

BPM SERIES INSTALLATION INSTRUCTIONS

Important

THIS SHEET CONTAINS IMPORTANT SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS.

Warning

This product must be installed in accordance with National Electrical Codes and all other local codes by a person familiar with the construction and operation of the product and the hazards involved.

To prevent electrical shock, turn off the power during installation or maintenance.
To reduce the risk of fire, keep away from combustible materials.

Product Overview

Congratulations on your purchase of LSI's BPM series beam projector! This innovative design will afford you high-end LED based performance coupled with simplistic aiming, image projection, and focusing. Due to our stringent optical train design, you will find your projections to be sharper than any other competitor's products.

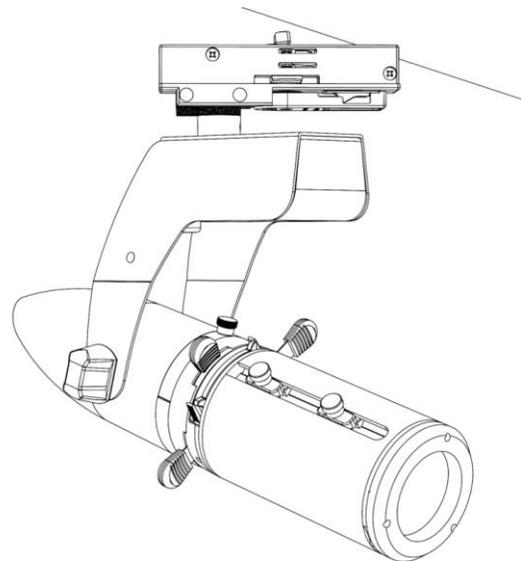
The innovative optical train coupled with Cree's High Density LED Array allows the BPM to outperform equivalent Halogen projectors while providing a fixture that is efficient, cool to the touch, and provides the superior color control available only to LED fixtures.

See the fixture label for voltage and wattage input.

Please consult our *Product Catalog* or web site for available accessories.

We recommend that you first install the lens train and any gobos before installing the fixture.

BPM Series Beam Projector



Purpose of This Sheet

The purpose of this sheet is to provide step-by-step instructions to help you:

- Install alternate lens trains, gobos, and accessory gels.
- Install the fixture with any of the following: -00 fitting on an LSI track, -BUS fitting on an LSI Busway, 5A canopy, -2G universal flange fitting, or -3G C-Clamp fitting.
- Aim the self-locking and wrench-locking fixture.
- Service the 50,000 hour LED driver.

Dimming

- The BPM is fully dimmable using compatible various dimmers and control schemes.
- Please review dimming application guide for detailed information and a list of compatible dimmers.

Accessory Cartridge Overview

The BPM series fixture contains an accessory cartridge capable of holding industry standard “E” size (not ETC “D” size) Gobo’s. The BPM has been designed to accept any metal or glass pattern or dichroic color filters sized from 1.102” (28mm) to 1.476” (37.5mm) overall diameter, with a maximum image diameter of 1.102” (28mm) and a maximum edge thickness of 0.150” (3.8mm). The fixture also comes with Wide (20°-30°) and Narrow (30° - 55°) lens assemblies. Spread Gels and Screens should be placed at the front of the fixture to avoid imaging the media.

Installing Patterns

STEP	ACTION
1	Remove accessory cartridge by squeezing the tabs together and pulling the cartridge out (Fig. 1).
2	Remove the locking clip by sliding it out of the cartridge (Fig. 2).
3	Insert the pattern and/or color filter under the ring, making sure it is centered. Thicker media such as glass can be accommodated by inverting the locking clip (Fig. 3).
4	Replace the locking clip by aligning the tabs with the slots and inserting until tight. Firmly push cartridge back into the fixture until it is fully seated and flush.

Changing Orientation

STEP	ACTION
1	Loosen the image rotation thumb screw on the top of the fixture (Fig.4).
2	Turn the fixture on and spin optical assembly until the image is in the required orientation.
3	Lock the rotation locking thumb screw. No tools are required; hand tight only to avoid damage (Fig.4).

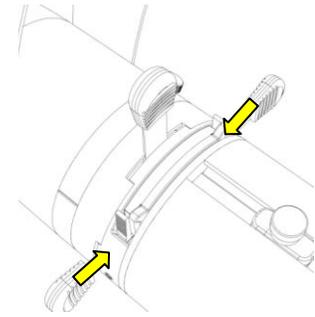


Figure 1. Remove accessory cartridge by squeezing the tabs.

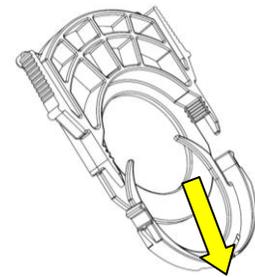


Figure 2. Remove the locking ring by pulling it out of the holder. Replace and press in until the click to lock.

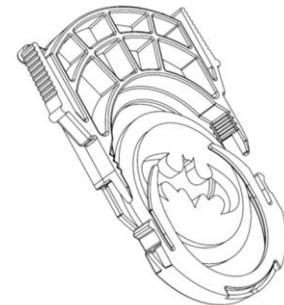


Figure 3. Reverse the locking clip to accommodate thicker media.

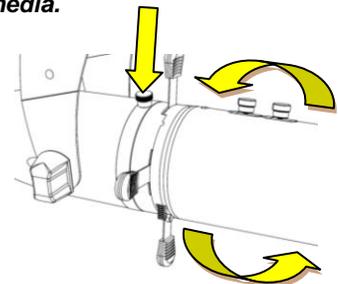


Figure 4. Loosen image rotation locking thumb screw to adjust image orientation. Tighten to lock.

Changing Lenses

STEP	ACTION
1	Use the included allen wrench to remove the locking set screw. (Fig.5) .
2	Rotate the lens assembly to align the take-down notches. The lens will come free.
3	To replace the lens, align the shoulder screws and take-down notch. Rotate the lens train clockwise until it seats fully. Tighten the locking set screw to secure in place.

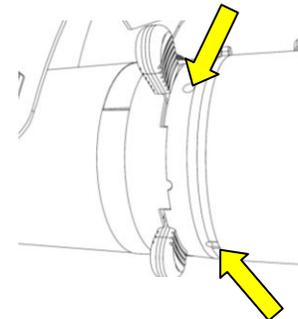


Figure 5. Remove the locking set screw and rotate the lens train to remove. Align take-down notches to attach/remove the lens.

Image Enhancing Ring / Front Gel Holder Overview

The BPM allows for additional media to be discreetly placed at the front gate of the fixture. Spread gels and screens should be attached to the front of the fixture to ensure that the texture of the media does not interfere with the projected image.

STEP	ACTION
1	Grasp the front of the lens train using the finger notches.
2	Pull to reveal the media slot.
3	Insert the media. Holder will accommodate several layers of gels and screens. (Fig. 6) .
4	Release the front of the lens train and allow the spring action to hold the media in place (Fig. 7) .

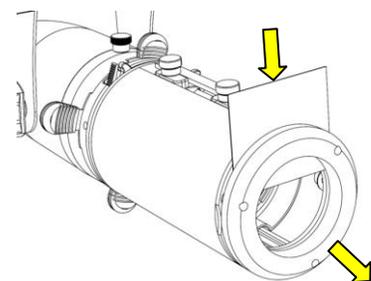


Figure 5. Grasp the front of the lens train and pull to reveal the media slot.

Installing Media in the Front Gate

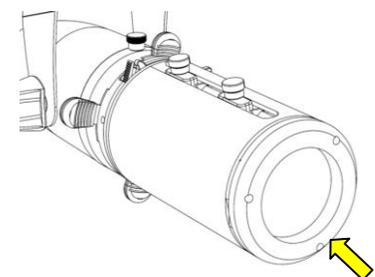


Figure 6. Insert media and release the front of the lens, allowing the spring action hold media in place.

Projection Overview

The BPM Series optical system is fully adjustable from 20° to 60° using the two interchangeable lens trains. Beam spread and image focusing are easily attained using the easy glide lens tabs. Both sharp and soft image focus are readily available with a simple slide of the focusing lens. (Fig. 8).

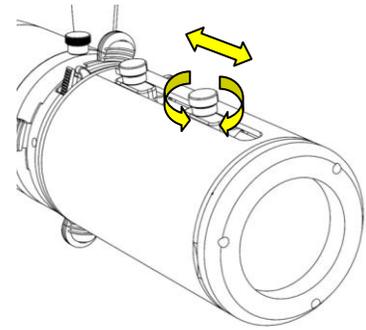


Figure 7. Wide angle lens with lens adjustment/locking knobs shown. Loosen knobs to adjust lenses, tighten to lock.

Image Focusing

STEP	ACTION
1	Turn the fixture on and aim it at the desired target. Unlock the lenses by unscrewing the captive screw. Tighten the screw to lock.
2	Slide the rear lens holder to set the image size. Sliding towards the front of the fixture will increase image size (Fig. 7).
3	Slide the front lens holder to set the image focus. It may be necessary to adjust both tabs to get a sharp focus.
4	The narrowest beam will focus with the lenses at the extreme ends of the tube. The widest beam will focus with the two lens holders touching each other and positioned near the gobo side of the lens tube.

Cleaning the Optical Assembly

STEP	ACTION
1	Remove the lens train from the fixture to clean the lenses and shutters.
2	Excess dust may be cleaned from lenses with the use of compressed air. Care must be taken so as not to directly contact the lenses with fingers or any foreign substance, as this could damage the coatings and make cleaning difficult.
3	The shutters can be cleaned with a clean cloth. Compressed air should not be used to clean the inside of the fixture as this can trap metal particles on/in the LED.
4	Remove the lens train to gain access to the shutters, clean them by wiping them with a clean cloth.
5	Replace the lens train and ensure the optical train is clean before use.

Aiming the Self-Locking and Wrench-Locking Fixtures

WARNING: Do not orient the fixture by grasping the lens train only. Always orient the fixture using two hands, one on the shutter housing and the other supporting the driver housing.

NOTE: Allen key storage is only on Track and Busway Fittings.

STEP	ACTION
1	Turn off all power to the fixture, including the fixture switch on the fitting, and let the LED cool. WARNING: LED and fixture may be hot.
2	Do you want to aim the fixture horizontally or vertically? <ul style="list-style-type: none"> ▪ For horizontal aiming, hold the Fixture by the yoke and turn it left or right until you achieve your desired orientation (Fig. 8). ▪ For vertical aiming, hold the Fixture and angle it up and down until you achieve your desired orientation (Fig. 9). Be sure to support the yoke when aiming the fixture. ▪ For wrench locking: After aiming, insert the Allen key into the horizontal lock or grasp the locking knob (Fig. 10), and turn it clockwise to tighten. <p>Note: For track and busway fixtures, the Allen key is stored in the fitting handle (Fig. 11).</p>
3	Restore power. WARNING: Do not look directly at the lit LED.

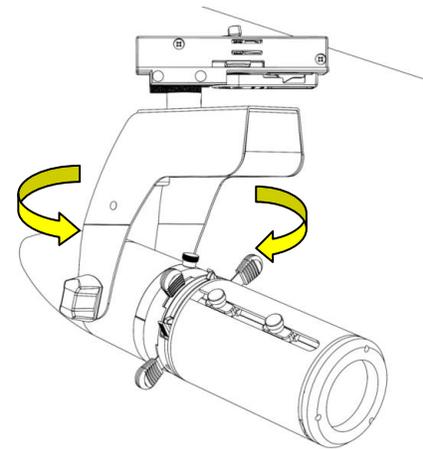


Figure 8. Turn Fixture left or right to set the horizontal focus.

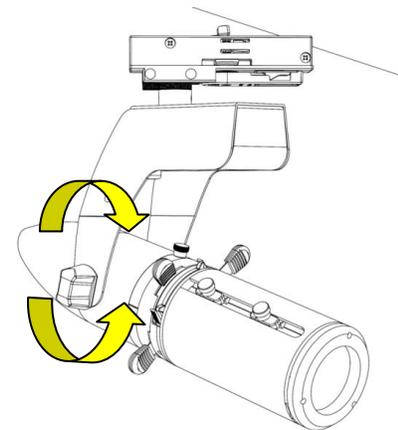


Figure 9. Angle Fixture up or down to set the vertical focus.

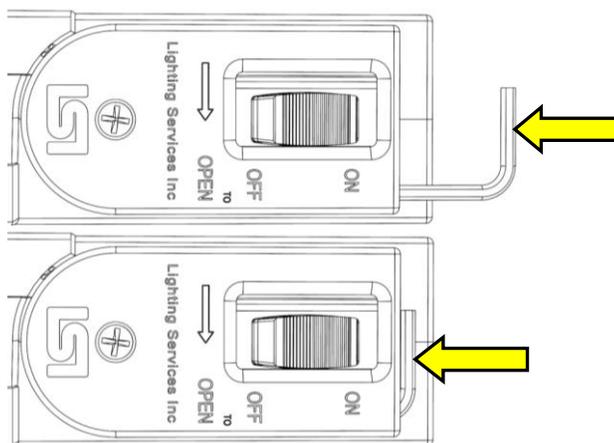


Figure 11. Allen key storage in fitting. Push in to secure the key.

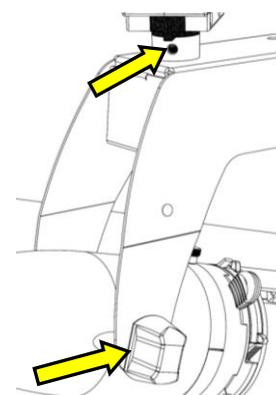


Figure 10. Horizontal focus lock set screw(top arrow). Vertical focus lock handle (bottom arrow).

Replacing the LED Module or Driver

STEP	ACTION
1	Remove all power to the fixture, including the fixture switch on the fitting, and let the LED Module cool. WARNING: LED Module and fixture may be hot.
2	Remove the locking set screw and the front of the fixture to access the LED and reflector (Fig. 13).
3	If you are only replacing the driver, skip to step 5. Remove the reflector by turning it counter-clockwise, then pulling it off the fixture (Fig. 13&14) and setting it aside.
4	Remove the LED and copper mounting plate by removing the 4 screws holding it in place. Do not remove the two screws holding the white LED holder onto the copper plate.
5	To access the driver cavity, remove the countersunk hex head bolt from the top of the fixture arm and remove the cover by sliding it down away from the fitting (Fig. 12). Keep the foam blocks contained within. Remove the red and black LED wires from the quick connector by lifting the tab and pulling on the wire (Fig. 14). Remove and properly discard the LED, copper mounting plate, and the mounting hardware.
6	Replace the LED and attached copper mounting plate with the new one, making sure to run the wires into the driver cavity first. Replace the driver if necessary by substituting the new driver in place of the old one in all 4 quick connectors.
7	Reconnect the new LED wires to the Quick Connect by lifting the tab and inserting the wire (Fig. 14). <i>Note: Ensure that the wires are paired by color as black to black and red to red.</i> <i>Note: The driver has two black wires:</i> - Input black (line voltage), which is paired with white wire - Output black (low voltage/LED power), which is paired with purple or colored wire
8	Install the new LED Module and copper mounting plate by firmly screwing the four screws to the fixture head (Fig. 12&13). Replace the foam blocks and close the driver cavity and secure that with the countersunk hex head bolt from Step 5.
9	Restore all power to the fixture. WARNING: Do not look directly at the lit LED.

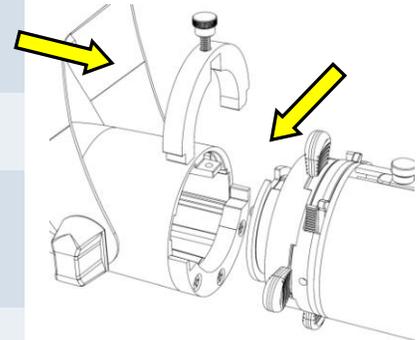


Figure 12. The three screw locations for the LED Module.

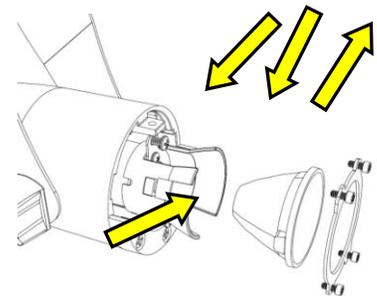


Figure 13. Remove 3 screws to access quick connectors and driver.

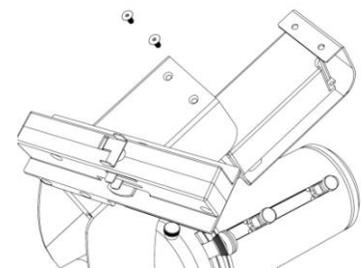


Figure 14.

Installing the Fixture with the -00 Fitting on an LSI Track or a -BUS fitting on an LSI Busway

FOR USE WITH LSI 3, 4, 5, 6, 8, AND 9 SERIES TRACK AND LSI 20 SERIES BUSWAY SYSTEMS ONLY.

INSTALLATION INSTRUCTIONS: The track or busway must already be installed according to code requirements. When installing or using this track or busway system, basic safety precautions should always be followed, including the following:

- Read all instructions.
- Do not install any part of a track or busway system less than 5 feet above the floor (8 feet for 277 volt).
- Do not install any fixture closer than 6 inches from any curtain or similar combustible material.

STEP	ACTION
1	Flip the fitting switch off and open the fitting handle (Fig. 15).
2	Are you using a one-circuit or two-circuit system? <ul style="list-style-type: none"> ▪ <i>If one-circuit</i>, make sure the brass contacts that protrude from the side of the fitting face the copper busbars inside the track or busway. ▪ <i>If two-circuit</i>, inserting the fitting in one direction connects to circuit one. Removing and reversing the direction of the fitting connects to circuit two.
3	Insert the fitting straight up into the track or busway until fully seated (Fig. 16).
4	Close the handle and flip the fitting switch on (Fig. 17). WARNING: Do not look directly at lit LED.
5	To remove the fitting, hold the fixture in place, flip the fitting switch off, open the handle, and pull the fitting straight off the track or busway.



Figure 15. Fitting with switch OFF and handle OPEN.



Figure 16. Inserted fitting



Figure 17. Switch ON, fitting handle closed

Installing the Fixture with a 5A Canopy

Before Installing: Consult the code requirements for fixture mounting. Mount the fixture to a ceiling constructed of non-combustible material, away from any flammable materials.

STEP	ACTION
1	Turn off all power to the fixture mount.
2	Unscrew the 2 supplied canopy mounting screws, and remove the crossbar from the canopy (Fig. 18).
3	Attach the canopy crossbar (Fig. 19) to a ceiling junction box with 2 screws (supplied by others).
4	Fasten the power wires (Fig. 19) from the junction box to the fixture wires. <i>Note:</i> Connect green to ground, black to the circuit line, and white to neutral.
5	Attach the canopy to the ceiling with the 2 supplied canopy mounting screws.



Figure 18. Fixture mounted on the 5A Canopy

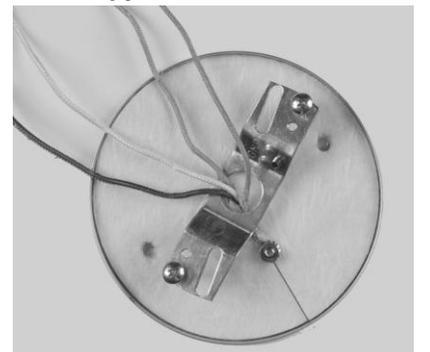


Figure 19. Ground and power wires with canopy crossbar

**Installing
the Fixture
with a -2G
Universal
Flange
Fitting or a
-3G
C-Clamp
Fitting**

Before Installing: Consult the code requirements for fixture mounting, and check the distance-from-wall label inside the fixture. Mount away from any flammable materials.

**For the -2G fitting, follow steps 1, 2, 4, and 5.
For the -3G fitting, follow steps 1, 3, 4, and 5.**

STEP	ACTION
1	Turn off all power to the fixture.
2	Attach the -2G fitting (Fig. 20) to any non-combustible material, using the 2-hole flanged mounting plate with 2 screws (supplied by others) or bolt-up applications, such as Unistrut or Kindorf systems.
3	Attach the -3G fitting (Fig. 21) to a non-combustible pipe measuring 5/8" to 2" in outside diameter, and then secure the fitting by turning the C-clamp bolt clockwise.
4	Plug the fixture into a power source. IMPORTANT SAFETY INSTRUCTIONS Never use with an extension cord unless the plug can be fully inserted. Do not alter the plug.
5	Turn on the main power, and then flip the fitting switch on. Note: The switch is located on the base of fitting.



Figure 20. -2G universal flange fitting



Figure 21. -3G C-clamp fitting