

USER MANUAL



P-SERIES

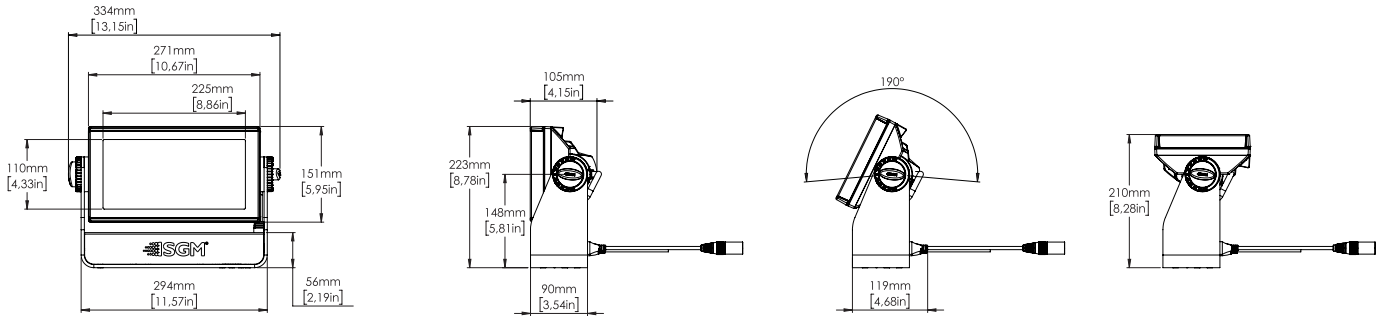
P-2

P-2 POI

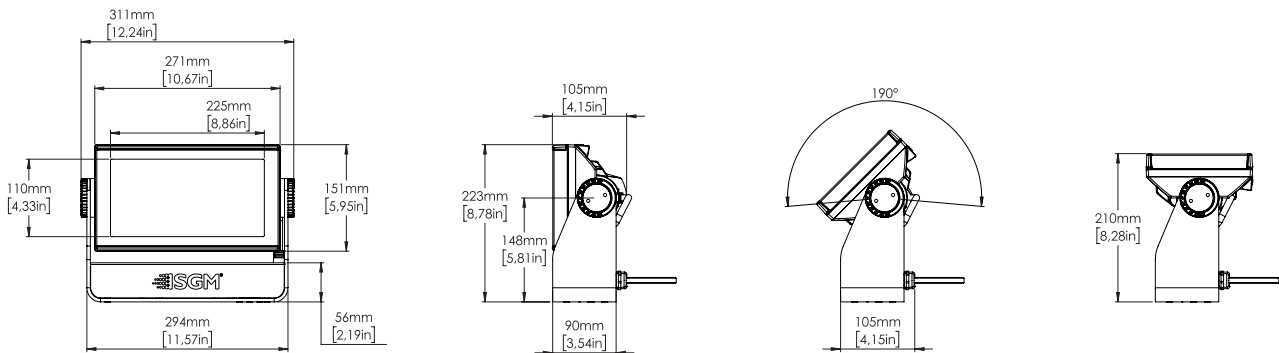


P-2 Series dimensions

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 Series.
A digital version is available at www.sgmlight.com or upon request via support@sgmlight.com.

P-2 SERIES USER MANUAL REV. G

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This edition applies to firmware version 1.73 or later.

English edition

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Safety information



WARNING!

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



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

Les luminaires SGM sont impropres 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.

Overview

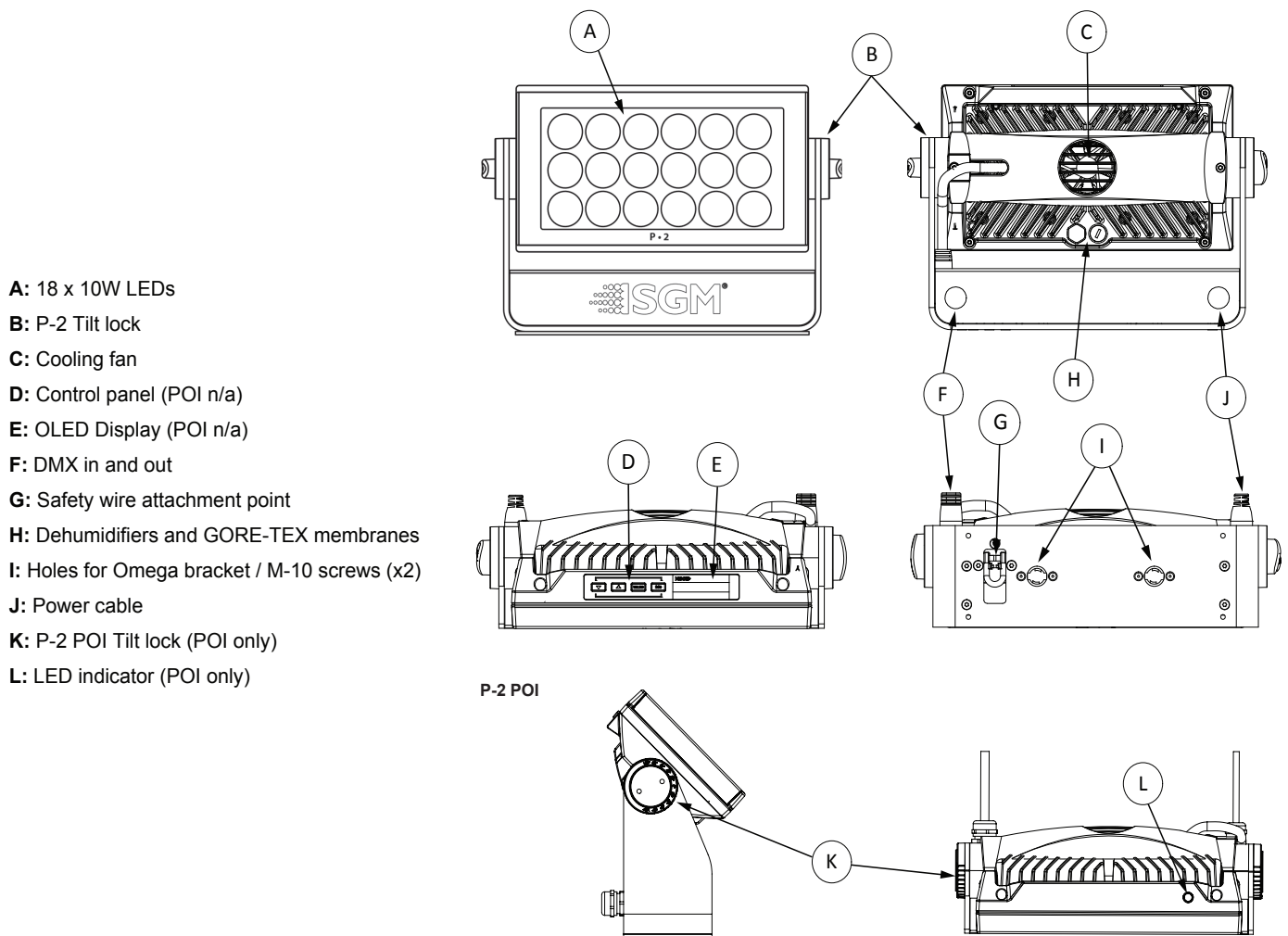
The P-2 / P-2 POI is an IP65 / IP66-rated RGBW LED wash light with a small footprint and high output, designed for multiple applications, including when wireless operation is essential (POI only).

P-2 Series features:

- A wash light, flood light, and strobe light, weighing only 6.1 kg/13.4 lbs.
- Multi-environmental luminaire due to its IP65/IP66-rating that enable operation in all kinds of environmental settings 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 programs.
- Fully RDM implemented, compliant with the USITT DMX512 standard.
- Very low power consumption (170W), and an expected lifetime of the multiple LED's 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



*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:

- One 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 jets of water from any direction.

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

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

When selecting a location for the device, ensure that:

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

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

- 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 it can be connected a maximum of 32 fixtures 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, water, moist, 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 luminaries have locking points in the base for installation and rigging. In both standard and POI fixtures, the distance between the points from center to center is always 106 mm. However, while the base of the P-2 standard fixture include 1/4 turn fasteners 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 16.

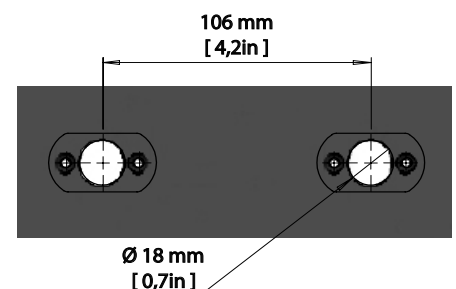


Figure 2: P-2 Series locking points

Rigging process using SGM Omega brackets

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

1. Check that the clamp/bracket is undamaged and can bear at least 10 times the weight of the fixture. Check that the structure can bear at least 10 times the weight of all installed fixtures, lamps, cables etc.
2. Bolt the clamp/bracket securely to the omega bracket with a M12/ ½ bolt (min. grade 8.8 C5M) and a lock nut.
3. Align the omega bracket with the 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.

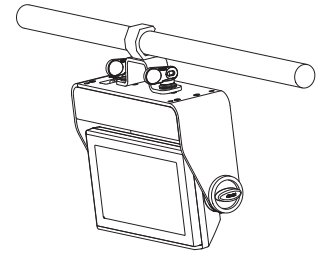


Figure 3: Installing the P-2



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 4: 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 on the ground/wall by using 4 x 6 mm (1/4 in.) fasteners on the resulting holes.

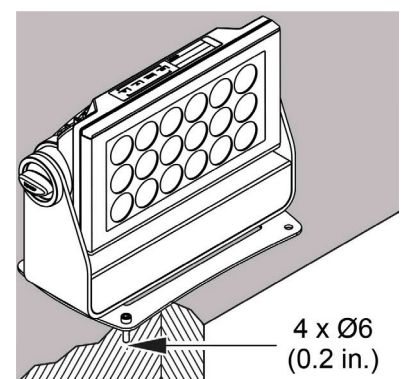
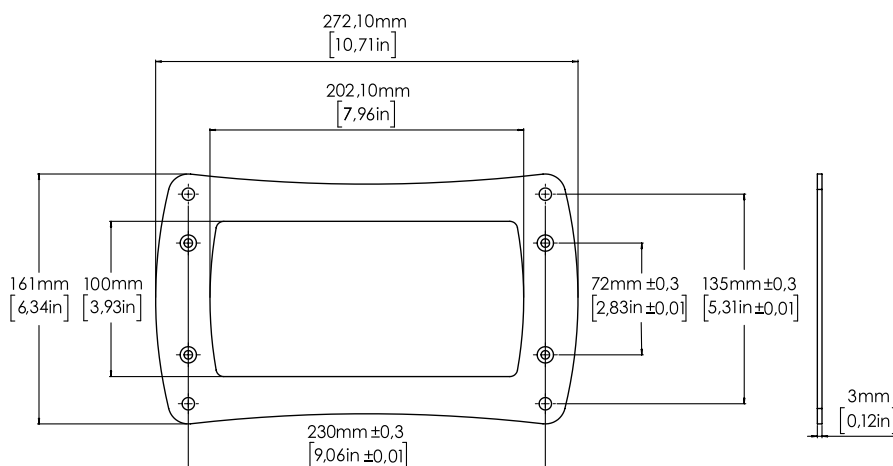


Figure 5: P-2 mounting bracket

Tilt lock

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

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

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

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

If you feel resistance when tilting the fixture, you might not have loosened the tilt screws enough.

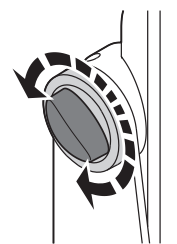


Figure 6: P-2 Standard tilt lock

CAUTION!!

If the fixture has been operating, always allow it to cool 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 page 16 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 it draws approximately 1,2A at full power (230V).

Connect the fixture to AC power by mounting a power connector to the bare ended mains cable. The fixture must be grounded/earthed and be able to be isolated from AC power. The AC power supply must incorporate a fuse or circuit breaker for fault protection.

The power cable color coding is given in figure 7:

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

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

Figure 7: Connecting AC Power

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

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

NOTE: In POI versions, the power is wired as the standard versions by mounting a power connector to the bare ended mains cable. Please refer to pages 16-17 for connecting AC power in POI fixtures.

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. See page 15 for more information.

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

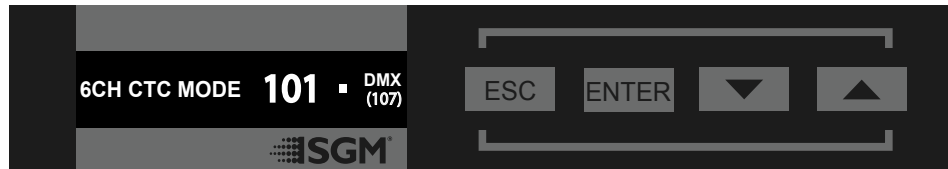


Figure 8: OLED display and control panel

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, stand-alone, 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 be flashing 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 9: P-2 Display

Connecting to a DMX control device

The P-2 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 (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 page 16-17 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 on the same DMX link. Up to 300 m. (1000ft.) of cable is achievable with high quality DMX cables. All DMX links must be terminated by connecting a DMX termination plug to the last fixture's 5 pin DMX out connector.

PLEASE NOTE:

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

DMX Start address

The 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 ($101+6=107 >> 107$).

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 9 for instructions on using the display panel.

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

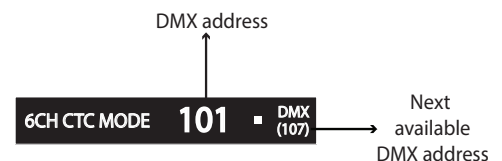


Figure 10: Set/edit DMX address

NOTE: the POI versions are only addressable via RDM. See "POI Permanent Outdoor Installation" on page 15.

Setting the DMX mode

When selecting 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.

Setting a static color manually

The P-2 standard 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 will be 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 13 for detailed information about the manual menu.

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

Using standalone operation

Standalone operation is not running when the fixture is connected to a control device, but when it is pre-programmed with a series of up to 24 scenes, playing continuously in a loop. Up to three stand-alone programs can be defined and run from the menus, 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 define 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.

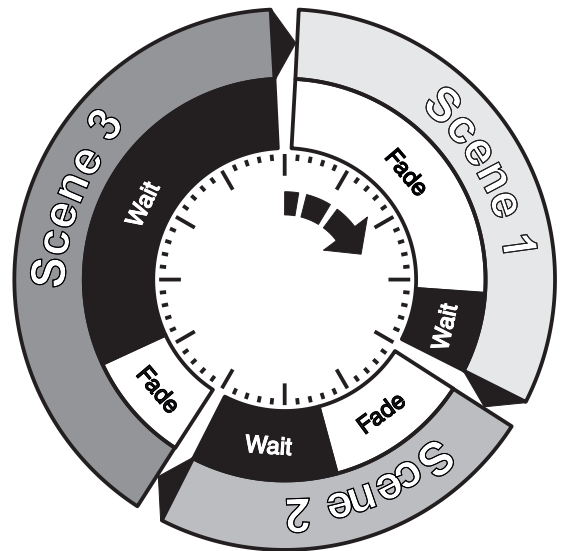


Figure 11: Standalone operation

Fixture properties

Factory default

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

- DMX address = 1
- DMX mode = Default mode (6 channel)
- Startup mode = DMX
- Display saver = Off
- Flip screen = Off
- RDM device label set to = Fixture type name
- Internal program reset

Effects

Colors and LED Panels

The P-2 Series features 18 high-power RGBW 10W LEDs divided in three individually controllable segments, which generates 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 2000° Kelvin - 10000° Kelvin.

Ultra high-speed strobe effect

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

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 the control action, whereas 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 might 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.

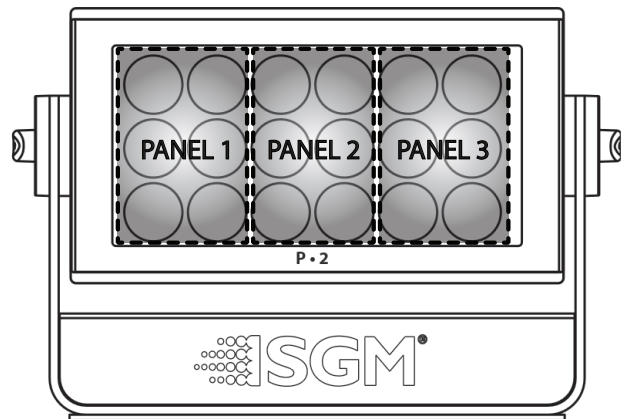


Figure 12: P-2 Pixel segments

Control menu

Level 1	Level 2	Level 3	Level 4	Function
MODE	Select Mode	-	-	Select DMX mode.
INFO	Product Type	-	-	Display product type.
	Firmware Version	-	-	Display installed firmware version.
	Serial Number	-	-	Display fixture's serial number.
	RDM ID	-	-	Display fixture's RDM ID. (Unique RDM ID for identification).
	DMX View	-	-	Display received DMX channels.
	Temperatures	-	-	Display temperatures (mainboard, left, center and right LED panel).
	Power on time	-	-	Display fixture total power on time.
	LED On Time	-	-	Display LED total power on time. (R, G, B, W).
	Log	-	-	Display recorded operation data and error codes.
	Startup Mode	Select Startup Mode	DMX Standalone Quickcolor	Default operating mode when fixture is powered on: 1. DMX (factory default) 2. Stand-alone 3. Quick Color
		Startup Program	1 → 3	Stand-alone program 1, 2 or 3. Only used if the startup mode is set to "stand-alone". Program 1 is default.
	Flip Display	Enable / Disable	-	Flips the display up-site down when enabled.
	Display Saver	Display DIM	-	Dims OLED display when control panel is not in use.
		Display OFF	-	Turns off OLED display when control panel is not in use.
	Fan Mode	Standard	-	
		Silent	-	
		Max Power	-	
	Minimum Values	Red	-	Sets minimum values for individual segments.
		Green	-	
		Blue	-	
		White	-	
	Factory Default	-		Reset the fixture to factory default settings. See "Factory defaults" on page 12.
	Service Pin			Enter service pin to access service menu.
	Service Menu	Product Type	-	
		Calibration Info	-	
		PSU Voltage	-	
		PWM Out	-	
MANUAL	Quick Color	Red	1 → 255	Press enter to set static quick color - red mix (0-255). Sets fixture to quick color startup mode.
		Green	1 → 255	Static quick color - green mix (0-255). Sets fixture to quick color startup mode.
		Blue	1 → 255	Static quick color - blue mix (0-255). Sets fixture to quick color startup mode.
	Run program	1, 2 or 3	-	Run internal sequence 1,2 or 3.
	Stop program	-	-	Stops current running internal sequence or Quick Color.
	Editor	Program	1 → 3	Select program to edit (1, 2 or 3).
		Scene	1 → 24	Select program to edit (1-24).
		Red	1 → 255	Select value for red.
		Green	1 → 255	Select value for green.
		Blue	1 → 255	Select value for blue.
		White	-	
		Shutter	1 → 255	Blackout (0-7); Open (8-15); Variable Strobe (16-151); Pulso Open (152-175); Pulse Close (175-199); Variable Random Strobe (200-244); Open (245-255)
		Fade time (minutes)	0 → 511	Set fade-in (transition) time to current scene in min. (0-511).
		Fade time (seconds)	0 → 59	Set fade-in (transition) time to current scene in sec. (0-59).
		Wait time (minutes)	0 → 998	Set waiting (static) time in current scene in min. (0-998).
		Wait time (seconds)	0 → 59	Set waiting (static) time in current scene in sec. (0-59).
TEST	Selftest	-		Initiates a self-test sequence.
	Display Test	-		Show multiple test patterns
	Color Test	-		Test each color of the light source. Each panel is tested separately, use the arrow keys to cycle through the colors.

RDM

Supported RDM functions

The P-2 features support for various RDM functions.

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

An RDM controller is needed to get control over the supported parameters. See the tables below for 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 / abnormal.	DMX address or DMX mode is incorrect.	Inspect and enter the correct DMX address or mode.
	DMX cable polarization is inverted (pin 2 + 3).	Install a phase-inverter to reverse the polarity, or replace cables.
	DMX link is not terminated.	Install a XLR 120ohm DMX termination at the end of the DMX link.
	Corrupted DMX cable.	Replace or repair defective cables and/or connections.
	The fixture operates an internal program.	Enter in the meny 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 or higher. POI versions are designed for use in maritime and offshore environments, as per the C5-M corrosion-resistance class.

Physical differences

The POI version differs from the standard version by having fixed-chassis power and DMX cables, and heavy-duty cable glands. The display 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 14 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 far 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 a correct DMX cabled installation and termination.

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

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.

- **Static green:** fixture is powered on (receiving or not DMX signal).
- **Flashing orange (when using the magnet):** fixture is connecting to / disconnecting from an external wireless transmitter.
- **Static/flashing red:** an error message is stored; review via the SGM RDM Addressing Tool, reboot the fixture, or contact SGM support for diagnostic help.
- **Off:** fixture is off or indicator LED is set to auto dimming (set via RDM).

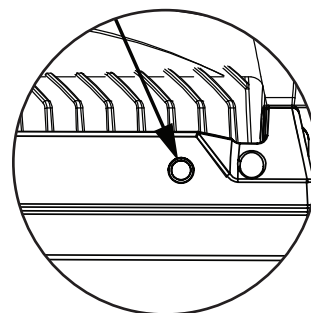


Figure 13: P-2 POI LED indicator

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 (available from your SGM dealer).

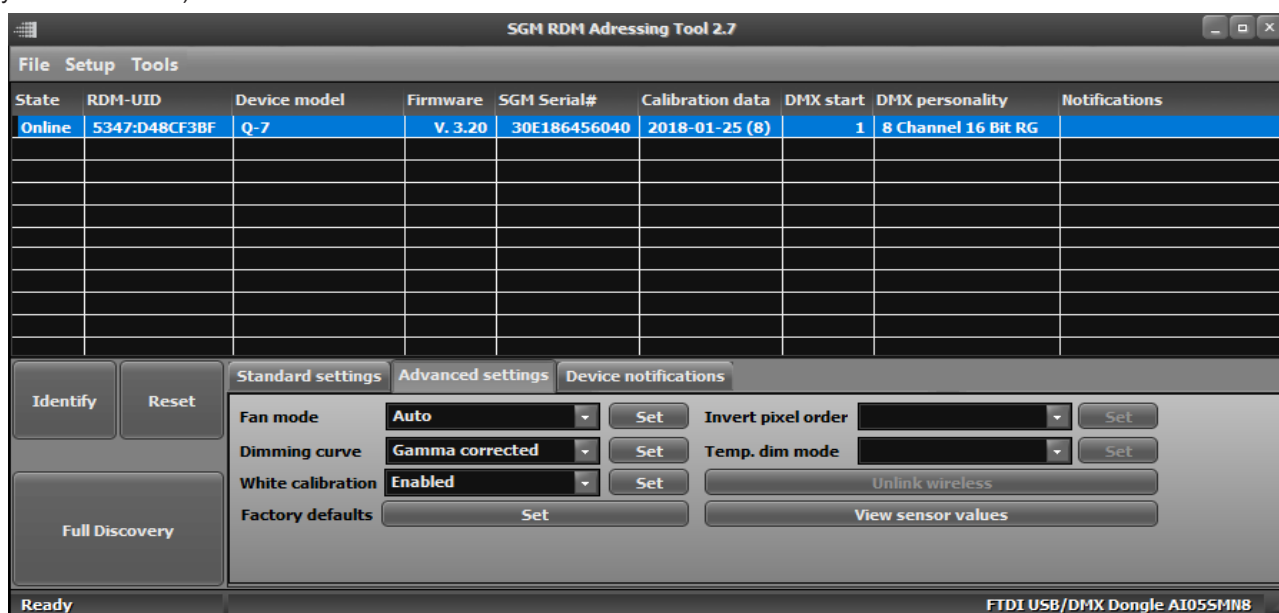


Figure 14: SGM Addressing tool

POI Spanner

The P-2 POI includes a spanner with magnet, which function is to establish 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.

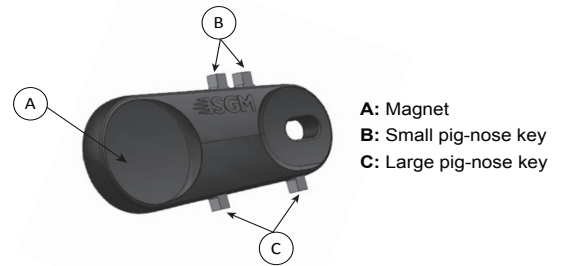


Figure 15: POI Spanner

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

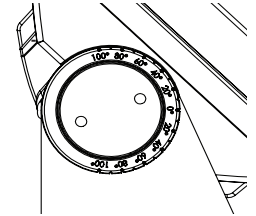


Figure 16: P-2 POI Tilt lock

Installation and rigging the P-2 POI

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

The P-2 POI has two M-10 nuts in the base that can be used for installation and rigging. The SGM Omega bracket (not included) or a customized bracket is needed to install the fixture. Consider the dimensions below of the P-2 POI base for customized mounting brackets purposes.

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

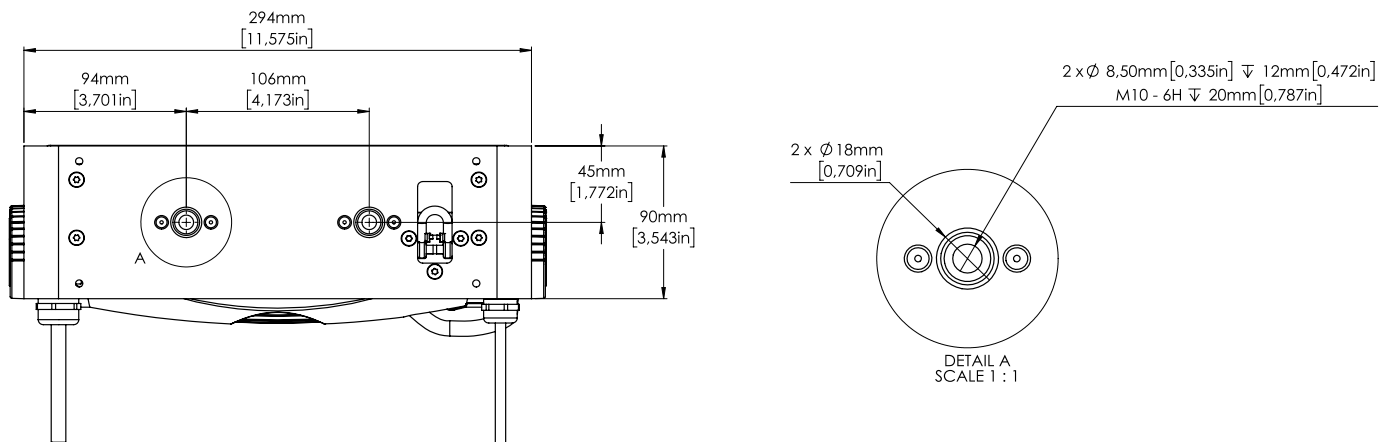


Figure 17: P-2 POI base with dimensions

Connecting DMX and AC power in POI

DMX in and DMX out are in the same cable. See more in figure 18 about the SGM POI DMX cable.

The power is wired as the standard version. See "Connecting AC power" on page 8.

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

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

PLEASE NOTE!!

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

P-2 POI connection diagram

SGM POI DMX Cable

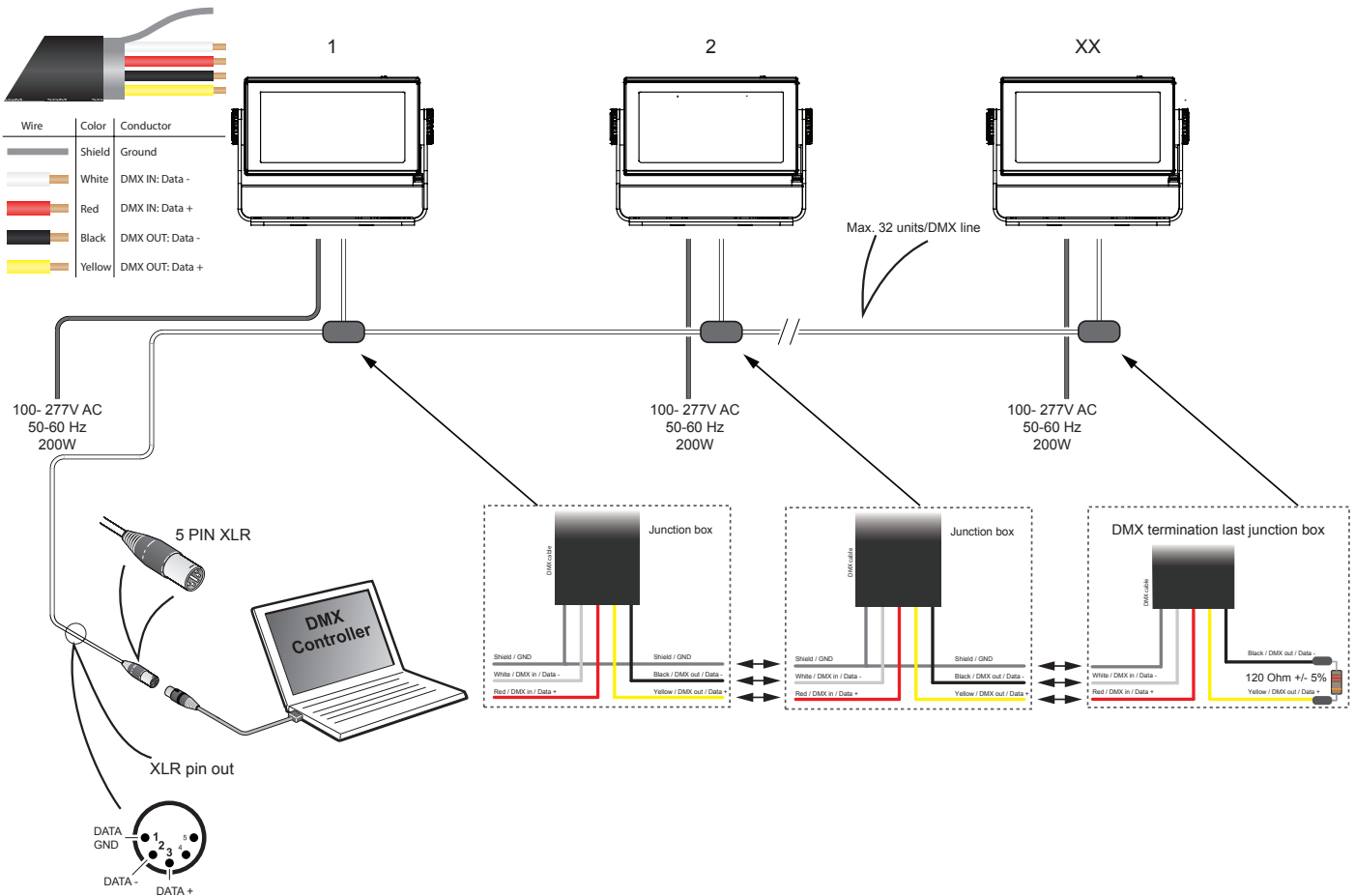


Figure 18: Connecting DMX and AC Power in P-2 POI

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. Take the spanner that comes with the fixture, place the magnet close to the LED indicator, and wait 3 seconds. The LED indicator will blink orange for 1-2 seconds, before switching to static green again. The fixture can now be paired to 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 later 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, see www.sgmlight.com, or contact your local SGM dealer.

Accessory holder

The Accessory holder is a mandatory base for holding Barndoors and Color frames to the P-2 Series fixture. It is a clip-on accessory that includes a safety wire 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, by releasing the locking knob in the side of the accessory holder.

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 available an optional floorstand, ideal when there is a frequent need of changing the position of the fixture between hanging and standing.

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



Figure 22: P-2 Series Floorstand

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 uncomfortable glare and reflections.

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

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

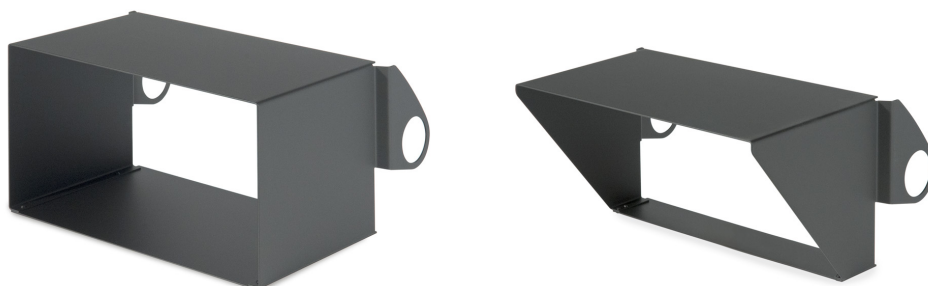


Figure 23: P-2 Series Anti-glare shields

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

Service

Changing P-2 front lens

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

1. Unscrew the highlighted screws with a TX20 screwdriver.

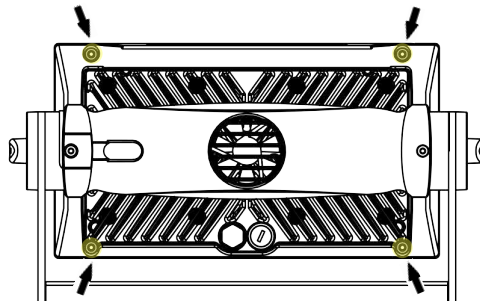


Figure 25: P-2 Changing lens module I

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

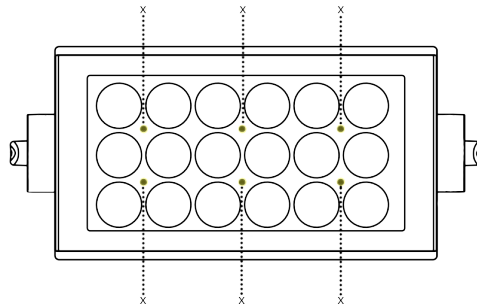


Figure 26: P-2 Changing lens module II

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.

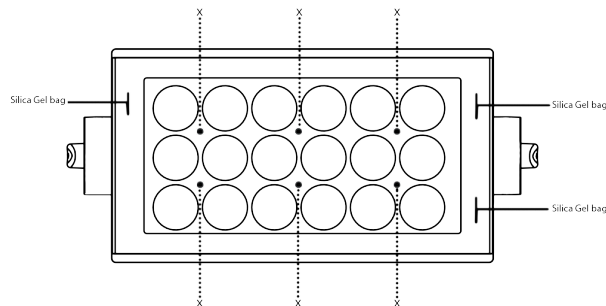


Figure 27: P-2 Changing lens module III

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

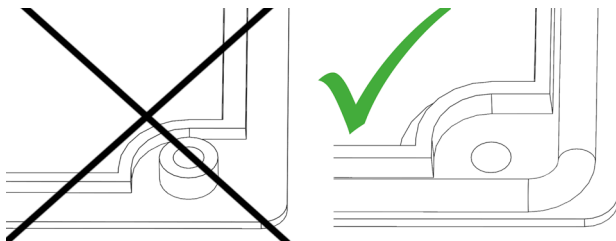


Figure 28: P-2 Changing lens module IV

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 is evenly visible all the way around the lens module.
10. Vacuum test the fixture after replacing the lens module to verify the validity of ingress protection (IP) is kept - see "Vacuum test kit" on page 20.

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 the non-use, or inability to use, the vacuum test kit after reassembling the fixture.



Figure 29: 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.

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 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 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).

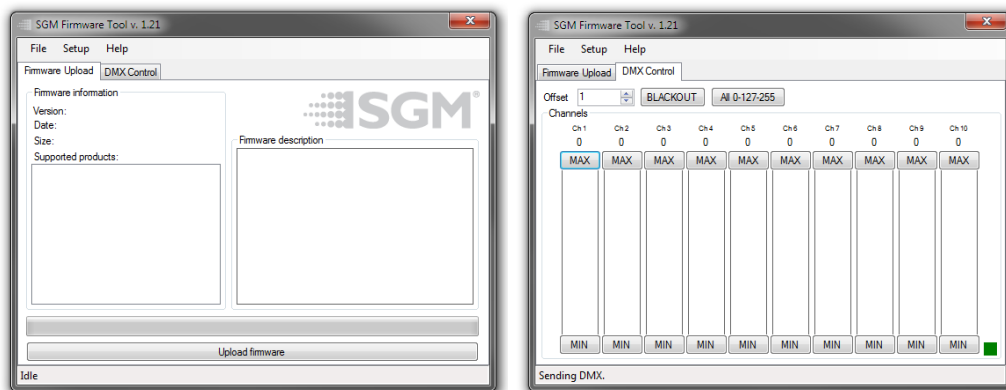


Figure 31: SGM Firmware tool

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

Cleaning

SGM 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 P-2 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 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 the first few weeks of operation to see how often cleaning is necessary.

Ordering Information

The P-2 Series has different variants and can be used with a variety of accessories.

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

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

P-2 Series fixtures

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 into 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
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: +1 877 225-3882

support@sgmlight.com

Approvals and certifications

***Conforms to
Conforms to
Conforms to
Conforms to
Certified to
Certified to***

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



RoHS

The information in this document is subject to change without notice. For the latest information, visit www.sgmlight.com.

User Notes

[illegible]

[illegible]



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