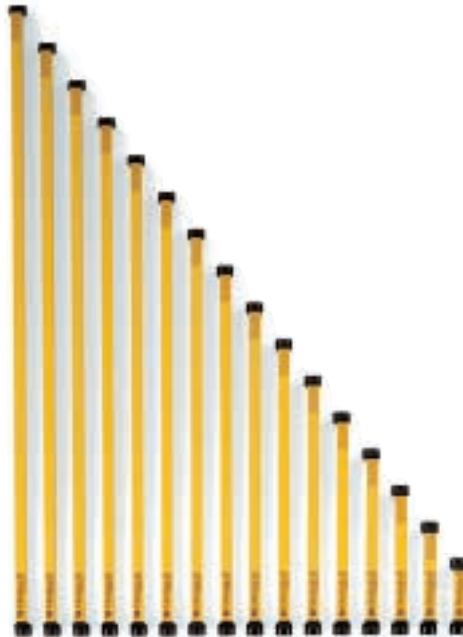




File No. LR90200



# MiniSafe®

## MS4300

- 19 mm (0.75 in.) resolution
- 9.1 m (30 ft.) range
- Protected heights from 102 to 1626 mm (4 to 64 in.)
- Small size—32 x 32 mm (1.25 x 1.25 in.)
- Status indicator lights
- Quick-disconnect cables
- Adjustable mounting brackets
- Highly immune to electromagnetic interference, strobe or ambient light interference and welding flash
- Versions available for darkroom applications—consult factory

### ■ Description

A MiniSafe consists of an identical length transmitter and receiver, combined with an STI Universal or DuoSafe Controller and appropriate interconnecting cables.

The compact transmitter and receiver are suited for machinery where space is at a premium.

The slender MiniSafe housings provide a designed-in appearance.

### ■ Applicable Controllers

MiniSafe MS4300 transmitter and receivers can be used with the Universal controller or combined with other STI safety light curtain components and a DuoSafe controller as part of a system to guard more than one opening or machine.

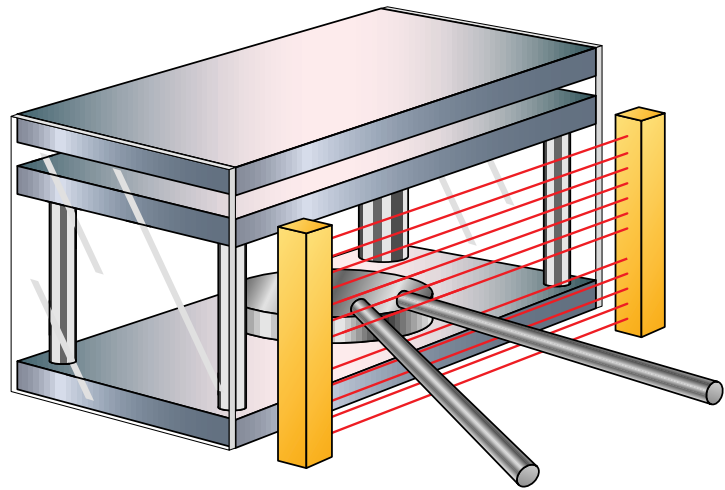
D

safety light curtains

## ■ Applications

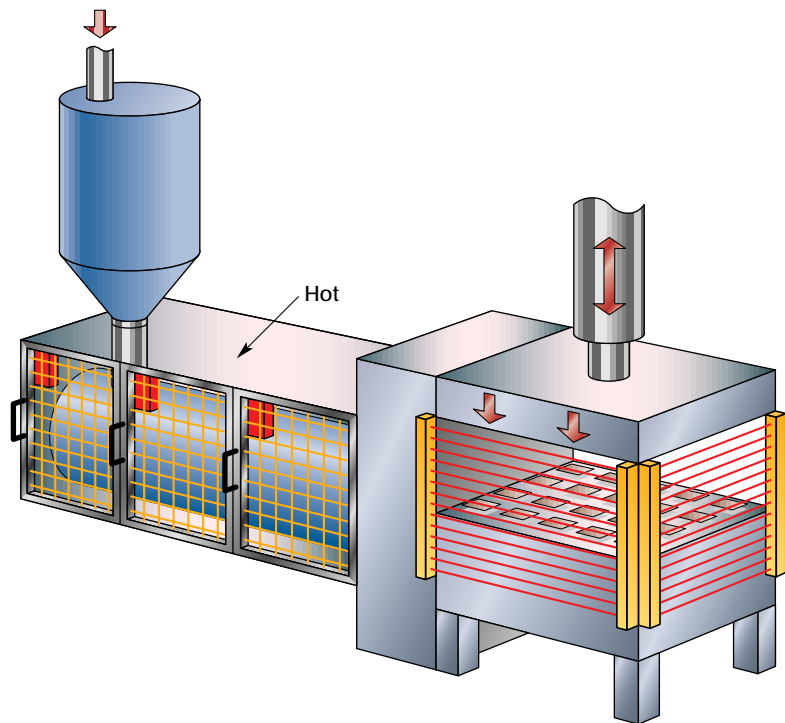
### Automobile Wiper Arm Assembly

This machine assembles the long tubular pieces that operate car wipers. At the point where the two pieces are riveted together, a hazard is created. The operator places the parts to be joined in a fixture and presses a button to begin the cycle. Using a MiniSafe MS4300 with 1-beam Floating Blanking enabled, the benefits of close mounting can be preserved while allowing for the presence of the parts being assembled.



### Plastic Molding Machine

A MiniSafe guards personnel from a pinch-point hazard on this machine. Additionally, workers are protected from a burn hazard by hinged guards held closed by solenoid-locking safety switches.



Go to the Engineering Guide  
For in-depth information on  
safety standards and use.



## ■ Specifications for Transmitter and Receiver

Performance	
<b>Protected Height:</b>	102 to 1626 mm (4 to 64 in.) in 102 mm (4 in.) increments
<b>Operating Range:</b>	0.3 to 9.1 m (1 to 30 ft.)
<b>Resolution:</b>	19 mm (0.75 in.) Use of Exact Channel Select and/or Floating Blanking may increase this value.
<b>Effective Aperture Angle:</b>	±6° transmitter and receiver
<b>Light Source:</b>	880 nm LED
<b>Light Source Life:</b>	100,000 hours
<b>Indicators:</b>	Beam blocked, beam clear, interlock
Mechanical	
<b>Enclosure:</b>	Polyurethane powder-painted aluminum
<b>Cable Length:</b>	Transmitter – 4.6 m (15 ft.) standard, 30 m (100 ft.) maximum; 30 m (100 ft.) standard with DIN-style controller Receiver – 1.5 m (5 ft.) standard, 30 m (100 ft.) maximum; 30 m (100 ft.) standard with DIN-style controller
<b>Cable Connections:</b>	Circular, weather-tight disconnects
Environmental	
<b>Protection Rating:</b>	IP65; NEMA 4, 12
<b>Operating Temperature:</b>	0 to 55°C (32 to 131°F)
<b>Relative Humidity:</b>	95% maximum, non-condensing
<b>Vibration:</b>	Tested in accordance with UL991 vibration specification, Section 20, at 5G peak vibration level, frequency range 5–60 Hz in 3 axes
<b>Shock:</b>	Tested to withstand shock resulting from a 3 ft.-lb. impact detailed in UL991, Section 21
Conformity/Approvals (when combined with an STI Universal or DuoSafe controller)	
<b>Conforming to Standards:</b>	ANSI/RIA R15.06-1999, ANSI B11.19-2003, OSHA 1910.217(c), OSHA 1910.212
<b>Other Approvals:</b>	CSA-CUS Certified (file no. LR90200)

Specifications are subject to change without notice.



For specifications on the  
Universal Controller, see [www.sti.com](http://www.sti.com)



For specifications on the  
DuoSafe Controller, see [www.sti.com](http://www.sti.com)

## ■ Dimensions—in./mm

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safety light curtains



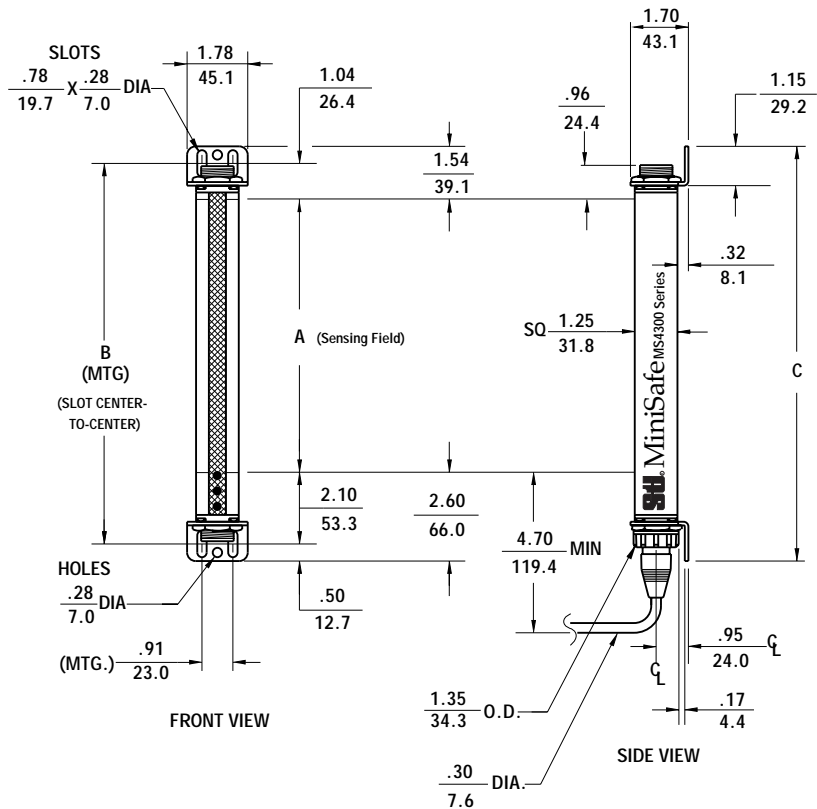
This drawing is available in CAD format at [www.sti.com/curtains/MS4300/](http://www.sti.com/curtains/MS4300/)



For dimensions on the Universal Controller, see [www.sti.com](http://www.sti.com)



For dimensions on the DuoSafe Controller, see [www.sti.com](http://www.sti.com)



### MiniSafe MS4300 Dimensions

DIM	MS4304	MS4308	MS4312	MS4316	MS4320	MS4324	MS4328	MS4332
A in./mm	4/102	8/203	12/305	16/406	20/508	24/607	28/711	32/813
B in./mm	7.14/181	11.14/283	15.14/385	19.14/486	23.14/588	27.14/689	31.14/791	35.14/893
C in./mm	8.14/206	12.14/308	16.14/410	20.14/512	24.14/613	28.14/715	32.14/816	36.14/918
<b>System Shipping Weight</b>								
lb./kg	16/7.3	16/7.3	17/7.7	18/8.2	18/8.2	18/8.2	19/8.6	20/9.1

DIM	MS4336	MS4340	MS4344	MS4348	MS4352	MS4356	MS4360	MS4364
A in./mm	36/914	40/1016	44/1118	48/1219	52/1321	56/1422	60/1524	64/1626
B in./mm	39.14/994	43.14/1096	47.14/1197	51.14/1299	55.14/1401	59.14/1502	63.14/1604	67.14/1705
C in./mm	40.14/1020	44.14/1121	48.14/1223	52.14/1324	56.14/1426	60.14/1528	64.14/1629	68.14/1730
<b>System Shipping Weight</b>								
lb./kg	20/9.1	20/9.1	21/9.5	22/10	22/10	22/10	23/10.4	23/10.4



**Go to the Engineering Guide**  
For in-depth information on safety standards and use.



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Singapore Tel. +65-648-44-001



**For the Latest Information**  
On the Internet: [www.sti.com](http://www.sti.com)  
E-mail: [sales@sti.com](mailto:sales@sti.com)

## ■ Ordering

To order a MiniSafe MS4300C system with a Universal Controller, simply fill in the fields in the model number sequence given below. Each field is numbered and information on completing a specific field can be found in the sections which follow. Information is required in all fields.



For specifications and dimensions on the Universal Controller, see [www.sti.com](http://www.sti.com)



To order MS4300 components as part of a DuoSafe system, see [www.sti.com](http://www.sti.com)

MS43 \_\_\_\_\_ - \_\_\_\_\_ X- \_\_\_\_\_ R  
 ①            ②            ③            ③

Example: MS4324C-AC1-30X-15R

This system has a 610 mm (24 in.) coverage height, standard controller, 115 VAC input power, 9.1 m (30 ft.) transmitter cable and a 4.6 m (15 ft.) receiver cable.

① Information required. Represents the coverage height of the light curtain in inches. Designators are described below:

Designator	Coverage Height
04	102 mm (4 in.)
08	203 mm (8 in.)
12	305 mm (12 in.)
16	406 mm (16 in.)
20	508 mm (20 in.)
24	610 mm (24 in.)
28	711 mm (28 in.)
32	813 mm (32 in.)
36	914 mm (36 in.)
40	1016 mm (40 in.)
44	1118 mm (44 in.)
48	1219 mm (48 in.)
52	1321 mm (52 in.)
56	1422 mm (56 in.)
60	1524 mm (60 in.)
64	1626 mm (64 in.)

② Represents Controller Style and Power Input.

Designator	Description
C-AC1	NEMA 4, 12 enclosure, 115 VAC
C-AC2	NEMA 4, 12 enclosure, 230 VAC
C-DC1	NEMA 4, 12 enclosure, 24 VDC negative ground
C-DC2	NEMA 4, 12 enclosure, 24 VDC positive or negative ground
C-DN-DC1	DIN mount enclosure, 24 VDC negative ground

To specify a controller with lid-mounted Run/Start key switch, begin designator with CK- rather than C-. Available only on NEMA enclosure.



For information on STI safety light curtain accessories, see [www.sti.com](http://www.sti.com)

③ Represents transmitter (X) and receiver (R) cable length.

The standard cable lengths supplied with a NEMA 4, 12 enclosure controller are a 4.6 m (15 ft.) transmitter and a 1.5 m (5 ft.) receiver. Cables are available in 5-foot increments from 5 to 100 feet (1.5 to 30 meters) for the transmitter and receiver.

The standard cable lengths supplied with a DIN mount enclosure controller are 9.1 m (30 ft.) on both the transmitter and receiver.

### For NEMA 4, 12 enclosure:

Designator	Description
05	1.5 m (5 ft.) cable
10	3.0 m (10 ft.) cable
15	4.6 m (15 ft.) cable
20	6.1 m (20 ft.) cable
25	7.6 m (25 ft.) cable
30	9.1 m (30 ft.) cable
35	10.7 m (35 ft.) cable
40	12.2 m (40 ft.) cable
45	13.7 m (45 ft.) cable
50	15.2 m (50 ft.) cable
55	16.8 m (55 ft.) cable
60	18.3 m (60 ft.) cable
65	19.8 m (65 ft.) cable
70	21.3 m (70 ft.) cable
75	22.9 m (ft.) cable
80	24.4 m (80 ft.) cable
85	25.9 m (85 ft.) cable
90	27.4 m (90 ft.) cable
95	29.0 m (95 ft.) cable
100	30.48 m (100 ft.) cable

### For DIN-mount enclosure:

Designator	Description
30	9.1 m (30 ft.) cable

\* Consult factory for longer cables

## Safety Standards and Precautions

The MiniSafe meets ANSI/RIA R15.06-1999, ANSI B11.19-2003 and the following applicable OSHA standards. When used with mechanical power presses, OSHA standard 1910.217(c) applies. For other applications, the requirements of section 1910.212 apply. When combined with an STI Universal or DuoSafe Controller, the MiniSafe meets B11.19-1990 standards, including control reliability requirements for point-of-operation presence sensing devices, and complies with CSA and UL508 standards.

Only use the MiniSafe on machinery that stops consistently and immediately anywhere in its cycle or stroke. Never use a MiniSafe on a full-revolution clutched press or machine. Access to the point of operation or hazardous machine area not protected by the MiniSafe must be guarded by fencing, barriers or other appropriate methods.

The purchaser, installer and employer are responsible for meeting all local, state and federal government laws, rules, codes or regulations relating to the proper use, installation, operation and maintenance of this control and the guarded machine. See Installation and Operation Manual for additional information.

All application examples described are for illustration purposes only. Actual installations will differ from those indicated.



**Go to the Engineering Guide**  
For in-depth information on safety standards and use.

