

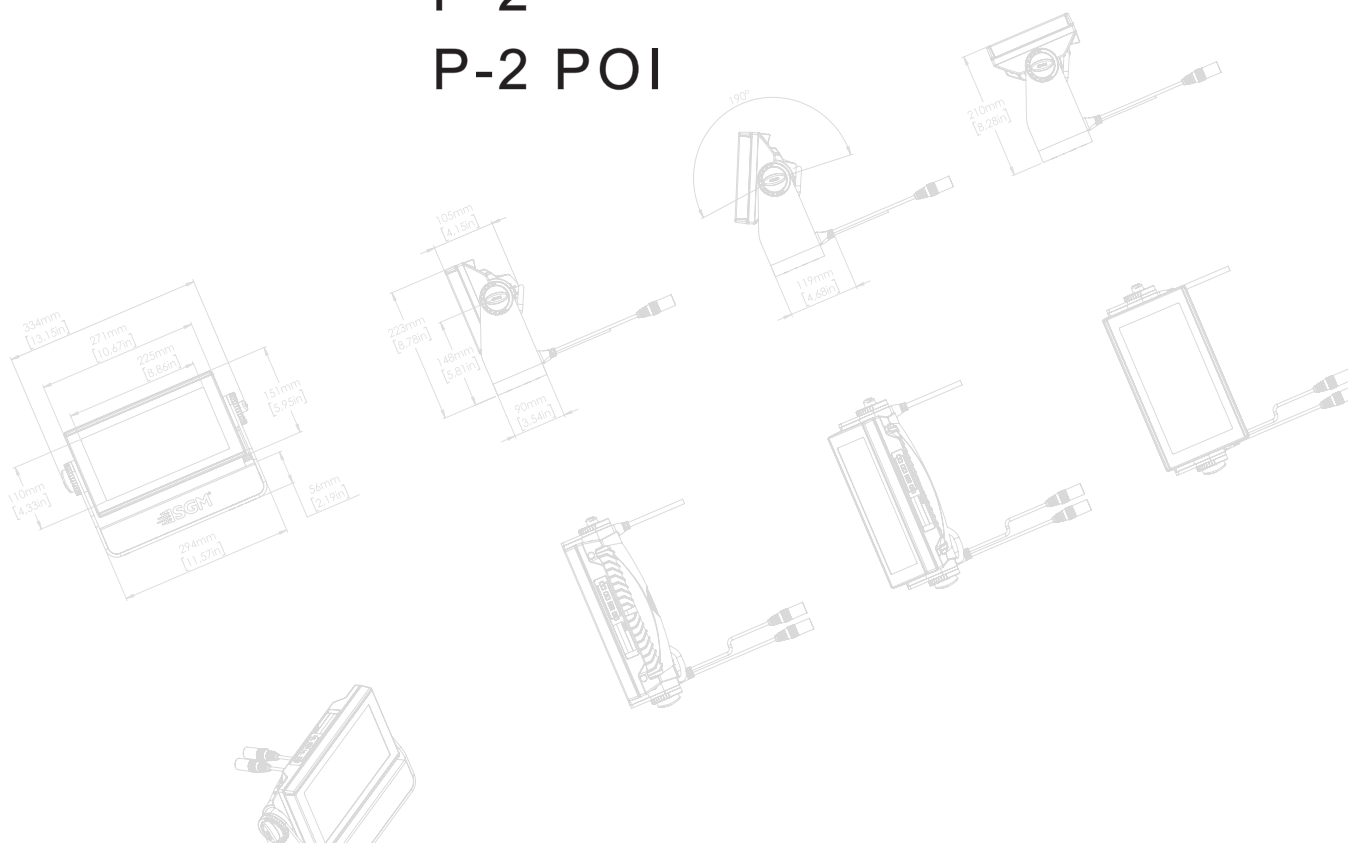
USER MANUAL



P-SERIES

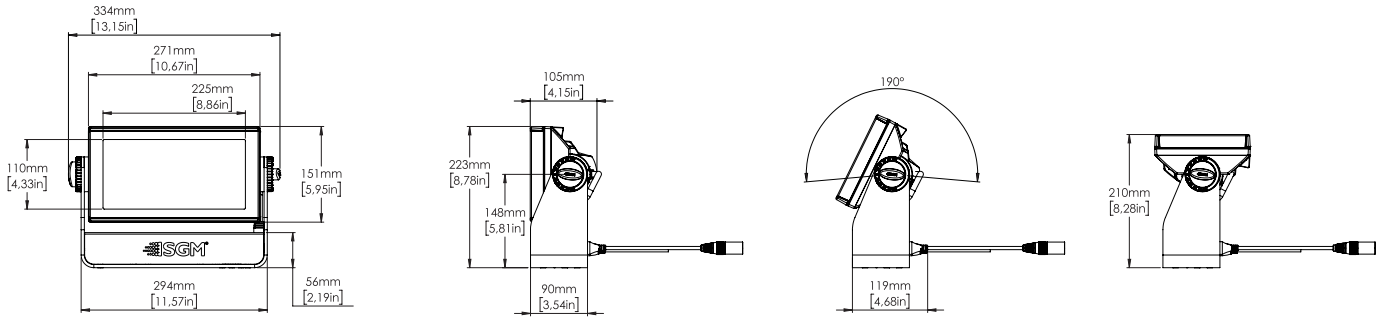
P-2

P-2 POI

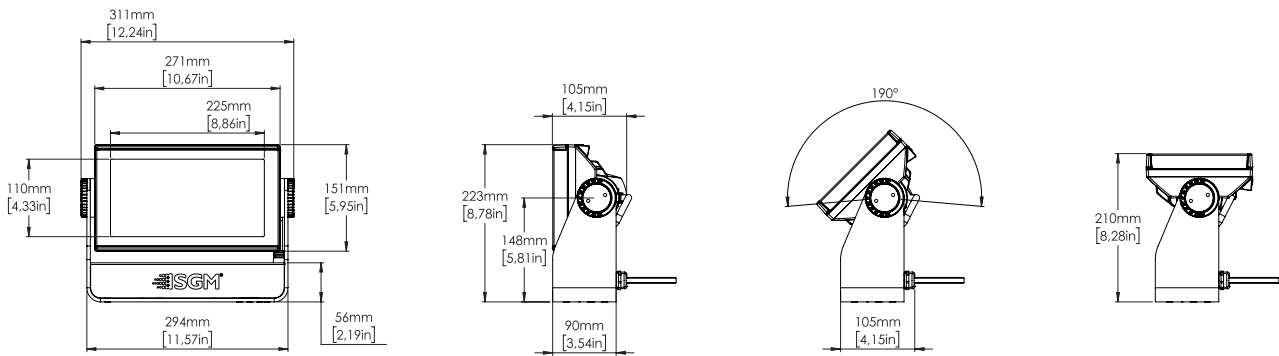


P-2 Dimensions

P-2



P-2 POI



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

This manual covers installation, use, and maintenance of the SGM P-2.
A digital version is available at www.sgmlight.com, or upon request via support@sgmlight.com.

P-2 USER MANUAL REV. I

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This edition applies to firmware version 2.22 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 fixtures 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.
- Ensure a minimum clearance of 0.1 m (4 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 = 60° C (140° 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 3 mm.
- For elevated installations, secure the fixture with suitable safety cables, and always comply with relevant load dimensioning, safety standards, and requirements.

Before installing this product

Please visit the SGM official website at www.sgmlight.com for the latest version of this user manual/ safety information leaflet. Due to continuous improvements, the instructions may change without notice. SGM always recommends the latest available firmware version from www.sgmlight.com.



External cleaning and visual inspection of the fixture

All users of SGM fixtures should regularly clean those parts of the fixture directly exposed to the elements, such as the external housing and front lenses. Additionally, all owners of SGM fixtures must periodically check the external housing of the fixture for structural breaks, components in bad shape, cracked lenses, or loose screws. To ensure proper operation, but also to prevent the risk of potential accidents, do not use the fixture if the lens, housing, or power cables are damaged. If parts of the fixture appear to be missing, cease use immediately and contact SGM support.



Wiring and conduit/ containment

SGM fixtures supplied with power and data cable leads are not intended for installation in permanently installed conduit or containment. When installing fixtures in a permanent installation, ensure cable leads are installed as a service loop to an appropriately rated junction box using suitable cable strain reliefs/ glands. All installed fixtures must be securely mounted and service loop appropriately protected for installation location. All electrical wiring and connections should be completed by a qualified electrician.



Safety Precautions

When using electrical equipment, basic safety precautions should always be followed including the following:

1. Do not mount near gas or electric heaters.
2. Permanently installed equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
3. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
4. Do not use this equipment for other than intended use.
5. Refer service to qualified personnel or authorized service centers.
6. Do not look directly into the beam for long periods of time, when the fixture is on.
7. The fixture shall, under no circumstance, be covered with insulating material of any kind.

READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

Overview

The P-2/ P-2 POI is an IP65/ IP66-rated RGBW LED wash light with a small footprint and high output, designed for multiple applications, including when wireless operation is essential (POI only).

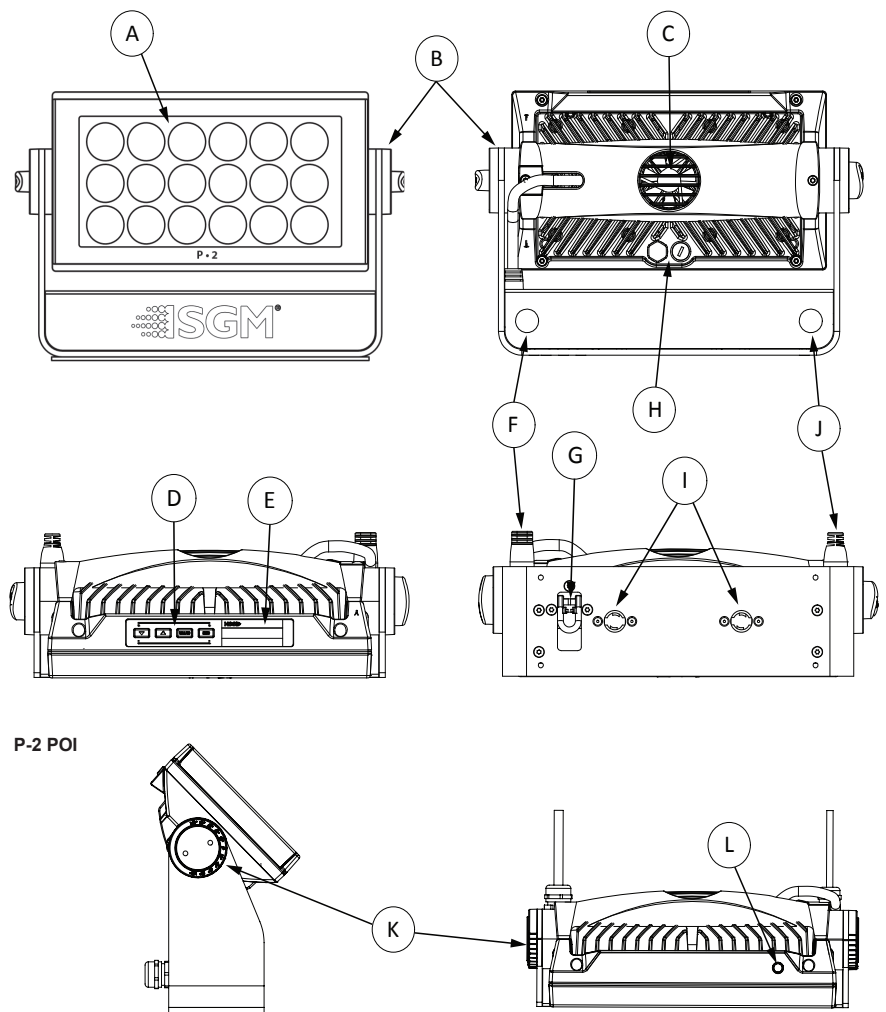
P-2 Series features:

- A wash light, flood light, and a strobe light, weighing only 6.1 kg/ 13.4 lbs.
- Multi-environmental fixture due to its IP65/ IP66 rating that can operate in many environments and in temperatures from -40° C to 50° C.
- 18 high-power RGBW LEDs divided into three vertical, individually controllable LED segments, for wide ranging color and effect combinations.
- Fully RGBW color mixing and adjustable color temperature correction (CTC) from 2,000K to 10,000K.
- Native symmetrical lenses of either 15°, 21°, or 43°.
- Different beam angles available by using the diffusion filters.
- Programmable standalone scenes.
- Fully RDM implemented, compliant with the USITT DMX512 standard.
- Very low power consumption (170 W), and an expected lifetime of the multiple LEDs of 50,000 hours*.
- Optional accessories, such as barndoors, diffusion filters, color frames, etc.
- Built-in wireless DMX (POI only).
- 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:** 18 x 10W LEDs
- B:** P-2 Tilt lock
- C:** Cooling fan
- D:** Control panel (POI n/a)
- E:** OLED Display (POI n/a)
- F:** DMX in and out
- G:** Safety wire attachment point
- H:** Dehumidifiers and GORE-TEX membranes
- I:** Holes for Omega bracket / M-10 screws (x2)
- J:** Power cable
- K:** P-2 POI Tilt lock (POI only)
- L:** LED indicator (POI only)



Illustrations might vary from recieved 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 P-2/ P-2 POI is shipped with:

- 1 x Omega bracket with 1/4-turn fasteners (standard only).
- 1 x Mounting bracket with fasteners (standard only).
- 1 x Spanner with magnet (POI 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 water jets 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 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:

- The DMX out of the last fixture is properly sealed, in accordance with the ingress protection (IP) requirements.
- 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 ingress protection (IP) requirements. Note that a maximum of 32 fixtures can be connected to the same DMX link.

Transportation

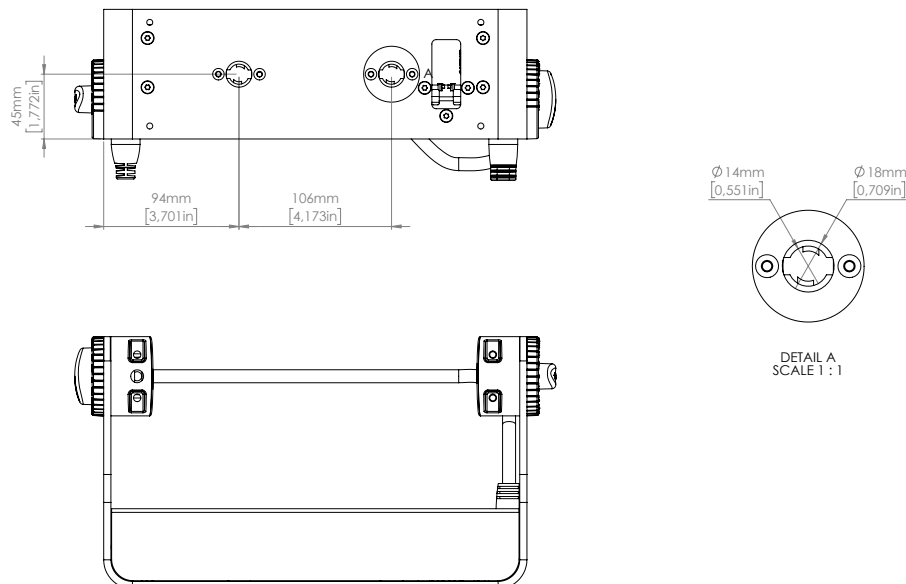
Always use the supplied packaging or suitable flight case for transportation and storage.

Never carry the fixture by connected cables or wires.

Installing/ rigging the P-2 Series

The P-2 may be installed in any orientation, on the ceiling or on a wall surface.

When installed horizontally with a downward beam-angle, moisture or grime can potentially pool in the fan wells. Under normal operation the moisture will evaporate.



In locations with high rainfall, you may wish to fabricate a rain shield above the fixture, or modify the position and orientation of the fixture to minimize pooling.

All SGM fixtures have locking points at 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. However, while the base of the P-2 standard fixture includes 1/4 turn fastener camlocks to mount the omega brackets, the POI products come with M-10 nuts for M-10 screws.

Always use the supplied omega bracket to rig a standard P-2. 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 brackets.

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 P-2 POI” on page 17.

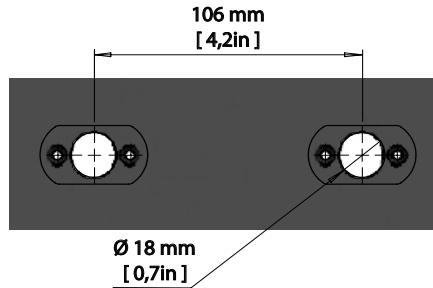


Figure 3: P-2 Series locking points

Rigging process using SGM Omega brackets

Start the standard rigging process by clearing the working area below, 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 P-2 Series base. For standard Omega Bracket, insert the fasteners into the P-2 Series 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.

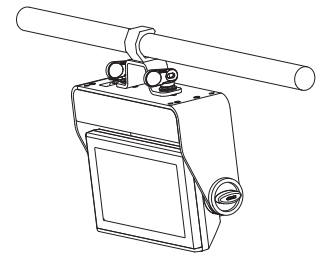


Figure 4: Installing the P-2



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 3 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 for secondary attachment.



Figure 5: Safety wire attachment point

P-2 Mounting bracket

The standard P-2 includes a mounting bracket with fasteners that can be attached to the fixture. The four rubber push-in bumpers prevent the fixture from sliding while operating and protect delicate surfaces from scratching.

Please note this item is not intended for permanent outdoor installation.

When installing the fixture indoors on the ground or on a wall, remove the four rubber push-in bumpers from the mounting bracket. Then securely fasten the fixture to the ground/ wall by using 4 x 6 mm (1/4 in.) fasteners.

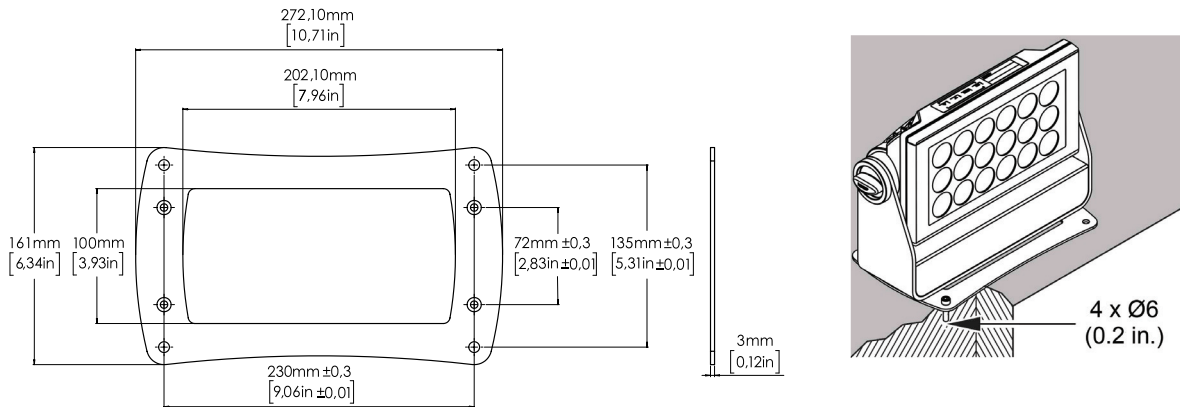


Figure 6: P-2 mounting bracket

Tilt lock

The fixture can be tilted from 0° - 180°.

In P-2 standard versions, there is no need for special tools to adjust the tilt angle.

Take the following steps for adjusting the tilt in standard P-2:

1. Loosen the two tilt knobs (one on each side) by turning them counter-clockwise.
2. Tilt the fixture to the desired angle and hold it.
3. Lock the position by re-tightening both tilt lock knobs clockwise.

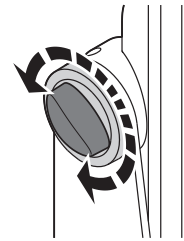


Figure 7: P-2 Standard tilt lock

If there is resistance when tilting the fixture, the knobs may need to be loosened further.

CAUTION!!

If the fixture has been operating, always allow it to cool down for 15 minutes before handling.

NOTE: In POI versions, SGM provides a POI Spanner with a pig-nose key for tilt adjustment. Either use the large or the small pig-nose key, depending on the type of fixture. See “POI Tilt lock” on page 17 to know more about the tilt lock in P-2 POI.

Connecting AC power

The P-2 Series can operate on any 100–277 V, 50/ 60 Hz AC mains power supply, and draws approximately 1,2 A at full power (230 V).

Connect the fixture to AC power by installing a power connector to the bare ended mains cable. The fixture 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.

The power cable color coding is given in figure 8:

- 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 8: 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.

NOTE: In POI versions, the power is wired as in the standard versions by installing a power connector to the bare-ended mains cable. For connecting AC power in POI fixtures, please refer to “Connecting DMX and AC power in POI” on page 17.

After connecting the P-2 to power, run the on-board test by selecting the option “TEST→ SELFTEST” in the menu, to ensure that the fixture and each LED are functioning correctly. POI versions have to be tested through RDM.

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.

Configuring the device

The P-2 Series can be set up by using the control panel and OLED multi-line display on fixture's head or through RDM.

Please note: In POI versions, there is no display mounted in the fixture. The adjustments are made through RDM. For more information see "RDM" on page 15.

The OLED display is the user interface of the fixture and 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 13.

Before turning on the P-2, make sure the power cable is properly connected. When the fixture is powered on, it boots and resets before displaying the selected operating mode and DMX start address. Navigate through the menus and options using the arrow buttons, and select items using the ENTER button.

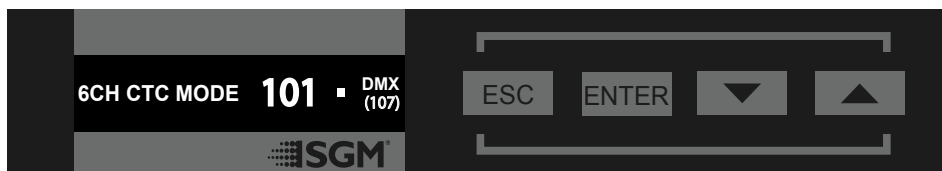


Figure 9: OLED display and control panel

Using the display panel

- Press the 'ENTER' button to access the menu or make a selection.
- Press the arrow buttons to scroll up and down in the menus.
- Press the 'ESC' button to take a step back in the menu.

Shortcuts

- ESC + ENTER: Press ENTER to confirm factory defaults.
- ESC + UP: Press ENTER to start LED test.
- UP + DOWN arrows simultaneously = flip the display upside-down.

Display

Operational mode (A)

Displays the current mode (quick color, standalone, or DMX mode). The fixture is set by default to be controlled in DMX mode.

DMX Address (B)

Displays the current DMX address. The DMX address is altered directly from this view.

External data indicator (C)

The DMX signal indicator will flash when the DMX signal is received.

External data protocol (D)

Shows the external data protocol (CRMTM or DMX).

- When 'DMX' is displayed: the fixture responds to data received through cabled DMX.
- When 'CRM' is displayed: the fixture responds to data received through wireless DMX.

The next available DMX address will show immediately, depending on the fixture's DMX footprint.

Error Indicator

If any errors are detected, the message 'ERR' will flash in the display for easy detection.

To read the error message, select ENTER → INFO → ERRORS in the menu.



- A - Operational mode
- B - DMX address
- C - External data indicator (DMX)
- D - External data protocol + next available DMX address

Figure 10: P-2 Display

Connecting to a DMX control device

The P-2 Series is controllable using a DMX control device. It can be connected using either a DMX cable, or via the fixture's built-in CRMX wireless receiver system (POI only).

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. For outdoor installations, use only IP-rated XLR connectors suitable for outdoor use. Terminate the DMX-Out cable of the last fixture in the data link with a 120 ohm DMX termination.

Note that SGM fixtures provide a passive DMX Thru signal as DMX Out instead of an active output signal.

NOTE!

For POI versions, please refer to “Connecting DMX and AC power in POI” on page 17 to see how to connect DMX and AC power.

Configuring the device for DMX control

About DMX

The P-2 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 between the fixtures, 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 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 P-2 Series can be operated in different DMX modes. For any of the modes, the first channel used to receive data from a DMX control device is known as the DMX start address.

For independent control, each P-2 must be assigned its own DMX start address. For example, if the first P-2 is set to 6ch CTC DMX mode with a start DMX address of 101, the following P-2 in the DMX chain should then be set to a DMX address of 107. As the first fixture uses all the first 6 DMX channels, including channel 101, the next available channel is 107 ($101+6=107 \gg 107$).

If two or more P-2s 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 10 for instructions on using the display panel.

The P-2 Series also offers the option to set the DMX address through RDM.

NOTE: POI versions are only addressable via RDM. See “POI Permanent Outdoor Installation” on page 16.

Setting the DMX mode

Select ENTER → MODE → SELECT MODE in the control panel. It is possible to choose the DMX mode that provides the fixture the controls that you require. Confirm the chosen mode by pressing 'Enter'.

DMX charts

The P-2 Series operates in different DMX modes. Each DMX mode has its own DMX chart. All DMX charts are available for download at www.sgmlight.com under the respective product or upon request via support@sgmlight.com.

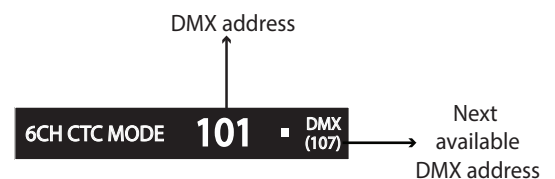


Figure 11: Set/edit DMX address

Setting a static color manually

The P-2 can be configured to display a predefined and static color.

To set up a static color select ENTER → MANUAL → QUICK COLOR.

Note that, once the MANUAL → QUICK COLOR settings are changed, the fixture is set, by default, to automatically start in quick color mode whenever it is powered on. This can be reset through the menu SETTINGS → STARTUP MODE → SELECT STARTUP MODE.

The current quick color program can always be stopped by going to:

ENTER → MANUAL → STOP PROGRAM.

See “Control menu” on page 14 for detailed information about the manual menu.

Please note: In POI versions, configuration of the fixtures can only be done through RDM.

Using standalone operation

Standalone operation can be used when the fixture is not connected to a control device. It can be pre-programmed with a series of up to 24 scenes, playing continuously in a loop. Up to three standalone programs can be defined and run from the menu, and one of the programs can be set to run by default whenever the fixture is powered on.

Each of the three available standalone programs contains 24 user-definable scenes with its own RGB and shutter settings.

Each scene has a definable fade-in time for the transition from one color to the next, and a wait (static) time of up to 120 minutes and 59 seconds.

To record a stand-alone program, press ENTER → MANUAL → EDITOR.

The standalone mode of the fixture’s startup is enabled by selecting:

ENTER → SETTINGS → STARTUP MODE → SELECT STARTUP MODE → STANDALONE.

To select the fixture’s startup program, press:

ENTER → SETTINGS → STARTUP MODE → STARTUP PROGRAM.

The chosen program will run its length cyclically whenever the fixture is powered on.

To run an internal program, go to: ENTER → MANUAL → RUN PROGRAM.

To stop an active internal program, go to: ENTER → MANUAL → STOP PROGRAM.

See “Control menu” on page 13 for detailed information about the manual menu.

Please note: In POI versions, configuring the fixtures can only be done through RDM.

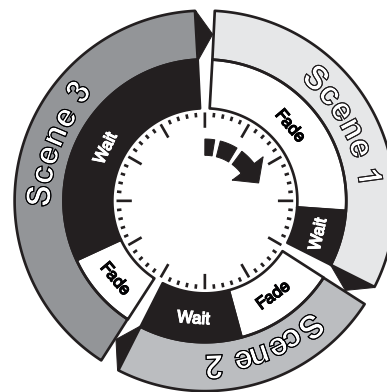


Figure 12: Standalone operation

Fixture properties

Factory default

When restoring the P-2 Series to the factory defaults, the following will be set:

- Set DMX address to 1
- Set 6 Channel CTC DMX mode
- Set screensaver to OFF
- Disable Startup Programs
- Set all Quick Color values to zero
- Set all values in Manual Programs to zero
- Set Fan mode to Standard
- Set Frequency to Default

Effects

Colors and LED Panels

The P-2 Series features 18 high-power RGBW 10W LEDs divided into three individually controllable segments, which generate wide-ranging color effects and pixel-mapping combinations for creative lighting designs.

The fixture can operate in RGB calibrated mode which ensures that colors are compatible across the range of SGM fixtures.

However, the P-2 Series also offers the ability to operate in RAW mode with full control of each color.

Color temperature correction

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

Ultra high-speed strobe effect

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

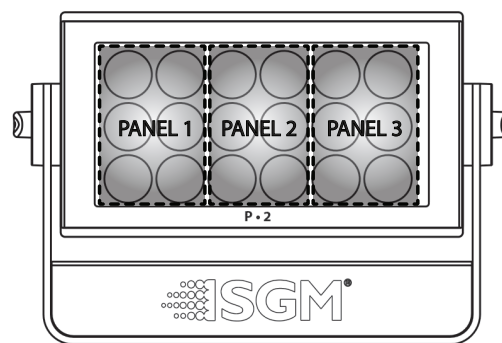


Figure 13: P-2 Pixel segments

Beam angle

The P-2 can be equipped with 43°, 21°, and 15° lenses.

Individual fixture settings

Setting the dimming curve

The setting of the dimming curve will determine the fixture's behaviour, when changing the light intensity between 0% - 100%. Linear control provides uniform adjustment throughout dimming curve. Gamma corrected dimming provides finer control at low light levels, where the eye is more sensitive to change. By default, the P-2 uses gamma corrected dimming. For a uniform response, set all fixtures to the same dimming curve.

Flipping the OLED display (POI n.a.)

If the fixture is installed hanging upside down, it may be useful to flip the display so that it is easier to read.

To flip the display, press ENTER and select SETTINGS → FLIP DISPLAY, or press the up and down buttons on the control panel at the same time.

Setting the OLED display saver (POI n.a.)

By default the OLED display dims down after a short period when the control panel is not in use. The display can also be set to turn off completely, ideal when a pitch-black environment is required. Pressing any key will always turn on the display or restore it to normal brightness.

To configure the display settings, press ENTER → SETTINGS → DISPLAY SAVER.

NOTE: To avoid the risk of display deterioration caused by long term usage, it is recommended to select the setting → DISPLAY OFF.

Setting the fan mode

For operating environments where low-noise is a requirement, or where the fixture will be operating in high temperatures, it is possible to adjust the default fan speed by going to SETTINGS → FAN MODE in the menu.

NOTE: In POI version, the fan mode adjustment is possible through RDM.

Control menu

Level 1	Level 2	Level 3	Level 4	Function	
MODE	Select mode	-	-	Select DMX mode.	
MANUAL	QUICK COLOR	RED	0-255	Static quick color - red mix (0-255). Sets fixture to quick color startup mode.	
		GREEN	0-255	Static quick color - green mix (0-255). Sets fixture to quick color startup mode.	
		BLUE	0-255	Static quick color - blue mix (0-255). Sets fixture to quick color startup mode.	
		WHITE	0-255	Static quick color - white mix (0-255). Sets fixture to quick color startup mode.	
		FULL COLOR CALIB.	On or off	Select between color calibrated or RAW color mode.	
	RUN PROGRAM	1, 2 or 3	-	Runs internal sequence 1, 2 or 3.	
	STOP PROGRAM	-	-	Stops current running internal sequence or Quick Color.	
EDITOR	Program	-	Edits scenes.		
INFO	PRODUCT TYPE	-	-	Displays product type.	
	FIRMWARE VERSION	-	-	Displays installed firmware version.	
	SERIAL NUMBER	-	-	Displays fixture's serial number.	
	RDM ID	-	-	Displays fixture's RDM ID. (Unique RDM ID for identification).	
	DMX VIEW	Up to 492 DMX addresses	-	Display received DMX channels.	
	SENSORS	Mainboard	-	-	Displays fixture temperatures.
		LED Left	-	-	
		LED Center	-	-	
		LED Right	-	-	
		Humidity	-	-	Displays humidity percentage.
		AC Connected	-	-	Displays whether power is connected or not.
		Battery PCT	-	-	Displays battery level.
		Charging	-	-	Displays whether the battery is charging or not.
Battery VDC		-	-	Displays battery voltage.	
Wireless Signal	-	-	Displays wireless signal strength.		

Level 1	Level 2	Level 3	Level 4	Function
INFO	SENSORS	Wireless Paired	-	Displays wireless connection status.
		On Time Red 1	-	Display LED total power on time. (R, G, B, W).
		On Time Green 1	-	
		On Time Blue 1	-	Display LED total power on time. (R, G, B, W).
		On Time White 1	-	
		On Time Red 2	-	
		On Time Green 2	-	
		On Time Blue 2	-	
		On Time White 2	-	
		On Time Red 3	-	
		On Time Green 3	-	
		On Time Blue 3	-	
		On Time White 3	-	
	POWER ON TIME	-	-	Displays fixture total power on time.
LED ON TIME	-	-	Displays LED total power on time. (R, G, B, W).	
ERRORS	-	-	Displays error codes.	
SETTINGS	WIRELESS DMX	LOG OFF	-	Sends Log off command to the CRMX System.
		ENABLE/ DISABLE	-	Enable/ disable wireless DMX functionality.
		BRIDGE	-	Displays strength of the wireless connection.
		STATUS	-	Displays wireless connection status.
	STARTUP MODE	SELECT STARTUP MODE	-	
		STARTUP PROGRAM	Select startup program	Default operating mode when fixture is powered on: 1. DMX (factory default). 2. Standalone. 3. Quick Color.
	LED FREQUENCY	SET LED FREQUENCY	-	Sets LED frequency.
	FLIP DISPLAY	-	-	Flips control panel display.
	DISPLAY OFF	-	-	Toggles automatic display sleep.
	FAN MODE	STANDARD	-	Controls fan's speed.
		SILENT	-	
		MAX POWER	-	
	FACTORY DEFAULT	-	-	Resets the fixture to factory default settings.
	SERVICE PIN	-	-	-
SERVICE MENU	-	-	-	
TEST	SELF TEST	Start/ stop self-test	-	Activates automated self-test.
	DISPLAY TEST	-	-	Test the fixture display.
	COLOR TEST	Start/ stop color test	-	Test the LED segments of the fixture.

NOTE: This menu structure applies to all products delivered from February 2018, running firmware 2.22.

RDM

Supported RDM functions

The P-2 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.

A RDM controller is needed to control the supported parameters. See the tables below for supported RDM functions.

RDM functions

PID	Actions allowed	Name
0x0082		Device label
0x0081		Manufacturer Label
0x00E0		DMX Personality
0x00E1		DMX Personality Description
0x0200		Sensor Definition
0x0201		Sensor Value
0x0080	GET	Device Model Description
0x0400	GET/ SET	Device Hours
0x0051	GET	Parameter Description
0x0500 / 501		Display Invert / Level (POI n.a.)

PID	Actions allowed	Name
0x0090		Factory Defaults
0x1001		Reset Device
0x0120		Slot Info
0x0121		Slot Description
0x0122		Default Slot Value
0x8626	SET	CRM Log Off
0x8060	GET	Serial number
0x8625	GET/ SET	FAN 0=AUTO 1=LOW 2=HIGH 3=FULL
0x8620	GET/ SET	Led freq (197647Hz)/ value

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	Temperature
LED Left	Temperature
LED Center	Temperature
LED Right	Temperature
Humidity	Other
LED on Time Hours Red 1	Time
LED on Time Hours Green 1	Time
LED on Time Hours Blue 1	Time
LED on Time Hours White 1	Time

Name	Sensor Type
LED on Time Hours Red 2	Time
LED on Time Hours Green 2	Time
LED on Time Hours Blue 2	Time
LED on Time Hours White 2	Time
LED on Time Hours Red 3	Time
LED on Time Hours Green 3	Time
LED on Time Hours Blue 3	Time
LED on Time Hours White 3	Time

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.
	Main fuse is blown.	Contact a certified SGM service partner, or support@sgmlight.com.
Fixture suddenly turned off.	Power was turned off.	Check the power supply, switches and breakers.
Fixture suddenly stopped responding.	The DMX console was disconnected/ tampered with.	Inspect the DMX console and connections.
	DMX cables were disconnected.	Inspect DMX cables.
Fixture operates irregularly/ abnormally.	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 120 ohm DMX termination at the end of the DMX link.
	Corrupted DMX cable.	Replace or repair defective cables and/ or connectors.
	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.
Color is uneven in low output	The minimum values is out of calibration.	Contact your local SGM dealer or support@sgmlight.com.
	The SGM Calibration Data set has been lost.	Contact your local SGM dealer or support@sgmlight.com.

POI Permanent Outdoor Installation

The SGM POI versions are designed for permanent outdoor installation and are IP66-rated. POI versions are designed for use in maritime and offshore environments, as per the CX/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 P-2 POI does not include a display, therefore it has to be configured through RDM (Remote Device Management). See “RDM” on page 15 for more information.

In P-2 POI, 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 much as possible.

Regarding the DMX modes for POI, they are the same as the P-2 standard. Visit www.sgmlight.com to see all DMX charts available under the respective product, or upon request via support@sgmlight.com.

PLEASE NOTE!

Remote Device Management (RDM) requires fully compliant DMX cable to be installed and terminated.

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.

LED Indicator

The LED indicator is located on the fixture’s head (same place where the display is located in standard P-2), and shows the current status of the fixture.

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

- **Solid Orange:** fixture is starting up.
- **Blinking Green:** wireless and/ or wired DMX connected.
- **Solid Green:** no wireless or wired DMX connection.
- **Blinking Red:** wireless and/ or wired DMX connected but Error(s) occurred.
- **Solid Red:** no wireless or wired DMX connection but Error(s) occurred.
- **Off:** fixture is off or indicator LED is set to auto dimming (set via RDM).

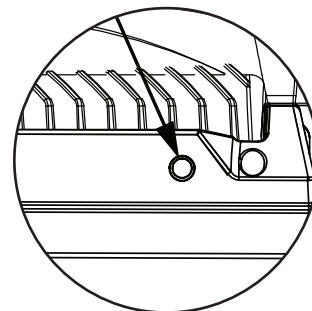


Figure 14: P-2 POI LED indicator

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, and has to be used with the SGM USB 5-Pin-XLR Uploader cable POI if the luminaire does not use XLR connectors in the DMX cable, or the SGM USB uploader cable if the luminaire uses XLR 5-pin DMX connectors (available from your SGM dealer).

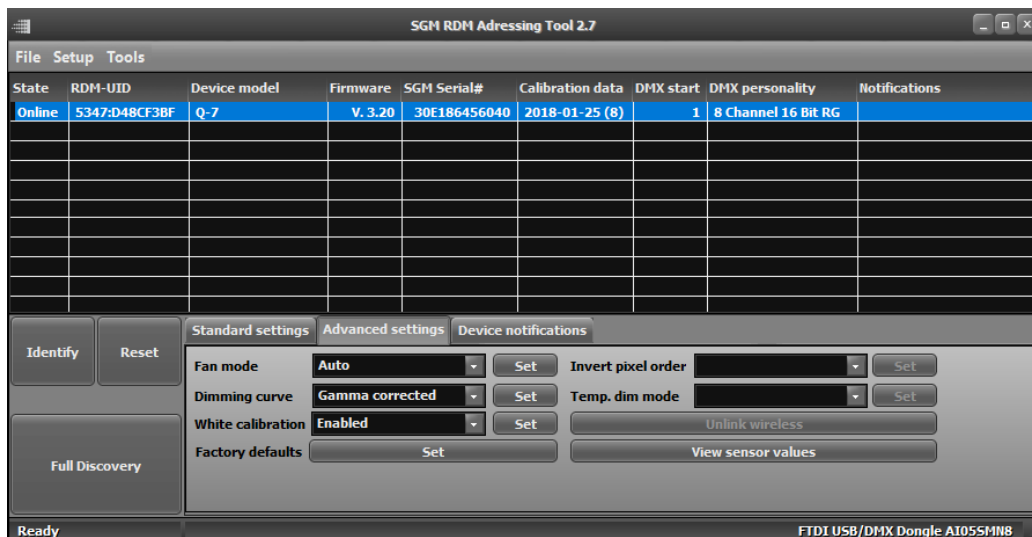


Figure 15: SGM Addressing tool

POI Spanner

The P-2 POI includes a spanner with a magnet, this is for establishing connection between the fixture and the wireless transmitter.

The spanner also has two types of pig-nose keys used for tilt adjustment in POI fixtures. Depending on the type of fixture, either use the large or the small pig-nose keys.

In P-2 POI devices the largest pig-nose key is used for tilt adjustment.

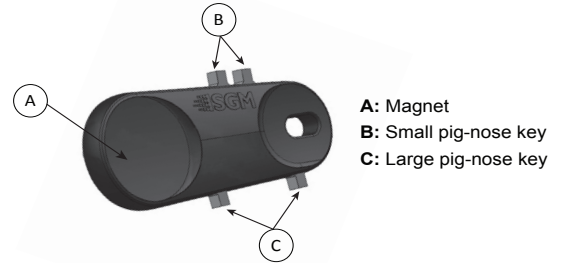


Figure 16: POI Spanner

POI Tilt lock

The tilt angle in POI fixtures may be adjusted by using the large pig-nose key provided in the spanner.

To adjust the tilt angle in P-2 POI, take the following steps:

1. Make sure the fixture has cooled down before handling.
2. Take the spanner and turn both tilt lock knobs (one on each side) counter-clockwise by using the large pig-nose key. Knobs are loosened by turning counter-clockwise.
3. Tilt the fixture to the desired angle and hold it.
4. Lock the position by tightening the tilt lock knobs clockwise with the same pig-nose key.

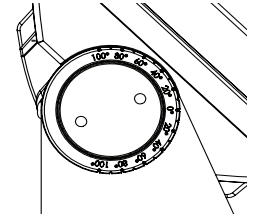


Figure 17: P-2 POI Tilt lock

Installation and rigging the P-2 POI

While the base of the standard products includes 1/4-turn fastener camlocks for omega brackets, the base of POI products comes 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 at the base.

The P-2 POI has two M-10 nuts at 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. Review the dimensions below for integration with brackets or supports.

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.

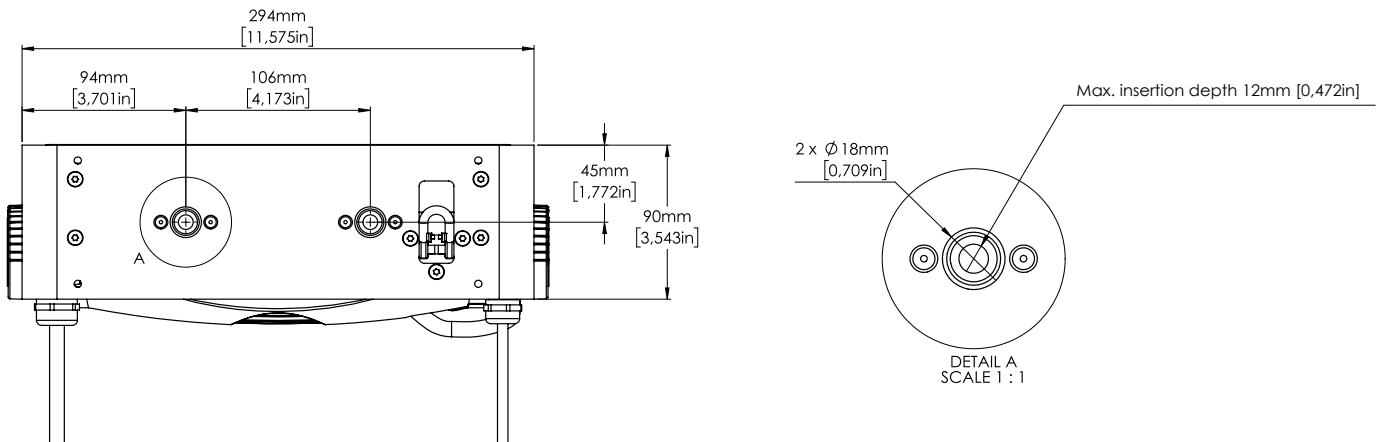


Figure 18: P-2 POI base with dimensions

Connecting DMX and AC power in POI

DMX in and DMX out are in the same cable. See more in figure 19 about the SGM POI DMX cable.

The power is wired as in 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.

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 120 ohm resistor between +5V and -5V cables to the fixture’s DMX out.**
- **SGM fixtures provide a passive DMX Thru signal as DMX Out instead of an active output signal.**

P-2 POI connection diagram

SGM POI DMX Cable

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

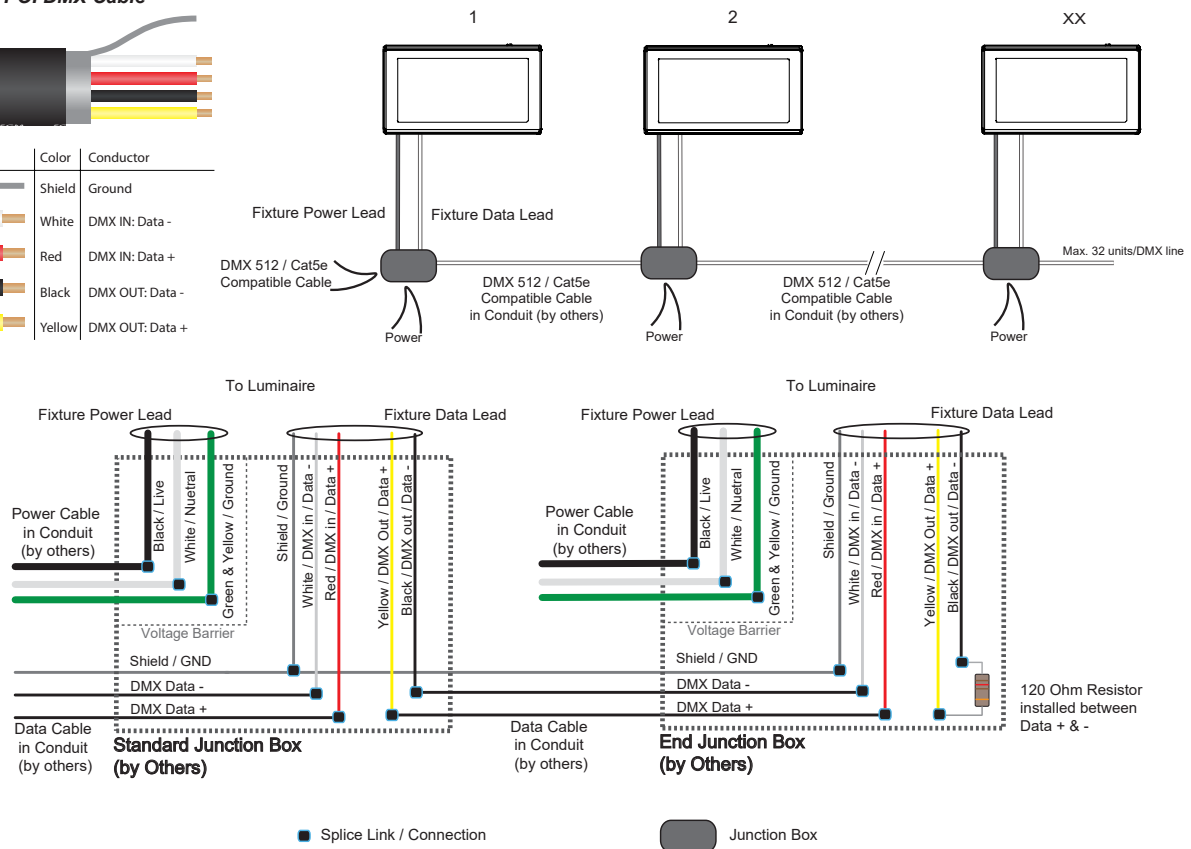


Figure 19: Connecting DMX and AC Power in P-2 POI

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, make sure the fixture is powered on before taking the following steps:

1. Using the spanner that comes with the fixture, place the magnet close to the LED indicator and wait for 3 seconds. The LED indicator will blink orange for 1-2 seconds before switching to static green again. The fixture can now be paired with a new transmitter.
2. 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.

Repeat the process to link the fixture to another transmitter.

Disconnecting a wireless transmitter in POI

To disconnect the P-2 POI from the currently paired wireless transmitter, simply hold the magnet for 3 seconds over the LED indicator. The LED indicator blinks orange for 1-2 seconds, switching back to green again. The fixture is now logged off.

Accessories

The P-2 Series can be used with various accessories such as barndoors, color frame, and anti-glare shields.

To get to know all the available P-2 Series accessories, go to www.sgmlight.com, or contact your local SGM dealer.

Accessory holder

The Accessory holder is a mandatory base for holding Barndoors and Color frames for the P-2 Series fixture. It is a clip-on accessory that includes a safety wire that needs to be attached to the bracket of the fixture, and a knob on the side to allow the sliding of barndoors, color frames or rigid diffusion filters.



Figure 20: P-2 Series Accessory holder

Barndoors

The P-2 Series has 4-way and 8-way barndoors. The difference between the two types is that the 8-way barndoors give an extra control when cutting the light, by extending and adjusting the width of the side flaps.

The barndoors are designed and intended to be mounted on the fixture without the use of any tools. It is only required the use of the accessory holder where the barndoors will slide and fit in.

The P-2 Series barndoors are also compatible with the use of color frame and diffusion filters.



Figure 21: P-2 Series Barndoors

Floorstand

The P-2 Series has an optional floorstand, ideal when there is a frequent need of changing the position of the fixture from hanging to standing.

The P-2 floorstand is easy to mount or remove by simply using the 1/4-turn fasteners.



Figure 22: P-2 Series Floorstand
n e n t

PLEASE NOTE!

The accessory holder, the barndoors and the floorstand are not intended for permanent outdoor installations.

Anti-glare shields

The P-2 Series features two different types of optional anti-glare shields:

- **Full anti-glare shield** - covers the full fixture's opening.
- **Half anti-glare shield** - covers half of the fixture's opening.

Using the anti-glare shields will remove any unwanted glare and reflections.

The anti-glare shields are easily mounted by removing the two tilt lock bolts, one on each side of the fixture. Refit the anti-glare shield in position and screw the tilt-lock bolts again.

Note: This accessory is suitable for both permanent outdoor and indoor installations.

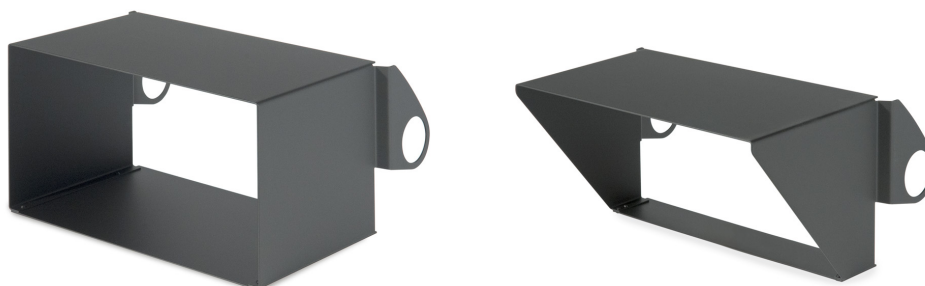


Figure 23: P-2 Series Anti-glare shields

For further information and other possibilities see www.sgmlight.com or contact your local SGM dealer.

Service

Apart from the lens module, there are no user-serviceable components in the fixture. Do not open the P-2 Series, as doing so is likely to damage the ingress protection. Consult your SGM dealer if the fixture operates abnormally, is defective, or, otherwise, in need of service or repair.

Changing P-2 front lens

Before replacing the lens module, make sure the fixture is turned off and cool. Then, take the following steps:

1. Unscrew the highlighted screws with a TX20 screwdriver.

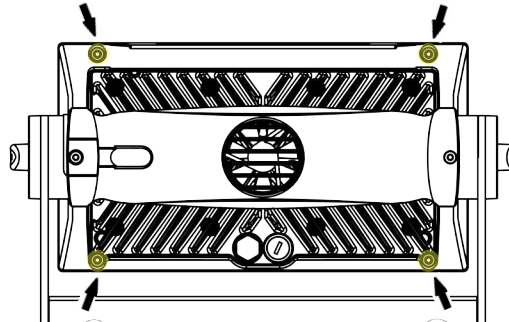


Figure 24: P-2 Changing lens module I

2. Dismantle the front and unscrew the highlighted front plugs with an Unbrako 6 / HOP6 Allen key.

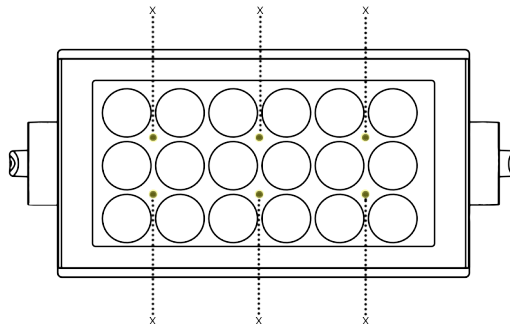


Figure 25: P-2 Changing lens module II

3. Take out the lens module.
4. Place the new lens on the PCB print spacers and carefully press the lens module in place.
5. Screw in the highlighted front plugs with an Unbrako 6/ HOP6 Allen key (Nm 1,0) and place three Silica Gel bags (not included in lens kit) as shown below.

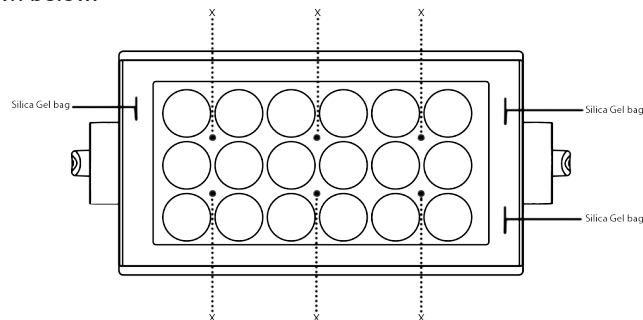


Figure 26: P-2 Changing lens module III

6. Place the sealing frame facing upwards (see below) on top of the lens module.

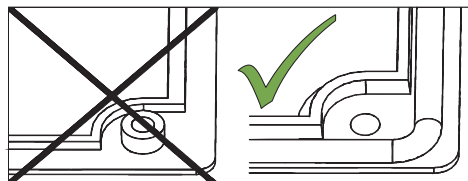


Figure 27: P-2 Changing lens module IV

7. Place the front assembly on top of the sealing frame.
8. Screw in the highlighted screws with a TX20 screwdriver (Nm 0,7) - see step 1.
9. Check that the sealing frame (gasket) is evenly visible all the way around the lens module.
10. Vacuum test the fixture after replacing the lens module to verify that the validity of ingress protection (IP) is kept - see "SGM Vacuum Test kit" on page 21.

Maintenance

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 P-2 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.

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



Figure 28: SGM Vacuum Test Kit

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.

Both the SGM Uploader cable and the SGM Uploader cable POI are also used for controlling the DMX values channel by channel through the Firmware Uploader Tool software (available for download at www.sgmlight.com).



Figure 29: SGM Uploader cable

SGM Uploader cable, POI

This cable is an accessory to upload firmware in fixtures not using XLR connectors, such as POI series. See below how to update the fixture with the latest firmware.



Figure 30: 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 kept always up-to-date. The latest firmware version is available for download under the respective product at www.sgmlight.com.

To update your P-2 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 (available for download at www.sgmlight.com).

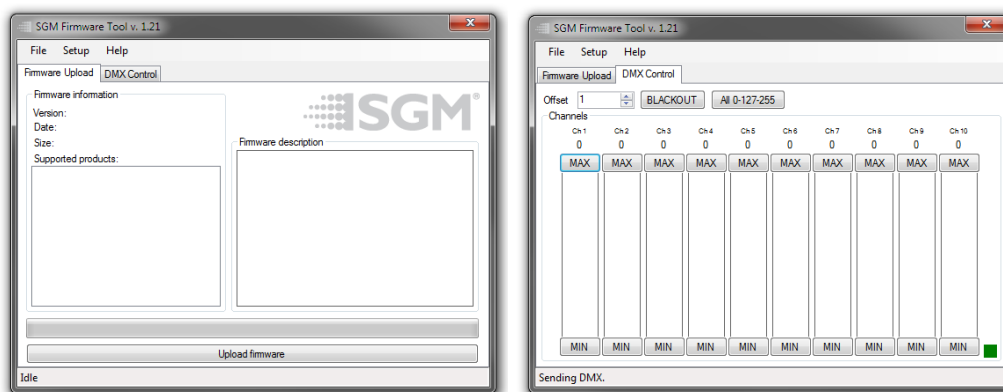


Figure 31: SGM Firmware tool

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

Cleaning

SGM fixtures with IP65 or IP66 rating do not require 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 P-2 Series using a soft cloth dampened in a solution of water and 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. Therefore, it is recommended to do frequent check-ups during the first few weeks of operation to see how often cleaning is necessary.

Fixtures and accessories

The P-2 Series can be used with a variety of accessories.

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

Please note: the products listed below are subject to change without notice.

Ordering information

P-2 Wash, 43deg, Std, BL/ WH.....	P/N: 80030528 / 80030543
P-2 Wash, 21deg, Std, BL/ WH.....	P/N: 80030526 / 80030544
P-2 Wash, 15deg, Std, BL/ WH.....	P/N: 80030529 / 80030545
P-2 Wash, 43deg, POI, BL/ WH.....	P/N: 80230103 / 80230104
P-2 Wash, 21deg, POI, BL/ WH.....	P/N: 80230203 / 80230204
P-2 Wash, 15deg, POI, BL/ WH.....	P/N: 80230303 / 80230304

The P-2 Series can be ordered in any RAL color and can be customized for POI version. Contact your local SGM dealer for ordering customized color housings or for more information.

P-2 Series accessories

Omega bracket w/Q-bolt,, BL/ WH.....	P/N: 83060602 / 83061206
Omega bracket POI with M10 Screws, BL/ WH.....	P/N: 83060623 / 83060624
SGM USB uploader cable.....	P/N: 83062011
SGM USB uploader cable POI.....	P/N: 83062067
P-2, Lens Kit, 43deg, BL.....	P/N: 83061134
P-2, Lens Kit, 21deg, BL.....	P/N: 83061133
P-2, Lens Kit, 15deg, BL.....	P/N: 83061132
Floorstand for i-2/P-2/Q-2.....	P/N: 83060613
Accessory Holder I-2/P-2 Series, BL.....	P/N: 83061127
Barndoor 4-way, i-2/P-2/Q-2 series, BL.....	P/N: 83061129
Barndoor 8-way, i-2/P-2/Q-2 series, BL.....	P/N: 83061130
Color frame, P-2 & Q-2 series.....	P/N: 83061131
Half Anti-Glare Shield, Large, BL.....	P/N: 83061161
Full Anti-Glare Shield, Large, BL.....	P/N: 83061164
Flight case for 4 pcs of P-2/Q-2 incl. barndoors.....	P/N: 82051503
SGM Vacuum test-kit.....	P/N: 83061136

Barndoor 4-way, Barndoor 8-way, or Color Frame requires one Accessory Holder (Item No. 83061127) per fixture.

Support hotline

SGM offers 24/7 technical support hotline.

Worldwide: +45 3840 3840

US: +1 407-242-6217

support@sgmlight.com

Approvals and certifications

Conforms to	2014/35/EU: Low Voltage Directive
Conforms to	2014/30/EU: EMC Directive
Conforms to	2011/65/EU: RoHS2 Directive
Conforms to	ANSI/UL Std. 1573
Certified to	CSA E60598-1, Ed: 2
Certified to	CSA-E598-2-17-98, Ed: 1



RoHS



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