

The driving force in technology |



FEDERAL SIGNAL



Innovation for those that provide safety.

Lightbars

Mini-Lightbars

Beacons

Directional Warning

Perimeter Lighting

Back-up Alarms

Camera Systems



Federal Signal is **The Driving Force™** behind the technology that provides safe and reliable emergency warning for municipal, utility, tow and recovery, and DOT vehicles. It is our commitment to engineer the most reliable and high-performing products for your work trucks.

Exclusive to Federal Signal, these technologies are identified on the following product pages. *Ask your local FS Representative how you can experience the latest in Federal Signal products.*

TECHNOLOGY

Federal Signal Exclusive Technologies



SPECTRALUX™ multicolor LED technology provides the ability for a LED light head to change color while in operation. LEDs can change between Red, Blue, Amber or White through user-selected flash patterns.



SOLARIS® LED reflector technology is engineered to increase off-axis warning and maximize the LED light source to eliminate dark spots and distribute 360-degrees of light coverage.



SLR (SOLARIS® LED ROTATOR) design maximizes the LED light source for full light coverage. The SLR rotates the Solaris LED reflector providing superior LED warning light output.



FS CONVERGENCE NETWORK provides “plug-n-play” installation from Federal Signal’s SmartSiren® Platinum, amplifier and controller, to our family of serial communication lightbars and SpectraLux ILS Interior Lighting System.



ROC (RELIABLE ONBOARD CIRCUITRY™) technology eliminates approximately 85% of the connection failure points found in a typical lightbar. Wires, connections and assemblies are replaced by PCB assemblies — reducing labor repair time and increasing the road time for work trucks.



HOTFOOT® lighted mounting feet provide additional light through powerful Solaris LED reflectors that are built into the mounting system of the lightbar.

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General Notes

1. All voltage is 12V (V denotes volts) unless marked otherwise. Contact the factory for pricing and availability of 24V models.
2. Standard rotators: 95 FPM. Medium rotators: 120 FPM. Fast rotators: 175 FPM (halogen models).
3. Prices for lightbars do not include controls (purchase separately) unless otherwise noted.
4. Prices for custom JetStream lightbars do not include inserts (purchase separately).
5. Product code: -95 and Z=Service Replacement Parts.
6. For detailed information on how to order, consult the product bulletins or contact the factory at 800-824-0254.

Legend® LPX Discrete | Lightbar

Features

- Traditional nine-conductor cable
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- All-LED lightbar — LED work lights and S/T/T (Stop/Tail/Turn) lights available
- LEDs offered in Amber, Blue, Green, Red, and White
- Top domes offered in Amber, Blue, Clear, and Red
- Independently controlled front and rear flashing
- Ten (10) selectable flash patterns; Two (2) flashing modes
- Available in 24", 45", 53", 61" and 70" lengths
- Five-year LED warranty

Approvals

- SAE J845, Class 1
- NFPA 1901 (on specific models)

Applications

- Municipal
- Security
- Tow & Recovery



LPX61D-00017

CLASS 1

Online Lightbar Configurator

ROC

SOLARIS

Model	Description
53" Model — Traditional cable, flat mount	
LPX53D-00001	Clear/Clear/Clear, (4) Amber corner LED reflectors, (2) LED work lights, (2) LED S/T/T lights
61" Models — Traditional cable, flat mount	
LPX61D-00001	Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (6) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, (2) LED work lights, (2) LED S/T/T lights
LPX61D-00005	Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (4) Amber 5" LED reflectors, (4) Amber 4" LED reflectors, (2) LED work lights, (2) LED S/T/T lights
LPX61D-00017	Clear/Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (8) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, (2) LED work lights, (2) LED S/T/T lights
70" Model — Traditional cable, flat mount	
LPX70D-00003	Clear/Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (2) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, (2) LED work lights, (2) LED S/T/T lights
Upgrade Kits	
LPXUPK-A-002	(8) Amber 5" LED reflectors, wire upgrade kit
LPXUPK-R-001	(8) Red 5" LED reflectors, wire upgrade kit, flasher
Accessories and Kits	
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
Z8653134B	Hook mount kit
Z8653134B-01	Permanent mount kit
Z8653178A	Flat surface mount kit

NOTES

- [See page 16](#) for common replacement parts.
- [See page 18](#) for 24" Legend LPX Discrete models.

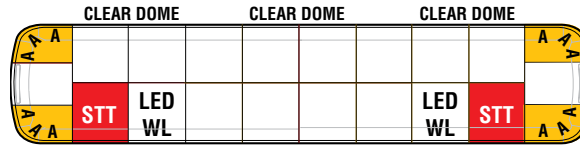
HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.

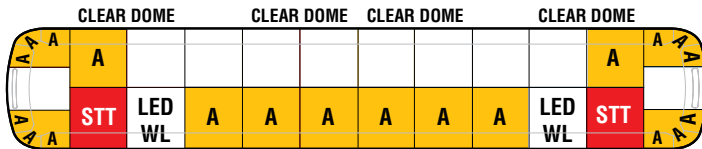


For additional lighting, center section upgrade kits with Solaris LED reflectors are available.

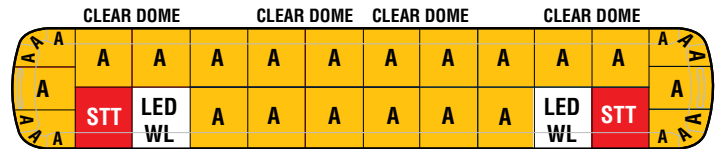
24" Model—Domes are available in Amber/Clear



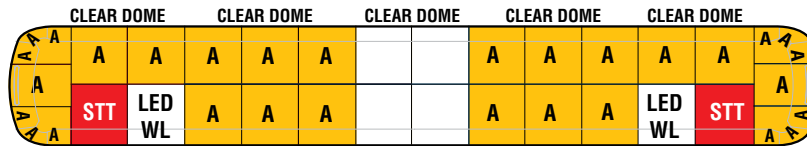
LPX53D-00001



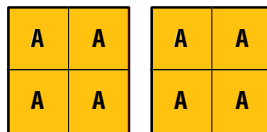
LPX61D-00005



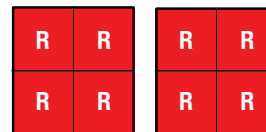
LPX61D-00017



LPX70D-00003



LPXUPK-A-002



LPXUPK-R-001

	LPX24D	LPX45D	LPX53D	LPX61D	LPX70D
Specifications					
Operating Voltage	12.8 VDC for all models				
Operating Temp	-30°C to +65°C				
Current Draw	1 Amp per head, 0.5 Amp per alley light				
Physical Specifications					
Length	24.25 in (61.6 cm)	44.5 in (113.0 cm)	52.7 in (133.9 cm)	60.9 in (154.7 cm)	69.1 in (175.5 cm)
Width	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)
Height	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)
Shipping Weight					
	16.6 lb (7.5 kg)*	20.4 lb (9.3 kg)*	24.2 lb (11.0 kg)*	28.0 lb (12.7 kg)*	31.8 lb (14.4 kg)*

*Standard Foot Model



Federal Signal's ROC technology allows for field replacement of upgrade kits.

Legend® LPX | Lightbar

Features

- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- FS Convergence Network, serial lightbar
- All-LED lightbar — LED takedowns, work lights and S/T/T (Stop/Tail/Turn) lights available
- LEDs offered in Amber, Blue, Green, Red and White
- Top domes offered in Amber, Blue, Clear and Red
- Built-in SignalMaster, front/rear cut-off, intersection warning and “dimming” functions
- Same flash patterns, controller options and mounting option as standard Legend lightbars
- Available in 45", 53", 61" and 70" lengths
- Five-year LED warranty

Approval

- SAE J845, Class 1

Applications

- Municipal
- Security
- Tow & Recovery



LPX45Z-00020

CLASS 1

Online Lightbar Configurator

ROC

SOLARIS

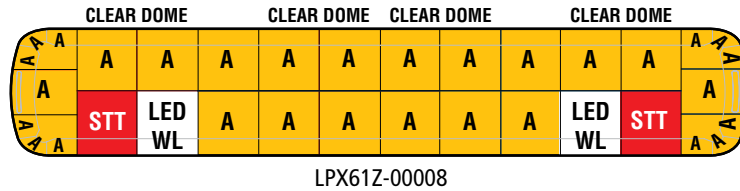
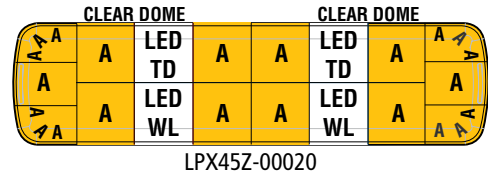
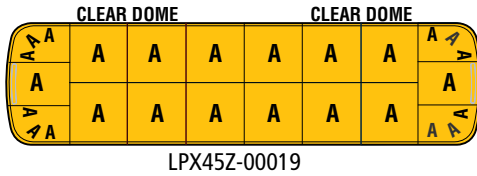
Model	Description
45" Models — Flat mount and 6-button controller included	
LPX45Z-00019	Clear/Clear, (4) Amber corner LED reflectors, (12) Amber 5" LED reflectors, (2) Amber 2" LED reflectors
LPX45Z-00020	Clear/Clear, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (2) Amber 2" LED reflectors, (2) LED takedowns, (2) LED work lights
53" Models — Flat mount and 6-button controller included	
LPX53Z-00037	Clear/Clear/Clear, (4) Amber corner LED reflectors, (12) Amber 5" LED reflectors, (4) Amber 4" LED reflectors, (2) Amber 2" LED reflectors
LPX53Z-00038	Clear/Clear/Clear, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (4) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, (2) LED work lights, (2) LED takedowns
61" Models — Flat mount and 6-button controller included	
LPX61Z-00007	Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (12) Amber 5" LED reflectors, (8) Amber 4" LED reflectors, (2) Amber 2" LED reflectors
LPX61Z-00008	Clear/Clear/Clear/Clear, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (8) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, (2) LED work lights, (2) LED S/T/T lights
Accessories and Kits	
660000	6-button programmable controller, light control only
660300	3-button programmable controller, light control only
660100	RS485 relay module
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
Z8653134B	Hook mount kit
Z8653134B-01	Permanent mount kit
Z8653178A	Flat surface mount kit

NOTE

- [See page 16](#) for common replacement parts.

HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.



	45"	53"	61"	70"
Specifications				
Voltage	12.8 VDC for all models			
Current Draw — Per Lighting Options (All three lengths)				
LED Takedown Light / Work Light	1.0 Amp**			
Alley Light	2.7 Amp*			
Solaris LED - Main Lightbar	1.0 Amp**			
Physical Specifications				
Length	44.5 in (113.0 cm)	52.7 in (133.9 cm)	60.9 in (154.7 cm)	69.1 in (175.5 cm)
Width	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)
Height	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)
Shipping Weight				
	20.4 lbs (9.2 kg)***	24.2 lbs (10.9 kg)***	28.0 lbs (12.6 kg)***	31.8 lbs (14.4 kg)***

* Amperage per pair, with flashing takedown and alley lights.
 ** Amperage in steady burn mode.
 *** Standard foot model.

Relay Module



- Works in conjunction with the 6- or 3-button controllers
- Customize complete warning packages with any serial communication lightbar platform and a variety of lightheads
- Built-in 2-channel flasher with alternating flash patterns
- (4) relay outputs - (2) 10-Amp and (2) 15-Amp (not to exceed 40-Amp)

Six and Three Button Controller



- Model 660300 features (3) illuminated push-button switches with (9) pre-programmed keypad configurations
- Model 660000 features (6) illuminated push-button switches and a (4) position slide switch with (18) pre-programmed keypad configurations
- Quick and easy install with FS Convergence Network which provides "plug-n-play" installation and programming

Legend® | Lightbar

Features

- Low-profile, linear lightbar design offers front and rear cut-off and dimming features
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Optional built-in SignalMaster™ directional warning
- Advanced microprocessor controller provides three modes of operation and a library of flash patterns
- LED S/T/T (stop/turn/tail) and LED takedown and alley lights available
- Three-button or six-button serial controller available for light control only
- Six-button wireless controller option available (lightbar control only)
- Available in 24", 45", 53", 61" and 70" lengths
- Five-year LED warranty

Approvals

- SAE J845, Class 1
- CAC Title 13 (on select models)

Applications

- Municipal
- Security
- Tow & Recovery



Model	Description
45" Models — Flat mount and 6-button controller included	
LGD45Z-00044	Amber/Amber, (4) Amber corner LED reflectors, (12) Amber 5" LED reflectors, (2) Amber 2" LED reflectors
53" Models — Flat mount and 6-button controller included	
LGD53Z-00031	Amber/Amber/Amber, (4) Amber corner LED reflectors, (12) Amber 5" LED reflectors, (4) Amber 4" LED reflectors, (2) Amber 2" LED reflectors
61" Models — Flat mount and 6-button controller included	
LGD61Z-00004	Clear/Clear/Clear/Clear, (2) LED S/T/T lights, (2) LED work lights, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (8) Amber 4" LED reflectors, (2) Amber 2" LED reflectors
LGD61Z-00009	Clear/Clear/Clear/Clear, (2) LED S/T/T lights, (2) LED work lights, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (8) Amber 4" LED reflectors, (2) Amber 2" LED reflectors
70" Models	
LGD70Z-00004	Clear/Clear/Clear/Clear/Clear, (2) LED S/T/T lights, (2) LED work lights, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (12) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, 6-button controller, flat mount
LGD70Z-00006	Clear/Clear/Clear/Clear/Clear, (2) LED S/T/T lights, (2) LED work lights, (4) Amber corner LED reflectors, (8) Amber 5" LED reflectors, (4) Amber 4" LED reflectors, (2) Amber 2" LED reflectors, interface module, permanent mount
Accessories and Kits	
660000	6-button programmable controller, light control only
660300	3-button programmable controller, light control only
660100	RS485 relay module
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
Z8653134B	Hook mount kit
Z8653134B-01	Permanent mount kit
Z8653178A	Flat surface mount kit

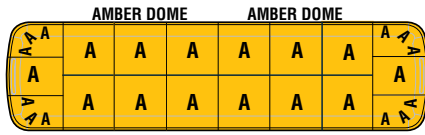
NOTE

- [See page 16](#) for common replacement parts.

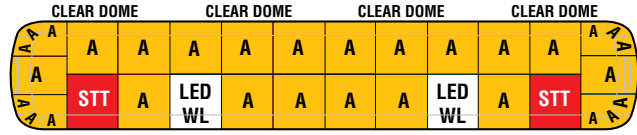
HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.

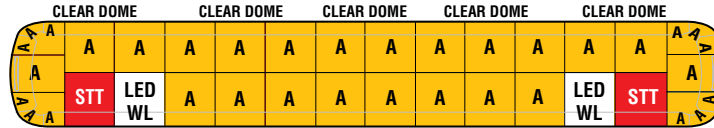
24" Model—Domes are available in Amber/Clear



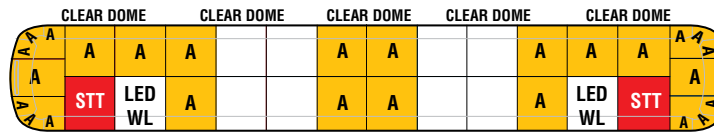
LGD45Z-00044



LGD61Z-00004



LGD70Z-00004



LGD70Z-00006

	24"	45"	53"	61"	70"
Specifications					
Operating Voltage	12.8 VDC for All models				
Current Draw	1 Amp per head, 0.5 Amp per alley light				
Physical Specifications					
Length	24.25 in (61.6 cm)	44.5 in (113.0 cm)	52.7 in (133.9 cm)	60.9 in (154.7 cm)	69.1 in (175.5 cm)
Width	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)
Height	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)	2.5 in (6.4 cm)
Shipping Weight					
	16.6 lbs. 7.5 kg*	20.4 lbs (9.3 kg)*	24.2 lbs (11.0 kg)*	28.0 lbs (12.7 kg)*	31.8 lbs (14.4 kg)*

*Standard foot included

Relay Module

- Works in conjunction with the 6- or 3-button controllers
- Customize complete warning packages with any serial communication lightbar platform and a variety of lightheads
- Built-in 2-channel flasher with alternating flash patterns
- (4) relay outputs - (2) 10-Amp and (2) 15-Amp (not to exceed 40-Amp)



Six and Three Button Controller

- Model 660300 features (3) illuminated push-button switches with (9) pre-programmed keypad configurations
- Model 660000 features (6) illuminated push-button switches and a (4) position slide switch with (18) pre-programmed keypad configurations
- Quick and easy install with FS Convergence Network which provides "plug-n-play" installation and programming



Valor® | Lightbar

Features

- SpectraLux™ multicolor LED technology
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Six-button controller for ease of installation and lightbar control
- Available in 44" and 51"

Approvals

- SAE J845 and J595 Class 1
- CAC Title 13 Class B

Applications

- Security
- Tow & Recovery
- Utility



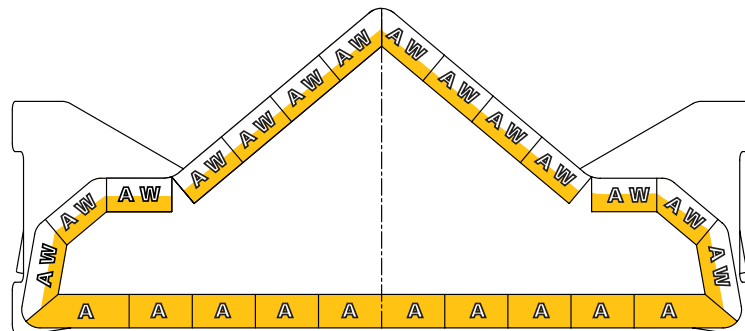
Model	Description
44" Models — Hook mount and 6-button controller included	
VALR44S-AMBR1	(24) Amber modules, SignalMaster, 6-button controller
VALR44S-AMBR2	(14) Amber/White modules, (10) Amber modules, SignalMaster, front flood feature, 6-button controller
VALR44S-AMBR3	(22) Amber/White modules, (2) Amber modules, SignalMaster, full flood feature, 6-button controller
51" Models — Hook mount and 6-button controller included	
VALR51S-AMBR1	(28) Amber LED modules, hook mount, SignalMaster, 6-button controller
VALR51S-AMBR2	(12) Amber LED modules, (16) Amber/White LED modules, hook mount, SignalMaster, front flood feature, 6-button controller
VALR51S-AMBR3	(2) Amber LED modules, (26) Amber/White LED modules, hook mount, SignalMaster, full flood feature, 6-button controller
Accessories or Kits	
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
LPO-HOOK	Kit, hook on foot (require use of hook kit)
LPO-PERM	Kit, permanent mount

NOTE

- [See page 16](#) for common replacement parts

HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.



VALR44S-AMBR2

SpectraLux™ Multicolor LED Technology

Exclusive to Federal Signal, SpectraLux provides the ability for a LED light head to operate with an amber flash pattern or the same module can be utilized as a work light.



Solaris LED Reflector Design

Federal Signal's Solaris® LED reflector technology is engineered to significantly increase off-axis warning and maximize the LED light source to eliminate dark spots and distribute 360-degrees of light coverage.



ROC (Reliable Onboard Circuitry) Technology

Federal Signal's patented ROC technology is manufactured to eliminate approximately 85% of the connection failure points found in a typical lightbar assembly. Wires, connections and assemblies have been replaced by PCB assemblies — reducing labor repair time and increasing the road time for your work trucks.



SignalMaster™

The Valor is built with an 8-head LED SignalMaster capability for directional warning.

Simple Installation

For maximum performance, the FS Convergence Network provides literal "plug-n-play" installation. Utilizing standard RJ45 connections, the Valor can be easily programmed using a six-button controller.



A serial interface module with your existing light controller can also be used to program and operate the features and functions of the Valor.

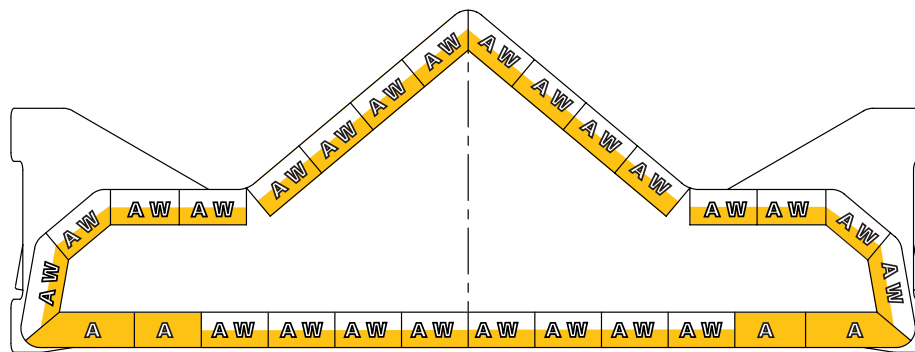


Easy Service

Valor can be serviced while on the roof top. Remove the single dome and easily disconnect the ROC board.

Low Power Feature

When activated, the low power feature significantly reduces the light output intensity.



VALR51S-AMBR3

JetStream® LED | Lightbar

Features

- Traditional nine-conductor cable
- Classic aerodynamic profile provides outstanding warning and limits drag
- Ten (10) user-selectable flash patterns
- Mode function allows switching between primary and secondary flash patterns
- Allows for upgrade of additional LED modules
- “T-slot/hardware entry hole” for ease of installation
- Five-year LED warranty

10

Approval

- SAE J845, Class 1

Applications

- Municipal
- Tow & Recovery
- Utility



CLASS 1

Online Lightbar
ConfiguratorROC
RELIABLE OPTICAL COMMUNICATIONS

SOLARIS

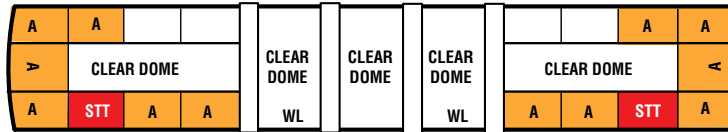
Model	Description
54" Models — Flat mount included	
JLL5402-SB	Amber/Amber/Amber/Amber, (22) Amber LED modules
JLL5402-CSB	Clear/Clear/Clear/Clear, (22) Amber LED modules
JLL5403-SB	Amber/Amber/Amber/Amber, (12) Amber LED modules, (2) work lights, (2) LED S/T/T lights
JLL5403-CSB	Clear/Clear/Clear/Clear, (12) Amber LED modules, (2) work lights, (2) LED S/T/T lights
60" Model — Flat mount included	
JLL6003-CSB	Clear/Clear/Clear/Clear/Clear, (12) Amber LED modules, (2) work lights, (2) LED S/T/T lights
Accessories and Kits	
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
JNHK	Kit, hook mount brackets, Jet
UNPK	Kit, permanent mount, universal
521545	Kit, LED module, Clear/Amber
501430	Kit, flat mount

NOTE

- [See page 16](#) for common replacement parts



JLL5403-CSB



JLL6003-CSB

	54"	60"
Specifications		
Voltage	12 VDC	
Amp Draw primary warning	0.32 Amp per ModLED light module	
Physical Specifications		
Length	54.0 in (137.2 cm)	60.0 in (152.4 cm)
Diameter	11.2 in (28.4 cm)	11.2 in (28.4 cm)
Height	4.7 in (11.9 cm)	4.7 in (11.9 cm)
Ship Weight		
	33.0 lbs (15 kg)	35.0 lbs (15.9 kg)

11



ModLED LED Warning Light



Intelli-Flash 2-Channel Flasher
 "Inside" JLL5402



Intelli-Flash Series (Model 650201)

JetSolaris® LED | Lightbar

Features

- Traditional nine-conductor cable
- Classic aerodynamic profile provides outstanding warning and limits drag
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Integrated SignalMaster™ directional warning
- Twenty-six (26) user-selectable patterns
- LEDs offered in Amber, Blue, Red and White
- Available in 21", 48", 54", 60" and 72" lengths
- Five-year LED warranty

Approvals

- SAE J845 and J595 Class 1

Applications

- Municipal
- Tow & Recovery
- Utility



CLASS 1

Online Lightbar Configurator

ROC
RELIABLE ONBOARD CIRCUITRY™

SOLARIS

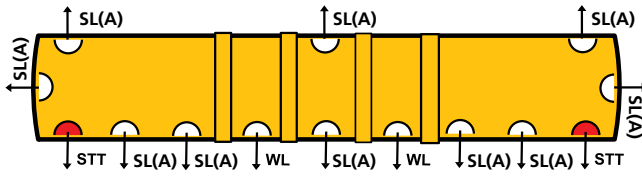
Model	Description
48" Model — Mount kit included	
JLX4816-HD	Amber/Clear/Amber, (14) Amber 6-LED reflectors, (6) Amber 3-LED reflectors
60" Models — Mount kit included	
JLX6003C-HD	Clear/Clear/Clear/Clear/Clear, (8) Amber 6-LED reflectors, (2) Amber 3-LED reflectors, work lights, LED S/T/T lights
JLX6004C-HD	Clear/Clear/Clear/Clear/Clear, (4) Amber 6-LED reflectors, (2) Amber 3-LED reflectors, work lights, LED S/T/T lights
72" Model — Mount kit included	
JLX72LLL-00003	Clear/Clear/Clear/Clear/Clear/Clear/Clear, (18) Amber 6-LED reflectors, (4) Amber 3-LED reflectors, LED S/T/T lights, work lights
Accessories and Kits	
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
JNHK	Kit, hook mount brackets, Jet
UNPK	Kit, permanent mount, universal
501430	Kit, flat mount

NOTES

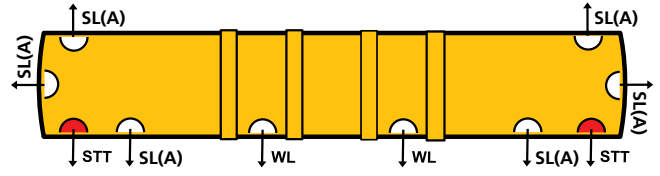
- [See page 16](#) for common replacement parts
- [See page 26](#) for 21" JetSolaris models

HOW TO ORDER

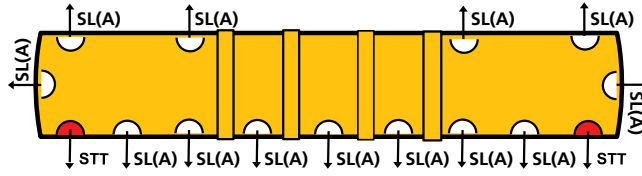
Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.



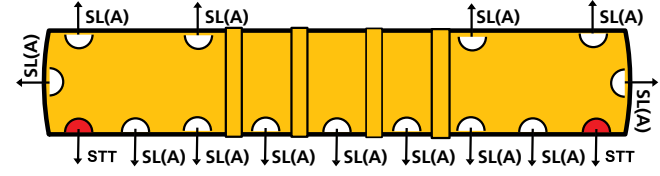
JLX6003-HD (Amber domes)
 JLX6003C-HD (Clear domes)



JLX6004-HD (Amber domes)
 JLX6004C-HD (Clear domes)



JLX6005-HD (Amber domes)
 JLX6005C-HD (Clear domes)



JLX6007-HD (Amber domes)
 JLX6007C-HD (Clear domes)

	48"	54"	60"	72"
Specifications				
Voltage	12 VDC			
Current Draw	3-button Solaris LED reflector (any color) - 0.5 Amp 6-button Solaris LED reflector (any color) - 1 Amp Traffic Clearing Light - 4.3 Amp Work Light - 4.3 Amp Stop/Tail/Turn - 0.32 Amp			
Physical Specifications				
Height	4.7 in (11.9 cm)	4.7 in (11.9 cm)	4.7 in (11.9 cm)	4.7 in (11.9 cm)
Length	47.5 in (120.0 cm)	54.0 in (137.2 cm)	60.0 in (152.4 cm)	72.0 in (182.9 cm)
Width	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)	11.2 in (28.4 cm)
Ship Weight				
	32.0 lbs (14.5 kg)	33.5 lbs (15.2 kg)	35.0 lbs (15.9 kg)	83.0 lbs (37.4 kg)

TurboBeam® | Lightbar

Features

- Powerful 80,000-candela flash halogen rotators
- Optional diamond mirrors double flash rate
- Available in 35", 47", 53" and 60" lengths
- The "Wrecker" model is available in 53" length
- Five-year LED warranty

Approval

- SAE Class 1

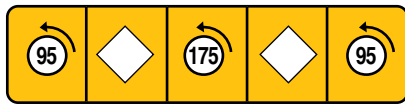
Applications

- Municipal
- Security
- Tow & Recovery
- Utility

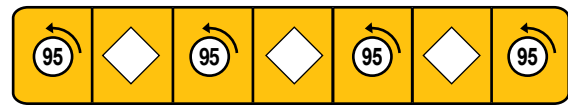


CLASS 1

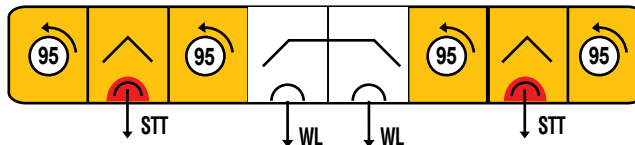
Model	Description
35", 12 VDC, permanent mount	
211950-02SB	(2) 95 FPM rotators, (1) 175 FPM rotator, (2) diamond mirrors, Amber; -05(Clear)
211951-02SB	(3) 95 FPM rotators, (2) diamond mirrors, Amber
47", 12 VDC, permanent mount	
211916-02SB	(4) 95 FPM rotators, (3) diamond mirrors, Amber; -03(Blue); -04(Red); -05(Clear); -252(Amber/Clear/Amber); -323(Blue/Amber/Blue); -452(Red/Clear/Amber); -453(Red/Clear/Blue); -454(Red/Clear/Red)
211920-02	(2) 95 FPM rotators, (2) 120 FPM rotators, (3) diamond mirrors; Amber
211924-02	(2) 120 FPM rotators, (2) strobes, (3) diamond mirrors, Amber
53", 12 VDC, permanent mount	
211917-02SB	Wrecker Model, (4) 95 FPM rotators, (2) work lights, (2) S/T/T lights, (2) V-mirrors, Amber
Common Replacement Parts	
411167	Right end dome, Amber
411177	Center dome, Amber
411187	Left end dome, Amber
Z8440A265A-02	Halogen lamp, 55 W, long life
AHRK	Rotator, 95 FPM
AHRK-F	Rotator, 175 FPM



211950-02SB



211916-02SB



211917-02SB
 ("Wrecker" model)

	35"	47"	53"
Specifications			
Voltage	12 VDC		
Flash Rate	Various		
Physical Specifications			
Height	5.0 in (12.7 cm)	5.0 in (12.7 cm)	5.0 in (12.7 cm)
Length	35.0 in (88.9 cm)	47.0 in (119.4 cm)	53.0 in (134.6 cm)
Diameter	9.0 in (22.9 cm)	9.0 (22.9 cm)	9.0 (22.9 cm)
Ship Weight			
	16.1 lbs (7.2 kg)	24.0 lbs (10.8 kg)	26.6 lbs (12.0 kg)

Lightbar Common Replacement Parts

Model	Description
Legend LPX Discrete, Legend LPX and Legend	
Z1751357A-02	RS485, 25-ft Interface cable assembly
Z1751364B	Cable, Interface, 36"
Z8107169A	Bulb, GH8, Bi-pin alley/takedown light, 50 W halogen
Z8107241A	Bulb, alley light, 35 W, 10-degrees spot, MR-11
Z8583020B-01	Gasket, dome, Clear, 6-ft required per base, sold by the foot
Z8583446D	Interface module with cable assembly
Z8583469D	Serial interface module
Z8653100A	Base, end, Clear
Z8653101A	Dome, end, Clear; -02(Amber); -03(Blue); -04(Red)
Z8653102A	Base, center, Clear
Z8653103A	Dome, center, Clear; -02(Amber); -03(Blue); -04(Red)
Valor	
Z1461855A-252	Harness, power/ground
Z1751575A-300	Cable, communication, external
Z2005653A	Controller replacement board
Z8651101A	44", Lens
Z8651114B	44", Metal Cover
Z8651125A	44", Top Cover Pad
Z8651103A	51", Lens Valor
Z8651116A	Gasket, Top Dome Valor
Z865100143A	Vortex generation kit
JetSolaris LED/JetStream/JetStrobe	
Z8107141A	Bulb, JetSolaris/JetStream/JetStrobe, traffic clearing light, 50 W
Z8107A119A	Bulb, work lights
211673-95	Bulb, Stop/Turn/Tail
Z8548A028A	Bulb, flashing light
447532	Motor, 95 FPM, 12 VDC
447542	Motor, 120 FPM, 12 VDC
447539	Motor, 175 FPM, 12 VDC
521502	Offset rotator with bulb, 95 FPM
521522	Offset rotator with bulb, 175 FPM
Z8552308A	Centered rotator with bulb, 95 FPM
Z8552308A-01	Centered rotator with bulb, 175 FPM
Z8552427C-01	Four-head power supply
Z8552427C-02	Six-head power supply
Z8554057A	Flasher, 2-channel, hi-side
521500-02	End dome, Amber
521500-04	End dome, Red
521500-05	End dome, Clear
521501-02	Center dome, Amber
521501-05	Center dome, Clear
Z8552348A	Bulkhead gasket assembly, JetStream, Black; -02(Amber); -05(Clear)

Hook Kit Reference Guide

For the most up-to-date hook mount information, contact Customer Support at 800-824-0254.

CARS, VANS AND SUV'S			
MAKE/MODEL	YEAR	HOOK KIT MODEL #	ROOF WIDTH
FORD			
Crown Victoria	1992-11	HKB-CV92	46.0"
Edge	2012	HKB-FRD7	52.0"
Escape	2007-12	HKB-ESC7	49.5"
	2005-06	HKB-ESC5	49.0"
Expedition	2003-12	HKB-FTEX	52.0"
	2011-12	Permanent Mount	55.0"
Explorer	2008-10	HKB-XPL8	51.0"
	2000-06	HKB-WSTR	49.0"
	2012	HKB-CHGR11	57.0"
Flex	2012	HKB-CHGR11	57.0"
Focus	2011-12	HKB-CHGR	48.0"
Fusion	2011-12	HKB-CHGR	48.5"
Mustang	2012	Permanent Mount	46.0"
Taurus	2011-12	HKB-TAR11	52.5"
	2009	HKB-TAR9	49.0"
Van	1987-11	HKB-SAV	65.0"
CHEVROLET/GM			
Caprice	2011	HKB-CAP11B	49.25"
Cruze	2012	HKB-MAG7	46.5"
Equinox LS (No Roof Rails)	2012	HKB-IMP7	48.5"
Express Van	2003-11	HKB-SAV	61.0"
Impala	2006-12	HKB-IMP7	46.5"
	2012	HKB-CHGR11	48.0"
Malibu	2008-11	HKB-MAL8	47.0"
	2007	HKB-MAL7	44.0"
Suburban (No Roof Rails)	2007-12	HKB-TA10	55.0"
	2000-06	HKB-CK2	52.0"
Tahoe	2007-12	HKB-TA010	55.0"
	2000-06	HKB-CK2	52.0"
Trail Blazer/Envoy	2007-10	HKB-CK2	51.0"
	2006	HKB-S10	48.0"
Traverse	2012	Permanent Mount	53.0"
Uplander	2007-08	HKB-UPL7	50.0"
Volt	2012	HKB-CHGR11	47.5"
CHRYSLER/DODGE/JEEP			
200	2012	HKB-FRD4	50.0"
Challenger	2012	Permanent Mount	54.5"
Charger	2011	HKB-CHGR11	50.25"
	2006-10	HKB-CHGR	47.0"
Commander	2010	HKB-CK2	56.0"
Durango	2008-09	HKB-DUR8	48.0"
Durango (Slick Top)	2011-12	HKB-MAL7	54.0"
	2004-07	HKB-CK2	48.0"
Durango (Roof Rack)	2005-07	HKB-DURR	48.0"
Grand Caravan/ Town & Country	2008-12	HKB-CAR8	60.0"
	1996-07	HKB-CARV	48.5"
Grand Cherokee	2011	HKB-MAL7	54.0"
Liberty	2012	HKB-CAR8	55.0"
Wrangler	2012	Permanent Mount	N/A

All Federal Signal lightbars may be permanent or hook-on mounted. When using a hook-on mount, a separate hook kit is required for the make, model and year of your vehicle. Use the hook kit reference guide to find your vehicle's appropriate hook kit. Measurements for the roof width are determined by the style of the vehicle. These measurements may help you in choosing the lightbar length best suited for your vehicle.

Permanent Mounting: (no hook kit required)

Vision and Vector models use VMPK permanent mount kit.

Vista models use XPK permanent mount kit.

JetStream, JetStrobe, AeroDync and all StreetHawk lightbars use UNPK permanent mount kit.

Hook-on Mounting: (refer to hook kit reference guide)

Vision and Vector models use VM-SB mounting brackets plus hook kit.

Vista models use XHK-SC brackets plus hook kit.

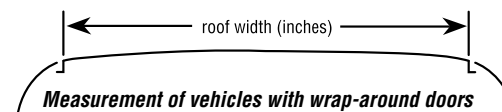
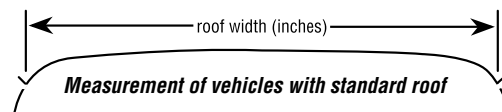
AeroDync and all StreetHawk lightbars use UNHK mounting brackets plus hook kit.

JetStream and JetStrobe use JNHK mounting brackets plus hook kit.

TRUCKS				
MAKE MODEL	CAB STYLE	YEAR	HOOK KIT MODEL #	ROOF WIDTH
FORD				
F150	Reg	2009-10	HKB-FRD9	57.0"
		2007-08	HKB-FRD7	57.0"
		2004-06	HKB-FRD4	57.0"
	Ext/ SuperCab	2009-11	HKB-FRD9	57.0"
		2007-08	HKB-FRD7	57.0"
		2004-06	HKB-FRD4	57.0"
		2009-11	HKB-FRD9	57.0"
	Crew/ SuperCrew	2007-08	HKB-FRD7	57.0"
		2004-06	HKB-FRD4	57.0"
		2007-08	HKB-FRD7	57.0"
2004-06		HKB-FRD4	57.0"	
F250/350/450	Reg	2007-11	HKB-FHD7	58.5"
		2004-06	HKB-DKTA	58.5"
	Ext/ SuperCab	2007-11	HKB-FHD7	58.5"
		2004-06	HKB-DKTA	58.5"
	Crew	2007-10	HKB-FHD7	58.5"
		2004-06	HKB-DKTA	56.5"
Ranger	Reg	2002-10	HKB-DKTA	48.5"
	Ext/ SuperCab	2002-10	HKB-DKTA	48.5"
CHEVROLET				
Avalanche	Crew	2002-12	HKB-CK2	55.0"
Colorado/Canyon	Reg	2007-12	HKB-COL7	45.5"
		2004-06	HKB-COLO	45.0"
	Ext	2007-12	HKB-COL7	45.5"
		2004-06	HKB-COLO	45.0"
	Crew	2007-12	HKB-COL7	45.5"
		2004-06	HKB-COLO	45.0"
Silverado Classic/Sierra Classic (1500, 2500, 3500)	Reg	2001-07	HKB-CK2	52.0"
	Ext	2001-07	HKB-CK2	52.0"
	Crew	2001-07	HKB-CK2	52.0"
Silverado/Sierra (1500, 2500, 3500)	Reg	2007-12	HKB-TA07	55.0"
	Ext	2007-12	HKB-TA07	55.0"
	Crew	2007-12	HKB-TA07	55.0"
DODGE				
Dakota	Club	2005-07	HKB-DKTA	45.5"
	Quad	2005-11	HKB-DKTA	45.5"
Ram (1500, 2500, 3500)	Reg	2010-12	HKB-FRD9	57.5"
		2003-05	HKB-RAM2	48.5"
	Quad	2010-12	HKB-FRD9	57.5"
		2003-07	HKB-RMQ4	51.0"
	Mega	2010-12	HKB-FRD9	57.5"
		2007	HKB-RMQ4	52.5"

Notes

The hook kit reference guide is updated on an ongoing basis as information becomes available. Please check the hook kit reference guide online at www.fedsig.com for up-to-date vehicle and hook kit listings. For older vehicle make and model configurations, please contact Customer Support at (800) 824-0254.



24" Legend® LPX Discrete | Mini-Lightbar

Features

- Traditional cable
- Low-profile, linear lightbar design
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Ten (10) selectable flash patterns; Two (2) flashing modes
- LEDs offered in Amber, Blue, Green Red and White
- Top dome colors are offered in Amber and Clear
- Five-year LED warranty

Approval

- SAE J845, Class 1

Applications

- Construction
- Landscape
- Pick-up Trucks
- Snow Plows
- Tow Trucks



CLASS 1

ROC
RELIABLE ONBOARD CIRCUITRY™

SOLARIS

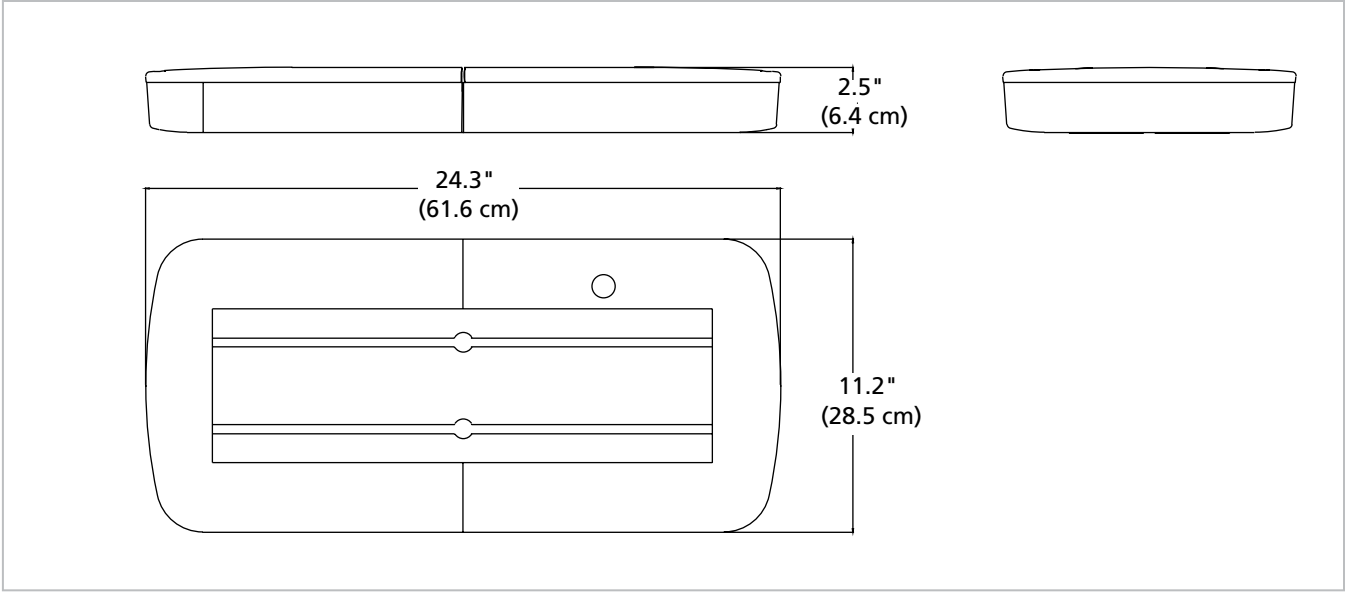
Model	Description
24" Model — Flat mount	
LPX24D-00001	Clear/Clear, (4) Amber corner LED reflectors, (4) Amber 5" LED reflectors, (2) Amber 2" LED reflectors
LPX24D-00015	Amber/Amber, (4) Amber corner LED reflectors, (4) Amber 5" LED reflectors, (2) Amber 2" LED reflectors
Accessories and Kits	
660100	RS485 relay module
HKB-(Model)	Hook required with hook-on mount, specify vehicle — see page 17
Z8653134B	Hook mount kit
Z8653134B-01	Permanent mount kit
Z8653178A	Flat surface mount kit

NOTE

- [See page 16](#) for common replacement parts.

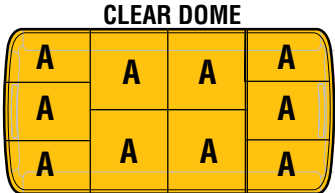
HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.

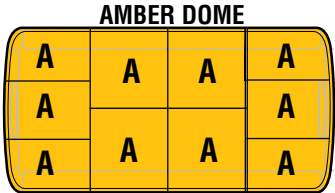


LPX24D	
Specifications	
Operating Voltage	12.8 VDC for all models
Operating Temp	-30°C to +65°C
Current Draw	1 Amp per head, 0.5 Amp per alley light
Physical Specifications	
Height	2.5 in (6.4 cm)
Length	24.3 in (61.6 cm)
Width	11.2 in (28.5 cm)
Shipping Weight	
	16.6 lb (7.5 kg)*

*Standard Foot Model



LPX24D-00001



LPX24D-00015

12" Legend® Sets

Mini-Lightbar

Features

- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- 20-ft traditional cable
- Built-in flasher models include ten (10) selectable flash patterns
- Five-year LED warranty

Approval

- SAE Class 1

Applications

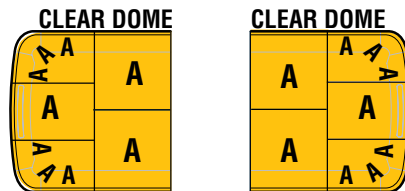
- Tow and Recovery Heavies
- Utility



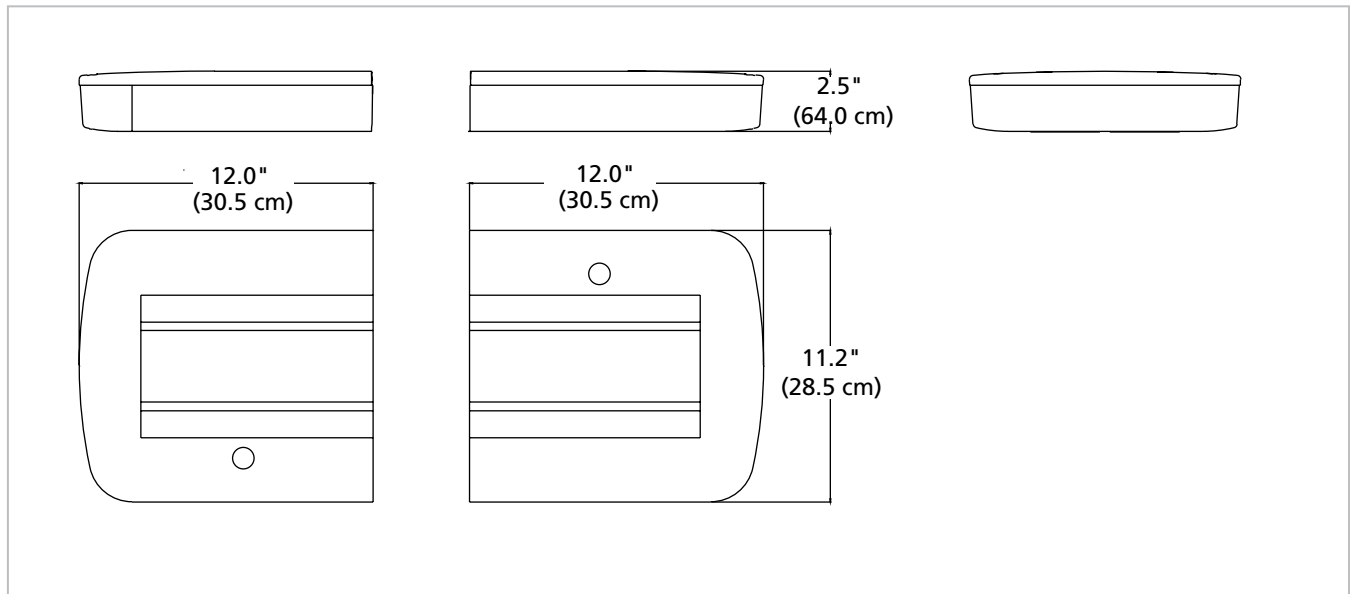
Model	Description
Flat Mount Included	
LGD12Z-00001	Clear, (2) Amber corner LED reflectors, (2) Amber 5" LED reflectors, (1) Amber 2" reflector, built-in flasher, set
LGD12Z-00002	Clear, (2) Amber corner LED reflectors, (2) Amber 5" LED reflectors, (1) Amber 2" reflector, set
Accessories and Kits	
660100	RS485 relay module
650205	Flasher, (2) 10 A loads, (10) flash patterns, high-side switching

NOTE

- See page 16 for common replacement parts.



LGD12Z-00001
LGD12Z-00002



Specifications	
Amp Draw	2.5 Amp @ 12.8 VDC
Flash Patterns	10
LED Color Options	Amber, Blue, Clear, Green and Red
Dome Color Options	Amber and Clear
Physical Specifications	
Height	2.5 in (64.0 cm)
Length	12.0 in (30.5 cm)
Width	11.2 in (28.5 cm)
Ship Weight	
	10.8 lbs (4.9 kg)*

*Standard foot included

Relay Module

- Works in conjunction with the 6- or 3-button controllers
- Customize complete warning packages with any serial communication lightbar platform and a variety of lighthead
- Built-in 2-channel flasher with alternating flash patterns
- (4) relay outputs - (2) 10-Amp and (2) 15-Amp (not to exceed 40-Amp)



21" Mini-JetSolaris® | Mini-Lightbar

Features

- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Twenty-six (26) user-selectable patterns with primary/secondary modes
- LEDs offered in Amber, Blue, Red and White
- Cigarette plug power option available
- Five-year LED warranty

22

Approval

- SAE Class 1

Applications

- Construction
- Pick-up trucks
- Snow plows
- Utility



JLX2106C-HD

CLASS 1

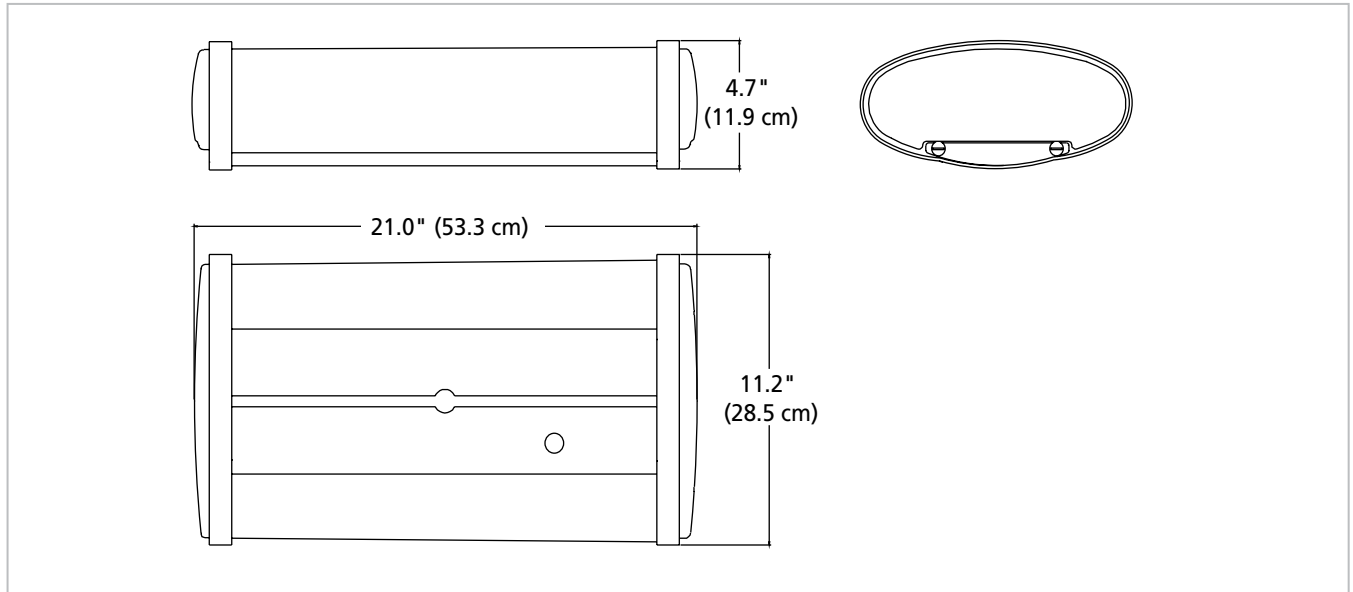
Online Lightbar
ConfiguratorROC
RELIABLE ONBOARD CIRCUITRY™

SOLARIS

Model	Description
21" Mini-JetSolaris — Mount kit included	
JLX2101-HD	Amber, (2) Amber 6-LED reflectors, (6) Amber 3-LED reflectors
JLX2101C-HD	Clear, (2) Amber 6-LED reflectors, (6) Amber 3-LED reflectors
JLX2106-HD	Amber, (6) Amber 6-LED reflectors, (6) Amber 3-LED reflectors
JLX2106C-HD	Clear, (6) Amber 6-LED reflectors, (6) Amber 3-LED reflectors
JLX2192-HD	Clear, (6) Amber 6-LED reflectors, (6) Amber 3-LED reflectors, cigarette plug included
Accessories or Kits	
JMPK	Kit, permanent mount, 21" Mini-Jet models
JMMK	Kit, magnetic mount

HOW TO ORDER

Choose one of the popular models above, customize your own lightbar with our [online configurator](#) or contact a local Federal Signal representative or distributor.



Specifications	
Voltage	12 VDC for all models
Current Draw	3-button Solaris LED reflector (any color) - 0.5 Amp
	6-button Solaris LED reflector (any color) - 1 Amp
	Traffic Clearing Light - 4.3 Amp
	Work Light - 4.3 Amp
	Stop/Tail/Turn - 0.32 Amp
Physical Specifications	
Height	4.7 in (11.9 cm)
Length	21.0 in (53.3 cm)
Width	11.2 in (28.5 cm)
Ship Weight	
	16.0 lbs (7.2 kg)



JMK



JMMK

HighLighter™ LED Economy | Mini-Lightbar

Features

- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Highly effective 360-degrees of light output
- Low profile; only 2.6" tall; 15" long
- Offered in Amber LEDs only
- Dome available in Amber and Clear
- Five-year LED warranty

Approval

- SAE J845, Class 1

Applications

- Construction
- Landscape vehicles
- Pick-up trucks
- Snow plows



454205-02SC

CLASS 1

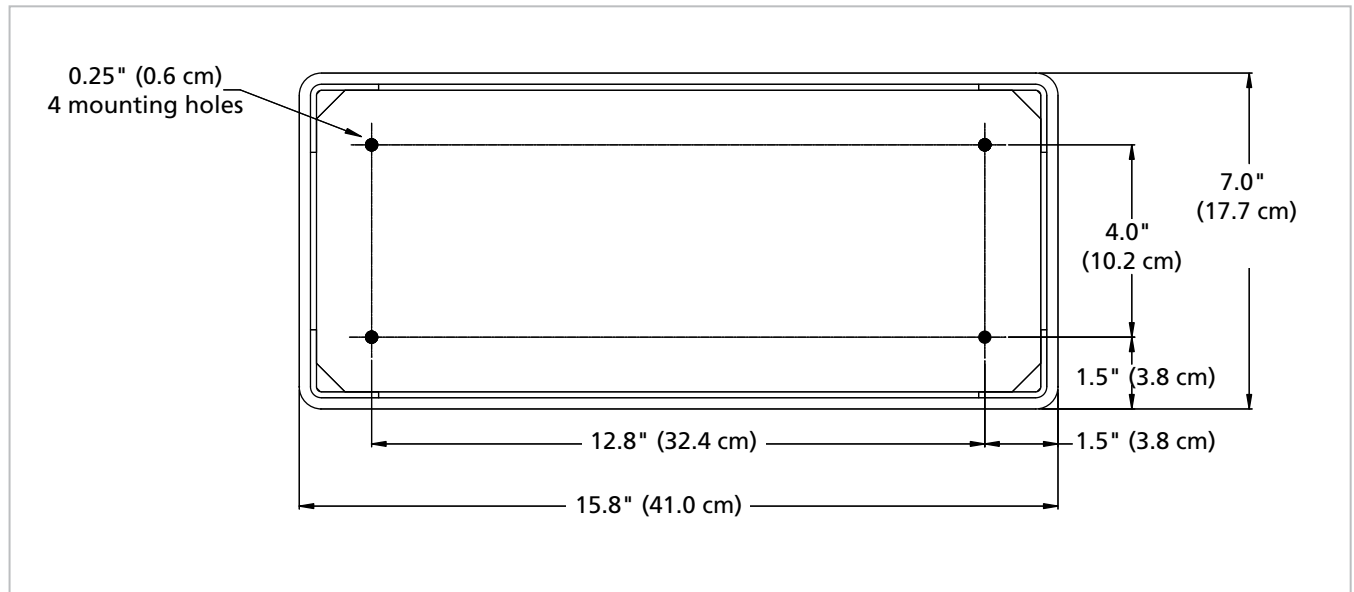
ROC
RELIABLE ONBOARD CIRCUITRY™

SOLARIS

Model	Description
Suction-cup magnet mount, cigarette plug with on/off switch	
454204-02SC	Amber LEDs with Amber dome
454204-25SC	Amber LEDs with Clear dome
Permanent Mount Models	
454205-02SC	Amber LEDs with Amber dome
454205-25SC	Amber LEDs with Clear dome
Magnetic Mount Models	
454206-02SC	Amber LEDs with Amber dome
454206-25SC	Amber LEDs with Clear dome

NOTE

- See page 36 for mounting kits



Specifications			
Amp Draw	2.0 Amp @ 12.8 VDC (Amp average) 1.0 Amp @ 25.6 VDC (Amp average) Note: Total Amp draw depends on flash pattern used.		
Flash Rate	Various		
LED Color Options	Amber		
Dome Color Options	Amber and Clear		
Operating Voltage	12 VDC		
Base Material	Polycarbonate		
Flash Patterns	21		
Physical Specifications			
	Permanent mount	Magnetic mount	Suction-cup mount
Height	2.7 in (6.6 cm)	3.0 in (7.6 cm)	3.0 in (7.6 cm)
Length	15.8 in. (41.0 cm)		
Width	7.0 in (17.7 cm)		
Ship Weight			
	3.4 lbs (1.5 kg)	4.5 lbs (2.0 kg)	6.0 lbs (2.7 kg)



Shatterproof dome and base with wiper blade gasket protects against moisture



Highly-effective 360-degrees of light output



On/Off control switch on cigarette plug magnet mount models

HighLighter™ LED

Mini-Lightbar

Features

- Low profile; only 2.6" tall
- Uniform 360-degree light distribution; no dark spots or shadows
- Solaris® LED reflector technology
- ROC (Reliable Onboard Circuitry™) technology
- Pattern selection using MagnetSelect™, key chain included
- Multiple flash patterns with synchronization capability
- Two-channel high-side flasher synchronizes other light heads (up to 7.5 per channel)
- See www.fedsig.com for "How-to" videos on the HighLighter LED
- Five-year LED warranty

Approvals

- SAE J845, Class 1
- CAC Title 13 approved (on select models)

Applications

- Construction
- Landscape
- Pick-up trucks
- Snow plows



CLASS 1

CAC Title 13

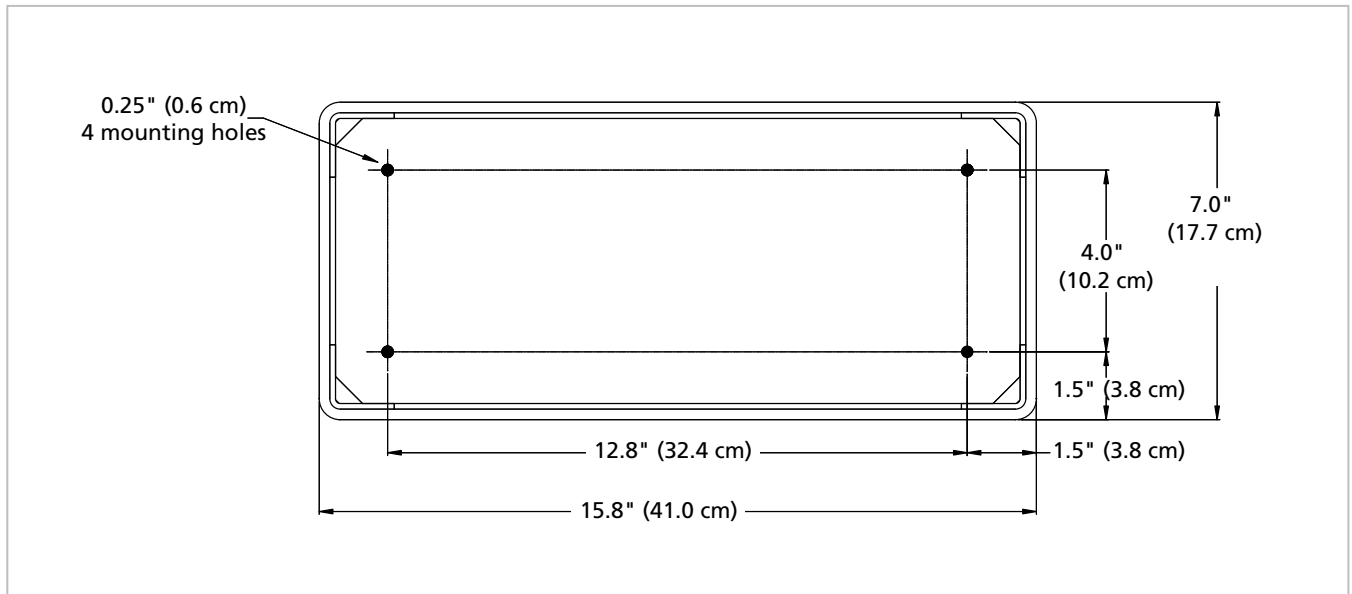
ROC
RELIABLE ONBOARD CIRCUITRY™

SOLARIS

Model	Description
Solid-color models	
Suction-cup magnet mount, cigarette plug with on/off switch	
454200-02SC	Amber LEDs with Amber dome; -03(Blue); -04(Red)
454200-25SC	Amber LEDs with Clear dome
454200-24-02SC	24 VDC, Amber LEDs with Amber dome
454200-24-25SC	24 VDC, Amber LEDs with Clear dome
Permanent mount models	
454201-02SC	Amber LEDs with Amber dome; -03(Blue); -04(Red)
454201-25SC	Amber LEDs with Clear dome
454201-24-02SC	24 VDC, Amber LEDs with Amber dome; -25SC(Clear dome)
Magnetic mount, cigarette plug with on/off switch	
454202-02SC	Amber LEDs with Amber dome; -03(Blue); -04(Red)
454202-25SC	Amber LEDs with Clear dome
454202-24-02SC	24 VDC, Amber LEDs with Amber dome; -25SC(Clear dome)
Split-color models with Clear dome	
Suction-cup magnet mount, cigarette plug with on/off switch	
454300C-AR	Amber/Red LEDs; -BA(Blue/Amber LEDs)
Permanent mount models	
454301C-AR	Amber/Red LEDs
454301CS-AA	Amber/Amber LEDs
454301CS-AB	Amber/Blue LEDs
CAC Title XIII HighLighter Models, Permanent mount models	
454401-02	Amber LEDs with Amber dome; -25(Clear domes)
Accessories and Kits	
SW2	Switch control
454220	Kit, switch, pattern select
Z8560109A	Magnet Select keychain
Common Replacement Parts	
Z8560095B-02	Dome, LED HighLighter, Amber; -03(Blue); -04(Red); -05(Clear)
Z124161A	Kit, base, LED HighLighter*

NOTES

- See [page 36](#) for mounting kits
- See price sheet for additional HighLighter LED models
- * If ordering a dome for a unit older than "Series C" you must order a base kit (Z124161A).



Specifications			
Amp Draw	2.0 Amp @ 12.8 VDC (Amp average) 1.0 Amp @ 25.6 VDC (Amp average) Note: Total amp draw depends on flash pattern used.		
Flash Rate	Various		
LED Colors Options	Amber, Blue, Green, Red and White		
Dome Color Options	Amber, Blue, Clear, Green and Red		
Operating Voltage	12 or 24 VDC (model specific)		
Base Material	Polycarbonate		
Flash Patterns	21		
Physical Specifications			
	Permanent mount	Magnetic mount	Suction-cup mount
Height	2.7 in (6.6 cm)	3.0 in (7.6 cm)	3.0 in (7.6 cm)
Length	15.8 in (41.0 cm)		
Width	7.0 in (17.7 cm)		
Ship Weight			
	3.4 lbs (1.5 kg)	4.5 lbs (2.0 kg)	6.0 lbs (2.7 kg)



MagnetSelect enables selection from 21 flash patterns using a simple magnet.



Highly-effective 360-degrees of light output.



A wiper gasket blade improves the seal of the dome.



On the bottom of the base, are two knock-outs with a strain-relief for power and ground or for additional wiring.

HighLighter™ Strobe | Mini-Lightbar

Features

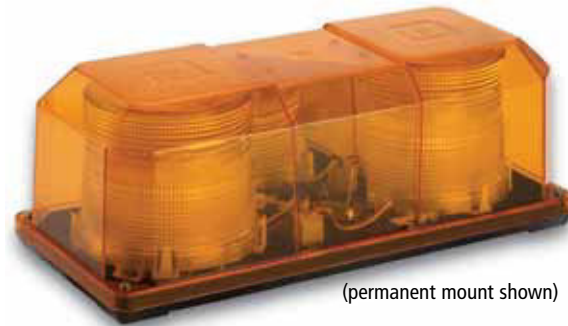
- Compact size - 15" long
- Fully-encapsulated (potted) 40-watt power supply with eight (8) user selectable flash patterns
- Automatic or manual hi-low feature for day or night operations
- Silicone rubber strobe tubes to absorb vibration
- Three mount options available: permanent, magnetic and suction-cup magnetic
- Raised base makes installation and maintenance quick and easy
- Five-year warranty

Approval

- SAE J845, Class 1

Applications

- Construction
- Pick-up trucks
- Snow plows
- Tow and Recovery



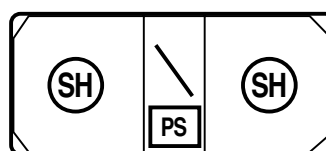
(permanent mount shown)

CLASS 1

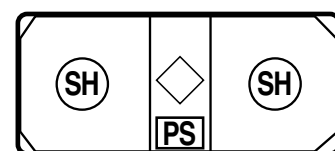
Model	Description
Permanent mount	
453001-02SB	(2) strobe heads, diagonal mirror, 20 W; Amber; -04(Red); -25(Clear dome with Amber and Clear strobe domes)
453003-02SB	(2) strobe heads, diamond mirror, 20 W; Amber
453201-02	(2) strobe heads, diagonal mirror, 40 W; Amber; -03(Blue); -04(Red); -09(Clear dome with Amber strobe covers); -25(Clear domes with Amber and Clear strobe domes)
Magnetic mount, include cigarette plug	
453000-02SB	(2) strobe heads, diagonal mirror; Amber; -25(Clear dome with Amber and Clear strobe domes)
453002-02SB	(2) strobe heads, diamond mirror; Amber
453202-02	(2) strobe heads, diagonal mirror, 40 W; Amber; -25(Amber/White)
Suction-cup magnetic mount, includes cigarette plug	
453200-02	(2) strobe heads, diagonal mirror, 40 W; Amber; -05(Clear); -25(Clear dome with Amber and Clear strobe domes)
Accessory	
SW2	Switch control
Common Replacement Parts	
Z8560081A	Power supply, 40 W
Z8560082A	Strobe assembly
208669-95	Dome, fresnel, strobe (under dome)
452510-02	Dome, HighLighter; Amber; -03(Blue); -04(Red); -05(Clear)

NOTE

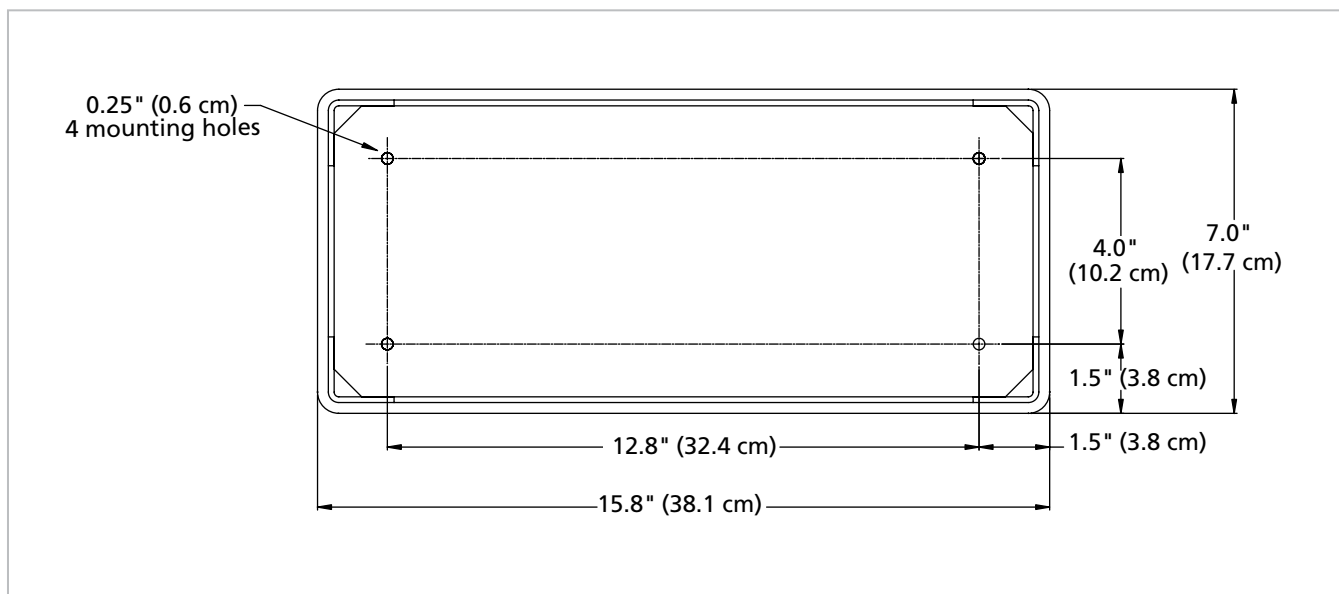
- See page 36 for mounting kits



453200, 453201, 453202



453002, 453003



Specifications	
Voltage	12 VDC
Amp Draw	3.6 Amp @ 12.8 VDC
Flash Rate	8 Selectable Flash Rates (see chart below)
Joules	Flash Rate Dependent
Power	20 W per head / 40 W total
Physical Specifications	
Height	5.0 in (12.7 cm)
Length	15.0 in (38.1 cm)
Width	9.0 in (22.9 cm)
Ship Weight	
	5.0 lbs (2.3 kg)

Selectable Flash Patterns				
Pattern	Description	Joules	Watts	Flash Rate
1	Random Flash	Variable/ Variable	Variable/ Variable	Variable
2	Simultaneous	Variable/ Variable	35/15	Variable
3	Triple (default pattern)	18.5/11	20/12	65
4	Double	15/8.3	20/11	80
5	Single	8.6/4.3	20/10	140
6	Quad	20/14	20/14	60
7	Fast Double	10/7	20/14	120
8	Three Alternating Signal Flash and Two Alternating Double	Variable/ Variable	15/10	Variable

HighLighter™ | Mini-Lightbar

Features

- Two 55-watt halogen reflectors produce an effective 80,000 candelas each
- Compact size - 15" long
- Special thick filament bulb
- Permanent or magnetic mount options for ease of installation
- Domes available in Amber, Blue, Clear and Red
- Five-year product warranty

Approvals

- SAE J845, Class 1
- CAC Title 13 approved

Applications

- Construction
- Landscape
- Pick-up trucks
- Snow plows

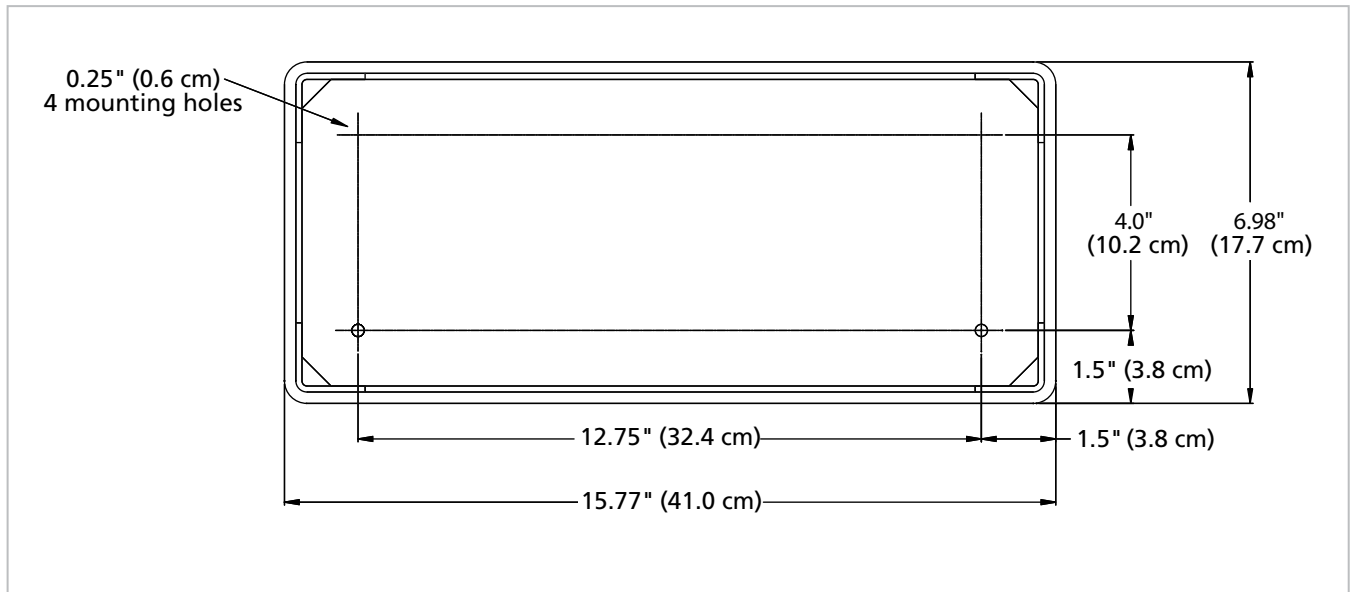


(permanent mount shown)

CLASS 1

CAC Title 13

Model	Description
Permanent mount	
450112-02	(2) 95 FPM rotators, diagonal mirror; Amber; -03(Blue); -04(Red); -05(Clear)
450114-02	(2) 95 FPM rotators, diagonal mirror, 24 VDC; Amber; -03(Blue)
450152-02	(2) 120 FPM rotators, diagonal mirror; Amber
451112-02	(2) 175 FPM rotators, diagonal mirror; Amber; -04(Red); -05(Clear); -09(Clear domes with Amber filters)
451124-02	(2) 175 FPM rotators, no mirrors, 24 VDC, Amber
452112-02	(2) 95 FPM rotators, diamond mirror; Amber; -04(Red)
Magnetic mount, includes cigarette plug	
452142-02	(2) 95 FPM rotators, diagonal mirror; Amber; -03(Blue); -04(Red); -05(Clear)
452162-02	(2) 120 FPM rotators, diagonal mirror; Amber; -04(Red)
452412-02	(2) 175 FPM rotators, diagonal mirror; Amber; -04(Red); -05(Clear)
452643-02	(2) 95 FPM rotators, diamond mirror, Amber
Suction-cup magnetic mount, includes cigarette plug	
450142-02	(2) 95 FPM rotators, diagonal mirror; Amber; -04(Red); -05(Clear)
450162-02	(2) 120 FPM rotators, diagonal mirror; Amber
451412-02	(2) 175 FPM rotators, diagonal mirror; Amber; -04(Red)
Accessories and Kits	
DCK	Kit, dome cover, specify color, -A(Amber); -R(Red)
SPL2	Kit, rotator lens, specify color, -A(Amber); -B(Blue); -G(Green); -R(Red)
Common Replacement Parts	
Z8440A265A-02	Bulb, 55 W, halogen, long life
439231-95	Bulb, 24 VDC
447532	Motor, 95 FPM, 12 VDC
447542	Motor, 120 FPM, 12 VDC
447539	Motor, 175 FPM, 12 VDC
447534	Motor, 95 FPM, 24 VDC
448572	Rotator, 95 FPM, 12 VDC
Z8433008B-07	Rotator, 120 FPM, 12 VDC
448522	Rotator, 175 FPM, 12 VDC
448514	Rotator, 95 FPM, 24 VDC
448524	Rotator, 175 FPM, 24 VDC
452510-02	Dome, HighLighter; Amber; -03(Blue); -04(Red); -05(Clear)



	450112	452142	451112	452112	452412
Factory Set Specifications					
Input Voltage	12.8 VDC	12.8 VDC	12.8 VDC	12.8 VDC	12.8 VDC
Current Draw	8.6 Amp	8.6 Amp	8.6 Amp	8.6 Amp	8.6 Amp
Candelas	80,000	80,000	80,000	80,000	80,000
Flash Rate	285/min.	285/min.	525/min.	380/min.	525/min.
Dome colors	Amber, Blue, Clear and Red				
Physical Specifications					
Height	5.3 in (13.5 cm)	5.3 in (13.5 cm)	5.3 in (13.5 cm)	5.3 in (13.5 cm)	5.3 in (13.5 cm)
Length	15.8 in (40 cm)	15.8 in (40 cm)	15.8 in (40 cm)	15.8 in (40 cm)	15.8 in (40 cm)
Width	7.0 in (17.8 cm)	7.0 in (17.8 cm)	7.0 in (17.8 cm)	7.0 in (17.8 cm)	7.0 in (17.8 cm)
Ship Weight					
	5.0 lbs (2.3 kg)	7.3 lbs (3.3 kg)	5.0 lbs (2.3 kg)	5.0 lbs (2.3 kg)	7.3 lbs (3.3 kg)

NOTE

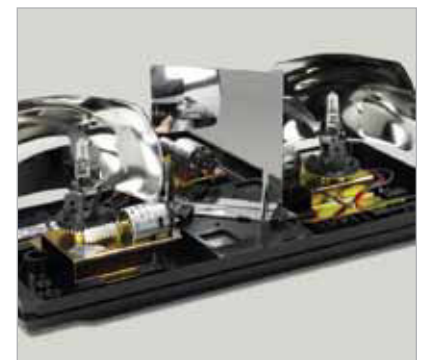
- See page 36 for mounting kits



452341
Magnetic mount kit with cigarette plug included



For ease of service while on the vehicle, the dome can be removed from the base by simply removing (4) screws



Two 55-watt reflectors produce 80,000 candelas each (diagonal mirror shown)

9" MicroEscape | Mini-Lightbar

Features

- Solaris® LED reflector technology
- Built-in Intelli-flash LED flasher
- Two flashing modes each with the ability to select one of ten (10) flash patterns
- Permanent mount kit included
- Five-year LED warranty

Approval

- SAE Class 1

32

Applications

- Construction
- Garbage trucks
- Municipal
- Utility



ME4QL-A

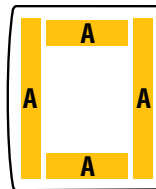


ME4QL-R



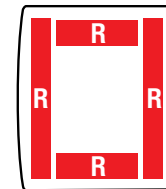
Model	Description
ME4QL-A	9", Amber Dome, (4) Amber LED reflectors
ME4QLC-A	9", Clear Dome, (4) Amber LED reflectors
ME4QL-R	9", Red Dome, (4) Red LED reflectors
ME4QLC-R	9", Clear Dome, (4) Red LED reflectors
Accessory	
501430	Kit, FMK flat surface mount
Common Replacement Parts	
Z8003245A-02	PC board assembly, non-flasher, Amber

CLEAR DOME

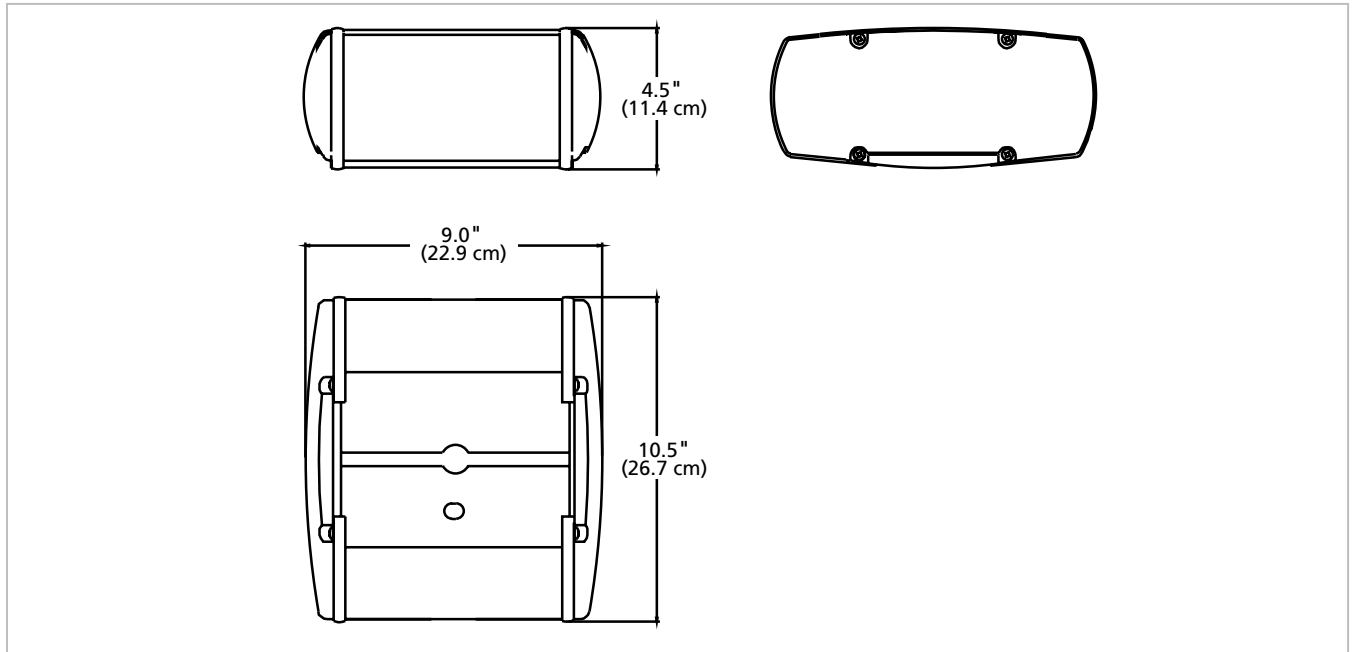


ME4QLC-A

RED DOME



ME4QL-R



Specifications	
Voltage	12 VDC
Current Draw	6 Amp @ 12 VDC
Physical Specifications	
Height	4.5 in (11.4 cm)
Length	9.0 in (22.9 cm)
Width	10.5 in (26.7 cm)
Ship Weight	
	7.75 lbs (3.49 kg)



A permanent mount is included with each beacon. No additional hardware is required.

TurboBeam® | Mini-Lightbar

Features

- Powerful 80,000-candela halogen rotators
- Optional diamond mirrors double flash rate
- Available in 15" and 22" lengths with flush or raised bases
- Five-year product warranty

Approval

- SAE J845, Class 1

Applications

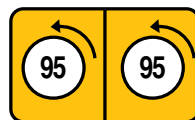
- Landscape Vehicles
- Pick-up Trucks
- Snow Plows
- Utility



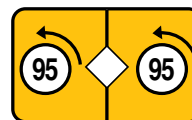
415010-02SC

CLASS 1

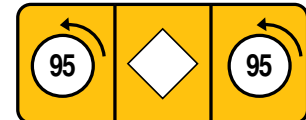
Model	Description
15" Models — 12 VDC, (2) rotators, flush base	
211906-02SC	Diamond mirror, magnetic mount, Amber; -03(Blue); -04(Red); -43(Red/Blue)
415010-02SC	Permanent mount, Amber; -05(Clear)
415011-02SC	Diamond mirror, permanent mount, Amber; -03(Blue); -04(Red); -25(Amber/Clear)
15" Model — 24 VDC, (2) rotators, flush base	
211900-02SC	Permanent mount, Amber; -03(Blue); -04(Red)
15" Models — 12 VDC, (2) rotators, raised base	
415510-02SB	Permanent mount, Amber; -52(Clear/Amber)
22" Models — 12 VDC, (2) rotators, diamond mirror, flush base	
211914-02SC	Magnetic mount, Amber; -353(Blue/Clear/Blue)
415111-02SC	Permanent mount, Amber; -03(blue); -04(Red); -242(Amber/Red/Amber); -454(Red/Clear/Red)
22" Model — 12 VDC, (2) rotators, diamond mirror, raised base	
415611-02SB	Permanent mount, Amber; -04(Red)
Accessories and Kits	
SPL2	Filter, rotator, specify color, -A(Amber); -B(Blue); -G(Green); -R(Red); (only compatible with all raised base and 22" flush base models)
510450	Kit, magnetic mount for raised base models only
Common Replacement Parts	
411167	Right-side dome, Amber
411177	Center dome, Amber
411187	Left-side dome, Amber



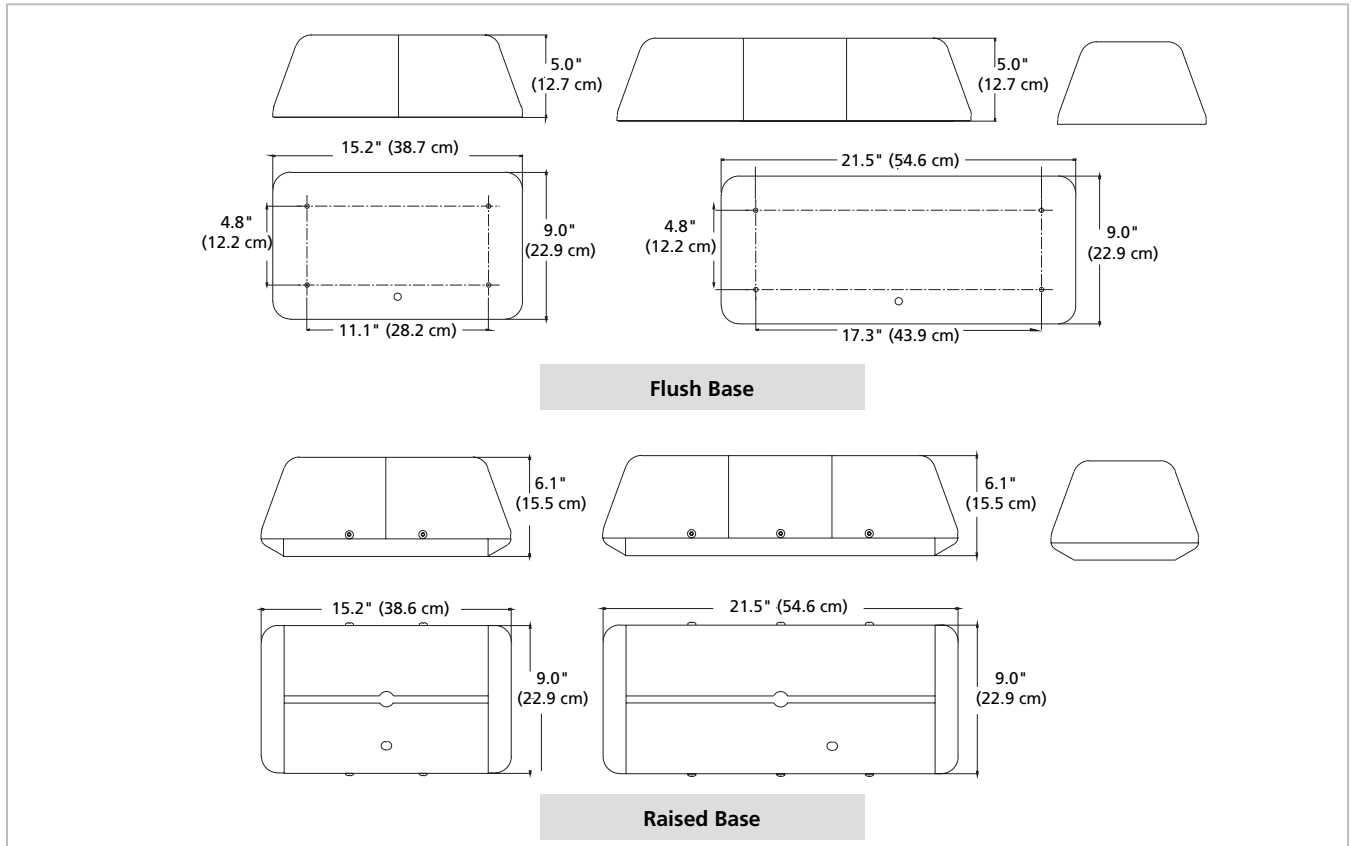
211900-02SC
415010-02SC
415510-02SB



211906-02SC
415011-02SC



211914-02SC
415111-02SC
415611-02SB



	15"	22"
Specifications		
Flash Rate	190 per minute (380 with mirror)	
Voltage	12/24 VDC	
Candelas	80,000	
Physical Specifications		
Height	5.0 in (12.7 cm)	5.0 in (12.7 cm)
Length	15.0 in (38.1 cm)	22.0 in (55.8 cm)
Width	9.0 in (22.9 cm)	9.0 in (22.9 cm)
Ship Weight		
	5.0 lbs (2.2 kg)	6.0 lbs (2.7 kg) (add 2.0 lbs [0.9 kg] for magnetic mount)



SPL2-A



210897B



510450

Mini-Lightbar Specifications / HighLighter Mounting Kits

LED Mini-Lightbars

Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	LED Colors	Dome Colors	Dimensions (L x W x H)	Ship Weight (lbs)	Warranty (years)
24" Legend LPX Discrete	12	4.0 A @ 12.8 V	Various	Various	Class 1	Aluminum	Amber, Blue, Green, Red and White	Amber and Clear	24.3" x 11.2" x 2.5"	10.8	5
12" Legend	12	2.5 A @ 12.8 V	Various	10	Class 1	Aluminum	Amber, Blue, Green, Red and White	Amber and Clear	12.0" x 11.2" x 2.5"	10.8	5
Mini-JetSolaris	12	2.0 A @ 12 V	Various	26	Class 1	Aluminum	Amber, Blue, Green, Red and White	Amber, Blue, Clear and Red	21.0" x 11.2" x 4.7"	16.0	5
HighLighter LED Economy	12	2.0 A @ 12.8 V	Various	21	Class 1	Polycarbonate	Amber	Amber and Clear	15.3" x 8.4" x 3.0"	6.0	5
HighLighter LED	12 or 24	2.0 A @ 12.8 V 1.0 A @ 25.6 V	Various	21	Class 1	Polycarbonate	Amber, Blue, Green, Red and White	Amber, Blue, Clear, Green and Red	15.3" x 8.4" x 3.0"	6.0	5
9" MicroEscape	12	6 A @ 12 V	Various	10	Class 1	Aluminum	Amber, Blue and Red	Amber, Clear and Red	9.0" x 10.5" x 4.5"	7.8	5

36

Strobe Mini-Lightbars

Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (L x W x H)	Ship Weight (lbs)	Warranty (years)
HighLighter Strobe	12	3.6 A @ 12 V	35/22 Hi-Lo (default)	40/24 (default)	65 (default)	Class 1	Polycarbonate	Amber, Blue, Clear, Green and Red	15.0" x 9.0" x 5.0"	5.0	5

Rotating Mini-Lightbars

Model	Operating Voltage	Amp Draw	Lamp	Candelas	FPM	Approvals	Base Material	Dome Colors	Dimensions (L x W x H)	Ship Weight (lbs)	Warranty (years)
HighLighter	12/24	8.6 @ 12 V; 5.8 @ 24 V	55/70	80,000	285-525	Class 1 Title 13	Polycarbonate	Amber, Blue, Red, Clear and Green	15.8" x 7.0" x 5.3"	5.0	5
Mini-Jet	12/24	8.6 @ 12 V; 5.6 @ 24 V	55/70	55,000	380/555	Class 1 Title 13	Aluminum	Various	21.0" x 11.2" x 4.7"	10.0	5
TurboBeam Mini-Lightbar	12/24	8.6 @ 12 V; 5.6 @ 24 V	55/70	80,000	190/380	Class 1	Aluminum	Amber, Blue, Red, Clear and Green	(15") 15.0" x 9.0" x 5.0" (22") 22.0" x 9.0" x 5.0"	5 (15") 6 (22")	5

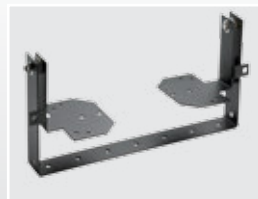
Mounting Kits - For use with HighLighter LED, HighLighter LED Economy, HighLighter and HighLighter Strobe



452341



454218



210883



454217

Model	Description
452340	Kit, magnetic mount, cigarette plug included
452341	Kit, suction cup magnetic mount, cigarette plug included
452342	Kit magnetic mount, cigarette plug not included
454217	Kit, riser mount
454218	Kit, flat mount
210883	Self-leveling bracket

Beacon Specifications

LED Beacons

Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
SLR Beacon	12/24	1.8A @ 12.8 V	75/90/120	-	Class 1 & 2	Aluminum/ Polycarbonate	Amber, Clear and Red	7.09" x 5.75"	2.75	5
UltraStar LED	12/24	1.2A @ 12.8 V	Various	14	Class 1	Aluminum	Amber and Red	6.5" x 5.25"	2.75 (perm.) 3.5 (mag.)	5
Pulsator LED	12/24	0.74 A/0.325 A average @ 12.8 V Class 1; 0.65 A max @ 0.28 A average Class 2	Various	14	Class 1 & 2	Polycarbonate	Amber and Red	6.5" x 6.0"	1.9	5
Pulsator 451 LED	12/24	0.65A max / 0.28 average @12.8VDC	Various	14	Class 2	Polycarbonate	Amber and Red	6.5" x 4.0"	1.3	5
651 LED	12/24	1A @ 12.8 V	Various	4	Class 2	Aluminum	Amber	6.51" x 5.4" 6.51" x 6.05" (Wire Branch Guard)	2	5

Strobe Beacons

Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
UltraStar US 5	12/24	1.8A @ 12V to 0.9A @ 24V	13/14	18.4/19	85/80	Class 1 & 2	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.74" (Tall) 6.5" x 5.25" (Short)	4.0	5
UltraStar US 6	12/24	2.0A @ 12.8V to 1.2A @ 25.6V (high) 1.6A @ 12.8V to 0.8A @ 25.6V (low)	17/12	17/12	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.7" (Perm.) 6.5" x 6.9" (Mag.)	4.25 (Perm.) 4.95 (Mag.)	5
UltraStar US 7	12/24	2.5A @12V to 1.2A to 24V	21/13 Hi-Lo	21.3/15	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.74" (Tall)	4.0	5
Model 901	12/48	2.1A @ 12V to 0.55A @ 48V	18/9	21.3	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.51" x 5.69"	2.3	5
Model 951	12/48	2.1A @ 12V to 0.55A @ 48V	18/9	21.3	75	Class 1, Title 13	Aluminum	Amber, Blue, Clear and Red	6.51" x 5.88"	2.7	5
Model 851	12/48	1.65A @ 12V	12	16	80	Class 2	Aluminum	Amber, Blue, Clear and Red	6.6" x 7.5"	2.2	5
Model 651	12/48, 72	1.65A @ 12V to 0.41 @ 48V	12/10	12/10	80	Class 2	Aluminum	Amber, Blue, Clear and Red	6.51" x 5.65"	2.0	5
Pulsator 551 Plus	12/48	1.2A @ 12V to 0.3A @ 48V (10J)	10/8	13.3/12.5	80/75	Class 2	Polycarbonate	Amber, Blue, Clear and Red	6.5" x 6.0"	1.5 1.9 (Heavy Duty)	3
Pulsator 451 Plus	12/48	0.9A @ 12V to 0.25 @48V	8	10.7/10	80/75	Class 2	Polycarbonate	Amber, Blue, Clear and Red	6.5" x 4.0"	1.3 1.6 (Heavy Duty)	3
Model 401	12/48	0.65A @ 12V to 0.17A @ 48V	5	5.4	65	Class 2	Rubber	Amber, Blue and Red	5.72" x 5.0"	1.3 1.9 (Heavy Duty)	3
Firebolt	12/72 @ 2J 12/48 @ 5J	0.24 @ 12V to 0.04 @ 72V (2J); 0.65A @ 12V to 0.17 @ 48V (5J)	2/5	2/5.4	60/65	Class 3	Polycarbonate	Amber, Blue, Clear and Red	5.1" x 3.61"	0.7	3
Firebolt Plus	12/72 @ 2J 12/48 @ 5J	0.24A @ 12V to 0.04A @24V	2	16	60/65	Class 3	Polycarbonate	Amber, Blue, Clear and Red	5.1" x 3.61"	0.7	3
Renegade	12/48	0.3A @ 12V	2.2	2.6	75	Class 3	Polycarbonate	Amber, Blue, Clear and Red	2.86" x 4.27" Pipe Mount 4.0" x 4.27" Permanent Mount	0.9	3

Halogen Beacons

Model	Operating Voltage	Amp Draw	Lamp	Candelas	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Sentry	12/24	4.3 @ 12V; 2.1 @ 24V	55/70	80,000	95/175	Class 1, Title 13	Polycarbonate	Amber, Blue, Red and Clear	6.33" x 6.48"	2.0	5
Model 100	12/24	4.3 @ 12V; 2.1 @ 24V	55/70	80,000	95/120/195	Class 1, Title 13	Polycarbonate	Amber, Blue, Red and Clear	8.42" x 7.31"	4.0	5

Pulsator® LED | LED Beacon

Features

- LED technology for zero maintenance lighting; no bulbs or strobe tubes to replace
- Fourteen (14) selectable “strobing” flash patterns
- Multi-voltage, 12-24 VDC
- Built-in permanent/pipe-mount polycarbonate base

Approvals

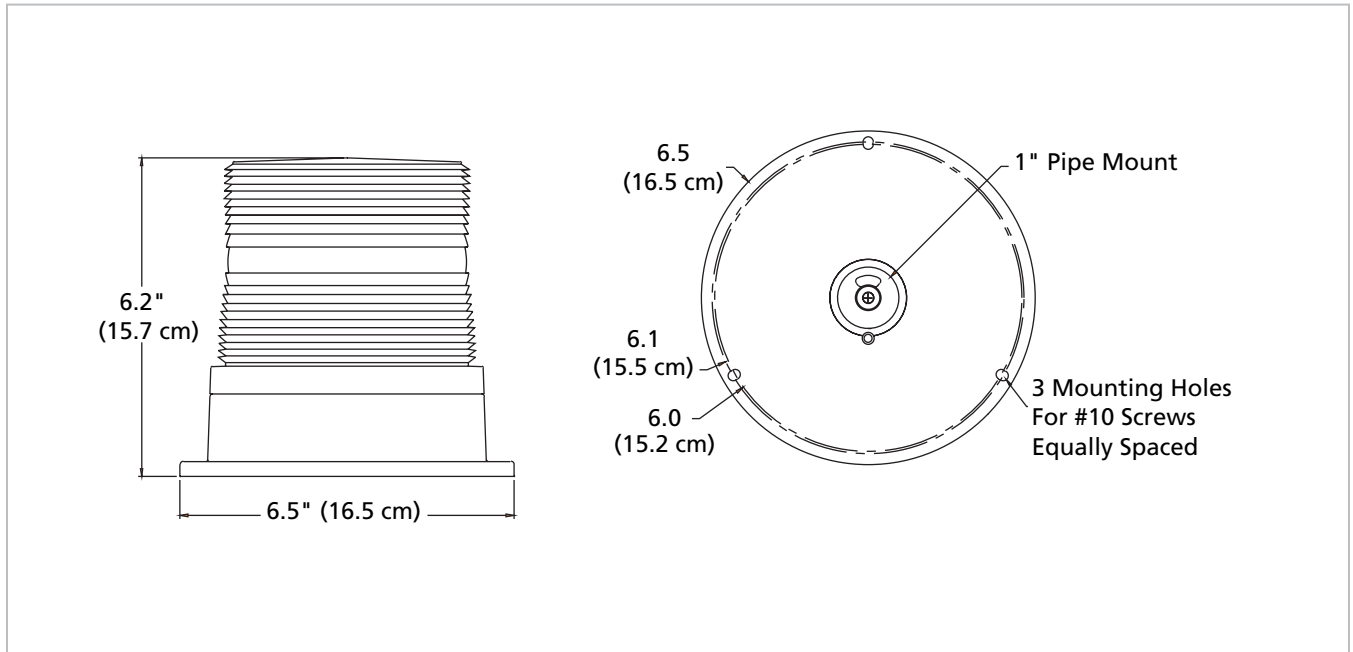
- SAE J845, Class 1 (212660-02SB)
- SAE J845, Class 2 (212650-02SB, 212670-02SB)

Applications

- Landscape
- Pick-up Trucks
- Snow Plows
- Utility



Model	Description
Pulsator LED	
Permanent mount, 12-24 VDC, tall dome	
212650-02SB	Amber dome, Class 2
212660-02SB	Amber dome, Class 1
Magnet mount, cigarette plug with on/off switch, tall dome	
212662-02SB	Amber dome, Class 1
212652-02SB	Amber dome, Class 2
Suction-cup magnet mount, cigarette plug with on/off switch, tall dome	
212664-02SB	Amber dome, Class 1
212654-02SB	Amber dome, Class 2
Pulsator 451 LED	
Permanent mount, 12-24 VDC, short dome	
212670-02SB	Amber dome, Class 2
Magnet mount, cigarette plug with on/off switch, short dome	
212672-02SB	Amber dome, Class 2
Suction-cup mount, cigarette plug with on/off switch, short dome	
212674-02SB	Amber dome, Class 2
Accessories and Kits	
SW2	Switch control
210890	Kit, magnetic mount
210891	Kit, self-adhesive mounting
210893	1/2" pipe mount
210894	3/4" pipe mount
650201	(2) 6A loads, (8) flash patterns, ground side switching
Common Replacement Parts	
208666-95	Dome, tall, Blue
208667-95	Dome, tall, Amber
208668-95	Dome, tall, Red



Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Pulsator LED	12/24	0.74 A/0.325 A average @ 12.8 V Class 1; 0.65 A max @ 0.28 A average Class 2	Various	14	Class 1 & 2	Polycarbonate	Amber	6.5" x 6.0"	1.9	5
Pulsator 451 LED	12/24	0.65A max / 0.28 average @12.8 V	Various	14	Class 2	Polycarbonate	Amber	6.5" x 4.0"	1.3	5



Built-in permanent/1-inch pipe mount polycarbonate base.

UltraStar® LED | LED Beacon

Features

- Industry standard mounting for quick and easy retrofits
- Fourteen (14) selectable “strobing” flash patterns
- Superior optics for maximized light output
- Longer dwell time to enhance visibility at a distance
- Five-year LED warranty

Approval

- SAE J1318 and J845, Class 1

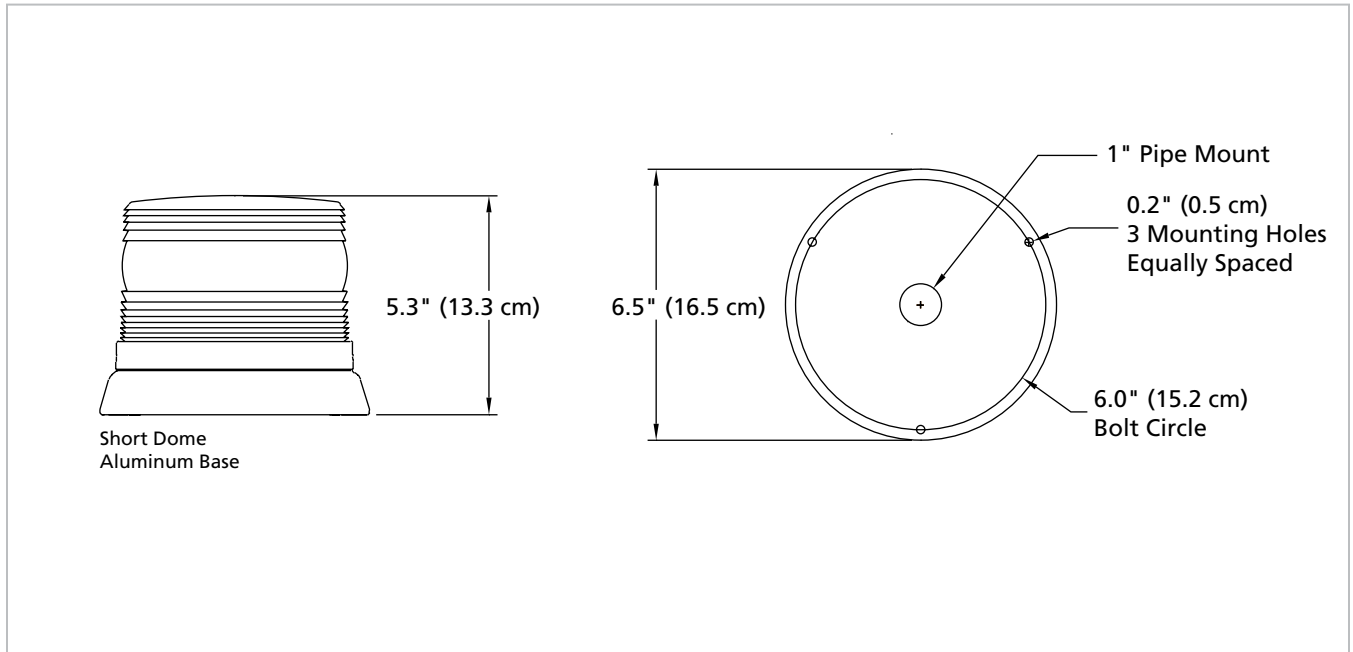
Applications

- Construction
- Landscape
- Snow plows
- Utility



CLASS 1

Model	Description
Models with 1-inch permanent/pipe mount	
252650-02SC	Amber dome
252654-04SC	Red dome
252657-02SC	Amber dome and dust cover
Models with magnet mount and cigarette plug	
252651-02SC	Amber dome
252655-04SC	Red dome
Accessories and Kits	
SW2	Switch control
448330	MZDGK branch guard
Common Replacement Parts	
Z8444374A	Dome, short, -01(Clear); -02(Red); -03(Amber); -04(Blue)
Z8444375A-01	Dust cover, short, Clear
Z8444313C	Light shield
Z8444397A	J-bolt mounting kit



Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
UltraStar LED	12/24	1.2 A @ 12.8 V	Various	14	Class 1	Aluminum	Amber and Red	6.5" x 5.3"	2.75 (perm.) 3.5 (mag.)	5

Solid-state light source and fully encapsulated circuitry to absorb extreme vibration



448330
Branch Guard option



Permanent / 1" pipe mount bottom



Magnetic mount bottom with cigarette lighter plug

SLR Beacon | LED Beacon

Features

- Rotating LED beacon with 12 high-powered LEDs
- Federal Signal's patented SLR (Solaris® LED Rotator) technology
- 75/90/120 RPM
- 12/24 VDC
- Five-year LED warranty

Approvals

- SAE J845 Class 1 approved, 262650 models
- SAE J845 Class 2 approved, 272650 models

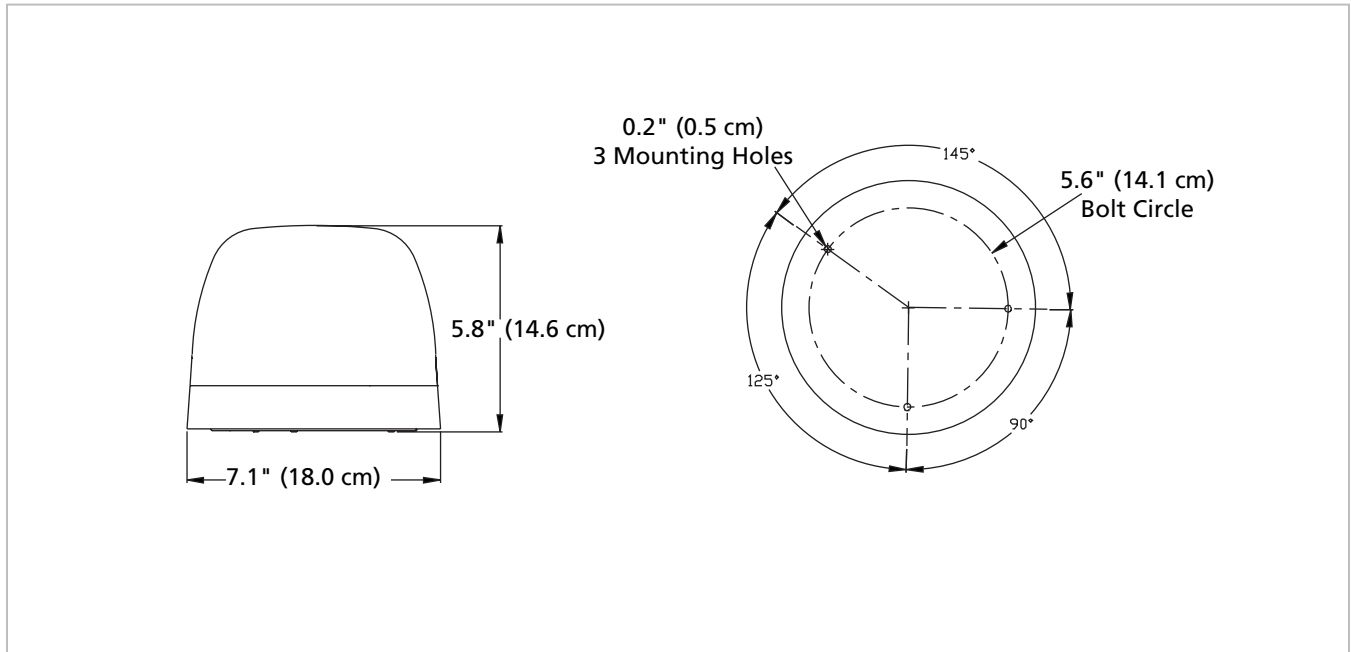
Applications

- Construction
- Municipal
- Utility



CLASS 1 CLASS 2 SLR

Model	Description
262650-02	Amber LEDs, Amber dome, permanent/pipe mount, Class 1; -04(Red)
272650-02	Amber LEDs, Amber dome, permanent/pipe mount, Class 2



Model	Operating Voltage	Amp Draw	RPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
SLR Beacon	12/24	1.8 A @ 12.8 V	75/90/120	Class 1 & 2	Polycarbonate/ aluminum	Amber, Clear and Red	5.8" x 7.1"	2.75 (perm.)	5



Patented Solaris LED reflector design with (12) high powered LEDs



Built-in permanent / 1" pipe mount

AL2 | LED Beacon

Features

- Electronics are encapsulated in a durable steel enclosure using high-temperature range silicone potting compound for dependable operation
- Offers four (4) built-in, user-selectable flash patterns
- Operates at 12 or 24 VDC
- High-profile design, with a sturdy polycarbonate dust cover, provide for a robust warning solution
- Clear-anodized aluminum base for chrome-plated aluminum base models available
- Five-year LED warranty

Approval

- SAE J845, Class 2

Applications

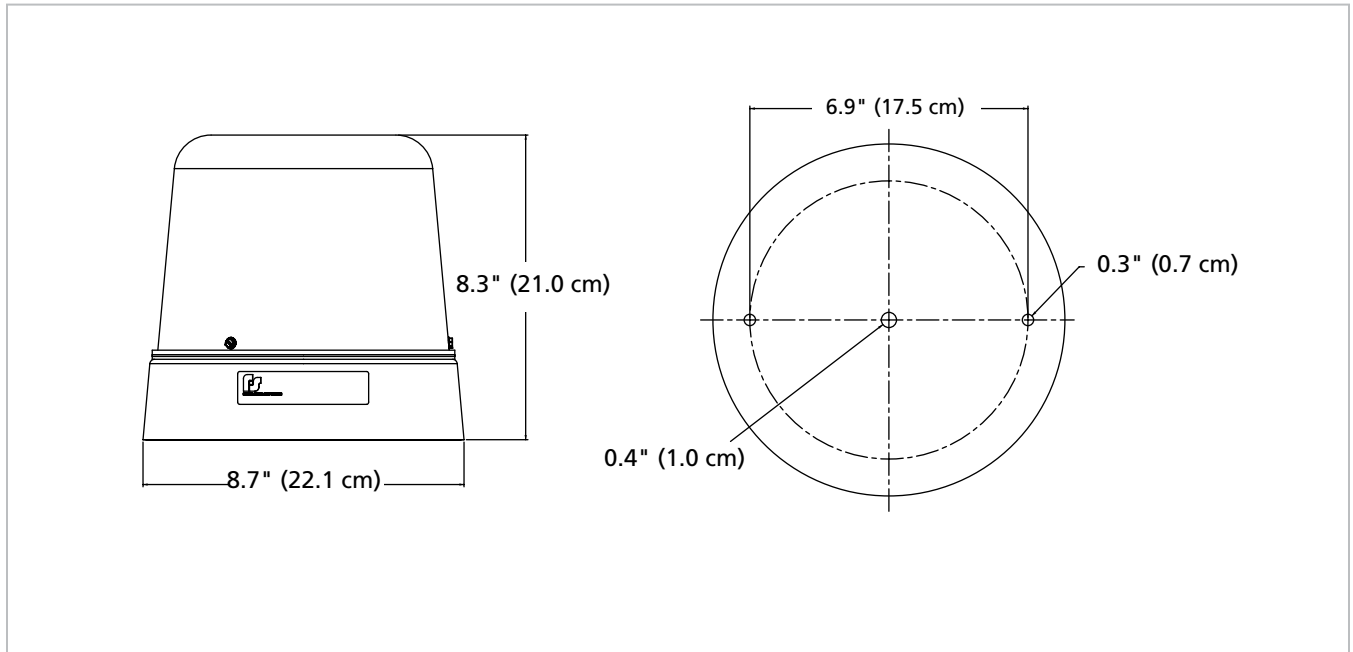
- Municipal
- Snow Plows
- Utility



211779-02

CLASS 2

Model	Description
211779-02	Amber dome with dust cover, anodized base
211781-02	Amber dome with dust cover, chrome plated base



Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
AL2	12/24	1 A @ 12.8 V	Various	4	Class 2	Aluminum or Chrome-plated Aluminum	Amber	8.3" x 8.7"	3.8	5

Model 651 LED | LED Beacon

Features

- Open-style aluminum base
- Low-profile beacon
- Polycarbonate Fresnel dome
- Low-amp draw
- Five-year LED warranty

Approval

- SAE J845, Class 2

Applications

- Construction
- Municipal
- Utility

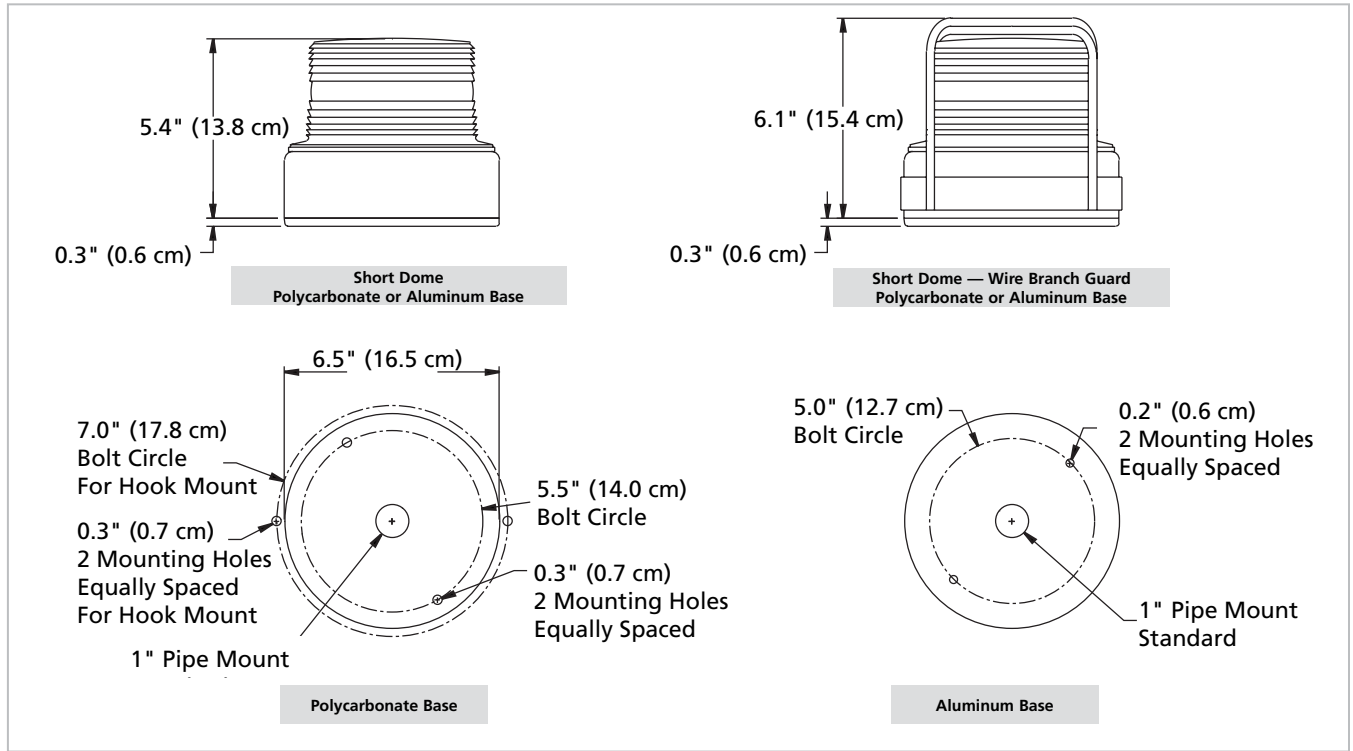


CLASS 2

Model	Description
420222-02	UTILITY LIGHT, blackout lens, clear dust cover, branch guard, Amber LED, Amber dome
420223-02	Open style bottom, Amber LED, Amber dome
Accessories and Kits	
210781	Wire branch guard (used on 651 Plus and 651 AUL models)
210939	"L" mounting bracket
210830	Polycarbonate 1" pipe/flush mount bottom
210982	Aluminum 1" pipe/flush mount bottom
210831	Kit, polycarbonate flush magnetic mount
210050	Kit, aluminum flush magnetic mount
210837	1" to 1/2" pipe adapter for 210830 and 210982
210838	1" to 3/4" pipe adapter for 210830 and 210982
210846	Aluminum flush enclosed bottom
210923	Aluminum raised enclosed bottom
210928	Magnetic mount kit for aluminum/polycarbonate mount bottoms
210877	Dust cover with black top
200765-95	Polycarbonate dust cover without black cover
Common Replacement Parts	
205003-95	Gasket, base
205004-95	Gasket, dome
208551-95	Base
438694-95	Kit, mounting
200767-95	Dome, Amber
200768-95	Dome, Clear

Model 651 LED | LED Beacon

Available in: ■ ■ ■ ■ ■ ■



47

Model	Operating Voltage	Amp Draw	FPM	Flash Patterns	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
651 LED	12/24	1 A @ 12.8 V	Various	4	Class 2	Aluminum	Amber	6.5" x 5.4" 6.5" x 6.1" (Wire Branch Guard)	2	5



210877



200765-95



210781

Pulsator® 551 Plus | Strobe Beacon

Features

- High-profile, polycarbonate base strobe beacon
- Easily replaceable helical strobe tube
- Automatic adjustment to function at any voltage from 12-48 VDC
- Three-year warranty

Approvals

- 8 and 10-Joule: SAE J845
Class 2 (SAE J1319 Class 2, 2009)

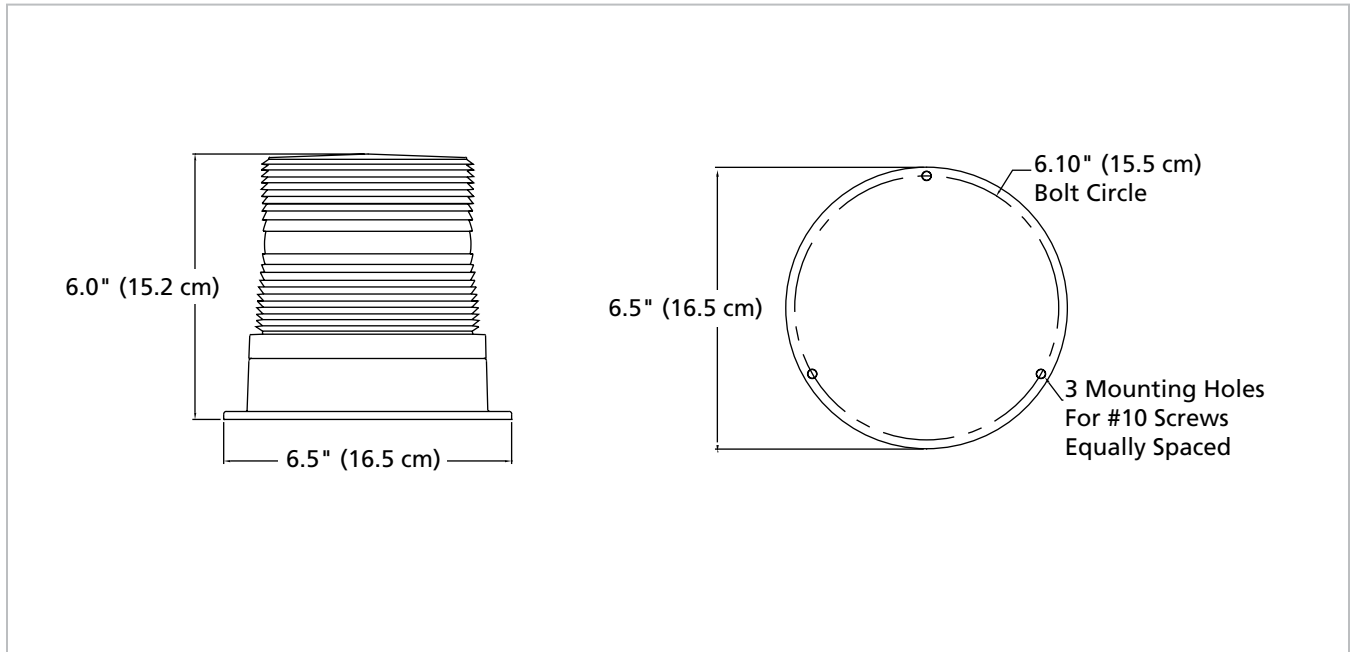
Applications

- Forklifts
- Construction
- Industrial



CLASS 2

Model	Description
8J, 16 W, 12-24 VDC, 120 FPM, single flash	
211694-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
211695-02	Magnetic mount, Amber
10J, 13.3 W, 12-48 VDC, double flash	
211681-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
211684-02	Magnetic mount, Amber; -05(Clear)
211685-02	Magnetic mount no cigarette plug, Amber
211820-02	HEAVY DUTY, permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
10J, 12.5 W, 12-48 VDC, quad-flash	
211683-02	Permanent mount, Amber; -04(Red); -05(Clear)
5J, 5.8 W, 115 VAC	
211925-02	Permanent mount, double flash, Amber; -03(Blue); -04(Red); -05(Clear)
Accessories and Kits	
200069-95	Bottom plate
210890	Kit, magnetic mount
210891	Kit, self-adhesive mounting
210893	1/2" pipe mount
210894	3/4" pipe mount
210895	1" pipe mount
210377	Wiring kit, 30-ft, strobes
Common Replacement Parts	
208666-95	Dome, Blue
208667-95	Dome, Amber
208668-95	Dome, Red
208669-95	Dome, Clear
205005-95	Gasket, dome
205520-95	Replacement base
211083-95	Mounting kit
439290-95	Flash tube



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Pulsator 551 Plus	12/48	1.2 A @ 12V to 0.3 A @ 48V (10J)	10/8	13.3/12.5	80/75	Class 2	Polycarbonate	Amber, Blue, Clear and Red	6.5" x 6.0"	1.5 1.9 (Heavy Duty)	3



Screw-on dome, easy access for strobe tube changes



Magnet mount with cigarette plug option available



Unique potting material to protect electronics



210890



210891



210377



210893



210894



210895

Pulsator® 451 Plus | Strobe Beacon

Features

- Low-profile, polycarbonate base strobe beacon
- Easily replaceable helical strobe tube
- Automatic adjustment to function at any voltage from 12-48 VDC
- Three-year warranty

Approvals

- 8-Joule: SAE J845 Class 2 (SAE J1318 Class 2, 2009)

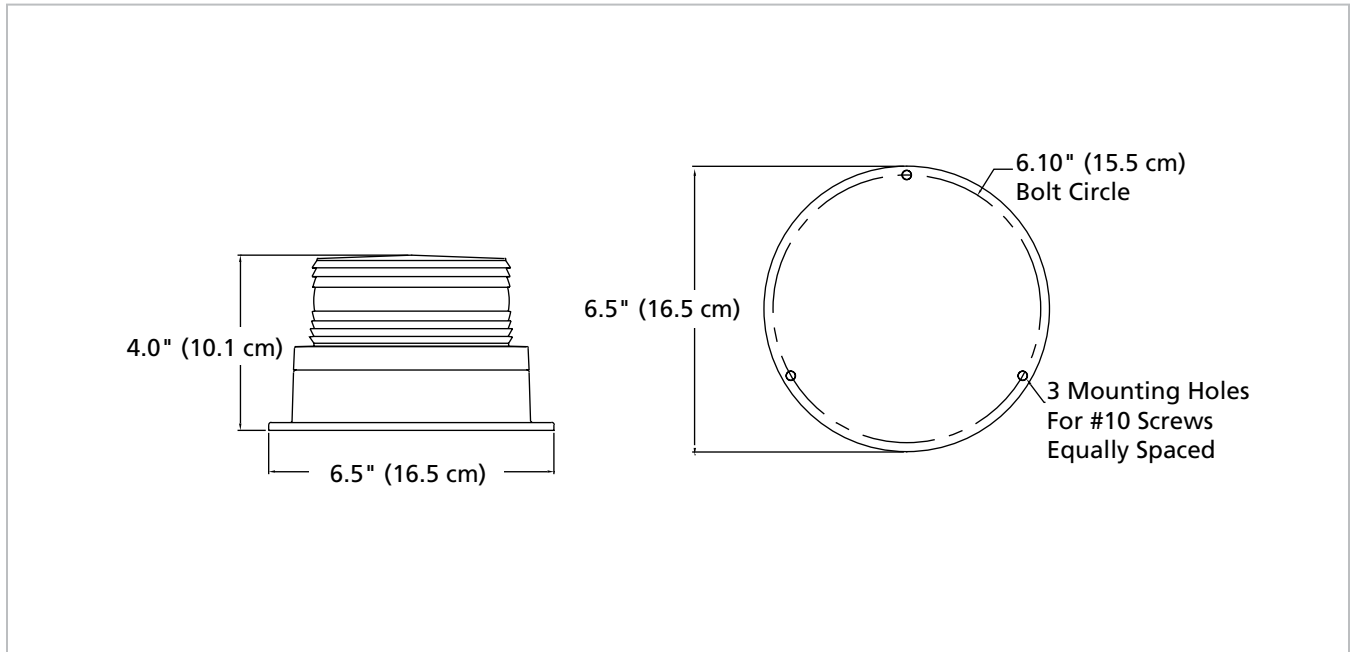
Applications

- Forklifts
- Industrial
- Construction



CLASS 2

Model	Description
8J, 10.7 W, 12-48 VDC, double flash	
211680-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
211682-02	Magnetic mount, Amber; -05(Clear)
211823-02	HEAVY DUTY, permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
8J, 10 W, 12-48 VDC, quad flash	
211690-02	Permanent mount, Amber; -05(Clear)
Accessories and Kits	
200069-95	Bottom plate
210890	Kit, magnetic mount
210893	1/2" pipe mount
210894	3/4" pipe mount
210895	1" pipe mount
210377	Wiring kit, 30-ft, strobes
210387	Wiring kit, one strobe
210376	Wiring kit, two strobes
Common Replacement Parts	
208566-95	Dome, Blue
208567-95	Dome, Amber
208568-95	Dome, Red
208569-95	Dome, Clear
205005-95	Gasket, dome
205520-95	Replacement base
211083-95	Mounting kit
439411-95	Flash tube



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Pulsator 451 Plus	12/48	0.9 A @ 12 V to 0.25 A @48 V	8	10.7/10	80/75	Class 2	Polycarbonate	Amber, Blue, Clear and Red	6.5" x 4.0"	1.3 1.6 (Heavy Duty)	3



Heavy Duty Pulsator models use gel to protect components against vibration



210376



210377



210387



210890



210893



210894



210895



200069-95

UltraStar® US 5, US 6, US 7 | Strobe Beacon

Features

- Powder coated aluminum die-cast base
- Shock-mounted strobe tube
- Industry standard mounting: permanent/1" pipe, magnetic and J-bolt
- Five-year product warranty

US 5

- 13 Joules, double flash and 14 Joules, quad flash

US 6

- 17/12 Joules, double flash
- Built-in photocell provides automatic adjustment to ambient light for day or night operation (may be converted to a manual [switchable] adjustment)
- Potted, fully-encapsulated power supply

US 7

- Power supply produces 21 Joules
- Built-in photocell provides automatic adjustment to ambient light for day or night operation (may be converted to a manual [switchable] adjustment)
- Potted, fully-encapsulated power supply

Approvals

- SAE J1318 Class 1 (tall dome models)
- SAE J1318 Class 2 (short dome models)

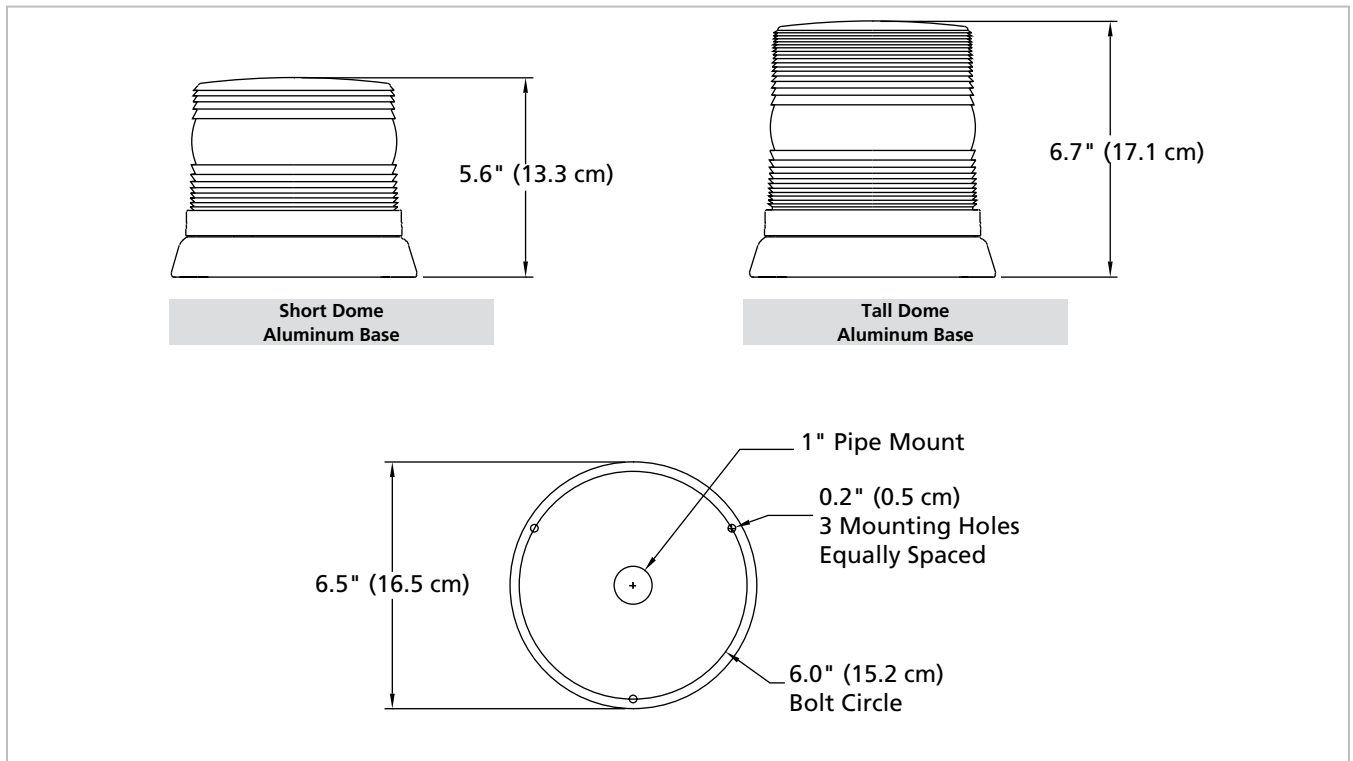
Applications

- Construction
- Municipal
- Utility



CLASS 1 CLASS 2

Model	Description
US5, 13J, 12-24 VDC, 18.4 W, double flash, tall dome	
250121-02	Permanent/pipe mount, Amber; -03(Blue); -04(Red); -05(Clear), Class 1
250141-02	Magnetic mount, Amber; -03(Blue); -04(Red); -05(Clear), Class 1
US5, 13J, 12-24 VDC, 18.4 W, double flash, short dome	
251121-02	Permanent/pipe mount, Amber; -03(Blue); -04(Red); -05(Clear), Class 2
251141-02	Magnetic mount, Amber; -04(Red), Class 2
US6, 17/12J, 12-24 VDC, 21.3/15 W, double flash	
252600-02	Permanent/1" pipe mount, Amber; -03(Blue); -04(Red); -05(Clear), Class 1
252601-02	Magnetic mount, Amber; -04(Red), Class 1
US7, 21/13J, 12-24 VDC, 26.3/16.3 W, quad flash, tall dome	
250721-02	Permanent/pipe mount, Amber; -03(Blue); -05(Clear), Class 1
250741-02	Magnetic mount, Amber; -05(Clear), Class 1
Accessories and Kits	
SW2	Switch control
448310	Kit, vibration mount
448320	MZDGP pipe mount adapter for 448330 branch guard
448330	MZDGK branch guard
Z8444373A-01	Dust cover, tall dome, Clear
Z8444375A-01	Dust cover, short dome, Clear
Common Replacement Parts	
251500	Flash tube, US5
251501	Flash tube, US7
250520	Double flash power supply, US5
250530	Quad flash power supply, US7
Z8444372A	Dome, tall; -01(Clear); -02(Red); -03(Amber); -04(Blue); -05(Green)
Z8444374A	Dome, short; -01(Clear); -02(Red); -03(Amber); -04(Blue); -05(Green)
Z8575272A	Flash tube assembly, US6



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
UltraStar US 5	12/24	1.8 A @ 12 V to 0.9 A @ 24 V	13/14	18.4/19	85/80	Class 1 & 2	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.74" (Tall) 6.5" x 5.25" (Short)	4.0	5
UltraStar US 6	12/24	2.0 A @ 12.8 V to 1.2 A @ 25.6 V (high); 1.6 A @ 12.8 V to 0.8 A @ 25.6 V (low)	17/12	17/12	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.7" (Perm.) 6.5" x 6.9" (Mag.)	4.25 (Perm.) 4.95 (Mag.)	5
UltraStar US 7	12/24	2.5 A @ 12 V to 1.2 A to 24 V	21/13 Hi-Lo	21.3/15	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.5" x 6.7" (Tall)	4.0	5



448330



448320

Model 901/951 | Strobe Beacon

Features

- Automatic adjustment to function at any voltage from 12-48 VDC
- Open-style aluminum base
- Attached dust cover
- High- (Model 951) and low- (Model 901) profile strobe beacon
- Built-in high/low flash option

Approvals

- SAE J845, Class 1 (SAE J1318, Class 1, 2009)
- CAC Title 13, Article 22 (Model 951)

Applications

- Construction
- Municipal
- Utility

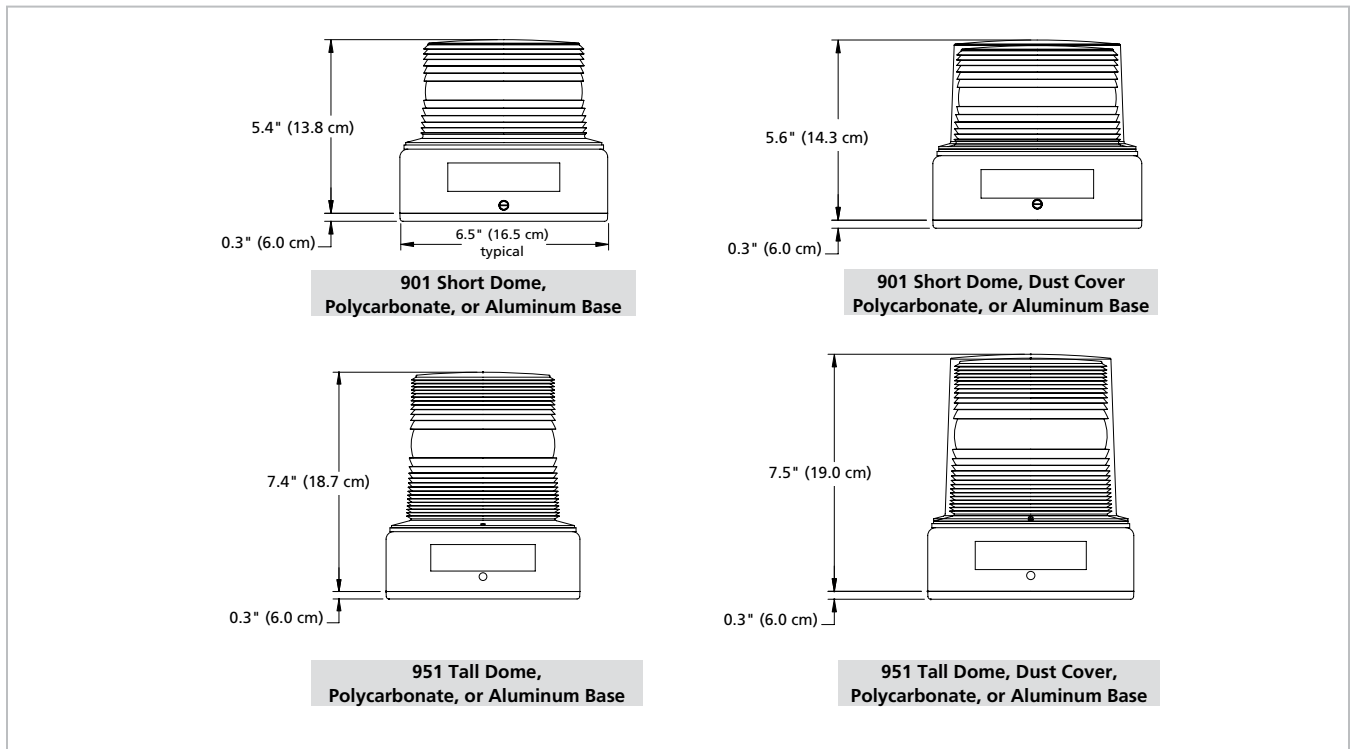


CLASS 1 CAC Title 13

Model	Description
Model 901, 18J, 21.3 W, 12-48 VDC, double flash, hi/low	
211740-02	Open-style bottom, Amber; -03(Blue); -04(Red); -05(Clear)
Model 951, 18J, 21.3 W, 12-48 VDC, double flash, hi/low	
211742-02	Open-style bottom, Amber; -03(Blue); -04(Red); -05(Clear)
211749-02	Aluminum 1" pipe/flush mount bottom, Amber; -03(Blue)
211754-02	UTILITY LIGHT, blackout lens, clear dust cover, branch guard, and aluminum 1" pipe/flush mounting base, Amber
Accessories and Kits — Model 901 only	
200765-95	Polycarbonate dust cover without black cover
210781	Wire branch guard
210877	Dust cover with black top
Accessories and Kits — Model 951 only	
200776-95	Polycarbonate dust cover without black cover
210782	Wire branch guard
210878	Dust cover with black top
Accessories and Kits — Model 901 and 951	
210050	Kit, aluminum flush magnetic mount
210830	Polycarbonate 1" pipe/flush mount bottom
210831	Kit, polycarbonate flush magnetic mount
210837	1" to 1/2" pipe adapter for 210830 and 210982
210838	1" to 3/4" pipe adapter for 210830 and 210982
210846	Aluminum flush enclosed bottom
210923	Aluminum raised enclosed bottom
210928	Magnetic mount kit for aluminum/polycarbonate mount bottoms
210982	Aluminum 1" pipe/flush mount bottom

Model 901/951 | Strobe Beacon

Available in: ■ ■ ■ ■



55

Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Model 901	12/48	2.1 A @ 12 V to 0.55 A @ 48 V	18/9	21.3	75	Class 1	Aluminum	Amber, Blue, Clear and Red	6.5" x 5.6"	2.3	5
Model 951	12/48	2.1 A @ 12 V to 0.55 A @ 48 V	18/9	21.3	75	Class 1, Title 13	Aluminum	Amber, Blue, Clear and Red	6.5" x 7.5"	2.7	5



210781



210782



200776-95



210830



210831



210838 (left), 210837 (right)

Model 851 | Strobe Beacon

Features

- Open-style aluminum base strobe beacon
- Automatic adjustment to function at any voltage from 12-48 VDC
- High-profile strobe beacon
- Five-year warranty

Approvals

- SAE J845, Class 2
(SAE J1318, Class 2, 2009)

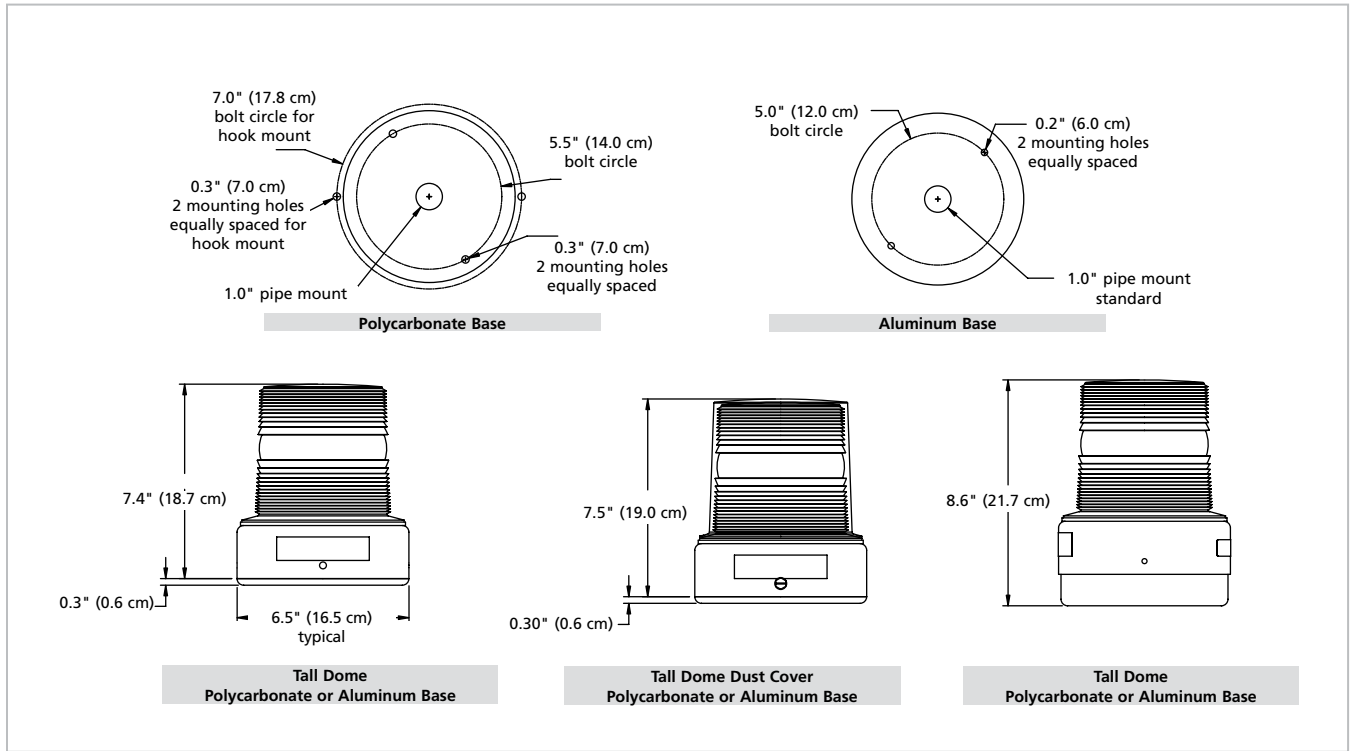
Applications

- Construction
- Municipal
- Utility



CLASS 2

Model	Description
Model 851 Plus, 12J, 16 W, 12-48 VDC, double flash	
420400-02	Open style bottom, Amber; -03(Blue); -04(Red); -05(Clear)
211789-02	Magnetic mount, Amber; -05(Clear)
420406-02	UTILITY LIGHT, blackout lens, clear dust cover, branch guard, and polycarbonate mounting base
420412-02	Aluminum 1" pipe/flush mount bottom, Amber; -05(Clear)
10J, 13.3 W, 115 VAC, single flash	
412047-02	Enclosed bottom, A/C line cord, Amber; -03(Blue); -04(Red); -05(Clear)
412048-02	Enclosed bottom, pipe flange, Amber; -03(Blue); -04(Red)
Model 851-RR, 10J, 13.3 W, 72 VDC, single flash	
412046-02	Enclosed bottom, spike filter, Amber; -03(Blue); -05(Clear)
Accessories and Kits	
210782	Wire branch guard
210939	"L" mounting bracket
210830	Polycarbonate 1" pipe/flush mount bottom
210982	Aluminum 1" pipe/flush mount bottom
210831	Kit, polycarbonate flush magnetic mount
210050	Kit, aluminum flush magnetic mount
210837	1" to 1/2" pipe adapter for 210830 and 210982
210846	Aluminum flush enclosed bottom
210928	Magnetic mount kit for aluminum/polycarbonate mount bottoms
210878	Dust cover with black top
200776-95	Polycarbonate dust cover without black cover
Common Replacement Parts	
211400-95	Flash tube
205003-95	Gasket, base
205004-95	Gasket, dome
438694-95	Kit, mounting
200772-95	Dome, Clear
200775-95	Dome, Amber
Z2005265B	Power supply, double flash
211024-95	Power supply, 72 VDC
211007-95	Power supply, 115 VAC



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Model 851	12/48	1.65 A @ 12 V	12	16	80	Class 2	Aluminum	Amber, Blue, Clear and Red	6.6" x 7.5"	2.2	5



210782



210878



200776-95



210830



210831



210838 (left), 210837 (right)

Model 651 | Strobe Beacon

Features

- Open-style aluminum base strobe beacon
- Automatic adjustment to function at any voltage from 12-48 VDC
- Low-profile strobe beacon
- Five-year warranty

Approvals

- SAE J845 Class 2
(SAE J1318 Class 2, 2009)

Applications

- Construction
- Municipal
- Utility

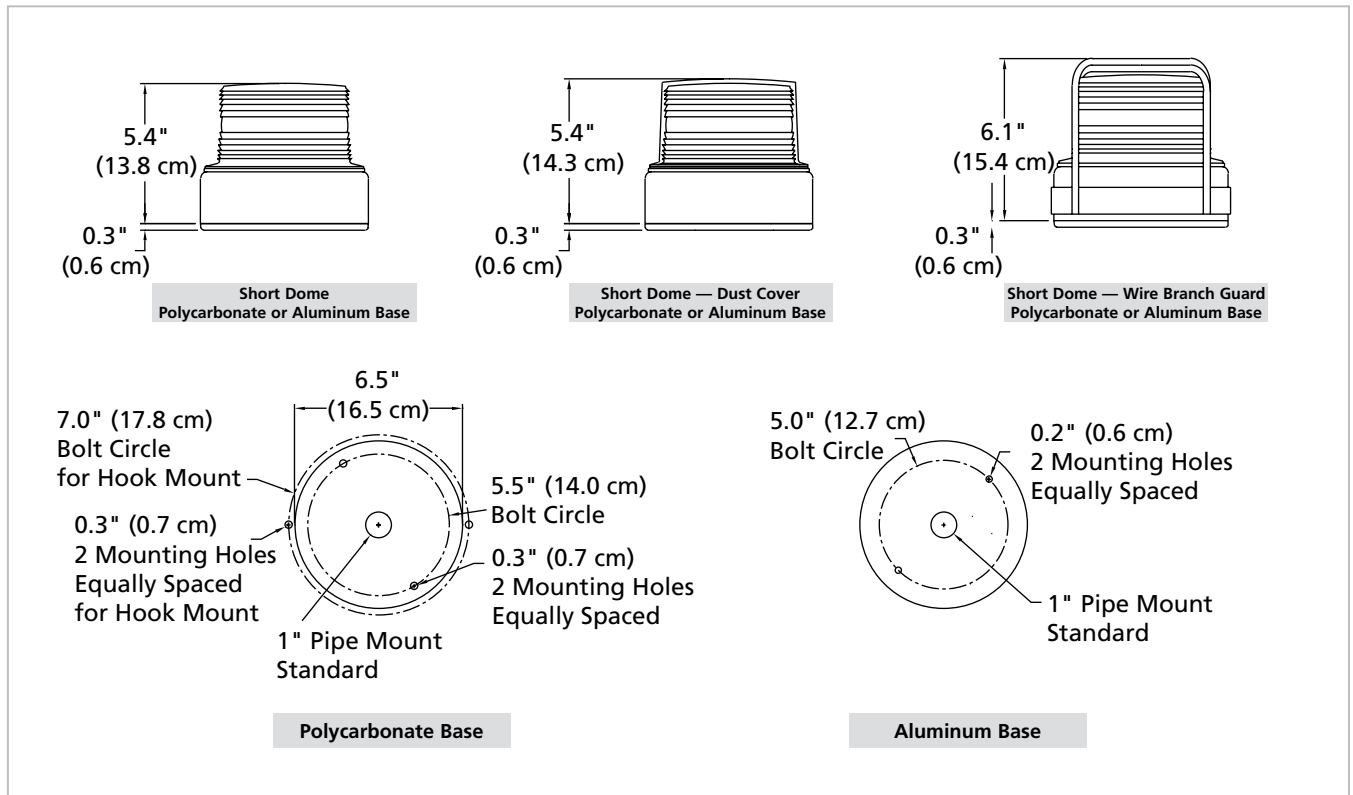


420200

420213

CLASS 2

Model	Description
Model 651 Plus, 12J, 16 W, 12-48 VDC, double flash	
420200-02	Open-style bottom, Amber; -03(Blue); -04(Red); -05(Clear)
420205-02	Black top dome, open-style bottom, Amber
420208-02	UTILITY LIGHT, blackout lens, Clear dust cover, and polycarbonate mounting base, Amber
420212-02	Aluminum 1" pipe/flush mount bottom, Amber
420213-02	UTILITY LIGHT, blackout lens, Clear dust cover, branch guard, and aluminum 1" pipe/flush mount bottom, Amber
10J, 13.3 W, 115 VAC, single flash	
412027-02	Enclosed bottom/AC line cord, Amber; -03(Blue); -04(Red); -05(Clear)
412028-02	Enclosed bottom/pipe flange, Amber; -04(Red)
Model 651 AUL, 11J, 14.7 W, single flash, enclosed bottom	
412010-02	12VDC, Amber; -03(Blue); -05(Clear)
412013-02	24VDC, spike filter, Amber
Accessories and Kits	
210781	Wire branch guard (used on 651 Plus and 651 AUL models)
210939	"L" mounting bracket
210830	Polycarbonate 1" pipe/flush mount bottom
210982	Aluminum 1" pipe/flush mount bottom
210831	Kit, polycarbonate flush magnetic mount
210050	Kit, aluminum flush magnetic mount
210837	1" to 1/2" pipe adapter for 210830 and 210982
210846	Aluminum flush enclosed bottom
210928	Magnetic mount kit for aluminum/polycarbonate mount bottoms
210877	Dust cover with black top
200765-95	Polycarbonate dust cover without black cover
Common Replacement Parts	
211200-95	Flash tube
205003-95	Gasket, base
205004-95	Gasket, dome
438694-95	Kit, mounting



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Model 651	12/48, 72	1.65 A @ 12 V to 0.41 A @ 48 V	12/10	12/10	80	Class 2	Aluminum	Amber, Blue, Clear and Red	6.5" x 5.7"	2.0	5

Common Replacement Parts	
200766-95	Dome, Blue
200767-95	Dome, Amber
200768-95	Dome, Clear
200769-95	Dome, Red
Model 651 Plus models only	
Z2005265B	Power supply, double flash
211024-95	Power supply, 72 VDC
211007-95	Power supply, 115 VAC
200030-95	Bulb, cruise light

Model 401 | Strobe Beacon

Features

- Rubber base resists corrosion and absorbs harsh shock
- Low-profile strobe beacon
- Automatic adjustment to function at any voltage from 12-48 VDC
- Three-year warranty

Approvals

- 8-Joule: SAE J845, Class 2 (SAE J1318, Class 2, 2009)

Applications

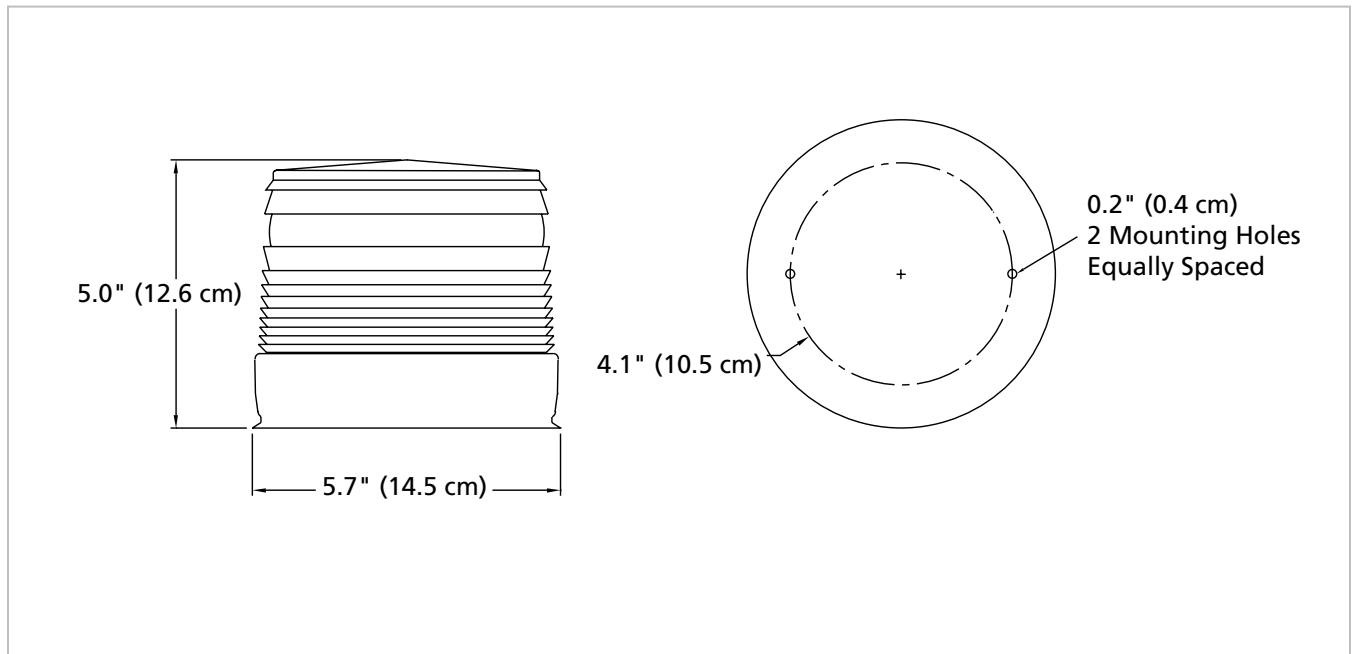
- Construction
- Forklifts
- Industrial


CLASS 2

Model	Description
Double Flash, Permanent Mount	
220300-02	5J, 5.4 W, 12-48 VDC, 65 FPM, Amber; -03(Blue); -04(Red)
Single Flash, Permanent Mount	
220301-02	5J, 5.4 W, 12-48 VDC, 65 FPM, Amber; -03(Blue); -04(Red)
Double Flash, Magnetic Mount	
220308-02	5J, 5.4 W, 12-48 VDC, 65 FPM, Amber; -03(Blue); -04(Red)
Single Flash, Magnetic Mount	
220309-02	5J, 5.4 W, 12-48 VDC, 65 FPM, Amber; -03(Blue)
Common Replacement Parts	
8107230A-95	Flash Tube, Double Flash
Z8263073-05	Dome, Amber; -01(Blue); -02(Red)

Model 401 | Strobe Beacon

Available in: ■ ■ ■ ■



61

Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Model 401	12/48	0.65 A @ 12 V to 0.17 A @ 48 V	5	5.4	65	Class 2	Rubber	Amber, Blue and Red	5.7" x 5.0"	1.3 1.9 (Heavy Duty)	3

Firebolt® | Strobe Beacon

Features

- Automatic adjustment to function at multi-voltages
- Polycarbonate base available in permanent and magnetic models
- Three-year product warranty

Approvals

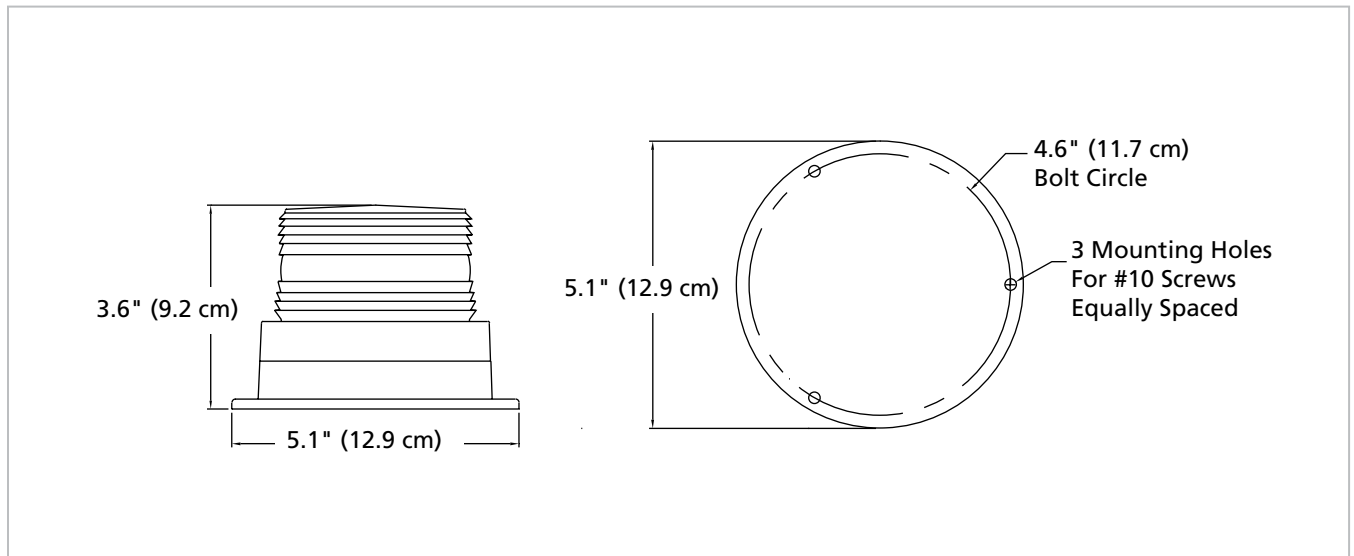
- 5-Joule: SAE J845, Class 3 (SAE J1318, Class 3, 2009)

Applications

- Forklifts
- Landscaping
- Snow plows
- Utility



Model	Description
2J, 2 W, 12-72 VDC, single flash	
220100-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
210873-02	Magnetic mount, Amber; -03(Blue); -04(Red); -05(Clear)
2J, 2 W, 115 VAC, single flash	
212356-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
5J, 5.4 W, 12-48 VDC, double flash	
220105-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
220110-02	Magnetic mount, Amber
Firebolt Plus, 2J, 2 W, 12-72 VDC, single flash, replaceable strobe tube	
220200-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
220208-02	Magnetic mount, Amber; -03(Blue); -04(Red); -05(Clear)
Accessories and Kits	
210377	Kit, wiring, 30-ft, strobes
210539	"L" mounting bracket
210728	Kit, magnetic mount with cigarette plug
210850	Adapter, pipe mount, 3/4"
210881	Adapter, pipe mount, 1/2"
210862	Kit, mounting self-adhesive
211676	Dome guard assembly, Chrome
Common Replacement Parts	
211300-95	Flash tube, FireBolt Plus
211356-95	Power supply and flash tube, 115 VAC, FireBolt
211360-95	Power supply and flash tube, 2-Joules, FireBolt
211550-95	Power supply, FireBolt Plus
2005143B-95	Power supply and flash tube, 5-Joules, 115 VAC, FireBolt
205580-95	Dome, Amber
205581-95	Dome, Red
205582-95	Dome, Clear
205584-95	Dome, Blue
200522-95	Gasket, base
200523-95	Gasket, dome
208505-95	Base



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Firebolt	12/72 @ 2J 12/48 @ 5J	0.24 A @ 12 V to 0.04 A @ 72 V (2J); 0.65 A @ 12 V to 0.17 A @ 48 V (5J)	2/5	2/5.4	60/65	Class 3	Polycarbonate	Amber, Blue, Clear and Red	5.1" x 3.6"	0.7	3
Firebolt Plus	12/72 @ 2J 12/48 @ 5J	0.24 A @ 12 V to 0.04 A @ 24 V	2	16	60/65	Class 3	Polycarbonate	Amber, Blue, Clear and Red	5.1" x 3.6"	0.7	3



Screw-on dome, easy access for strobe tube changes



Shatterproof dome and base with o-ring protection against moisture



Magnet mount cigarette plug option available



210850



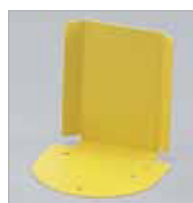
210862



210881



210377



210539



211676

Renegade® | Strobe Beacon

Features

- 2.2-Joule double flash provides dependable efficient light output
- Versatile base for universal mounting
- Fresnel lens redirects light for maximum visibility
- Specially designed O-ring gasket seals out moisture
- Protected against voltage spikes and reverse polarity
- Three-year product warranty

Approval

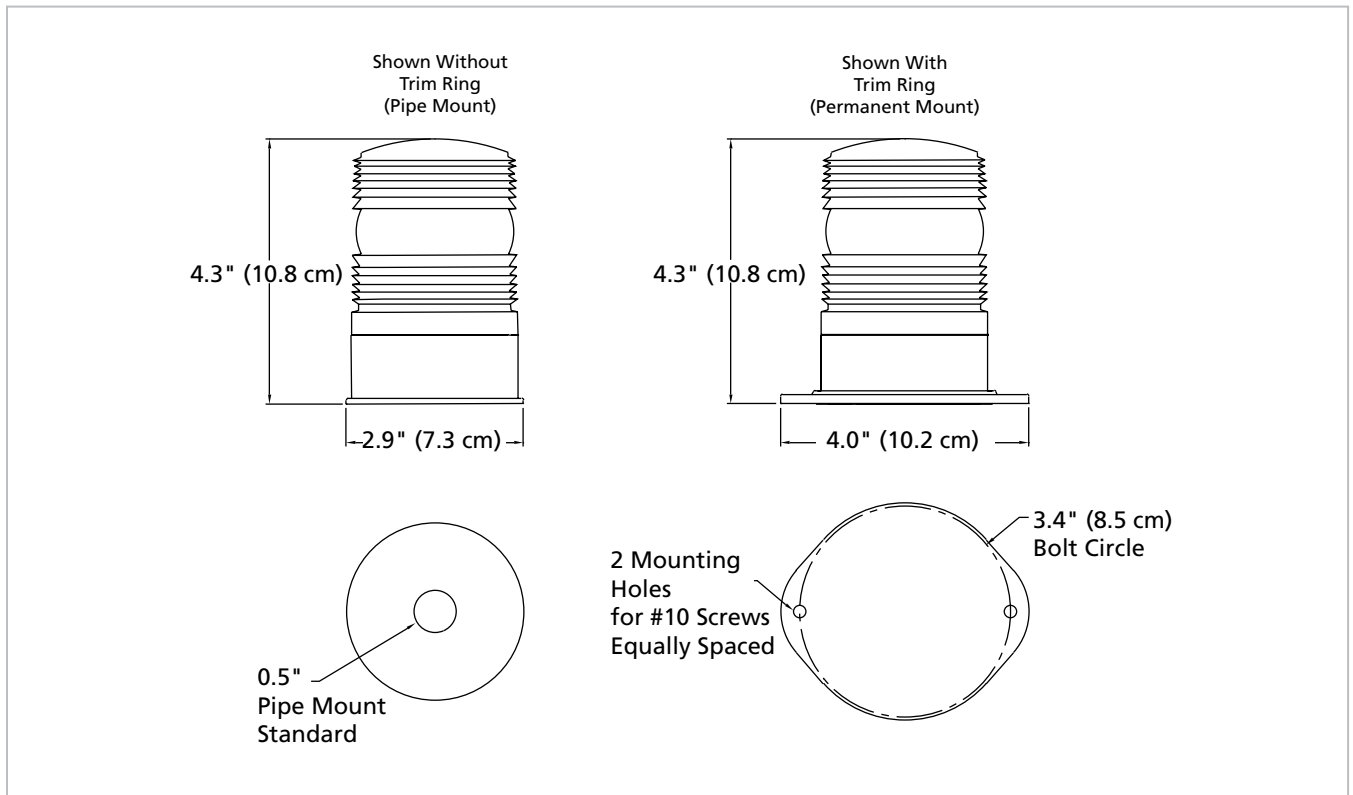
- SAE J845, Class 3

Applications

- Forklifts
- Golf carts
- Security


CLASS 3

Model	Description
2.2J, 2.6 W, 12-48 VDC, double flash	
462121-02	Permanent 1/2" pipe mount, Amber; -03(Blue); -04(Red); -05(Clear)
462141-02	Magnetic mount with cigarette plug, Amber; -03(Blue); -04(Red); -05(Clear)
Accessory	
462400	Kit, magnetic mount
Common Replacement Parts	
462500-02	Dome, Amber; -03(Blue); -04(Red); -05(Clear)
462510	Flash tube assembly
462520	Trim ring
462530	Gasket, dome
462540	Gasket, mounting



Model	Operating Voltage	Amp Draw	Joules	Watts	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Renegade	12/48	0.3 A @ 12 V	2.2	2.6	75	Class 3	Polycarbonate	Amber, Blue, Clear and Red	2.9" x 4.3" Pipe Mount 4.0" x 4.3" Permanent Mount	0.9	3



The Renegade model 462141 is available with an additional magnetic mount/cigarette plug kit.



Sentry® | Halogen Beacon

Features

- Rugged, polycarbonate housing features twist-off dome for easy maintenance
- Compact size allows for a variety of mounting options
- Large parabolic reflector and 55-watt halogen bulb produce an attention-getting 80,000 candelas per flash
- Permanent and magnetic mount versions available
- Domes are available in Amber, Blue, Clear and Red
- Five-year warranty

Approvals

- SAE J845, Class 1 (SAE J1318, Class 1, 2009)
- CAC Title 13

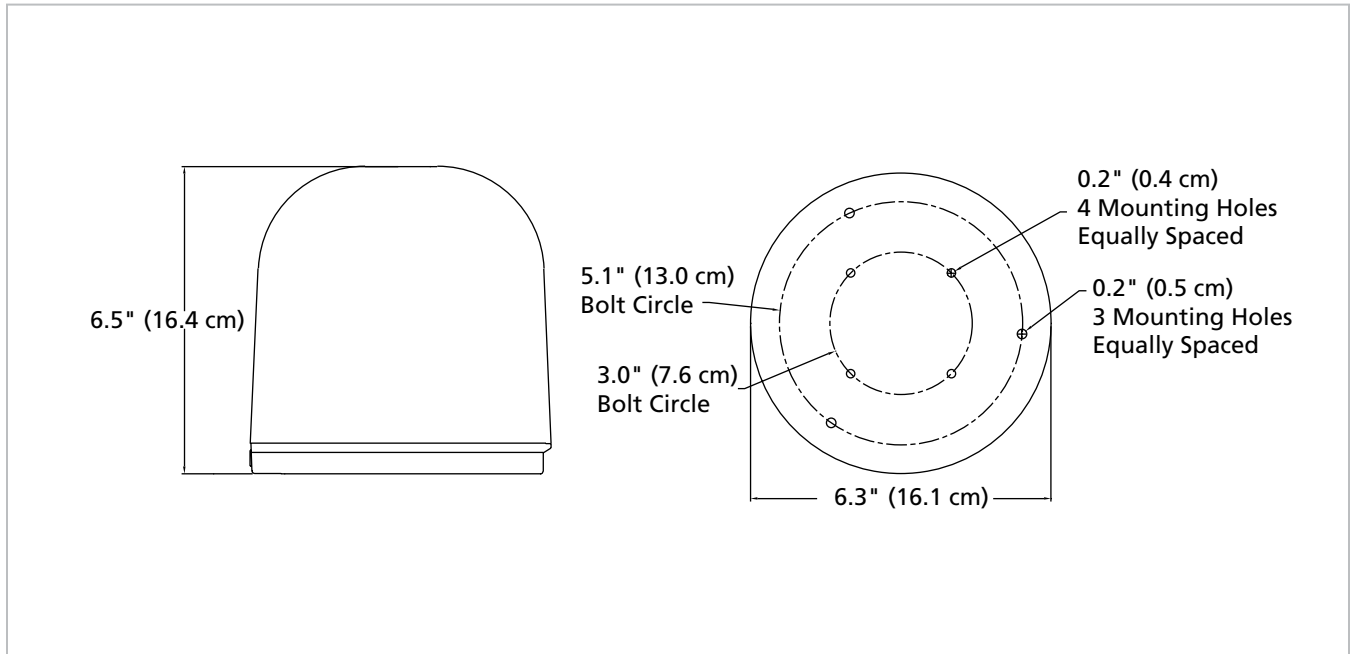
Applications

- Construction
- Landscaping
- Municipal
- Snow plows



CLASS 1 CAC Title 13

Model	Description
12 VDC, 95 FPM	
448112-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear); -06(Green)
448122-02	Pipe mount, Amber; -04(Red)
448142-02	Magnetic mount, Amber; -03(Blue); -04(Red); -05(Clear)
24 VDC, 95 FPM	
448114-02	Permanent mount, Amber; -03(Blue); -04(Red)
448144-02	Magnetic mount, Amber
12 VDC, 175 FPM	
449112-02	Permanent mount, Amber; -03(Blue); -04(Red)
449122-02	Pipe mount, Amber
449142-02	Magnetic mount, Amber; -03(Blue)
Accessories and Kits	
448320	Branch guard pipe mount adapter
448330	Branch guard
448410	Kit, magnetic mount
448310	Kit, vibration mount
Common Replacement Parts	
Z8440A265A-02	Bulb, 12 VDC, 55 W, halogen, long life
439231-95	Bulb, 24 VDC, 70 W
447532	Motor, 12 VDC, 95 FPM
447539	Motor, 12 VDC, 175 FPM
447534	Motor, 24 VDC, 95 FPM
448572	Rotator, 12 VDC, 95 FPM
448522	Rotator, 12 VDC, 175 FPM
448514	Rotator, 24 VDC, 95 FPM
448524	Rotator, 24 VDC, 175 FPM
448500-02	Dome, Amber; -03(Blue); -04(Red); -05(Clear)



Model	Operating Voltage	Amp Draw	Lamp	Candelas	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Sentry	12/24	4.3 A @ 12 V; 2.1 A @ 24 V	55/70	80,000	95/175	Class 1, Title 13	Polycarbonate	Amber, Blue, Red and Clear	6.3" x 6.5"	2.0	5



On/off control with switch on cigarette plug



Quick Maintenance — replace bulb without tools



448320



448330



448410



448310

Model 100 | Halogen Beacon

Features

- Powerful 80,000 candela rotator provides effective warning
- All exposed materials are non-corrosive
- Modular design for easy maintenance
- Rotator assembly “floats” on neoprene sleeves that absorb vibration to extend service life
- Five-year warranty

Approvals

- Meets NFPA requirements when used as part of a complete system
- SAE Class 1
- CAC Title 13

Applications

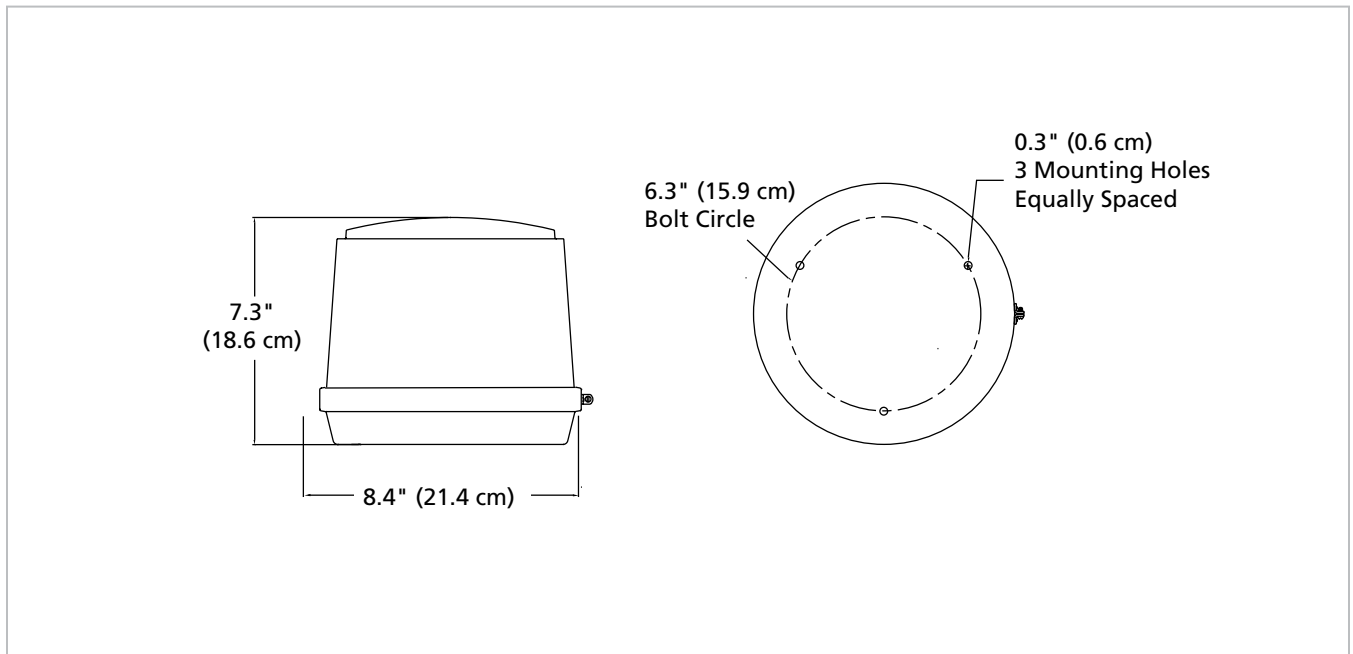
- Construction
- DOT/Municipal
- Fire/Rescue
- Tow and Recovery
- Utility



CLASS 1

CAC Title 13

Model	Description
Model 100, 12 VDC, 175 FPM	
442112-02	Permanent mount, Amber; -04(Red)
Model 100, 24 VDC, 175 FPM	
442114-02	Permanent mount, Amber; -03(Blue); -04(Red)
Model 100, 12 VDC, 120 FPM	
443113-02	Permanent mount, Amber; -03(Blue); -04(Red)
Model 100, 12 VDC, 95 FPM	
443112-02	Permanent mount, Amber; -03(Blue); -04(Red); -05(Clear)
443212-02	Magnetic mount, Amber
443312-02	Magnetic mount, replacement bulb, Amber
443612-02	“Model 101”, permanent mount, mounting pad, Amber
Model 100, 24 VDC, 95 FPM	
443114-02	Permanent mount, Amber; -03(Blue); -04(Red)
443314-02	Permanent mount, replacement bulb, Amber
Accessories and Kits	
210880-01	Self-leveling bracket
447302	Kit, vibration mount
447303	Branch guard
Common Replacement Parts — Model 100 only	
Z8440A265A-02	Bulb, 12 VDC, 55 W, halogen, long life
439231-95	Bulb, 24 VDC, 70W
447532	Motor, 12 VDC, 95 FPM
447542	Motor, 12 VDC, 120 FPM
447539	Motor, 12 VDC, 175 FPM
447534	Motor, 24 VDC, 95 FPM
442512	Rotator, 12 VDC, 95 FPM
442522	Rotator, 12 VDC, 175 FPM
Z8422C002-01	Dome, Red; -04(Amber); -05(Clear); -09(Blue)



Model	Operating Voltage	Amp Draw	Lamp	Candelas	FPM	Approvals	Base Material	Dome Colors	Dimensions (D x H)	Ship Weight (lbs)	Warranty (years)
Model 100	12/24	4.3 A @ 12 V; 2.1 A @ 24 V	55/70	80,000	95/120/195	Class 1, Title 13	Polycarbonate	Amber, Blue, Red and Clear	8.4" x 7.3"	4.0	5



447303
Branch guard



447302
Vibration mount kit



210880-01
Self-leveling bracket

SignalMaster™ Plus | Directional Lighting

Features

- Low Amp draw
- Internal or external mounting
- Water/corrosion resistant black aluminum housing
- Individually sealed LED modules with wide-angle lens
- Three (3) high-powered LEDs in each module
- Variety of specialty mounting brackets available
- Ideal for many different applications

70

Approval

- SAE J845, Class 2

Applications

- Construction
- Street Sweepers
- Tow & Recovery
- Utility
- Waste Hauling



CLASS 2

Model	Description
SMLED-PLS-6	28", (6) LED modules, 30-ft cable, Clear Lens with Amber LEDs
SMLED-PLS-8	37", (8) LED modules, 50-ft cable, Clear Lens with Amber LEDs

NOTES

- See page 70 for SignalMaster mounting brackets.
- See page 78 for SignalMaster controllers, sold separately.

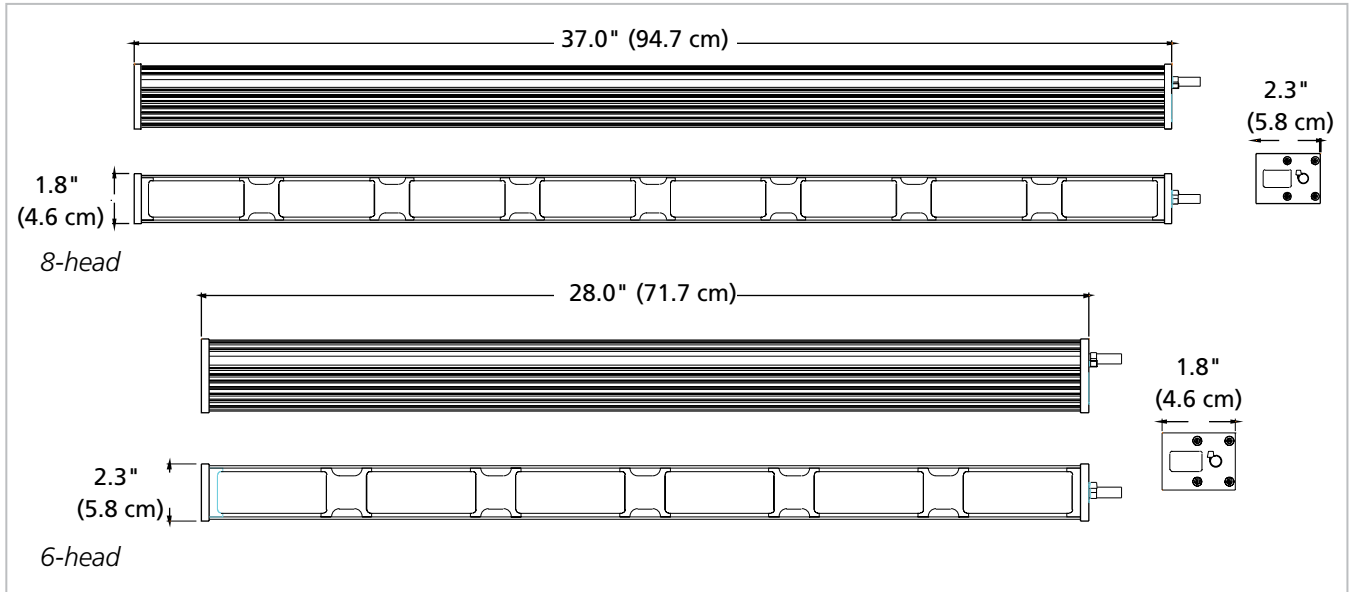


330104



331105

SignalMaster Controls



	28"	37"
Specifications		
Volts	12 or 24	12 or 24
Current Draw	.25 Amp draw per module 1.5 Amp (6 head unit)	.25 Amp draw per module 2 Amp (8 head unit)
Physical Specifications		
Height	2.3 in (5.8 cm)	1.8 in (4.6 cm)
Length	28.0 in (71.7 cm)	37.0 in (94.7 cm)
Width	1.8 in (4.5 cm)	2.3 in (5.8 cm)
Cable Lengths		
	30 ft	50 ft
Ship Weight		
	12.2 lbs (5.5 kg)	14.5 lbs (6.6 kg)



320310



320330



320350



320320



320340

VPX SignalMaster™ | Directional Lighting

Features

- Viper® EXT LED modules provide superior light intensity
- Eight (8) high-powered LEDs in each Viper EXT module
- Low Amp draw
- Fully-encapsulated, water resistant modules ideal for external mounting
- Available directional patterns include: left, right, center-out and flashing warning
- Extrusion designed to block sunlight, increasing the warning effectiveness
- The full-featured controllers (sold separately) include low-power mode to reduce amp draw for nighttime operation and fast mode that increases the “build” speed of the warning pattern
- Five year warranty on Viper EXT LED modules

Approvals

- SAE J845, Class 1
- CAC Title 13 approved (on select models)

Applications

- Construction
- Street Sweepers
- Tow & Recovery
- Utility
- Waste Hauling



CLASS 1

CAC Title 13

SOLARIS

Model	Description
320842	20", (4) LED modules, 30-ft cable, Amber LEDs with Amber lens
320862	31", (6) LED modules, 30-ft cable, Amber LEDs with Amber lens
320866	31", (6) LED modules, 60-ft cable, Amber LEDs with Amber lens
320872	42", (8) LED modules, 15-ft cable, Amber LEDs with Amber lens
320882	42", (8) LED modules, 30-ft cable, Amber LEDs with Amber lens
320886	42", (8) LED modules, 60-ft cable, Amber LEDs with Amber lens
320892	51", (8) LED modules, 30-ft cable, Amber LEDs with Amber lens
320893	51", (8) LED modules, 50-ft cable, Amber LEDs with Amber lens
CAC Title 13 Models	
320925	42", (8) LED modules, 30-ft cable, Amber LEDs with Amber lens
320935	51", (8) LED modules, 30-ft cable, Amber LEDs with Amber lens
Common Replacement Parts	
Z8613194A-01	Viper EXT, Amber LEDs with Amber lens
Z8613194A-02	Viper EXT, Blue LEDs with Blue lens
Z8613194A-03	Viper EXT, Red LEDs with Red lens
Z8613194A-04	Viper EXT, Amber LEDs with Clear lens
Z8613194A-05	Viper EXT, Blue LEDs with Clear lens
Z8613194A-06	Viper EXT, Red LEDs with Clear lens

NOTES

- See page 73 for SignalMaster mounting brackets.
- See page 78 for SignalMaster controllers, sold separately.

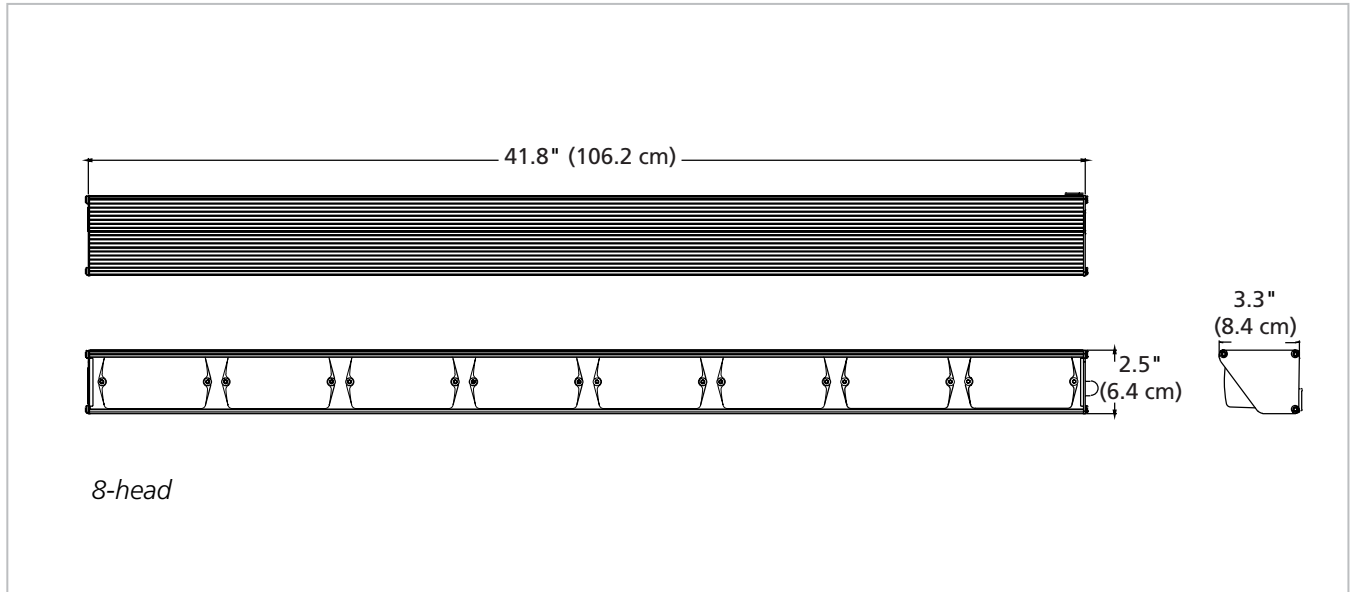


330104



331105

SignalMaster Controls



Specifications				
Voltage	12 VDC			
Amp Draw	2.1 Amp per head			
Physical Specifications				
	Length	Width	Height	Ship Weight
4 Lamp	20 in (50.8 cm)	3.3 in (8.4 cm)	2.5 in (6.4 cm)	3.5 lbs (1.6 kg)
6 Lamp	31.0 in (78.7 cm)	3.3 in (8.4 cm)	2.5 in (6.4 cm)	6.0 lbs (2.7 kg)
42" 8 Lamp	41.8 in (106.2 cm)	3.3 in (8.4 cm)	2.5 in (6.4 cm)	6.5 lbs (2.9 kg)
51" 8 Lamp	50.9 in (129.3 cm)	3.3 in (8.4 cm)	2.5 in (6.4 mm)	9.7 lbs (4.4 kg)
Controller	5.1 in (129.5 cm)	6.1 in (15.5 cm)	1.4 in (3.6 cm)	1.0 lbs (0.5 kg)



320310



320330



320320



320340



320400



320350

CN SignalMaster™ | Directional Lighting

Features

- Solaris® LED reflector technology
- FS Convergence Network controller
- A serial interface module is available for use with your existing light controller
- Available in 4-head and 8-head models
- Built-in SignalMaster functions and twenty-seven (27) flash patterns
- Suitable for internal or external use

Approval

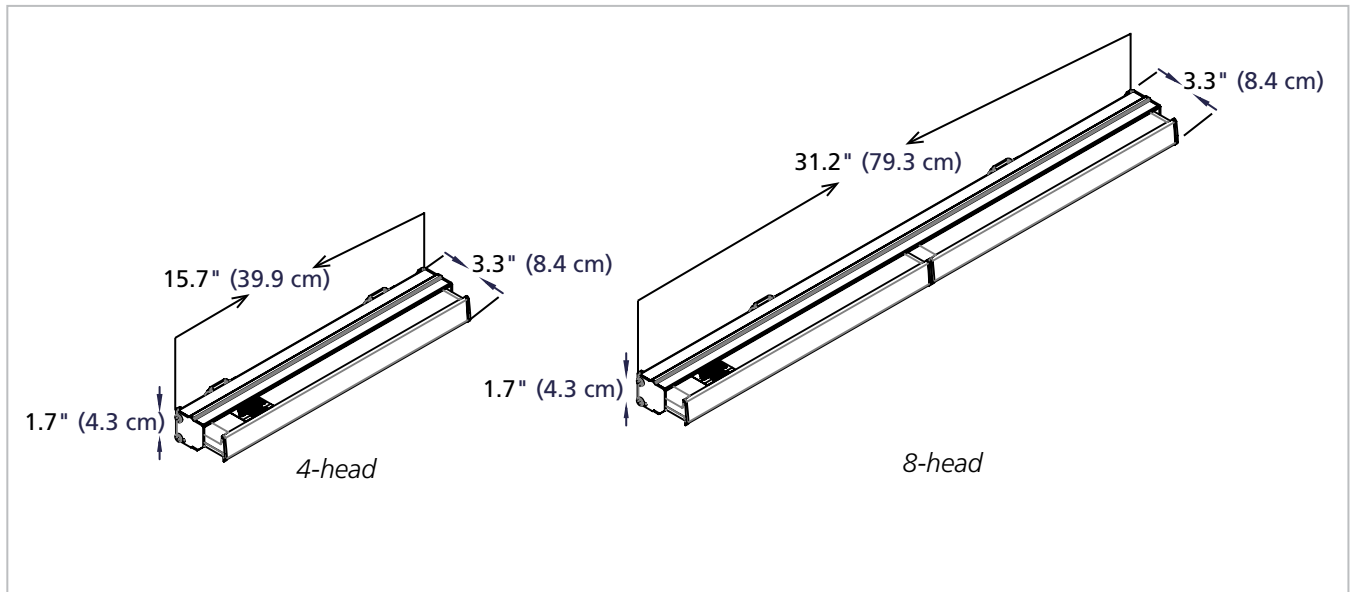
- SAE Class 1

Applications

- Construction
- Street Sweepers
- Tow & Recovery
- Utility
- Waste Hauling


CLASS 1

Model	Description
4-Head Model	
CNSM4R-00013	(4) Amber LED reflectors, no interface module
8-Head Models	
CNSM8R-00002	(8) Amber LED reflectors, no interface module
CNSM8R-00036	(8) Amber LED reflectors, no interface module
CNSM8R-00037	(8) Amber LED reflectors, 6-button controller
Accessories and Kits	
CNSM-UM	Universal mount kit for internal and external use
Z8583446D	Serial interface module



	4-Head	8-Head
Specifications		
Voltage	12 VDC	
Amp Draw	4 Amp	8 Amp
Operating Temp	-30°C to 65°C	
Physical Specifications		
Height	1.7 in (4.3 cm)	1.7 in (4.3 cm)
Length	15.7 in (39.9 cm)	31.2 in (79.3 cm)
Width	3.3 in (8.4 cm)	3.3 in (8.4 cm)
Ship Weight	2.0 lbs (0.9 kg)*	4.0 lbs (1.8 kg)*

* Controller not included

Features

- Unique lens design spread light horizontally for increased warning coverage
- Housing blocks sunlight for increased warning effectiveness
- Easy to maintain and service
- Controller is required (sold separately); available patterns included left, right, center-out and flash warning
- SignalMaster™ II models feature an integrated L-bracket control to activate three warning patterns: left, right and flashing warning; a (S/T/T) Stop/Turn/Tail override provides auxiliary warning when the unit is not in use

Approval

- CAC Title 13

Applications

- Construction
- Street Sweepers
- Tow & Recovery
- Utility
- Waste Hauling



CAC Title 13

Model	Description
Halogen SignalMaster	
320142	20", (4) lamp, 30-ft cable, Amber lens
320162	31", (6) lamp, 15-ft cable, Amber lens
320172	42", (8) lamp, 15-ft cable, Amber lens
320182	42", (8) lamp, 30-ft cable, Amber lens
320192	42", (8) lamp, 50-ft cable, Amber lens
Complete System Models	
330302	(1) 320612 light and (1) 331105 controller
322112	(1) 320182 light and (1) 331105 controller
322132	(1) 320182 light, (1) 331105 controller and (1) 320320 mount
SignalMaster II light models, includes integrated control	
321102	42", (8) lamp, control, S/T/T override, 15-ft cable
321112	51", (8) lamp, control, S/T/T override, 35-ft cable
Accessories and Kits	
320400	Kit, 50-ft cable
320401	LED upgrade, single LED module
320408	LED upgrade, 8-LED module
Common Replacement Parts	
322502	Bulb, SignalMaster, 27 W
322512-02	Lens, SignalMaster, Amber; -04(Red)
Z140325A-13	15-position female connector for full featured controller
Z8573157B-01	SignalMaster II control
Z8573180A	Reflector and terminal assembly, SignalMaster
Z8573001B	Lens, SignalMaster, Clear; -01(Red); -02(Amber); -03(Blue); -04(Green)

NOTES

- See page 77 for SignalMaster mounting brackets.
- See page 78 for SignalMaster controllers, sold separately.

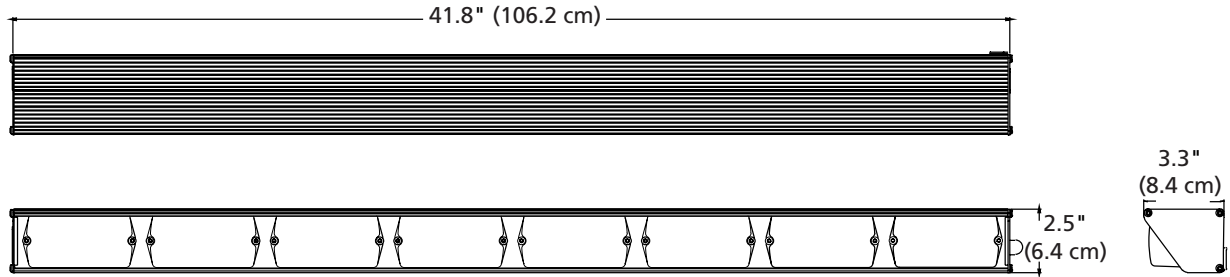


330104



331105

SignalMaster Controls



8-lamp

Specifications					
Voltage	12 VDC				
Amp Draw	2.1 Amp per lamp				
	4 Lamp	6 Lamp	42"- 8 Lamp	51"- 8 Lamp	Control
Dimensions					
Height	2.7 in (6.8 cm)	2.7 in (6.8 cm)	2.7 in (6.8 cm)	2.5 in (6.4 cm)	1.4 in (3.5 cm)
Length	19.5 in (49.5 cm)	31.4 in (79.8 cm)	41.8 in (106.2 cm)	50.9 in (129.3 cm)	5.1 in (13.0 cm)
Width	3.3 in (8.4 cm)	3.3 in (8.4 cm)	3.3 in (8.4 cm)	3.3 in (8.4 cm)	6.1 in (5.6 cm)
Ship Weight					
	3.5 lbs (1.6 kg)	6.0 lbs (2.7 kg)	6.5 lbs (2.9 kg)	9.7 lbs (4.4 kg)	1.0 lbs (0.5 kg)



320310



320330



320320



320340



320350

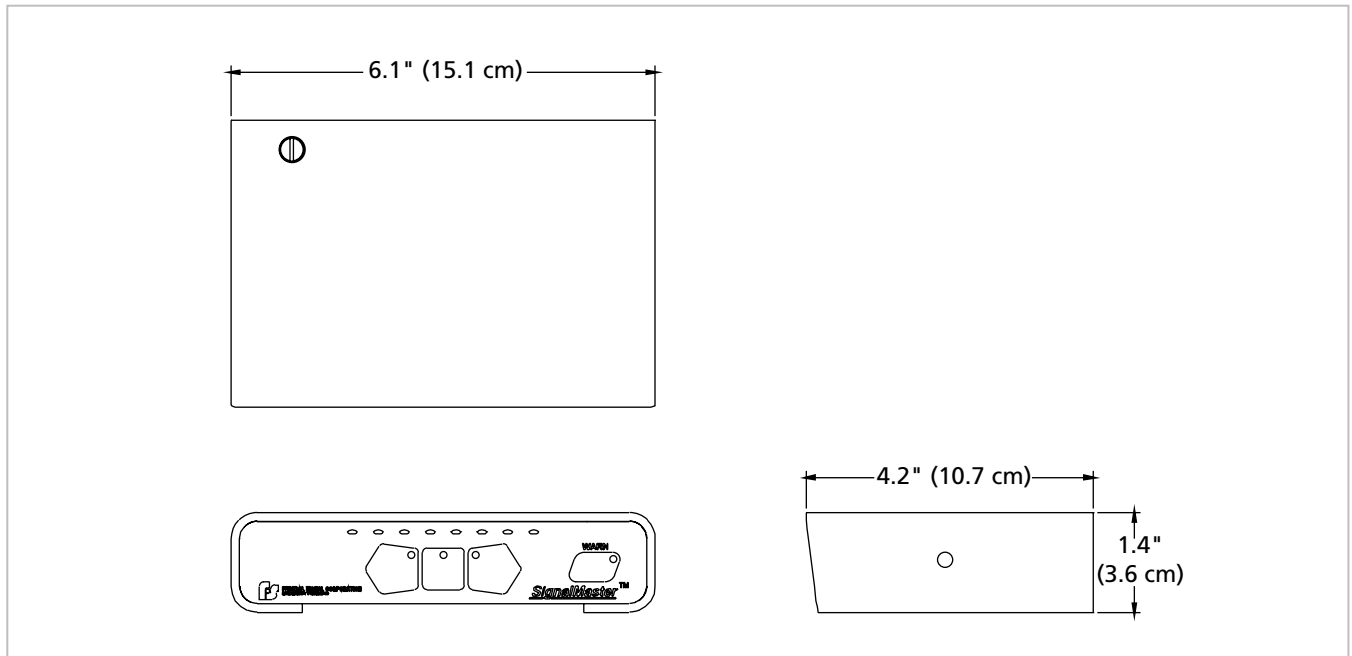
SignalMaster™ Controls | Directional Lighting

Features

- Combined 12 and 24 VDC operation from one controller
- Operates two halogen or multiple LED SignalMaster™ directional lights (SMC5)
- One controller operates (2) 4-, 6-, or 8-lamp directional lights
- Fourteen (SMC5) / seven (SMC1) SignalMaster warning patterns
- AUX IN and AUX OUT functions with eight warning patterns and steady-on mode allows customization of complete warning packages (SMC5)
- Turn signal override feature (SMC5)
- Tactile membrane switch panel
- Reliable surface mount circuitry



Model	Description
330104-SB	Six or eight-lamp, 12 or 24 VDC (multiple installer-selectable flash patterns, fuse protected)
331105-SB	Heavy Duty six or eight-lamp, 12 or 24 VDC (slide switch, multiple installer-selectable flash patterns, heavy duty ground, fuse protected, controls two halogen or LED SignalMasters simultaneously), turn signal override feature
Common Replacement Part	
Z140325A-13	15-position female connector for full featured controller



SMC5 Specifications — Model 331105	
Input Voltage	11 VDC to 28 VDC
Polarity	Negative ground only
Operating Temp. Range	-30°C to +65°C
Standby Current	7mA (0.007A)
+BAT Fuse	25A (installer supplied)
+Ignition Fuse	2 Amp
Relay Fuse	1A (installer supplied)
Output Drive Capability (Total)	
Directional	(16) 27 W lamps on eight channels (2 lightbars in parallel)
Auxiliary	(4) 27 W lamps (2 per output) (2) 55 W lamps (1 per output)
Normal Directional Flash Rate	Approx. 30 patterns per minute
Fast Directional Flash Rate	Approx. 45 patterns per minute
Physical Dimensions	
Height	1.4 in (3.6 cm)
Width	6.1 in (15.1 cm)
Depth	4.2 in (10.7 cm)
Ship Weight	
	2.5 lbs (1.1 kg)

SMC1 Specifications — Model 330104	
Input Voltage	11 VDC to 28 VDC
Polarity	Negative ground only
Operating Temp. Range	-30°C to +65°C
Standby Current	7mA (0.007A)
Lightbar Fuse	25A (installer supplied)
+IGNITION Fuse	2 Amp
Output Drive Capability (Total)	
Directional	(8) 27 W lamps on eight channels
Normal Directional Flash Rate	Approx. 30 patterns per minute
Physical Dimensions	
Height	1.4 in (3.6 cm)
Width	6.1 in (15.6 cm)
Depth	4.2 in (10.7 cm)
Ship Weight	
	2.5 lbs (1.1 kg)

IMPAXX®6 / IMPAXX®3

Exterior Mount / Perimeter Lights

Features

- SpectraLux™ multicolor LED technology
- Solaris® LED reflector technology
- Fully-encapsulated waterproof housing
- Available in 6-LED, 12-LED or 18-LED models
- 23 Flash patterns available
- LEDs offered in Amber, Blue, Green, Red and White
- IMPAXX 3 is available in wide angle lens for better off-axis warning and center focus lens
- IMPAXX 6 Dimensions:
 - 5.5" (L) x 2.0" (H) x 1.5" (D) (with bezel)
 - 4.1" (L) x 1.4" (H) x 1.4" (D) (without bezel)
- IMPAXX 3 Dimensions:
 - 3.7" (L) x 1.7" (H) x 1.3" (D) (with bezel)
 - 2.9" (L) x 1.3" (H) x 1.2" (D) (without bezel)
- Five-year LED warranty

Approvals

- IMPAXX6, SAE J595 Class 1
- IMPAXX6, CAC Title 13, Class B
- IMPAXX3, SAE J595 Class 2
- EMI and RFI approved

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



IPX600-A



IPX300-2

CLASS 1

CLASS 2

(IPX3)

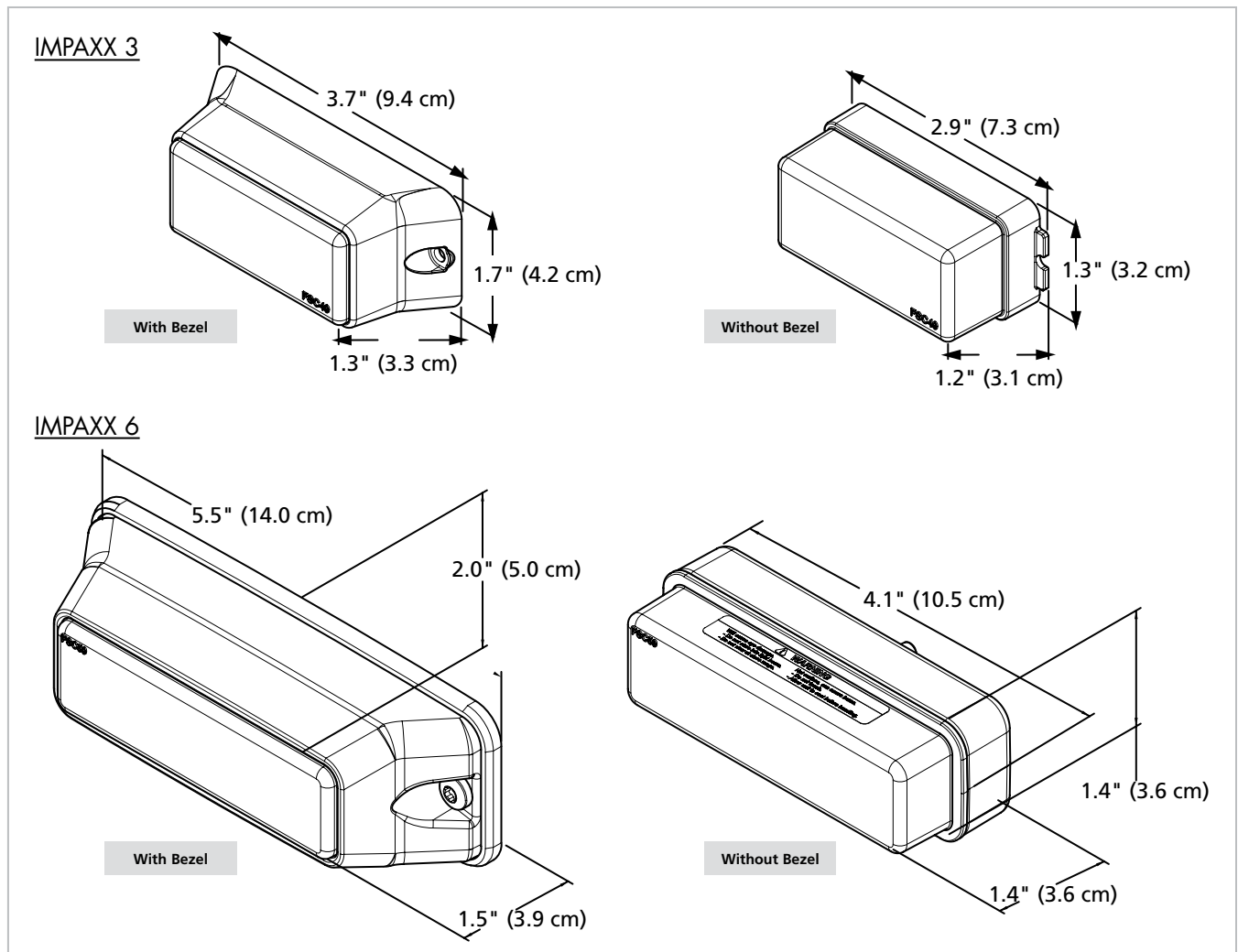
CAC Title 13

SOLARIS

Model	Description
IMPAXX 6	
Single color, Clear off-axis lens, horizontal mount	
IPX600-A	(6) LEDs Amber; -B(Blue); -G(Green); -R(Red); -W(White)
Single color, Colored off-axis lens, horizontal mount	
IPX602-A	(6) LEDs Amber; -B(Blue); -R(Red)
Single color, Clear off-axis, vertical mount	
IPX603-A	(6) LEDs Amber; -B(Blue); -G(Green); -R(Red); -W(White)
Single color, Colored off-axis lens, vertical mount	
IPX604-A	(6) LEDs Amber; -B(Blue); -R(Red)
Dual color, Clear off-axis lens, horizontal mount	
IPX620-BA	(12) LEDs Blue/Amber
IPX620-BW	(12) LEDs Blue/White
IPX620-RA	(12) LEDs Red/Amber
IPX620-WA	(12) LEDs White/Amber
IMPAXX 3	
Clear lens, advanced off-axis lens	
IPX300-2	(3) LEDs Amber; -3(Blue); -4(Red); -5(White); -6(Green)
Clear lens, center focused lens	
IPX310-2	(3) LEDs Amber; -3(Blue); -4(Red); -5(White); -6(Green)
Colored lens, advanced off-axis lens	
IPX302-2	(3) LEDs Amber; -3(Blue); -4(Red); -5(White); -6(Green)
Colored lens, center focused lens	
IPX312-2	(3) LEDs Amber; -3(Blue); -4(Red); -5(White); -6(Green)
Accessories or Kits	
IPX6M-1	Chrome bezel, for all IMPAXX 6 models
IPXM-1	Chrome bezel, all IMPAXX 3 models

NOTE

- See page 86-87 for mounting options



	IPX3	IPX6
Specifications		
Voltage	12.8 VDC	12.8 VDC
Current Draw	0.7 Amp	1.0 Amp
Operating Temp.	-30° C to +65° C	-30° C to +80° C
Physical Specifications (with Bezel)		
Height	1.7 in (4.2 cm)	2.0 in (4.8 cm)
Length	3.7 in (9.4 cm)	5.5 in (14.0 cm)
Width	1.3 in (3.3 cm)	1.5 in (3.8 cm)
Physical Specifications (without Bezel)		
Height	1.3 in (3.2 cm)	1.4 in (3.6 cm)
Length	2.9 in (7.3 cm)	4.1 in (10.5 cm)
Width	1.2 in (3.1 cm)	1.4 in (3.6 cm)
Ship Weight		
	1.0 lb (0.45 kg)	1.0 lb (0.45 kg)

MicroPulse™

Exterior Mount / Perimeter Lights

Features

- Multiple mounting options for various applications
- Super warning with (3) or (6) high-powered LEDs
- Low-profile design offers wider range of mounting locations
- 12 or 19 selectable flash patterns MicroPulse 3 or MicroPulse 6
- Single/multi-unit synchronization
- Dimensions:
MicroPulse 6
5.0" (L) x 1.1" (H) x 0.7" (D)
(surface mount)
MicroPulse 3
3.4" (L) x 1.1" (H) x 0.7" (D)
(surface mount)
- Three-year LED warranty

Approvals

MicroPulse 6

- SAE J845, Class 1 (solid colors)
- SAE J595, Class 1 (solid colors)

MicroPulse 3

- SAE J845, Class 1 (Red)
- SAE J595, Class 1 (Red)
- SAE J845, Class 2 (Amber)
- SAE J595, Class 2 (Amber, Blue and White)

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



MPS300-A

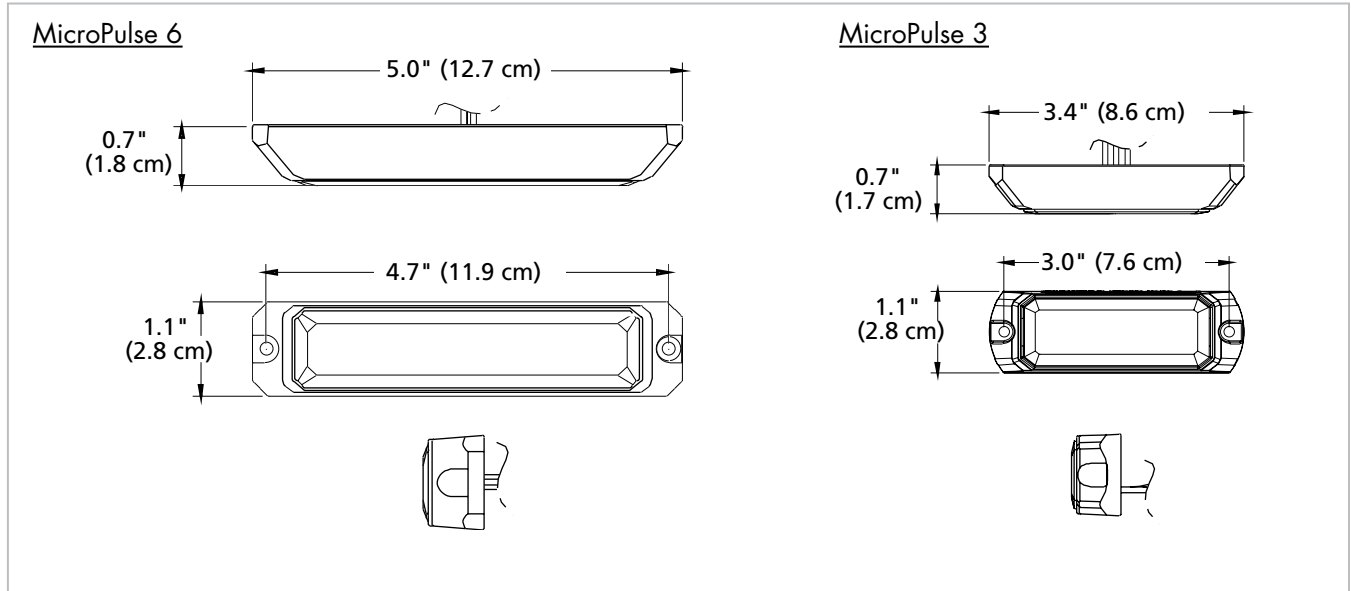
MPS600-A

CLASS 1 CLASS 2

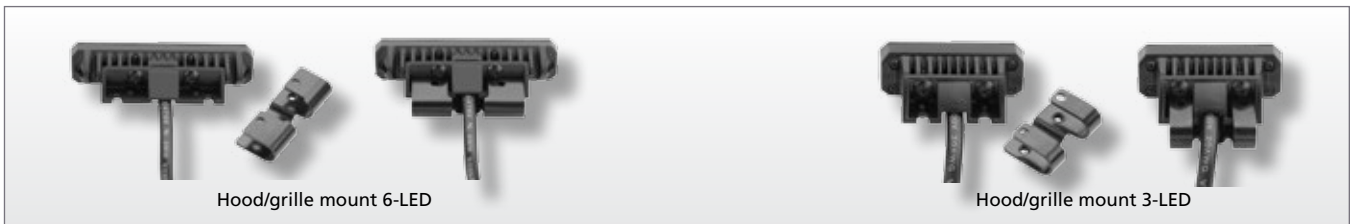
Model	Description
MicroPulse 6 (SAE J845/J595 Class 1) Surface mount, 12-24 VDC, Clear lens	
MPS600-AA	6-LED lighthouse, Amber/Amber, LEDs
MPS600-BB	6-LED lighthouse, Blue/Blue, LEDs
MPS600-RB	6-LED lighthouse, Red/Blue, LEDs
MPS600-RR	6-LED lighthouse, Red/Red, LEDs
MPS600-RW	6-LED lighthouse, Red/White, LEDs
MPS600-WW	6-LED lighthouse, White/White, LEDs
Hood/Grille mount, 12-24 VDC, Clear lens	
MPS650-AA	6-LED lighthouse, Amber/Amber, LEDs
MPS650-BB	6-LED lighthouse, Blue/Blue, LEDs
MPS650-RB	6-LED lighthouse, Red/Blue, LEDs
MPS650-RR	6-LED lighthouse, Red/Red, LEDs
MPS650-RW	6-LED lighthouse, Red/White, LEDs
MPS650-WW	6-LED lighthouse, White/White, LEDs
MicroPulse 3 (SAE J845/J595 Class 2) Surface mount, 12-24 VDC, Clear lens	
MPS300-A	3-LED lighthouse, Amber, LEDs
MPS300-B	3-LED lighthouse, Blue, LEDs
MPS300-R	3-LED lighthouse, Red, LEDs
MPS300-W	3-LED lighthouse, White, LEDs
Hood/Grille mount, 12-24 VDC	
MPS350-A	3-LED lighthouse, Amber, LEDs
MPS350-B	3-LED lighthouse, Blue, LEDs
MPS350-R	3-LED lighthouse, Red, LEDs
MPS350-W	3-LED lighthouse, White, LEDs

NOTE

- See page 87 for mounting options



	MPS3 Models	MPS6 Models
Specifications		
Voltage	12-24 VDC	12-24 VDC
Current Draw	0.2 Amp at 12 VDC	0.55 Amp at 12 VDC
	0.11 Amp at 24 VDC	0.26 Amp at 24 VDC
Operating Temp.	-40°C to 80°C	-40°C to 80°C
Physical Specifications (H x L x D)		
Hood Version	1.1 in (2.4 cm) x 2.5 in (6.5 cm) x 1.5 in (3.7 cm)	0.94 in (2.4 cm) x 4.2 in (10.8 cm) x 1.7 in (4.3 cm)
Surface Mount	1.1 in (2.8 cm) x 3.4 in (8.6 cm) x 0.6 in (1.6 cm)	1.1 in (2.8 cm) x 5.0 in (12.7 cm) x 0.68 in (1.73 cm)
Ship Weight		
	0.5 lbs (0.23 kg)	0.75 lbs (0.34 kg)



Viper® EXT | Exterior Mount / Perimeter Lights

Features

- Solaris® LED reflector technology
- Fully-encapsulated waterproof housing
- Wide angle lens for better off-axis warning
- Wide variety of synchronized patterns
- Models come standard with Black bezel
- LEDs offered in Amber, Blue, Green, Red and White
- Dimensions:
5.7" (L) x 2.4" (H) x 1.5" (D) (with bezel)
4.5" (L) x 1.9" (H) x 1.5" (D) (without bezel)
- Five-year LED warranty

Approvals

- SAE J595, Class 1
- CAC Title 13 (on select models)

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



VPX800-2

CLASS 1

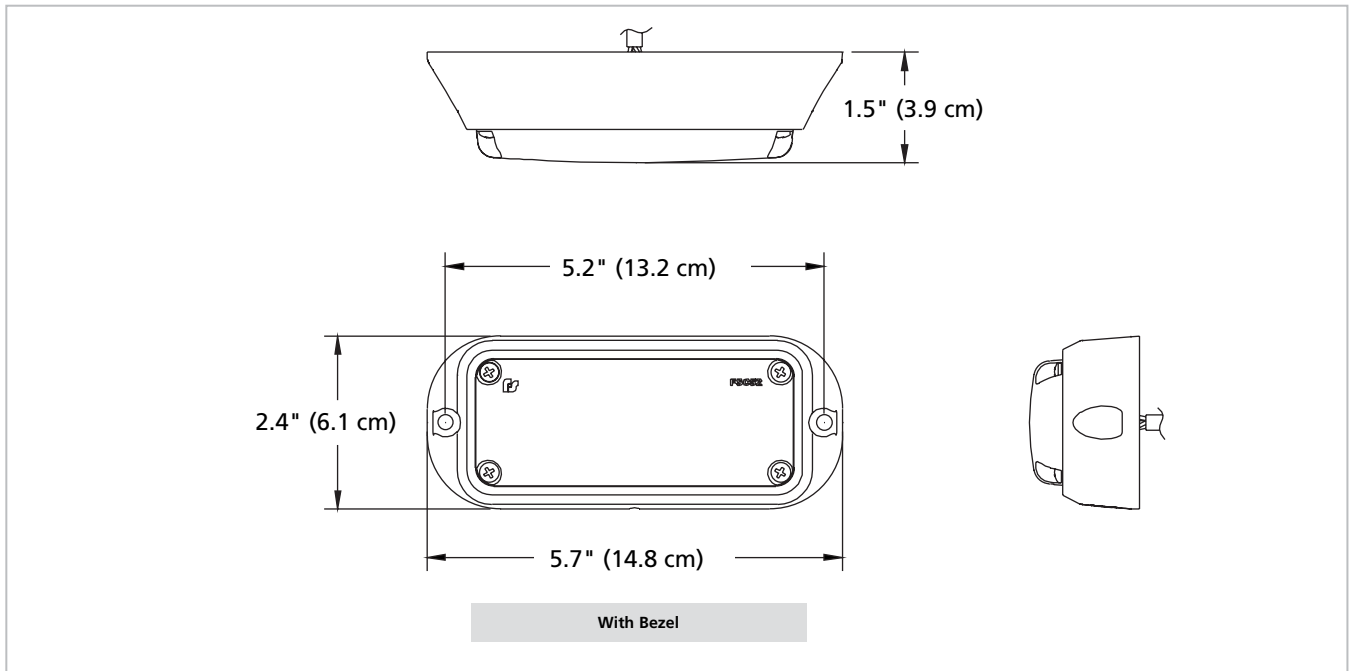
CAC Title 13

SOLARIS

Model	Description
Clear off-axis lens	
VPX800-2	Amber, (8) high-powered LEDs
VPX800-3	Blue, (8) high-powered LEDs
VPX800-4	Red, (8) high-powered LEDs
VPX800-5	White, (8) high-powered LEDs
VPX800-6	Green, (8) high-powered LEDs
350172-25	Amber, (8) high-powered LEDs, 6" oval grommet mounting plate*
Colored off-axis lens	
VPX802-2	Amber, (8) high-powered LEDs
VPX802-3	Blue, (8) high-powered LEDs
VPX802-4	Red, (8) high-powered LEDs
VPX802-6	Green, (8) high-powered LEDs
350172-02	Amber, (8) high-powered LEDs, 6" oval grommet mounting plate*
* For mounting in standard 6" oval cutouts	
CAC Title 13 Approved Models, (7) built-in approved flashed patterns	
Clear off-axis lens	
VPX813-2	Amber, (8) high-powered LEDs
Amber off-axis lens	
VPX814-2	Amber, (8) high-powered LEDs
Accessories and Kits	
330507	Kit, 6" oval grommet mounting plate (sold individually, lighthead sold separately)
VPXM-1	Chrome bezel, all models

NOTE

- See page 86-87 for mounting options



Specifications	
Voltage	12.8 VDC
Current Draw	1.5 Amp
Operating Temp	-30°C to +65°C
Ship Weight	
	1.0 lb (0.45 kg)
Physical Specifications (L x H x W)	
Without Bezel	4.5 in x 1.9 in x 1.5 in (11.4 cm x 4.8 cm x 3.9 cm)
With Bezel	5.7 in x 2.4 in x 1.5 in (14.8 cm x 6.1 cm x 3.9 cm)

Flash Pattern	Description	Flash Pattern	Description
1	Null (off)	14	75 FPM Double
2	79 FPM Power Quad*	15	150 FPM Triple
3	150 FPM Single	16	75 FPM Triple
4	151 FPM Single	17	5 Single @ 680 FPM 4 Single @ 216 FPM
5	74 FPM Single*	18	4 Single @ 570 FPM 3 Single @ 246 FPM
6	75 FPM Single*	19	3 Single @ 460 FPM 2 Quad @ 75 FPM
7	240 FPM Single	20	Progressive (flashes start slow and increase in speed)
8	241 FPM Single	21	4 Single @ 154 FPM 2 Quad @ 75 FPM
9	240 FPM Single	22	Random
10	241 FPM Single	23	3 Quick flashes, then stays in Steady Burn
11	150 FPM Single	24	FedPulse 75
12	151 FPM Single	25	Steady Burn
13	74 FPM Single		

* Conforms to CCR Title 13

Note: Single, Double and Quad refer to the number of flashing intervals

IMPAXX, Viper EXT and MicroPulse Brackets

IMPAXX and Viper EXT Brackets



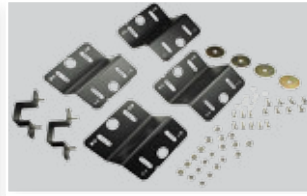
IPX-GRL1

Grille Bracket, IPX3/IPX6/VPX8, (1) grille brackets with hardware, vertical mount orientation, Ford Crown Victoria Police Package vehicles, '02 - '11



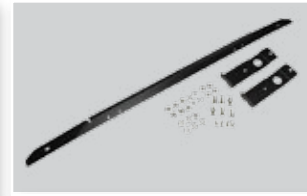
IPX-GRL2

Grille Bracket, IPX3/IPX6/VPX8, (1) grille brackets with hardware, horizontal mount orientation, Ford Crown Victoria Police Package vehicles, '02 - '11



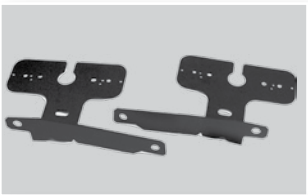
IPX-GRL3

Grille Bracket, IPX3/IPX6/VPX8, pair of grille brackets with hardware, 2011 Dodge Charger



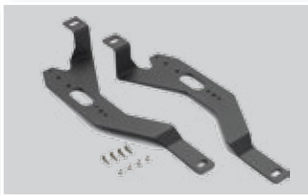
IPX-GRL4

Grille Bracket, IPX3-only, pair of grille brackets with each bracket holds (2) IPX3 light in a vertical orientation, 2011 Chevrolet Caprice



IPX-GRL5

Grille Bracket, IPX3/IPX6/VPX8/MPS300/MPS600, pair of grille brackets with hardware, 2013 Ford Police Interceptor Sedan



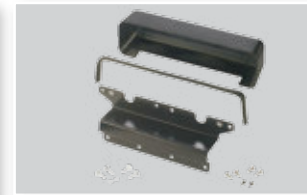
IPX-GRL6

Grille Bracket, IPX3/IPX6/MPS300/MPS600, pair of grille brackets with hardware, 2013 Ford Police Interceptor Utility



IPX-SW1

Rear Side Window Bracket, IPX3/VPX8, pair of rear side window mount brackets, '02 - '11 Ford Crown Victoria Police Package vehicles



VPX-SW

Rear Side Window Bracket, VPX8, pair of rear side window mount brackets, each bracket hold (2) Viper EXT lights, late model Ford Crown Victoria Police Package vehicles



IPX-RDW2

Rear Side Window Bracket, IPX3/IPX6/VPX8, pair of rear side window mount brackets and covers, each bracket holds (2) IMPAXX or Viper EXT lights, Chevrolet Caprice



IPX-ROW1

Rear Side Window Bracket, IPX3/IPX6, pair of rear side "Opera" window mount brackets, Chevrolet Caprice



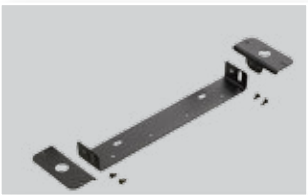
IPX-RSW1

Rear Side Window Bracket, IPX3/IPX6/VPX8, pair of rear side window mount brackets and covers, Dodge Charger



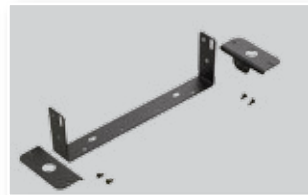
IPX-RSW2

Rear Side Window Bracket, IPX3/IPX6/VPX8, pair of rear side window mount brackets and covers, Chevrolet Caprice



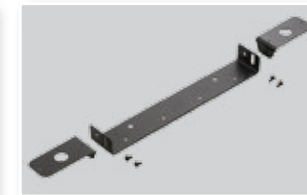
IPX-LPV1

License Plate Bracket, IPX3/IPX6/VPX8, flat surface license plate mount, various vehicles without recessed plate mounting locations



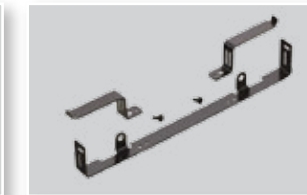
IPX-LPVX1

License Plate Bracket, IPX3/IPX6/VPX8, extended license plate bracket for vehicles with a recessed license plate mount location including but not limited to the '02 - '11 Ford Crown Victoria Police Package



IPX-LPH1

License Plate Bracket, IPX3/IPX6/VPX8, generic high side license plate holder with horizontal mount tab on each side, fits most vehicles

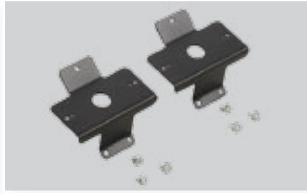


IPX-LPF1

License Plate Bracket, IPX3 only, generic low side license plate holder for horizontal IMPAXX install, most vehicles

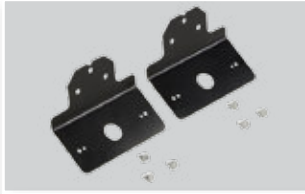
IMPAXX, Viper EXT and MicroPulse Brackets

IMPAXX and Viper EXT Brackets



IPX-TRNK1

Trunk Lid Bracket, IPX3/IPX6/VPX8, pair of inner trunk lid brackets with hardware, '02-'11 Ford Crown Victoria Police Interceptor package



IPX-TRNK2

Trunk Lid Bracket, IPX3/VPX8, pair of inner trunk lid brackets with hardware, '07-'10 Dodge Charger



IPX-TRNK3

Trunk Lid Bracket, IPX3/IPX6/VPX8, pair of inner trunk lid brackets with hardware, 2011 Dodge Charger



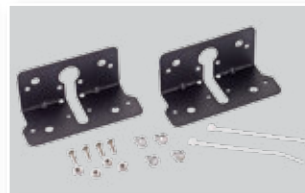
IPX-PB45H

Push Bumper Bracket, IPX3/IPX6/VPX8, pair of 45-degree slanted push bumper mounts with hardware, horizontal light orientation, fits most push bumpers



IPX-PB45V

Push Bumper Bracket, IPX3/IPX6/VPX8, pair of 45-degree slanted push bumper mounts with hardware, vertical light orientation, fits most push bumpers



IPX-PBL1

Universal Mount Bracket, IPX3/IPX6/VPX8, pair, universal "L" bracket, horizontal orientation



MPSM3-LB

MicroPulse 3 Bracket, Generic L-Bracket for (1) MPS300



MPSM3-DS

MicroPulse 3 Bracket, Generic L-Bracket for (2) MPS300, stacked



MPSM3-DL

MicroPulse 3 Bracket, Generic L-Bracket for (2) MPS300, side-by-side



MPSM3-BOOT

MicroPulse 3 Bracket, Rubber boot mount for (1) MPS300



MPSM3-BOOTKIT

MicroPulse 3 Bracket, (2) Rubber boot mounts, (2) mounting plates for (2) MPS300



MPSM3-SPACRKT

MicroPulse 3 Bracket, Kit of four 5-degree rubber mounting wedges for use with MPS300 lights



MPSM3-SB

MicroPulse 3 Bracket, Swivel Mount Bracket for (1) MPS300



MPSM6-SB

MicroPulse 6 Bracket, Swivel Mount Bracket for (1) MPS600



MPSM6-LB

MicroPulse 6 Bracket, Generic L-Bracket for (1) MPS600



MPSM6-DS

MicroPulse 6 Bracket, Generic L-Bracket for (2) MPS600, stacked



MPSM6-DL

MicroPulse 6 Bracket, Generic L-Bracket for (2) MPS600, side-by-side



MPSM6-BOOT

MicroPulse 6 Bracket, Rubber boot mount for (1) MPS600



MPSM6-BOOTKIT

MicroPulse 6 Bracket, (2) Rubber boot mounts, (2) mounting plates for (2) MPS600



MPSM6-SPACRKT

MicroPulse 6 Bracket, Kit of four 5-degree rubber mounting wedges for use with MPS600 lights

MicroPulse Brackets

3600 LED Lights

Exterior Mount / Perimeter Lights

Features

- Watertight seal make each unit extremely durable
- Models may be synchronized with each other and other Federal Signal products
- Variety of mounting options
- Clear and color lens options
- Built-in selectable flash patterns
- LEDs offered in Amber, Blue, Red and White
- Dimensions:
4.2" (L) x 1.8" (H) x 1.0" (D)
(without bezel)
- Five-year LED warranty

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Approvals

- SAE J845, Class 1
- CAC Title 13

Applications

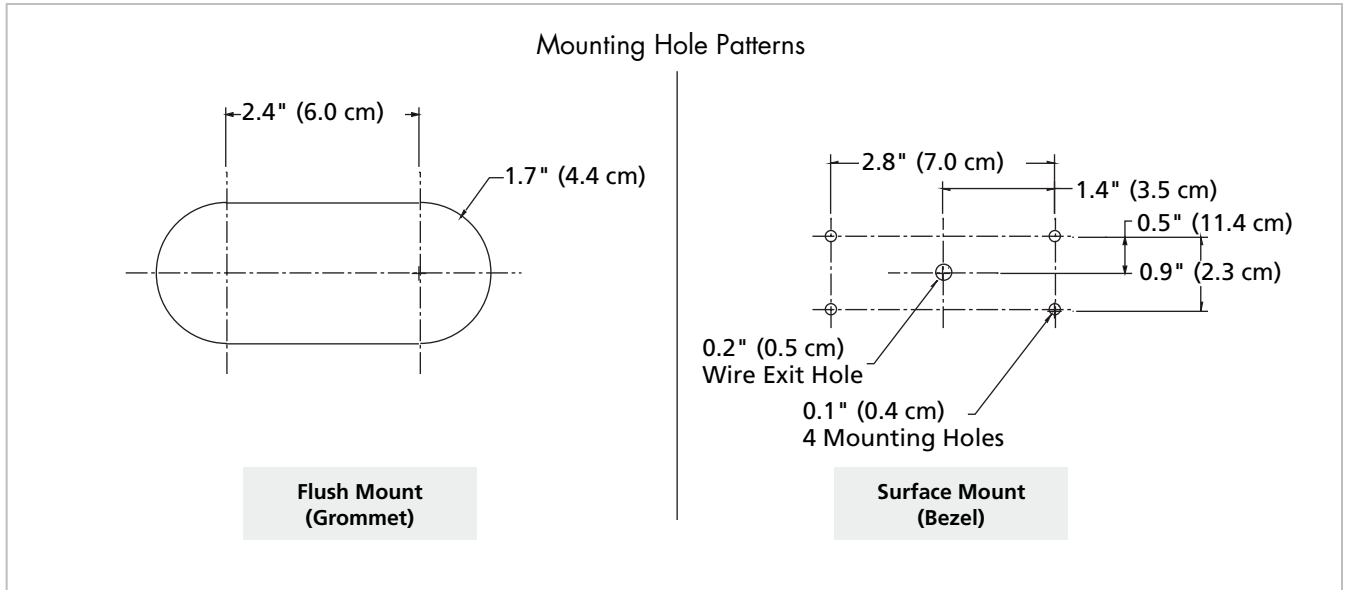
- Construction
- Municipal
- Tow & Recovery
- Utility



CLASS 1

CAC Title 13

Model	Description
Warning lights with Colored lens, wide prescription	
360401-02	Amber LED, Amber lens
360401-03	Blue LED, Blue lens
360401-04	Red LED, Red lens
Warning lights with Clear lens, wide prescription	
360411-02	Amber LED, Clear lens
360411-03	Blue LED, Clear lens
360411-04	Red LED, Clear lens
360511-05	White LED, Clear lens
Accessories or Kits	
330501	Kit, plastic surface mount (pair)
330502	Kit, flush mount (pair)
330503	Kit, side mirror mount with rubber grommet (pair)
330504	Kit, dash/deck mount, plastic bezel (sold individually)
330505	Kit, cast bezel, surface mount (sold individually)
330507	Kit, grommet, 6"



Specifications	
Voltage	12 VDC
Current Draw	0.4 Amp (all colors)
Physical Specifications (H x L x D)	
	1.7 in (4.4 cm) x 4.2 in (10.6 cm) x 1.0 in (2.5 cm)
Ship Weight	
	0.3 lbs (0.14 kg)



Quadraflare® 7 x 3 | Exterior Mount / Perimeter Lights

Features

- Solaris® LED reflector technology
- Available with built-in flasher featuring a variety of OEM friendly selectable patterns
- LEDs offered in Amber, Blue, Green, Red, and White
- Optional chrome-plated trim bezel available
- Five-year LED warranty

Approval

- SAE J595, Class 1

Applications

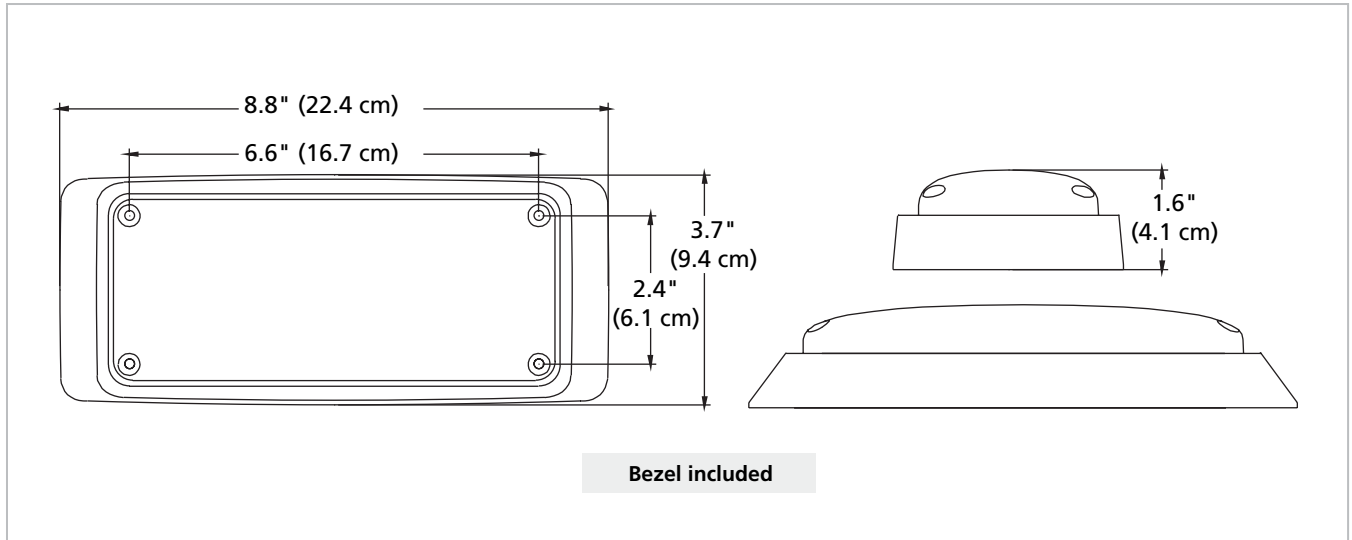
- Construction
- Municipal
- Tow & Recovery
- Utility



CLASS 1 SOLARIS

Model	Description
Warning lights with color lens and built-in flasher	
QL73XF-(color)	Amber, Blue or Red
QL73XF-G	Green
Warning lights with Clear lens and built-in flasher	
QL73XFC-(color)	Amber, Blue or Red
QL73XFC-C	Clear
QL73XFC-G	Green
Split-LED warning lights with color lens and built-in flasher	
QL73SF-AA	Amber/Amber
QL73SF-BB	Blue/Blue
QL73SF-GG	Green/Green
QL73SF-RR	Red/Red
Split-LED warning lights with Clear lens and built-in flasher	
QL73SFC-AC	Amber/Clear
QL73SFC-BA	Blue/Amber
QL73SFC-RA	Red/Amber
QL73SFC-RB	Red/Blue
QL73SFC-RC	Red/Clear
QL73SFC-RG	Red/Green
QL73SFC-RR	Red/Red
Accessories or Kits	
QL73MC	Trim bezel, Chrome with gasket
QL73MB	Trim bezel, Black with gasket
Common Replacement Parts	
Z8012078A	Lens, fluted, Red; -02(Clear)
Z8012110A	Gasket, 7x3 base/lens, molded

Quadraflare® 7 x 3 | Exterior Mount / Perimeter Lights



Warning Lights						
Model #	LED Color	Lens Color	LED Count	Internal Flasher	Split LED	Dimming
7X3 Quadraflares						
QL73XF-(color)	Amber, Blue, Red, White, Green	Amber, Blue, Red, Clear, Green	8	YES	NO	YES
QL73XFC-(color)	Amber, Blue, Red, White, Green	Clear	8	YES	NO	YES
QL73SF-(color)(color)*	Amber, Blue, Red, Green	Amber, Blue, Red, Clear, Green	8	YES	YES	YES
QL73SFC-(color)(color)	Amber, Blue, Red, White, Green	Clear	8	YES	YES	YES

* Single color split LEDs. Example: red/red LEDs, red lens.

Mounting Options		
Model #	LED Description	Lens Color
QL73MC	Trim Bezel, chrome, gasket	7" x 3"
QL73MB	Trim Bezel, black, gasket	7" x 3"

Specifications					
	Current Draw*	Input Voltage	Operating Temperature	Physical Specifications H x W x L	Ship Weight
All QL73 Models	Max 2.0 Amp	12.8 VDC	-40°C-+65°C	7.4 in x 3.7 in x 1.6 in (18.7 cm x 9.4 cm x 4.1 cm) (without bezel)	1.0 lbs (0.5kg)

Quadraflare® 6 x 4 | Exterior Mount / Perimeter Lights

Features

- Solaris® LED reflector technology
- Offered with built-in flasher featuring a variety of selectable patterns
- Brake/Tail/Turn, Turn Arrow and Back-up light models also available
- LEDs offered in Amber, Blue, Green, Red, and White
- Optional chrome-plated trim bezel available
- Five-year LED warranty

Approval

- SAE J595, Class 1

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility

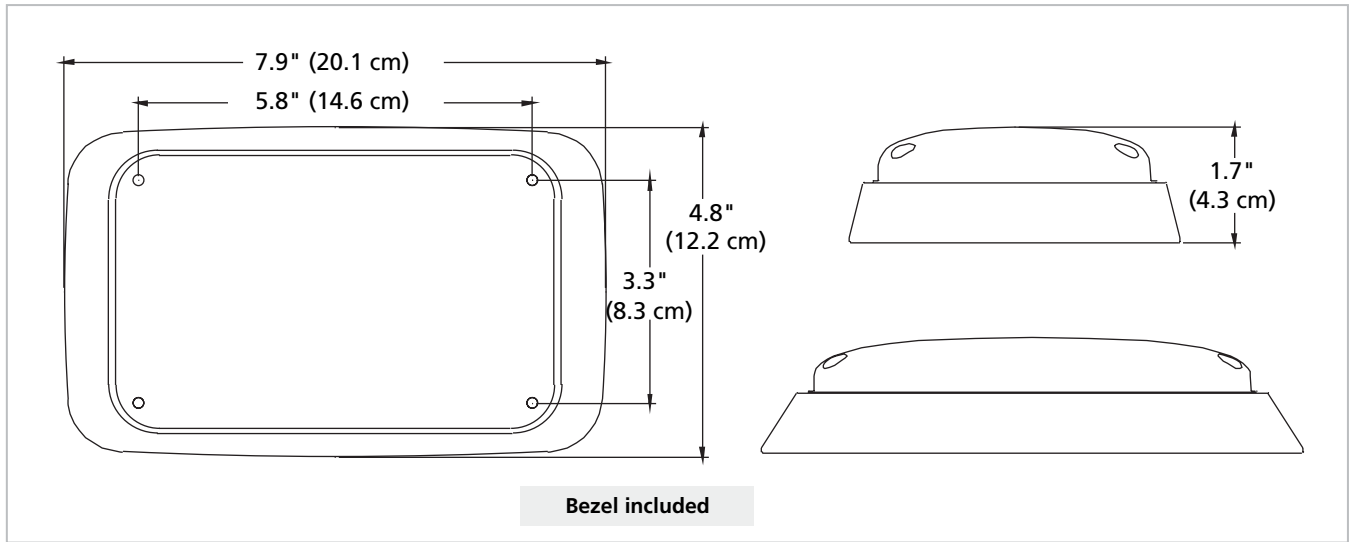


CLASS 1 SOLARIS

Model	Description
Warning lights with color lens and built-in flasher	
QL64XF-(color)	Amber, Blue or Red
QL64XF-C	Clear
Warning lights with Clear lens and built-in flasher	
QL64XFC-(color)	Amber, Blue or Red
Split-LED warning lights with color lens and built-in flasher	
QL64SF-AA	Amber/Amber
Split-LED warning lights with Clear lens and built-in flasher	
QL64SFC-(Color/Color)	Combinations of Amber/Blue/Red
QL64SFC-(Color/Color)	Combinations of Amber/Blue/Red with Green/White
Brake/Tail/Turn and Back-up lights	
QL64Z-BTT	Brake/Tail/Turn, Red LED, Red lens
QL64Z-ARROW	Turn arrow, Amber LED, Amber lens
QL64Z-TURN	Turn light, Amber LED, Amber lens
QL64Z-BACKUP	Back-up light, White LED, Clear lens
3-Position Vertical Casting	
QL64Z3V-LEFT	Installed QL64Z-BTT, QL64Z-ARROW (left facing), QL64Z-BACKUP
QL64Z3V-RIGHT	Installed QL64Z-BTT, QL64Z-ARROW (right facing), QL64Z-BACKUP
QL64Z3V-LED	Installed QL64Z-BTT, QL64Z-TURN, QL64Z-BACKUP
QL64Z3V	Casting with gasket
4-Position Vertical Casting	
QL64Z4V-LEFT	Installed QL64Z-BTT, QL64Z-ARROW (left facing), QL64Z-BACKUP, QL64XF-R
QL64Z4V-RIGHT	Installed QL64Z-BTT, QL64Z-ARROW (right facing), QL64Z-BACKUP, QL64XF-R
QL64Z4V-LED	Installed QL64Z-BTT, QL64Z-TURN, QL64Z-BACKUP, QL64XF-R
QL64Z4V	Casting with gasket

Continued on next page

Quadraflare® 6 x 4 | Exterior Mount / Perimeter Lights



Model	LED Color	Lens Color	LED Count	Internal Flasher	Split LED	Dimming
6x4 QuadraFlares						
QL64XF-(color)	Amber, Blue, Red, White, Green	Amber, Blue, Red, Clear, Green	10	YES	N/A	YES
QL64XFC-(color)	Amber, Blue, Red, White, Green	Clear	10	YES	N/A	YES
QL64SFC-(color)(color)	Amber, Blue, Red, White, Green	Clear	10	YES	YES	YES

* Single color split LEDs. Example: red/red LEDs, red lens.

Specifications					
	Current Draw*	Input Voltage	Operating Temperature	Physical Specifications H x W x L	Ship Weight
All QL64 Models	Max 2.0 Amp	12.8 VDC	-40°C-+65°C	4.2 in x 6.6 in x 1.5 in (10.7 cm x 16.7 cm x 3.8 cm) (without bezel)	1.0 lb (0.5kg)
QL64Z3V-LED	Max 2.5 Amp	12.8 VDC	-40°C-+65°C	15.1 in x 7.4 in x 1.6 in (38.4 cm x 18.8 cm x 4.1 cm)	11.0 lbs (5.0 kg)
QL64Z3V-Left/Right	Max 2.5 Amp	12.8 VDC	-40°C-+65°C	15.1 in x 7.4 in x 1.6 in (38.4 cm x 18.8 cm x 1.6 cm)	11.0 lbs (5.0 kg)
QL64Z3H-LED	Max 2.5 Amp	12.8 VDC	-40°C-+65°C	5.0 in x 22.3 in x 1.6 in (12.7 cm x 56.6 cm x 4.1 cm)	11.0 lbs (5.0 kg)
QL64Z3H-Left/Right	Max 2.5 Amp	12.8 VDC	-40°C-+65°C	5.0 in x 22.3 in x 1.6 in (12.7 cm x 56.6 cm x 4.1 cm)	11.0 lbs (5.0 kg)
QL64Z4V-LED	Max 4.0 Amp	12.8 VDC	-40°C-+65°C	19.6 in x 7.4 in x 1.6 in (49.8 cm x 18.8 cm x 4.1 cm)	12.5 lbs (5.7 kg)
QL64Z4V-Left/Right	Max 4.0 Amp	12.8 VDC	-40°C-+65°C	19.6 in x 7.4 in x 1.6 in (49.8 cm x 18.8 cm x 4.1 cm)	12.5 lbs (5.7 kg)

Accessories and Kits	
QL64MHL	Headlight mount kit
QL64MC	Trim bezel, Chrome with gasket
Common Replacement Parts	
Z8012109A	Gasket, 6x4 base/lens molded
Z8012013B-01	Lens, fluted, 6x4, Amber; -02(Clear)

Quadraflare® 9 x 7 | Exterior Mount / Perimeter Lights

Features

- Solaris® LED reflector technology
- Features unique Quad-X patterns
- Available with built-in flasher featuring a variety of OEM friendly selectable patterns
- LEDs offered in Amber, Blue, Green, Red and White
- Optional chrome-plated trim bezel available
- Five-year LED warranty

Approvals

- SAE J595, Class 1
- CAC Title 13

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



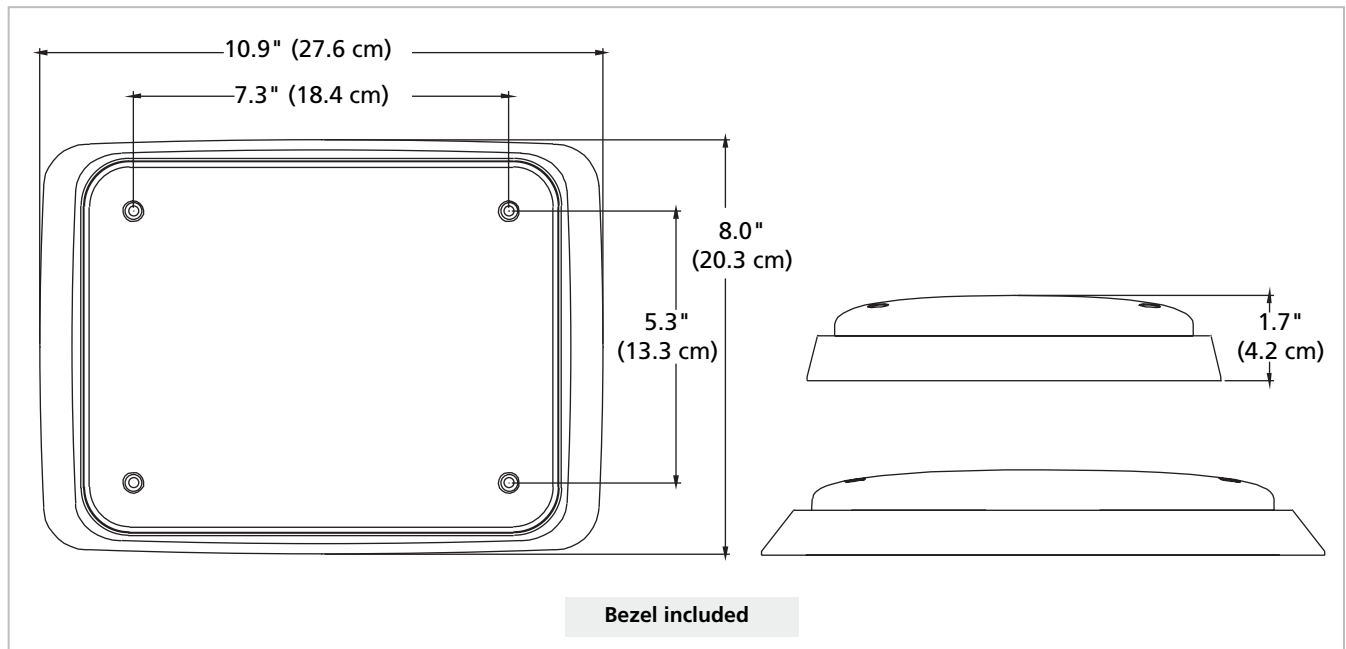
CLASS 1

CAC Title 13

SOLARIS

Model	Description
	9x7 QuadraFlare, warning lights with color lens and built-in flasher
QL97XF-(color)	Amber, Blue or Red
	9x7, QuadraFlare, warning lights with Clear lens and built-in flasher
QL97XFC-(color)	Amber, Blue or Red
QL97XFC-C	White
	9x7 Split-LED warning lights with color lens and built-in flasher
QL97SF-AA	Amber/Amber
QL97SF-BB	Blue/Blue
QL97SF-RR	Red/Red
	9x7 Split-LED warning lights with Clear lens and built-in flasher
QL97SFC-AA	Amber/Amber
QL97SFC-AC	Amber/Clear
QL97SFC-BA	Blue/Amber
QL97SFC-BB	Blue/Blue
QL97SFC-BC	Blue/Clear
QL97SFC-CC	White/White
QL97SFC-RA	Red/Amber
QL97SFC-RB	Red/Blue
QL97SFC-RC	Red/White
QL97SFC-RR	Red/Red
	GHSCENE Lights
QL97HSCENE	Halogen SCENE
QL97LEDSCENE	LED SCENE
	Accessories or Kits
QL97MC	Trim bezel, Chrome with gasket
	Common Replacement Parts
Z8012062C-02	Lens, fluted, Clear
Z8012111A	Gasket, 9x7 base/lens, molded

Quadraflare® 9 x 7 | Exterior Mount / Perimeter Lights



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Warning Lights						
Model	LED Color	Lens Color	LED Count	Internal Flasher	Split LED	Dimming
9x7 Quadraflares						
QL97XF-(color)	Amber, Blue, Red, White, Green	Amber, Blue, Red, Clear, Green	16	YES	NO	YES
QL97XFC-(color)	Amber, Blue, Red, White, Green	Clear	16	YES	NO	YES
QL97SF-(color)(color)*	Amber, Blue, Red, Green	Amber, Blue, Red, Clear, Green	16	YES	YES	YES
QL97SFC-(color)(color)	Amber, Blue, Red, White, Green	Clear	16	NO	YES	YES

* Single color split LEDs. Example: Red/Red LEDs, Red lens.

Specifications					
	Current Draw*	Input Voltage	Operating Temperature	Physical Specifications H x W x L	Ship Weight
All QL97 models	Max 4.0 Amp	12.8 VDC	-40°C-+65°C	7.3 in x 9.2 in x 1.7 in (18.4 cm x 23.4 cm x 4.2 cm) (without bezel)	2.0 lbs (0.9 kg)

In-Line Corner LED Systems | Exterior Mount / Perimeter Lights

Features

- Built-in (19) selectable flash patterns
- Multiple units can be synchronized and can flash simultaneously or alternately
- Maintenance free
- Low-profile design
- Three-year LED warranty

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
In-line Corner LED Systems	
416200-22	Amber/Amber, (2) LED heads with in-line flasher
416200-32	Amber/Blue, (2) LED heads with in-line flasher
416200-33	Blue/Blue, (2) LED heads with in-line flasher
416200-43	Red/Blue, (2) LED heads with in-line flasher
416200-44	Red/Red, (2) LED heads with in-line flasher
416200-55	Clear/Clear, (2) LED heads with in-line flasher
Common Replacement Parts	
416200-EXT-LED	Kit, Cable, 4-ft extension
416201-02	LED lighthouse, Amber
416201-03	LED lighthouse, Blue
416201-04	LED lighthouse, Red
416201-05	LED lighthouse, Clear
416205	Flasher with cable, 2-channel

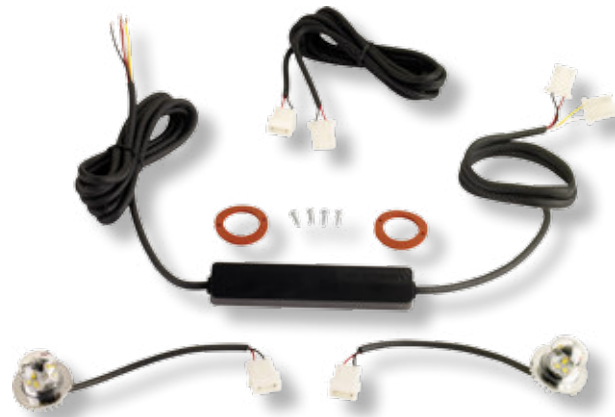
In-Line Corner LED Systems | Exterior Mount / Perimeter Lights

Flash Patterns			
0	Random (default)	10	Double (all)
1	Single (split)	11	Quad (all)
2	Double (split)	12	Quint (all)
3	Quad (split)	13	Mega (all)
4	Quint (split)	14	Ultra (all)
5	Mega (split)	15	Single-Quad (all)
6	Ultra (split)	16	Single H/L (all)
7	Single-Quad (split)	17	Steady 2 (all)
8	Single H/L (split)	18	Steady 4 (all)
9	Single (all)		

(Split = head (1) alternate head (2); All = all LEDs on)

Specifications		
System Voltage	12/24 VDC	
Average Current	1.2 Amp @ 12.8 VDC/0.7 Amp @ 24 VDC	
Average Power	15 Watts	
Maximum Current	2.4 Amp @ 12.8 VDC/1.23 Amp @ 24 VDC	
Operating Temperature	-22 F to 149 F (-40°C to 80°C)	
LED	3W LED - 9 per head (total 18 LEDs in 2-head system)	
Physical Dimensions	Light head	Flasher
Length	NA	5.6" (14.2 cm)
Width	Base-1.5" (3.9 cm) Bulb-1.0" (2.5 cm)	1.0" (2.5 cm)
Height	Base & Bulb-1.8" (4.6 cm) Base-0.3" (0.1 cm) Bulb-0.91" (2.3 cm)	0.6" (1.5 cm)
Ship Weight		
Complete System Kit	1 lb (.45 kg)	

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Complete System Kit

Silver Series™ SLD Systems | Exterior Mount / Perimeter Lights

Features

- 460L and 660L have built-in LED flashers to synchronize LED modules with strobe head action
- Variety of flash patterns available
- Prioritized three-mode operation (460L/660L)
- Industry standard connectors supplied with all units
- Three-year product warranty

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
Silver Series Strobe Power Supplies	
415205	SS2W, two-channel, Weatherpack connectors
415207	SS2A, two-channel, Amp connectors
416104	460L, four-head, 60 W, synchronized LED Flasher
416106	660L, six-head, 60 W, synchronized LED Flasher
416108	SS4W, four-head, 50 W, multiple patterns, Weatherpack connectors
416109	SS4A, four-head, 50 W, multiple patterns, Amp connectors
Strobe Systems/Kits with AMP connectors	
416110B	(1) 460L, (4) Clear corner tubes, (2) 10-ft cables, (2) 25-ft cables
416111	(1) 460L, (4) Clear corner tubes, (2) 16-ft cables, (2) 30-ft cables
416118	(1) 660L, (4) Clear corner tubes, (4) 16-ft cables
416119B	(1) 660L, (4) Clear corner tubes, (2) 10-ft cables, (2) 25-ft cables
416120	(1) 660L, (4) Clear corner tubes, (2) 16-ft cables, (2) 30-ft cables
416125B	(1) SS4A, (4) Clear corner tubes, (2) 10-ft cables, (2) 25-ft cables
416127	(1) SS4A, (4) Clear corner tubes, (2) 16-ft cables, (2) 30-ft cables
416129	(1) SS4A, (4) Clear corner tubes, (4) 16-ft cables
416129-25	(1) SS4A, (2) Clear corner tubes, (2) Amber corner tubes, (4) 16-ft cables
416133-25	(1) SS4A, (2) Clear corner tubes, (2) Amber corner tubes, (2) 16-ft cables, (2) 30-ft cables
416139	(1) SS2A, (2) Clear corner tubes, (2) 16-ft cables
416140	(1) SS2A, (2) Clear corner tubes, (2) 30-ft cables
Strobe Systems/Kits with Weatherpack connectors	
416126	(1) SS4W, (4) Clear corner tubes, (2) 16-ft cables, (2) 30-ft cables
416128	(1) SS4W, (4) Clear corner tubes, (4) 16-ft cables
416132B	(1) SS4W, (4) Clear corner tubes, (2) 10-ft cables, (2) 25-ft cables
Accessories and Kits	
Strobe heads, AMP connectors	
413201	Corner strobe tube, Silver Series, 1" diameter rubber grommet, amp connector; -02 (Amber); -03 (Blue); -04 (Red)
413201-05	Corner strobe tube, Silver Series, 1" diameter rubber grommet, amp connector, Clear

Continued on next page

	Silver Series 2	Silver Series 4	460L	660L
Silver Series Specifications				
Input Voltage: Normal Operation	12.8 or 25.6 VDC	12.8 or 25.6 VDC	12 VDC	12 VDC
Input Current @ 12.8VDC Operation	2.65 Amp	4.1 Amp	5.55 Amp	5.55 Amp
Standby	0.0 mA	0.0 mA	0.0 mA	0.0 mA
Input Power	34 W	53 W	71 W	71 W
Output Power	29 W	46 W	60 W	60 W
Output Energy	14 Joules	11 Joules	12 Joules	11 Joules
Power per Strobe Head	14.5 W	11.5 W	15 W	10 W
LED Head (2) Outputs	N/A	N/A	4 Amp/hd	4 Amp/hd
Strobe Outlets	2	4	4	6
Fuse	5 Amp Auto Fuse	7.5 Amp Auto Fuse	10 Amp mini ATC	10 Amp mini ATC
Physical Dimensions				
Height	2.6 in (6.6 cm)	2.6 in (6.6 cm)	3.58 in (9.09 cm)	3.58 in (9.09 cm)
Length	6.5 in (16.5 cm)	6.5 in (16.5 cm)	11.15 in (28.32 cm)	11.15 in (28.32 cm)
Width	5.0 in (12.7 cm)	5.0 in (12.7 cm)	2.86 in (7.26 cm)	2.86 in (7.26 cm)
Mounting Centers	5.8 in x 4.38 in (14.9 cm) x (11.1 cm)	5.86 in x 4.38 in (14.9 cm) x (11.1 cm)	10.75 in x 2.0 in (27.3 cm) x (50.8 cm)	10.75 in x 2.0 in (27.3 cm) x (50.8 cm)
Shipping Weight				
Weight	SS2A 1.2 lbs (0.54 kg) SS2W 2.0 lbs (0.9 kg)	SS4A 1.2 lbs (0.54 kg) SS4W 2.0 lbs (0.9 kg)	1.75 lbs (0.79 kg)	1.75 lbs (0.79 kg)

Strobe heads, Weatherpack connectors	
413300-02	Corner strobe tube, Silver Series, 1" diameter rubber grommet, Weatherpack connector, Amber
413300-05	Corner strobe tube, Silver Series, 1" diameter rubber grommet, Weatherpack connector, Clear
	Strobe Cables
413124	Bulk packaging amp connector kit (approximate installation capacity of (5) vehicles)
413202	Kit, adapter cables, strobe power supply, (2) 12" cables Ricochet/Silver Series, cable kit, AMP connectors
413210	10-ft cable length
413216	16-ft cable length
413222B	25-ft cable length
413230	30-ft cable length

SignalTech® LED Lights

Exterior Mount / Perimeter Lights

Features

- Reflector cell technology enhances brightness and reduces sunlight washout
- Solid-state components are potted to withstand rugged road conditions
- Sealed wiring harness
- Random, alternating or synchronous flash patterns
- S/T/T and back-up/turn: FMVSS 108 compliant, SAE J1398, and SAE J593
- Three-year warranty

Approvals

- Flashing: SAE J595 (SAE J1318, 2009 and CAC Title 13 approved)

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



607106-02

607102-02

CLASS 1 CAC Title 13

Model	Description
Random Flashing LED Light Kits, 12-24 VDC, 71 quad FPM	
Kits includes LED light, rubber mounting grommet, sealed wire harness	
4" Round LED Light Kits	
607112-02	PAR 36 with rubber tractor housing, Amber; -04(Red)
607112-03	PAR 36 with rubber tractor housing, Blue
607123-02	PAR 36, Amber; -03(Blue)
5" Round LED Light Kits	
607126-02	PAR 46, Amber
607127-02	PAR 46 with rubber tractor housing, Amber
6" Oval LED Light Kit	
607101-02	Amber; -04(Red); -03(Blue)
Synchronous Flashing LED Light Kits, 12-24 VDC, 72 quad FPM	
4" Round LED Light Kits	
607133-02	PAR 36, Amber LED with Amber lens; -25(Clear lens)
6" Oval LED Light Kit	
607134-02	Amber LED with Amber lens; -25(Clear lens)
5" Round LED Light Kits	
607140-02	PAR 46, Amber
6" Oval LED Light Kit	
607139-02	Amber LED with Amber lens
Random Flashing LED Light Kits, 12-24 VDC, 120 single FPM, CAC Title 13 approved	
4" Round LED Light Kits	
607128-02	PAR 36, Amber
5" Round LED Light Kits	
607130-02	PAR 46, Amber
607131-02	PAR 46 with rubber tractor housing, Amber
6" Oval LED Light Kit	
607129-02	Amber
S/T/T and Back-up Lights	
Kits includes LED light, rubber mounting grommet, sealed wire harness	
4" Round LED Light Kits	
607100-04	LED Stop/Tail/Turn light, 12-24 VDC, Red

Continued on next page

Specifications	
Voltage	12/24 VDC (all units operate at 9 to 30 VDC)
	Marker Lights and back-up lights: 12 VDC only
Operating Temp	-30° C to + 65° C
Amp Draw	Amber: 0.26 Amp (average)
Flashing Models @ 12.8V	Red: 0.30 Amp (average)
	Blue: 0.17 Amp (average)
S-T-T & Turn Models @ 12.8V	Red: 0.30 Amp (average)
	Amber: 0.26 Amp (average)
Back-Up Models @ 12.8V	Clear: 0.30 Amp (average)
Physical Specifications	
2" Round (Dia. x D.)	2.0 in x 0.78 in (5.08 cm x 0.1981 cm)
2.5" Round (Dia. x D.)	2.5 in x 0.78 in (6.35 cm x 0.1981 cm)
4" Round (Dia. x D.)	4.3 in x 1.75 in (109 cm x 4.45 cm)
5" Round (Dia. x D.)	5.65" x 1.75" (143.5 cm x 4.45 cm)
4" Rectangle (L. x D. x H.)	4.0 in x 1.2 in x 0.75 in (10.16 cm x 3.05 cm x 1.9 cm)
6.5" Oval (L. x D. x H.)	6.44 in x 1.9 in x 2.36 in (16.35 cm x 4.8 cm x 6.0 cm)
Ship Weight	
2" Round	0.20 lbs (0.9 kg)
2.5" Round	0.20 lbs (0.9 kg)
4" Round	0.47 lbs (0.17 kg)
4" Rectangle	0.20 lbs (0.9 kg)
6" Oval	0.48 lbs (0.18 kg)
5" Round	0.85 lbs (0.39 kg)
4" Tractor Lamp	1.50 lbs (0.68 kg)
5" Tractor Lamp	2.00 lbs (0.91 kg)



607125-05



607123-02
(shown in optional bracket,
601320)



607101-02
(shown in optional bracket,
601330)

607102-02	LED turn light, 12-24 VDC, Amber
607124-05	LED back-up light, 12-24 VDC, White
607141-04	LED Stop/Tail/Turn light, 12 VDC only, Red; -05 (White)
6" Oval LED Light Kits	
607105-04	LED Stop/Tail/Turn light, 12-24 VDC, Red
607106-02	LED turn light, 12-24 VDC, Amber
607125-05	LED back-up light, 12-24 VDC, White
607142-04	LED Stop/Tail/Turn light, 12 VDC only, Red
Side Marker/Clearance Lights, 12VDC	
607120-02	2.5" round, Amber; -04(Red)
Accessories and Kits	
605501-02	6" oval flashing LED light head, Amber; -04(Red)
605520	Kit, rubber mounting grommet, 4" round
605510	Kit, rubber mounting grommet, 6" oval
605523-02	4" round flashing LED light head, Amber; -03(Blue); -04(Red)
605500	Sealed wire harness for flashing LED light heads
607103-04	4" round LED S/T/T light head
607109	Sealed wire harness for S/T/T and Turn LED light heads
607110	Kit, anti-theft stainless steel flange, 4" round
607111	Kit, anti-theft stainless steel flange, 6" oval
607137	Kit, rubber mounting grommet, PAR 46, 5" round

Grille Lights | Exterior Mount / Perimeter Lights

Features

- Compact light heads can be mounted behind or in front of the grilles of most vehicles
- Durable, fully enclosed polycarbonate housing provides protection
- Three-year product warranty

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
LED models with color lenses, built-in flasher	
GL1-A	Amber LEDs, Amber lens
GL1-B	Blue LEDs, Blue lens
GL1-R	Red LEDs, Red lens
LED models with color lenses, require external flasher	
GL2-A	Amber LEDs, Amber lens
GL2-B	Blue LEDs, Blue lens
GL2-R	Red LEDs, Red lens
Accessory	
650205	LED Flasher, (2) 10 Amp channels, (10) flash patterns, high-side switching

GL1	
Specifications	
Current Draw	4.3 Amp
Voltage	12 VDC
Input	12 Amp
Physical Specifications	
Length	4.5 in (11.4 kg)
Width	3.0 in (7.6 kg)
Height	3.3 in (8.4 kg)
Ship Weight	
	1.5 lbs (0.7 kg)

Mount Boxes | Exterior Mount / Perimeter Lights

Features

- ABS, cold rolled steel and stainless steel mount boxes
- Boxes can be welded or bolted to vehicle body (mounting hardware not included)
- Fits LED, strobe or incandescent oval lightheads (round available in ABS style only)

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
Cold rolled steel (with zinc plating), oval	
305101	1-up, pair
305102	2-up, pair
305103	3-up, pair
Stainless steel, oval	
305111	2-up, pair
305112	3-up, pair
ABS (Black color), oval	
305104	1-up, sold individually
ABS (Black color), round	
305107	1-up

Viper® S2 | Interior Mount Warning Lights

Features

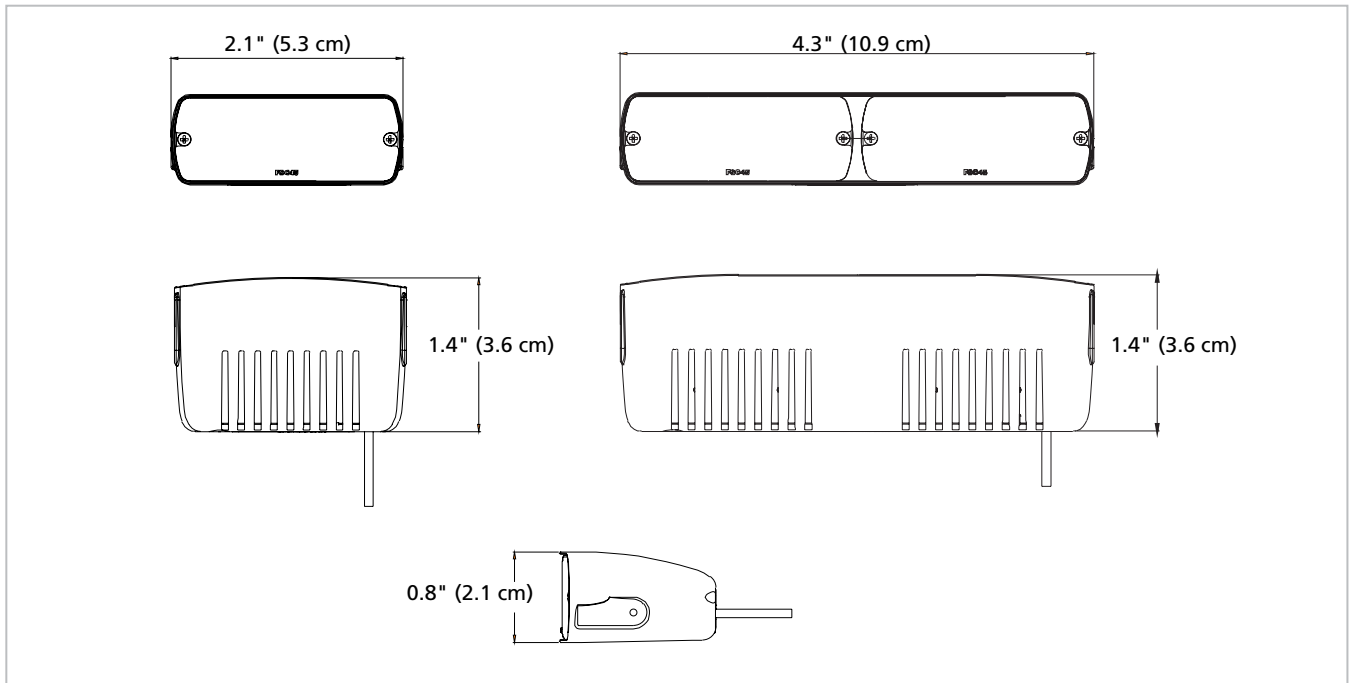
- Solaris® LED reflector technology
- Single and dual light head models
- Cigarette plug with LED on/off switch and synchronized models
- Simple push-button pattern control and 2-phase pattern synchronization
- Versatile mounting brackets with “snap-on” flash guard
- Library of more than twenty (20) flash patterns
- Five-year LED warranty

Applications

- Tow & Recovery
- Municipal



Model	Description
Single-head models with cigarette plug	
329000	-2(Amber)
329000	-5(White)
Single-head models with wire leads (synchronization capable)	
329001	-2(Amber)
329001	-5(White)
Dual-head models with cigarette plug	
329000-22	Amber/Amber
329000-25	Amber/White
329000-52	White/Amber
Dual-head models with wire leads (synchronization capable)	
329001-22	Amber/Amber
329001-25	Amber/White
329001-52	White/Amber



Patterns

Single Units		Dual Units	
1	Null	1	Null
2	79 FPM Power Quad	2	Alternating 150 FPM Single
3	150 FPM Single	3	Alternating 240 FPM Single
4	151 FPM Single	4	Alternating 75 FPM Single
5	74 FPM Single	5	Alternating 150 FPM Triple
6	75 FPM Single	6	Alternating 75 FPM Triple
7	240 FPM Single	7	Precise Flip-Flop 63 FPM
8	241 FPM Single	8	Overlap 71 FPM Quad
9	240 FPM Double	9	Alt. Overlap 50 FPM Power Quad
10	241 FPM Double	10	Alt. Overlap 40 FPM Power Quad
11	150 FPM Double	11	Alt. Overlap 100 FPM Double
12	151 FPM Double	12	Alternating Progressive
13	74 FPM Double	13	Alt. 2 Quad. @ 70 FPM 4 Single @150 FPM
14	75 FPM Double	14	Alt. 5 Single @ 320 FPM 1 Power Quint @ 90 FPM
15	150 FPM Triple	15	Alt. 2 Quad @ 83 FPM 4 Single @ 272 FPM
16	75 FPM Triple	16	Overlap 3 Single @180 FPM 4 Single @ 706 FPM 3 Single @ 390 FPM 6 Single @ 660 FPM
17	5 Single @ 680 FPM 4 Single @ 216 FPM	17	Overlap Power Quad 75 FPM
18	4 Single @ 570 FPM 3 Single @ 246 FPM	18	Random
19	3 Single @ 460 FPM 2 Quad @ 75 FPM	19	Steady/166 FPM Single
20	Progressive	20	Steady/103 FPM Burst
21	4 Single @154 FPM 2 Quad @ 75 FPM	21	Steady/4 Single @ 700 FPM 2 Single @ 230 FPM
22	Random	22	166 FPM Single/Steady
23	Steady Burn	23	103 FPM Burst/Steady
		24	4 Single @ 700 FPM/Steady 2 Single @ 720 FPM/Steady
		25	Steady Burn

	Single Unit	Dual Unit
Specifications		
Volts	12.8 VDC	
Current Draw	1.5 Amp	2.2 Amp
Operating Temp	-30°C to +65°C	
Physical Dimensions		
Width	2.1 in (5.3 cm)	4.3 in (10.9 cm)
Height	0.8 in (2.1 cm)	0.8 in (2.1 cm)
Depth	1.4 in (3.6 cm)	1.4 in (3.6 cm)
Ship Weight		
	1.0 lb (0.45 kg)	1.5 lbs (0.68 kg)

Littlite® | Interior Mount Warning Lights

Features

- Durable, high quality lighting for a vehicle's console
- Flexible gooseneck allows easy movement
- Clear bright light with either rheostat or on/off switch controls
- LED or halogen models available
- LED units offer choice of Red or White light from toggle switch selector
- Available in 12" and 18" models
- Two-year warranty on LED models



Model	Description
LED LITTLITE, Neck extends from end of chassis, vertical mount	
LF12ES-LED	12", On/Off switch control
LF18ES-LED	18", On/Off switch control
Halogen LITTLITE, Neck extends from top of chassis, horizontal mount	
LF12TR	12" Rheostat control
LF18TR	18", Rheostat control
Common Replacement Parts	
Z8550250A	Lamp, bi-pin
Z8550251A	Filter, Red; -01(Clear); -02(Green)
LFHK	Hood kit

Specifications	
Operating Voltage	12.8 VDC
Lamp Type	Bi-pin halogen, 5 W
Amp Draw	0.5 Amp nominal (halogen) 0.1 Amp nominal (LED)
Physical Dimensions	
Chassis (LxWxH)	3.0 in x 1.0 in x 0.7 in (7.62 cm x 2.54 cm x 1.78 cm)
Gooseneck	6 in, 12 in, or 18 in (15.2 cm, 30.5 cm, or 45.7 cm)
Ship Weight	
	1.0 lbs (0.5 kg)

LED Compartment Light | Interior Mount Warning Lights

Features

- LED, 12V
- Solid-state components are potted to withstand rugged road conditions
- Three-year LED warranty

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
607141-05	Round, 4" White LED compartment lights (kit includes LED lighthouse, black mounting grommet and sealed beam harness)

9 X 7 Scene Light / GHSCENE | Area Lighting

Features

- Available in halogen or LED models
- Surface mounted LED models
- Solaris® LED reflector technology
- Industry standard mounting dimensions

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



QL97LEDSCENE



QL97HSCENE



Model	Description
9x7 Scene Light	
QL97HSCENE	Area light, halogen
QL97LEDSCENE	Area light, LED, surface mount
GHSCENE	
GHSCENE	Area Light, GHSCENE, (2) 20 W adjustable lamps, Clear lens
Accessory	
GHFLANGE	Rectangular shaped GHSCENE trim ring
Common Replacement Parts	
Z8012075B	Lens, fluted, Clear, 9x7 Scene Light
Z8575105A	Trim ring, chrome, GHSCENE
Z8575107A	Lamp and reflector assembly, 20 W, 35-degrees, GHSCENE
Z8575108A	Lens, Clear, GHSCENE

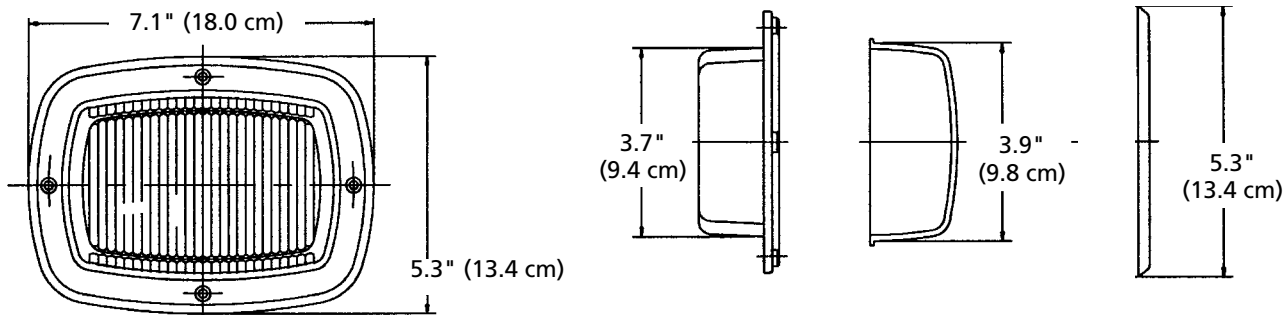


GHSCENE shown with included standard flange



GHSCENE shown with optional cast flange (GHFLANGE)

GHSCENE Diagram



See page 95 for 9x7 diagram

	Without Bezel		With Trim Bezel / Gasket	
9 X 7 Scene Light Specifications				
Input Volts	12.8 VDC			
Operating Temp	-40°C to 65°C			
Current Draw	4.0 Amp			
Physical Dimensions	LED	Halogen	LED	Halogen
Width	9.2 in (59.3 cm)	9.2 in (59.3 cm)	11.2 in (72.3 cm)	11.2 in (72.3 cm)
Height	7.4 in (46.5 cm)	7.4 in (46.5 cm)	8.4 in (54.2 cm)	8.4 in (54.2 cm)
Depth	1.7 in (10.9 cm)	3.7 in (12.3 cm)	1.9 in (12.3 cm)	3.7 in (12.3 cm)
Ship Weight				
	3.2 lb (1.5 kg)	1.5 lbs (0.7 kg)	3.2 lb (1.5 kg)	1.5 lbs (0.7 kg)

GHSCENE Specifications	
Input Volts	12.8 VDC
Watts	20
Current Draw	3.5 Amp
Physical Dimensions	
Width	7.1 in (18.0 cm)
Height	3.3 in (8.4 cm)
Depth	5.3 in (13.5 cm)
Ship Weight	
	1.3 lb (0.6 kg)

Wireless VisiBeam® / VisiBeam® | Area Lighting

Features

- High-power spotlight for superior work area illumination
- Ergonomically designed wireless transmitter operates at over 100-ft (wireless)
- Up to four transmitters programmable to operate one light (wireless)
- Graduated start for pinpoint light beam placement
- Continuous 360-degrees horizontal and 140-degrees vertical adjustment
- Three-year warranty

Approval

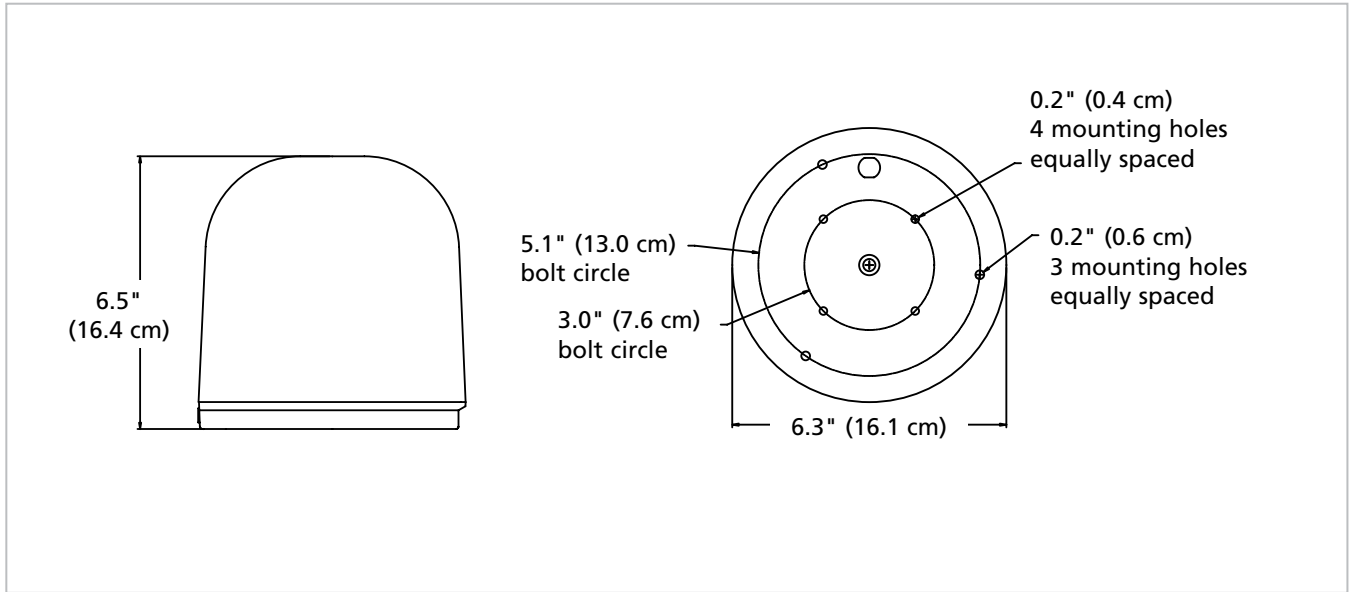
- FCC Approved

Applications

- Construction
- Municipal
- Tow & Recovery
- Utility



Model	Description
Wireless VisiBeam, 12 VDC, 100 W, wireless controller	
620200	Permanent mount
620201	Magnetic mount with cigarette lighter plug
Wireless VisiBeam, 24 VDC, 65 W, wireless controller	
620202	Permanent mount
VisiBeam II	
620102	55 W, 12 VDC, adjustable spot light surface mount
620104	65 W, 24 VDC, adjustable spot light, surface mount
620122	100 W, 12 VDC, adjustable spot light, surface mount
620122-40	100 W, 12 VDC, adjustable spot light, surface mount, 40-ft cable
620142	100 W, 12 VDC, adjustable spot light, magnetic mount with cord and cigarette plug
620152	100 W, 12 VDC, adjustable spot light, pipe mount
Common Replacement Parts	
620502	Bulb, 12 VDC, 100 W, for models 620122, 620142, 620152, 620200 and 620201
620504	Bulb, 24 VDC, 65 W, for models 620104 and 620202
620510	Bulb, 12 VDC, 55 W, for model 620102
448500-05	Dome, Clear
Z146903B	Cable assembly, 25-ft
Z8433039B	Remote control
Z8422B399A-01	Motor, 12VDC
Z8422528A	Motor, 24VDC
Z8433113A	Transmitter, wireless



Wireless VisiBeam Specifications	
Voltage	12/24 VDC
Amp Draw	7.8 Amp @ 12.8 VDC (100 W)
	2.7 Amp @ 25.6 VDC (65 W)
Candelas	90,000 (65 W)
	125,000 (100 W)
Operating Frequency	433.92 MHz
Dimensions	
Diameter	6.3 in (16.1 cm)
Height	6.5 in (16.4 cm) — permanent mount
	6.9 in (17.5 cm) — magnetic mount
Ship Weight	
	2.0 lbs (0.9 kg)



Belt clip design for easy storage when not in use

Tractor and Utility | Area Lighting

Features

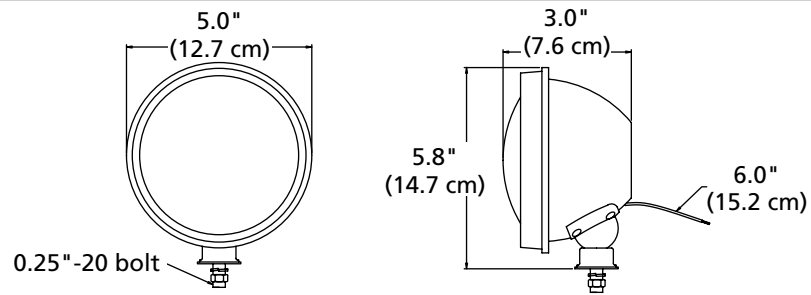
- High powered sealed beam and halogen work lights
- Available in 4.75" — PAR 36; 6.50" — PAR 46 and rectangle
- Adjustable vertical and horizontal mounts
- Vibration resistant construction
- Resistant to heat and inclement weather
- Heavy gauge metal brackets
- Standard flood beam pattern
- Three-year product warranty

Applications

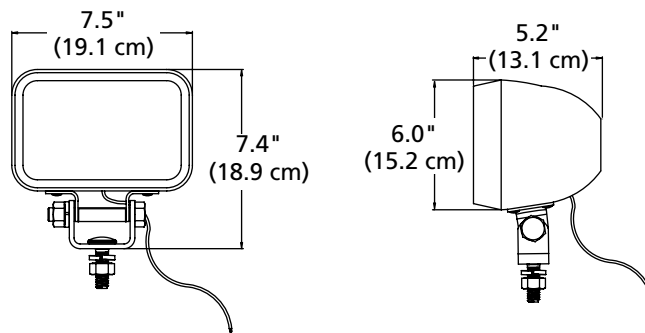
- Off-road
- Pick-up trucks
- Recreational
- Tow & Recovery
- Tractors



Model	Description
4.75" PAR 36	
325039	Work lamp, 12.8 VDC, 4.3 Amp, 55 W, round, halogen, flood pattern, 4.8" (diameter) x 2.8" (depth)
325048	Utility lamp, 12.8 VDC, 2.7 Amp, 35 W, round, sealed beam incandescent, flood pattern, magnetic mount with cigarette plug, 4.8" (diameter) x 3.0" (depth)
6.50" PAR 46	
323552	Utility lamp, 12.8 VDC, 7.7 Amp, 100 W, round, high-intensity, sealed beam incandescent, 6.5" (diameter) x 4.4" (depth)
Rectangular	
325541	Work lamp, 12.8 VDC, 3.9 Amp, 50 W, sealed beam incandescent, flood pattern, 7.5" x 5.0" x 5.2"
325542	Work lamp, 12.8 VDC, 3.9 Amp, 50 W, halogen, flood pattern, 7.5" x 5.0" x 5.2"
Accessories or Kits	
360800	Wire guard for PAR 36 models
360900	Wire guard for PAR 46 models
Common Replacement Parts	
325045	4.75" rubber housing with bolt
325046	6.50" rubber housing with bolt
620504	Bulb, H3, 24 VDC, 65 W
620510	Bulb, H3, 12 VDC, 55 W



Standard Round Tractor Lamp- 325039



Rectangular Tractor Lamp- 325541

	325039	325541	325048	323552
Specifications				
Amp Draw	4.30 Amp	8.60 Amp	2.73 Amp	7.69 Amp
Wattage Lamp	55 W	55 W (2)	35 W	100 W
Beam Spread (H. x V.)	Flood	Flood	30° x 25°	11° x 6° or Flood
Physical Specifications				
Height	5.8 in (14.7 cm)	7.4 in (18.9 cm)	5.0 in (12.7 cm)	6.3 in (15.9 cm)
Diameter	5.0 in (7.6 cm)	7.5 in (19.1 cm)	3.0 in (7.6 cm)	3.75 in (9.5 cm)
Ship Weight				
	1.4 lbs (0.6 kg)	3.6 lbs (1.6 kg)	2.6 lbs (1.2 kg)	2.1 lbs (0.9 kg)

2012 Series Alarms | Back-up Alarm

Features

- Available in 87 dB(A), 97 dB(A) and 102 dB(A) models with wires or stud terminals
- Built-in universal mounting bracket with industry-standard 3.25" centers and self-grounding strap (on "-S" models) eases installation
- Alarms operate at 12-24 VDC drawing only 0.5A
- Meet SAE J994, CE, OSHA and MSHA requirements
- Steam-cleanable and pressure washable
- Epoxy encapsulation protects against vibration, as well as debris and moisture ingress
- Three-year product warranty

Approvals

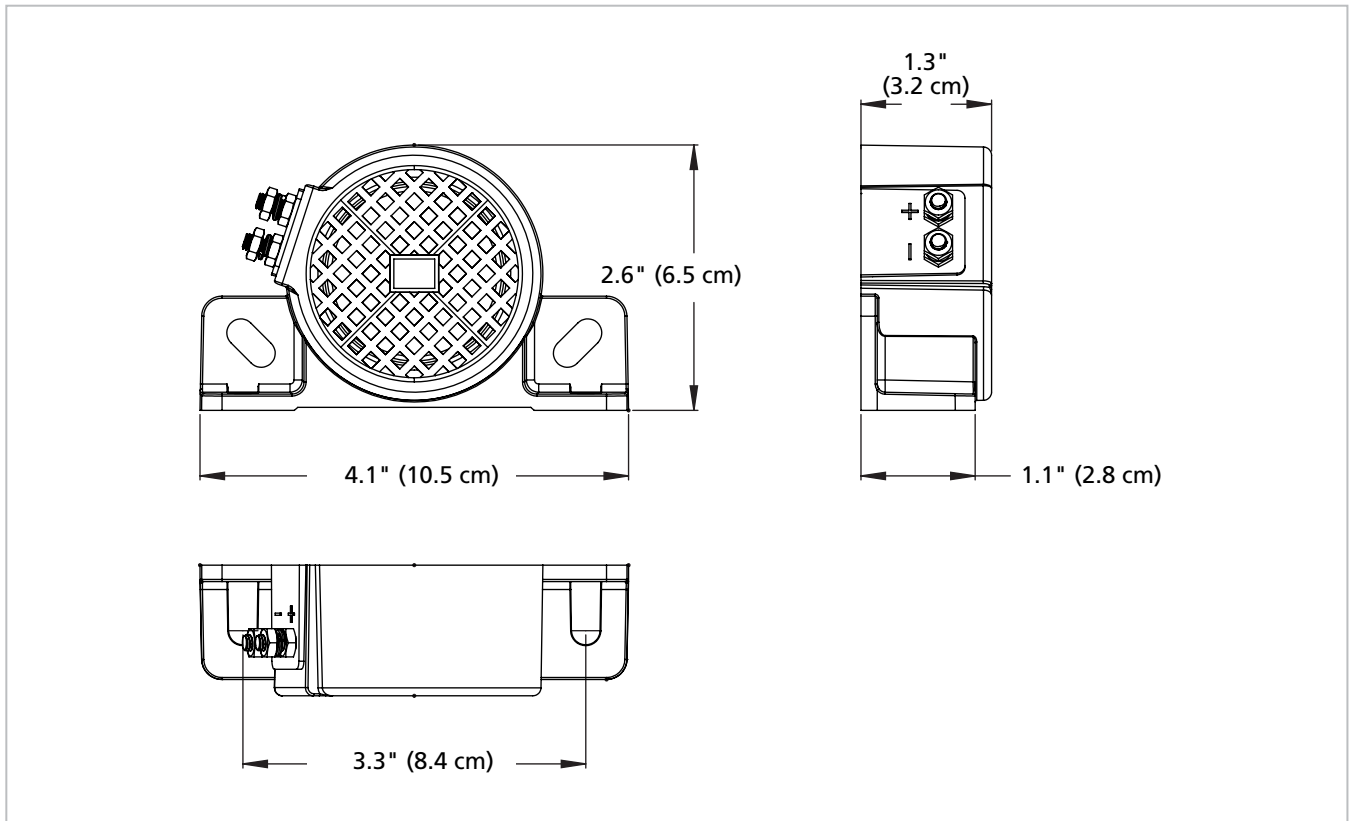
- SAE J994
- CE
- OSHA
- MSHA

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



Model	Description
210238-S	87 dB(A), 12-24 VDC, SAE J994 Type D, stud terminals, 4.13" x 2.44" x 1.26"
210238-W	87 dB(A), 12-24 VDC, SAE J994 Type D, wires, 4.13" x 2.44" x 1.26"
210239-S	97 dB(A), 12-24 VDC, SAE J994 Type C, stud terminals, 4.13" x 2.44" x 1.26"
210239-W	97 dB(A), 12-24 VDC, SAE J994 Type C, wires, 4.13" x 2.44" x 1.26"
210240-S	102 dB(A), 12-24 VDC, SAE J994 Type F, stud terminals, 4.13" x 2.44" x 1.26"
210240-W	102 dB(A), 12-24 VDC, SAE J994 Type F, wires, 4.13" x 2.44" x 1.26"



Specifications		
Operating Voltage	12/24 VDC	
Conformance	SAE J994, CE, OSHA and MSHA	
Sound Output	210238-S	87 dB(A)
	210239-S	97 dB(A)
	210240-S	102 dB(A)
	210238-W	87 dB(A)
	210239-W	97 dB(A)
	210240-W	102 dB(A)
Current Draw	210238-S	0.3 Amp
	210239-S	0.3 Amp
	210240-S	0.5 Amp
	210238-W	0.3 Amp
	210239-W	0.3 Amp
	210240-W	0.5 Amp
SAE J994 Type	210238-S	Type D
	210239-S	Type C
	210240-S	Type F
	210238-W	Type D
	210239-W	Type C
	210240-W	Type F
Dimensions		
Width	1.1 in (2.8 cm)	
Height	2.6 in (6.5 cm)	
Length	4.1 in (10.5 cm)	

Evacuator® | Back-up Alarm

Features

- Meets SAE J994, OSHA and MSHA requirements
- “Plus” models offer dual-tone function (pulse or constant)
- A wide range of decibel levels and operating voltages is offered for enhanced application flexibility
- Universal mounting bracket included
- Maximum current draw of 0.15 Amp
- Unique Piezo electric design incorporates a tear-free Mylar speaker cone that is impervious to moisture
- Solid-state electronics and a sealed design protect against moisture, contaminants and vibration
- Three-year product warranty

Approvals

- SAE J994
- OSHA
- MSHA

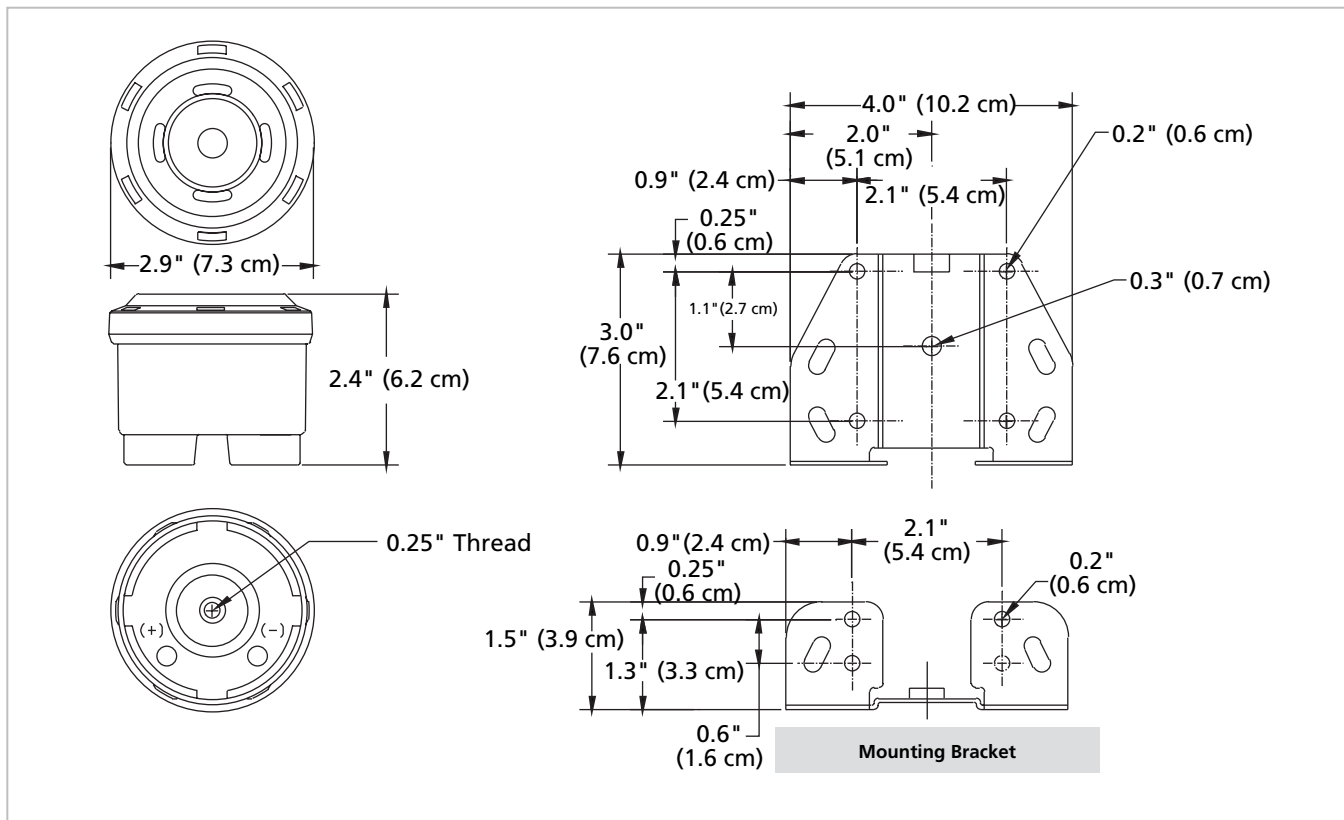
Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



210331
(shown with mounting bracket included)

Model	Description
Evacuator, Single Functions, 12-24 VDC	
210339	97 dB(A), 12-24 VDC, SAE J994 Type C, nickel-plated threaded terminals
210340	102 dB(A), 12-24 VDC, SAE J994, nickel-plated threaded terminals
210341	107 dB(A), 12-24 VDC, SAE J994 Type B, nickel-plated threaded terminals
Evacuator Plus, Dual Functions, 12-48 VDC	
210330	87 dB(A), 12-48 VDC, SAE J994 Type D, nickel-plated threaded terminals
210331	97 dB(A), 12-48 VDC, SAE J994 Type C, nickel-plated threaded terminals
210333	107 dB(A), 12-48 VDC, SAE J994 Type B, nickel-plated threaded terminals
210335	112 dB(A), 12-48 VDC, SAE J994 Type A, nickel-plated threaded terminals



	210330	210331	21033
Technical Specifications			
Amp Draw	0.02 Amp @ 12 VDC	0.03 Amp @ 12 VDC	0.17 Amp @ 12 VDC
Voltage	9-48 VDC	9-48 VDC	9-48 VDC
Sound Level	87 dB	97 dB	107 dB
Sound Frequency	2.75 kHz	2.4 kHz	2.7 kHz
Physical Specifications			
Length	2.9 in (7.4 cm)		
Width	2.9 in (7.4 cm)		
Height	2.4 in (6.1 cm)		
Ship Weight			
	0.6 lbs (0.3 kg)		

Speciality Alarms and Switches | Back-up Alarm

Features

Speciality Alarms

- Automatically adjust to at least 5dB(A) above ambient noise level (210502 is manually adjustable)
- Epoxy-sealed for protection against vibration, dirt and moisture
- Glass-filled nylon housing is steam-cleanable
- Integrated universal mounting bracket
- Maximum current draw between 0.2 Amp and 1.0 Amp
- Meet SAE J994, OSHA and MSHA requirements
- Three-year product warranty

Switches

- For installations where it is not possible to wire a back-up alarm into the vehicle's back-up light circuit
- Installed adjacent to the gear-shift lever or linkage, the switch activates the alarm when the activating shaft is removed

Speciality Alarm Approvals

- SAE J994
- OSHA
- MSHA

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility

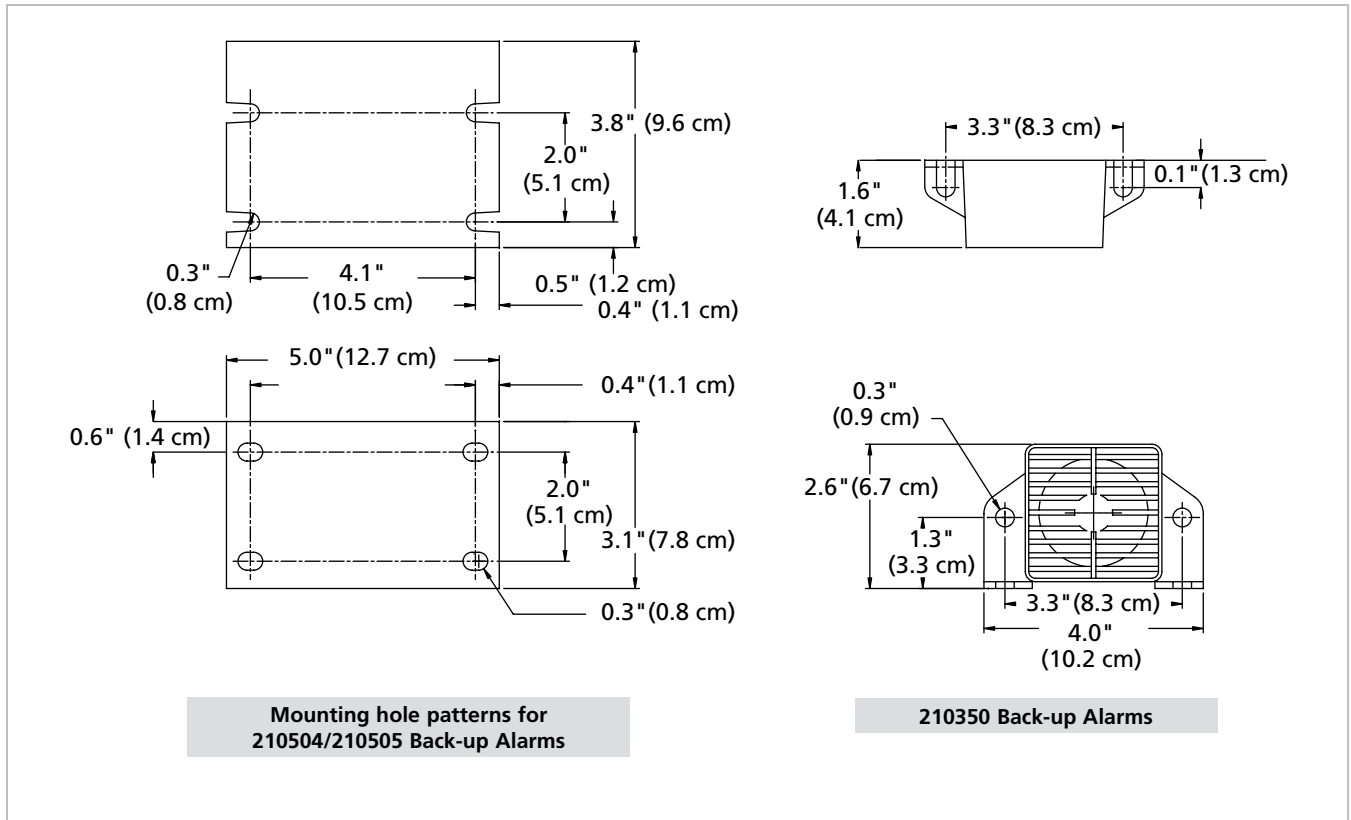


210298



210350

Model	Description
Speciality Alarms	
210350	77-102 dB(A), auto-adjusting, 12-24 VDC, SAE J994 Type E-F, 4.02" x 2.64" x 1.60"
210502	107 or 112 dB(A), manually adjustable, 12-24 VDC, SAE J994 Type B or A, 5.00" x 3.06" x 3.78"
210504	87-112 dB(A), auto-adjusting, 12-24 VDC, SAE J994 Type D-A, 5.00" x 3.06" x 3.78"
210505	87-107 dB(A), auto-adjusting, 12-48 VDC, SAE J994 Type D-B, 5.00" x 3.06" x 3.78"
Switches	
210298	Multi-directional 360-degrees switch, 5 Amp, water-resistant, with adjustable mounting bracket
210299	Unidirectional switch, 5 Amp
200053-95	Replacement mounting bracket for 210298 switch



	210504	210505	210350	210502
Evacuator Plus				
Amp Draw	0.5 max	0.3 max	0.3 max	0.2 max
Voltage	12-24 VDC	12-48 VDC	12-24 VDC	12-24 VDC
Output	87-112 dB	87-107 dB	77-102 dB	107-112 dB
Sound Frequency	1150 Hz	1150 Hz	1300 Hz	1200 Hz
Ship Weight				
	2.0 lbs (0.9 kg)			

Mobile Camera Systems | Reverse Cameras

Features

- All cameras are high-resolution, color Sony® CCD cameras
- TFT-LCD color monitors available in 5.6" or 7.0"
- Most cameras equipped with automatic day/night sensor
- Multiple camera cable lengths available
- Wide operating temperature range for all cameras: -22°F to 149°F
- Multi-voltage capability (12/24 VDC)
- Three-year product warranty

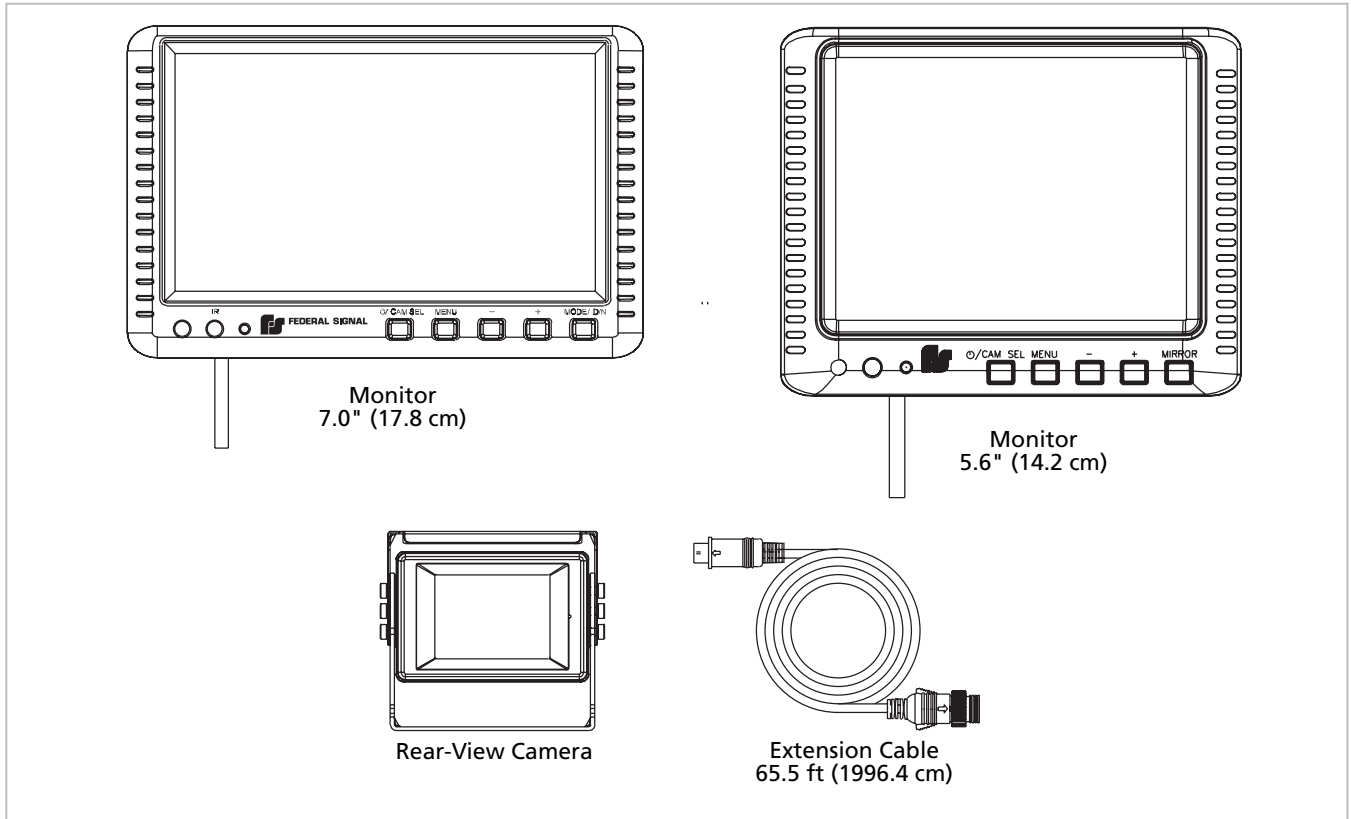
Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



Model	Description
Systems	
CAMSET56-NTSC-2	5.6" Monitor with two-camera input, (1) standard rear-view camera, (1) 65.5-ft extension cable
CAMSET70-NTSC4B	7.0" Monitor with four-camera input, (1) standard rear-view camera, (1) 65.5-ft extension cable
Monitors	
CAMLCD-70	7.0" TFT-LCD monitor (for use with CAMDVR-SD or CAMDVR-4-B)
CAMLCD-INT-56	5.6" TFT-LCD monitor with two camera inputs
CAMLCD-INT-70-B	7.0" TFT-LCD monitor with four camera inputs and intelligent split-screen capability
CAMLCD-MIR	4.3" TFT-LCD rear-view mirror monitor with two camera inputs
Cameras - Camera cables sold separately	
CAMCCD-REARNTSC	Standard rear-view CCD camera with photosensor, 16 infrared LEDs, and microphone, IP68
CAMCCD-SIDENTSC	Standard rear-view CCD camera with photosensor, 16 infrared LEDs, and microphone, IP68
CAMCCD-FLSHNTSC	Bullet/flush-mount CCD camera, IP68, U-bracket included
CAMCCD-FLS2NTSC	Bullet/flush-mount CCD camera with photosensor and 10 infrared LEDs for night vision, IP68
CAMCCD-BALLNTSC	Standard rear-view CCD camera with photosensor and 16 infrared LEDs for night vision, microphone, IP68
CAMCCD-DOMENTSC	Dome CCD camera with photosensor and 18 infrared LEDs for night vision, microphone, IP65
Cables	
CAMCABLE-5	Camera-to-monitor extension cable, 16.5-ft/5-m
CAMCABLE-10	Camera-to-monitor extension cable, 33-ft/10-m
CAMCABLE-15	Camera-to-monitor extension cable, 49-ft/15-m
CAMCABLE-20	Camera-to-monitor extension cable, 65.5-ft/20-m
CAMCABLE-40	Camera-to-monitor extension cable, 131-ft/40-m
CAMCABLE-TRK	Truck/trailer camera connection kit
CAMCABLE-SHORT	Camera-to-monitor extension cable, 4-in/102-mm

Continued on next page



CAMCCD-FLSHNTSC
Bullet/Flush mount



CAMCCD-FLS2NTSC
Flush mount
with IR LEDs



CAMCCD-SIDENTSC
Side mount



CAMCCD-REARNTSC
Standard rear-view



CAMCCD-DOMENTSC
Dome
(indoor use only)



CAMCCD-BALLNTSC
Ball mount



CAMLCD-MIR
Rearview mirror
monitor

Accessories and Kits	
CAMADP-EXT	Camera cable adapter for connecting two camera-to-monitor extension cables together
CAMADP-RCA-IN	System adapter for connecting external RCA - equipped video source to FS monitor or DVR
CAMADP-RCA-OUT	System adapter for connecting CAMCCD-XXXXNTSC to external RCA destination input
CAMBRK-HD	Heavy-duty monitor mount
CAMLCD-BRACKET	Replacement mounting bracket for monitor
Common Replacement Parts	
CAMADP-INT-2	Replacement wiring harness, CAMLCD-INT-56/ CAMLCD-INT-70
CAMADP-INT-4	Replacement wiring harness, CAMLCD-INT-70-B

Headlight/Taillight Flashers | Accessories

Features

- Headlight and taillight flashers are available for high-side and ground switched systems
- “Plug-n-play” models available
- Multiple flash rates
- Easy to install
- Three-year product warranty

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



FHL2-SC



FHL-HL



FHL-TAIL

Model	Description
High-Side switched headlight flasher systems	
FHL2-SC	Flasher, headlight, 90 FPM, standard headlight system, high beam override (2) 10 Amp loads
FHL-HL	Flasher, headlight, multiple flash patterns, (2) 10 Amp outputs, 18" wire leads
High-Side switched taillight flasher system	
FHL-TAIL	Flasher, taillight, low stand-by current draw, multiple flash patterns

	Headlight Flashers		Taillight Flasher
	FHL-HL	FHL2-SC	FHL-TAIL
Vehicle Application	Universal	Universal	Universal
Specifications			
Vehicle Electrical System	10-30 VDC negative ground	12 VDC negative ground	12 VDC negative ground
Maximum Output Current	Two 9.5 Amp circuits per side	Two 10 Amp circuits per side	Two 5 Amp circuits per side
Circuit Switching	High-Side	High-Side	High-Side
Low Voltage Protection	✓	✓	✓
Reverse Polarity Protection	✓	✓	✓
Daytime Running Lights	–	–	–
Plug-n-play Connections	–	–	–
High Beam Deactivation	✓	✓	–
Automatic Nighttime Cut-off	✓	–	–
Flash Patterns	7 selectable patterns	90 fpm	2.4 FPS
Mounting Bracket	Universal	Universal	Universal
Physical Specifications			
Height	0.7 in (1.78 cm)	1.0 in (2.5 cm)	0.7 in (1.78 cm)
Length	4.7 in (11.9 cm)	3.0 in (7.6 cm)	4.7 in (11.9 cm)
Width	2.1 in (5.3 cm)	2.0 in (5.1 cm)	2.1 in (5.3 cm)
Shipping Weight			
	1.0 lb (0.5 kg)	1.0 lb (0.5 kg)	1.0 lb (0.5 kg)

Intelli-Flash® Flashers | Accessories

Features

- Specifically designed for use with auxiliary LED lighting
- Designed to perform in a variety of applications
- Can be used to synchronize multiple light heads
- Three-year product warranty

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



650201

Model	Description
650201	(2) 6 Amp loads, (8) flash patterns, ground-side switching
650202	(4) 4 Amp loads, (8) flash patterns, ground-side switching
650205	(2) 10 Amp loads, (10) flash patterns, high-side switching
FA3-SC	90 FPM, (2) 10 Amp loads, high-side switching

123

Intelli-Flash Flasher Chart						
Model Number#	650201	650202	650205	650206	650302	FA3-SC
Vehicle Electrical System	12-24 VDC negative ground	12-24 VDC negative ground	12-24 VDC negative ground	12-24 VDC negative ground	12-24 VDC negative ground	12 VDC negative ground
Circuit Switching	Ground-Side	Ground-Side	High-Side	Ground-Side	High-Side	High-Side
Output Current/Channel	6 Amp	4 Amp	10 Amp	6 Amp	10 Amp	10 Amp
Number of Channels	Two	Four	Two	Two	Sixteen	Two
Total Output Current Capacity	12 Amp	16 Amp	20 Amp	12 Amp	40 Amp	20 Amp
Connection	Wire Leads	Wire Leads	Screw Terminals	Wire Leads	Screw Terminals	Wire Leads
Flash Patterns (Details on Instruction Sheets)	Eight	Eight	Ten	Eight	Twenty-nine	One -90/FPM
Operating Modes	Primary/Secondary	Primary/Secondary	Primary/Secondary	Primary/Secondary	Primary/Secondary	Primary
Outlet Switching	N/A	2 X 2	N/A	N/A	4 X 4 / KKK-E Compliant	N/A
Recommended Applications	Police/Motorcycle	Police/Motorcycle/DOT	Command and Fire/Rescue	Police/Command	Ambulance and Fire/Rescue	Variable
Physical Dimensions						
Length	4.0 in (10.2 cm)	4.0 in (10.2 cm)	5.1 in (13.0 cm)	4.0 in (10.2 cm)	10.5 in (26.7 cm)	2.5 in (6.4 cm)
Width	2.0 in (5.1 cm)	2.0 in (5.1 cm)	3.0 in (7.6 cm)	2.0 in (5.1 cm)	4.0 in (10.2 cm)	1.4 in (3.6 cm)
Height	0.5 in (1.3 cm)	1.0 in (1.3 cm)	1.2 in (3.1 cm)	0.5 in (1.3 cm)	1.2 in (3.1 cm)	1.3 in (3.3 cm)

Switch Controls

Accessories

Features

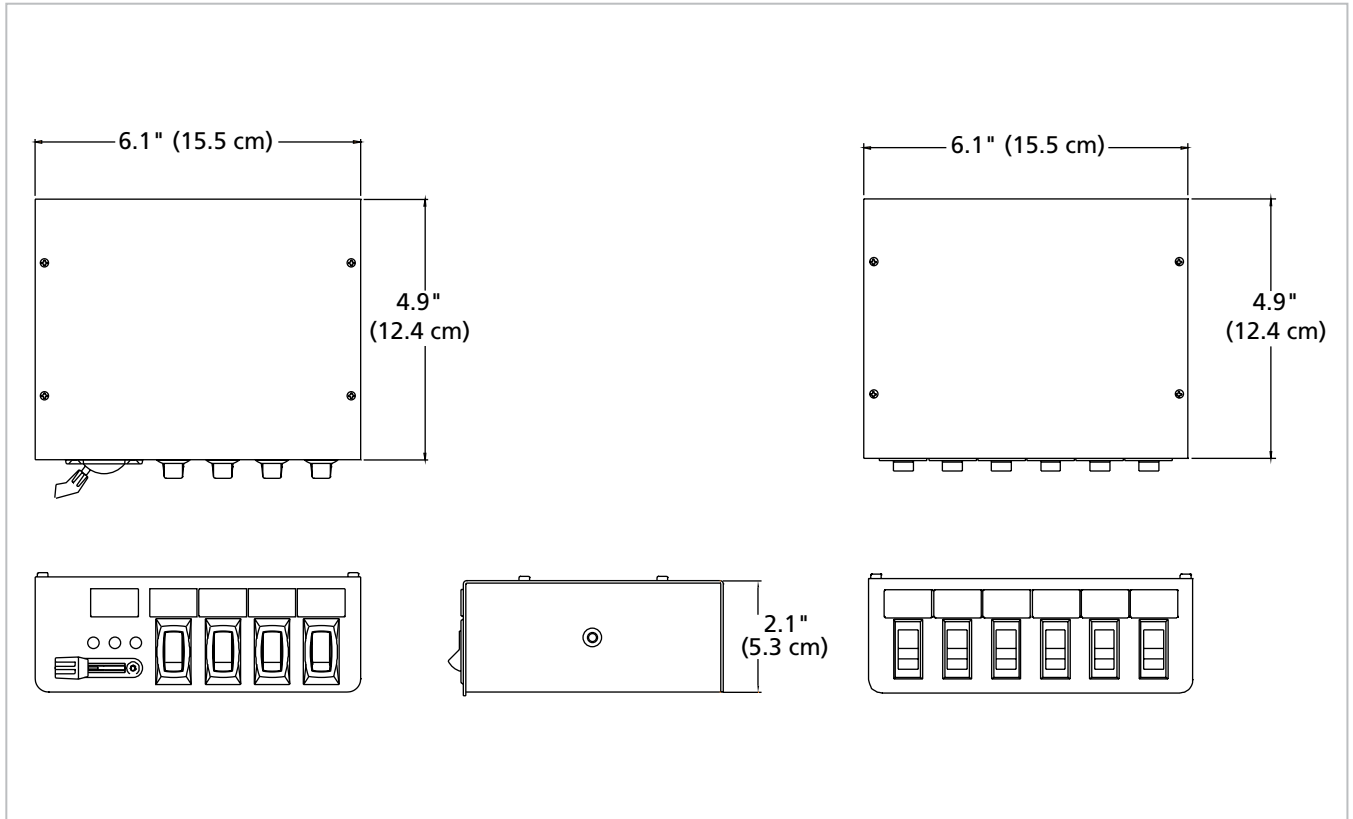
- Switching of up to seven auxiliary functions
- 20 Amp fuses and 20 Amp switches are standard
- Standard, high current slide switch and non-slide switch models available
- Backlit or LED function identification
- Easy installation
- Three-year warranty

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



Model	Description
“SW” Switch Control Panel Models	
SW1	One rocker switch
SW2	Two rocker switch
670132	Three rocker switches
SW200-012	SW200 Series, (4) 20 Amp fused switches
SW200-BK1	SW200 Series, SW200-012 control panel and SW-BK1 mount bracket
SW30	SW30 Series, (3) 20 Amp toggle switches on “L” bracket housing
SW300-012	SW300 Series, (1) 40 Amp and (5) 20 Amp fused switches
SW300-BK	SW300 Series, SW300-012 control panel and SW-BK mount bracket
SW400SS	SW400 Series, slide control and (4) 20 Amp switches
Toggle Switch Models	
210620	Toggle switch, Black
210633	Toggle switch, Chrome on metal
Accessories and Kits	
SW-BK1	Mount bracket for SW200-012
SW-BK	Mount bracket for SW300-012 and SW400SS
210624	Single-hole switch panel for use with 1/2” diameter toggle switches
Common Replacement Parts	
671512	Rocker switch, 20 Amp, illuminated
Z122374A	Slide-switch
Z122385B	Rocker switch, 20 Amp, on/off, illuminates, Red
Z124A058A	Kit, multiple legends, backlit



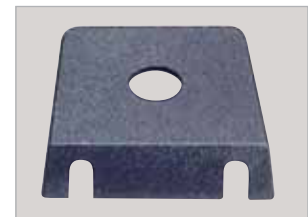
Physical Specifications			
	SW400	SW300	SW200
Height	2.1 in (5.3 cm)	2.1 in (5.3 cm)	2.1 in (5.3 cm)
Width	6.1 in (15.5 cm)	6.1 in (15.5 cm)	4.7 in (11.9 cm)
Depth	4.9 in (12.4 cm)	4.9 in (12.4 cm)	4.9 in (12.4 cm)
Ship Weight			
	3.0 lbs (1.4 kg)	3.0 lbs (1.4 kg)	2.5 lbs (1.1 kg)



SW-BK1



SW-BK



210624

Mounting Bars | Accessories

Features

- Mounts any type of warning light, directional light or work light
- Accommodates mini-lightbars, as well as full-length lightbars
- Sliding carriage bolt design for ease of installation when mounting any lighting device
- Available for permanent mount or hook-on mount applications
- Available in 46", 54" and 65" lengths

Applications

- Construction
- Material Handling
- Tow & Recovery
- Utility



Lightbar sold separately

Model	Description
210960-46	46", Roof mount bar
210960-54	54", Roof mount bar
210960-65	65", Roof mount bar
Accessories and Kits	
UNPK	Mounting kit, permanent
UNHK	Mounting kit, hook mount feet (requires use of hook kit)
HKB-(Model)	Hook required with hook-on mount, (specify vehicle)
210962	Kit, mounting bar endcap (contains endcap and two screws)
210961	Kit, mounting plate, beacon (mounts LED, strobe, and halogen beacons and VisiBeams)
454219	Kit, roof mount bar (must be used when mounting HighLighter on a Roof Mounting bar)

Replacement Lamps



Z211800B
Replacement flash tube Model 1262/1682



Z8107141A
Lamp, rotator, vertical filament, 795X, 50W, bayonet



Z8107146C
Strobe tube, Fireball



Z8107152A
Bulb, H3 halogen, 55W 12 VDC



Z8107156A
Bulb, 25W, G4, 12V, halogen, GH1



Z8107158A
Bulb, H3 halogen, 100W, 12VDC



Z8107165A
Bulb, 35W, G4, 12V, halogen, GH1F



Z8107169A
Bulb, GH8, Bi-pin alley/takedown light, 50W halogen



Z8107170A
Bulb, GH9, Bi-pin flashing light, 35W halogen



Z8107232A
Strobe tube assembly, 413250/GS1/GS1F



Z8107241A
Lamp, alley, Arjent SL, MR11, 10-degrees



Z8107A027
Bulb, 4505, 50W, 24VDC, Model 14



Z8107A033
Bulb, 4416, 30W, Model 14



Z8107A095A
Bulb, Stop/Tail/Turn, GE1157, dual filament



Z8107A119A
Bulb, alley/takedown light, horizontal filament, 50W bayonet



Z8440A265A-02
Bulb, Rotator, H1 vertical filament, long life, 12VDC



Z8444A151A
Bulb, H1, vertical filament, 70W halogen, 24VDC



Z8548A028A
Bulb, flashing light, horizontal filament, 796, 35W



Z8550250A
Lamp, Littlite, Bi-pin



Z8550269A
Replacement flash tube, Firebolt



Z8560082A
Strobe assembly, Highlighter Strobe



Z8573007A
Bulb, GH22 Bi-pin, SignalMaster, 27W halogen



Z8575067A
Strobe tube and reflector assembly, GS2



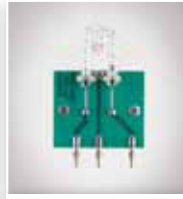
Z8575107A
Lamp and reflector assembly, GHSCENE



Z8583052A
Strobe tube, Vistabeam/directional, helical, lower level



Z8583292A
Strobe tube and reflector assembly, linear, upper level



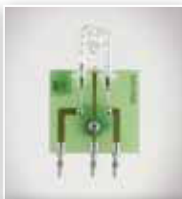
211200-95
Replacement flash tube, Model 651/901



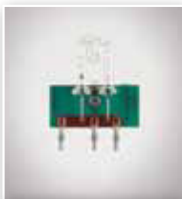
211400-95
Replacement flash tube, Model 851/951



413201-05
Strobe tube, Ricochet/Silver Series Clear with amp connector



439290-95
Replacement flash tube, 551 HD



439411-95
Replacement flash tube, 451 HD



462510
Strobe tube assembly, Renegade



521592
Strobe tube and reflector assembly, JetStrobe



602111-02/03/04
Corner strobe tube, Amber, Blue, or Red CS1



602111-05
Corner strobe tube, Clear CS1



8107230A-95
Replacement flash tube, Model 401

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Terms and Conditions

- (1) **AGREEMENT AND LIMITATIONS.** The agreement between Seller and Buyer (the "sales contract") with respect to the sale of goods (the "goods") described herein shall consist of the terms appearing herein with any additions or revisions of such terms mutually agreed to in writing by Seller and Buyer. Seller objects to and shall not be bound by any additional or different terms, whether printed or otherwise, in Buyer's purchase order or in any other communication from Buyer to Seller unless specifically agreed to by Seller in writing. Except as expressly stated in the sales contract, no reference to Buyer's purchase order or other communication from Buyer shall be deemed to incorporate by reference any terms appearing therein. The sales contract shall be for the benefit of Seller and Buyer and not for the benefit of any other person. Prior courses of dealing, trade usage and verbal agreements not reduced to a writing signed by Seller, to the extent they modify, add to, detract from, supplant or explain the sales contract, shall not be binding on Seller.
- (2) **TERMINATION OR MODIFICATION.** The sales contract may be modified or terminated only upon Seller's written consent except that stenographic and clerical errors are subject to correction by Seller or upon Seller's written consent. If Seller shall declare or consent to a termination of the sales contract, in whole or in part, Buyer, in the absence of contrary written agreement signed by Seller, shall pay termination charges based upon expenses and costs incurred in the production of the goods or in the performance of the services to the date such termination is accepted by Seller including, but not limited to, expenses of disposing of materials on hand or on order from suppliers and the losses resulting from such disposition, plus a reasonable profit. Notwithstanding the foregoing any goods substantially completed or services performed on or prior to such termination shall be accepted and paid for in full by Buyer.
- (3) **PRICE AND PAYMENT.** Prices are subject to increase by Seller based on Seller's prices in effect at the time of shipment in all instances where specified shipment date is later than 30 days from date of order. Unless otherwise specified in the sales contract or Seller's applicable price list, prices are F.O.B. Seller's point of shipment, and the terms of payment are NET 30 days from the date of invoice. If the sales contract is for more than one unit of goods, the goods may be shipped in a single lot or in several lots at the discretion of Seller. In such event each such shipment shall be paid separately and Buyer shall be responsible for all transportation charges. Seller may require full or partial payment or payment guarantee in advance of shipment whenever, in its opinion, the financial condition of Buyer so warrants. Payment by credit card may be subject to a service charge.
- (4) **PAST DUE INTEREST.** Amounts not paid when due shall be subject to past due interest at the rate of 18% per year or the highest rate permitted by law, whichever is less.
- (5) **RISK OF LOSS.** The risk of loss or the goods or any part thereof shall pass to the buyer upon delivery thereof by Seller to the carrier. Buyer shall have sole responsibility for processing and collection of any claim of loss against the carrier.
- (6) **TAXES.** Prices do not include taxes. Buyer shall pay Seller, in addition to the price of the goods, any applicable excise, sales, use or other tax (however designated) imposed upon the sale, production, delivery or use of the goods ordered to the extent required or not forbidden by law to be collected by Seller from Buyer, whether or not so collected at the time of the sale, unless valid exemption certificates acceptable to the taxing authorities are furnished to Seller before the date of invoice.
- (7) **DELIVERY.** Promises of delivery from stock are subject to prior sale. Delivery dates are not guaranteed but are estimated on the basis of immediate receipt by Seller of all information to be furnished by Buyer and the absence of delays, direct or indirect, resulting from or contributed to by circumstances beyond Seller's reasonable control. Seller shall in good faith endeavor to meet estimated delivery dates but shall not be liable to Buyer for any damages as a result of any delay caused or contributed to by circumstances beyond Seller's reasonable control.
- (8) **DEDUCTIONS AND RETURNS.** Please contact the factory before returning any merchandise. A Return Material Authorization (RMA) must be obtained before returning merchandise for credit. All returns are subject to inspection of merchandise and any defects in the units will be charged back to the Buyer at the cost of parts and labor. Credit deductions will not be honored unless covered by a credit memorandum. Goods shipped to the Buyer may be returned to Seller for credit only upon the Seller's prior written consent (such consent to be in the sole discretion of Seller) and upon terms specified by Seller, including prevailing restocking, freight, and handling charges. Buyer assumes all risk of loss for such returned goods until actual receipt thereof by Seller. Agents of Seller are not authorized to accept returned goods or to grant allowances or adjustments with respect to Buyer's account.
- (9) **INSPECTION.** Buyer shall inspect the goods immediately upon the receipt thereof. All claims for any alleged defect in Seller's performance under this sales contract, capable of discovery upon reasonable inspection, must be fully set forth in writing and received by Seller within thirty days of Buyer's receipt of the goods. Failure to make any such claim within said thirty-day period shall constitute a waiver of such claim and an irrevocable acceptance of the goods by Buyer.
- (10) **LIMITED WARRANTY.** Federal Signal Corporation, Mobile Systems, (Federal) warrants each new product, except speakers, to be free from defects in material and workmanship, under normal use and service, for a period of (3) years on parts replacement from the date of manufacture stamped on the product and (1) year on labor from the date of delivery to the first user-purchaser and for noted products. Speakers are warranted for a period of (2) years on parts replacement from the date of manufacture stamped on the product and (1) year on labor from the date of delivery to the first user-purchaser. The following products are warranted for (5) years on parts replacement from the date of manufacture stamped on the product and (1) year on labor from the date of delivery to the first user-purchaser: "Light Emitting Diode" (LED) products (Signaltech and SignalMaster Plus LED products not included), "Ricochet" strobe power supplies, "Unitrol" brand products, rotating light assemblies from all lightbars, all rotating beacons and mini-lightbars (Sentinel not included), all Phase II strobe beacon models, all 901 and 951 strobe beacon models, all 651 and 851 strobe beacon models, all US5, US6, and US7 UltraStar strobe beacon models, and all Arctic strobe beacon models. Strobe flashtubes are warranted for (1) one year parts replacement from the date of delivery of the first user-purchase. During this warranty period, the obligation of Federal is limited to repairing or replacing, as Federal may elect, any part or parts of such product which after examination by Federal, is found to be defective as the result of a defect in material and/or workmanship. Federal will provide warranty for any unit which is delivered, transported prepaid, to the Federal factory or designated authorized warranty service center for examination and such examination reveals a defect in material and/or workmanship. This warranty does not cover travel expenses, the cost of specialized equipment for gaining access to the product, or labor charges for removal and re-installation of the product. Domes & lenses, lamps or batteries are not covered under warranty. This warranty does not extend to any unit which has subjected to abuse, misuse, improper installation or which has been inadequately maintained, nor damage resulting from incompatible chemicals or cleaning material, nor to units which have problems relating to service or modification at any facility other than the Federal factory or authorized service centers. This warranty is in lieu of all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.
- (11) **REMEDIES AND LIMITATIONS OF LIABILITY.** In the event Seller is claimed to have breached any of its obligations under the sales contract, whether of warranty or otherwise, Seller may repair any defective goods, request the return of the goods and tender, at Seller's option, a replacement shipment of goods or the purchase prices theretofore paid to Seller. Seller shall tender a refund of the purchase price at its option upon actual receipt of the goods by Seller. If Seller so requests the return of the goods, the goods will be redelivered to Seller, transportation prepaid, in accordance with Seller's instructions. The remedies contained in this and the preceding paragraph constitute the sole recourse against Seller for breach of any of Seller's obligations under the sales contract whether of warranty or otherwise. In no event shall Seller be liable for consequential damages nor shall Seller's liability on any claim for any direct, incidental, consequential or special damages arising out of or connected with the sales contract or the manufacture, sale, delivery or use of the goods exceed the purchase price of the goods. Seller shall not be liable for failure to perform its obligations under the sales contract, resulting directly or indirectly from or contributed to by acts of God; acts of Buyer; civil or military authority; priorities; fires; war; riot; delays in transportation; lack of or inability to obtain raw materials, components, labor, fuel or supplies; or other circumstances beyond Seller's reasonable control, whether similar or dissimilar to the foregoing.
- (12) **PATENTS.** Seller shall hold Buyer harmless, to the extent herein provided, against any rightful claim of any third person by way of infringement of any United States Letters patent by such goods as are of Seller's own manufacture, but if Buyer furnished specifications to Seller, Buyer shall hold Seller harmless against any such infringement claims which arise out of compliance with such specifications. Seller's agreement in this paragraph to hold Buyer harmless shall not apply to any infringement consisting of the use of goods manufactured by Seller as a part of any combination with goods manufactured by Buyer or others. In the event that any goods manufactured by Seller are in any suit held to constitute infringement and their use is enjoined, Seller, if unable within a reasonable time to secure for Buyer the right to continue using such goods, either by suspension of the injunction, by securing for Buyer a license, or otherwise, shall at its own expense, either replace such goods with non-infringing goods or modify such goods so that they become non-infringing, or accept the return of the enjoined goods and refund the purchase price theretofore paid by Buyer less allowance for any period of actual use thereof. Except as in this paragraph provided, Seller makes no warranty that the goods will be delivered free of the rightful claim of any third person by way of infringement or the like and Buyer's remedies will be limited to those provided in this paragraph.
- (13) **ASSIGNMENT AND DELEGATION.** No right or interest in this sales contract shall be assigned by Buyer without Seller's prior written consent, and no delegation of any obligation owed, or of the performance of any obligation, by Buyer shall be made without Seller's prior written consent. Any attempted assignment or delegation shall be void and totally ineffective for all purposes unless made in conformity with this paragraph 9, 10 and 11 hereof, and if effective shall be subject to all limitations of this sales contract.
- (14) **SEVERABILITY.** If any term, clause or provision contained in the sales contract is declared or held invalid by a court of competent jurisdiction, such declaration or holding shall not affect the validity of any other term, clause or provision herein contained.
- (15) **INSTALLATION.** Installation shall be by Buyer unless otherwise specifically stated on the sales contract.
- (16) **GOVERNING LAW AND LIMITATIONS.** The formation and performance of the sales contract shall be governed by the laws of the State of Illinois. Whenever a term defined by the Uniform Commercial Code as adopted in Illinois is used in these standard terms, the definition contained in said Uniform Commercial Code is to control. Any action for breach of the sales contract or any covenant or warranty contained herein must be commenced within one year after the cause of action accrued.

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