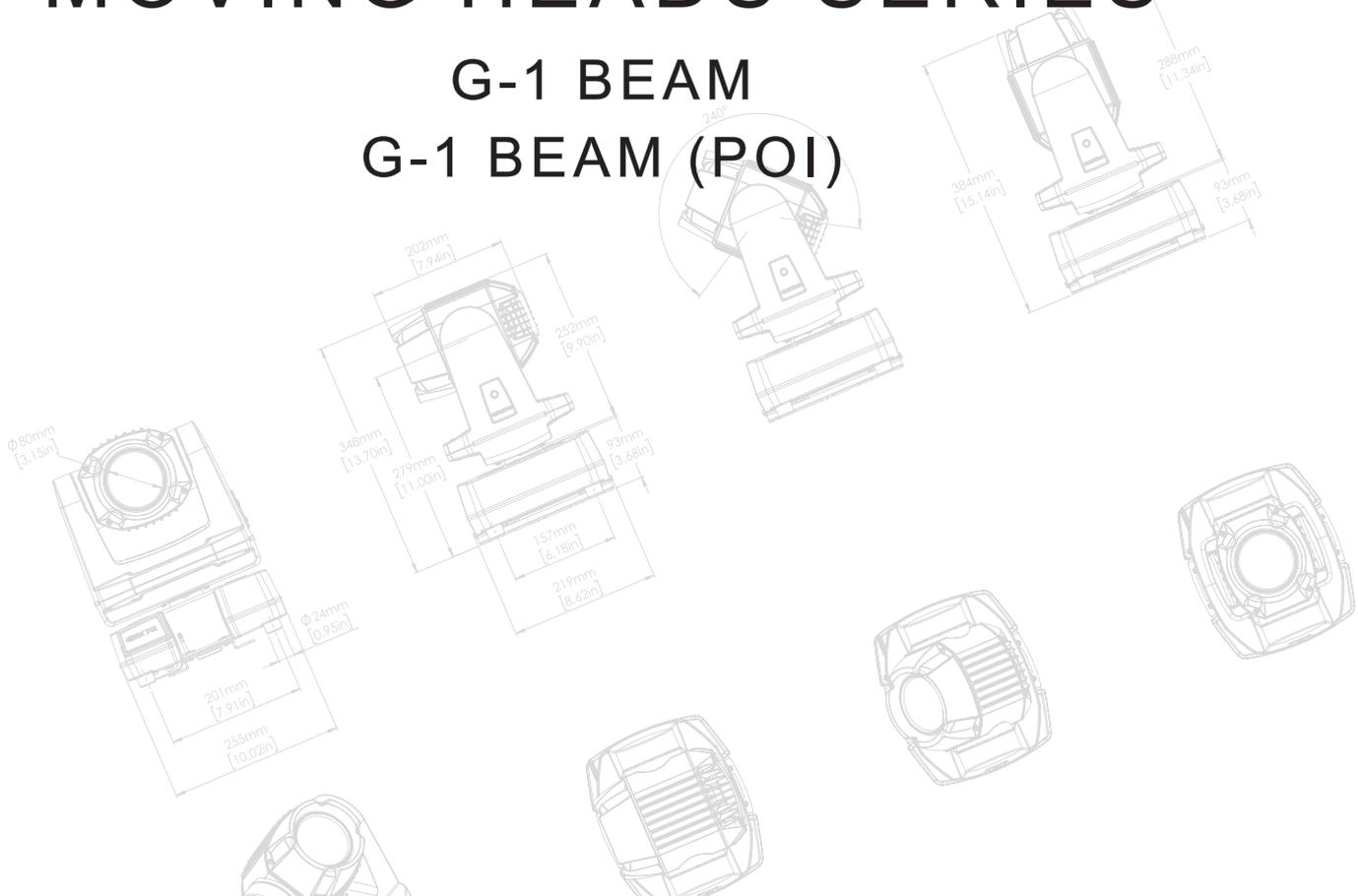


# USER MANUAL



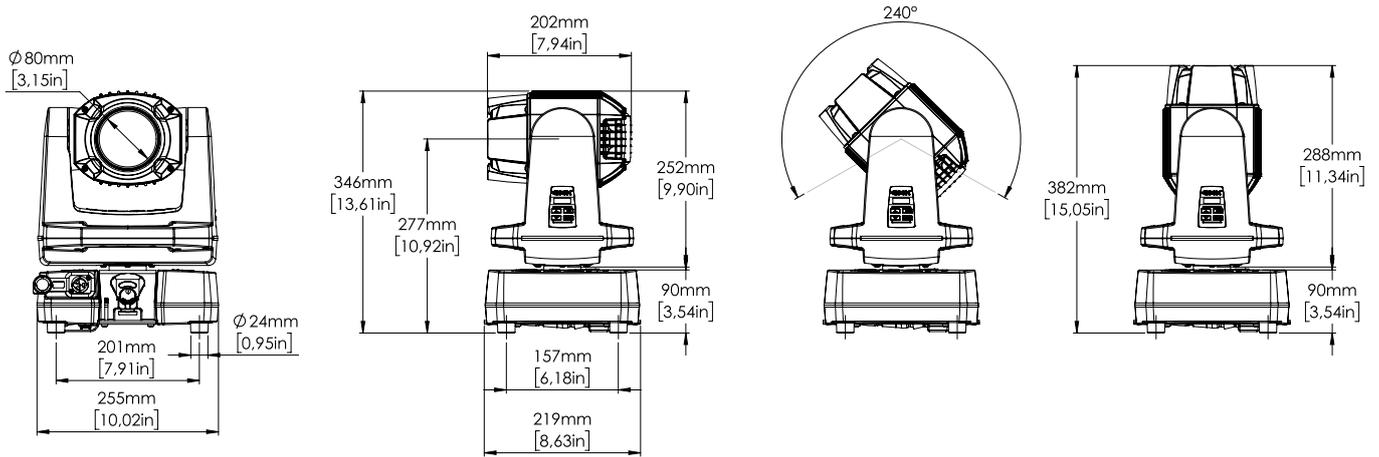
## MOVING HEADS SERIES

G-1 BEAM  
G-1 BEAM (POI)

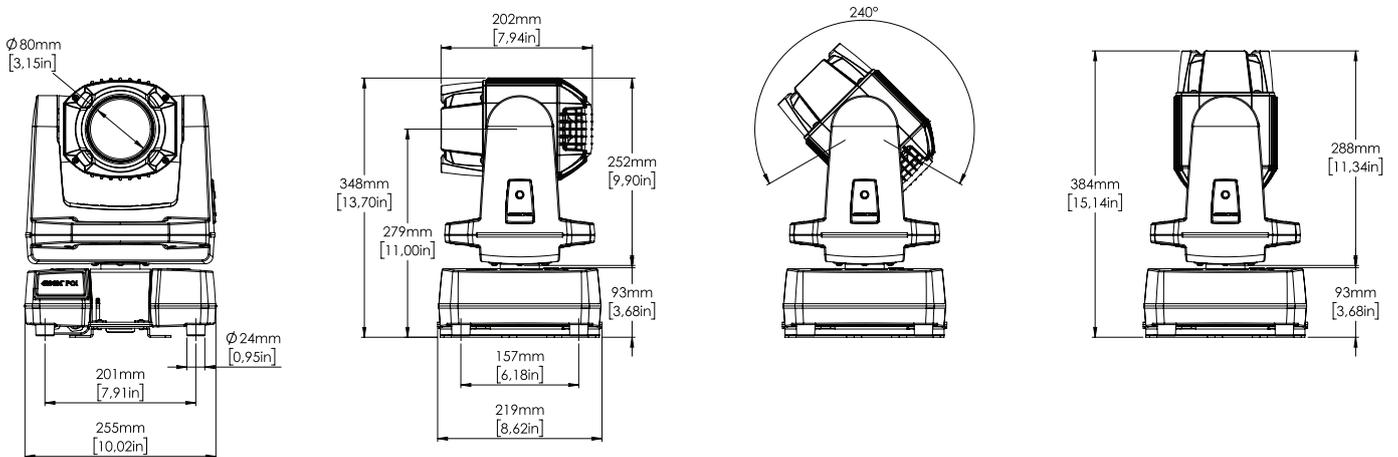


## G-1 Beam (POI) dimensions

### G-1 Beam



### G-1 Beam POI



All dimensions in millimeters and inches. Drawing not to scale.

This manual covers installation, use, and maintenance of the SGM G-1 Beam (POI).  
A digital version is available at [www.sgmlight.com](http://www.sgmlight.com) or upon request via [support@sgmlight.com](mailto:support@sgmlight.com).

## G-1 BEAM (POI) USER MANUAL REV. D

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This edition applies to firmware version 2.25 or later.

English edition

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## Safety information



### **WARNING!**

*Read the following safety precautions carefully before unpacking, installing, powering, or operating the device.*



*SGM luminaires are intended for professional use only. They are not suitable for household use.*

**Les luminaires SGM sont impropre à l'usage domestique. Uniquement à usage professionnel.**

*This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.*

**Ce produit doit être installé selon le code d'installation pertinent, par une personne qui connaît bien le produit et son fonctionnement ainsi que les risques inhérent.**



**DANGER!** Risk of electric shock. Do not open the device.

- Always power off/unplug the fixture before removing covers or dismantling the product.
- Ensure that the mains power is cut off when wiring the device to the AC mains supply.
- Ensure that the device is electrically connected to earth (ground).
- Do not apply power if the device or mains cable is in any way damaged.
- Do not immerse the fixture in water or liquid.



**WARNING!** Take measures to prevent burns and fire.

- Install in a location that prevents accidental contact with the device.
- Install only in a well-ventilated space.
- Install at least 0.3 m (12 in.) away from objects to be illuminated.
- Install only in accordance with applicable building codes.
- Do not paint, cover, or modify the device, and do not filter or mask the light.
- Keep all flammable materials well away from the device.
- Allow the device to cool for 15 minutes after operation before touching it

**CAUTION:** Exterior surface temperature after 5 min. operation = 42 °C (108 °F). Steady state = 62 °C (144 °F).



**WARNING!** Take measures to prevent personal injury.

- Do not look directly at the light source from close range.
- Take precautions when working at height to prevent injury due to falls.
- For Permanent Outdoor Installations (POI), ensure that the fixture is securely fastened to a load-bearing surface with suitable corrosion-resistant hardware.
- For a temporary installation with clamps, ensure that the quarter-turn fasteners are turned fully and secured with a suitable safety cable. The standard safety wire cable must be approved for a safe working load (SWL) of 10 times the weight of the fixture, made of a grade AISI 316 steel, and it must have a minimum gauge of 4 mm.
- For elevated installations, secure the fixture with suitable safety cables, and always comply with relevant load dimensioning, safety standards, and requirements.



**WARNING! LI-ION Battery.**

**Misusing the battery may cause the battery to get hot, rupture, or ignite and cause serious injury.**

**Be sure to follow the safety informations listed below:**

- Do not place the battery in fire or heat the battery.
- Do not install the battery backwards with reversed polarity.
- Do not connect the positive terminal to the negative terminal of the battery with any metal object (such as a wire).
- Do not carry or store the battery together with necklaces, hairpins or other metal objects.
- Do not pierce the battery with nails, strike the battery with a hammer, step on the battery, or otherwise subject it to strong impacts or shocks.
- Do not expose the battery to water or salt water, or allow the battery to get wet.
- Do not disassemble or modify the battery. The battery contains safety and protection devices which, if damaged, may cause the battery to generate heat, rupture, or ignite.
- Do not place the battery on or near fires, stoves, or other high-temperature locations. Do not place the battery in direct sunlight. Doing so may cause the battery to generate heat, rupture, or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy.
- Do not place the battery in microwave ovens, high-pressure containers, or on induction cookware.
- Immediately discontinue use of the battery if, while using, charging, or storing, the battery emits an unusual smell, feels hot, changes color or shape, or appears abnormal in any other way.
- Only charge the battery mounted in the fixture with the built-in charger. Do not use a third party charger.
- Do not charge unattended.
- Only charge the battery if the surrounding temperature is in the range of +5 to +35°C (41° to 95°F). Charging the battery at temperatures outside of this range may cause the battery to become hot or break. Charging the battery outside of this temperature range may also harm the performance of the battery or reduce the battery's life expectancy.
- Do not replace the battery in the fixture with other types of rechargeable batteries.
- Do not replace the battery in the fixture with non-rechargeable batteries, such as dry-cell batteries etc.
- When the battery is worn out, insulate the terminals with adhesive tape or similar materials before disposal.
- Follow applicable laws and regulations for transport, shipping, and disposal of batteries. For details on recycling lithium, lithium-phosphate, and lithium-ion batteries, please contact a government recycling agency or your waste-disposal service.

**This warning applies to all SGM battery driven products due to the inside LI-ION battery.**

## Overview

The G-1 Beam (POI) is a white LED moving head with a small footprint and high output, designed for multiple applications, including when wireless operation is essential (POI n/a).

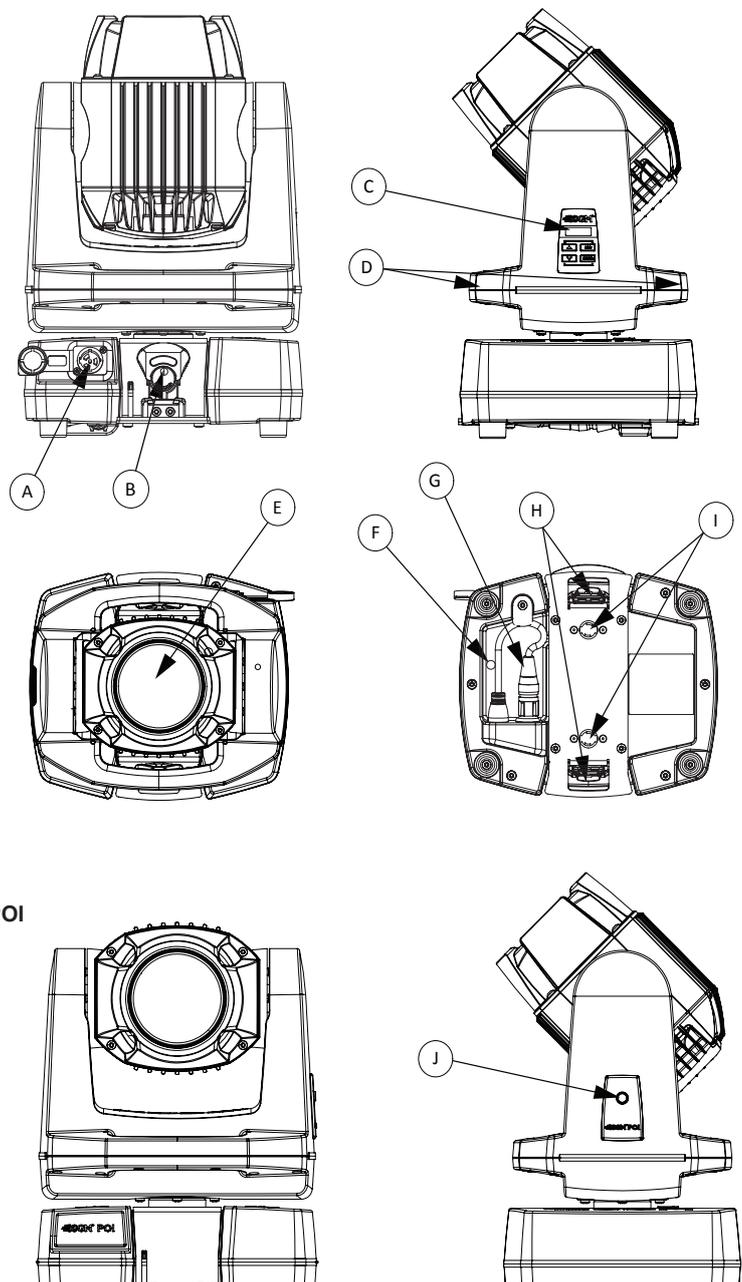
### G-1 Beam (POI) features:

- A wash light weighing only 8.9 kg/19.6 lbs. including 3 batteries, or 8 kg/17.6 lbs without batteries.
- Multi-environmental luminaire due to its IP65/IP66-rating that enables operation in all kinds of environmental settings and in temperatures from -40 °C to 50 °C.
- Gobo wheel whit 19 gobo's, oscillation effects + 2 times open.
- Color wheel with 14 colors + open.
- Continuous pan movement, gobo shake, fast strobe.
- Programmable standalone programs.
- Fully RDM implemented, compliant with the USITT DMX512 standard.
- Low power consumption, with optional battery power source (up to three batteries).
- Removable base.
- Built-in wireless DMX (POI n/a).
- Corrosion classified C5-M (marine) for coastal and offshore areas with high salinity (POI only).

\* at 70% of luminous output under the manufacturer's test conditions.

## Parts identification and terminology

- A: Power in
- B: Bracket for base mouting
- C: Display panel (POI n/a)
- D: Yoke handles
- E: G-1 Beam front lens
- F: Power indicator (POI n/a)
- G: DMX in and out
- H: Safety wire attachment point
- I: Holes for Omega bracket / M-10 screws (x2)
- J: LED indicator (POI only)



*Illustrations might vary from received products. This is subject to change without notice.*

**Figure 1: Parts identification and terminology**

## Preparing for installation

### Unpacking

Unpack the device and inspect it to ensure that it has not been damaged during transport.

The G-1 Beam (POI) is shipped with:

- 1 x TRUE1 power input connector, 2 m /78 in. (standard only). In POI versions, it is supplied a power cable with bare ends.
- 1 x Omega brackets with 1/4-turn fasteners (standard only).
- Base with 3 x batteries (optional - standard only).
- 2 x M-10 screws (POI Only).
- Safety information leaflet.

### Location / application

The standard fixture is IP65-rated and is designed for both indoor and outdoor events. This means that it is protected from:

- Dust, to the degree that dust cannot enter the fixture in sufficient quantities as to interfere with its operation.
- Lower pressure jets of water from any direction.

The POI fixture is IP66-rated and designed for use in outdoor installations. This means that it is protected from:

- Dust, to the degree that dust cannot enter the device in sufficient quantities as to interfere with its operation.
- High pressure water jets of water from any direction.

When selecting a location for the device, ensure that:

- It is situated away from public thoroughfares and protected from contact with people.
- It has adequate ventilation.
- It is not immersed in water.

When using standard fixtures outdoors or in wet locations, ensure that:

- For wireless DMX or standalone operation, the DMX out cable is properly attached to the DMX-in connection.
- For cabled DMX operation, the DMX out of the last fixture is terminated with a 120 Ohm resistor between pin 2 and 3 (according to the RS485 standard), or properly sealed, in accordance with the ingress protection (IP) requirements.

### Transportation

Always use the supplied packaging or suitable flight case for transportation and storage.

Never carry the fixture by connected cables or wires; use the handles.

### Locating the front of the G-1 Beam (POI)

- **With the G1 Beam head:** the front of the fixture is the opposite side of the AC power input socket.
- **Without the G-1 Beam head:** the base it is marked with an arrow, as shown in the illustration below (POI n/a).

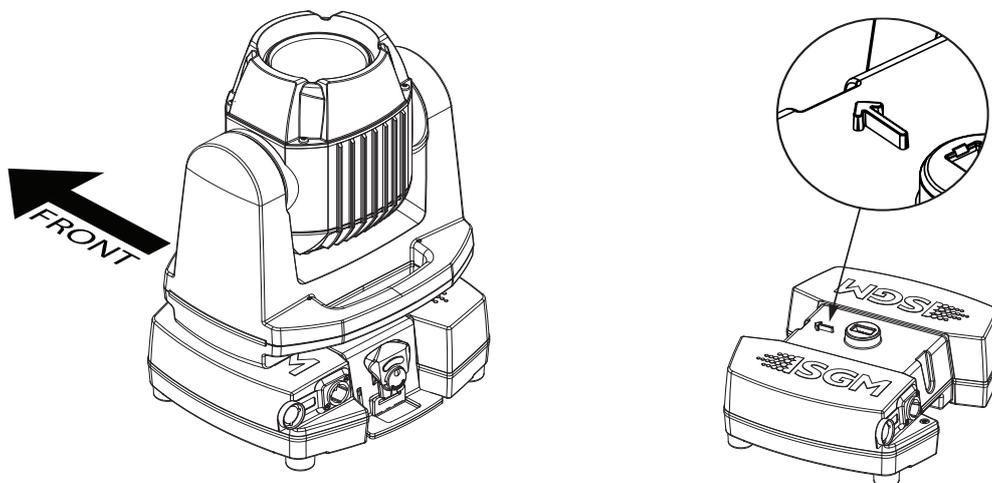


Figure 2: Locating the front of the G-1 Beam

## Installing / rigging the G-1 Beam

All SGM luminaires have locking points in the base for installation and rigging. In both standard and POI fixtures, the distance between the points from center to center is always 106 mm. While the base of the standard G-1 Beam fixture include 1/4 turn fasteners camlocks to mount the omega brackets, the POI products come with M-10 nuts for M-10 screws.

The G-1 Beam (POI) may be installed in any orientation, with or without base, on the ceiling or on a wall surface.

Always use the supplied omega brackets to rig a standard G-1 Beam. Lock the bracket with the 1/4-turn fasteners.

**N.B.: The 1/4-turn fasteners are only locked when turned fully clockwise.**

Depending on the structure, please use appropriate and secure methods for mounting the Omega bracket.

### PLEASE NOTE!!

**The supplied omega bracket is not rated for POI (Permanent Outdoor Installation C5-M rated material). See more about "Installation and rigging the G-1 Beam POI" on page 25.**

## Rigging process using the SGM Omega bracket

Start the standard rigging process by blocking the lower working area, and make sure the work is performed from a stable platform.

1. Check that the clamp/bracket is undamaged and can bear at least 10 times the weight of the fixture. Check that the structure can bear at least 10 times the weight of all installed fixtures, lamps, cables etc.
2. Bolt the clamp/bracket securely to the omega bracket with a M12/ ½ bolt (min. grade 8.8 C5M) and a lock nut.
3. Align the omega bracket with the G-1 Beam base. For standard Omega Bracket, insert the fasteners into the G-1 Beam base bracket, and turn both levers a full 1/4 turn clockwise to lock. When using the POI Omega Bracket, insert the included M-10 screws through the bracket holes and tighten them with a M-10 key until they are fully attached to the base.
4. Working from a stable platform, hang the fixture on a truss or other structure. Tighten the clamp/bracket.
5. Install a safety wire that can bear at least 10 times the weight of the fixture. The safety wire attachment point is designed to fit a carabiner AISI316 grade.
6. Verify that there are no combustible materials, cables, or surfaces to be illuminated within 0.3 m (12 in.) of the fixture.
7. Check that there is no risk of the head/yoke colliding with other fixtures or structures.

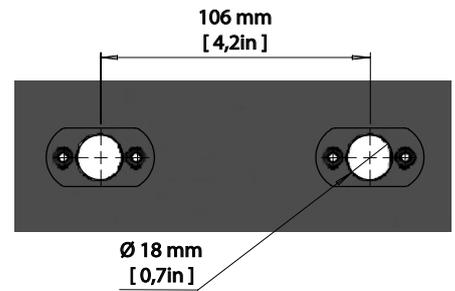


Figure 3: SGM locking points

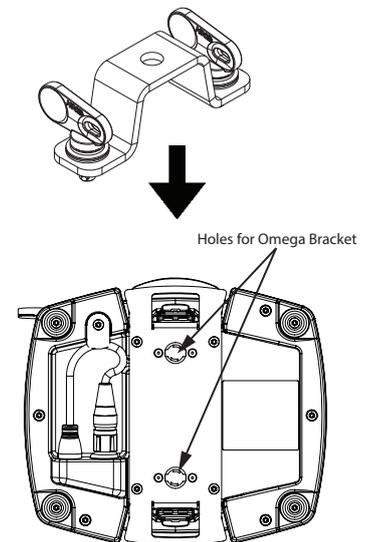


Figure 4: Installing the G-1 Beam



**WARNING!** Always secure an elevated fixture with a safety wire

Fasten a safety wire (not shown) between the load-bearing support structure and the safety wire attachment point on the device. The safety cable (not included in the package) must:

- Bear at least 10 times the weight of the device (SWL).
- Have a minimum gauge of 4 mm.
- Have a maximum length (free fall) = 30 cm (12 in.).

### CAUTION!!

- Always use a safety wire of a grade AISI 316 steel.
- Make sure the slack of the safety wire is at a minimum.
- Never use the yoke or the carrying handles for secondary attachment.

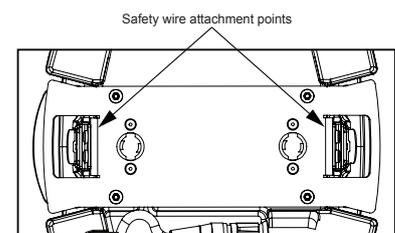


Figure 5: Safety wire attachment point

## Ceiling mount bracket (optional)

The G-1 Beam (POI) may also be installed with a ceiling mount bracket to be mounted directly to a surface. The ceiling mount bracket also supports to be hung with an omega bracket.

The ceiling mount bracket is fitted directly to the head and offers a very low installation height. Since there is no base with power connector, the fixture must be powered by an external PSU when using the ceiling mount. Power is supplied by an external 24V DC power supply.

**Please note: in POI versions is only possible to acquire the ceiling mount already mounted in the fixture, as the head is not removable.**

See on pages 17-18 how to install the ceiling mount bracket in standard fixtures.

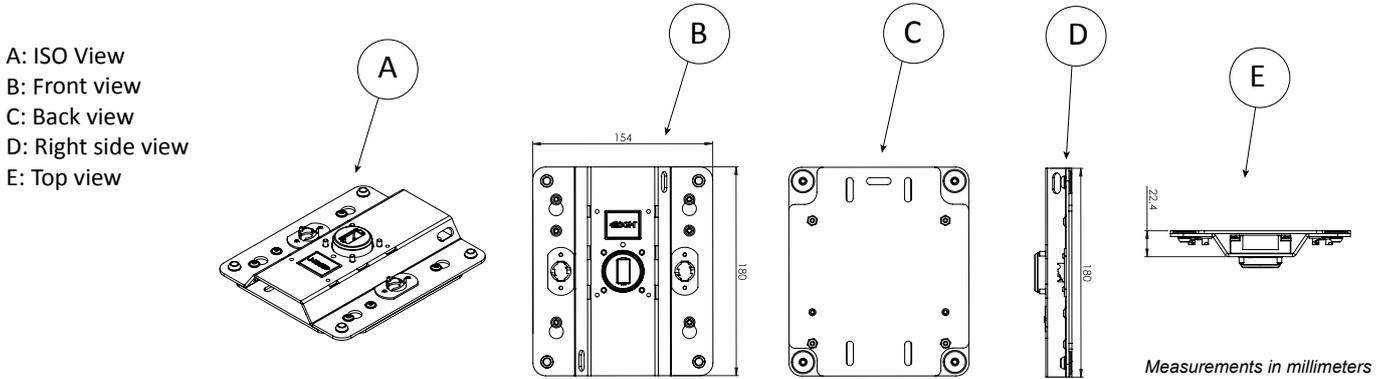


Figure 6: Ceiling mount bracket

## Connecting AC power

The G-1 Beam (POI) can operate on any 100–240 V, 50/60 Hz AC mains power supply.

Connect the a standard G-1 Beam to AC power by using the supplied cable with a powerCON TRUE1 connector, or similar with a maximum of 20 A, to ensure the correct ingress protection (IP-rating).

The fixture must be grounded/earthed and be able to be isolated from AC power. The AC power supply must incorporate a fuse or circuit breaker for fault protection.

The power cable color coding is given in figure 7:

- Connect the black wire to live
- Connect the white wire to neutral
- Connect the green/yellow wire to ground (earth)

Wire	Color	Symbol	Conductor
	Black	L	live
	White	N	neutral
	green/yellow	⊥ or ⊕	ground (earth)

Figure 7: Connecting AC Power

For a temporary outdoor installation the mains cable must be fitted with a grounded connector intended for exterior use.

For permanent installations, have a qualified electrician to wire the mains cable directly to a suitable branch circuit. The junction's ingress protection (IP) rating must be suitable for the location. Always use a junction box with a proper IP class suitable for the environment.

When installing standard type C circuit breakers there will be no limitations due to the fixture in-rush current. For assistance with alternative configurations, contact your SGM representative.

After connecting the G-1 Beam to power, run the on-board test by selecting the option "TEST→ AUTOMATED TEST" in the menu, to ensure that the fixture and each LED are functioning correctly. **POI versions have to be tested through RDM.**

The standard G-1 Beam can also run on battery power (up to 12 hours, when three batteries are installed).

**NB! Both DMX-in and DMX-out must be connected in order to maintain the IP65-rating.**

The G-1 Beam without base or with ceiling mount bracket operates on 24V DC power with an external power supply. See "Installing the ceiling mount bracket" on pages 17-18 for installation details.

**NOTE: In POI versions is it supplied a fixed-chassis mounted with a bare-ended power cable. Connect the fixture to power by mounting a power connector to the bare ended mains cable. Please refer to pages 25-26 for connecting AC power in POI fixtures.**

**CAUTION!!**

**Do not connect the fixture to an electrical dimmer system, as doing so may cause damage.**

## AC power, battery and charging (POI n/a)

The standard G-1 Beam offers the possibility to be acquired with optional batteries, allowing the fixture to run independent from any AC power source. A base unit delivered without the battery option can have the batteries inserted at a later stage, in quantities of one, two or three.

When the standard G-1 Beam is equipped with charged batteries and connected to AC power, the fixture will not turn off if the power is disconnected. If a standard G-1 Beam runs on battery power when AC power is connected, AC power will take over operation. When AC power is disconnected, the fixture will return to run on battery power (if not discharged).

Having the G-1 Beam been turned off due to continuous resistance to the pan & tilt (forcing it away from position for a prolonged period), the G-1 Beam can then be turned back on by sending a full reset by DMX (only when connected to AC power).

If running on batteries, the G-1 Beam can be turned back on by pressing and holding any button on the display panel for approximately 1 sec.

### Battery charging and use

The batteries are charging in the following scenarios, when connected to AC power:

- When the fixture is off.
- When the fixture is on but idle / not in use.

The batteries do not charge while the fixture is in active use, e.g. when the light source is on, or pan/tilt is in use, etc.

- Charging from a completely discharged state to full voltage and 70% of full capacity, 8-12 hours.\*
- Charging from a completely discharged state to full voltage and 100% of full capacity, 12-16 hours.\*

The base unit can also be charged without the head unit attached.

When using the G-1 Beam running on battery power the estimated battery capacity is:

- Battery capacity non-stop use 7-9 hours.\*
- Battery capacity typical use 12-14 hours.\*

After 500 full cycles the expected battery capacity will be 85%\* of the initial capacity. (Full cycle = 0% to 100% to 0%).

If the batteries are not fully charged/discharged, the number of cycles are higher.

\* Under the manufacturer's test conditions.

## Power indicator

A power indicator is located on the bottom of the G-1 Beam base unit and can have three possible states with three different colors: green, orange and red.

These states are explained below.

### G-1 Beam base with one or more batteries (up to three batteries)

#### Operating from AC power

Green = Fixture is idle or off/charging and battery level is above 75%, or fixture is in use and battery level is above 75%.

Orange = Fixture is idle or off/charging and battery level is below 75%.

Red = Fixture is in use/not charging and battery level is below 75%.

#### Operating from battery

Green = Battery level is above 75%.

Red = Battery level is below 75%.

### G-1 Beam base with one or more batteries

#### Operating from AC power without batteries installed

Green = Power is on, light is off.

Red = Power is on, light is on.

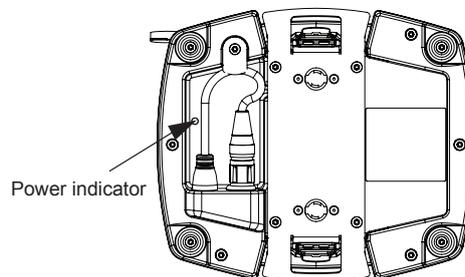


Figure 8: G-1 Beam Power indicator



**WARNING!** Risk of electric shock.

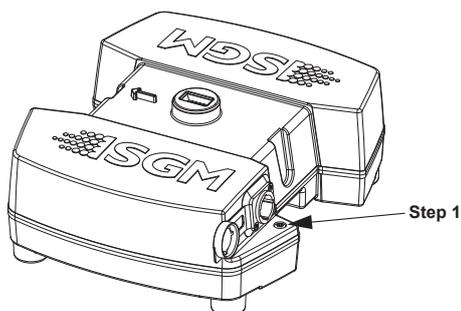
## G-1 Beam battery (optional - POI n/a)

### Installing or replacing batteries

To install or replace the batteries (one, two or three batteries) in the G-1 Beam base unit, follow the procedures outlined below.

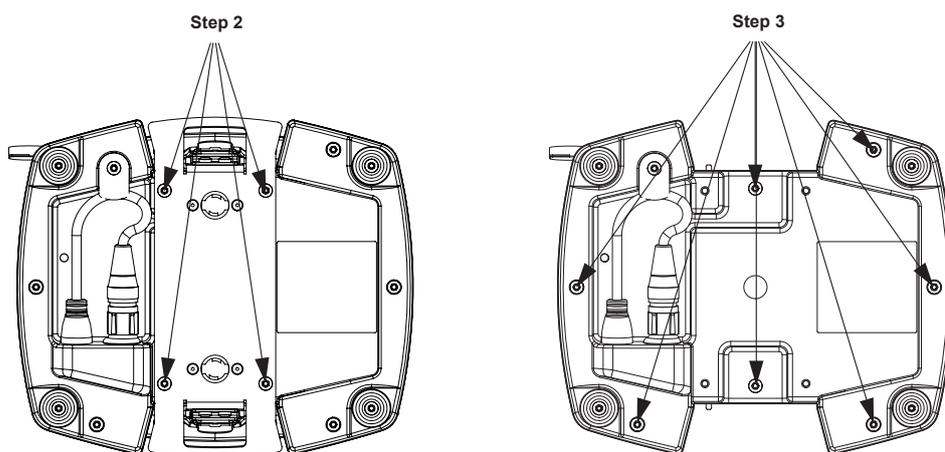
- Disconnect the fixture from power (if applicable).
- Remove the head from the base and place the base in a stable position before proceeding. See “Removing the head from the base” on page 17.

1. Remove the screw (TX25) next to the True1 power input.



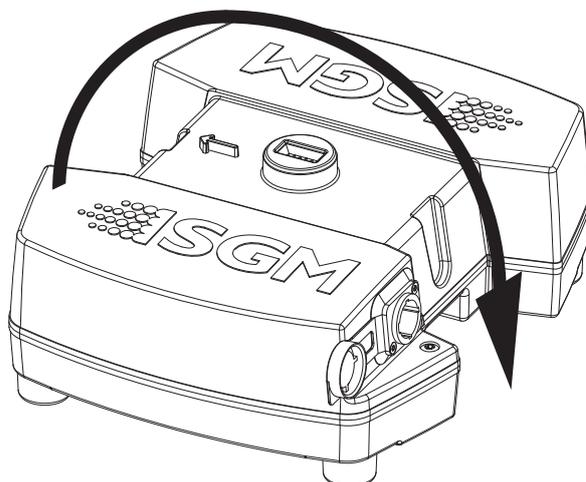
**Figure 9: Installing G-1 Beam batteries I**

2. Remove four screws (TX25) under the base and remove the bottom bracket part.
3. Remove seven screws (TX25) under the base.



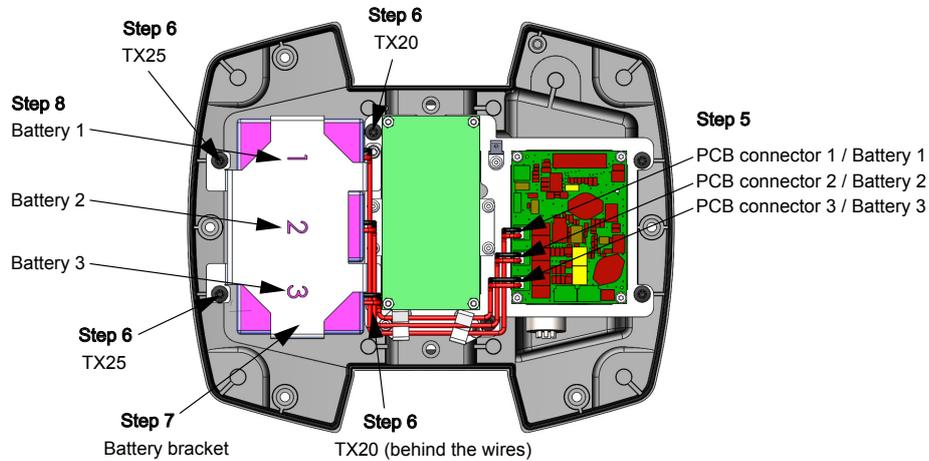
**Figure 10: Installing G-1 Beam batteries II**

4. Carefully flip the top part of the base in the direction of the arrow. Take into consideration the cables connected from the top part to the bottom part of the base. Ensure the gasket do not get damaged.



**Figure 11: Installing G-1 Beam batteries III**

5. If replacing batteries disconnect them from the PCB by removing the three connectors - see figure 12. If installing batteries to a base without batteries, skip step 5 to 7.
6. Remove four screws, to release the battery bracket (two TX25 and two TX20) - see figure 12. If necessary, remove wire clips and wires to access the screws.
7. Remove the bracket holding the batteries in place. If replacing battery/batteries, subsequently take out the battery/batteries - see figure 12.
8. Install or replace the new battery/batteries - see figure 12.



**Figure 12: Installing G-1 Beam batteries IV**

9. Install the battery bracket holding the batteries in place. The bracket will come with the batteries in case of installing batteries to a base without batteries.
10. Reverse the procedures in step 6 to 1.
11. **CAUTION:** When assembling the base by fitting the top part of the base back onto the bottom part, be careful not to pinch or compromise any cables or damage the gasket when re-assembling the base.
12. It is important to ensure that the base unit is vacuum tested once the base unit has been fully re-assembled to comply with the IP65 requirements.

**NB! The base unit is vacuum tested through the head unit.**

- Only use the SGM Vacuum Test Kit, or contact your local SGM dealer if no test kit is available.
- Attach the head unit onto the base unit.
- Prepare the head for vacuum test by removing rear plastic cover on the head.
- Remove the plug from the vacuum connection on the rear of the head.
- Connect the vacuum Test kit to the vacuum connection on the rear of the head.
- Perform the vacuum test as outlined in the software for the SGM Vacuum Test Kit and re-mount the plug and plastic cover.

**IMPORTANT:** If you install only one battery in the G-1 Beam fixture, it is important that you connect that battery to the number 1 connector on the PCB. If you install more than one battery, the connection order is irrelevant as long as the number 1 connector on the PCB is used by one of the batteries installed. If you do not follow this procedure, the G-1 Beam fixture will not function properly.

# Configuring the device

The G-1 Beam Series can be set up by using the display panel at the yoke of the fixture.

**Please note: In POI versions there is no display mounted in the fixture. The adjustments are made through RDM. See page 24 to know more.**

Before turning on the G-1 Beam, make sure the power cable is properly connected, or the batteries are charged (when the fixture is running on batteries). After powering the fixture, the display shows the currently selected operating mode, the DMX start address and other information. Navigate through the menus using the arrows and select items using the ENTER button.

## OLED Display (A)

The OLED display is the human interface of the fixture as it displays the current status and menu of the fixture. The display panel can be used to configure individual fixture settings, check the fixture’s wireless status, confirm the firmware version, and read error messages. The complete list of the menu and all commands available are listed in “Control Menu” on page 21.

## Using the keyboard (B)

- Press the ‘ENTER’ button to access the menu or make a selection.
- Press the arrows to scroll up and down in the menus.
- Press the ‘ESC’ button to take a step back in the menu or exit the menu.
- Press any button to disable pan/tilt - it generates time out for 10 sec., after which it will return to the correct position.
- Press UP + DOWN arrows simultaneously = flip the display upside-down.
- To turn off the G-1 Beam, press and hold the ‘ESC’ button until the fixture turns off or go to MENU → POWER OFF.
- To turn on the G-1 Beam when running on batteries, press and hold any button for approx. 1 sec.
- To turn on the G-1 Beam when running of cabled power, press any button and the fixture will power on instantly.
- Press any button to disable pan/tilt (it generates time out for 10 sec., after which it will return to the correct position).

## Active input type (C)

The active input is displayed for quick and simple verification of the input status.

- When ‘DMX’ is displayed: The fixture responds to data received through cabled DMX.
- When ‘CRMX’ is displayed: The fixture responds to data received through wireless DMX.

## Wireless signal strength (D)

Displays the signal strength of the wireless CRMX connection. The wireless signal strength symbol will be flashing if the paired transmitter is out of range. If no transmitter is paired the symbol will be off.

## Error indicator (E)

If any errors are detected, the message ‘ERR’ will be flashing in the display for easy detection. To read the error message go to: MENU → INFO → ERRORS.

## DMX address (F)

Displays the current DMX address. The DMX address can be changed directly from this view. The next available DMX address is displayed to the right. The DMX address will be flashing if no data input.

## Next fixture address (G)

Showing the next available DMX address depending on the fixture’s DMX footprint.

## Current power source / battery level (H)

Displays the current power source, indicated by a power cable symbol (running on AC power) or a battery symbol. When running on battery, it displays the current battery level.

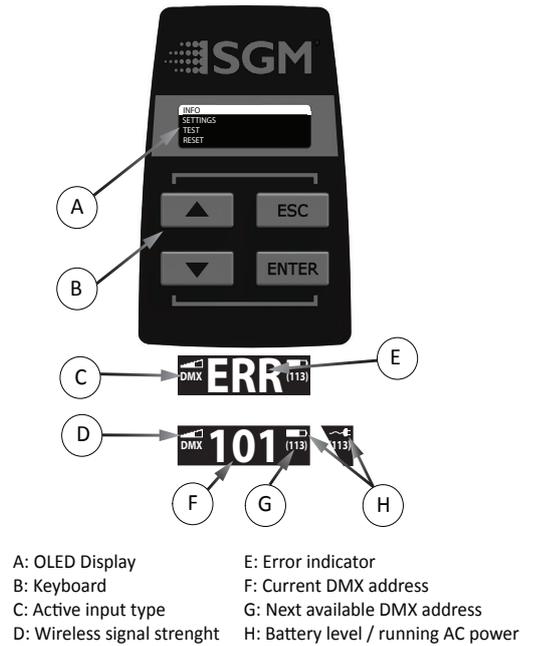


Figure 13: Control panel

## Connecting to a DMX control device

The G-1 Beam (POI) is controllable using a DMX control device, and it can be connected using either a DMX cable, or via the fixture's built-in CRMX wireless receiver system.

When using a cabled DMX system, connect the DMX-In cable (with male 5-pin XLR plug) to the input connector and DMX-Out cable (with female 5-pin XLR plug) to the output, both located on the rear of the fixture's base. Terminate the DMX out cable of the last fixture in the data link with a 120 ohm DMX termination. For outdoor installations, use only IP-rated XLR connectors suitable for outdoor use.

In standard fixtures, if using a wireless DMX system, remember to connect the DMX output to the DMX in connector, and ensure they are properly inserted in order to maintain the fixtures' IP rating.

**NOTE: SGM fixtures provide a passive DMX Thru signal as DMX Out, instead of an active output signal.**

**For POI versions, please refer to page 25-26 to see how to connect DMX and AC power.**

## Connecting a wireless transmitter (POI n/a)

The standard G-1 Beam is designed to look for wireless transmitters in 'connect' state, when this option is not yet enabled.

To connect the standard G-1 Beam to a wireless transmitter:

- Log off the currently paired wireless transmitter - see below "Disconnecting a wireless transmitter" .
- Press the connect button on the wireless transmitter.
- Confirm that the fixture has been paired with the wireless transmitter.

## Disconnecting a wireless transmitter (POI n/a)

To disconnect the fixture from the currently paired wireless transmitter go to:

- SETTINGS → WIRELESS DMX → LOG OFF, in the menu

## Signal priority (POI n/a)

The G-1 Beam can be paired to an active wireless transmitter simultaneously as being connected to cabled DMX.

The fixture will prioritize cabled DMX over wireless DMX. The active input type is displayed under the wireless signal strength indicator. See "Active input type" on page 13, to confirm the active input type of the fixture.

# Configuring the device for DMX control

## About DMX

The G-1 Beam (POI) can be controlled using signals sent by a DMX controller on a number of DMX channels.

DMX is the USITT DMX512-A standard, based on the RS-485 standard. The signal is sent as DMX data from a console (or a controller) to the fixtures via a shielded twisted pair cable designed for RS-485 devices.

The cables can be daisy chained between the fixtures, and up to 32 fixtures can be connected on the same DMX link. Up to 300 m. (1000ft.) of cable is achievable with high quality DMX cables. All DMX links must be terminated by connecting a DMX termination plug to the last fixture's 5 pin DMX out connector.

### PLEASE NOTE:

- **Standard microphone cable is not suitable for transmitting DMX.**
- **Up to 32 fixtures can be linked to the same DMX chain. Additional fixtures will overload the link.**

## DMX Start address

The first channel used to receive data from a DMX control device is known as the DMX start address.

For independent control, each G-1 Beam (POI) must be assigned its own DMX start address. For example, if the first G-1 Beam is set in 12-channel DMX mode, and have a DMX address of 101, it will use the channels all the channels from 101 to 112. Therefore, the following G-1 Beam in the DMX chain should then be set to a DMX address of 113 ( $101+12=113 \gg 113$ ), as the first fixture uses all the first 12 DMX channels.

If two or more devices have the same DMX start address, they will behave identically. Incorrect settings will result in unpredictable responses from the lighting controller. Address sharing can be useful for diagnostic purposes and symmetrical control.

## Set/edit DMX address

The DMX address is shown on the OLED display in the control panel. To change the address setting, press the up and down arrows. When the desired address is displayed, press ENTER to save the setting. For your convenience, the next available DMX address is displayed to the right.

Note that channel spacing is determined by the number of channels of the DMX mode. See "Configuring the device" on page 13 for instructions on using the display panel.

The G-1 Beam also offers the option to set the DMX address through RDM. See "RDM" on page 23.

**NOTE 1: the POI versions are only addressable via Remote Device Management. See "POI Permanent Outdoor Installation" on page 24. RDM control requires cabled DMX.**

## DMX charts

All DMX charts are available for download at [www.sgmlight.com](http://www.sgmlight.com) under the respective product.

The DMX charts are also available upon request via [support@sgmlight.com](mailto:support@sgmlight.com).



Figure 14: Set the DMX address

## Internal programs

The G-1 Beam features a selection of internal programs which can be used standalone without a controller.

There are seven internal programs ranging from simple continuous pan rotation and pan/tilt circles to sequential fade, with nine programmable position presets. The table below shows the available programs.

Program	Color	Movement	Position preset reference
1	White	Small circle slow	Stored position preset 1
2	White	Large circle slow	Stored position preset 1
3	White	Pan continuous and tilt swing	N/A
4	White	Large circle slow	Stored position preset 1
5	White	Pan continuous	Stored position preset 1 (for tilt only)
6	White	Sequential stored position preset fade	All
7	White	Static stored position preset 1	Stored position preset 1
8	N/A	N/A	N/A

Programming the position presets for the internal programs is performed by using the innovative SGM patented system, which lets you determine the pan/tilt position by changing it directly by hand - see below "Pan / Tilt positions".

These position presets can also be captured directly from DMX values sent from a controller.

Program 1,2,4,5, and 7 will use the pan/ tilt values programmed in position preset 1 of the internal position.

To run an internal program to go MENU → MANUAL → RUN PROGRAM.

To stop an active internal program go to MENU → MANUAL → STOP PROGRAM.

## Pan / Tilt positions

To edit and store any of the 9 internal pan/tilt position presets:

1. Press 'ESC' to disable pan/tilt.
2. Navigate to MENU → MANUAL → STORE POSITION.  
The fixture will turn on the light automatically.
3. Navigate to the position preset required.
4. Manually point the head in the direction desired for the chosen position preset.
5. Store/overwrite the position preset by pressing 'ENTER'. The fixture will confirm when briefly snapping to green and back to white light.
6. Repeat step 3-5 for other position presets

The internal pan/tilt position presets can be recalled and stored by DMX through the pan mode channel (download the DMX protocols from [www.sgmlight.com](http://www.sgmlight.com), available under the respective product).

These position presets are also used as position references for the internal programs.

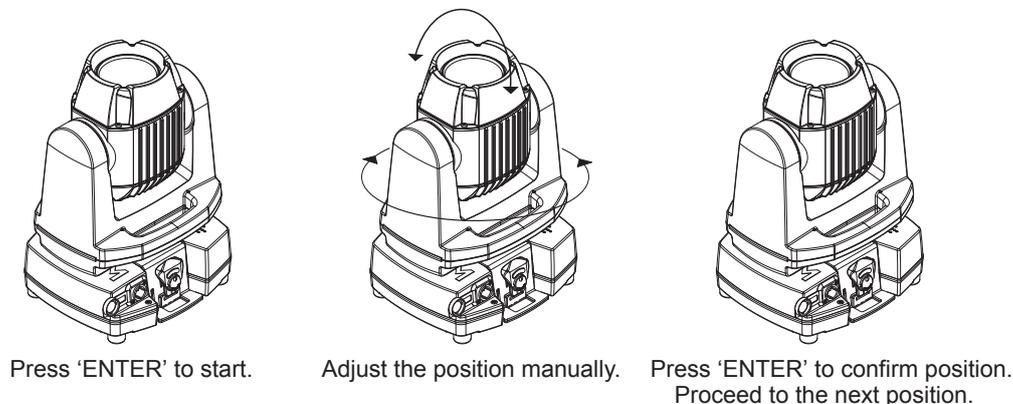


Figure 15: Editing pan / tilt positions

## Connect/disconnect head and base

### Mounting the head on the base

First of all, ensure that the base of the fixture is not connected to AC power.

While powered off, start over by mounting the base of the fixture. This is easily done in four steps:

1. Make sure the arrow on the head bracket (DETAIL A) points towards the same direction as the arrow on the base (DETAIL B).
2. Make sure the two butterfly locks (DETAIL C) are in locked position so that they do not get jammed when mounting the head to the base.
3. Carefully position the head on the base, making sure that the arrow on the base unit (DETAIL B) slides into the arrow on the head bracket (DETAIL A). Additionally, a slot on the head bracket slides over the guide knob on the base unit to steer the downwards movement.
4. After the head has been properly positioned on the base, use the butterfly locks (DETAIL C) to fasten the head securely to the base (DETAIL D).

### Removing the head from the base

After ensuring the fixture is not connected to AC power, start removing the head from the base following the steps below:

1. Loosen the two butterfly locks on the head bracket (DETAIL C) from the base (DETAIL D).
2. With a firm grip, gently pull the head away from the base in a straight upwards movement.

**CAUTION:** Be careful when connecting/disconnecting the head from the base in order to avoid damaging the connectors between the head and the base.

**Please note:** the head is not detachable on the POI version.

## Installing ceiling mount bracket

The ceiling mount bracket lets the fixture replace the base unit and to be mounted directly to a surface. Also, it supports the ability to be hung with 1/4-turn omega bracket.

The ceiling mount is fitted directly to the head and offers a very low installation height.

When using ceiling mount there are two options for powering the fixture:

1. Power from an external 24V power supply.
2. Use an SGM extension cable, that connects the base to the ceiling mount.  
Contact your SGM dealer, or [support@sgmlight.com](mailto:support@sgmlight.com), for more information about the extension cable.

## Overview

- A: ISO View
- B: Front view
- C: Back view
- D: Right side view
- E: Top view

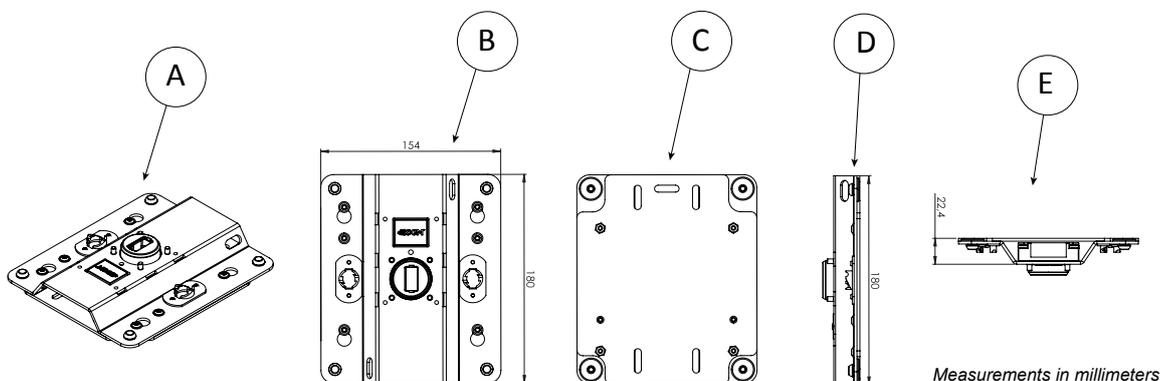


Figure 17: Ceiling mount bracket

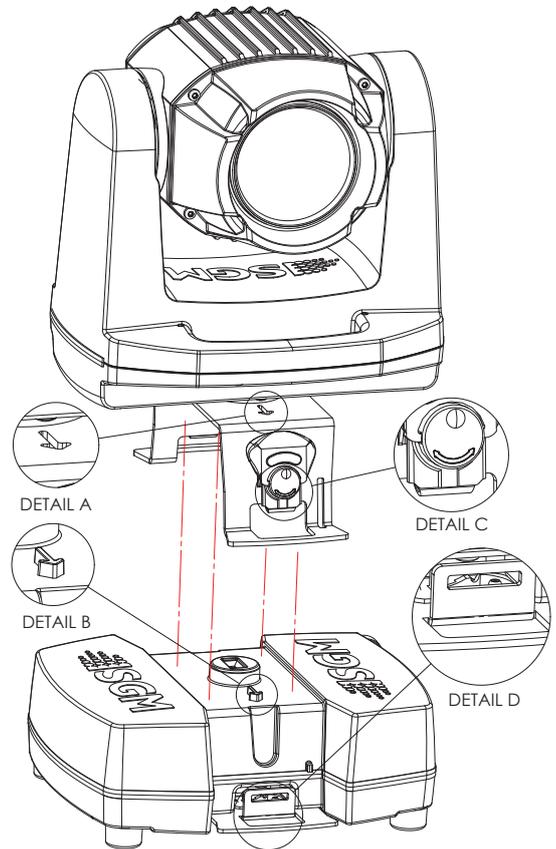


Figure 16: Removing G-1 Beam head



## Connecting ceiling mount bracket to DC power and DMX

The wire harness on the ceiling mount bracket has two cables, one which supplies power, the other which supplies DMX.

### Connecting power

Use a 24 V DC power supply able to deliver the sufficient amount of power to the power cable of the ceiling mount bracket wire harness.

- Red = (+) Positive 24V DC
- Black = (-) Negative 24V DC
- Yellow/Green = Ground

### Connecting DMX

DMX-in and -out is within the same cable.

- Red = DMX In / Data +
- White = DMX In / Data -
- Yellow = DMX Out / Data +
- Black = DMX Out / Data -
- Shield = Ground

**NB!** Remember to terminate the end of the DMX link with a 120ohm resistor.

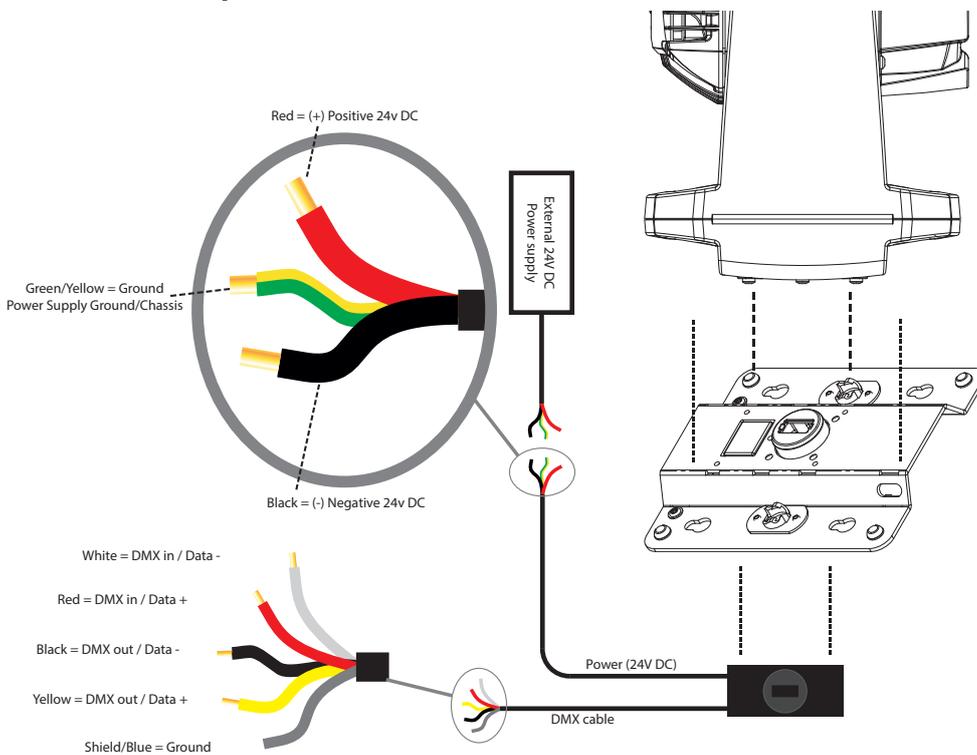


Figure 20: Connecting ceiling mount bracket to DC and DMX

## Labels and serial numbers

The G-1 Beam (POI) has labels mounted on the head and base units.

### Standard and POI version with base unit

- The primary label is mounted under the base unit.
- A secondary label is mounted under the yoke, on the head unit.

### Standard version without base unit and fixtures with ceiling mount bracket

- The primary label is mounted under the yoke, on the head unit.

**Voltage on labels** The voltage printed on the main label (base unit label) indicates the supply voltage (AC) for the power supply inside the base unit. The voltage printed on the secondary label (head unit label) indicates the voltage (DC) supplied from the base to the head unit.

For fixtures shipped without the base unit and fixtures shipped with the ceiling mount bracket the voltage printed on the label indicates the supply voltage for the external DC power supply.

### Serial numbers

For standard and POI versions shipped with a base unit, the base and head unit will have the same serial number.

For fixtures shipped without the base unit and fixtures shipped with the ceiling mount bracket, the head unit will have a unique serial number.



Figure 21: Labels and serial numbers

# Gobo Wheel

## Identification of gobo wheel

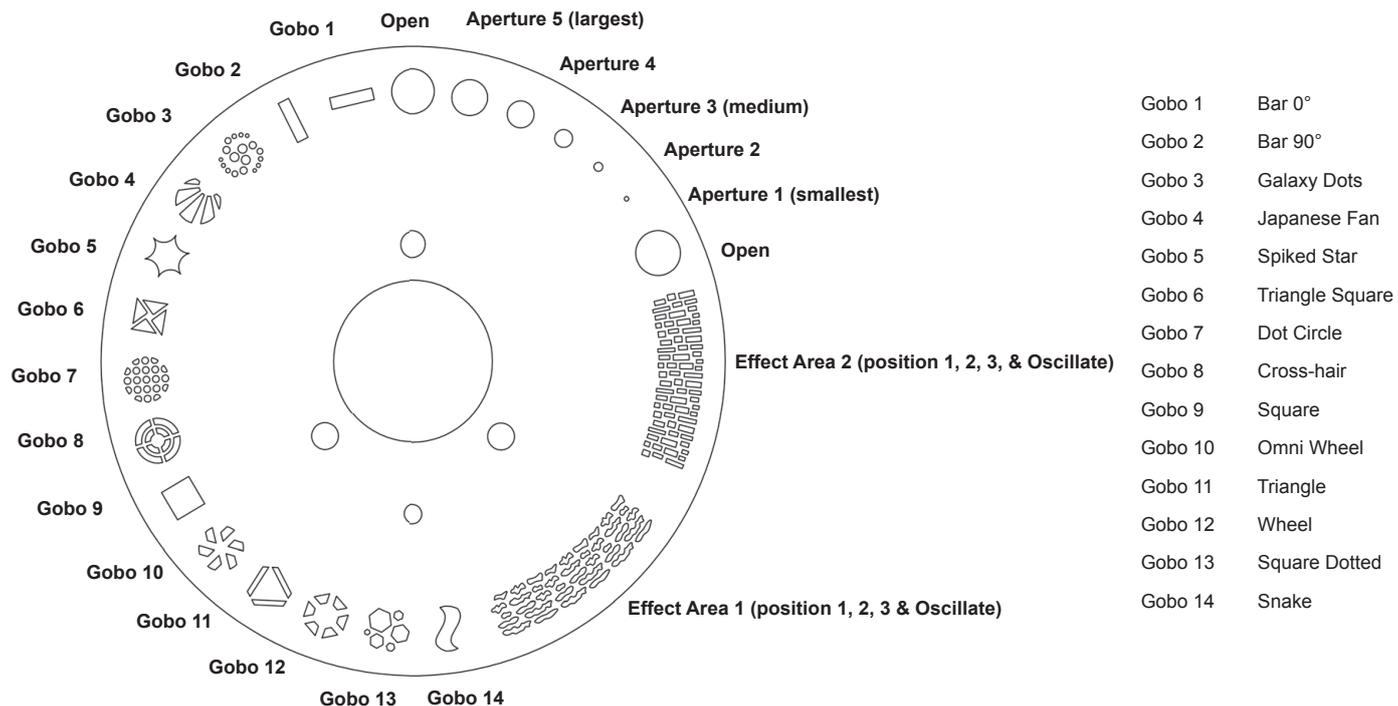


Figure 22: Labels and serial numbers

# Color Wheel

## Identification of color wheel

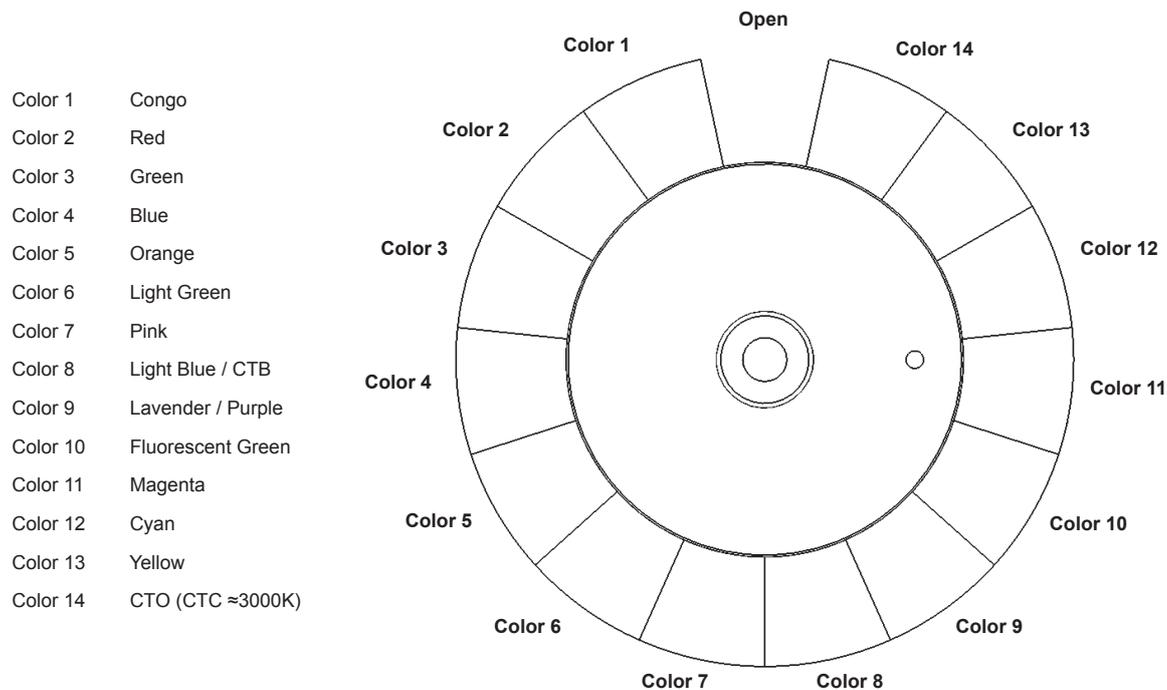


Figure 23: Labels and serial numbers

# Fixture properties

## ***Factory default***

When restoring the G-1 Beam (POI) to the factory defaults, the following settings will be set:

- DMX address = 1
- Startup mode = DMX
- Display saver = Off
- Flip screen = Off
- RDM device label = Fixture type name
- Internal program reset

## ***Effects***

### **Gobo wheel**

The G-1 Beam gobo wheel consists of 19 gobos + oscillation effect + 2 times open positions to control the shape of emitted light.

### **Color wheel**

The color wheel consists of 14 colors + open position to control the color of emitted light. In addition, the color wheel is optimized for split colors and color transitions.

### **High-precision pan and tilt**

Rapid pan and tilt movement with continuous bi-directional rotation in pan and 240° tilt.

### **Ultra high-speed strobe effect**

The ultra high-speed strobe effect generates random strobe and pulse effects with variable speed.

### **Beam angle and aperture zoom**

The G-1 Beam is equipped with a fixed 2.8° beam angle and an aperture pseudo zoom adjustable down to 0.3°.

# Control menu

Level 1	Level 2	Level 3	Level 4	Function	
INFO	Software version	-	-	Display installed firmware version.	
	Serial Number	-	-	Display fixture's serial number.	
	DMX View	-	-	Display received DMX levels. Press 'UP' or 'DOWN' to scroll through the 1 - 512 channels.	
	Sensors	Main Board	-	-	Display the sensors of the fixture. Press the arrows to navigate through the sensors.
		Head Board	-	-	
		Pan Angle	-	-	
		Tilt Angle	-	-	
		Wireless Signal Strength	-	-	
		Wireless Paired	-	-	
		Battery	-	-	
		Mains voltage	-	-	
		Humidity	-	-	
		Compass	-	-	
		LSM303D X	-	-	
		LSM303D Y	-	-	
Pitch	-	-			
Roll	-	-			
Errors	-	-	Display stored error messages.		
Timers	Red	-	-	Display total LED running hours for Red, Green, Blue and White LEDs.	
	Green	-	-		
	Blue	-	-		
	White	-	-		
SETTINGS	Wireless DMX	Log Off	-	Press ENTER to log off wireless DMX.	
		Status	Signal Strength	Display the signal strength % of the connection.	
			CRMX Paired	Display CRMX Paired: YES or NO.	
			DMX Active	Display DMX Active: YES or NO.	
	Display Flip	[X] / [ ]	-	Press ENTER to enable / disable - [X] / [ ] .	
	Display Off	[X] / [ ]	-	Press ENTER to enable / disable - [X] / [ ] .	
	AC Power Loss UPS	[X] / [ ]	-	Press ENTER to enable / disable - [X] / [ ] .	
	Factory Default	-	-	Reset the fixture to factory default settings. See "Factory default" on page 21.	
Service PIN	-	-	Service use only. Contact your SGM dealer or SGM support to request the service pin.		
Service Menu	-	-	Service use only. Only accessible when service pin has been entered.		
TEST	Automated test	-	-	Initiates a self-test sequence. Press ESC to stop self-test sequence.	
	LED test	-	-	Test light source. Output adjustable using UP and DOWN arrows.	
	Display Test	-	-	Test multiple display patterns.	
RESET	-	-	-	Press enter to reset fixture.	
MANUAL	Run Program	1 - 8	-	Select program to run internal sequence (1 to 8). See "Internal programs" on page 16	
	Stop Program	-	-	Stop the current running internal program.	
	Store Position	1 - 9	-	Store position 1 through 9. See how in "Pan / tilt positions" on page 16.	
POWER OFF	-	-	-	Enter to power off the fixture	

# RDM

## Supported RDM functions

The G-1 Beam (POI) features support for various RDM functions.

RDM (Remote Device Management) is a protocol enhancement to USITT DMX512 that allows bi-directional communication between the fixtures and the controller over a standard DMX line. This protocol will allow configuration, status monitoring, and management.

An RDM controller is needed to get control over the supported parameters. See the tables below for G-1 Beam (POI) supported RDM functions.

### RDM functions

PID	Actions allowed	Name
0x0082	GET / SET	Device label
0x0081	GET	Manufacturer Label
0x00E0	GET	DMX Personality
0x00E1	GET	DMX Personality Description
0x0200	GET	Sensor Definition
0x0201	GET / SET	Sensor Value
0x0080	GET	Device Model Description
0x1001	SET	Reset Device
0x0051		Parameter description

PID	Actions allowed	Name
0x0090	SET	Factory Defaults
0x0501	GET / SET	Display Level, 0=OFF, 1 and above=ON ( POI n.a.)
0x0500	GET / SET	Display Invert (POI n.a.)
0x0400	GET / SET	Device Hours
0x0401	GET / SET	Lamp Hours
0x8626	SET	CRM Log Off
0x8630	SET	North Calibration

**Please note:** The RDM controller communicates with the fixtures to show only the available options for each RDM function. The table is subject to change without notice.

### Sensors

RDM enables various sensor readouts for remote device monitoring. See the table below for sensors and sensor types.

**Please note:** The RDM controller communicates with the fixtures to show only the available sensors for this fixture. The table is subject to change without notice.

Name	Sensor Type
Mainboard Temp.	Temperature
Head Board Temp.	Temperature
Light Source Temperature	
Pan Angle	Angle
Tilt Angle	Angle
Wireless Signal Strength	Other
Wireless Paired	Other
Battery Voltage	Voltage

Name	Sensor Type
Mains Voltage	Voltage
Humidity	Humidity
Compass	Angle
LSM303D X coordinate	Other
LSM303D Y coordinate	Other
Pitch	Other
Roll	Other
Light PWM	Other

# POI Permanent Outdoor Installation

The SGM POI versions are designed for permanent outdoor installation and are IP66-rated (or higher). POI versions are designed for use in maritime and offshore environments, as per the C5-M corrosion-resistance class.

## Physical differences

The POI version differs from the standard version by having fixed-chassis power and DMX cables, and heavy-duty cable glands. The display/control panel, True 1 power connector and XLR DMX connectors have been removed.

The head unit is not detachable from the base unit with quick locks.

See G-1 Beam (POI) parts identification on page 6 for location of the different parts.

## Configuration

The G-1 Beam POI does not include a display, therefore it has to be configured through RDM (Remote Device Management). See "RDM" on page 23 for more information.

In POI versions, the DMX address and DMX mode can only be set through RDM. When addressing through USB powered DMX / RDM devices, ensure DMX link is terminated, and keep a short cable length as far as possible.

Regarding the DMX modes for POI, they are the same as the standard G-1 Beam. Visit [www.sgmlight.com](http://www.sgmlight.com) to see all DMX charts available under the respective product, or upon request via [support@sgmlight.com](mailto:support@sgmlight.com).

### PLEASE NOTE!!

**Remote Device Management (RDM) requires a correct DMX cabled installation and termination.**

**When setting addresses through RDM and using USB dongles, disable the USB selective suspend to ensure a proper voltage on the DMX link. If any lag or trouble occurs when addressing, decrease the cable length range to <12 m. and only address one fixture at a time.**

## SGM Addressing Tool

SGM provides a Windows software tool designed to allow the user to address and configure the fixtures through RDM. Changing the settings is done in the exact same way as it is in the display.

This tool is available for download at [www.sgmlight.com](http://www.sgmlight.com), and has to be used with the SGM USB 5-Pin-XLR Uploader cable (available from your SGM dealer).

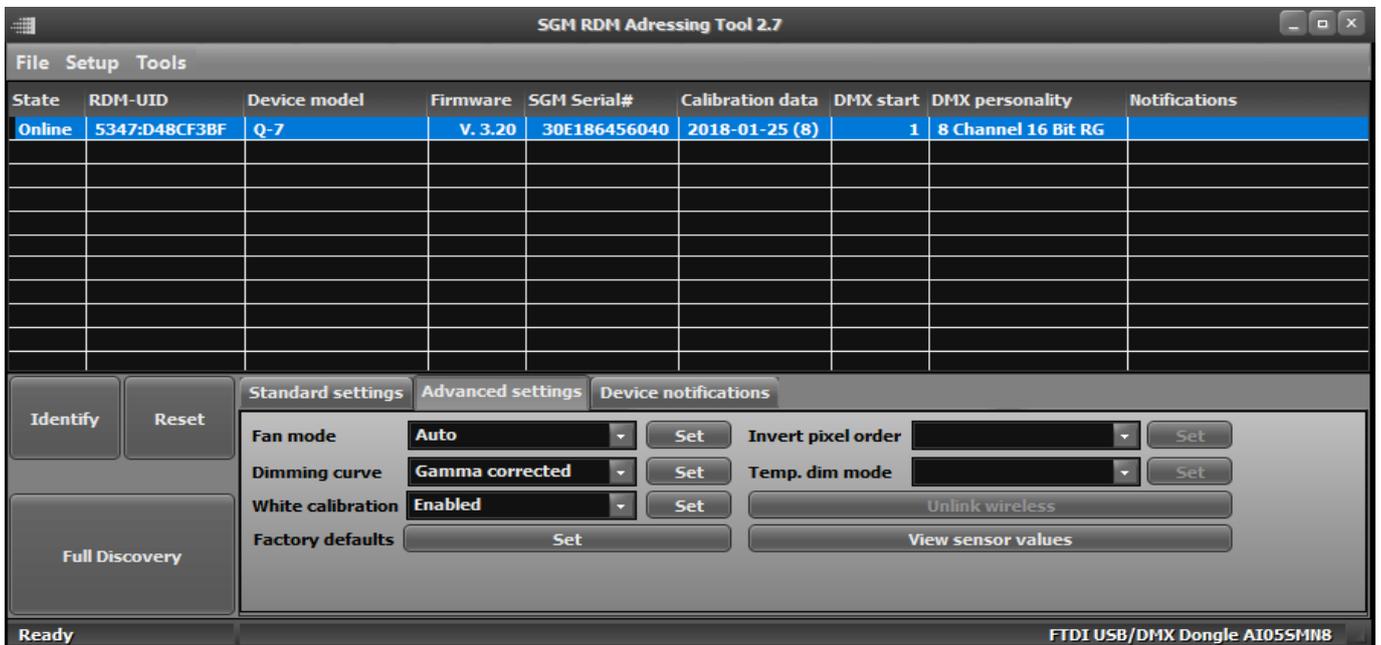


Figure 24: SGM Addressing tool

## Installation and rigging the G-1 Beam POI

While the base of the standard products include 1/4 turn fasteners camlocks for omega brackets, the base of POI products come with M-10 nuts for M-10 screws. The M-10 screws are included in the package in the same amount as the number of M-10 nuts of the base.

The G-1 Beam POI has two M-10 nuts in the base that can be used for installation and rigging. The SGM Omega bracket (not included) or a customized bracket is needed to install the fixture. Consider the dimensions below of the G-1 Beam POI base for customized mounting brackets purposes.

The SGM POI Omega bracket suited for M-10 holes can be ordered as an accessory. Contact your local SGM dealer for further information on correct POI rated mounting.

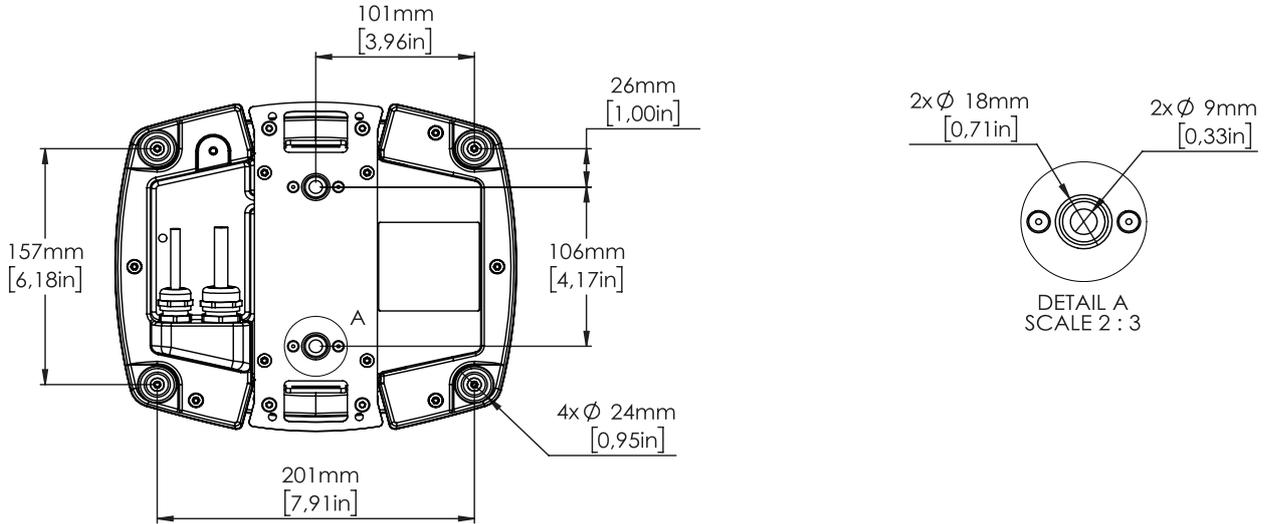


Figure 25: G-1 Beam POI base with dimensions

## LED Indicator

An LED indicator is located on the side of the yoke, and shows the current status of the fixture.

The LED indicator has two different colors and three possible stages: static, flashing, or off.

- **Static green:** fixture is powered and receiving DMX signal.
- **Flashing green:** fixture is powered on without receiving DMX signal.
- **Static/flashing red:** an error message is stored; review via the SGM RDM Addressing Tool, reboot the fixture, or contact SGM support for diagnostic help.
- **Off:** fixture is off or indicator LED is set to off or auto dimming (set via RDM).



Figure 26: POI LED indicator

## Connecting DMX and AC power in POI

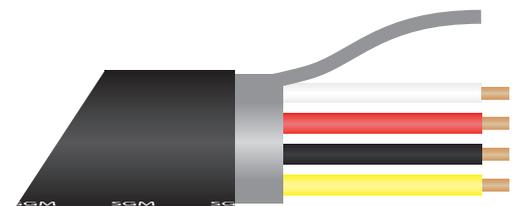
DMX in and DMX out are in the same cable (see figure 27), and the power is wired as the standard version. See "Connecting AC power" on page 9.

For permanent installations, have a qualified electrician wire the mains cable directly to a suitable branch circuit. The junction's ingress protection (IP) rating must be suitable for the location.

For a temporary installation, the mains cable may be fitted with a grounded connector intended for exterior use.

### PLEASE NOTE!!

- **Standard microphone cable are not suitable for transmitting DMX.**
- **Up to 32 fixtures can be on the same DMX link. Additional fixtures will overload the link.**
- **The last fixture must always be fitted with a DMX termination plug to the fixtures DMX out.**
- **SGM fixtures provide a passive DMX Thru signal as DMX Out, instead of an active output signal.**



Wire	Color	Conductor
Shield	Shield	Ground
White	White	DMX IN: Data -
Red	Red	DMX IN: Data +
Black	Black	DMX OUT: Data -
Yellow	Yellow	DMX OUT: Data +

Figure 27: SGM POI DMX Cable

# G-1 Beam POI connection diagram

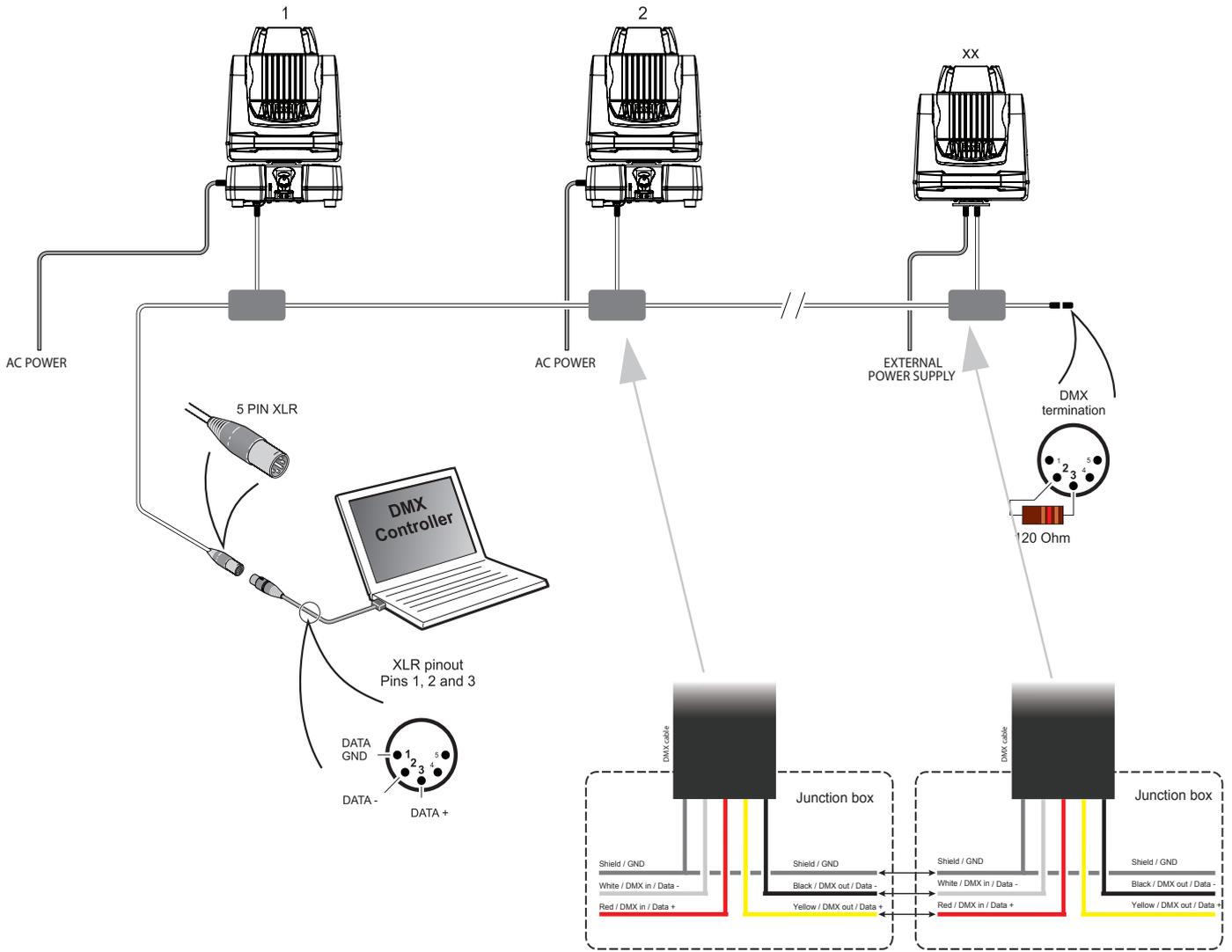


Figure 28: Connecting DMX and AC Power in G-1 Beam POI

# Troubleshooting

Problem	Potential cause(s)	Remedies
Fixture does not respond or appears to be off.	No power to the fixture.	Confirm that the power is switched on, confirm that the cables are plugged in and the TRUE1 connector is inserted and turned to its locked position.
	Main fuse is blown.	Contact a certified SGM service partner, or support@sgmlight.com.
	Connection between head unit and base unit is corrupted.	Disconnect the fixture from power, remove the head unit from the base unit and re-attach the head. Or contact SGM support or certified SGM service partner.
Fixture suddenly turned off.	Power was turned off.	Check the power supply, switches and breakers.
	Fixture was physically forced away from the intended pan/tilt position for more than approx. 3 seconds.	For safety measures, forcing the fixture away from its intended pan/tilt position will turn off the fixture. To re-start the fixture, push and hold any button on the display panel for approx. 1 second. Alternatively a wake-up can be performed by sending a full reset from the DMX controller. Only possible when operating of mains power.
Fixture suddenly stopped responding.	The wireless transmitter or connections were disconnected/tampered with.	Inspect the wireless transmitter and connections.
	DMX cables were disconnected.	Inspect DMX cables.
Fixture operates irregularly / abnormal.	DMX address or DMX mode is incorrect.	Inspect and enter the correct DMX address or mode.
	DMX cable polarization is inverted (pin 2 + 3).	Install a phase-inverter to reverse the polarity, or replace cables.
	DMX link is not terminated.	Install a XLR 120ohm DMX termination at the end of the DMX link.
	Corrupted DMX cable.	Replace or repair defective cables and/or connections.
	The fixture operates an internal program.	Enter in the menu and go to → MANUAL → STOP PROGRAM
	A corrupted fixture generates noise/disruptions on the DMX link.	Track and isolate the corrupted fixture.
Pan, tilt skips/stutters.	Obstacles is within the required clearance of pan/tilt.	
Power is turned off, fixture keeps running.	The fixture will continue to operate on battery power after removing the AC power supply.	To turn off the fixture press and hold 'ESC' until the fixture turns off, or go to MENU → POWER OFF. When operating on battery power, a symbol indicating the current battery level will be shown in the display.
Pan/tilt does not reset correctly.	Calibration values are missing.	Contact SGM support or certified SGM service partner.

## Maintenance

### SGM Uploader cable

The SGM USB to DMX cable is an accessory used mainly to update the fixture with the latest SGM firmware. See below how to update the fixture with the latest firmware.

The SGM Uploader cable is also used for controlling the DMX values channel by channel through the Firmware Uploader Tool software (available for download at [www.sgmlight.com](http://www.sgmlight.com)).



Figure 29: SGM Uploader cable

### Upgrading the firmware

The firmware installed in the fixture can be identified in different ways:

- When powering on the fixture, the display shows the current installed firmware version (only standard).
- Go to MENU → INFO → FIRMWARE VERSION (only standard).
- Through RDM.

**We recommend that the fixture's firmware is always up-to-date.** The latest firmware version is available for download under the respective product at [www.sgmlight.com](http://www.sgmlight.com).

To update your G-1 Beam (POI) with the latest firmware, use an SGM USB 5-Pin-XLR uploader cable, and a Windows-based computer with the SGM Firmware Tool software installed (available for download at [www.sgmlight.com](http://www.sgmlight.com)).

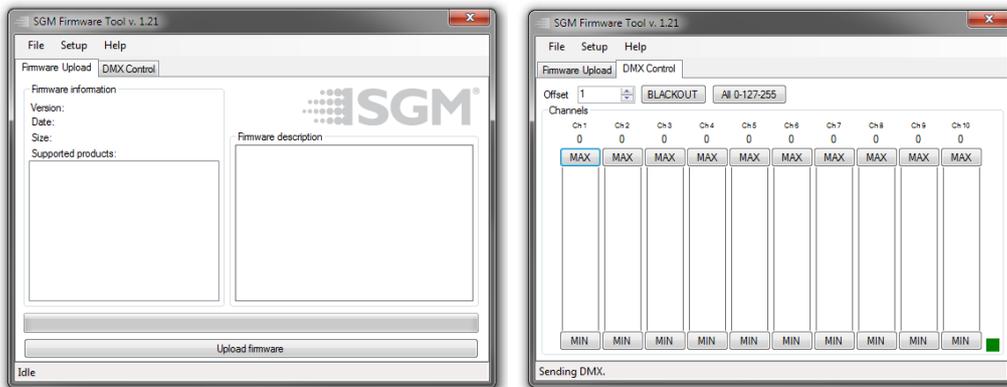


Figure 30: SGM Firmware tool

Additionally, the Firmware Tool software offers a simple DMX controller featuring 512 DMX channels for test purposes.

### SGM Vacuum Test kit

The Vacuum Test Kit is an accessory suitable for all SGM IP-rated fixtures, made for testing the IP validity after having reassembled the fixture.

In order to ensure the IP-rating of the G-1 Beam (POI), it's highly recommended that the fixture is always vacuum tested after installing or swapping any part that might compromise the IP-rating.

SGM disclaims liability for any damage occasioned by the non-use, or inability to use, the vacuum test kit after reassembling the fixture.



Figure 31: SGM Vacuum Test Kit

### Cleaning

SGM luminaires with IP65 or IP66-rating do not need any cleaning procedures inside the fixture. However, cleaning the front lens may be needed to achieve the maximum light output after exposure to dust, sand, or dirt. Exterior housing can also be cleaned to get a better look. To maintain adequate cooling, fans must be cleaned periodically.

Whenever necessary, clean the G-1 Beam using a soft cloth dampened with a solution of water and a mild detergent. Do not use products that contain solvents, abrasives, or caustic agents for cleaning, as they can cause damage to hardware, cables, and connectors.

The level of cleaning required will vary greatly depending on the operating environment and installation. When the G-1 Beam is used hanging outdoor for prolonged periods of time, it is essential to keep the drain around the DMX connectors under the base clean and free from accumulated dust, dirt, foliage etc. Therefore, it is recommended to do frequent check-ups the first few weeks of operation to see how often cleaning is necessary.

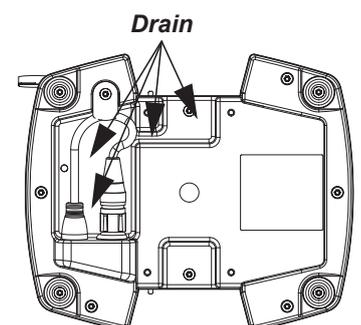


Figure 32: G-1 Beam cleaning

## Ordering Information

The G-1 Beam (POI) has different variants and can be used with a variety of accessories.  
Contact your local SGM dealer to get the latest pricing and news about available fixtures and accessories.

**Please note: the list below is subject to change without notice.**

### G-1 Beam (POI) fixtures

G-1 Beam, Std, (excl. batteries), BL / WH.....	P/N: 80100101 / 80100111
G-1 Beam, POI, (excl. batteries), BL / WH.....	P/N: 80100201 / 80100211
G-1 Beam, Std, <b>Ceiling Mount</b> (excl. batteries), BL / WH.....	P/N: 80100107 / 80100117
G-1 Beam, POI, <b>Ceiling Mount</b> (excl. batteries), BL / WH.....	P/N: 80100207 / 80100217
G-1 Beam, Std, (incl. 3 pcs batteries), BL / WH.....	P/N: 80100103 / 80100113

**The G-1 Beam (POI) can be ordered in any RAL color. Contact your local SGM dealer for ordering customized color housings or for more information.**

### G-1 Beam (POI) accessories

Omega bracket w/Q-bolt,, BL / WH.....	P/N: 83060602 / 83061206
Omega bracket POI with M10 Screws, BL / WH.....	P/N: 83060623 / 83060624
2m power cable with Neutrik TRUE1.....	P/N: 07860040
SGM USB uploader cable.....	P/N: 83062011
Ceiling mount for G-1 Series.....	P/N: 83061707
1 pcs. Battery, Nominal:21,6V - Nominal:3350 mAh.....	P/N: 83061709
2 pcs. Battery, Nominal:21,6V - Nominal:3350 mAh.....	P/N: 83061710
Flightcase for 4 pcs G-1 Beam.....	P/N: 82051004
Flightcase for 4 pcs G-1 Beam incl. charger.....	P/N: 82051005
Flightcase Charger Cable Assembly Kit (4 pcs.).....	P/N: 83062044
SGM Vacuum test-kit.....	P/N: 83061136

## Support hotline

SGM offers 24/7 technical support hotline.

Worldwide: +45 3840 3840

US: +1 877 225-3882

support@sgmlight.com

## Approvals and certifications

**Conforms to  
Conforms to  
Conforms to**

**2014/35/EU: Low Voltage Directive  
2014/30/EU: EMC Directive  
2011/65/EU: RoHS2 Directive**



*The information in this document is subject to change without notice. For the latest information, visit [www.sgmlight.com](http://www.sgmlight.com).*







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