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# Accessories

## Accessories and Spare Parts for Safety Light Curtains

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### Power Supplies

For use with the safety products such as the F3SJ and the MS4800, CE marked, DIN-rail mountable, Input: 115 or 230 VAC.

Part Number	Description
S8JX-G05024CD	24 VDC power supply, 50 W, 2.1 A
S8JX-G10024CD	24 VDC power supply, 100 W, 4.2 A

### Reset Switches

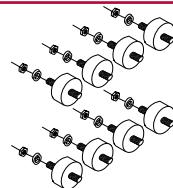
These switches can be mounted remotely and used to perform the reset function on all safety light curtains.

Part Number	Description
RK-1	Key Switch Assembly, Panel Mount
RK-2	Push Button Switch Assembly, Panel Mount



### Shock Mount Kits

These kits are used to isolate light curtain receivers and transmitters from possible sources of vibration. They can also be used to shock-mount controllers/power supplies and mirrors. Each kit consists of eight mounts.



MS/MSF4800 Series	
MS/MSF4800 Lengths 280-960	2
MS/MSF4800 Lengths 1000-1400	3
MS/MSF4800 Lengths 1440-2120	4

PA4600 Series	
PA46-2-500	3
PA46-2-600	3
PA46-3-400	3
PA46-3-500	4
PA46-4-300	3
PA46-5-300	4
PA46-6-300	4

Part Number	Description
SHMS-18	Shock mounting kit for weight class 2
SHP4-18	Shock mounting kit for weight class 3 and 4

### Test Objects

Replacement test objects can be ordered by part number. Make sure to order the test object for the correct light curtain model.

Part Number	Description
STI-TO20	Test object, 19.1 mm (0.75 in.) for F3SJ-A_P20 and MS4800-20
STI-TO30	Test object, 30 mm (1.18 in.) for F3SJ-A_P30 and MS4800-30
STI-TO14	Test object, 14 mm (0.55 in.) for F3SJ-A_P14 and MS4800-14
STI-TO40	Test object, 40 mm (1.57 in.) for MS4800-40
STI-TO24	Test object, 24 mm (0.94 in.) for F3SJ-A_P14, and MS4800-14 (with floating blanking 1-beam)
STI-TO34	Test object, 34 mm (1.34 in.) for F3SJ-A_P14 and MS4800-14 (with floating blanking 2-beam)

### Laser Alignment Tool

To assist with long-range alignment of installations.

Model Number	Description
46LA	Laser alignment tool for use with PA4600 and MS4800



46LA

## Mirrors

The correct mirror is important in maintaining the integrity of a safety light curtain system. Whenever an infrared beam strikes a mirror a certain percentage of the signal will be lost. In order to minimize this loss, glass and stainless steel mirrors from Omron use materials of the highest optical quality.

### Mirror Material

Mirror Material	Percentage of range lost per mirror
Front Reflective Surface Glass	12%
Polished Stainless Steel	18%

Glass mirrors are built with front reflective surface glass. This material provides the minimum possible signal loss. For applications where the possibility of broken glass cannot be tolerated, wide, polished stainless steel mirrors are available.

Mirrors are available in both a narrow and a wide package. If space permits, the wide mirrors are recommended for ease of alignment. Narrow mirrors have 51 mm (2 in.) wide reflective surfaces and can be used on applications where space is limited or the range between the light curtain transmitter and receiver is short. Wide mirrors have 108 mm (4.25 in.) wide reflective surfaces and ease alignment on applications with a large perimeter or where there are no space limitations.

NOTE: Mirrors can only be mounted using the MIRS-xx Series Heavy Duty Floor Stands.

### Net Range Using Mirrors (percentage of maximum range)

Material	No. of Mirrors Used			
	1	2	3	4
Glass	88%	77%	68%	60%
Stainless Steel	82%	67%	55%	45%

Length	Model Number	Weight kg/lb.	Model Number	Weight kg/lb.	Model Number	
	Narrow Glass		Wide Glass		Wide Stainless Steel*	Narrow Stainless Steel†
102 mm (4 in.)	MIRN-04FG	0.8/1.74	MIRW-04FG	1.0/2.3	MIRW-04SS	MIR-04SS-ESD
152 mm (6 in.)			MIRW-06FG	1.3/2.8	MIRW-06SS	
203 mm (8 in.)	MIRN-08FG	1.0/2.36	MIRW-08FG	1.5/3.3	MIRW-08SS	MIR-08SS-ESD
305 mm (12 in.)	MIRN-12FG	1.4/2.98	MIRW-12FG	1.9/4.2	MIRW-12SS	MIR-12SS-ESD
406 mm (16 in.)	MIRN-16FG	1.6/3.60	MIRW-16FG	2.4/5.2	MIRW-16SS	MIR-16SS-ESD
457 mm (18 in.)			MIRW-18FG	2.5/5.6	MIRW-18SS	
508 mm (20 in.)	MIRN-20FG	1.9/4.22	MIRW-20FG	2.8/6.1	MIRW-20SS	MIR-20SS-ESD
610 mm (24 in.)	MIRN-24FG	2.2/4.84	MIRW-24FG	3.2/7.1	MIRW-24SS	MIR-24SS-ESD
711 mm (28 in.)	MIRN-28FG	2.5/5.46	MIRW-28FG	3.7/8.1	MIRW-28SS	MIR-28SS-ESD
762 mm (30 in.)			MIRW-30FG	3.8/8.5	MIRW-30SS	
813 mm (32 in.)	MIRN-32FG	2.8/6.08	MIRW-32FG	4.0/9.0	MIRW-32SS	MIR-32SS-ESD
913 mm (36 in.)	MIRN-36FG	3.0/6.70	MIRW-36FG	4.5/9.9	MIRW-36SS	MIR-36SS-ESD
1016 mm (40 in.)	MIRN-40FG	3.3/7.32	MIRW-40FG	5.0/10.9	MIRW-40SS	MIR-40SS-ESD
1067 mm (42 in.)			MIRW-42FG	5.2/11.4	MIRW-42SS	
1118 mm (44 in.)	MIRN-44FG	3.6/7.94	MIRW-44FG	5.4/11.9	MIRW-44SS	MIR-44SS-ESD
1219 mm (48 in.)	MIRN-48FG	3.9/8.56	MIRW-48FG	5.9/12.9	MIRW-48SS	MIR-48SS-ESD
1321 mm (52 in.)			MIRW-52FG	5.3/13.8	MIRW-52SS	
1372 mm (54 in.)			MIRW-54FG	6.5/14.3	MIRW-54SS	
1422 mm (56 in.)			MIRW-56FG	6.7/14.8	MIRW-56SS	
1524 mm (60 in.)			MIRW-60FG	7.2/15.8	MIRW-60SS	
1626 mm (64 in.)			MIRW-64FG	7.6/16.8	MIRW-64SS	
1830 mm (72 in.)			MIRW-72FG	8.5/18.6	MIRW-72SS	
2134 mm (84 in.)			MIRW-84FG	9.8/21.5	MIRW-84SS	
2440 mm (96 in.)			MIRW-96FG	11.0/24.3	MIRW-96SS	

\* Consult factory for weights.

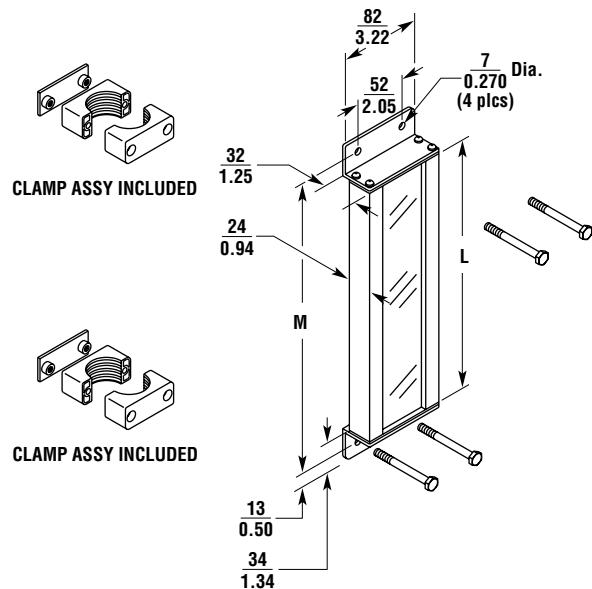
† Use for ESD applications

## Mirrors (continued)

### Narrow Mirror Package (MIRN)

#### Narrow Mirror Dimensions— Front Reflective Surface Glass

Part Number	Dimension L mm/in.	Dimension M mm/in.
MIRN-04FG	152/6.0	195/7.68
MIRN-08FG	254/10.0	297/11.68
MIRN-12FG	356/14.0	398/15.68
MIRN-16FG	457/18.0	500/19.68
MIRN-20FG	559/22.0	601/23.68
MIRN-24FG	660/26.0	703/27.68
MIRN-28FG	762/30.0	805/31.68
MIRN-32FG	864/34.0	906/35.68
MIRN-36FG	965/38.0	1008/39.68
MIRN-40FG	1067/42.0	1109/43.68
MIRN-44FG	1168/46.0	1211/47.68
MIRN-48FG	1270/50.0	1313/51.68

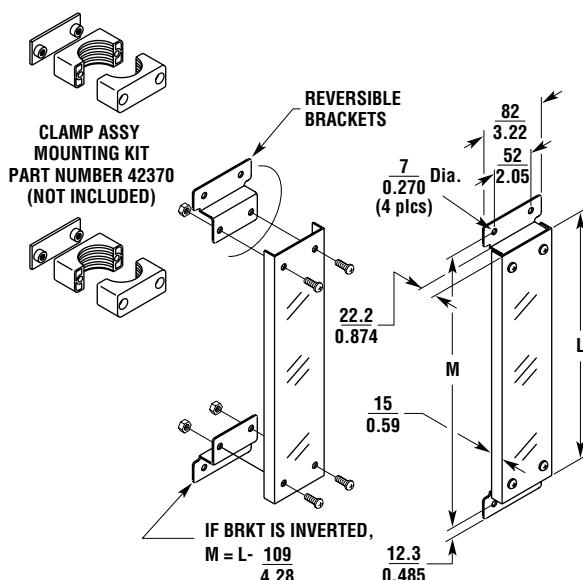


#### Narrow Mirror Dimensions— Stainless Steel Reflective Surface

Part Number	Dimension L mm/in.	Dimension M mm/in.
MIR-04SS-ESD	203/8.0	236/9.28
MIR-08SS-ESD	305/12.0	337/13.28
MIR-12SS-ESD	406/16.0	439/17.28
MIR-16SS-ESD	508/20.0	541/21.28
MIR-20SS-ESD	610/24.0	642/25.28
MIR-24SS-ESD	711/28.0	744/29.28
MIR-28SS-ESD	813/32.0	845/33.28
MIR-32SS-ESD	914/36.0	947/37.28
MIR-36SS-ESD	1016/40.0	1049/41.28
MIR-40SS-ESD	1118/44.0	1150/45.28
MIR-44SS-ESD	1219/48.0	1252/49.28
MIR-48SS-ESD	1321/52.0	1353/53.28

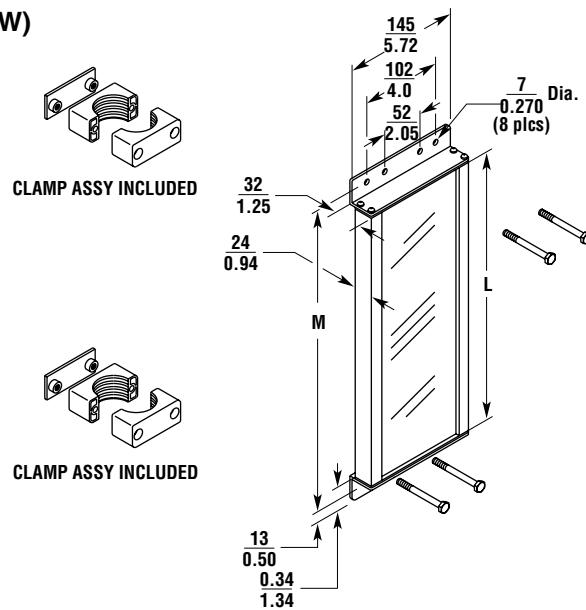
Notes: Use for ESD applications.

Use mounting kit Model Number 42370 to mount to stands.



## Mirrors (continued)

## **Wide Mirror Package (MIRW)**



### **Wide Mirror Dimensions—**

### Front Reflective Surface Glass

Part Number	Dimension L mm/in.	Dimension M mm/in.
MIRW-04	140/5.5	182/7.18
MIRW-06	191/7.5	233/9.18
MIRW-08	241/9.5	284/11.18
MIRW-12	343/13.5	386/15.18
MIRW-16	445/17.5	487/19.18
MIRW-18	495/19.5	538/21.18
MIRW-20	546/21.5	589/23.18
MIRW-24	648/25.5	690/27.18
MIRW-28	749/29.5	792/31.18
MIRW-30	800/31.5	843/33.18
MIRW-32	851/33.5	894/35.18
MIRW-36	953/37.5	995/39.18
MIRW-40	1054/41.5	1097/43.18
MIRW-42	1105/43.5	1148/45.18
MIRW-44	1156/45.5	1198/47.18
MIRW-48	1257/49.5	1300/51.18
MIRW-52	1359/53.5	1402/55.18
MIRW-54	1410/55.5	1452/57.18
MIRW-56	1461/57.5	1503/59.18
MIRW-60	1562/61.5	1605/63.18
MIRW-64	1664/65.5	1706/67.18
MIRW-72	1867/73.5	1910/75.18
MIRW-84	2172/85.5	2214/87.18
MIRW-96	2477/97.5	2519/99.18

### Wide Mirror Dimensions—

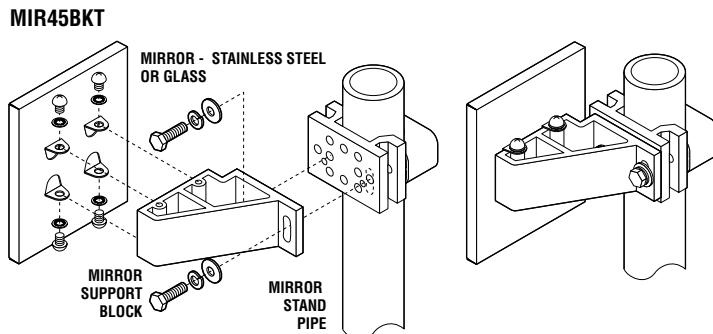
### **Stainless Steel Reflective Surface**

Part Number	Dimension L mm/in.	Dimension M mm/in.
MIRW-04SS	140/5.5	182/7.18
MIRW-06SS	191/7.5	233/9.18
MIRW-08SS	241/9.5	284/11.18
MIRW-12SS	343/13.5	386/15.18
MIRW-16SS	445/17.5	487/19.18
MIRW-18SS	495/19.5	538/21.18
MIRW-20SS	546/21.5	589/23.18
MIRW-24SS	648/25.5	690/27.18
MIRW-28SS	749/29.5	792/31.18
MIRW-30SS	800/31.5	843/33.18
MIRW-32SS	851/33.5	894/35.18
MIRW-36SS	953/37.5	995/39.18
MIRW-40SS	1054/41.5	1097/43.18
MIRW-42SS	1105/43.5	1148/45.18
MIRW-44SS	1156/45.5	1198/47.18
MIRW-48SS	1257/49.5	1300/51.18
MIRW-52SS	1359/53.5	1402/55.18
MIRW-54SS	1410/355.5	1452/57.18
MIRW-56SS	1461/57.5	1503/59.18
MIRW-60SS	1562/61.5	1605/63.18
MIRW-64SS	1664/65.5	1706/67.18
MIRW-72SS	1867/73.5	1910/75.18
MIRW-84SS	2172/85.5	2214/87.18
MIRW-96SS	2477/97.5	2519/99.18

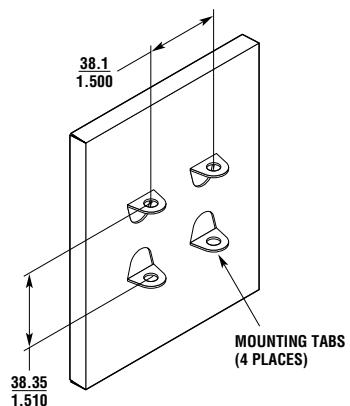
## 45° Mirror and Bracket

Use with PA4600 applications using a "double-bounce" arrangement.

Part Number	Description
MIR45-FG	4 in. front reflective surface glass mirror for use with MIR45BKT
MIR45-SS	4 in. polished stainless steel mirror for use with MIR45BKT
MIR45BKT	Bracket for mounting MIR45 to stand at 45° angle



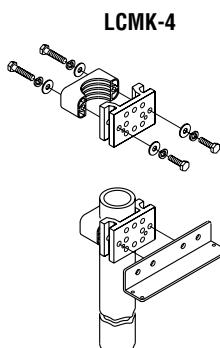
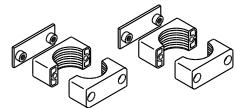
**MIR45-FG and MIR45-SS**



## Mounting Accessories

Model Number	Description
LCMK-4	Allows a transmitter/receiver pair of any model light curtain to be mounted to stands.
MIR-BKT	Mirror mounting brackets, will mount to MIRS stands

**MIRROR MOUNTING  
BRACKETS  
MODEL MIR-BKT**



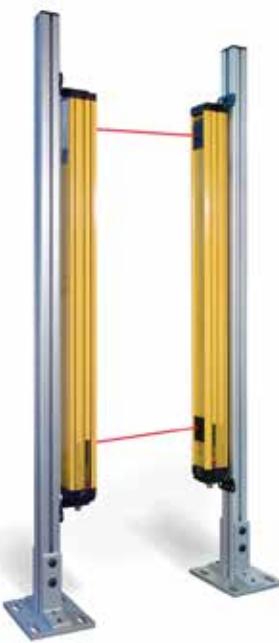
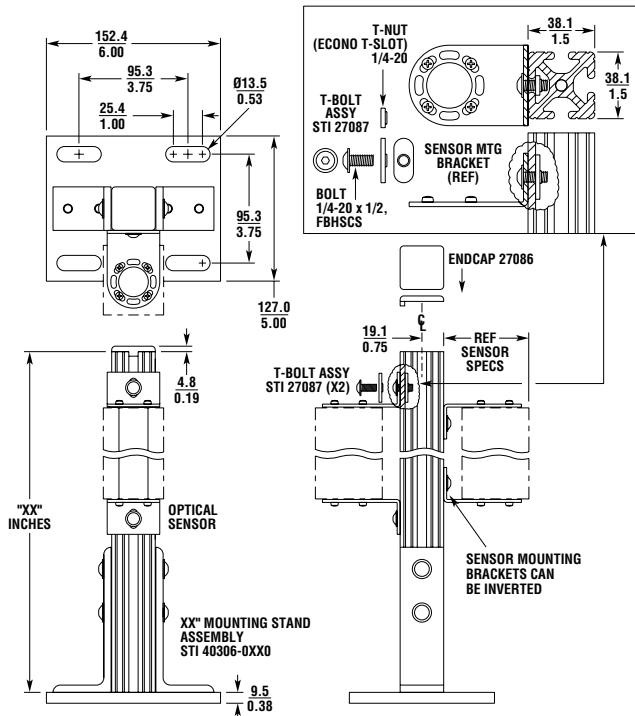
## Floor Stands

### Light Duty Floor Stands

Light curtains and perimeter guards used to detect the torso of personnel have specific mounting requirements per ANSI/RIA R15.06 and other standards. These light duty stands are ideal for mounting the bottom beam of the light curtain or perimeter guard within the required 0.3 m (12 in.) from the floor. The Light Duty Floor Stand is a cost effective alternative to our more robust heavy duty stand, and mounting hardware is included.

NOTE: Mirrors cannot be mounted using the Light Duty Floor Stands. Use the MIRS-xx Series Heavy Duty Floor Stands when mounting mirrors.

Model Number	Description	Height m/in.
PA-STAND-40	Light-Duty Floor Stand	1.0/40
PA-STAND-44	Light-Duty Floor Stand	1.1/44
PA-STAND-48	Light-Duty Floor Stand	1.2/48
PA-STAND-52	Light-Duty Floor Stand	1.3/52
PA-STAND-56	Light-Duty Floor Stand	1.4/56
PA-STAND-64	Light Duty Floor Stand	1.6/64
PA-STAND-72	Light Duty Floor Stand	1.8/72

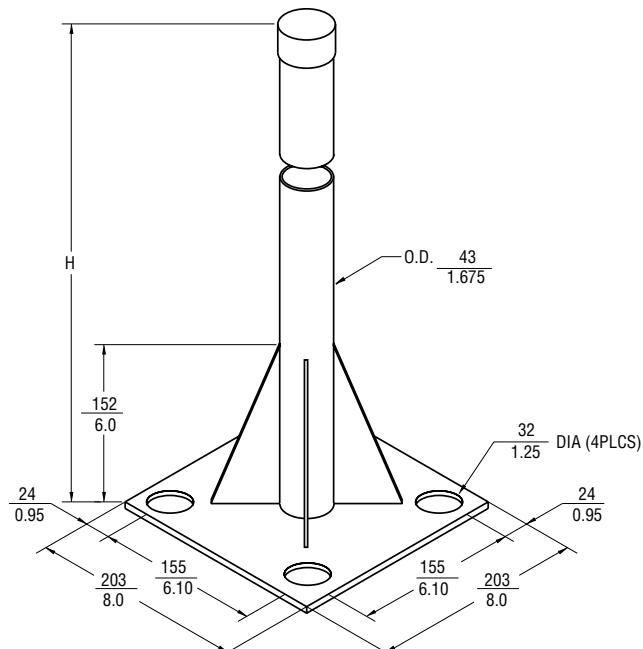


### Heavy Duty Floor Stands

Stands provide a stable, secure method for mounting both safety light curtains and mirrors. Hardware for mounting stand to concrete floor is included.

NOTE: Mirrors can only be mounted using the MIRS-xx Series Heavy Duty Floor Stands.

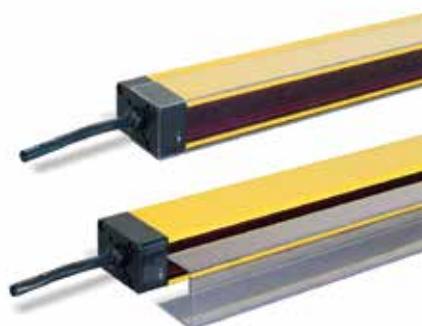
Model Number	Height m/ft.	Weight kg/lb.
MIRS-04	1.2/4	8.8/19.3
MIRS-06	1.8/6	11.2/24.7
MIRS-07	2.1/7	12.5/27.4
MIRS-08	2.4/8	13.7/30.1
MIRS-10	3.1/10	16.1/35.4



## Weld Slag Protective Shields

- Available for the PA4600, F3SJ, and MS4800 families
- Reduces down time and increases the life of the curtain
- Resistant to many chemicals and compounds
- Easy to install and replace
- Lexan® construction

These protective shields are designed to protect the light curtains, when used in harsh applications. In many cases, welding cell applications produce hot weld slag that over time may damage the lens (filter) and degrade the light curtain's performance. These covers offer the user the ability to easily and inexpensively reduce machine down time. The covers are available to fit all sizes.



KEY:  
R - Resistant  
LR - Limited Resistance  
NR - Not Resistant

## Chemical Resistance of Lexan®

Chemical Class	Effects
Acids	R No significant effect under most typical conditions of concentration and temperature.
Alcohols	LR Generally compatible at low concentration and room temperature. Higher concentrations and elevated temperatures can result in etching and attack evidenced by decomposition.
Alkalies	LR Generally compatible at low concentration and room temperature. Higher concentrations and elevated temperatures can result in etching and attack evidenced by decomposition.
Aliphatic Hydrocarbons	R Generally compatible.
Amines	NR Surface crystallization and chemical attack.
Aromatic Hydrocarbons	NR Partial solvents and severe stress cracking agents (i.e. xylene, toluene).
Detergents and Cleaners	LR Mild soap solutions are generally compatible.
Detergents and Cleaners, with Alkaline Materials	NR
Esters	NR Cause severe crystallization. Partial solvents.
Greases and Oils	LR Pure petroleum types generally compatible.
Halogenated Hydrocarbons	NR Solvents.
Ketones	NR Cause severe crystallization and stress cracking. Partial solvents.
Silicone Oil and Greases	LR Generally compatible up to 85°C (185°F).
Silicone Oil and Greases, with Alkaline Materials	NR

### Notes:

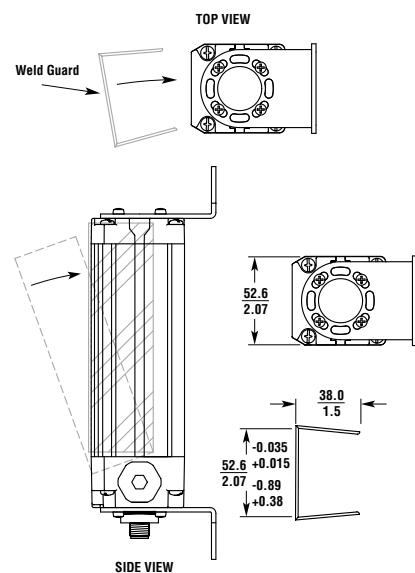
Lexan® is a registered trademark of G.E. General Electric Corp.

Certain combinations of chemical environments, temperature and stress can adversely affect thermoplastic parts made from LEXAN resin. For this reason, lubricants, gaskets, O-rings, cleaning solvents, or any other material which may come in contact with the finished part must be carefully evaluated under end-use conditions for compatibility. You should also follow the use and compatibility recommendations of the manufacturer of any such material.

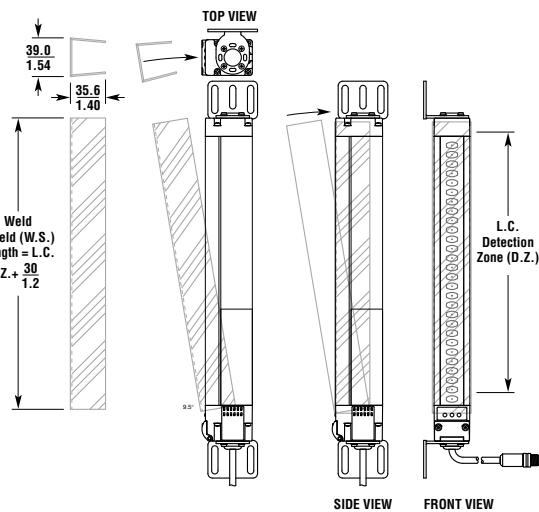
LEXAN resin generally is stable to water, mineral acids and organic acids. Crazing and/or embrittlement may occur if a part molded from LEXAN resin is highly stressed and exposed to hot water or a moist high-temperature environment. As a result, a temperature limit of 60 to 71°C (140 to 160°F) is recommended under these conditions.

## Dimensions—mm/in.

### PA4600 Perimeter Access Guarding Device



### MS4800 Light Curtain (L.C.)



## Weld Slag Protective Shields (continued)

Model Number	Description	mm/in.
Lexan Weld Shield Kit for PA4600		
PA4600WS-1	PA4600-1-000 weld shield kit (1 pair)	135/5.3
PA4600WS-2	PA4600 weld shield kit (1 pair)	180/7.1
PA4600WS-4	PA4600 weld shield kit (2 pairs)	180/7.1
Lexan Weld Shield Kit for MS4800*		
MS4800WS-0240	240 mm Kit	270/10.63
MS4800WS-0280	280 mm Kit	310/12.21
MS4800WS-0320	360 mm Kit	350/13.78
MS4800WS-0360	360 mm Kit	390/15.35
MS4800WS-0400	400 mm Kit	430/16.93
MS4800WS-0440	440 mm Kit	470/18.50
MS4800WS-0480	480 mm Kit	510/20.08
MS4800WS-0520	520 mm Kit	550/21.65
MS4800WS-0560	560 mm Kit	590/23.23
MS4800WS-0600	600 mm Kit	630/24.80
MS4800WS-0640	640 mm Kit	670/26.38
MS4800WS-0680	680 mm Kit	710/27.95
MS4800WS-0720	720 mm Kit	750/29.53
MS4800WS-0760	760 mm Kit	790/31.10
MS4800WS-0800	800 mm Kit	830/32.68
MS4800WS-0840	840 mm Kit	870/34.25
MS4800WS-0880	880 mm Kit	910/35.83
MS4800WS-0920	920 mm Kit	950/37.40
MS4800WS-0960	960 mm Kit	990/38.98
MS4800WS-1000	1000 mm Kit	1030/40.55
MS4800WS-1040	1040 mm Kit	1070/42.13

Model Number	Description	mm/in.
MS4800WS-1080	1080 mm Kit	1110/43.70
MS4800WS-1120	1120 mm Kit	1150/45.28
MS4800WS-1160	1160 mm Kit	1190/46.85
MS4800WS-1200	1200 mm Kit	1230/48.43
MS4800WS-1240	1240 mm Kit	1270/50.00
MS4800WS-1280	1280 mm Kit	1310/51.57
MS4800WS-1320	1320 mm Kit	1350/53.15
MS4800WS-1360	1360 mm Kit	1390/54.72
MS4800WS-1400	1400 mm Kit	1430/56.30
MS4800WS-1440	1440 mm Kit	1470/57.87
MS4800WS-1480	1480 mm Kit	1510/59.45
MS4800WS-1520	1520 mm Kit	1550/61.02
MS4800WS-1560	1560 mm Kit	1590/62.60
MS4800WS-1600	1600 mm Kit	1630/64.17
MS4800WS-1640	1640 mm Kit	1670/65.75
MS4800WS-1680	1680 mm Kit	1710/67.32
MS4800WS-1720	1720 mm Kit	1750/68.90
MS4800WS-1760	1760 mm Kit	1790/70.47
MS4800WS-1800	1800 mm Kit	1830/72.05
MS4800WS-1840	1840 mm Kit	1870/73.62
MS4800WS-1880	1880 mm Kit	1910/75.20
MS4800WS-1920	1920 mm Kit	1950/76.77
MS4800WS-1960	1960 mm Kit	1990/78.35
MS4800WS-2000	2000 mm Kit	2030/79.92
MS4800WS-2040	2040 mm Kit	2070/81.50
MS4800WS-2080	2080 mm Kit	2110/83.07
MS4800WS-2120	2120 mm Kit	2150/84.65

\*MS4800 weld shield kits consists of one pair.

## IP67 Enclosures for Mounting Safety Light Curtains in Wash-down Applications

- Available in the full range of sizes
- Reduces down time and increases the life of the light curtain
- Resistant to many chemicals and compounds (see tables on subsequent pages)
- Improved mounting system
- Reinforced stainless steel brackets

The IP67 Enclosure is designed for washdown applications. The enclosure is constructed with an acrylic tube. The brackets are made of stainless steel. The radial seal prevents fluids from coming in contact with the safety light curtain.

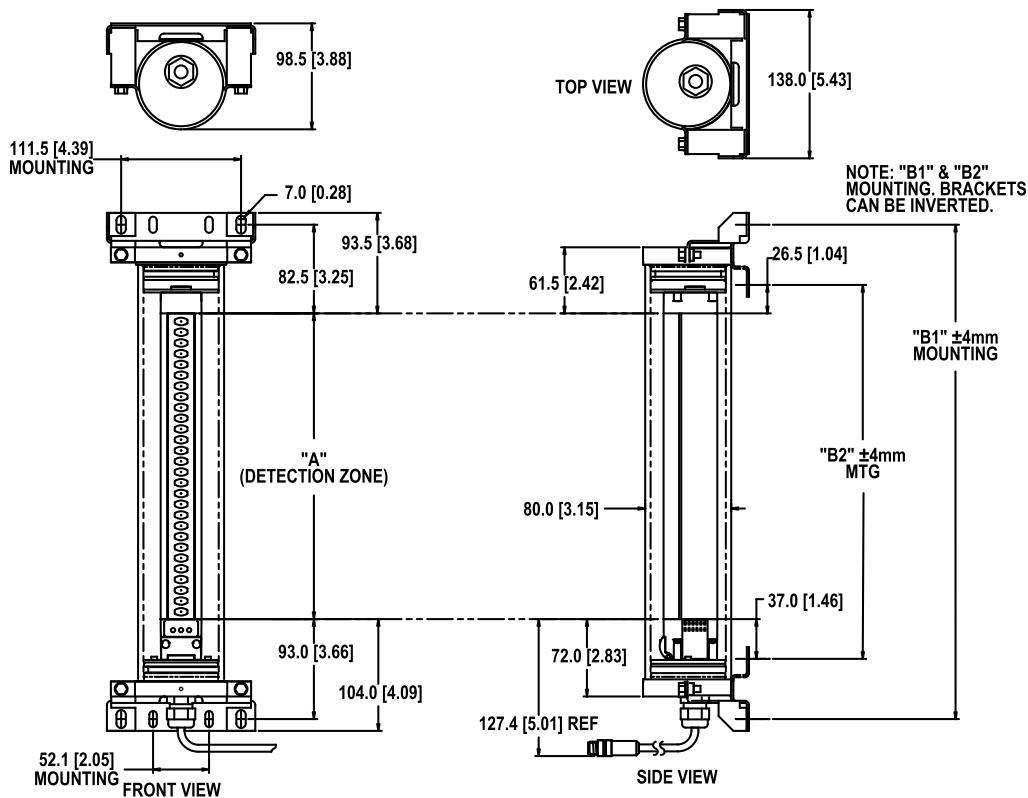
Operating characteristics of the light curtain are affected by the enclosure. The range is reduced by 10% and the effective aperture angle changes to less than  $\pm 3^\circ$ .



## IP67 Enclosures (continued)

Dimensions—mm/in.

### MS4800 IP67 Enclosure



## IP67 Enclosures for MS4800 (non-cascaded versions)

Model Number
MS4800-IP67-0240
MS4800-IP67-0280
MS4800-IP67-0320
MS4800-IP67-0360
MS4800-IP67-0400
MS4800-IP67-0440
MS4800-IP67-0480
MS4800-IP67-0520
MS4800-IP67-0560
MS4800-IP67-0600
MS4800-IP67-0640
MS4800-IP67-0680
MS4800-IP67-0720
MS4800-IP67-0760
MS4800-IP67-0800
MS4800-IP67-0840

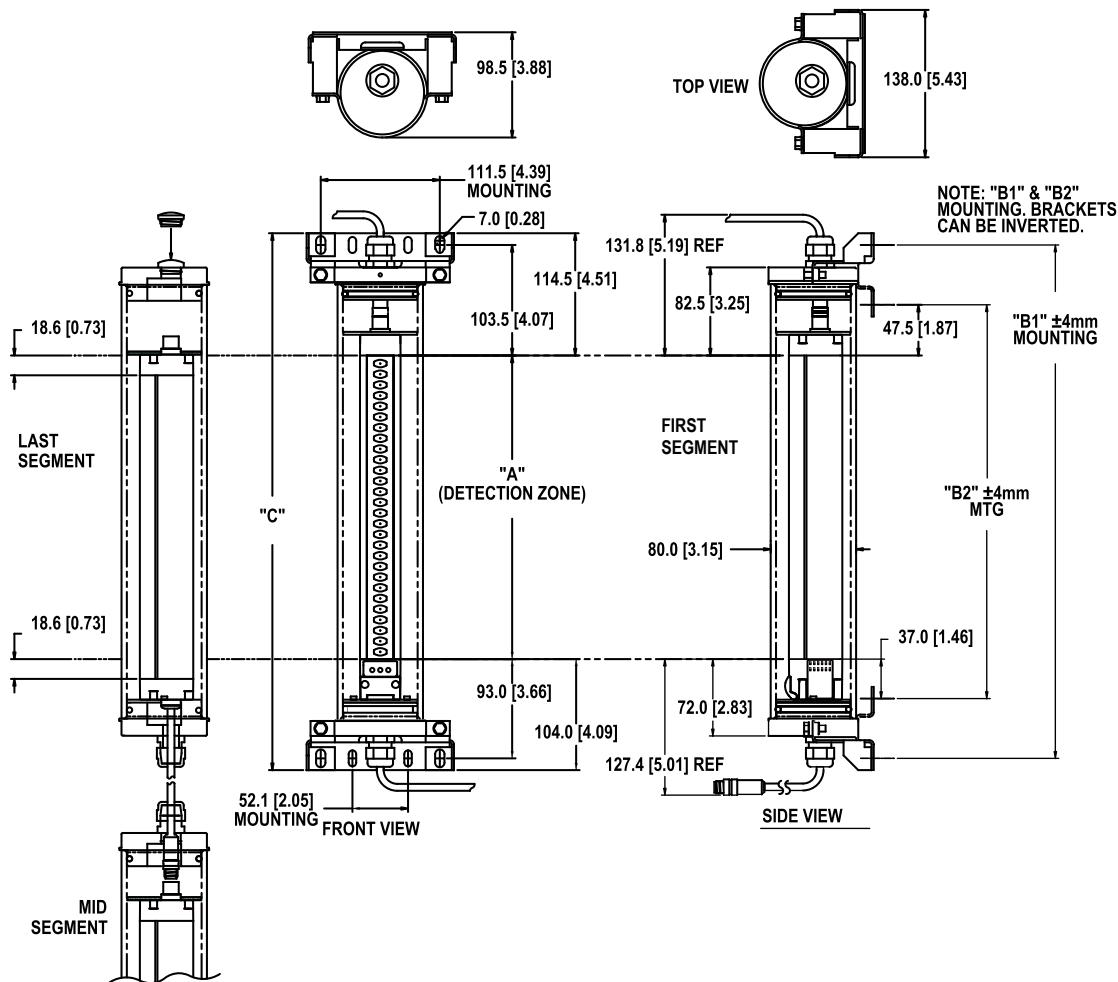
Model Number
MS4800-IP67-0880
MS4800-IP67-0920
MS4800-IP67-0960
MS4800-IP67-1000
MS4800-IP67-1040
MS4800-IP67-1080
MS4800-IP67-1120
MS4800-IP67-1160
MS4800-IP67-1200
MS4800-IP67-1240
MS4800-IP67-1280
MS4800-IP67-1320
MS4800-IP67-1360
MS4800-IP67-1400
MS4800-IP67-1440
MS4800-IP67-1480

Model Number
MS4800-IP67-1520
MS4800-IP67-1560
MS4800-IP67-1600
MS4800-IP67-1640
MS4800-IP67-1680
MS4800-IP67-1720
MS4800-IP67-1760
MS4800-IP67-1800
MS4800-IP67-1840
MS4800-IP67-1880
MS4800-IP67-1920
MS4800-IP67-1960
MS4800-IP67-2000
MS4800-IP67-2040
MS4800-IP67-2080
MS4800-IP67-2120

## IP67 Enclosures (continued)

Dimensions—mm/in.

### MSF4800 IP67 Enclosure



### IP67 Enclosures for MSF4800 (cascaded versions)

Model Number
MSF4800-IP67-0240
MSF4800-IP67-0280
MSF4800-IP67-0320
MSF4800-IP67-0360
MSF4800-IP67-0400
MSF4800-IP67-0440
MSF4800-IP67-0480
MSF4800-IP67-0520
MSF4800-IP67-0560
MSF4800-IP67-0600
MSF4800-IP67-0640
MSF4800-IP67-0680
MSF4800-IP67-0720
MSF4800-IP67-0760
MSF4800-IP67-0800
MSF4800-IP67-0840

Model Number
MSF4800-IP67-0880
MSF4800-IP67-0920
MSF4800-IP67-0960
MSF4800-IP67-1000
MSF4800-IP67-1040
MSF4800-IP67-1080
MSF4800-IP67-1120
MSF4800-IP67-1160
MSF4800-IP67-1200
MSF4800-IP67-1240
MSF4800-IP67-1280
MSF4800-IP67-1320
MSF4800-IP67-1360
MSF4800-IP67-1400
MSF4800-IP67-1440
MSF4800-IP67-1480

Model Number
MSF4800-IP67-1520
MSF4800-IP67-1560
MSF4800-IP67-1600
MSF4800-IP67-1640
MSF4800-IP67-1680
MSF4800-IP67-1720
MSF4800-IP67-1760
MSF4800-IP67-1800
MSF4800-IP67-1840
MSF4800-IP67-1880
MSF4800-IP67-1920
MSF4800-IP67-1960
MSF4800-IP67-2000
MSF4800-IP67-2040
MSF4800-IP67-2080
MSF4800-IP67-2120

## IP67 Enclosures (continued)

## Chemical Resistance of Acrylic Tube

KEY:  
R - Resistant  
LR - Limited Resistance  
NR - Not Resistant

PAINT	
Acrylic paints and lacquers	LR
Aromatic-free hydrocarbons	R
Nitrocellulose	NR
Oil paints, pure	R
Thinner, general	NR
CHEMICAL PROCESS BATHS	
Electroplating baths	R
Photographic baths	R
BUILDING MATERIALS AND PROTECTIVE AGENTS FOR BUILDINGS	
Bituminous emulsion	NR
Cement	R
Hot bitumen	LR
Mortar	R
Plaster of paris	R
Red lead	R
CHEMICALS, SOLVENTS, ETC.	
Acetic acid, glacial	NR
Acetic acid, to 25%	LR
Acetone	NR
Alum	R
Aluminium chloride	R
Aluminium oxalate	R
Aluminium sulphate	R
Ammonia, aqueous solution	R
Ammonium sulphate	R
Amyl acetate	NR
Aniline	NR
Arsenic	R
Arsenic acid	R
Battery acid	R
Benzaldehyde	NR
Benzene	NR
Bromine	NR
Butanol	LR
Butyl lactate	NR
Butyric acid, to 5%	R
Calcium chloride	R
Calcium hypochlorite	R
Carbon disulfide	NR
Carbon tetrachloride	NR
Chlorinated hydrocarbons	NR
Chlorine, liquid	NR
Chlorine, water	LR
Chloroethyl acetate	NR
Chlorophenol	NR
Chromic acid	LR
Citric acid, to 20%	R
Copper sulphate	R
Cresol	NR
Cyclohexane	R
Diacetone alcohol	NR
Diamyl phthalate	LR
Dibutyl phthalate	NR
Diethylene glycol	R
Dioxan	NR

Ether	NR	Stearic acid	R
Ethyl acetate	NR	Sulphur	R
Ethyl alcohol, absolute	NR	Sulphur dioxide, liquid	NR
Ethyl alcohol, to 30%	LR	Sulfuric acid, to 30%	R
Ethyl bromide	NR	Sulphurous acid, conc	LR
Ethyl butyrate	NR	Sulphurous acid, to 5%	R
Ethylene bromide	NR	Sulfuryl chloride	R
Ferric chloride	R	Tartaric acid, to 50%	R
Ferrous chloride	R	Thionyl chloride	NR
Ferrous sulphate	R	Tin chloride	R
Formic acid, to 2%	R	Toluene	NR
Formic acid, to 40%	LR	Triethylamine	R
Glycerol	R	Trichloroacetic acid	NR
Glycol	R	Tricresyl phosphate	R
Heptane	R	Turpentine	LR
Hexane	R	Turpentine substitute	LR
Hydrochloric acid	R	Urea, to 20%	R
Hydrogen peroxide, over 40%	LR	Xylene	NR
Hydrogen peroxide, to 40%	R	Zinc sulphate, aqueous	R
Iodine	R	Zinc sulphate, solid	R
DISINFECTANTS			
Isopropyl alcohol, to 50%	LR	Bleaching powder	R
Lactic acid, to 80%	LR	Carbolic acid	NR
Magnesium chloride	R	Hydrogen peroxide, to 40%	R
Magnesium sulphate	R	Hydrogen peroxide, over 40%	LR
Manganese sulphate	R	Iodine tincture, 5%	NR
Mercury	R	Lugol solution	R
Methanol, absolute	NR	Mercuric chloride	R
Methanol, to 30%	LR	Surgical spirit	NR
Methyl ethyl ketone	NR	GREASES, OILS, WAXES	
Methylated spirits	NR	Animal	R
Milk of lime	R	Mineral	R
Monobromonaphthalene	R	Silicone oil	LR
Motor fuel benzene-free	R	Vegetable	LR
Motor fuel, with benzene	NR	PLASTICS	
Nickel sulphate	R	Foams	R
Nitric acid, to 20%	R	Foams, containing plasticizer	NR
Nitric acid, 20 - 70%	LR	Polyamide	R
Nitric acid, over 70%	NR	Polyethylene	R
Oxalic acid	R	PVC	R
Paraffin	LR	PVC, plasticized	NR
Perchloroethylene	NR	Rubber	R
Petroleum ether	R	Rubber, containing plasticizer	NR
Phenols	NR	FOODSTUFFS, SPICES	
Phosphoric acid, to 10%	R	Aniseed, bay, nutmeg	R
Phosphorus trichloride	NR	Cloves	NR
Phosphorus, yellow	NR	Honey, pure	R
Picric acid, 1% in water	R	Ice cream	R
Potassium bichromate	R	Marinades	R
Potassium carbonate	R	Meat and fish	R
Potassium chloride	R	Pepper, cinnamon, onions	R
Potassium cyanide	R	Salt	R
Potassium hydroxide	R	GASES AND VAPORS	
Potassium nitrate	R	Ammonia	R
Potassium permanganate	R	Bromine vapor (dry)	LR
Silicon tetrachloride	NR	Carbon dioxide	R
Silver nitrate	R	Carbon monoxide	R
Soap solution	R	Chloride vapor (dry)	LR
Soda	R	Exhaust gases, containing HCl	R
Sodium bisulfite	R	Exhaust gases, containing HF	R
Sodium carbonate	R	Exhaust gases, containing Sulfuric acid	R
Sodium chlorate	R	Hydrogen sulphide	R
Sodium chloride	R	Methane	R
Sodium hydroxide	R	Nitric oxide	R
Sodium hypochlorite	R		
Sodium sulphate	R		
Sodium sulphide	R		

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