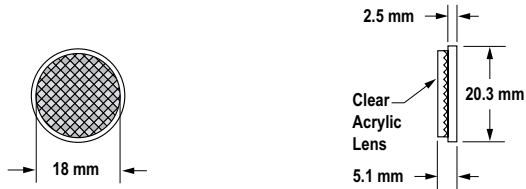
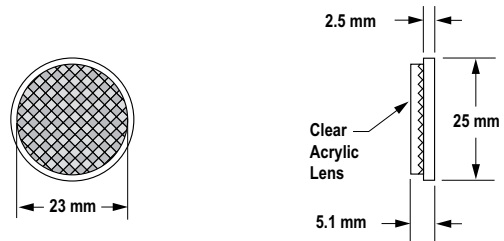


BRT-.6

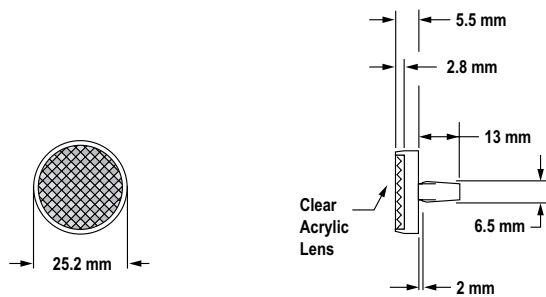
Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-1**

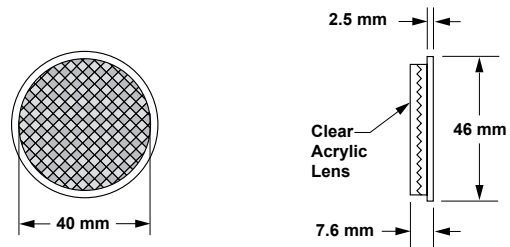
Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-25R**

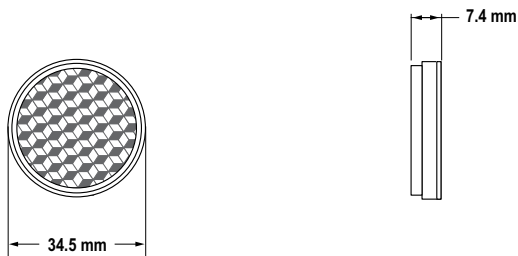
Description: Round, rivet-secured acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-1.5**

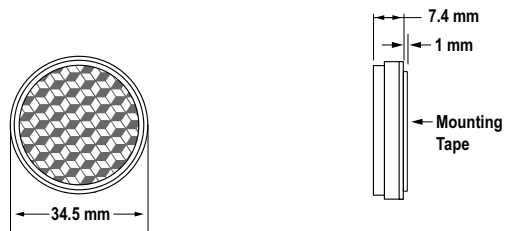
Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-34**

Description: Round, acrylic target
Reflectivity Factor: 1.2
Temperature: -20° to +60° C

**BRT-34T**

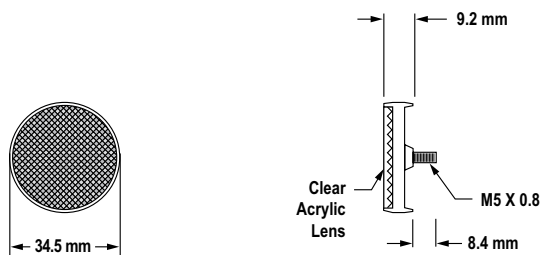
Description: Round, acrylic target includes mounting tape
Reflectivity Factor: 1.2
Temperature: -20° to +60° C



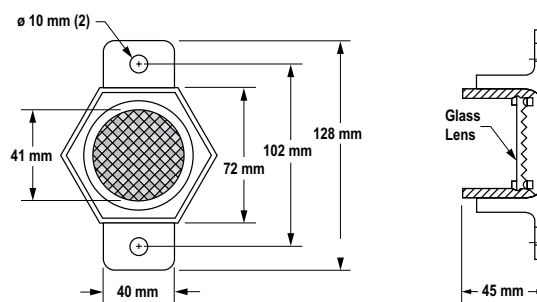
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BRT-35DM

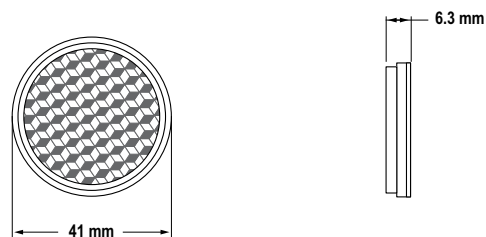
Description: Round, acrylic target with mounting stud
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-41AHT**

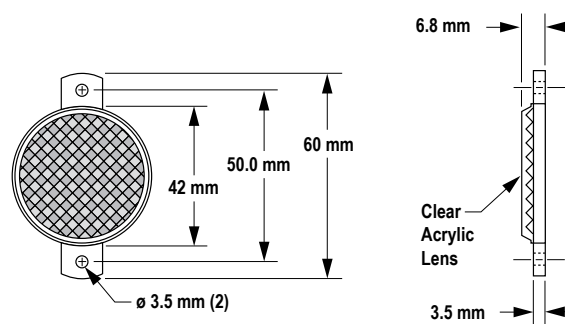
Description: Round, borosilicate (Pyrex type) glass target
Reflectivity Factor: 1.0
Temperature: -20° to +200° C

**BRT-42**

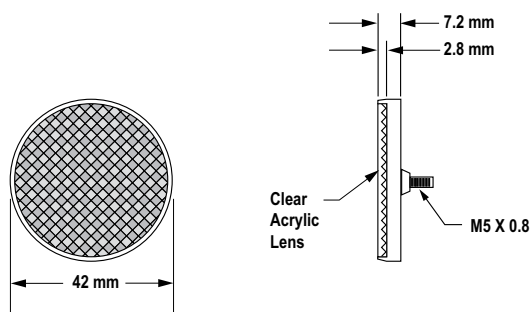
Description: Round, acrylic target
Reflectivity Factor: 1.0
Max. Temperature: 65° C

**BRT-42A**

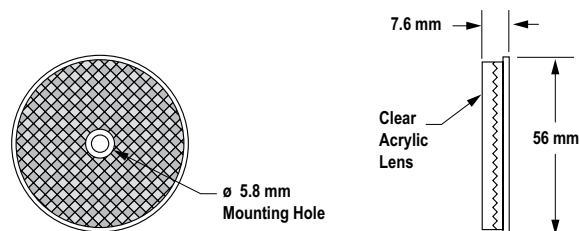
Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-42D**

Description: Round, acrylic target with mounting stud
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-2A**

Description: Round, acrylic target
Reflectivity Factor: 1.0
Max. Temperature: 65° C



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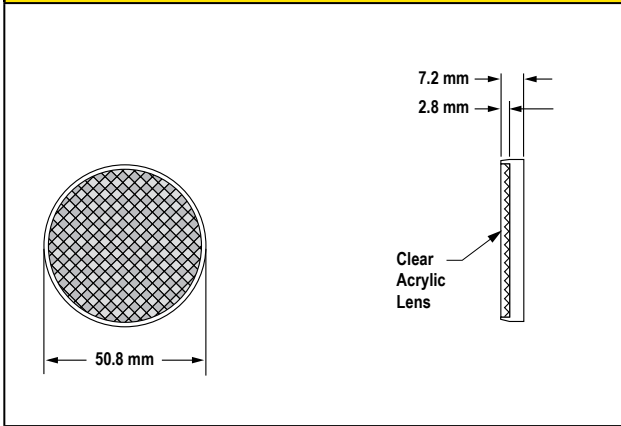
Retroreflectors

Miscellaneous

Reference

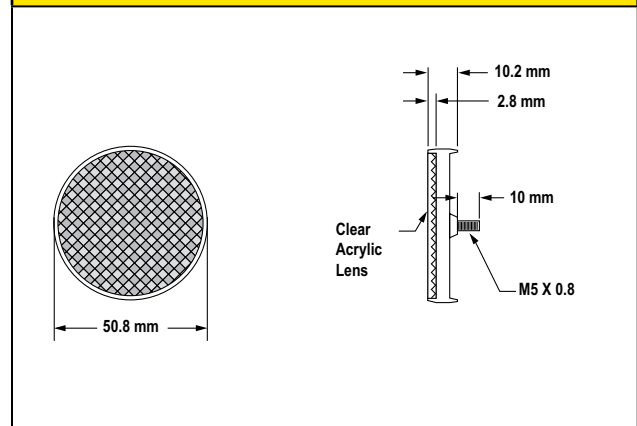
BRT-50

Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C



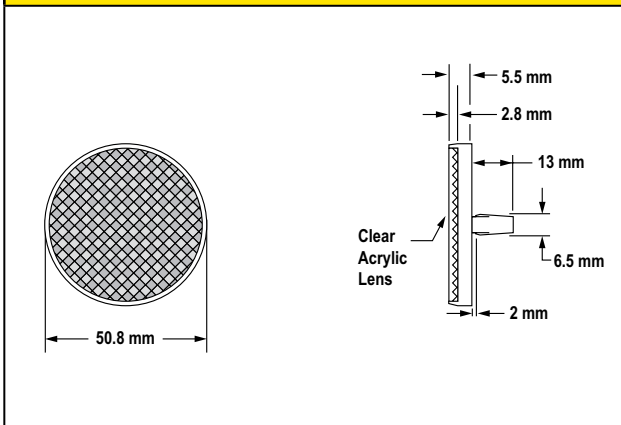
BRT-50D

Description: Round, acrylic target with mounting stud
Reflectivity Factor: 1.0
Temperature: -20° to +60° C
Other: Optional brackets are available. See page 620.



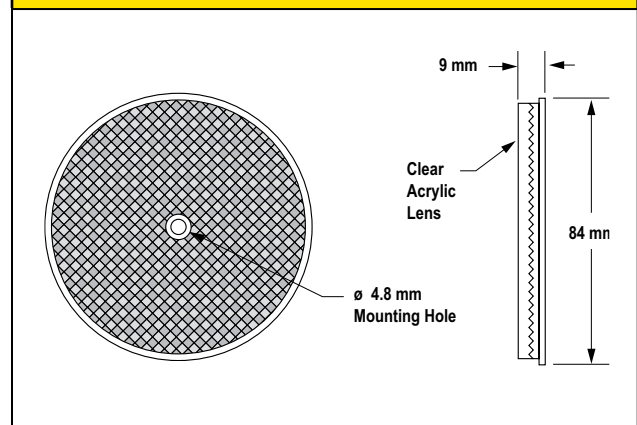
BRT-50R

Description: Round, rivet-secured acrylic target
Reflectivity Factor: 1.0
Max. Temperature: -20° to +60° C
Other: Optional brackets are available. See page 620.



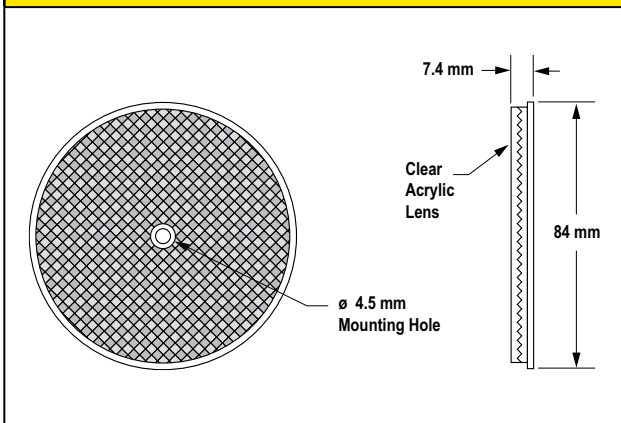
BRT-3

Description: Round, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C
Other: Optional brackets are available. See page 620.



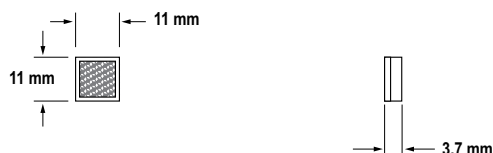
BRT-84

Description: Round, acrylic target
Reflectivity Factor: 1.4
Max. Temperature: -20° to +60° C
Other: Optional brackets are available. See page 620.

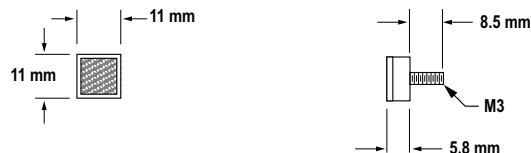


BRT-11X11M

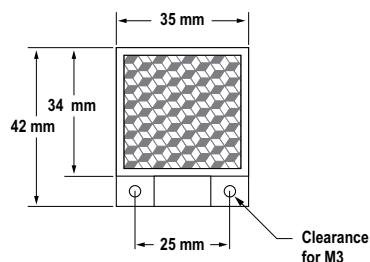
Description: Square, acrylic target
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-11X11MD**

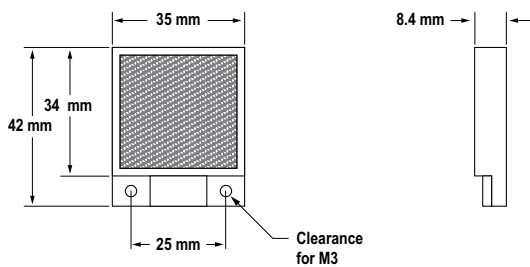
Description: Square, acrylic target with mounting stud
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-35X35B**

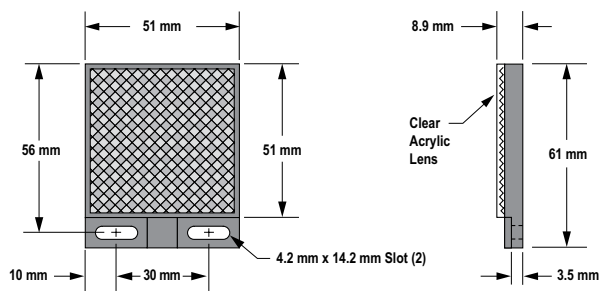
Description: Square, acrylic target
Reflectivity Factor: 1.3
Temperature: -20° to +60° C

**BRT-35X35BM**

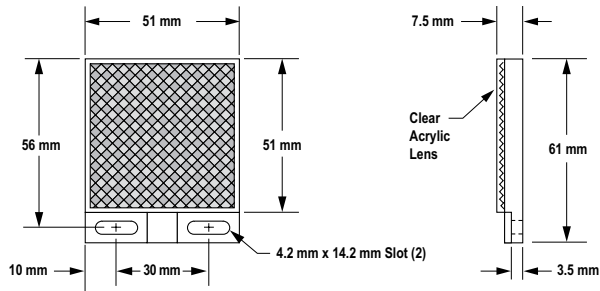
Description: Square, acrylic target
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-2X2**

Description: Square, acrylic target
Reflectivity Factor: 1.0
Max. Temperature: 50° C
Others: Optional brackets are available. See page 620.

**BRT-2X2LVC**

Description: Square, acrylic target
Reflectivity Factor: 1.0
Max. Temperature: -20° to +60° C
Others: Optional brackets are available. See page 620.



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Accessories

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Miscellaneous

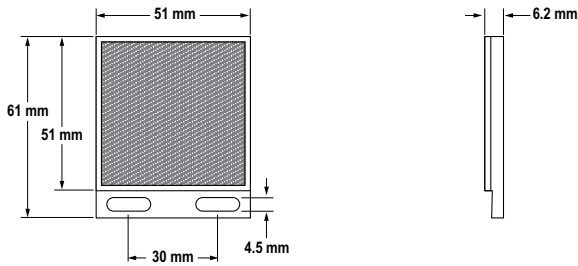
Reference

BRT-51X51BM

Description: Square, acrylic target

Reflectivity Factor: 1.5 **Max. Temperature:** 50° C

Other: This target has micro-prism geometry. Optional brackets are available on page 620. Replaces reflector BRT-36X40BM.



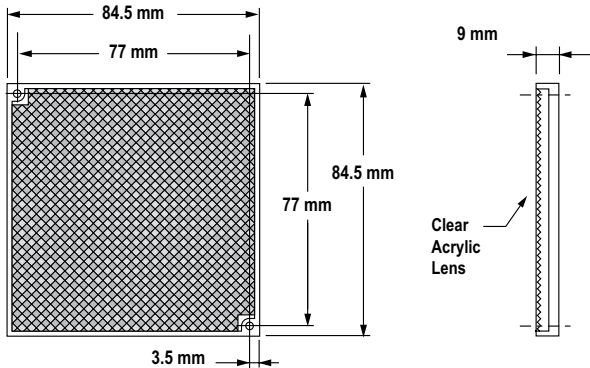
BRT-77X77C

Description: Square, acrylic target

Reflectivity Factor: 2.0

Temperature: -20° to +60° C

Other: Optional brackets are available. See page 620.

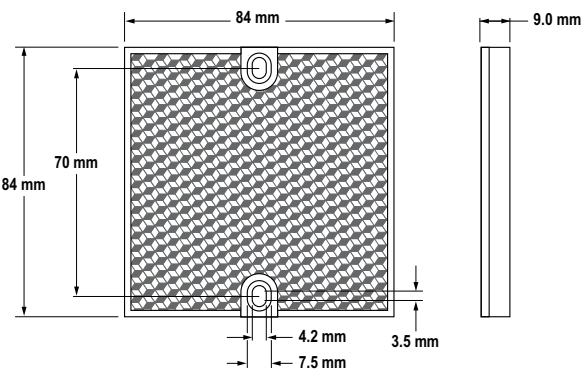


BRT-84X84A

Description: Square, acrylic target

Reflectivity Factor: 2.0

Temperature: -20° to +60° C



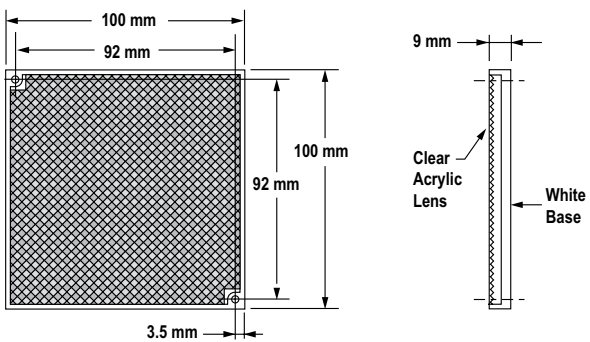
BRT-92X92C

Description: Square, acrylic target

Reflectivity Factor: 3.0

Temperature: -20° to +60° C

Other: Optional brackets are available. See page 620.



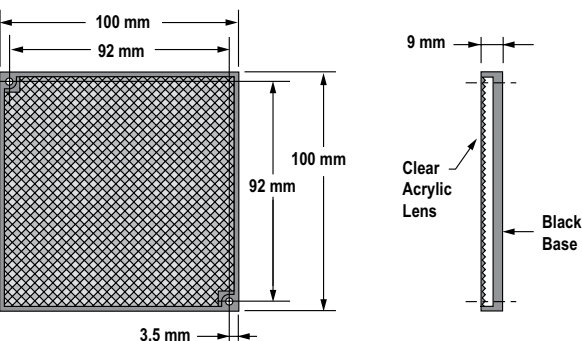
BRT-92X92CB

Description: Square, acrylic target with black mounting base

Reflectivity Factor: 3.0

Max. Temperature: 50° C

Other: Optional brackets are available. See page 620.



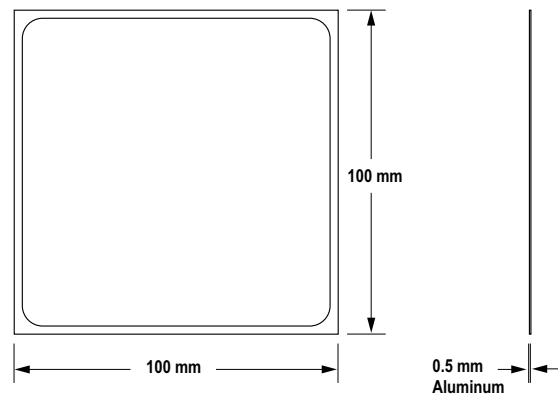
BRT-4HT

Description: Square, aluminum target

Reflectivity Factor: 0.15

Max. Temperature: 480° C

Other: This target is not recommended for polarized retroreflective sensors.



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BRT-250

250 x 250 mm

BRT-540

540 x 540 mm

BRT-700

700 x 700 mm

Temperature: -20° to +50° C**Other:** Square reflector with rigid aluminum backing for use with LT7**Accessories**

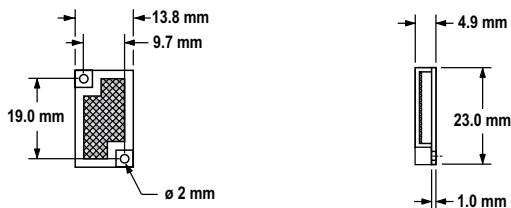
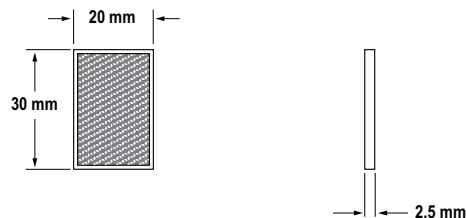
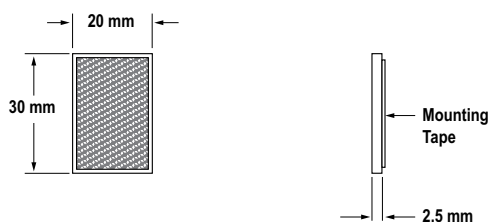
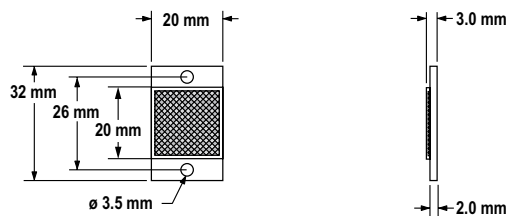
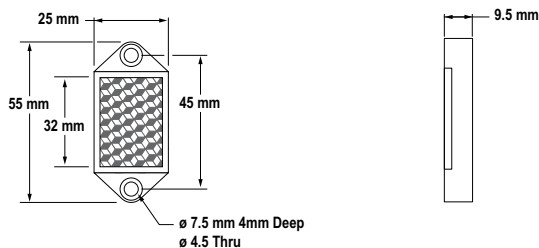
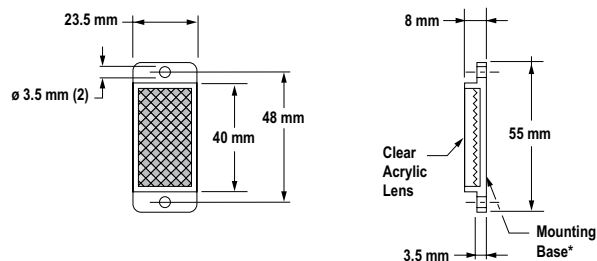
Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

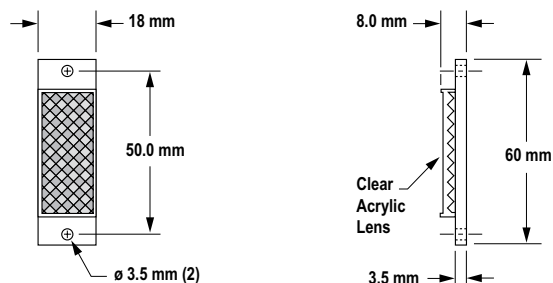
BRT-23X14CM**Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.2**Temperature:** -20° to +60° C**Other:** This target has micro-prism geometry.**BRT-30X20M****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.2**Temperature:** -20° to +60° C**BRT-30X20MT****Description:** Rectangular, acrylic target includes mounting tape**Reflectivity Factor:** 1.2**Temperature:** -20° to 60° C**BRT-32X20AM****Description:** Rectangular, thin profile acrylic target**Reflectivity Factor:** 1.2**Temperature:** -20° to +60° C**Other:** This target has micro-prism geometry.**BRT-32X22A****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.3**Max. Temperature:** 65° C**BRT-35X20A
BRT-35X20AB****Description:** Rectangular, acrylic target***Reflectivity Factor:** 1.4**Temperature:** -20° to +60° C

*Mounting base available in white (BRT-35X20A) or black (BRT-35X20AB).

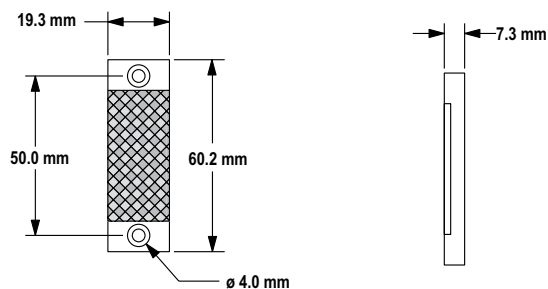
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BRT-40X18A

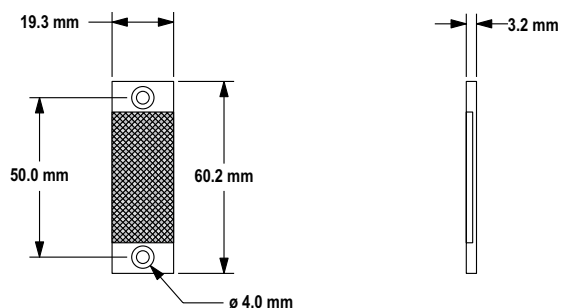
Description: Rectangular, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-40X19A**

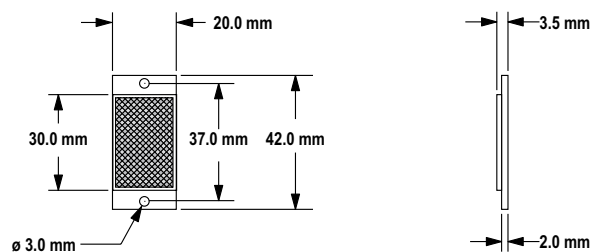
Description: Rectangular, acrylic target
Reflectivity Factor: 1.3
Temperature: -20° to +60° C

**BRT-40X19AM**

Description: Rectangular, thin profile acrylic target
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-40X20AM**

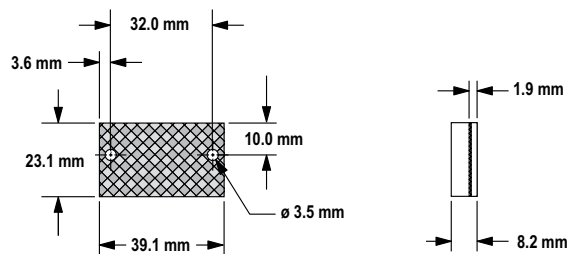
Description: Rectangular, thin profile acrylic target
Reflectivity Factor: 1.2
Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-40X23**

Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Temperature: -20° to +60° C

**BRT-40X23A**

Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Max. Temperature: -20° to +60° C



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Accessories

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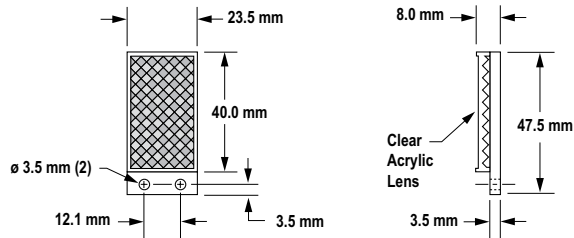
Retroreflectors

Miscellaneous

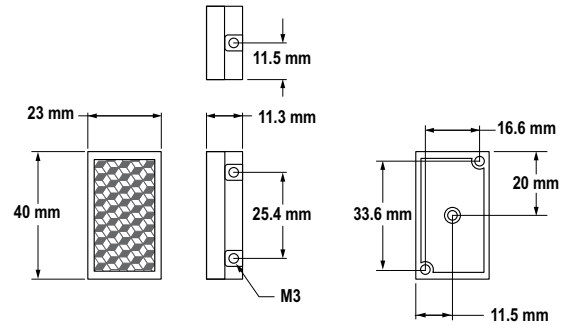
Reference

BRT-40X23B

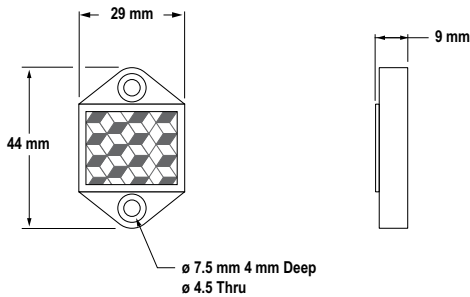
Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Max. Temperature: -20° to +60° C

**BRT-40X23ABC**

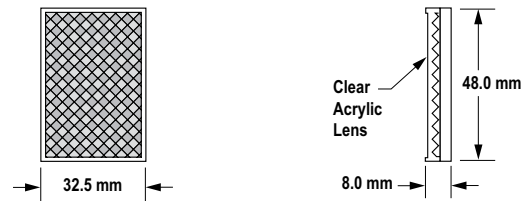
Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Max. Temperature: 50° C

**BRT-44X29A6**

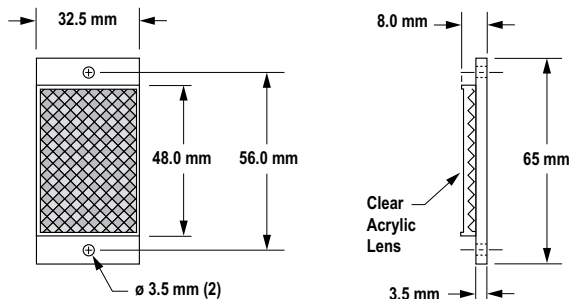
Description: Rectangular, acrylic target
Reflectivity Factor: 1.1
Max. Temperature: 50° C
Other: 6 mm facets; close to the face retroreflective sensing with bifurcated lens.

**BRT-48X32**

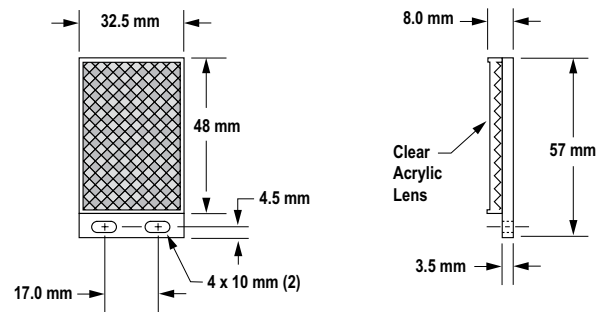
Description: Rectangular, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C

**BRT-48X32A**

Description: Rectangular, acrylic target
Reflectivity Factor: 1.0
Max. Temperature: -20° to +60° C

**BRT-48X32B**

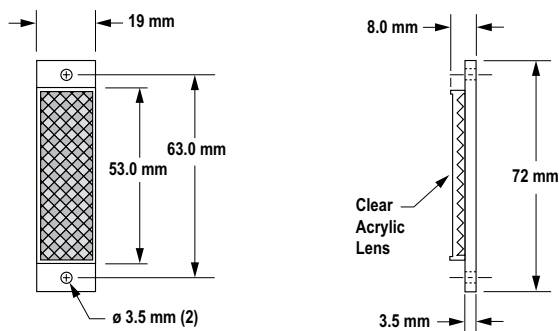
Description: Rectangular, acrylic target
Reflectivity Factor: 1.0
Temperature: -20° to +60° C



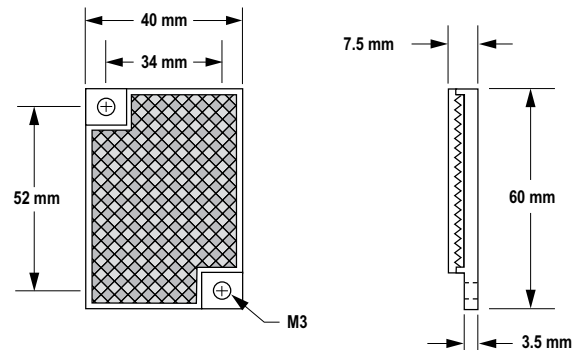
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BRT-53X19A

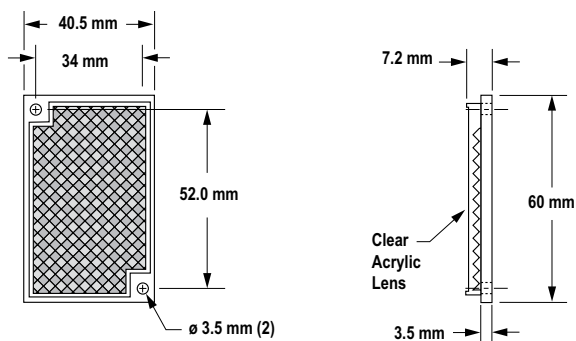
Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Max. Temperature: -20° to +60° C

**BRT-60X40AF**

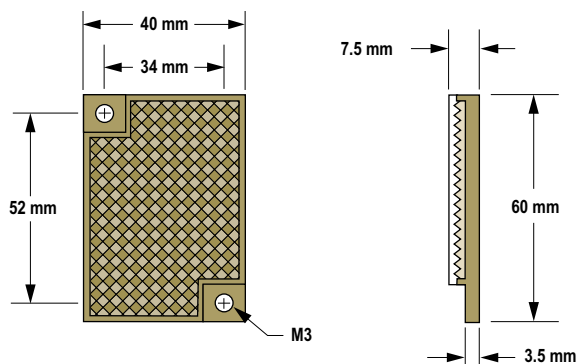
Description: Rectangular, acrylic target
Reflectivity Factor: 1.4 **Max. Temperature:** -20° to +60° C
Other: Anti-fogging coating for use around steam. Optional brackets are available. See page 620.

**BRT-60X40C**

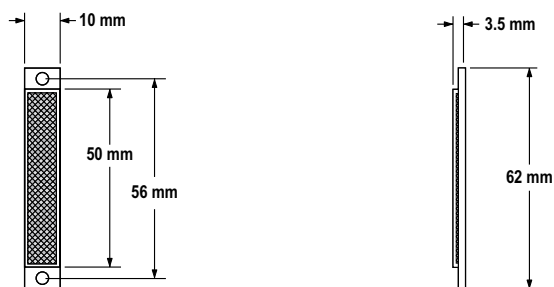
Description: Rectangular, acrylic target
Reflectivity Factor: 1.4 **Max. Temperature:** -20° to +60° C
Other: Optional brackets are available. See page 620.

**BRT-60X40IP69K**

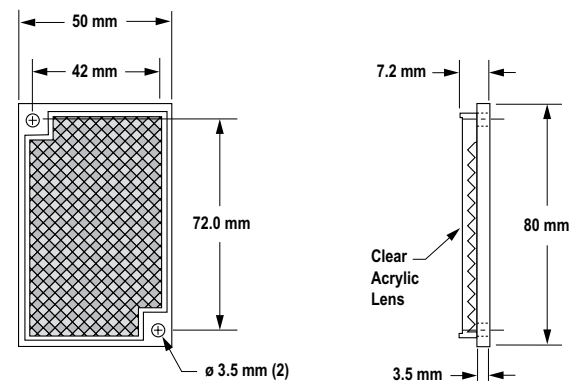
Description: Rectangular, acrylic target (color is amber)
Reflectivity Factor: 1.4 **Max. Temperature:** -20° to 140° C
Other: Chemically resistant and IP69K washdown rated. Optional brackets are available. See page 620.

**BRT-62X10AM**

Description: Rectangular, thin profile acrylic target
Reflectivity Factor: 1.2
Max. Temperature: -20° to +60° C
Other: This target has micro-prism geometry.

**BRT-80X50C**

Description: Rectangular, acrylic target
Reflectivity Factor: 1.4
Temperature: -20° to +60° C



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Accessories

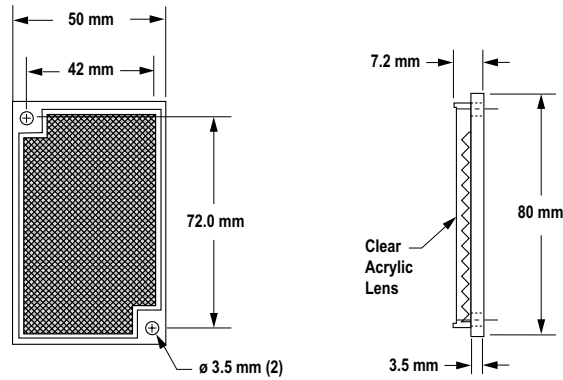
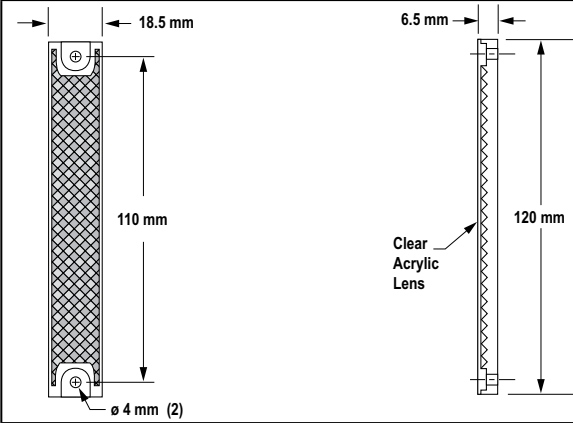
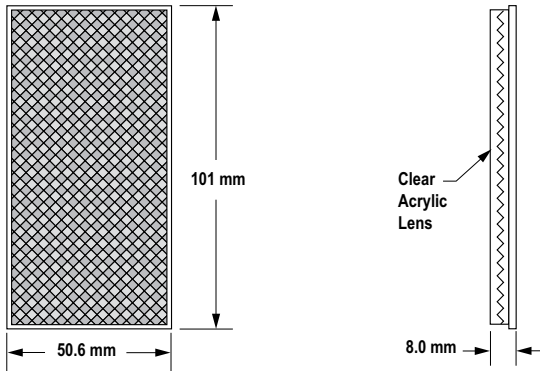
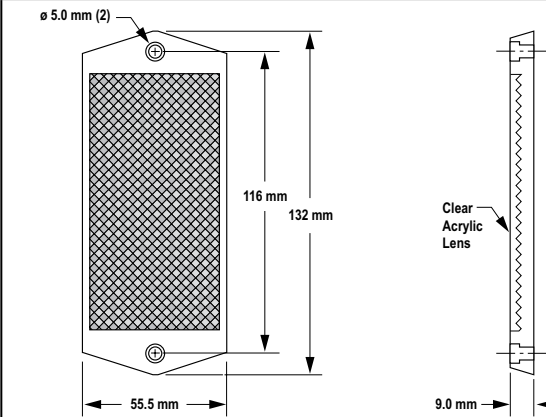
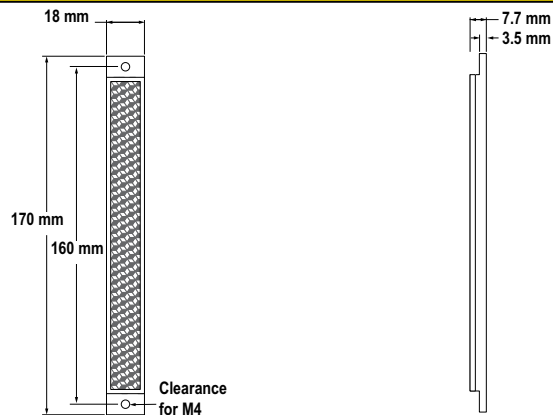
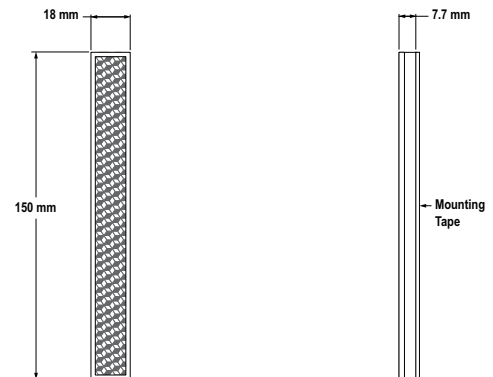
Brackets

Cordsets

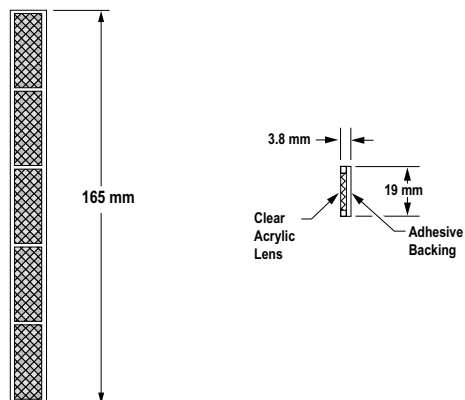
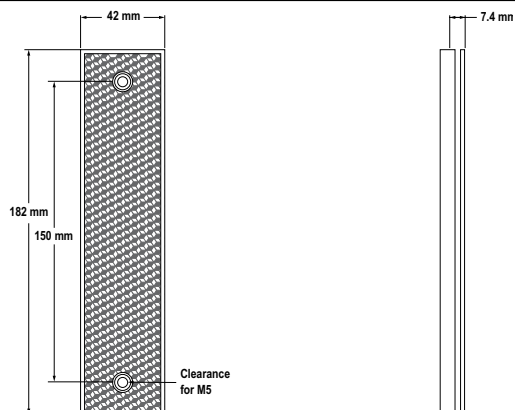
Retroreflectors

Miscellaneous

Reference

BRT-80X50CM**Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.4**Temperature:** -20° to +60° C**Other:** This target has micro-prism geometry.**BRT-100X18A****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.4**Temperature:** -20° to +60° C**BRT-100X50****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.5**Temperature:** -20° to +60° C**BRT-100X55A****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.5**Temperature:** -20° to +60° C**BRT-150X18A****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.4**Temperature:** -20° to +60° C**BRT-150X18T****Description:** Rectangular, acrylic target includes mounting tape.**Reflectivity Factor:** 1.4**Temperature:** -20° to 60° C

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BRT-L**Description:** Rectangular, acrylic target**Reflectivity Factor:** 0.8**Max. Temperature:** 65° C**BRT-180X40A****Description:** Rectangular, acrylic target**Reflectivity Factor:** 1.4**Temperature:** -20° to +60° C**Accessories**

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

Retroreflective Tape

NOTE: Sensing range and signal strength at any given sensor-to-target distance will vary due to target reflectivity and target area. A "Reflectivity Factor" is included for each target model to help predict sensor performance, relative to the excess gain curve plotted for target model BRT-3. Consider, also, target area when predicting performance. Changing to a high reflectivity reflector (like BRT-92X92C) may also extend sensor range and/or reduce the need for frequent reflector maintenance. A high reflectivity factor AND large surface area are needed for maximum range.

Reflectivity Factor	Maximum Temperature	Size	Model	Unit	
0.7	60° C	75 x 75 mm	BRT-THG-3X3-10	10 per pack	
0.7	60° C	100 x 100 mm	BRT-THG-4X4-5	5 per pack	
0.7	60° C	216 x 280 mm	BRT-THG-8.5X11-2	2 per pack	
0.7	60° C	457 x 914 mm	BRT-THG-18X36	Single sheet	
0.7	60° C	25 mm wide	BRT-THG-1-100	2.5 m length	
0.7	60° C	50 mm wide	BRT-THG-2-100	2.5 m length	
0.7	60° C	75 mm wide	BRT-THG-3-100	2.5 m length	
0.07	175° C	25 mm wide	BRT-THT-100†	2.5 m length	
0.8	60° C	50 x 50 mm	BRT-TVHG-2X2*	4 per pack	
0.8	60° C	203 x 254 mm	BRT-TVHG-8X10P†	1 per pack	

NOTE: Retroreflective material has a pressure-sensitive adhesive. For maximum adhesion, surfaces must be clean and dry before applying. For best results, use full size; target may be trimmed as necessary.

† These targets are not recommended for polarized retroreflective sensors.

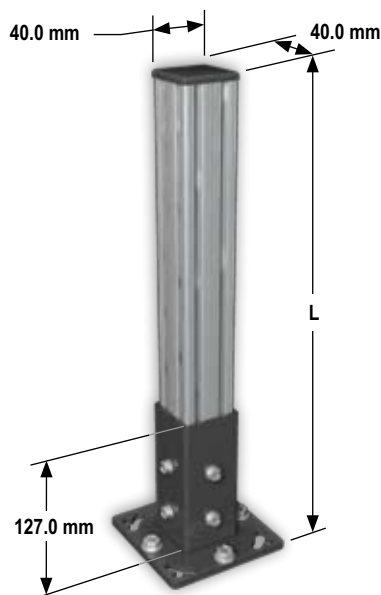
* These are sealed micro-prism style pieces and may not be cut.

Suitable for use with Laser sensors, VS3 sensors and SME312LPC model sensors.

Not suggested for close range (less than 102 mm) except with VS3 sensors.

MSA Stands

- Supports emitter, receiver or corner mirror
- Available without stand base, for attaching to a surface
- Assembles easily
- Includes mounting hardware
- Provides mounting T-slots with center dimension of 20 mm



MSA Series Stands

Used With**	Stand Height (L)	Useable Stand Length	Model*
EZ-SCREEN, PICO-GUARD Grids/Points, Mirrors, EZ-ARRAY, MINI-ARRAY and High-Resolution MINI-ARRAY	616 mm	483 mm	MSA-S24-1
	1073 mm	940 mm	MSA-S42-1

* Available without a base by adding suffix **NB** to model number (example, **MSA-S24-1NB**).

** Adapter brackets EZA-MBK-2 (2 each) are required for mounting EZ-SCREEN Grid and Point emitters/receivers or SSM Series mirrors (ordered separately).

More
on next
page

MSA Series Stands (cont'd)

Used With**	Stand Height (L)	Useable Stand Length	Model*
EZ-SCREEN, PICO-GUARD Grids/Points, Mirrors, EZ-ARRAY, MINI-ARRAY and High-Resolution MINI-ARRAY	1682 mm	1550 mm	MSA-S66-1
	2140 mm	2007 mm	MSA-S84-1
	2673 mm	2667 mm	MSA-S105-1
SFP12 Safety Points	1067 mm	940 mm	SFPA-AG12-1
SFP30 Safety Points	1067 mm	940 mm	SFPA-AG30-1

* Available without a base by adding suffix **NB** to model number (example, **MSA-S24-1NB**).

** Adapter brackets EZA-MBK-2 (2 each) are required for mounting EZ-SCREEN Grid and Point emitters/receivers or SSM Series mirrors (ordered separately).

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

Run Bar Telescoping Stands

- Locates touch buttons 800 to 1232 mm above the floor surface
- Includes swivel-mount bracket to mount Run Bar (Run Bar not included, see page 556)
- Made of cold-rolled steel; black powdercoat finish



STBA...S1



STBA...S2

Telescoping Stands

Used with	Description	Model
STB-VP6-RB1	- Floor-mounted telescoping stand - Stationary base with 4 mounting holes in corners	STBA-RB1-S1
STB-VP6-RB2		STBA-RB2-S1
STB-VP6-RB1	- Free-standing, telescoping stand - Movable H-shaped floor base with mounting holes 560 mm apart	STBA-RB1-S2
STB-VP6-RB2		STBA-RB2-S2

Adjustable Mounting Systems

- Provides flexible mounting and positioning of sensors and lights
- Includes 3" and 6" column mounting kits for mounting area lights and backlights
- Features Bogen Arm and clamp for use with *P4* and *Pro* sensors
- Offers 2" mounting knuckle assembly for spot lights



SMBPPLK



SMBPPK6



SMBPPK3



SMBPPF1 & SMBPPFB

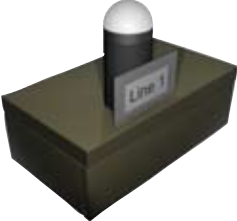
Adjustable Mounting Systems

Used With	Description	Model
Pro P4 Vision Lights	3" Column, Base, and Knuckle Kit	SMBPPK3
	6" Column, Base, and Knuckle Kit	SMBPPK6
	Mounting Bracket Knuckle	SMBPPK
	3" Column	SMBPPKE3
	6" Column	SMBPPKE6
	Mounting Bracket Base	SMBPPKB
	2" Mounting Knuckle Assembly	SMBPPLK
	Bogen Arm with Single Knob	SMBPPF1
	Bogen Arm Clamp	SMBPPFB

Elevated Use—Stand-off Pipe, Brackets and Adapters

	Description	Length	Model	Used With
	Thermoplastic Acetal adapter and cover (M30 to 1/2" NPSM/DN15)	—	SA-M30TE12	Connects TL50 to 1/2" NPSM/DN15 pipe
	Thermoplastic Acetal adapter and cover (M30 to 1/2" NPSM/DN15)	—	SA-M30E12	Connects K50L & K80L to 1/2" NPSM/DN15 pipe
	Stainless steel pipe (1/2" NPSM/DN15)	150 mm	SOP-E12-150SS	K50L K80L TL50
		300 mm	SOP-E12-300SS	
	Anodized aluminum pipe (1/2" NPSM/D15)	150 mm	SOP-E12-150A	
		300 mm	SOP-E12-300A	
	Thermoplastic Acetal mounting base (1/2" NPSM/DN15 to M30)	—	SA-E12M30	SOP-E12-150A SOP-E12-300A SOP-E12-150SS SOP-E12-300SS
	Stainless steel bracket for wall or other flat surfaces	—	SMBE12USS	

Elevated Use—Enclosure Mounts and Extensions

	Description	Length	Model	Used With
	Thermoplastic Acetal standoff with 30 mm mounting base for cabinet mounting or use with most 30 mm brackets	75 mm	SA-M30M30-75	K50L
	Zinc coated, oversized right-angle legend plate for identification labels	—	SA-30RL55X93	SA-M30M30-75
	Thermoplastic Acetal standoff with 22.5 mm mounting base for cabinet mounting	50 mm	SA-M22M22-50	K30L

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

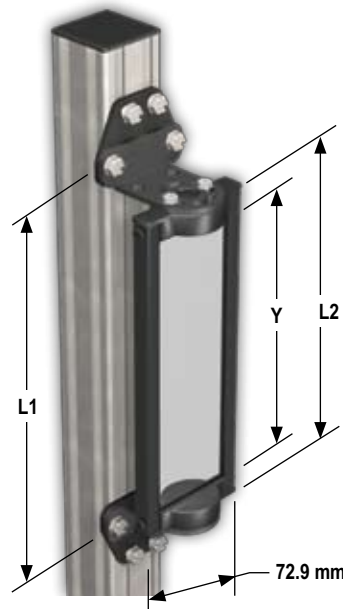
Reference

Elevated Use—Hanging Bracket

	Description	Length	Model	Used With
	Zinc coated bracket with strain relief for mounting one device	—	SA-30RL55X93C	K50 Push Button VTB
	Zinc coated bracket for mounting two devices	—	SA-30DRL55X93C	Sensors and indicators with 30 mm base or barrel mount

MSM Corner Mirrors

- Compact for light-duty applications
- Available in 12 lengths
- Decreases range by 8%
- Rated 85% efficiency



MSM Corner Mirrors
(shown with standard brackets and MSAMB** adapter bracket mounted on MSA stand)

MSM Corner Mirrors

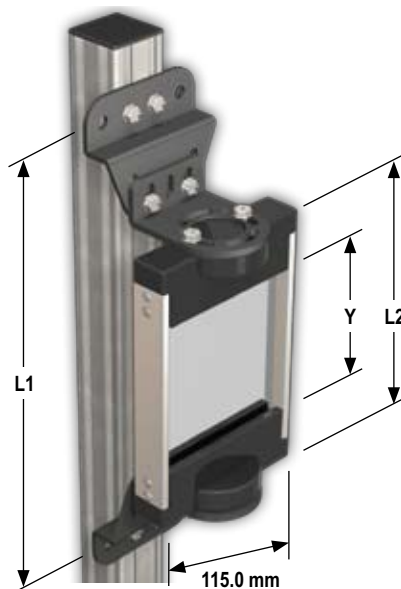
Reflective Area (Y)	Mounting Height (L1)*	Mirror Height (L2)	Model
165 mm	221 mm	191 mm	MSM4A
267 mm	323 mm	292 mm	MSM8A
356 mm	411 mm	381 mm	MSM12A
457 mm	513 mm	483 mm	MSM16A
559 mm	615 mm	584 mm	MSM20A
660 mm	716 mm	686 mm	MSM24A
762 mm	818 mm	787 mm	MSM28A
864 mm	919 mm	889 mm	MSM32A
965 mm	1021 mm	991 mm	MSM36A
1067 mm	1123 mm	1092 mm	MSM40A
1168 mm	1224 mm	1194 mm	MSM44A
1270 mm	1326 mm	1295 mm	MSM48A

* The mounting brackets may be inverted from the positions shown (flanges pointing "inward" instead of "outward," as shown). When this is done, dimension L1 decreases by 57 mm.

** MSAMB adapter bracket kit included with each MSA stand.

SSM Corner Mirrors

- Robust for heavy-duty applications
- Extra wide for use with long-range optical safety systems
- Available in stainless steel for harsh applications
- Available in 20 lengths
- Rated 85% efficiency for SSM models and 50% on SSM-S models
- Decreases range by 8% for SSM models and 30% for SSM-S models



SSM and SSM-S Corner Mirrors
(shown with standard brackets and EZA-MBK-2**
adapter bracket mounted on MSA stand)

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

SSM Glass Corner Mirrors

Reflective Area (Y)	Mounting Height (L1)*	Mirror Height (L2)	Model	
			Aluminum	Stainless Steel
100 mm	211 mm	178 mm	SSM-100	SSM-100-S
150 mm	261 mm	228 mm	SSM-150	SSM-150-S
200 mm	311 mm	278 mm	SSM-200	SSM-200-S
250 mm	361 mm	328 mm	SSM-250	SSM-250-S
375 mm	486 mm	453 mm	SSM-375	SSM-375-S
475 mm	586 mm	553 mm	SSM-475	SSM-475-S
550 mm	661 mm	628 mm	SSM-550	SSM-550-S
675 mm	786 mm	753 mm	SSM-675	SSM-675-S
825 mm	936 mm	903 mm	SSM-825	SSM-825-S
875 mm	986 mm	953 mm	SSM-875	SSM-875-S
975 mm	1086 mm	1053 mm	SSM-975	SSM-975-S
1100 mm	1211 mm	1178 mm	SSM-1100	SSM-1100-S
1175 mm	1286 mm	1253 mm	SSM-1175	SSM-1175-S
1275 mm	1386 mm	1353 mm	SSM-1275	SSM-1275-S
1400 mm	1511 mm	1478 mm	SSM-1400	SSM-1400-S
1475 mm	1586 mm	1553 mm	SSM-1475	SSM-1475-S
1550 mm	1661 mm	1628 mm	SSM-1550	SSM-1550-S
1675 mm	1786 mm	1753 mm	SSM-1675	SSM-1675-S
1750 mm	1861 mm	1828 mm	SSM-1750	SSM-1750-S
1900 mm	2011 mm	1978 mm	SSM-1900	SSM-1900-S

* The mounting brackets may be inverted from the positions shown (flanges pointing "inward" instead of "outward," as shown). When this is done, dimension L1 decreases by 58 mm.

** One EZA-MBK-2 adapter bracket kit required if used with a MSA stand.

NOTE: The total range decreases by approximately 8% per mirror.

Tubular Enclosures

- Available for EZ-ARRAY™, MINI-ARRAY® or EZ-SCREEN® standard 14 & 30 mm
- Ideal for high-pressure washdown environments
- Made of clear FDA-grade polycarbonate tubing, with acetal end caps
- Includes stainless mounting brackets and hardware
- Rated NEMA 4X; IP67



EZA-TE Tubular Enclosures

Emitter/Receiver Model		Used With Emitter/Receiver	Enclosure Height (L)	Model
EZ-SCREEN	EZ-ARRAY	Defined Area/Array Length		
SLS.-150	EA5.-150	150 mm	439 mm	EZA-TE-150
SLS.-300	EA5.-300	300 mm	541 mm	EZA-TE-300
SLS.-450	EA5.-450	450 mm	744 mm	EZA-TE-450
SLS.-600	EA5.-600	600 mm	846 mm	EZA-TE-600
SLS.-750	EA5.-750	750 mm	1024 mm	EZA-TE-750
SLS.-900	EA5.-900	900 mm	1151 mm	EZA-TE-900
SLS.-1050	EA5.-1050	1050 mm	1354 mm	EZA-TE-1050
SLS.-1200	EA5.-1200	1200 mm	1455 mm	EZA-TE-1200
SLS.-1350	—	1350 mm	1608 mm	EZA-TE-1350
SLS.-1500	EA5.-1500	1500 mm	1760 mm	EZA-TE-1500
SLS.-1650	—	1650 mm	1913 mm	EZA-TE-1650
SLS.-1800	EA5.-1800	1800 mm	2065 mm	EZA-TE-1800

NOTE: Use of the enclosure affects the sensing range of the emitter/receiver used: when in pairs, range can be reduced by 50%.

MSA-TE Tubular Enclosures

Used With			Enclosure Height (L)	Model
Emitter/Receiver Model		Emitter/Receiver Array Length		
MINI-ARRAY	BMEL616A/BMRL616A	201 mm	439 mm	MSA-TE-8
	BMEL632A/BMRL632A			
High-Resolution MINI-ARRAY	MAHE6A/MAHR6A	233 mm	541 mm	MSA-TE-12
MINI-ARRAY	BMEL1216A/BMRL1216A	356 mm		
	BMEL1232A/BMRL1232A	356 mm		
High-Resolution MINI-ARRAY	MAHE13A/MAHR13A	396 mm	744 mm	MSA-TE-20
MINI-ARRAY	BMEL1816A/BMRL1816A	505 mm		
	BMEL1832A/BMRL1832A	505 mm		
High-Resolution MINI-ARRAY	MAHE19A/MAHR19A	559 mm	846 mm	MSA-TE-24
MINI-ARRAY	BMEL2416A/BMRL2416A	659 mm		
	BMEL2432A/BMRL2432A	659 mm	947 mm	MSA-TE-28
High-Resolution MINI-ARRAY	MAHE26A/MAHR26A	721 mm		

NOTE: Use of the enclosure affects the sensing range of the emitter/receiver used: when in pairs, range can be reduced by 50%.

More
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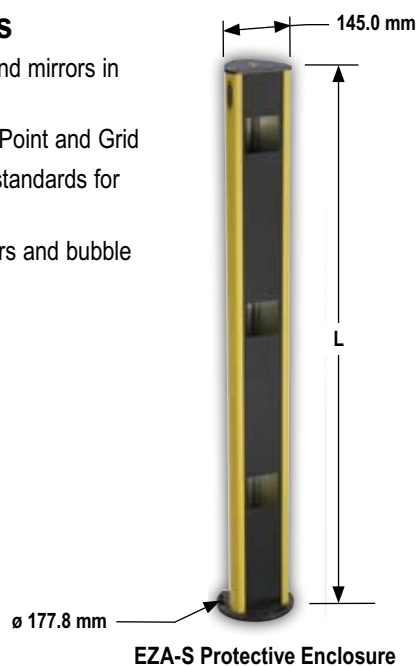
MSA-TE Tubular Enclosures (cont'd)

Used With			Enclosure Height (L)	Model
Emitter/Receiver Model		Emitter/Receiver Array Length		
MINI-ARRAY	BMEL3016A/BMRL3016A	810 mm	1049 mm	MSA-TE-32
	BMEL3032A/BMRL3032A			
High-Resolution MINI-ARRAY	MAHE32A/MAHR32A	884 mm		
MINI-ARRAY	BMEL3616A/BMRL3616A	963 mm	1151 mm	MSA-TE-36
	BMEL3632A/BMRL3632A			
High-Resolution MINI-ARRAY	MAHE38A/MAHR38A	1046 mm		
MINI-ARRAY	BMEL4216A/BMRL4216A	1115 mm	1354 mm	MSA-TE-44
	BMEL4232A/BMRL4232A	1115 mm		
High-Resolution MINI-ARRAY	MAHE45A/MAHR45A	1212 mm		
MINI-ARRAY	BMEL4816A/BMRL4816A	1267 mm	1455 mm	MSA-TE-48
	BMEL4832A/BMRL4832A			
High-Resolution MINI-ARRAY	MAHE51A/MAHR51A	1377 mm		

NOTE: Use of the enclosure affects the sensing range of the emitter/receiver used: when in pairs, range can be reduced by 50%.

EZA-S Protective Enclosures

- Provide rugged protection for sensors and mirrors in high-traffic areas
- Available for mirrors and EZ-SCREEN® Point and Grid
- Meets ANSI/RIA 15.06 and ISO 13855 standards for beam spacing
- Includes independently adjustable mirrors and bubble level to simplify alignment
- Rotates up to 20°



EZA-S EZ-SCREEN® Protective Enclosures

Used With		Enclosure Height (L)	No. of Openings	Application Standard	Models
Emitter/Receiver Model	Emitter/Receiver Protected Area				
SG..4-300	900 mm	1543 mm	4	ANSI/RIA R15.06 ISO 13855	EZA-S300
					EZA-S300-M
SG..3-400	800 mm	1238 mm	3	ANSI/RIA R15.06 ISO 13855	EZA-S400
					EZA-S400-M

* Model numbers with suffix **M** include vertical mirrors for perimeter-guarding applications.

Model numbers with suffix **M45** include two 45°-mounted mirrors for access-guarding applications.

NOTE: The rear-surfaced glass mirrors are rated at 85% efficiency per mirror and reduce maximum range by 8% per mirror.

More
on next
page

EZA-S EZ-SCREEN® Protective Enclosures (cont'd)

Used With		Enclosure Height (L)	No. of Openings	Application Standard	Models
Emitter/Receiver Model	Emitter/Receiver Protected Area				
SG..2-500	500 mm	1035 mm	2	ISO 13855	EZA-S500
SP..1	—				EZA-S500-M
					EZA-S500-M45
SG..3-533	1066 mm	1543 mm	3	ANSI/RIA R15.06	EZA-S533
					EZA-S533-M
SG..2-584	584 mm	1238.2 mm	2	ANSI/RIA R15.06	EZA-S584
SP..1	—				EZA-S584-M
					EZA-S584-M45

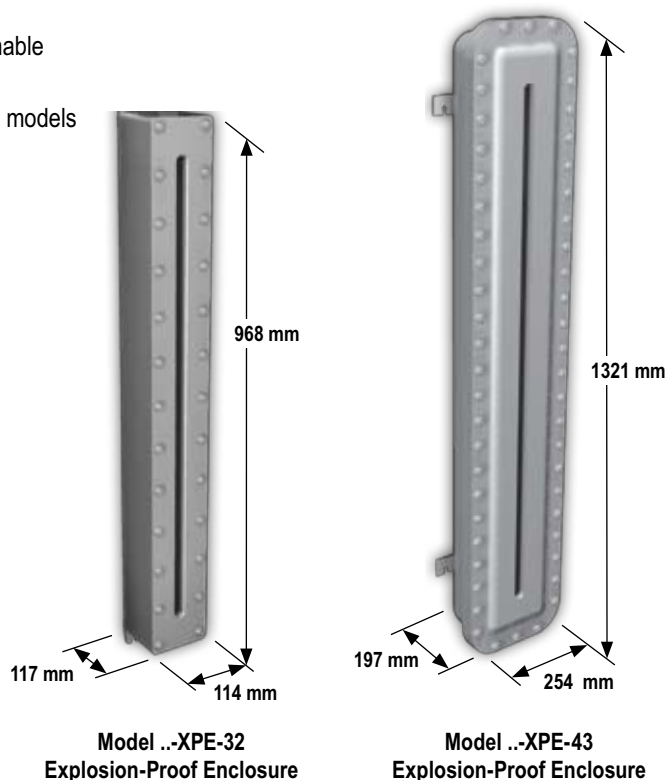
* Model numbers with suffix **M** include vertical mirrors for perimeter-guarding applications.

Model numbers with suffix **M45** include two 45°-mounted mirrors for access-guarding applications.

NOTE: The rear-surfaced glass mirrors are rated at 85% efficiency per mirror and reduce maximum range by 8% per mirror.

Explosion-Proof Enclosures

- Protects light screen in environments with flammable gases, liquids or dust
- Available for EZ-SCREEN® 14 and 30 resolution models
- Complies with UL and CSA for use in specific hazardous atmospheres
- Includes mounting brackets and hardware
- Reduces range by approximately 25% per emitter/receiver pair



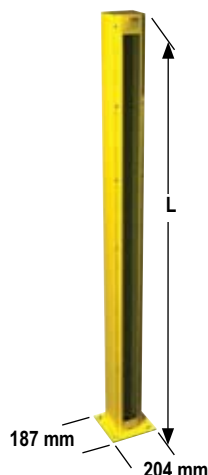
Explosion-Proof Enclosures

Used With		Model
Model Family	Emitter/Receiver Defined Area	
EZ-SCREEN (14 and 30 mm Resolution)	450 to 600 mm	SS-XPE-32
EZ-SCREEN (14 and 30 mm Resolution)	750 to 1050 mm	SS-XPE-43

NOTE: Use of enclosure affects the sensing range of emitter/receiver used: when used in pairs, range can be reduced by 25%.

Heated Enclosures

- Available for MINI-ARRAY® or High-Resolution MINI-ARRAY®
- Protects emitter/receiver in outdoor environments
- Includes humidistat and resistance wires to keep window free of condensation, snow or ice
- Provides choice of stainless steel or aluminum housings



Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

MINI-ARRAY® and High-Resolution MINI-ARRAY® Heated Enclosures

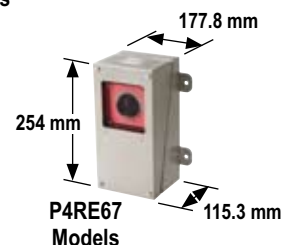
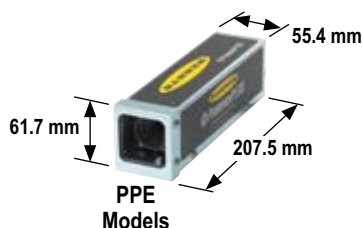
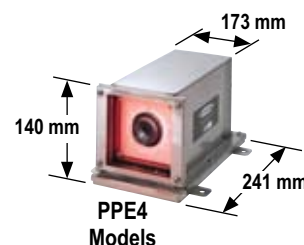
Material	Finish**	Array Length	Overall Enclosure/Height (L)	Clear Window Height	Model
Aluminum	Painted	133 to 1210 mm	1.7 m	1.5 m	BMHE4A/BMHL4G
Aluminum	Painted	1505 to 1514 mm	2.0 m	1.8 m	BMHE5A/BMHL5G
Aluminum	Painted	1810 to 1819 mm	2.2 m	2.0 m	BMHE6A/BMHL6G
Stainless Steel	Painted	133 to 1210 mm	1.7 m	1.5 m	BMHE4SS/BMHL4GSS
Stainless Steel	Painted	1505 to 1514 mm	2.0 m	1.8 m	BMHE5SS/BMHL5GSS
Stainless Steel	Painted	1810 to 1819 mm	2.2 m	2.0 m	BMHE6SS/BMHL6GSS
Stainless Steel	Non-painted	133 to 1210 mm	1.7 m	1.5 m	BMHE4SSN/BMHL4GSSN
Stainless Steel	Non-painted	1505 to 1514 mm	2.0 m	1.8 m	BMHE5SSN/BMHL5GSSN
Stainless Steel	Non-painted	1810 to 1819 mm	2.2 m	2.0 m	BMHE6SSN/BMHL6GSSN

* Enclosures require a power supply (see page 739).

** Standard color is Federal Safety Yellow (Federal Standard color# 23538). Contact Factory for other colors.

PresencePLUS® Enclosure Kits

- Protects sensor, ring light or both
- Keeps dust and dirt off lens and light
- Prevents accidental bumps and scratches
- Discourages vandalism and tampering
- Helps maintain lens focus by enclosing the lens and sensor
- Available in models that protect camera and light during washdown
- Offers choice of models with glass or plastic viewport



PresencePLUS® Enclosure Kits

Description	Used With	Model
Heavy-duty stainless-steel enclosure kit—glass viewport; NEMA 6 rated	P4 (right-angle) & Ring Light	P4RE67-G
Heavy-duty stainless-steel enclosure kit—polycarbonate viewport; NEMA 6 rated		P4RE67-P

More on next page

PresencePLUS® Enclosure Kits (cont'd)

Description	Used With	Model
Heavy-duty cold-rolled steel industrial protection kit—glass viewport; NEMA 1 rated	Pro Camera & Lens	PPE-G
Heavy-duty cold-rolled steel industrial protection kit—polycarbonate viewport; NEMA 1 rated		PPE-P
Replacement viewport—glass	PPE-G	PPE-RG
Replacement viewport—polycarbonate	PPE-P	PPE-RP
Straight Mounting bracket	PPE-P & PPE-G	SMBPPES
Right-angle mounting bracket		SMBPPEA
Front mounting bracket		SMBPPEF
Heavy-duty stainless-steel enclosure kit—glass viewport; NEMA 4 rated	Pro Camera & Ring Light	PPE4-G
Heavy-duty stainless-steel enclosure kit—polycarbonate viewport; NEMA 4 rated		PPE4-P

Lens Shields

- Covers the lens of the emitter/receiver to prevent damage
- Available for the LX, EZ-ARRAY™, MINI-ARRAY® and EZ-SCREEN®
- Installs easily
- Made of rugged polycarbonate

**EZ-ARRAY™ & EZ-SCREEN® (14 & 30 mm Resolution) Lens Shields**

Installation*	Used With			Lens Shield Length (L)	Model
	EZ-ARRAY	EZ-SCREEN	Defined Area/Array Length		
Adhesive	—	SLS..-150..		258 mm	EZS-150
Snap-on				236 mm	EZSS-150
Adhesive	EA5..300	SLS..-300..	300 mm	368 mm	EZS-300
Snap-on				346 mm	EZSS-300
Adhesive	EA5..450	SLS..-450..	450 mm	518 mm	EZS-450
Snap-on				496 mm	EZSS-450
Adhesive	EA5..600	SLS..-600..	600 mm	667 mm	EZS-600
Snap-on				645 mm	EZSS-600
Adhesive	EA5..750	SLS..-750..	750 mm	817 mm	EZS-750
Snap-on				795 mm	EZSS-750
Adhesive	EA5..900	SLS..-900..	900 mm	967 mm	EZS-900
Snap-on				945 mm	EZSS-900

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

* Adhesive models are polycarbonate with neoprene gasket. Snap-on models are constructed of copolyester.

More
on next
page

EZ-ARRAY™ & EZ-SCREEN® (14 & 30 mm Resolution) Lens Shields (cont'd)

Installation*	Used With			Lens Shield Length (L)	Model
	EZ-ARRAY	EZ-SCREEN	Defined Area/Array Length		
Adhesive	EA5..1050	SLS..-1050..	1050 mm	1116 mm	EZS-1050
Snap-on				1094 mm	EZSS-1050
Adhesive	EA5..1200	SLS..-1200..	1200 mm	1266 mm	EZS-1200
Snap-on				1244 mm	EZSS-1200
Adhesive	—	SLS..-1350..	1350 mm	1416 mm	EZS-1350
Snap-on				1394 mm	EZSS-1350
Adhesive	—	SLS-1650..	1650 mm	1715 mm	EZS-1650
Snap-on				1693 mm	EZSS-1650
Adhesive	EA5..1500	SLS..-1500..	1500 mm	1565 mm	EZS-1500
Snap-on				1543 mm	EZSS-1500
Adhesive	EA5..1800	SLS..-1800..	1800 mm	1865 mm	EZS-1800
Snap-on				1843 mm	EZSS-1800
Snap-on	EA5..2100	—	2100 mm	2144 mm	EZSS-2100
Snap-on	EA5..2400	—	2400 mm	2444 mm	EZSS-2400

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

* Adhesive models are polycarbonate with neoprene gasket. Snap-on models are constructed of copolyester.

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

MINI-ARRAY® Lens Shields

Installation	Used With		Lens Shield Length (L)	Model
	Emitter/Receiver Model	Array Length		
Adhesive	MINI-ARRAY	BMEL1216A/BMRL1216A	341 mm	MSS12
		BMEL1232A/BMRL1232A		
		BMEL2416A/BMRL2416A	643 mm	MSS24
		BMEL2432A/BMRL2432A		
		BMEL3616A/BMRL3616A	948 mm	MSS36
		BMEL3632A/BMRL3632A		
		BMEL4816A/BMRL4816A	1253 mm	MSS48
		BMEL4832A/BMRL4832A		

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

* Other lens shield lengths are available, contact factory at 1-888-373-6767.

EZ-SCREEN® LP (14 & 25 mm Resolution) Lens Shields

Installation*	Used With	Lens Shield Length (L)	Model
	Emitter/Receiver Model		
Snap-on	SLP..-270	270 mm	LPSS-270
	SLP..-410	410 mm	LPSS-410
	SLP..-550	550 mm	LPSS-550
	SLP..-690	690 mm	LPSS-690
	SLP..-830	830 mm	LPSS-830
	SLP..-970	970 mm	LPSS-970
	SLP..-1110	1110 mm	LPSS-1110

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

* Adhesive models are polycarbonate with neoprene gasket. Snap-on models are constructed of copolyester.

More
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EZ-SCREEN® LP (14 & 25 mm Resolution) Lens Shields (cont'd)

Installation*	Used With	Lens Shield Length (L)	Model
	Emitter/Receiver Model		
Snap-on	SLP..-1250	1250 mm	LPSS-1250
	SLP..-1390	1390 mm	LPSS-1390
	SLP..-1530	1530 mm	LPSS-1530
	SLP..-1670	1670 mm	LPSS-1670
	SLP..-1810	1810 mm	LPSS-1810

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

* Adhesive models are polycarbonate with neoprene gasket. Snap-on models are constructed of copolyester.

EZ-SCREEN® Grids and Points Lens Shields—Adhesive Backed

Type	Lens Shield Length (L)	Emitter/Receiver Model	Emitter/Receiver Protected Height	Model
Point	149 mm	SP..1	—	EZS-149
Grid	684 mm	SG..2-500	500 mm	EZS-684
	768 mm	SG..2-584	584 mm	EZS-768
	984 mm	SG..3-400	800 mm	EZS-984
	1251 mm	SG..3-533	900 mm	EZS-1251
	1084 mm	SG..4-300	1066 mm	EZS-1084

Polycarbonate construction with neoprene gasket

EZ-SCREEN® Type 2 Lens Shields—Adhesive Backed

Used With		Lens Shield Length (L)	Model
Emitter/Receiver Model	Emitter/Receiver Defined Area		
LS2..30-150	150 mm	210 mm	LSS-150
LS2..30-300	300 mm	360 mm	LSS-300
LS2..30-450	450 mm	510 mm	LSS-450
LS2..30-600	600 mm	660 mm	LSS-600
LS2..30-750	750 mm	810 mm	LSS-750
LS2..30-900	900 mm	959 mm	LSS-900
LS2..30-1050	1050 mm	1109 mm	LSS-1050
LS2..30-1200	1200 mm	1558 mm	LSS-1200
LS2..30-1350	1350 mm	1708 mm	LSS-1350
LS2..30-1500	1500 mm	1858 mm	LSS-1500

Polycarbonate construction with neoprene gasket.

LX Lens Shields

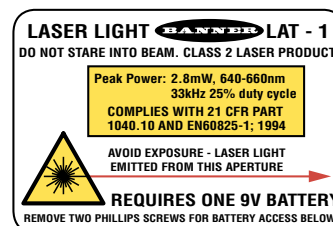
Installation	Used With		Lens Shield Length (L)	Model
	Emitter/Receiver Model	Array Length		
Adhesive	LX3 models	67 mm	98.3 mm	LXS3
	LX6 models	143 mm	174.5 mm	LXS6
	LX12 models	295 mm	326.9 mm	LXS12

NOTE: When shields are installed on both the emitter and receiver, maximum operating range is reduced by 20%.

Laser Alignment Tools

- Simplifies the alignment of any emitter/receiver pair
- Available for EZ-SCREEN®, PICO-GUARD™, LT7, and 18 and 30 mm barrel sensors
- Includes a built-in bubble level
- Uses one 9-volt battery, which is included (some models)

LAT-1 Laser Alignment Tool
(shown without clip)



Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

Laser Alignment Tools

Used With		Supply Voltage	LAT-1 with Clip Kit	Clip w/Target*
EZ-SCREEN Grid or Points and PICO-GUARD Grids		9V battery for 20 hours of continuous use	LAT-1-HD	EZA-LAT-1
EZ-SCREEN 14 & 30 mm Resolution			LAT-1-SS	EZA-LAT-2
EZ-SCREEN LP 14 & 25 mm Resolution			LAT-1-LP	LPA-LAT-1
EZ-SCREEN Type 2			LAT-1-LS	LSA-LAT-1
EZ-SCREEN Grid or Points, PICO-GUARD Grids, EZ-SCREEN 14 & 30 mm Resolution, EZ-SCREEN LP 14 & 25 mm Resolution and EZ-SCREEN Type 2		9V battery for 20 hours of continuous use	LAT-1	–
PICO-GUARD SFP12 Safety Points			LAT-1-SFP12	SFA-LAT-12
PICO-GUARD SFP30 Safety Points			LAT-1-SFP30	SFA-LAT-30
Description		Used With	Supply Voltage	Model
 LAT-2 shown with LT7	• Allows for long distance alignment greater than 50 m • Clip-on attachment for sensor	LT7	—	LAT-2
	• Enables easy sensor alignment at long distances • Kit includes one SMB1812 bracket and M12 laser emitter (Class 2 visible red laser) • Clip-on attachment for 18 mm threaded barrel sensors	18 mm threaded barrel sensors	10 to 30V dc	LAT1812
	• Enables easy sensor alignment at long distances • Kit includes one SMB3012 bracket and M12 laser emitter (Class 2 visible red laser) • Clip-on attachment for 30 mm threaded barrel sensors	30 mm threaded barrel sensors	10 to 30V dc	LAT3012

* LAT-1 purchased separately.

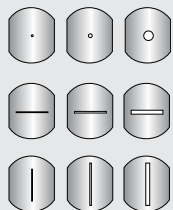
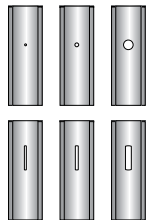
BEAM-TRACKER™ Alignment Tool

The BEAM-TRACKER is a low-cost, wireless, battery-operated, and completely self-contained photoelectric diagnostic sensor. It is a quick and simple way to evaluate photoelectric system performance. It receives light from all modulated photoelectric emitters and transmits light to receivers to check the system operation. It has a built-in frequency emitter that will be detected by any Banner photoelectric receiver, as well as by those of most other photoelectric manufacturers. It is a valuable tool for locating the center of the beam when installing long-range opposed-mode photoelectric sensor pairs and for locating sources of severe EMI and RFI noise.

	Supply Voltage	Beam	Construction	Model
	9V battery for 10 hours of continuous use	70 kHz infrared	Cyclac® T case	BT-1

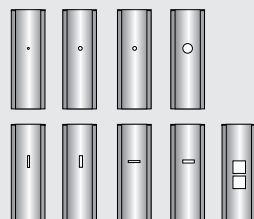
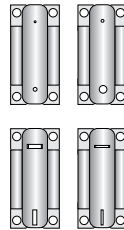
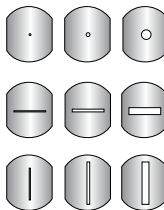
Apertures and Aperture Kits

Opposed-mode sensors may be fitted with apertures which narrow or shape the effective beam of the sensor to more closely match the size of profile of the object to be sensed. A common example is the use of "line" or "slit" type aperture when wire or thread is being sensed.

Aperture Description	Units	Model	Product	Used With
Circular, 0.5 mm dia.	6	APQS18-020		QS18 Opposed-mode
Circular, 1.0 mm dia.	6	APQS18-040		
Circular, 2.5 mm dia.	6	APQS18-100		
Horizontal, slotted, 0.5 x 6.4 mm	6	APQS18-020H		
Horizontal, slotted, 1.0 x 6.4 mm	6	APQS18-040H		
Horizontal, slotted, 2.5 x 6.4 mm	6	APQS18-100H		
Vertical, slotted, 0.5 x 12.7 mm	6	APQS18-020V		
Vertical, slotted, 1.0 x 12.7 mm	6	APQS18-040V		
Vertical, slotted, 2.5 x 12.7 mm	6	APQS18-100V		
Kit with 2 of each aperture	18	APQS18-DVHX2		
Circular, 0.5 mm dia.	2	APQ20-0.5		Q20 Opposed-mode
Circular, 1 mm dia.	2	APQ20-1		
Circular, 2 mm dia.	2	APQ20-2		
Vertical, slotted, 0.5 mm	2	APQ20-0.5V		
Vertical, slotted, 1 mm	2	APQ20-1V		
Vertical, slotted, 2 mm	2	APQ20-2V		
Kit with 2 of each aperture	12	APK-Q20		
Circular, 0.5 mm dia.	20	AP31-020		MINI-BEAM Opposed-mode
Circular, 1.0 mm dia.	20	AP31-040		
Circular, 2.5 mm dia.	20	AP31-100		
Horizontal, slotted, 0.5 x 6.4 mm	20	AP31-020H		
Horizontal, slotted, 1.0 x 6.4 mm	20	AP31-040H		
Horizontal, slotted, 2.5 x 6.4 mm	20	AP31-100H		
Horizontal, slotted, 5.1 x 6.4 mm	20	AP31-200H		
Vertical, slotted, 0.5 x 12.7 mm	20	AP31-020V		
Vertical, slotted, 1.0 x 12.7 mm	20	AP31-040V		
Vertical, slotted, 2.5 x 12.7 mm	20	AP31-100V		
Vertical, slotted, 5.1 x 12.7 mm	20	AP31-200V		
Kit with 2 of each aperture	22	AP31-DVHX2		

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on next
page

Apertures and Aperture Kits (cont'd)

Aperture Description	Units	Model	Product	Used With
Kit includes 3 round apertures of: 0.5, 1.0 & 2.5 mm dia.	3	AP18SC*		S18 & M18
Kit includes 3 rectangular apertures of: 0.5, 1.0 & 2.5 mm dia.	3	AP18SR*		S18 & M18
Kit includes 3 round apertures of: 0.5, 1.0 & 2.5 mm dia.	3	AP18SCN*		T18 & YM18
Kit includes 3 rectangular apertures of: 0.5, 1.0 & 2.5 mm dia.	3	AP18SRN*		T18 & TM18
* Kits include Teflon® FEP® lens, o-ring and thread-on housing.				
Kit with glass lens to protect plastic sensor lens from chemical environments	1	APG18S		S18, M18, T18 & TM18
Circular, 0.5 mm dia.	10	APQ12-.5		Q12 Opposed-mode
Circular, 1.0 mm dia.	10	APQ12-1		
Circular, 1.5 mm dia.	10	APQ12-1.5		
Circular, 2.0 mm dia.	10	APQ12-2		
Horizontal, slotted, 0.5 mm dia.	10	APQ12-.5H		
Horizontal, slotted, 1.0 mm dia.	10	APQ12-1H		
Vertical, slotted, 0.5 mm dia.	10	APQ12-.5V		
Vertical, slotted, 1.0 mm dia.	10	APQ12-1V		
Protective jacket, 4 mm square	10	APQ12-4S		
Kit containing 2 of each aperture	18	APKQ12		
Circular, 2 openings, 0.5 & 1.0 mm dia.	2	APVS2-0204		VS2 Opposed-mode
Circular, 2 openings, 1.5 and 2.0 mm dia.	2	APVS2-0608		
Horizontal (1) and vertical (1), slotted, 0.5 mm wide	2	APVS2-02R		
Horizontal (1) and vertical (1), slotted, 1.0 mm wide	2	APVS2-04R		
Circular, 1.0 mm dia.	6	APQS30-040		QS30 Opposed-mode
Circular, 2.5 mm dia.	6	APQS30-100		
Circular, 5 mm dia.	6	APQS30-200		
Horizontal, slotted, 1 x 12 mm	6	APQS30-040H		
Horizontal, slotted, 2.5 x 12 mm	6	APQS30-100H		
Horizontal, slotted, 5 x 12 mm	6	APQS30-200H		
Vertical, slotted, 1 x 17 mm	6	APQS30-040V		
Vertical, slotted, 2.5 x 17 mm	6	APQS30-100V		
Vertical, slotted, 5 x 17 mm	6	APQS30-200V		
Kit with 2 of each aperture	18	APQS30-DVHX2		

* Teflon® is a registered trademark of Dupont™.

Ultrasonic Wave Guides

Guide attaches to 18 mm threaded barrel of ultrasonic sensors to focus ultrasonic sensing beam.

	Size	Style	Model	Used With
	5.0 mm inside dia.	Barrel	UWG18-5.0	QS18U S18U
	6.4 mm inside dia.	Barrel	UWG18-6.4	

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

Replacement Lens Assemblies

Lens assemblies are field-replaceable. In addition, some lenses may be used to convert from one sensing mode to another, or to change the sensing range of a particular sensor. The possible conversions are listed in the table below.

Replacement Lens for	Possible Sensing Mode or Range Changes	Model	Used With
LVAG	Change LV to LVAG	UC-300AG	MINI-BEAM
W and DBZ	Change D to DBZ and F to DBZ	UC-300BZ	
C, CV and CVG	Change CV2 to CV	UC-300C.7	
C2 and CV2	Change CV to CV2	UC-300C2	
E and R	—	UC-300E	
EL and RL	Extend range of E/R	UC-300EL	
EPD	—	UC-300EPD	
F and FV	Change D to F and DBZ to F	UC-300F	
FP (old style)	—	UC-300FP	
FP	—	UC-300FP2	
LV and D	Change F to D, LVAG to LV and DBZ to D	UC-300L	
LP	—	UC-300LP	
RPD	—	UC-300RPD	
E, R, DL, DX and LV	N/A	UC-45L	Q45
LL		UC-45LL	
LLP		UC-45LLP	
LP		UC-45LP	
D		UC-45D	
F and FV		UC-45F	
FP		UC-45FP	
CV		UC-45C	
CV4		UC-45C4	
CV, CVB and CVG	N/A	OUC-C	OMNI-BEAM
D		OUC-D	
F, FAC, FV, FVB, FVG, FX, EF and RF		OUC-F	
FP, FPB and FPG		OUC-FP	
DX, LV, E and R		OUC-L	
LVAG and LVAGC		OUC-LAG	
R58E	N/A	UC-R55	R58E

Portable Demo Box

The Portable Demo Box is used to power dc self-contained photoelectric sensors for testing purposes. It is battery-powered and features bicolor LEDs which indicate sensor output status and output type (NPN or PNP). It is designed for a 4-pin Euro-style connector, but cable adapters are available to convert to Pico-style or Mini-style connectors. A 4-pin wiring barrier is mounted on the top of the box to allow connection of cabled dc sensors.

	Supply Voltage	Cable Type	Model	Cable Adapters
	3 - 9V battery	4-pin Euro	DBQ5	Euro-to-Pico p/n 39536 Euro-to-Mini p/n 39537

Test Power Supply

Test power supply is a 1 amp power supply used to power *P4* sensors and lighting for proving an application without integration into a control panel.

	Input	Input	Trigger Option	Model	Used With
	100-240V ac	North America (AC plug)	• 24V dc NPN Sensor • Continuous pulse • Single pulse	P4D1	<i>P4</i> Vision Lighting

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

A-GAGE® MINI-ARRAY® Series Power Supplies for Heated Enclosures

	Used With	Primary	Secondary	Models
	Two BMHE4 Enclosures	105 to 130V ac	23V ac	BMHPS4
	Two BMHE5 Enclosures	105 to 130V ac	27V ac	BMHPS5
	Two BMHE6 Enclosures	105 to 130V ac	35V ac	BMHPS6
	One BMHE4 Enclosure	105 to 130V ac	23V ac	BMHPS14
	One BMHE5 Enclosure	105 to 130V ac	27V ac	BMHPS15
	One BMHE6 Enclosure	105 to 130V ac	35V ac	BMHPS16

Continuous Power Supplies

12 or 24V dc power supplies provide power to dc sensors, safety products and specialty lights.

	Input	Input Cord	Outputs	Output Cable	Model	Used With
	100-240V ac 50/60 Hz	—	24V dc @ 4 A max.	—	PSDINA-24-4 (DIN-rail mountable)	dc Sensors Vision Lights
	115/230V ac, 50-60 Hz	—	24V dc (22.5-28.5V dc adj.) @ 2.5 A (60 W)	—	PSDINA-24* (DIN-rail mountable)	Safety products requiring a SELV rating (EN 60950)

* These products are not stocked and are non-returnable.

USB Serial Adapter

	Description	Power	Model	Used With
	USB to RS-485 serial adapter with integral communication cordset and USB cable for advanced configuration with a PC.	USB Cable	EZA-USB485-01	EZ-ARRAY
	USB to RS-485 serial adapter with integral communication cordset and USB cable for easy configuration of a single sensor or a network of sensors.	USB Cable	INTUSB485-LH	LH
	USB to RS-485 serial adapter for advanced configuration with a PC. NOTE: Communication cordset ordered separately.	USB Cable	INTUSB485-1	EZ-ARRAY

Power Supplies and Interface Modules

The power supplies provide a low-cost interface between ac power supply and dc-operated sensors. They can source up to 100 milliamps. All models are available with integral TEACH push button and remote TEACH function. The interface module is a passive module that allows additional status indicators to be located in the user's control cabinet. It provides remote indication and TEACH capability.

	Description	Sensor Input	Input Supply	Sensor Supply	Models
	Power Supply e/m relay output, status lights, and TEACH button	NPN	24V ac	15V dc	PS24-1N
		PNP			PS24-1P
		NPN	115V ac		PS115-1N
		PNP			PS115-1P
	Passive Interface Module Status lights and TEACH button	—	10-30V dc	—	SIM-525T

Sensor Interface Modules

Low-cost modules provide a dc powered interface for sensors.

	Input	Outputs	Connections	Model	Used With
	10-30V dc	Current Sinking (NPN)	Two 13-pin Terminals	PPSIM-NT	PresencePLUS P4
			One 13-pin Terminals One DB-15 Connector	PPSIM-NC	
		Current Sourcing (PNP)	Two 13-pin Terminals	PPSIM-PT	
			One 13-pin Terminals One DB-15 Connector	PPSIM-PC	
	10-30V dc	Current Sinking (NPN)/ Current Sourcing (PNP)	Two 13-pin Terminals	IVUSIM	iVu

Light Interface Modules

Low-cost interface module allows strobe operation of Banner vision lighting with any vision sensor or system.

	Input	Strobe Output	Model	Used With
	24V dc	5V @ 10 mA max.	PPLIM	Vision lighting

EZ-LIGHT™ Controllers

- Manually operated controllers for Andon, call-for-parts and machine status indication
- Toggle switch model can control up to 5 indicators simultaneously

	Description	Switch Function	Supply Voltage	Model	Used With
	5 toggle switches	ON-OFF-FLASH	30V dc	LC80T	EZ-LIGHT indicators with PNP input
	12-position rotary switch			LC80R	

AC Emitter/Receiver Interface Boxes

- Provides AC power for up to three receivers or two cascaded emitter/receiver pairs, with external device monitoring (EDM) available.
- Supplies +24V dc power at 0.7 amps (16.8 W max. power) and accepts input voltages from 100-250V ac (50-60 Hz).

	Safety Outputs	EDM	Emitter/ Receiver Connection	AC Power Connection	Output and EDM Connections	Model	Used with
  CORDSETS  PAGE 679	3 NO	Selectable 1- or 2-Channel or no EDM	8-Pin M12/Euro QD	Hard-wired	Hard-wired	EZAC-R9-QE8	EZ-SCREEN
	2 NO & 1 NC			Hard-wired	Hard-wired	EZAC-R11-QE8	
	1 NO & 1 SPDT	1-Channel		3-Pin Mini QD	8-Pin Mini QD	EZAC-R15A-QE8-QS83	
	1 NO & 1 NC	Power Monitoring		3-Pin Mini QD	5-Pin Mini QD	EZAC-R8N-QE8-QS53	
	2 NO			3-Pin Mini QD	5-Pin Mini QD	EZAC-R10N-QE8-QS53	

AC Emitter Interface Boxes

- Provides AC power for up to four emitters, with external device monitoring (EDM) available.
- Supplies +24V dc power at 0.7 amps (16.8 W max. power) and accepts input voltages from 100-250V ac (50-60 Hz).

	Emitter Connection	AC Power Connection	Model	Used with
  CORDSETS PAGE 685	8-Pin M12/Euro QD	Hard-wired	EZAC-E-QE8	• EZ-SCREEN SLSE...Q8 (without Test input) • EZ-SCREEN SLPE..
	5-Pin M12/Euro QD	Hard-wired	EZAC-E-QE5	• EZ-SCREEN SLSE...Q5 (with Test input)
	8-Pin M12/Euro QD	3-Pin Mini QD	EZAC-E-QE8-QS3	• EZ-SCREEN SLSE...Q8 (without Test input) • EZ-SCREEN SLPE..
	5-Pin M12/Euro QD	5-Pin Mini QD	EZAC-E-QE5-QS5	• EZ-SCREEN SLSE...Q5 (with Test input)

NC = Normally Closed, NO = Normally Open

AC Interface Box Specifications

Visit bannerengineering.com for detailed specifications

Mechanically Linked Contactors*

Provides an additional 10 or 18 amp carrying capability to any safety system.

	Coil Voltage	Contacts	Contact Rating	Dimensions (h x w x l)	Model	Used With
	120V ac	3 NO & 1 NC	10 amps	57 x 44 x 58 mm	11-BG00-31-A12060	• EZ-SCREEN • PICO-GUARD • SC22-3/-3E
	24V dc		10 amps (thermal)	57 x 44 x 58 mm	11-BG00-31-D-024	
	120V ac	3 NO & 1 NC	18 amps**	80 x 44 x 80 mm	BF1801A-12060	
	24V dc		18 amps** (inductive)	80 x 44 x 80 mm	BF1801L-024	

NC = Normally Closed, NO = Normally Open, minimum switching current (power): 5 mA @ 17V dc (85 mw)

* One Arc Suppressor is needed for each relay across the coil (see below).

** NC contact is rated at 10 amps

Auxiliary Contacts for Mechanically Linked Contactors

Adds contacts to mechanically linked contactors.

	Contacts	Positively Guided	Model	Used With
	4 NO	No (Aux. only)	11-BGX10-40	11-BG Series
	3 NO	Yes	11-G484-30	BF Series

NC = Normally Closed, NO = Normally Open

Suppressors for Mechanically Linked Contactors

Extends the life of the actuating device—such as a light screen or control module—that uses a mechanically linked contactor.

	Voltage	Model	Used With
	48V dc	11-BGX77-048	11-BG00-31-D024
	125-240V ac	11-BGX77-240	11-BG00-31-A12060
	48V dc	11-G318-48	BF1801L-024
	125-240V ac	BFX77-240	BF1801A-12060

NC = Normally Closed, NO = Normally Open

Task Lights

	Models
	• Work Light Strip • Work Light • Work Light Area See page 403

Accessories

Brackets

Cordsets

Retroreflectors

Miscellaneous

Reference

EZ-LIGHT™ Indicators

	Models
	• Tower Lights • Multi-Color, General-Purpose • Multi-Color, Multi-Function • Sensor Emulators • Indicators for Safety devices • Call Light • Segmented Displays • Daylight Visible • Traffic Lights See page 427

Indicator Lamps

- Indicates whether a switch is open or closed
- Available in red or green, 120V ac or 24V ac/dc

	Supply Voltage	Lamp Color	Thread	Models	Used With
	24V ac/dc	Red	M20 x 1.5	SI-PL3T-R	• SI-QS90 Safety Interlock Switches
	120V ac			SI-PL3A-R	• SI-LS42 Safety Interlock Switches
	24V ac/dc	Green		SI-PL3T-G	• SI-QM100 Safety Interlock Switches
	120V ac			SI-PL3A-G	• RP-LS42 Rope Pull Switches
					• RP-QM72/QMT72 Rope Pull Switches
					• RP-RM83 Rope Pull Switches
					• RP-QM90 Rope Pull Switch

Muting Lamps

- Indicates when muting is active for optical safety systems with a muting module.
- Uses a solid-state LEDs light, eliminating the need to replace bulbs.

	Supply Voltage	Lamp Color	Overall Height	Models	Used with
	18-30V dc or 24V ac	Red, Yellow, Green	142.6 mm	TL50GYRQ	• PICO-GUARD • EZ-SCREEN • Muting Modules
		Yellow	61.2 mm	TL50YQ	
		White		TL50WQ	
	+24V dc	Red Green Yellow (Amber)	Ø 18 mm	M18RGR5PNQ	
	24V ac/dc	Amber	383 mm	SSA-ML-A	
		White (clear)		SSA-ML-W	