Litestak™ Status Indicator

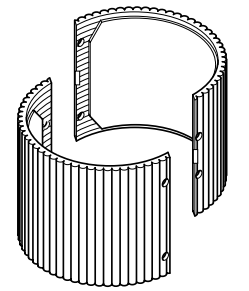
Models LSB and LSL

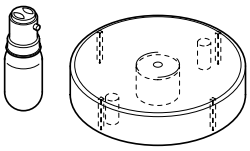
Notify Status Changes with Color and Sound

- **Available in 24VDC, 120VAC and 240VAC**
- **Five Lens Colors**
- **Surface Mount and Integrated 3/4-inch Pipe Mount**
- **UL Listed, cUL Listed, CSA Approved for Indoor Use**
- **NEMA 1, IP41 Enclosure**

Document	Catalog No. / *Katalog-Nr.*	Description / *Beschreibung*	Weight/ea	VPE/Pack	U/M	EDP-No.
	Litestak™ Light Modules, 24VDC					
	LSL-024A	Litestak™ Light Module, 24VDC, Amber	360g	1	ea	**105826**
	LSL-024B	Litestak™ Light Module, 24VDC, Blue	360g	1	ea	**105828**
	LSL-024C	Litestak™ Light Module, 24VDC, Clear	360g	1	ea	**105829**
	LSL-024G	Litestak™ Light Module, 24VDC, Green	360g	1	ea	**105825**
	LSL-024R	Litestak™ Light Module, 24VDC, Red	360g	1	ea	**105827**
	Litestak™ Light Modules, 120VAC					
	LSL-120A	Litestak™ Light Module, 120VAC, Amber	360g	1	ea	**105821**
	LSL-120B	Litestak™ Light Module, 120VAC, Blue	360g	1	ea	**105823**
	LSL-120C	Litestak™ Light Module, 120VAC, Clear	360g	1	ea	**105824**
	LSL-120G	Litestak™ Light Module, 120VAC, Green	360g	1	ea	**105820**
	LSL-120R	Litestak™ Light Module, 120VAC, Red	360g	1	ea	**105822**
	Litestak™ Light Modules, 240VAC					
	LSL-240A	Litestak™ Light Module, 240VAC, Amber	360g	1	ea	**110671**
	LSL-240B	Litestak™ Light Module, 240VAC, Blue	360g	1	ea	**110672**
	LSL-240C	Litestak™ Light Module, 240VAC, Clear	360g	1	ea	**110673**
	LSL-240G	Litestak™ Light Module, 240VAC, Green	360g	1	ea	**110674**
	LSL-240R	Litestak™ Light Module, 240VAC, Red	360g	1	ea	**110675**
	Litestak™ Bases					
	LSB-024-240	Litestak™ Base, 24-240VAC/DC	450g	1	ea	**105819**
	LSB-120	Litestak™ Base, 120VAC	450g	1	ea	**105818**
	LSBS	Litestak™ Base, 24-240VAC/DC, Surface Mount	250g	1	ea	**110609**
5107 5106	**Litestak™ Sound Modules**					
	LSH-024	Litestak™ Piezoelectric Horn Sound Module, 24VDC	290g	1	ea	**110668**
	LSH-120	Litestak™ Piezoelectric Horn Sound Module, 120VAC	290g	1	ea	**110669**
	LSH-240	Litestak™ Piezoelectric Horn Sound Module, 240VAC	290g	1	ea	**110670**
	LSS-024	Litestak™ Sound Module, 24VDC	360g	1	ea	**110682**
	LSS-120	Litestak™ Sound Module, 120VAC	500g	1	ea	**110683**
		Further infos can be found in documents indicated (LSH Doc # 5107, LSS Doc # 5106).				
	Litestak™ Replacement Parts					
	K8447014A-01	**Lens Kit, Green**		1	ea	**117242**
	K8447014A-02	**Lens Kit, Amber**		1	ea	**117243**
	K8447014A-03	**Lens Kit, Red**		1	ea	**117244**
	K8447014A-04	**Lens Kit, Blue**		1	ea	**117245**
	K8447014A-05	**Lens Kit, Clear**		1	ea	**117246**
	K8447014A-06	**Lens Kit, Blackout (One 1/2 Lens)**		1	ea	**117247**
	K8107194A	**Incandescent Lamp, 15W, 7000 Hr. (for 120VAC LSL Version)**		1	ea	**117248**
	K8107210A	**Incandescent Lamp, 30V, 27W (for 24VDC LSL Version)**		1	ea	**117249**
	K8107A149A	**Incandescent Lamp (for 240VAC LSL Version)**		1	ea	**117250**
	K8285237A	**Flasher (24VDC)**		1	ea	**117251**
	K8285239A	**Flasher (120VAC)**		1	ea	**117252**
	K8447009E	**Litestak™ Cap Kit**		1	ea	**114440**
	K8447014A-07	**Grille Kit, Black (for LSH or LSS)**		1	ea	**117253**

LSH-120





Litestak™ Status Indicator

Models LSB and LSL

NOTIFY STATUS CHANGES WITH COLOR AND SOUND

- Available in 24VDC, 120VAC and 240VAC
- Five lens colors
- Surface mount and integrated $^{3}/_{4}$-inch pipe mount
- UL Listed, cUL Listed, CSA Certified for indoor use
- NEMA 1, IP41 enclosure

Federal Signal's Litestak™ status indicator is a column of signal lights that indicate the status of a process or machine. The units may include up to five Light Modules (Model LSL) available in amber, blue, clear, green and red; or four light modules plus an optional Sound Module (Models LSS or LSH) to create a dual purpose audible/visual status indicator. The Sound Module always occupies the top position of a Litestak unit.

Litestak's lensing provides a 360° visual signal. Individual light modules may be set to either flash (flasher included) or burn steadily (120VAC only).

Each light module consists of two impact-resistant polycarbonate lens halves that snap apart to provide easy maintenance and interchangeability of colors.

Litestak units can be installed on a $^{3}/_{4}$" pipe mount or surface mounted with the Model LSB Base. If low profile surface mounting is required, Model LSBS is available.

Litestak is UL (Underwriters Laboratories) listed and CSA (Canadian Standards Association) Certified for indoor use. It also meets NEMA (National Electrical Manufacturers Association) Type 1 requirements.

Multiple lens colors can communicate machine shutdown, shortage of materials, supervisor attention, etc. Ideal applications for the Litestak include assembly lines, instrument panels, workcells, etc. Federal Signal's Litestak is an economical device for increasing productivity in any manufacturing environment.

Model	Voltage	Operating Current	Flash Rate/ Minute	Candlepower	Mount
LSB[3]	24-240VAC/DC	N/A[1]	N/A[1]	N/A[1]	$^{3}/_{4}$" Pipe/Surface
LSB[3]	120VAC 50/60Hz	N/A[1]	70	N/A[1]	$^{3}/_{4}$" Pipe/Surface
LSBS[3]	24-240VAC/DC	N/A[1]	N/A[1]	N/A[1]	Low Profile Surface
LSL[2]	24VDC	0.50	N/A[1]	123	N/A[1]
LSL[2]	120VAC 50/60Hz	0.20	N/A[1]	123	N/A[1]
LSL[2]	240VAC 50/60Hz	0.10	N/A[1]	123	N/A[1]

[1]Not Applicable [2]Model LSL includes lens, lamp and light module. [3]Cap kit included.

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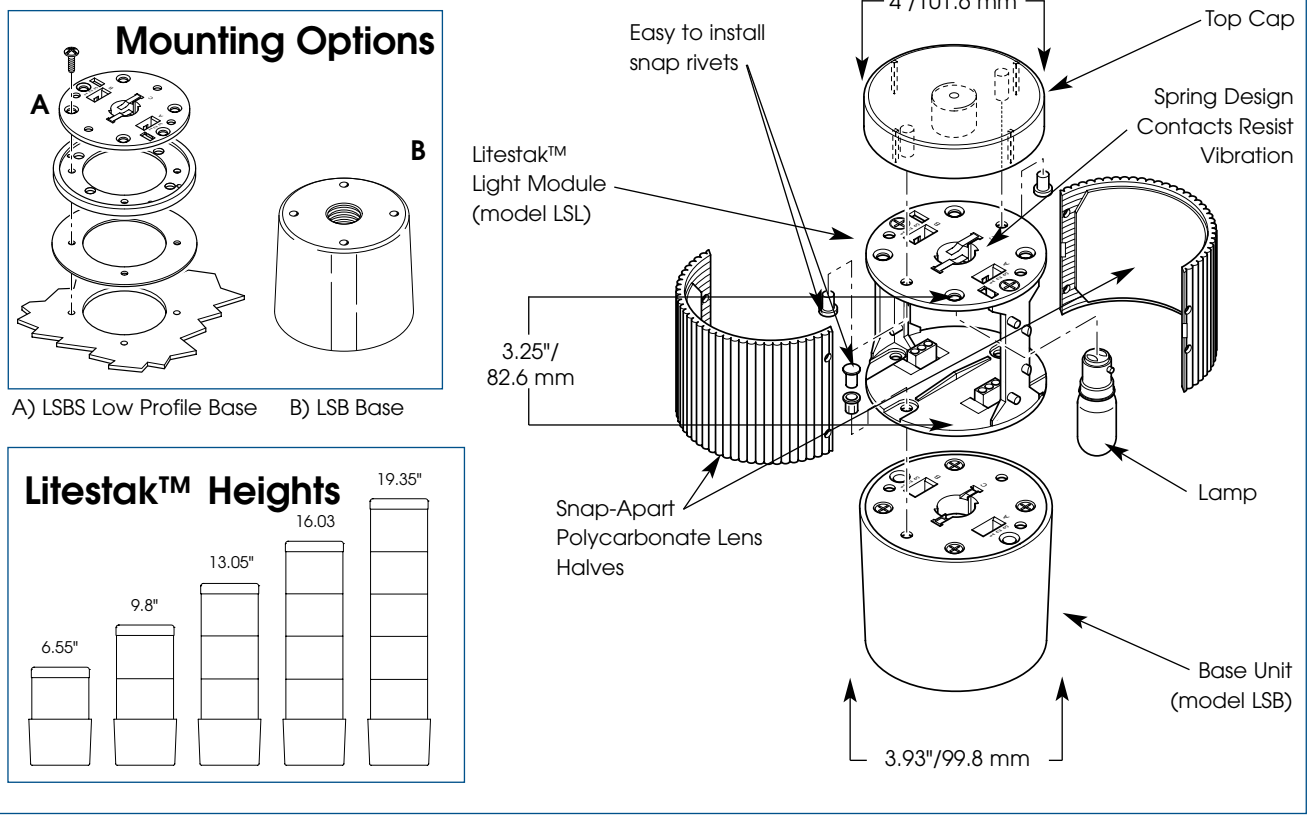
Weitere Typen auf Anfrage. Änderungen vorbehalten. Abmessungen in mm.

Further items on request. Dimensions mm. Subject to change without notice.

LITESTAK™ LIGHT (LSL) AND BASE (LSB)



SPECIFICATIONS

Lamp Life*:		7,000 Hours	7,000 Hours
Lamp Style:		Incandescent	Incandescent
Operating Temperature:		-32°F to 120°F	-36°C to 49°C
Net Weight:	LSL	0.5 lbs.	0.2 kg
	LSB	0.75 lbs.	0.3 kg
Shipping Weight:	LSL	0.8 lbs.	0.4 kg
	LSB	1.0 lbs.	0.4 kg
Height:	LSL	3.25"	82.5 mm
	LSB	3.3"	82.8 mm
Diameter:	LSL	3.93"	99.8 mm
	LSB	3.93"	99.8 mm

* Optimal hours under ideal conditions.

HOW TO ORDER

- Specify model and voltage of base unit:
  LSB for 3/4" pipe or surface mount
  LSBS for low profile surface mount
- Specify model, voltage and colors of light modules
- Specify optional sound module (doc. # 5106 or piezo horn doc. # 5107)

REPLACEMENT PARTS

Description	***Part Number***	***Description***	***Part Number***
Lens Kit, Amber	K8447014A-02	Lamp, 24VDC	K8107210A
Lens Kit, Blue	K8447014A-04	Lamp, 120VAC	K8107194A
Lens Kit, Clear	K8447014A-05	Lamp, 240VAC	K8107A149A
Lens Kit, Green	K8447014A-01	Flasher (24VDC)	K8285237A
Lens Kit, Red	K8447014A-03	Flasher (120VAC)	K8285239A
Lens Kit, Blackout (1/2 lens)	K8447014A-06	Cap Kit	K8447009E
Snap Rivets, 50 pieces	K7099A112A-01		

INSTRUCTION SHEET FOR FEDERAL SIGNAL LITESTAK™ MODELS LSB, LSBS, LSL, AND LSLD.

SAFETY NOTICES

WARNING

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

SAFETY MESSAGE TO INSTALLERS, USERS, AND MAINTENANCE PERSONNEL

DANGER

Bulbs can burst causing serious injury to the eyes. Always wear safety glasses when changing the lamp or servicing the unit. Do not apply power to the device without lenses in place.

It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code or the Canadian Electrical Code and will follow the NEC or CEC Guidelines as well as local codes.

This device may be considered a part of the signalling system and not the entire signalling system.

The selection of the mounting location for the device, its controls and the routing of the wiring is to be accomplished under the direction of the facilities engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
- Do not connect this light to the system when power is on.
- After installation, ensure that all screws and threaded joints are properly tightened.
- After installation, test the light system to ensure that it is operating properly.
- After testing is complete, provide a copy of this instruction sheet to all operating personnel.
- Establish a procedure to routinely check the light installation for integrity and proper operation.

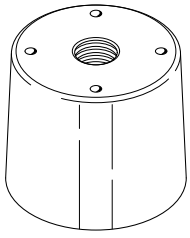
I. INSTALLATION.

A. Unpacking.

After unpacking the equipment, examine it for damage that may have occurred in transit. If the equipment has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

B. Mounting.

1a. Pipe Mounting.



The Model LSB Base is designed for installation on ³/₄" NPT pipe. It may be installed on machines, control boards, or any installation where pipe mounting is required. If ½" pipe is used, a user-supplied reducer is required.

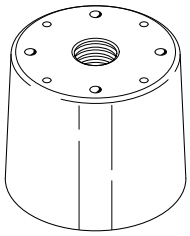
Mounting hardware and installation details are left to the installer. After the Base is installed, the Light Modules are assembled on the Base. At least one, and up to five Light Modules may be assembled on the Base in any sequence (determined by the user). Refer to the instruction sheet for information on how to assemble the Sound Module (Models LSS-024 and LSS-120).

CAUTION

To avoid damaging the Light Modules, it is recommended that wiring be performed before assembling the Light Modules on the Base.

1b. Integral Surface Mounting.

The Model LSB is also designed for surface mounting installations on machines, cabinets, control boards or any installation where a rigid flat surface is available. The LSB is four inches high and contains the wiring, interconnects and the flasher (120VAC unit only). The LSB has four flashed over holes and includes four sheet metal screws.



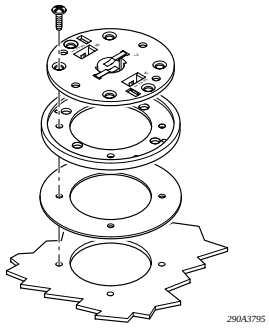
Install the Model LSB as follows:

a. Remove the base top wiring.
b. Drill the large clearance hole using a 1" hole saw.
c. Place the base onto a flat section and align the wire exit hole with the 1" drilled hole.
d. Drive the supplied sheet metal screws through the recessed holed in the bottom of the base.
e. Replace the base top and wiring.

2. Reduced Profile Surface Mounting.

The model LSBS is designed for reduced profile surface mounts. Using the LSBS gives the installer the same mount configuration as the LSB, but is only 1/4 inch in height. All of the wiring and interconnects when using LSBS will reside below the surface in the users' enclosure.

The LSBS includes: a Mounting Gasket, a Base Mounting Ring and four screws, a Base Top with wires, and a Cap Kit with rivets.



Install the Model LSBS as follows:

a. Place the gasket onto a flat section of the surface at the device's intended location.
b. Mark the four mounting holes and the center clearance hole.
c. Using the gasket as a guide, drill the four mounting holes using a #24 drill. In the center of the 4 hole pattern, drill the large clearance hole using a $2^{1}/_{2}$" hole saw.
d. Locate the gasket on the surface and place the mounting ring with the base top and wiring in place on the gasket. Secure the unit with the supplied #8 self-tapping screws.

CAUTION

Excessive torque on the mounting screws may crack the Base Mounting Ring. Do not over tighten the screws.

After the Base is installed, the Light Modules are assembled on the Base. At least one, and up to five Light Modules may be assembled on the Base in any sequence (determined by the user).

CAUTION

To avoid damaging the Light Modules, it is recommended that wiring be performed before assembling the Light Modules on the Base.

C. Power Requirements.

(Incandescent load with 5 Light Modules or load with 4 Light Modules and 1 Sound Module): 24V, 0.76 per Module, 3.8A max.

120V, 0.225A per Module, 1.13A max
240V, 0.12A per Module, 0.6A max. (Not applicable to load containing Sound Module.)

Individual Module Power Requirements:
1 Lamp Module (LSL) 0.76A, 24VDC
0.225A, 120VAC, 50/60 Hz
0.12A, 240VAC, 50/60 Hz
1 Sound Module (LSS) 0.18A, 24VDC
0.07A, 120VAC
1 Lamp Module (LSLD) 0.080A, 24VAC/DC
0.045A, 120VAC, 50/60Hz

D. Electrical Connections.

The Light and Sound Modules are plug-in units completely wired at the factory and do not require any wiring. The individual Light Modules are controlled by the white wire in the Base (Model LSB) with a stripe the same color as the controlled Light Module's lens. The Sound Module is controlled by the white/black wire in the Base. See table 1. Since the white/black wire also provides control to the Clear Light Module, a Clear Light Module cannot be installed in a LITESTAK™ which contains a Sound Module. The control wire for the Sound Module and each Light Module must be connected to a control device. See figure 1. Control switch rating must be capable of handling the power requirements shown in paragraph I.C. above. When installing the LSB-120 the control wire(s) may be connected for any combination of steady burning or flashing lights.

WARNING

To avoid electrical shock hazards, do not connect wires when power is applied.

The Base is supplied with 24" wires (18 GA) for connection to the power source and switches. Use figure 1 and table 1 as a guide and complete the wiring as required. Terminate all unused wires with user-supplied wire nuts.

CAUTION

Damage to the voltage reducer or wiring may occur if the Base top is lifted more than approximately four-inches from the Base.

If desired, the LSB Base may be used as a junction box. Remove and retain the four screws which secure the Base top to the Base. Lift the Base top approximately four-inches. Route the necessary wires into the Base, and use figure 1 and table 1 as a guide to complete the wiring. Terminate all unused wires with user-supplied wire nuts. After the wiring is completed, replace the Base top and secure with the previously removed screws.

E. Light Module Installation.

After the wiring is completed, the Light Modules are assembled to the Base in the sequence determined by the user. To install the Light Modules, proceed as follows:

1. Get the first Light Module and observe the orientation of the two 3-pin connectors. Also, observe the orientation of the mating connectors in the Base top. Position the Light Module on top of the Base with the male and female connectors properly oriented. Align the connectors, and press the Light Module until it snaps into place.
2. See figure 2. There are four holes near the edges of the Light Module's clear bottom plate which align with holes in the Base top. To lock the units together, install a snap rivet (supplied with lens) in each hole. Press the head of each rivet until it snaps in place.
3. Assemble all remaining Light Modules (if any) on top of the first Light Module as described in steps 1 and 2 above.

NOTE

The snap rivets may be pried out with a flat blade screwdriver.

4. Remove and retain the four plastic pins on the cap (supplied with the Base). Install the cap on the top Light Module by aligning the two split pins on the cap with the snap rivet holes in the Light Module's top plate. Press down on the cap until it snaps in place. See figure 2. Lock the cap in place by pressing a previously removed plastic pin in the center of each of the cap's split pins.

NOTE

Ensure the proper color lenses are installed on each Light Module. A label with the Light Module's model number is on it's clear bottom plate.

5. Position a lens half on the widely spaced pins. Push the lens over the slanted pins until the lens snaps in place. Repeat with the other lens half.
6. Test the LITESTAK™ to ensure that it operates as intended.

F. Sound Module Installation.

Refer to the instruction sheet for the Sound Module (Models LSS-024 and LSS-120) for installation information. The Sound Module must be the top module on the LITESTAK™.

II. RELAMPING.

DANGER

Bulbs can burst causing serious injury to the eyes. Always wear safety glasses when changing the lamp or servicing the unit. Do not apply power to the device without lenses in place.

To change the lamps, proceed as follows:

A. Turn the power off.
B. Insert the blade of a flat blade screwdriver into the slot where the lens halves meet. Pry toward the Light Module's center until the lens is released from the pins, and remove the lens.
C. Push the lamp in and turn it counterclockwise. Remove the lamp from the socket.
D. See replacement parts table in section III for complete list of Federal lamps available.
E. Replace the lens.

III. SERVICE.

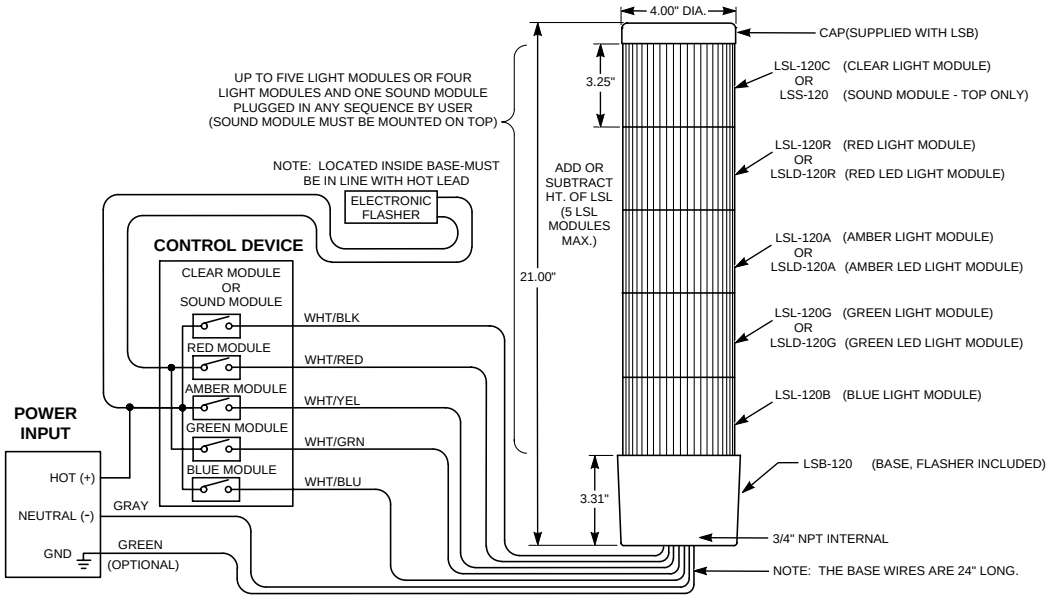
Federal Signal will service your equipment or provide technical assistance with any problems that cannot be handled locally.

Any units returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization (R.M.A.). This R.M.A. can be obtained from the local distributor or manufacturer's representative.

At this time a brief explanation of the service requested, or the nature of the malfunction, should be provided.

IV. REPLACEMENT PARTS.

Lamp, 24V, Incandescent	K8107210A
Lamp, 120V, Incandescent	K8107194A
Lamp, 230V, Incandescent	K8107A149A
Lamp, LED, 24VAC/DC, Amber	LED-024ASB
Lamp, LED, 24VAC/DC, Green	LED-024GSB
Lamp, LED, 24VAC/DC, Red	LED-024RSB
Lamp, LED, 24VAC/DC, Blue	LED-024BSB
Lamp, LED, 24VAC/DC, Clear	LED-024CSB
Lamp, LED, 120VAC, Amber	LED-120ASB
Lamp, LED, 120VAC, Green	LED-120GSB
Lamp, LED, 120VAC, Red	LED-120RSB
Lamp, LED, 120VAC, Blue	LED-120BSB
Lamp, LED, 120VAC, Clear	LED-120CSB



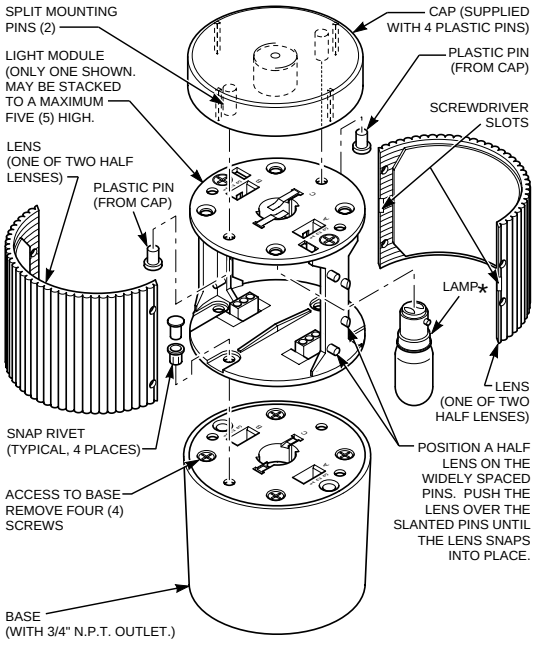
AN INSTALLATION SCENARIO SHOWING THE RED AND GREEN LIGHT MODULES WIRED TO A FLASHER. THE OTHER LIGHT MODULES ARE STEADY BURNING WHEN TURNED ON. THE FLASHER IS FOR USE WITH 120VAC LIGHT MODULES ONLY. THE SOUND MODULE CANNOT BE WIRED TO THE FLASHER. *290A2856D*

TABLE 1

Module Model Number	**Lens Color**	**Control Wire Color (in Base)**
LSL (G) or LSLD	Green	WHT/GRN
LSL (A) or LSLD	Amber	WHT/YEL
LSL (R) or LSLD	Red	WHT/RED
LSL (B)	Blue	WHT/BLU
LSL (C)	Clear	WHT/BLK
LSS	Black grille	WHT/BLK
LSH	Black grille	WHT/BLK

Power Connections: For HOT (+), NEUTRAL (-), and GROUND connections to the LITESTAK™, see figure 1 (wiring diagram).

Flasher: When required, flasher is wired in series with lamp(s). RED wire of flasher is flasher is connected to power (HOT) input. The other wire of the flasher (BLUE) is connected to the common of the control switch(es). See figure 1. (Included on LSB-120 Base Module.)



*LAMP CAN BE LED OR INCANDESCENT.
SEE REPLACEMENT PARTS LIST IN SECTION IV. *290A2859E*