignment, ArmorBlock® Guard I/O™ connectivity

Cascading feature combines neighboring systems

Closed cross section for best mechanical performance

Hand or finger resolution

Integrated laser for fast and secure alignment

Comfortable teach-in
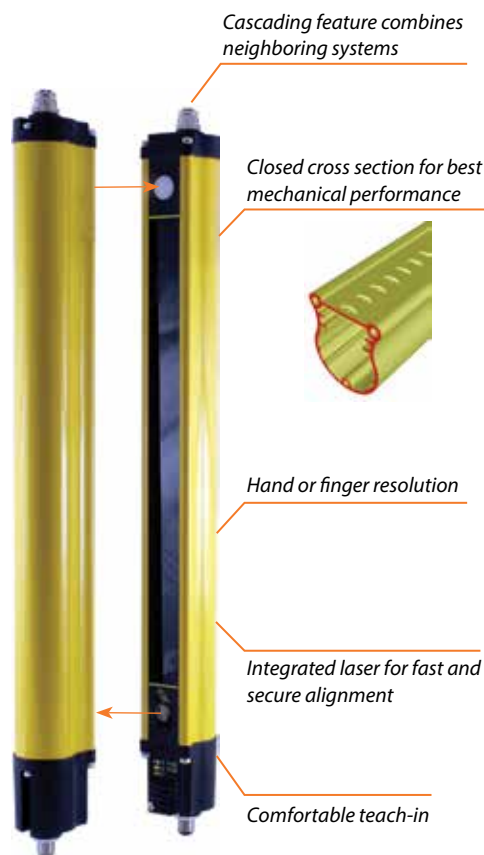
A Robust Solution for Finger and Hand Detection

GuardShield safety light curtains offer an extraordinary robustness against high-mechanical impacts. The unique profile design is a perfect solution for heavy duty applications. An integrated laser feature allows for easy set up and a comfortable control of the alignment. With these features this product provides the highest reliability.

Presence
Sensing Devices

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Allen-Bradley

Product Selection

GuardShield POC Type 4

	Cat. No. [1]	
Description	**Finger Resolution (14 mm)**	**Hand Resolution (30 mm)**
GuardShield Type 4	440L-P4JxxxxYD	440L-P4KxxxxYD
GuardShield Type 4 with laser	440L-P4JLxxxxYD	440L-P4KLxxxxYD
GuardShield Type 4 cascading	440L-C4JxxxxYD [2]	440L-C4KxxxxYD [2]
GuardShield Type 4 cascading with laser	440L-C4JLxxxxYD [2]	440L-C4KLxxxxYD [2]
GuardShield Type 4 Teach-in	440L-S4JxxxxYR	440L-S4KxxxxYR
GuardShield Type 4 Armor with laser	440L-P4JLxxxxYA	440L-P4KLxxxxYA

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 160 mm height, replace the **xxxx** with **0160** (440L-P4K**0160**YD), or for 1760 mm height, replace **xxxx** with **1760** (440L-P4K**1760**YD).

[2] Models are available in protective heights from 160…1600 mm (6.3…63 in.) in 160 mm (6.3 in.) increments.

Specifications

Standards	Type 4 (IEC 61496), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.5 A)
Enclosure Rating	IP65
Cross Section	40 x 50 mm (1.57 x 1.96 in.)
Scanning Range	Finger: 0.3…7 m (0.98…22.9 ft) Hand: 0.3…16 m (0.98…52 ft)

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www.rockwellautomation.com/ support/overview.page

Required Cordsets & Accessories

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [3]
8-pin straight receiver cable	889D-F8AB-2 [3]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [1]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [1]
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [4]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [4]
Muting box	445L-AMUTBOX1

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 160 mm height, replace the **xxxx** with **0160** (440L-P4K**0160**YD), or for 1760 mm height, replace **xxxx** with **1760** (440L-P4K**1760**YD).

[3] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for available lengths in meters.

[4] yyyy = mirror length in mm

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http://ab.rockwellautomation.com/Safety
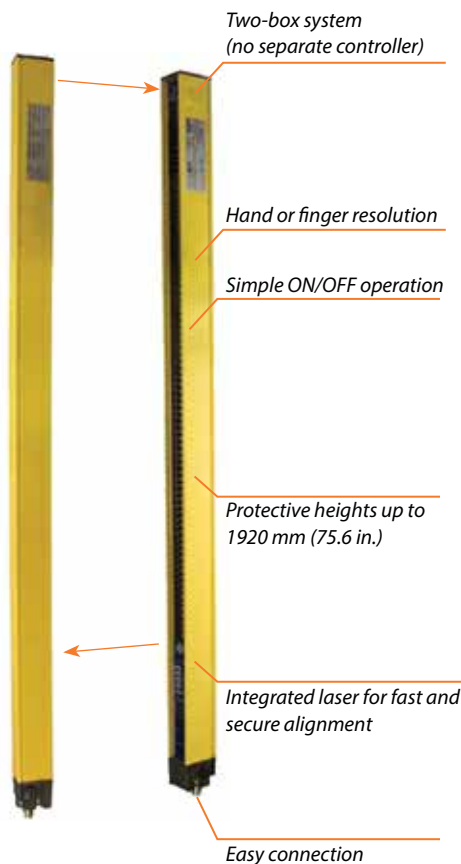
Safety

GuardShield POC Safe 4
445L

- Point of Operation Control (POC) for finger or hand protection
- Economical two-box system (no separate controller)
- Simple ON/OFF functionality
- Robust IP65 housing
- Integrated laser alignment system
- Large operating range
- Finger and hand resolution
- TÜV certified

Two-box system (no separate controller)

Hand or finger resolution

Simple ON/OFF operation

Protective heights up to 1920 mm (75.6 in.)

Integrated laser for fast and secure alignment

Easy connection

Reliable Point of Operation Control with Long Range

Safe 4 safety light curtains are simple ON/OFF, robust, industrial point of operation controls (POC). Individual protective fields are available in both finger (14 mm) and hand (30 mm) resolution. An integrated laser feature allows for easy setup and confirmation of the alignment during operation. The ideal solution for long-range applications.

Typical Application

Presence Sensing Devices	**Interlock Switches**	**Access Control**	**Safety Relays**	**Emergency Stop Devices**	**Enabling Switches**	**Safety Limit Switches**
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Product Selection

GuardShield POC Safe 4

Description	Cat. No. [1]	
	Finger Resolution (14 mm)	Hand Resolution (30 mm)
Safe 4	445L-P4LxxxxYD	445L-P4SxxxxYD
Safe 4, long range (5…30 m (16.4…98.4 ft))	–	445L-P4XxxxxYD

[1]   Models are available in protective heights from 120…1920 mm (4.72…75.6 in.) in 120 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P4S**0600**YD), or for 1200 mm height, replace **xxxx** with **1200** (445L-P4S**1200**YD).

Specifications

Standards	Type 4 (IEC 61496-1, -2), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.3 A each)
Enclosure Rating	IP65
Cross Section	30 x 40 mm (1.18 x 1.57 in.)
Scanning Range	Finger: 0…9 m (0…29.5 ft) Hand: 0…18 m (0…59 ft) and 5…30 m (16.4…98.4 ft)

Required Cordsets & Accessories

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [2]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [2]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [3]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [3]

[2]   Replace the **2** with **5**, **10**, **15**, **20**, or **30** for available lengths in meters.

[3]   yyyy = mirror length in mm

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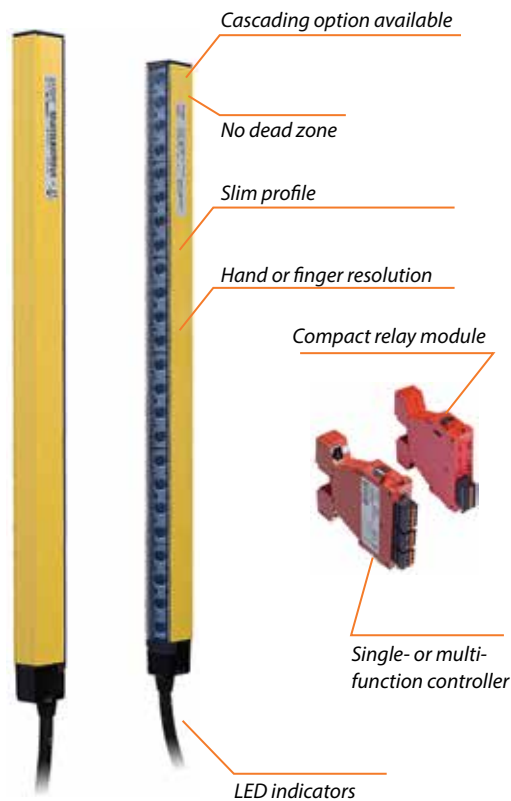
Safety

Micro 400 POC Type 4
445L

- Point of Operation Control (POC) for finger or hand protection
- Slim housing
- Economical three-box system
- Requires MSR41 or MSR42 controller
- Light duty (IP54)
- No dead zone
- Finger and hand resolution
- TÜV Certified

Cascading option available

No dead zone

Slim profile

Hand or finger resolution

Compact relay module

Single- or multi-function controller

LED indicators

A Slim-profile Solution for Point of Operation Control

Micro 400 are Type 4 safety light curtains with an extremely small profile of 15 x 20 mm (0.59 x 0.78 in.) and are available with both finger and hand resolution. They are designed to be built into the machine and not on the machine. This product must be used in combination with an MSR41 or MSR42 controller. The MSR42 controller is multi-functional and allows for additional functions like blanking, override, and muting.

Typical Application

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Product Selection

Micro 400 POC Type 4

Description	Cat. No. [1]	
	Finger Resolution (14 mm)	Hand Resolution (30 mm)
Micro 400	445L-P4CxxxxFP	445L-P4ExxxxFP
Micro 400 cascaded	445L-C4CxxxxFP [2]	445L-C4ExxxxFP [2]
Micro 400 IP69K	445L-P4CxxxxKP [2]	–

[1] Models are available in protective heights from 50…1200 mm (2.0…47.2 in.) in 50 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P4C**0600**FP), or for 1200 mm height, replace **xxxx** with **1200** (445L-P4C**1200**FP).

[2] Not all protective heights.

Specifications

Standards	Type 4 (IEC 61496-1, -2), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Enclosure Rating	IP54
Cross Section	15 x 20 mm (0.59 x 0.79 in.)
Scanning Range	Finger: 0…5 m (0…16.4 ft) Hand: 0…5 m (0…16.4 ft)
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.4 A each)

Required Cordsets & Accessories

Description	Cat. No.
Transmitter/receiver connection cable	445L-AC8RJ1 [3]
Transmitter/receiver patchcord cable	445L-AC8PC1 [4]
Flat mount kit	445L-AF6145
Adjustable flat mounting kit	445L-AF6149
MSR41 controller	440R-P221AGS
MSR42 controller	440R-P226AGS-NNR
MSR45E relay (2 N.O.)	440R-P4NANS
Ribbon cable for one MSR45E	440R-ACABL1
Muting box	445L-AMUTBOX1

[3] Replace the **1** with **2**, **3**, **5**, or **8** for other available meter lengths.

[4] Replace the **1** with **3** or **5** for other available meter lengths.

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

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Presence Sensing Safety Devices

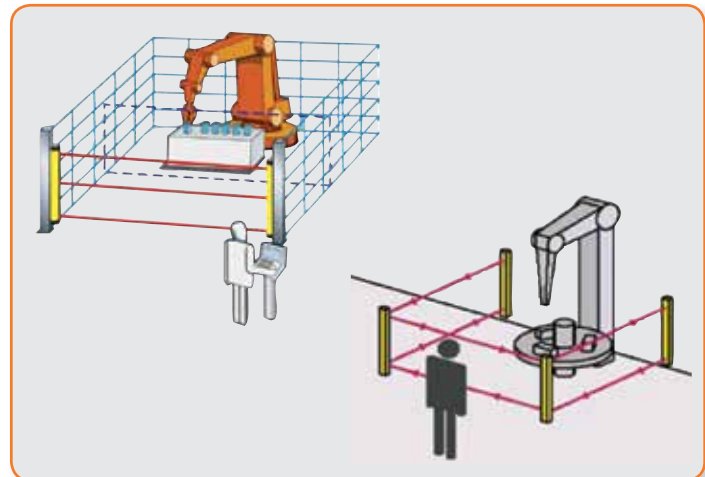## GuardShield PAC Type 4 & Safe 4/Micro 400 440L & 445L

- Perimeter Access Control (PAC) for whole body detection around machines
- Two-, three-, and four-beam solution
- Integrated laser alignment tool
- Large operating range
- cULus Listed and TÜV Certified

2, 3, or 4-beam

30 meter range

Whole body detection

Laser alignment system

Simple connection
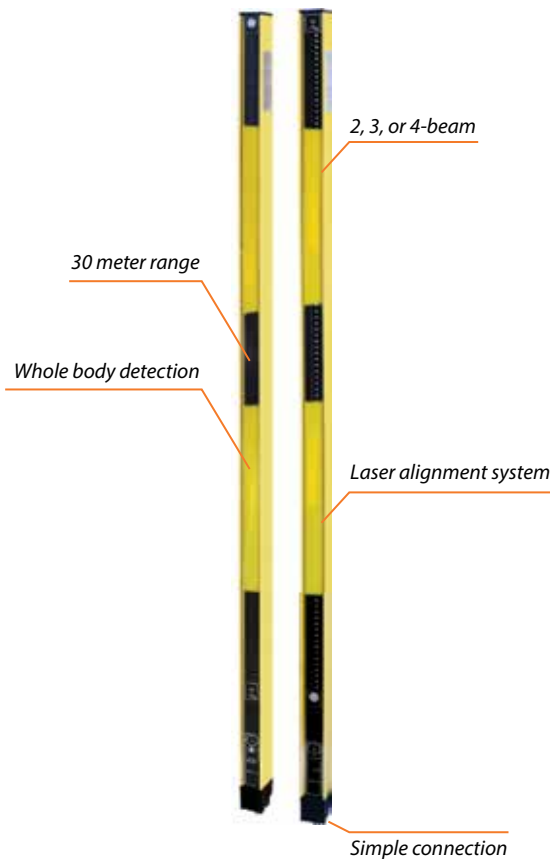
Whole-body Detection for Machine Perimeter Safeguarding

Based on the individual safety light curtain platforms and perimeter access control (PAC), these safety light curtains are used for whole-body detection. They are typically positioned around an area or in front of a machine process entry or exit area. Multi-sided access control is attained through the use of corner mirrors. The integrated laser alignment tool makes the set up with mirrors most efficient.

Typical Application

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Product Selection
GuardShield PAC Type 4 & Safe 4/Micro 400

		Cat. No.		
	Description	**2-Beam**	**3-Beam**	**4-Beam**
GuardShield Type 4	PAC	440L-P4A2500YD	440L-P4A3400YD	–
	PAC with Laser	440L-P4AL2500YD	440L-P4AL3400YD	–
	PAC Armor Block with Laser	440L-P4AL3400YA	440L-P4AL3400YA	–
Safe 4	PAC (short working range)	445L-103002-0048	445L-103002-0003	445L-103002-0007
	PAC (long working range)	445L-P4S2500YD	445L-P4S3400YD	445L-P4S4120YD
Micro 400	PAC	445L-110492-0002	445L-110492-0004	445L-110492-0006

Specifications

	GuardShield Type 4 PAC	**Safe 4 PAC**	**Micro 400 PAC**
Profile Cross Section	40 x 50 (1.57 x 1.97 in.)	30 x 40 (1.18 x 1.57 in.)	15 x 20 (0.59 x 0.79 in.)
Working Range	0.3…16 m (0.98…52.5 ft)	0…18 m (0…59.05 ft) 5…30 m (16.4…98.4 ft)	0…5 m (0…16.4 ft)
Enclosure Type Rating	IP65	IP65	IP54
Integrated Laser Alignment	Optional	Standard	–
5-pin ArmorBlock®	Optional	Standard	–
Integrated Controller	Yes	Yes	MSR41/MSR42
Beam Coding	Yes	No	No
EDM	Yes	No	Yes
Configuration	Dip switch	No	MSR42 wiring or software
Safety	Type 4 (IEC 61496-1, -2); PLe Cat 4 (ISO 13849-1); SIL cl3 (IEC 62061)		
Aux. Output (Non-safety)	1 PNP, 0.5 A max.	No	2 PNP, 0.2 A max.
Operating Temperature [C (F)]	-10…+55 ° (14…131 °)	0…55 ° (32…141 °)	0…55 ° (32…141 °)

Required Cordsets & Accessories

GuardShield Type 4

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [2]
8-pin straight receiver cable	889D-F8AB-2 [2]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [1]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [1]
Muting box	445L-AMUTBOX1

Safe 4

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [2]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [2]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [3]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [3]

Micro 400

Description	Cat. No.
Transmitter/receiver cordset	445L-AC8RJ1 [4]
Transmitter/receiver patchcord	445L-AC8PC1 [5]
180° adjustable mounting kit	445L-AF6143
Flat mount kit	445L-AF6145
Adjustable flat mounting kit	445L-AF6149
MSR41 controller	440R-P221AGS
MSR42 controller	440R-P226AGS-NNR
MSR45 relay (2 N.O.)	440R-P4NANS
Muting box	445L-AMUTBOX1

[1]   Replace **xxxx** for protective height.
[2]   Replace the **2** with **5**, **10**, **15**, **20**, or **30** for other available lengths in meters.
[3]   yyyy = mirror length
[4]   Replace the **1** with **2**, **3**, **5**, or **8** for other available meter lengths.
[5]   Replace the **1** with **3** or **5** for other available meter lengths.

For more information on our complete family of presence sensing safety device products, please visit:
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Safety

Type 2

GuardShield Type 2 and Safe 2 POC 440L & 445L

- Point of Operation Control (POC) for finger or hand protection
- Low risk applications (Type 2)
- Hand resolution
- Laser alignment tool (Safe 2)
- Large operating range
- TÜV Certified

Simple ON/OFF

Hand resolution

Integrated laser alignment

Safe 2

Simple connection
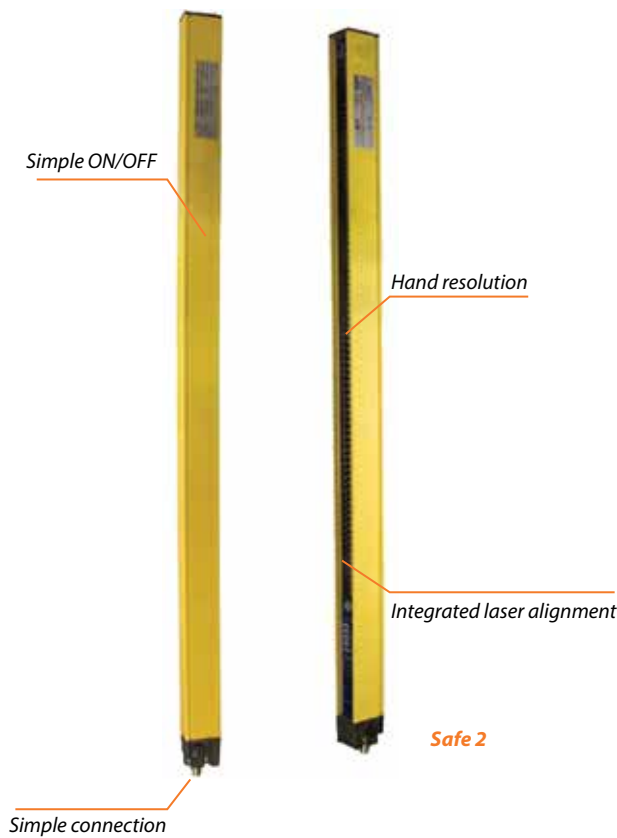
A Solution for Lower-risk Applications

Suitable for low risk applications where the risk assessment allows for the use of a Type 2 safety light curtain, GuardShield Type 2, and Safe 2 are ideal solutions. They are both available with hand (30 mm) resolution and a test input. Similar to its larger counterpart (Safe 4), the Safe 2 features the integrated laser alignment tool for easy alignment during setup and operation.

Typical Application

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Product Selection
GuardShield Type 2 and Safe 2 POC

Description	Cat. No.	
	Automatic Start	Manual Start with EDM
GuardShield Type 2	440L-P2KAxxxxYD [1]	440L-P2KDxxxxYD [1]
Safe 2	445L-P2SxxxxYD [2]	–

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 640 mm height, replace the **xxxx** with **0640** (440L-P2KA**0640**YD).

[2] Models are available in protective heights from 120…1920 mm (4.72…75.6 in.) in 120 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P2**0600**YD).

Specifications

	GuardShield Type 2 POC	Safe 2 POC
Profile Cross Section	40 x 50 (1.57 x 1.97 in.)	30 x 40 (1.18 x 1.57 in.)
Working Range	0.3…16 m (0.98…52.5 ft)	0…18 m (0…59.05 ft) 5…30 m (16.4…98.4 ft)
Enclosure Type Rating	IP65	IP65
Integrated Laser Alignment	No	Standard
5-Pin ArmorBlock	No	Standard
Integrated Controller	Yes	Yes
Beam Coding	No	No
EDM	Yes (only manual start)	No
Configuration	No	No
Safety	Type 2 (IEC 61496-1, 2); PLc Cat 2 (ISO 13849-1); SIL cl1 (IEC 62061)	
Aux. Output (Non-safety)	1 PNP, 0.5 A max.	No
Operating Temperature [C (F)]	-10…+55 ° (14…131 °)	0…55 ° (32…141 °)

Connected Components

Simpler, faster, cost-effective machine building.

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Required Cordsets & Accessories
GuardShield Type 2

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [4]
8-pin straight receiver cable	889D-F8AB-2 [4]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [3]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [3]
Muting box	445L-AMUTBOX1

Safe 2

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [4]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [4]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [5]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [5]

[3] Replace **xxxx** for protective height.

[4] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for other available lengths in meters.

[5] yyyy = mirror length

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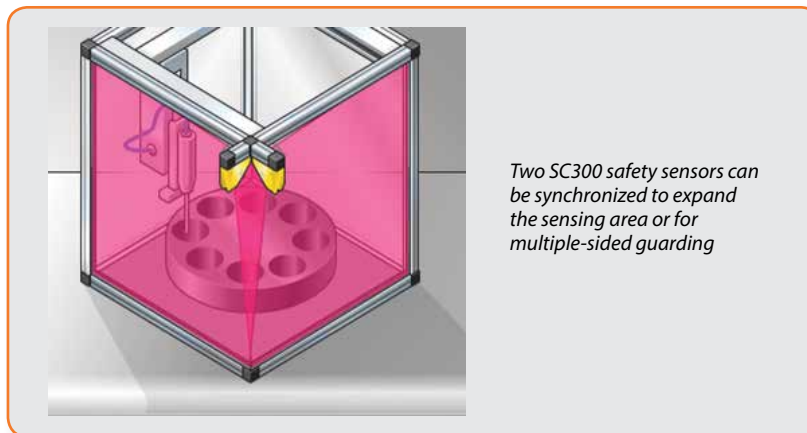
Safety

SC300 Safety Sensor
442L

- Compact hand detection system
- 110° field of view
- Automatic alignment
- No programming software required
- Horizontal or vertical mounting
- Integrated EDM, Restart/Reset and Teach-in
- IP54 industrial-grade housing

Cost-effective, Vision-based Machine Guarding

The Allen-Bradley® Guardmaster SC300 is a compact hand detection safety sensor system, which operates based on image processing technology. The SC300 compares a two-dimensional image against a passive pattern, i.e., the background. Detection is based on an object of a certain resolution blocking the sensor's view of the pattern.

This Type 3 vision-based protective device is designed for use in certain machine-guarding applications where reflective tape can be attached to a square or rectangular frame to define the detection boundaries.

Two SC300 safety sensors can be synchronized to expand the sensing area or for multiple-sided guarding

Presence Sensing Devices

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
5-2…5-17	5-18…5-33	5-34…5-35	5-36…5-41	5-42…5-43	5-44…5-45	5-46…5-47

Allen-Bradley

Product Selection

SC300 Safety Sensor

Description	Cat. No.
Guardmaster SC300 safety sensor	442L-SAFCAM1

Specifications

Standards	EN 61496-1, EN 61508, EN ISO 13849-1
Safety Classification	Cat 3 ISO 13849-1; Type 3 IEC 61496-1; SIL 2 IEC 61508, SIL cl2 IEC 62061; PLd ISO 13849-1
Certifications	cULus Listed, TÜV Certified, CE Marked for all applicable directives
Power Supply	24V DC ± 20%
Power Consumption	4 W (24V no load), 19 W (max. output load)
Safety Outputs	2 OSSD. 0.25 A, short-circuit protected, cross fault monitored
Resolution	24 and 30 mm (based on tape kit used)
Operating Range	2.12 m (6.94 ft) max.
Sensing Area	Up to 1.5 x 1.5 m (4.92 x 4.92 ft) [1]

[1] It is possible to synchronize two SC300 safety sensors to increase the maximum monitored area to 1.5 x 3.0 m (4.92 x 9.84 ft).

Safety

Our innovative safety products and solutions improve the functional operation of your machinery while helping to increase personnel safety, efficiency and productivity.

http://ab.rockwellautomation.com/Safety

Required Accessories

Description	Cat. No.
Reflective tape kit, 2 pcs of 1.5 m strips, 24 mm resolution with test rod	442L-ACAM24MMKIT
Reflective tape kit, 2 pcs of 1.5 m strips, 30 mm resolution with test rod	442L-ACAM30MMKIT

Accessories

Description	Cat. No.
Mounting brackets (2 brackets per kit includes 2 - M6 stainless steel socket head screws)	442L-ACAMBRK1
Teach-in stylus (1 pc supplied with each SC300)	442L-ACAMTS
Test rod 24 mm resolution (1 pc supplied with each 24 mm tape kit)	442L-ATRD24MM
Test rod 30 mm resolution (1 pc supplied with each 30 mm tape kit)	442L-ATRD30MM