

USER MANUAL



MOVING HEAD SERIES

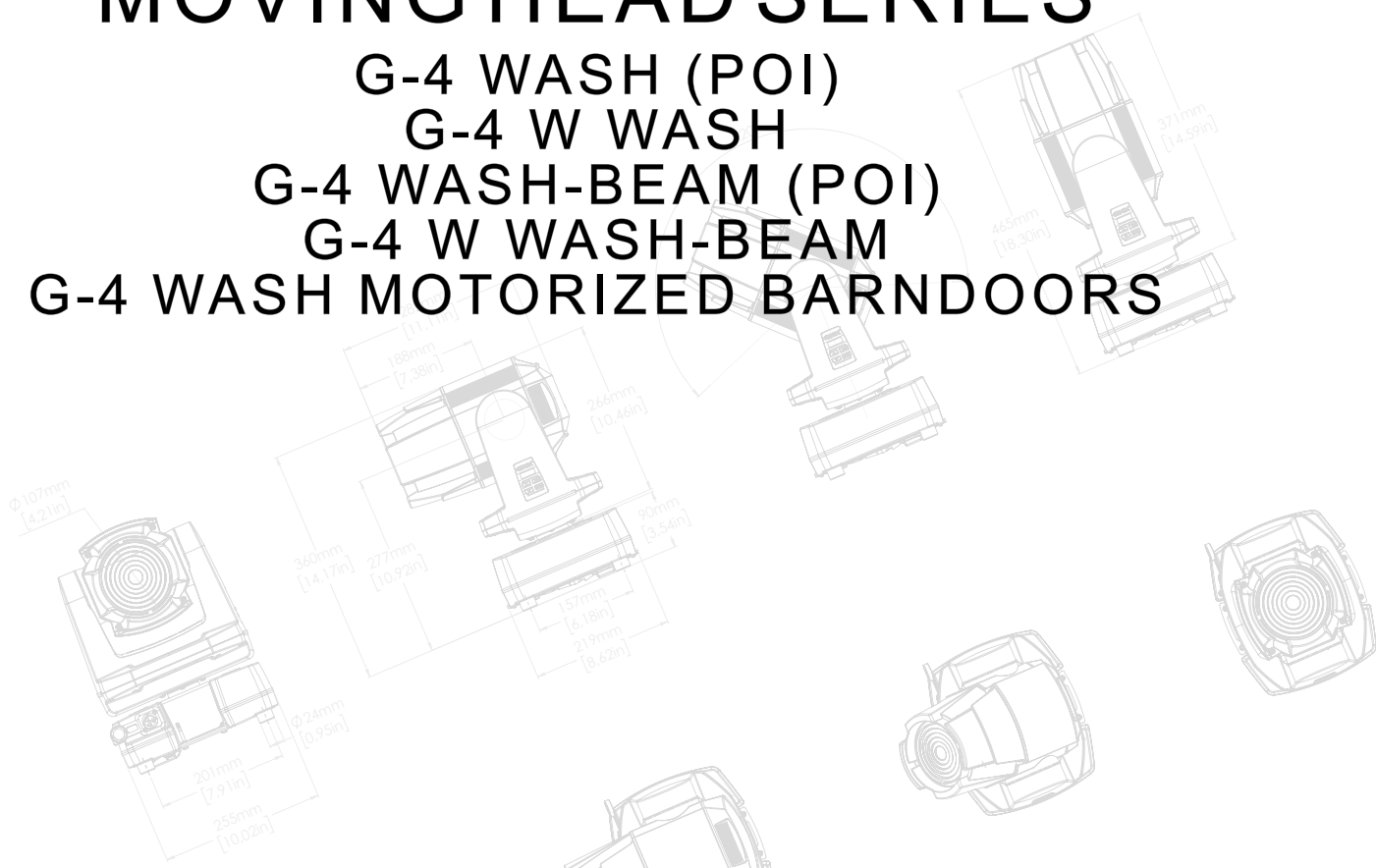
G-4 WASH (POI)

G-4 W WASH

G-4 WASH-BEAM (POI)

G-4 W WASH-BEAM

G-4 WASH MOTORIZED BARNDOORS



**This manual covers installation, use, and maintenance of the G-4 Series.
A digital version is available at www.sgmlight.com, or upon request via support@sgmlight.com.**

G-4 SERIES USER MANUAL REV. C

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This edition applies to firmware version 3.18 or later.

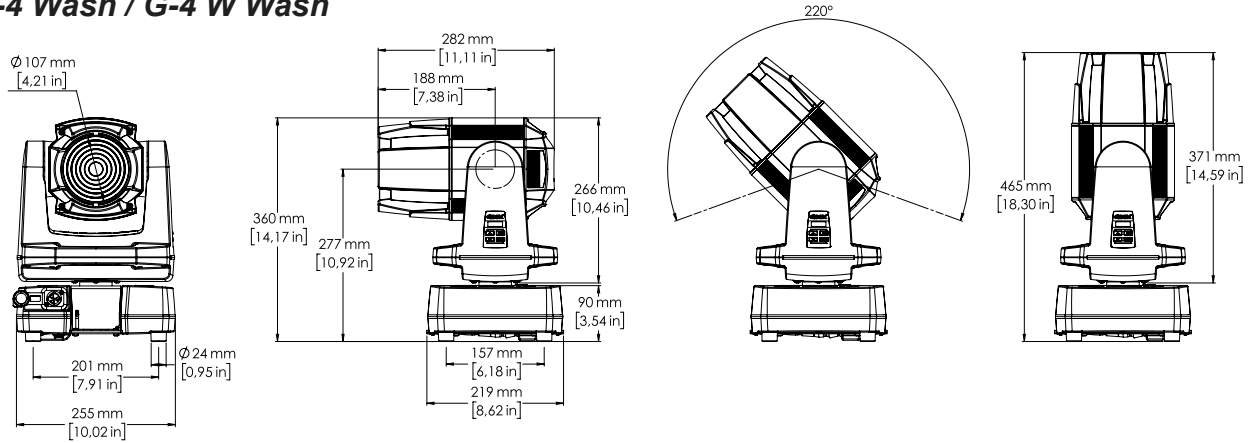
English edition

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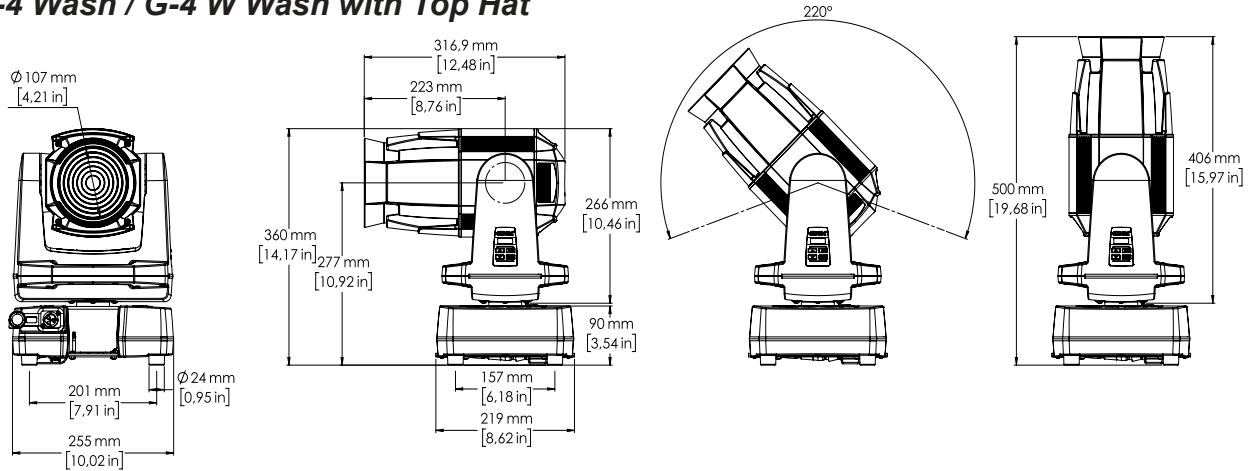
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G-4 Series dimensions

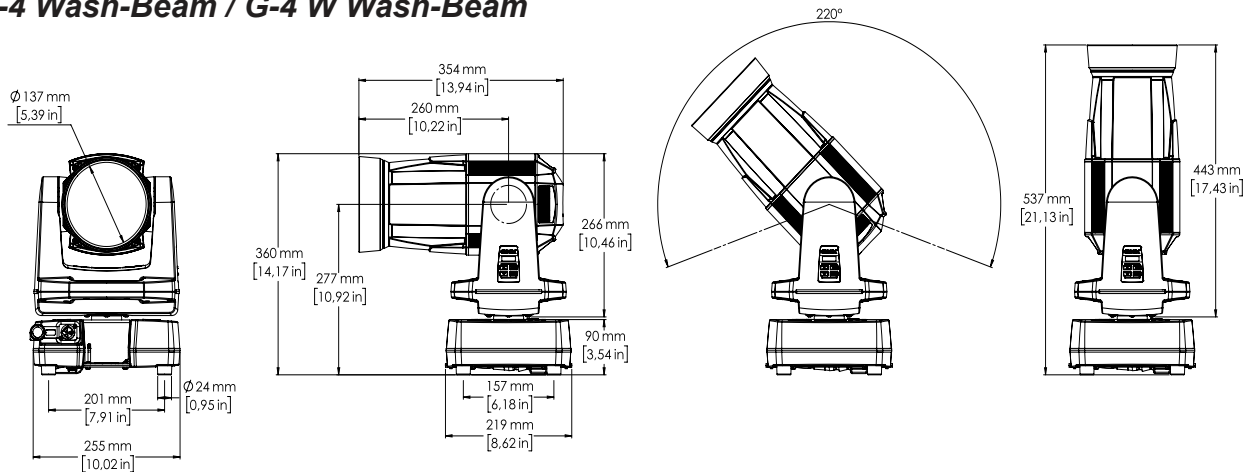
G-4 Wash / G-4 W Wash



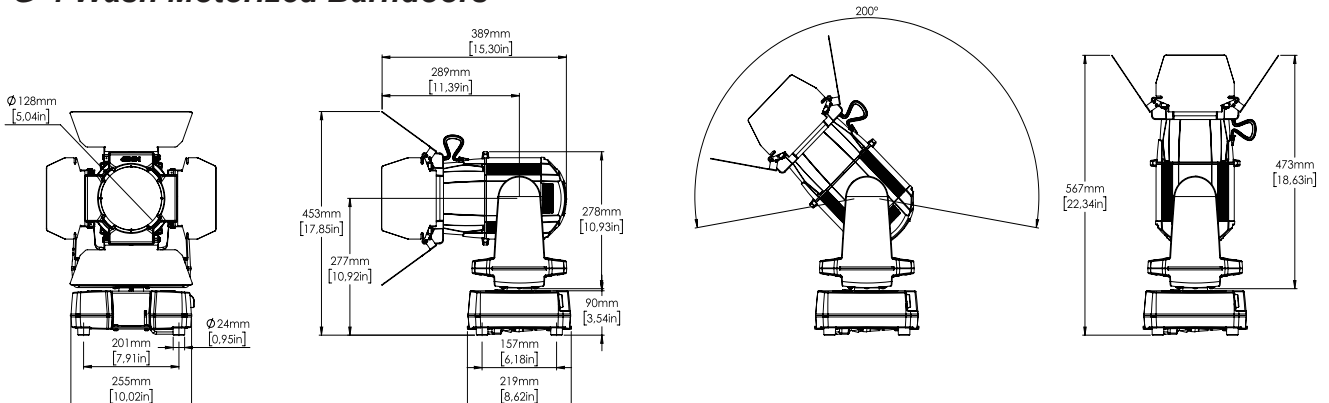
G-4 Wash / G-4 W Wash with Top Hat



G-4 Wash-Beam / G-4 W Wash-Beam



G-4 Wash Motorized Barndoors



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

Safety information



WARNING!

Read the safety precautions in this section before installing, powering, or operating this product.



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

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

Review the following safety precautions carefully before installing or operating the device.

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 inhérents.



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

- Do not open the device; there are no user-serviceable parts inside.
- Ensure that 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.
- Ensure a minimum clearance of 0.3m (12 in.) around the cooling fans.
- 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 = 45 °C (113 °F). Steady state = 68 °C (154 °F).



WARNING! *Take measures to prevent personal injury.*

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

Overview

The G-4 Series

- A high power LED moving head luminaire weighing only around 10 kg/22 lbs
- IP-65-rated (standard) and IP-66-rated (POI) enable operation in temperatures from -40°C to 50°C in all kinds of weather
- Working within the 100-240V 50/60 Hz range (standard base)
- Providing built-in wireless DMX and presetable stand-alone programs
- Capable of continuous clockwise and counter-clockwise pan rotation, controlled in four different pan modes
- Fully RDM implemented
- Interchangeable lens kit and optional top hat accessory to minimise stray light

The lightsource of the fixture is expected to run for about 50,000 hours LM-70/TM-21.

The variants

- The G-4 RGBAM - five color 150W LED - red, green, blue, amber and mint (CRI >90)
- The G-4 W - extremely bright white with 7,200K 150W LED's, or 5,000K with CTO filter inserted

G-4 RGBAM also features

- Color filter macro used to mimic congo blue and deep saturated red
- Color filter emulating 89 LEE colors + raw amber and raw mint
- Fully adjustable CTC from 2,000K to 10,000K
- Plus / Minus green control

Lens options

	G-4 RGBAM	G-4 White	
Wash	9 - 76° Zoom	9 - 80° Zoom	standard lens kit
Wash w/top hat	-	-	accessory for Wash lens kit to minimize stray light
Wash-Beam	4.8 - 34° Zoom	4.4 - 34° Zoom	available as complete fixture or accessory lens kit
Motorized barndoors	9 - 76° Zoom	N.A.	available as complete fixture or as lens kit (accessory)

Parts identification and terminology

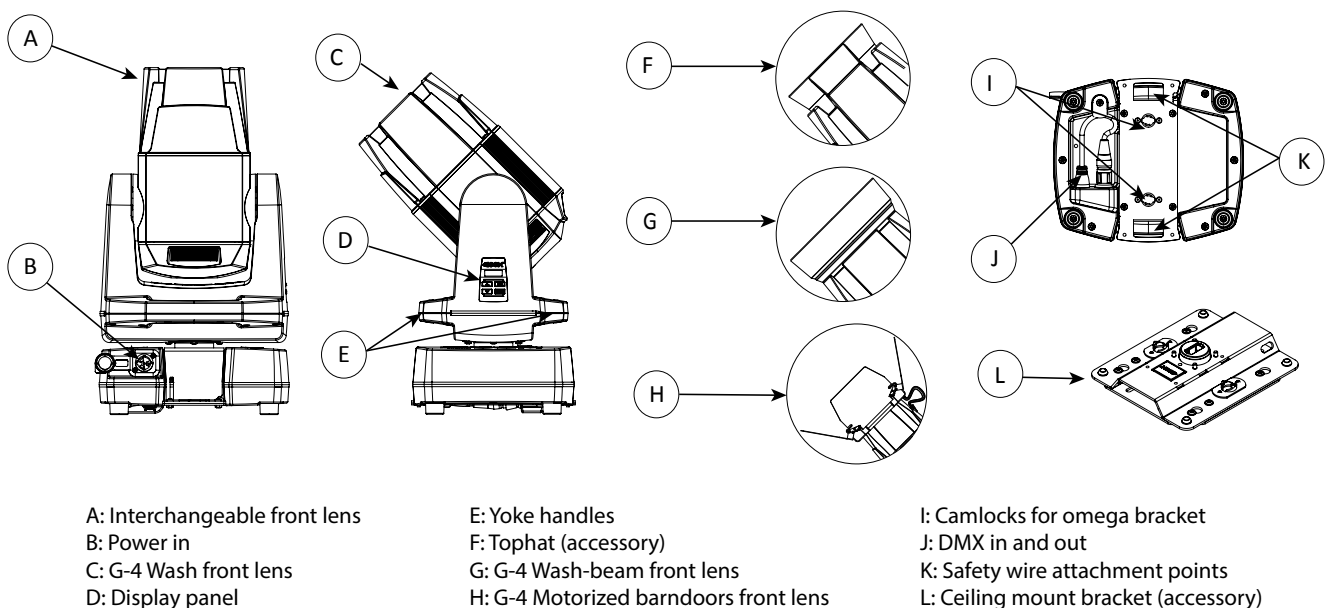


Figure 1: G-4 Series parts and terminology

Preparing for installation

Unpacking

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

The G-4 Series is shipped with:

- One IP power input connector, 2 m (78 in.)
- One Omega bracket with 1/4-turn fasteners
- Removable diffusion filter (for G-4 Series Motorized Barndoors only)
- 4 M-10 screws for base attachment (POI only)
- Leaflet

Location / application

The G-4 Series is IP65-rated and designed for use in outdoor events. This means that it is protected from:

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

In the G-4 Wash Motorized Barndoors, while the fixture is full IP65-rated, the motorized barndoors module is IP20-rated. Therefore, the motorized barndoors are not protected from water and dust.

When selecting a location for the device, ensure that:

- It is situated away from public thoroughfares and protected from contact with people
- It is not immersed in water or exposed to high-pressure water jets
- It has adequate ventilation

When using the fixture for outdoor events, ensure that:

- **For wireless DMX or standalone operation**, the DMX-out cable is securely attached to the DMX-in connection. (See “Parts identification and terminology” on page 6.)
- **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), and the DMX out is properly sealed, in accordance with the IP65 requirements. A maximum of 32 fixtures can be connected to the same DMX link.

Transportation

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

Never carry your G-4 Series by connected cables, wires, or motorized barndoors (when installed). Doing so may cause severe damage to the fixture. Always use the handles to carry the fixture.

Locating the front of the fixture

The front of the G-4 Series is the opposite side of the AC power socket.

The front it is marked with an arrow, as shown in the illustration below.

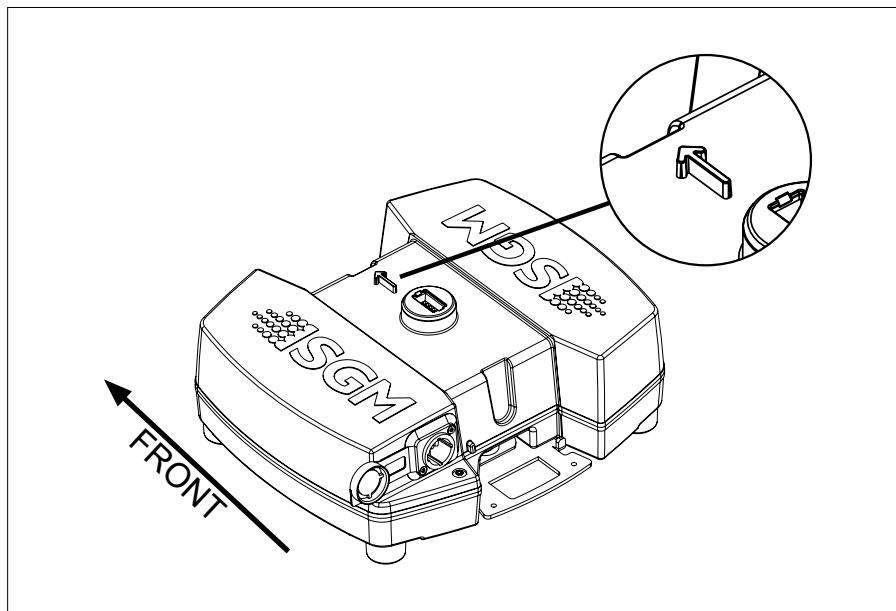


Figure 2: Front of the G-4 Series

Installing / rigging the G-4

The G-4 Series may be installed in any orientation, with base or with ceiling mount.
Always use an omega bracket to rig the fixture and lock the bracket with the 1/4-turn fasteners.
Please note: The 1/4-turn fasteners are only locked when turned fully clockwise.

Rigging process

Start the rigging process by blocking the working area below the fixture. Make sure the work is performed from a stable platform.

1. Check that the clamp 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 to the omega bracket with an M12/ ½ bolt (min. grade 8.8) and a lock nut.
3. Align the omega bracket with the two 1/4 turns in the base. Insert the fasteners into the base and turn both levers a full 1/4-turn clockwise to lock.
4. Working from a stable platform, hang the fixture on a truss or other structure. Tighten the clamp.
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 carabine.
6. Verify that there are no combustible materials, cables, or surfaces to be illuminated within a distance of 0.3 m (12 in.) from the fixture.
7. Check that there are no possibility of head or yoke colliding with other fixtures or structures.

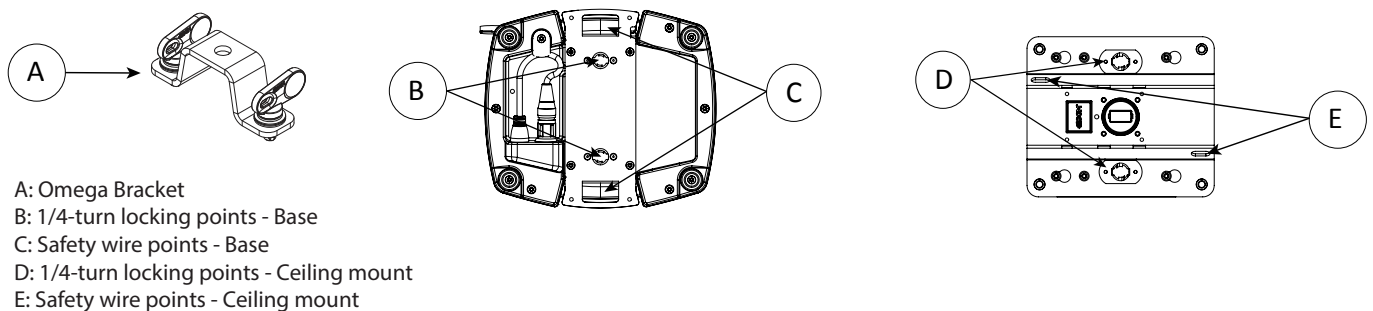


Figure 3: Installing the G-4 Series

Ceiling mount bracket (accessory sold separately)

The G-4 Series may also be installed using a ceiling mount bracket. When using the ceiling mount, there are no base with power supply, therefore, the fixture must be powered by an external PSU.
See on pages 17-18 how to install the ceiling mount bracket.

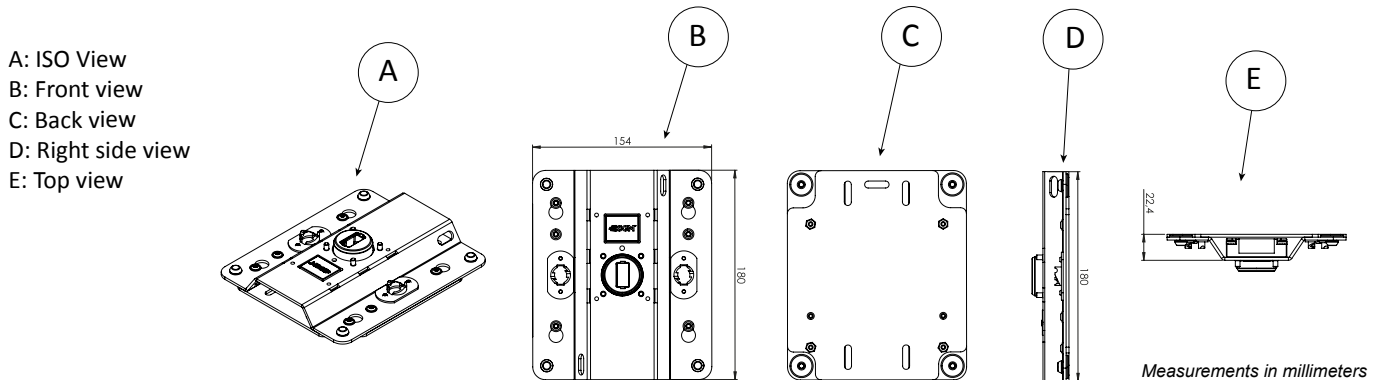


Figure 4: Ceiling mount bracket



WARNING! Always secure an elevated G-4 Series 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 be able to:

- 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
- Make sure the slack of the safety wire is at a minimum
- Never use the carrying handles for secondary attachment

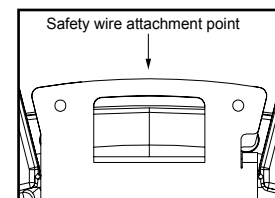





Figure 5: Safety wire attachment point

Connecting AC power

The G-4 Series standard version can operate on any 100–240V, 50/60 Hz AC mains power supply.
The G-4 Series maximum power consumption is 250W.

For temporary outdoor installations, connect the G-4 Series to AC power using the supplied IP power cable to ensure the correct ingress protection (IP-rating).

The mains cable must be fitted with a grounded connector intended for exterior use. The device must be grounded/earthed and able to be isolated from AC power. The AC power supply must incorporate a fuse or circuit breaker for fault protection.

Wire	Color	Symbol	Conductor
	Black	L	live
	White	N	neutral
	green/yellow	\perp or \oplus	ground (earth)

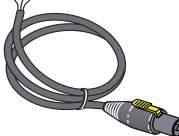


Figure 6: Connecting AC Power

CAUTION!!

Do not open the fixture to replace the supplied power cable.

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

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-4 to power, run the on-board test, going to “MENU → TEST →AUTOMATED TEST”, to ensure the fixture and each LED are functioning correctly. Please see “Control menu” on page 15.

For permanent outdoor installations, the G-4 POI versions supplies a power cable with bare ends. Please refer to page 22 for connecting AC power in POI fixtures. For POI, 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.

PLEASE NOTE:

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

The G-4 Series without base and/or with ceiling mount bracket operates on 36V DC power and external power supply. See in detail on page 18-19 how to install the “Ceiling mount bracket” on page 17.

Configuring the device

Set up the fixture using the control panel and OLED display at the yoke of the fixture.

After powering on the G-4 Series, the display shows the currently selected operating mode. Navigate through the menus using the arrows and select items using the ENTER button.

Please note: In POI versions there is no display mounted in the fixture. The adjustments are made through RDM. See page 22 to know more.

OLED Display (A)

The OLED multiline display is the human interface of the fixture. It displays the current status and menu of the fixture. The display panel can be used to configure individual fixture settings, checking the fixture's wireless status, firmware version, and error messages. The complete list of the menu and all commands available are listed in "Control menu" on page 15.

Using the keyboard (B)

- Press the 'ENTER' button to enter a menu or make a selection.
- Press the arrows to scroll up and down the menus.
- Press the 'ESC' button to take a step back.
- Press any button to disable pan/tilt - it generates time out for 10 sec., after which it will return to the correct position.

Wireless signal strength (C)

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.

Active input type (D)

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

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 flash on the display if no data input.

Next fixture address (G)

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

Display settings

Flipping the OLED display

If the fixture is hanging upside down, it might be useful to flip the display for easy reading.

To flip the display select "ENTER → SETTINGS → DISPLAY FLIP" in the menu, or press the 'UP' and 'DOWN' arrows simultaneously in the control panel.

Setting the OLED display saver

By default, the OLED display dims down after a short period of time whenever the control panel is not in use, but it can also be set to turn off completely. Pressing any key will turn on the display or restore it to normal brightness.

To change the display saver, select "ENTER → SETTINGS → DISPLAY OFF" in the menu. This can also be changed via RDM.

See "RDM functions" on page 16.

NOTE: To avoid the risk of display deterioration caused by long term use in permanent installations, it is recommended to use the "DISPLAY OFF" setting.

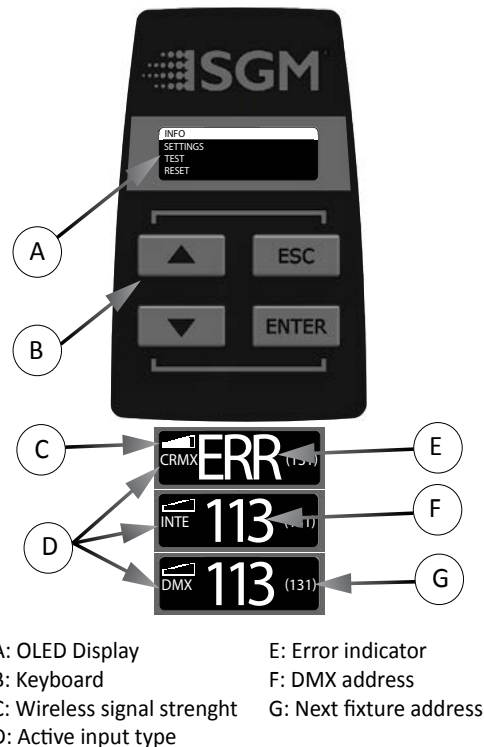


Figure 7: Control panel

Connecting to a DMX control device

The G-4 Series 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.

If using a cabled DMX system, connect the DMX-in cable to the input connector under the base of the fixture (chassis mounted male 5-pin XLR connector) and DMX-out to the output cable also under the base (female 5-pin XLR plug). Terminate the DMX-out cable of the last fixture in the data link.

For outdoor events, use only IP65-rated XLR connectors. If using a wireless DMX system, ensure that the DMX output is connected to the DMX in connector and properly inserted. Connect both DMX in and DMX out cables in order to maintain the fixture's IP65-rating.

Note: for POI versions, please refer to page 22 to see how to connect DMX and AC power.

Connecting a wireless transmitter

The G-4 Series is designed to look for wireless transmitters in 'connect' state, when this option is not yet enabled.

To connect the G-4 Series to a wireless transmitter:

- Log off the currently paired wireless transmitter. (See below)
- Press the connect button on the wireless transmitter.
- Confirm that the fixture has paired with the wireless transmitter.

Note: for POI Versions, please refer to page 23 to see how to connect the wireless transmitter.

Disconnecting a wireless transmitter

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

MENU → SETTINGS → WIRELESS DMX → LOG OFF.

Note: for POI versions, refer to page 23 to see how to disconnect the wireless transmitter.

Signal priority

The G-4 Series can be paired to an active wireless transmitter simultaneously as being connected to a cabled DMX. The device will prioritize cabled DMX over the wireless DMX.

The active input type is displayed under the wireless signal strength indicator. The signal strength can be also checked via RDM data by using a external RDM device (e.g. the SGM A-4).

Note: In POI versions with wireless, the DMX signal strength can only be checked through RDM.

Configuring the device for DMX control

About DMX

The G-4 Series 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, and up to 32 fixtures can be connected to the same DMX link. Up to 300 meters (1000ft.) of cable is achievable with high quality DMX cables. All DMX links must be terminated in the last fixture 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 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.

Set/edit DMX address

The DMX address is shown at 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.

The G-4 Series also offers the option to set the DMX address through RDM.

NOTE: POI versions are only addressable via RDM.



Figure 8: Set the DMX address

DMX modes

The G-4 Series operates in different modes.

All DMX charts are available at www.sgmlight.com under the respective products, or upon request via support@sgmlight.com.

DMX Start address

As mentioned above, the G-4 Series can be operated in different DMX modes. Regardless of which DMX mode is selected, the first channel used to receive data from a DMX control device is known as the DMX start address.

For independent control, each fixture must have a DMX start address configured. For example, if the first G-4 RGBAM is set to a 18ch DMX mode with a start DMX address of 113 the following G-4 RGBAM in the DMX chain could then be set to a DMX address of 131, as the first fixture uses all the first 18 DMX channels, including the channel 113. Therefore, the next available channel would be 131 ($113+18=131 >> 131$).

If two or more fixtures of the same type have the same DMX 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.

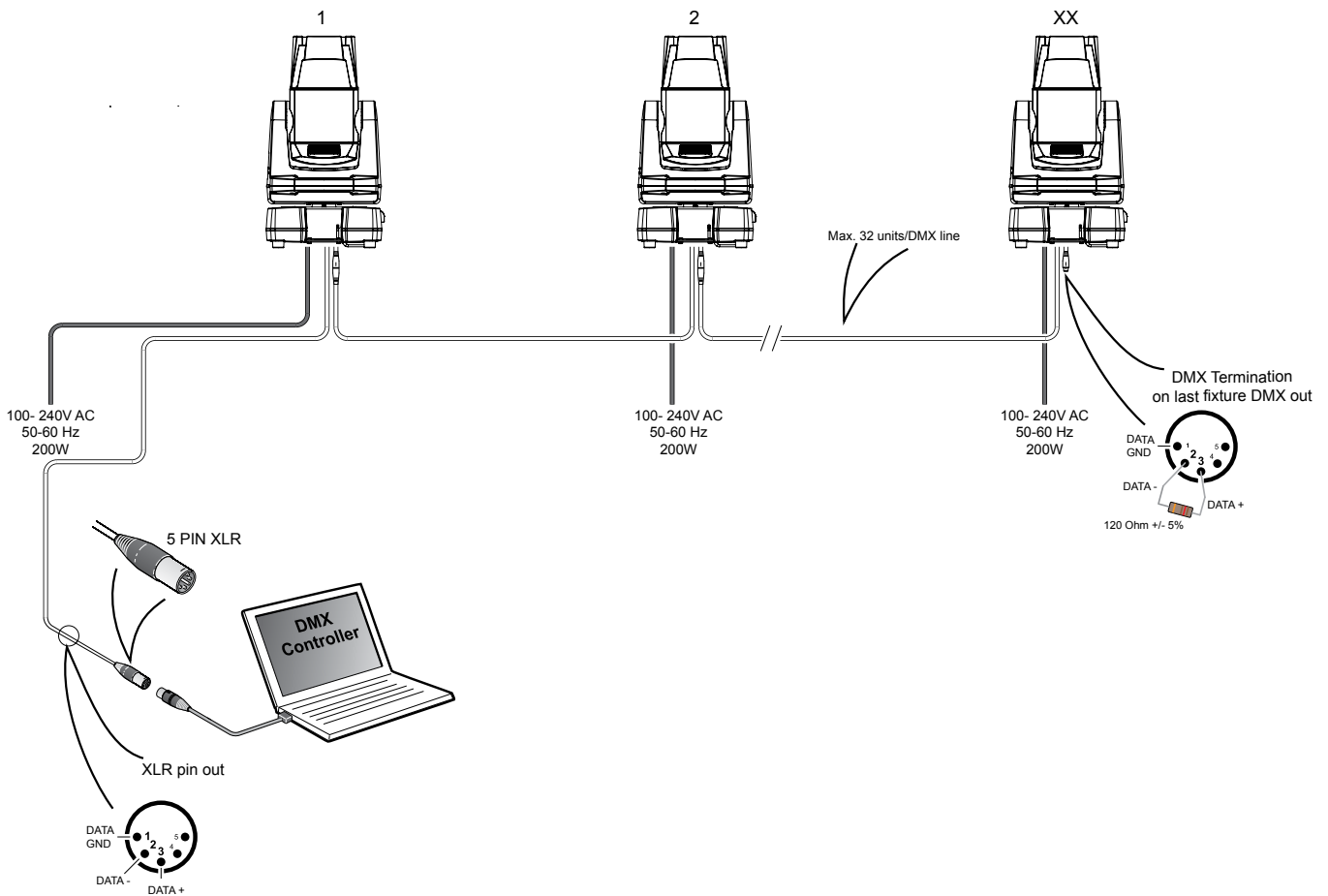


Figure 9: G-4 Series connection diagram (see page 22 for POI)

Full Color Calibration and Color Temperature Correction

G-4 RGBAM

The Full Color Calibration (FCC) and Color Temperature Correction (CTC) enables the fixture to mimic different color temperatures.

When enabling the CTC channel 11, the DMX values are:

- 0 = Default 5,600K
- 1 - 4 = No CTC Raw White
- 5 - 255 = Seamless variation 2,000K to 10,000k. Refer to the DMX Chart for specifications

The CTC channel sets the white reference, of which any color will mix towards.

Example:

1. CTC is set to DMX value 182 / 71,3% = 5,600K white (default value)
2. Green + Blue at 100% = Full cyan
3. Red is added/faded to 100% = Cyan will fade to 5,600K white

Note: when using CTC color modes in the G-4 RGBAM, the Amber and Mint LEDs are added to the RGB color mix automatically, thereby creating a high color rendering in the different color temperatures. This is created by SGM algorithm.

G-4 W

The G-4 W has a CTC function that inserts at CTO filter (color temperature orange) which will modify the White 7,200K LED to 5,000K. This filter can be changed to a different type upon request when ordering the fixture.

When enabling the CTC channel 10, the DMX values are:

- 0 = Default 7,200K
- 255 = 5,000K (Standard CTO filter inserted)

Internal programs

The G-4 Series 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

Programming the position presets for the internal programs is performed by using the innovative SGM patented system, which lets you determine the pan position by changing it directly by hand. 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.

Pan / Tilt positions

To edit and store any of the 7 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

Press 'ENTER' to start. Adjust position manually. Press 'ENTER' to confirm position Proceed to the next position.

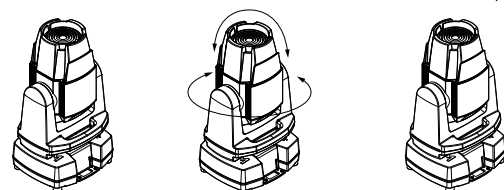


Figure 10: Editing pan / tilt positions

The internal pan/tilt position presets can be recalled and stored by DMX through the pan mode channel. These position presets are also used as position references for the internal programs.

Fixture properties

Factory default

When restoring the device, the following parameters will be set to factory default:

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

Effects

Colors

The G-4 RGBAM Series features five high-power LEDs (Red, Green, Blue, Amber and Mint). The fixture operates in RGB calibrated mode ensuring the colors are compatible across the range of SGM fixtures. The G-4 RGBAM Series also offers the possibility to use the Amber and Mint LEDs only in color filter emulation mode with full control of each color.

Color macro

The G-4 RGBAM Series features a color macro, which is a very powerful tool that easily matches colors between different types of SGM luminaires. The color macro tool allows the G-4 RGBAM Series to adjust to the same color hue as, for instance, the G-1 Beam (fixed color wheel). This is a useful tool for installations containing both G-1 Beam and G-4 RGBAM luminaires, and when the same color is desired.

Color emulation

The G-4 RGBAM Series features a unique color filter emulation, which is based on the LEE filters ranging from LEE 004 to LEE 353. By the combination of the RGBAM LEDs and a physical internal filter, the G-4 RGBAM Series can mimic a congo blue and a deep saturated red.

Plus and Minus green control

The G-4 RGBAM Series features a plus/minus green function, accessible from the color filter emulation channel.

Plus/minus green feature allows the user to slightly change the amount of green used in the different color temperatures.

The G-4 RGBAM can match different camera settings and also emulate other light sources.

In order to use this feature correctly, please see the latest DMX chart and color filter emulation chart available at www.sgmlight.com, or upon request via support@sgmlight.com.

Pan modes

The G-4 RGBAM Series features four different pan modes: 540° mode, 360° mode, 360° Shortest Path mode, and Continuous Rotation mode. When powering up the fixture, it is in 540° mode (industry standard reference). The pan mode is possible to be changed through DMX. All the DMX charts are available at www.sgmlight.com.

Color temperature correction

The G-4 RGBAM Series offers seamless CTC (color temperature correction) control from 2,000° Kelvin - 10,000° Kelvin.

Ultra high-speed strobe effects

The ultra high-speed strobe effect introduces the possibility to generate random strobe and pulse effects with variable speed.

Zoom range

	G-4 RGBAM	G-4 White	
Wash	9 - 76° Zoom	9 - 80° Zoom	standard lens kit
Wash w/top hat	-	-	accessory for Wash lens kit to minimize stray light
Wash-Beam	4.8 - 34° Zoom	4.4 - 34° Zoom	available as complete fixture or accessory lens kit
Motorized barndoors	9 - 76° Zoom	N.A.	available as complete fixture or as lens kit (accessory)

See at www.sgmlight.com for an accurate description of beam and field angles in the zoom range.

Control menu

Level 1	Level 2	Level 3	Level 4	Function	
INFO	Firmware Version	-		Display installed firmware version.	
	Serial Number	-		Display SGM serial# for Fixture and LED	
	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.
		Head Board			
		Barndoor			
		LED Temperature			
		Pan Angle			
		Tilt Angle			
		Wireless Signal Strength			
Wireless Paired					
Mains voltage					
Humidity					
Light PWM					
Errors	-			Displays the errors detected.	
Timers	-			Display total LED running hours Red, Green, Blue, Amber, Mint 1, Mint 2.	
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] / [] .	
	Factory Default	-		Resets the fixture to factory default. See "Factory default" on page 14.	
	Service PIN	-		Service use only. Contact your SGM dealer or SGM support to request the service pin.	
Service Menu	-		Service use only.		
TEST	Automated test	-		Initiates a self-test sequence. Press 'ESC' to stop self-test sequence.	
	LED test	-		Service use only.	
	Display Test	-		Service use only.	
RESET	-	-		Press enter to reset fixture.	
MANUAL	Run Program	-		Select program 1 through 8. See "Internal programs" on page 13.	
	Stop Program	-		Stop any running program.	
	Store Position	-		Store position 1 through 9. See how in "Pan / Tilt positions" on page 13.	

RDM

Supported RDM functions

The G-4 Series 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.

You will need a RDM controller to get control over the supported parameters. See the tables below for supported RDM functions.

RDM functions

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.

PID	Actions allowed	Name
0x0082		Device Label
0x0081		Manufacturer Label
0x00E0		DMX Personality
0x00E1		DMX Personality Description
0x0200		Sensor Definition
0x0201		Sensor Value
0x0080		Device Model Description
0x1001		Reset Device

PID	Actions allowed	Name
0x0051		Parameter Description
0x0090		Factory Defaults
0x0501		Display Level
0x0500		Display Invert
0x0400		Device Hours
0x0401		Lamp Hours
0x8626	SET	CRM Log Off

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
Main Board Temperature	Temperature
Head Board Temperature	Temperature
Barndoor Temperature (only for G-4 Wash MBD)	Temperature
Light Source Temperature	Temperature
Pan Angle	Angle

Name	Sensor Type
Tilt Angle	Angle
Wireless Signal Strength	Other
Wireless Paired	Other
Mains Voltage	Voltage
Humidity	Humidity
Light PWM (N.A. for G-4 Wash MBD)	Other

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 the cables are plugged in.
	Main fuse is blown.	Contact SGM support or certified SGM service partner.
Fixture suddenly turned off.	Power was turned off.	Check the power supply, switches and breakers.
Fixture suddenly stopped responding.	The wireless transmitter or connections, was disconnected / tampered with.	Inspect the wireless transmitter and connections.
	DMX cables was disconnected.	Inspect DMX cables.
Fixture operates irregularly / abnormal.	DMX cable polarization is inverted (pin 2 + 3).	Install a phase-inverter 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.	Go to MENU → MANUAL → STOP PROGRAM.
	A corrupted fixture generates noise/disruptions on the DMX link.	Track and isolate the corrupted fixture.
Color is uneven	The SGM Calibration Data set has been lost	Contact your local SGM dealer or support@sgmlight.com.

Accessories

The G-4 Series can be used with different types of accessories, such as the ceiling mount bracket, Top Hat, and different interchangeable front lens. To know more about all the available G-4 Series accessories, please see www.sgmlight.com, or contact your local SGM dealer.

Apart from the ceiling mount, tophat, and interchangeable front lens, there are no other user-serviceable components in the fixture. Do not open other parts in the G-4 series, as doing so might damage the ingress protection.

Contact your SGM dealer if the fixture operates abnormally, is defective, or needs any kind of service and repair.

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 36V power supply.
2. Use an SGM G-4 extension cable, that connects the base to the ceiling mount.
Contact your SGM dealer, or 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

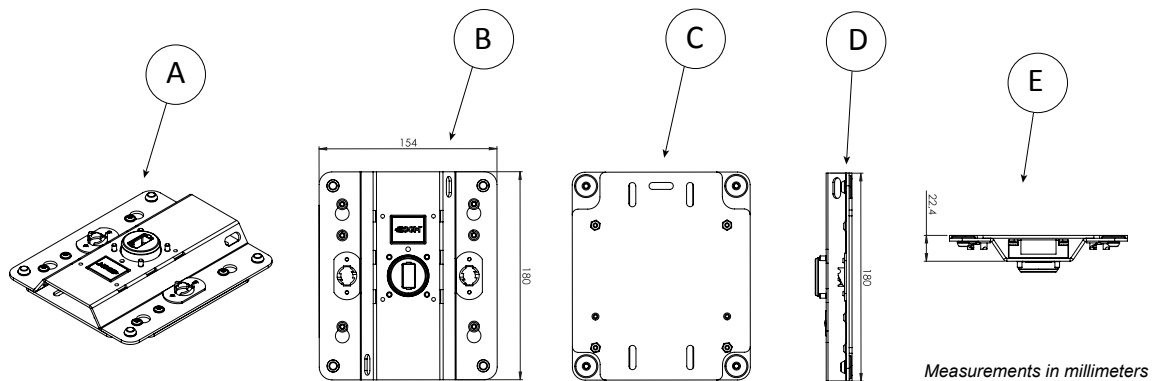


Figure 11: Ceiling mount bracket

Removing the head from the base

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

While powered off, start over by removing the base of the fixture in order to install the ceiling mount. This is easily done in three steps:

1. Remove the four screws that is tightening the bracket against the base.
2. Pull out the head from the base with a firm grip in one single go.
3. Detach the bracket from the head by loosening the four screws (not shown).

NB! Keep in mind when removing the head from the base that it is possible to get dust and water into the fixture's connector housing. Carefully ensure that the rubber sealing (O-ring) is not damaged, and there is no contaminants after removing the base.

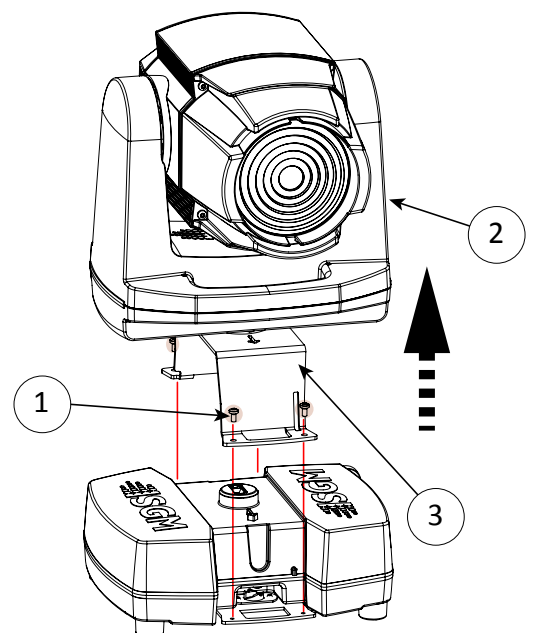


Figure 12: Removing head from the base

Preparing for installing the ceiling mount

The ceiling mount bracket consists of two main parts:

- the trapeze shaped mounting plate.
- the ceiling plate.

After detaching the base of the fixture from the head, prepare the ceiling mount:

1. Remove the two lock-screws (if installed) and separate the two parts.
2. Remove the wire harness from the trapeze mounting plate (if installed) in order to expose the four holes. The four holes will be used to start attaching the head to the ceiling mount.

Attaching the ceiling mount bracket to the fixture

1. Align the mounting bracket to the head (the hub), so all four screws and the pilot holes are aligned.
2. Mount the bracket.
3. Insert the four screws, tighten with 1Nm of torque.
4. Mount the wire harness to the bracket, ensure the connector is properly fitted.
5. Insert the four screws, tighten with 0,6Nm of torque.

NB! Carefully observe that the orientation of the pilot hole on the ceiling mount bracket matches the pilot hole on the head unit (see step 1 in the image below).

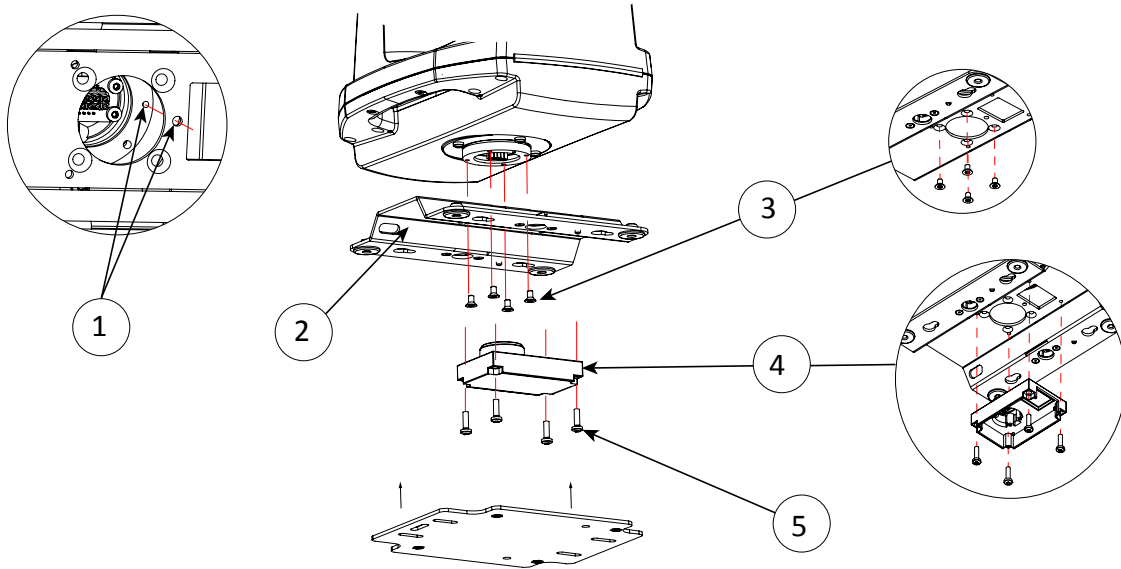


Figure 13: Attaching the ceiling mount bracket

Installing the ceiling mount bracket

1. Securely mount the base plate to the surface using the 4 oval shaped holes.
2. Remove the lock-screws from the trapeze shaped head part (if installed).
3. Position the trapeze shaped head part over the four slide-locks and slide to the locked state.
4. Install the two lock-screws to secure the parts from sliding off.
5. Attach a safety wire between the head part and a secure location.

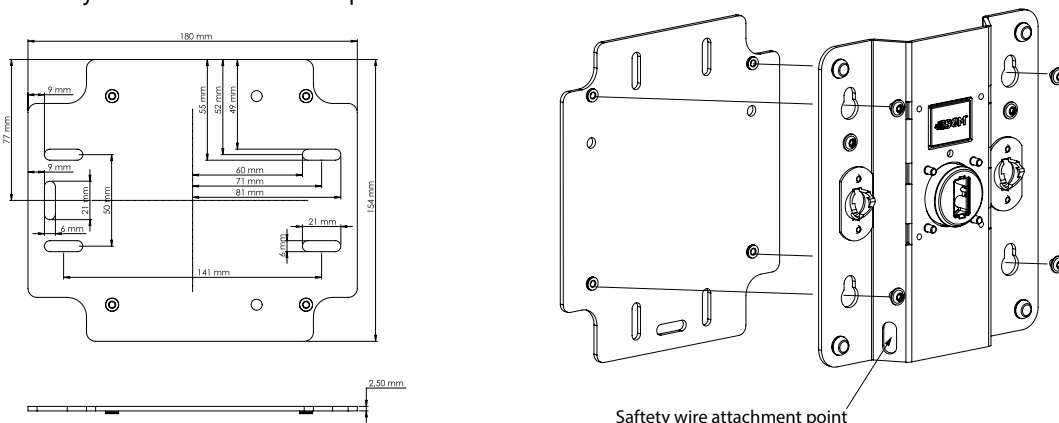


Figure 14: Installing the ceiling mount bracket

G-4 Wash Top Hat

The G-4 Wash is extendible using the Top Hat, which main function is to create discrete lighting designs, reducing flare coming from the direct light source.

The Top Hat can be easily mounted through magnetic fastening. When correctly aligned to the front lens, the Top Hat will snap into place due to the four powerful magnets.

- A: Top Hat (front view)
- B: Safety wire
- C: Magnets (back view)

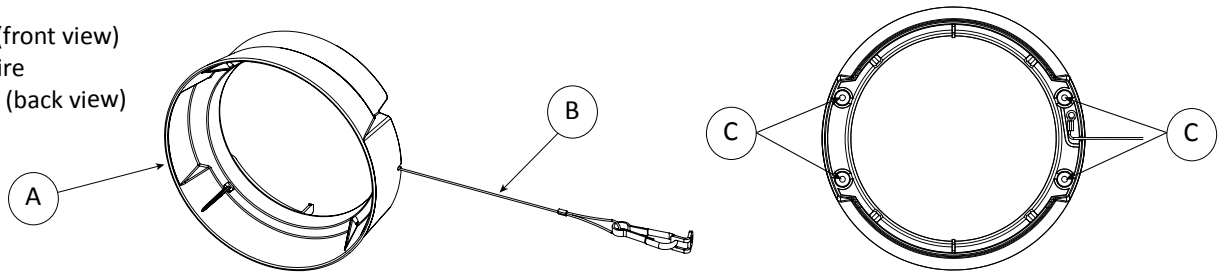


Figure 15: Top Hat overview

Attaching the Top Hat

1. Align the Top Hat correctly to the front lens.
2. Allow the powerful magnets (2 on each side) to snap into place.

To detach the Top Hat, simply remove it in a straight upwards line with a firm grip. Ensure there are no metal dust or any other particles where the magnets are located.

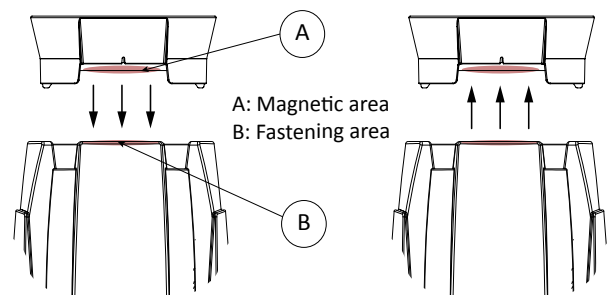


Figure 16: Attaching the Top Hat

Attaching the Top Hat safety wire

The Top Hat includes a safety wire that can be mounted to the front hood of the fixture, and thus ensuring the Top Hat never gets lost.

To mount the safety wire to the fixture:

1. Loosen one of the four screws of the G-4 Series front hood.
2. Place the safety wire securing plate in the chosen screw hole with the clipping point outwards (B). Make sure it is well aligned.
3. Insert the screw through the safety wire securing plate and the screw hole, and tighten firmly.
4. Fasten the snap hook in the safety wire clipping point - if not already attached (A).

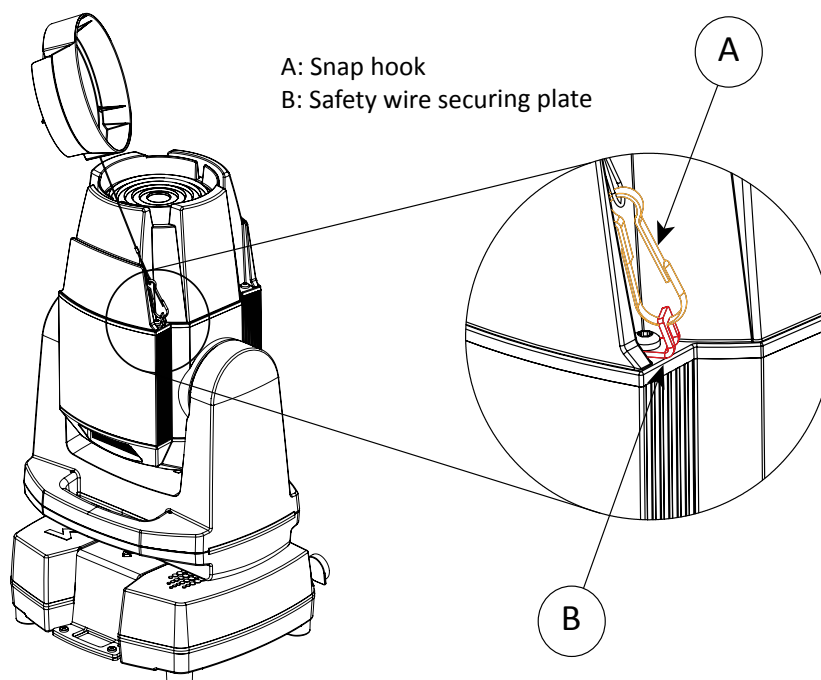


Figure 17: Attaching the Top Hat safety wire

Interchangeable front lens

The G-4 Series offers the possibility to change the front lens, expanding the flexibility of the luminaire even further. A G-4 Wash can quickly be converted into a G-4 Wash-Beam, or in a G-4 Wash with Motorized Barndoors.

Changing the front lens

To replace the front lens:

1. Locate the four screws on the front head.
2. Remove the four screws with a Torx 20 screwdriver.
3. Detach the front lens in a firm grip.
4. Mount the new front lens and tighten the screws with 1 Nm. **Make sure the rubber sealing O-ring in the front lens (not shown) is located correctly and it is not damaged.**

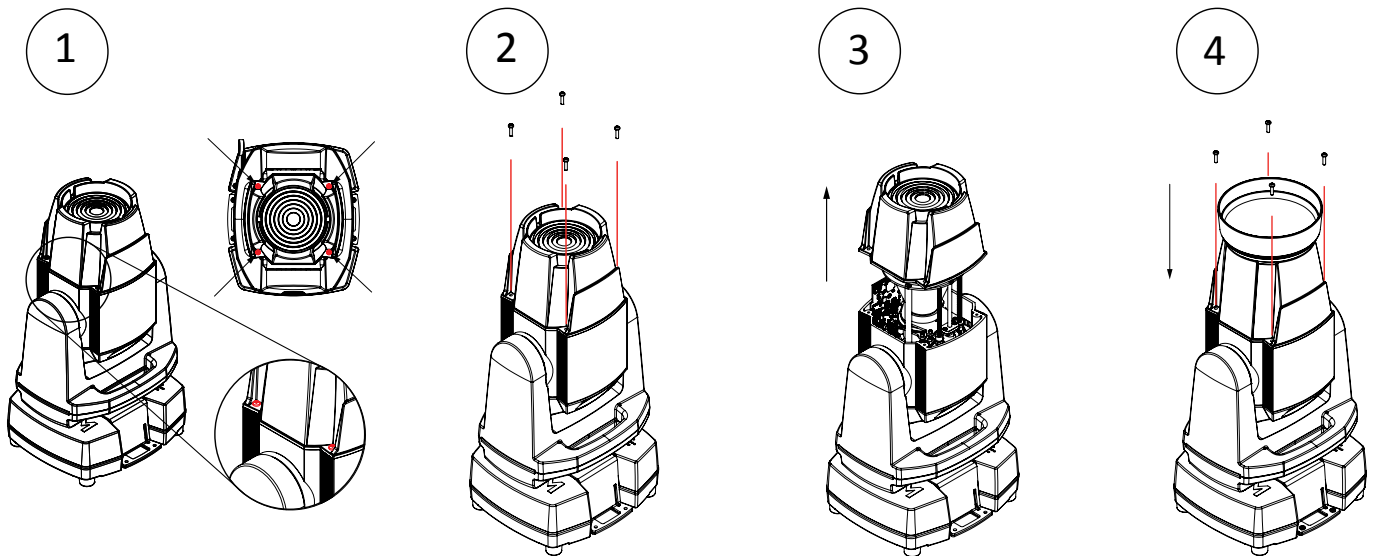


Figure 17: Changing the front lens

Motorized Barndoors

Overview

The motorized barndoors are available as an individual lighting device, or they may be purchased as an accessory.

When acquired as an accessory, the motorized barndoors quickly transform the G-4 into a Fresnel-based luminaire with the same projector performance and no need of manual adjustment.

The motorized barndoors are operated remotely via DMX. Each blade has individual -90° to $+40^{\circ}$ angle control, and the whole module rotates from -110° to $+110^{\circ}$. The barndoors maintain their position at any time and the automatized control avoids the blades to be damaged.

Unlike other LED fresnel lights, the G-4 Wash Motorized Barndoors uses a glass Fresnel front lens and the size of the luminaire does not change while using the zoom feature. Like the traditional hand-made Fresnel projectors, the G-4 Wash Motorized Barndoors creates sharp defined shadows in flood position and diffuse silhouettes in spot position.

Motorized Barndoors front lens

- A: ISO Views
- B: Back view
- C: Side view
- D: Front view

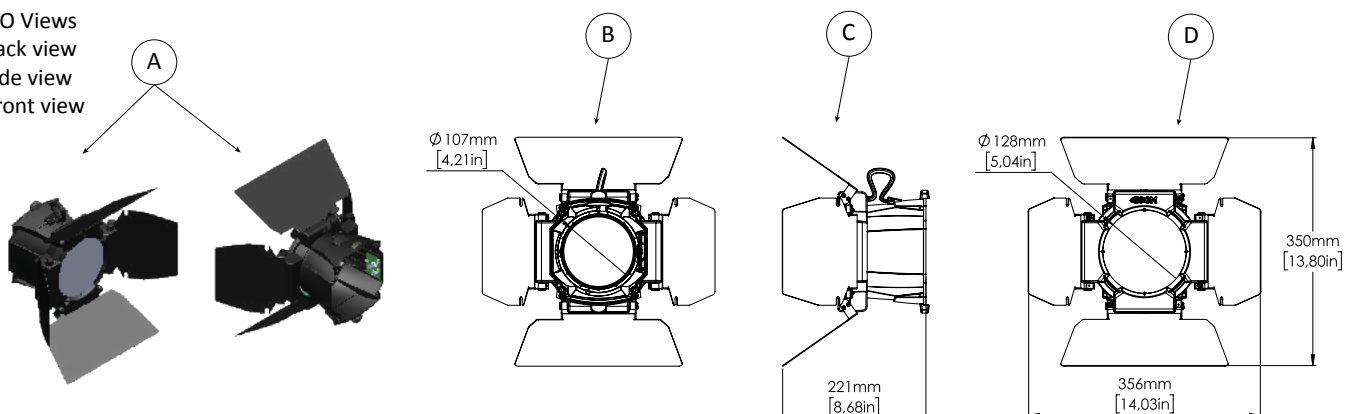


Figure 18: Motorized Barndoors front lens

Attaching/detaching the motorized barndoors

Swapping the front lens of the G-4 Wash or Wash-Beam for the motorized barndoors requires the replacement of both front lens and back cover.

The replacement of the front lens is done in the same way as explained previously on page 19. With regard to the head back cover, it must be replaced for a heavier one, in order to give the proper counterbalance between the front and the back of the fixture.

When purchased as an accessory, the Motorized Barndoors include full and detailed instructions on how to replace the front and the head back cover. To get more information about how to install the motorized barndoors in a G-4 Series fixture, please contact support@sgmlight.com.

A: Motorized barndoors
B: G-4 Head back cover

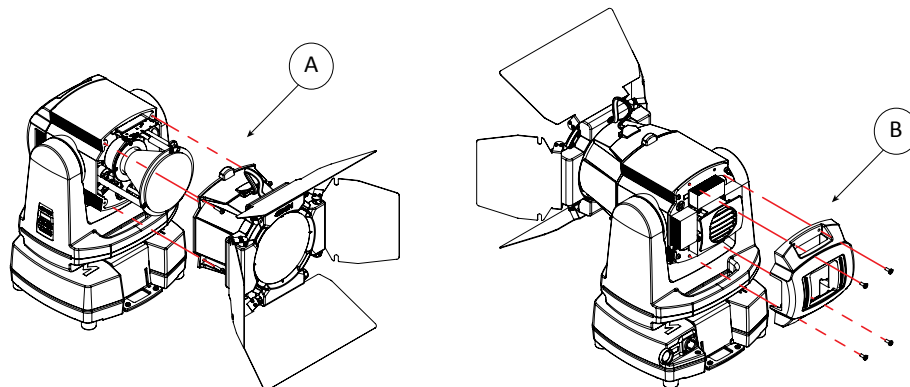


Figure 19: Attaching/detaching the motorized barndoors

Motorized Barndoors closure

When operating the G-4 with motorized barndoors through DMX, be aware that the blades are not allowed to close completely.

Keep therefore in mind that it is expected a tiny gap during the closure of the barndoors, as shown in figure 20.



Figure 20: Motorized barndoors closure

Removable diffusion filter

The G-4 Motorized Barndoors includes an external diffusion filter that is installed in a slot located in the barndoors module, right after the front lens. The filter can be used to improve the softness of the cut, generate a dreamy haze, and enhance the skin tones whenever the fixture is used as a direct front lighting.

The included diffusion filter (or diffusion gel) can easily be removed from the slots (or mounted, if not attached).

The filter slots is a useful feature for other gel-based custom filters. To attach a custom filter in the motorized barndoor module, simply cut the gel in a round shape with $\varnothing 128\text{mm}$, and insert it into the filter grooves.

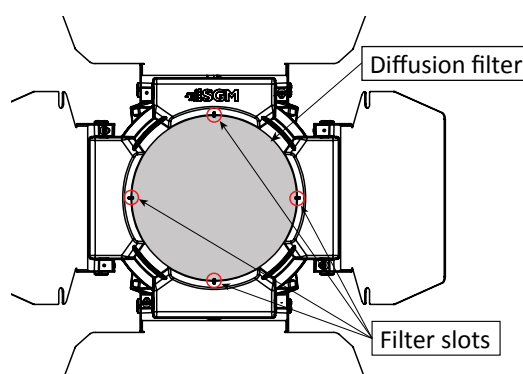


Figure 21: Diffusion filter and slots

SGM Uploader cable

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

Please refer to page 24 to see 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).



Figure 22: SGM Uploader cable

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-4 Series, it's highly recommended that the fixture is always vacuum tested after installing or swapping any part that might compromise the IP-rating, e.g., swapping the front lens or installing the ceiling mount.

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



Figure 23: SGM Vacuum Test Kit

POI Permanent Outdoor Installation

The POI versions are designed for permanent outdoor installations and are IP66-rated. POI versions are also 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 and control panel have been removed.

Configuration

The POI version is configured exclusively via RDM (Remote Device Management), so the DMX start address, DMX mode, etc. have to be configured via RDM. See “RDM” on page 16 for information
 All DMX modes are the same as the standard G-4 Series. See all DMX charts available at www.sgmlight.com under the respective products, or upon request via support@sgmlight.com.

LED Indicator

The LED indicator is located on one side of the yoke (same place where the display is located in standard G-4 Series) and shows the current status of the fixture.

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

- **Static green:** fixture is powered on and receiving DMX signal.
- **Flashing green:** fixture is powered on without receiving DMX signal.
- **Flashing red:** an error message is stored, review via the SGM Service Tool or SGM RDM Addressing Tool.
 Please contact SGM support if further help is needed.
- **Flashing orange (when using a magnet):** fixture is ready to be connected to an external wireless transmitter
- **Off:** fixture is off or indicator LED is set to auto dimming.

Connecting DMX and AC power

DMX-in and DMX-out are in the same cable. See more in figure 23 about the SGM POI DMX cable.

Power is wired as the standard version. See “Connecting AC power” on page 9.

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

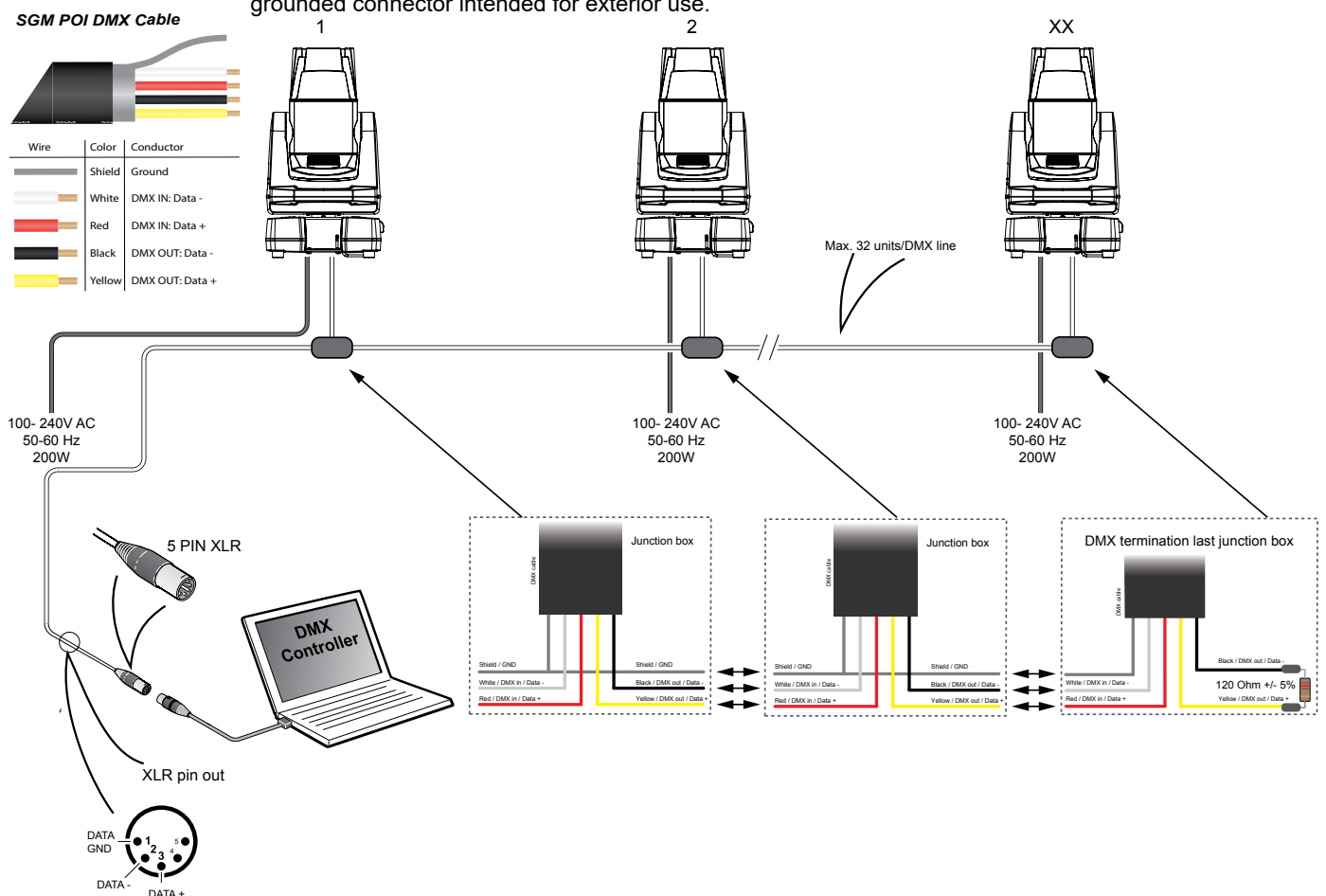


Figure 24: Connecting DMX and AC Power for POI

Connecting a wireless transmitter in POI

In POI versions with wireless it is necessary to pair the fixture with a new transmitter (by default the fixture is linked to the SGM factory transmitter).

In order to do so, take the magnet that comes with the fixture, place it close to the LED indicator, and wait 3 seconds. The LED indicator will blink in orange to show that it can be paired to a new transmitter. Go to the wireless transmitter and press "connect" or "link". Now the external third-party transmitter and the internal SGM receiver should be linked together.

To link it with another transmitter, repeat the process.

Disconnecting a wireless transmitter in POI

To disconnect the fixture from the currently paired wireless transmitter, simply hold the magnet over the LED indicator.

The LED blink orange for 3 seconds and after that the LED changes to green. The fixture is now logged off.

Maintenance

Upgrading the firmware

The firmware installed on the fixture can be identified in two ways:

- When powering on the fixture, the display will show the currently installed firmware
- Go to the MENU → INFO → SOFTWARE VERSION

We recommend that the fixture's firmware is always up-to-date.

The latest G-4 Series firmware version is available for download under the respective product at www.sgmlight.com.

To update your G-4 Series 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. Additionally, the Firmware Tool software offers a simple DMX controller featuring 512 DMX channels for test purposes. The Firmware Tool is also available for download at www.sgmlight.com.

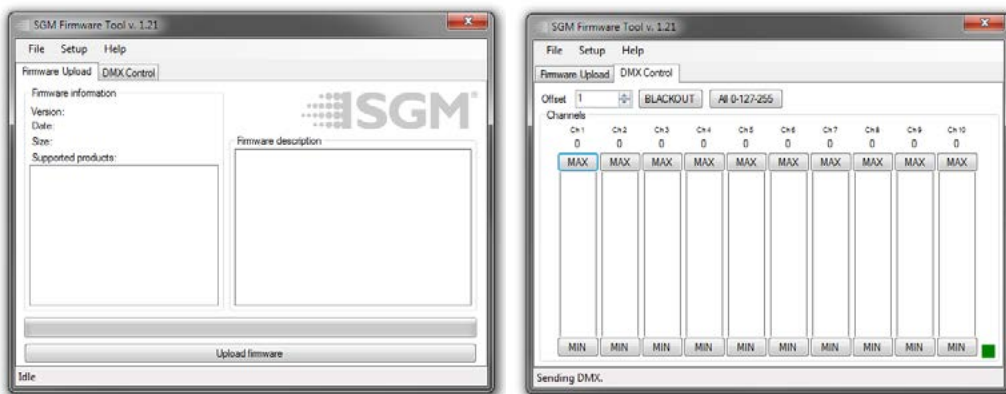


Figure 25: Firmware tool

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-4 Series 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 both hardware, cables, and connectors.

The level of cleaning required will vary greatly depending on the operating environment and installation. It should therefore be checked at frequent intervals within the first few weeks of operation to see how often cleaning is necessary.

Fixtures and accessories

Contact your local SGM dealer to get the latest pricing and news about the available accessories.

PLEASE NOTE: the list below is subject to change without notice.

Ordering information

G-4 Wash, Std, BL / WH.....	P/N: 80101001 / 80101101
G-4 Wash, POI, BL / WH.....	P/N: 80101401 / 80101501
G-4 Wash-Beam, Std, BL / WH.....	P/N: 80101901 / 80102101
G-4 Wash-Beam, POI, BL / WH.....	P/N: 80102001 / 80102301
G-4 Wash Motorized Barndoors, Std, BL.....	P/N: 80101701
G-4 Wash, Std, BL, Ceiling mount.....	P/N: 80101002
G-4 Wash, POI, BL, Ceiling mount.....	P/N: 80101402
G-4 Wash-Beam, Std, BL, Ceiling mount.....	P/N: 80101902
G-4 Wash-Beam, POI, BL, Ceiling mount.....	P/N: 80102002

G-4 Series accessories

2 m power cable with Neutrik TRUE1 power connector.....	P/N: 07860040
1 x Omega bracket, BL / WH.....	P/N: 83060602 / 83061206
SGM USB uploader cable	P/N: 83062011
G-4 Wash Front Lens Kit, BL.....	P/N: 83061409
G-4 Wash-Beam/S-4 Micro-Fresnel Front Lens Kit, BL.....	P/N: 83061410
Single flightcase G-Spot, with labels.....	P/N: 82051001
G-4 Wash Tophat, BL.....	P/N: 83061150
Motorized Barndoors 4-way, G-4/S-4.....	P/N: 83061166
Ceiling mount kit for G-4.....	P/N: 83061707
SGM Vacuum test-kit.....	P/N: 83061136
Flightcase for 4 pcs G-4 Wash/G-4 Wash-Beam.....	P/N: 82051011

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, see www.sgmlight.com.



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