Quick Start and Safety Manual

GLP MAD MAXX

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Fixture software v. 0.13.15.rc6

Document revisions

Revision number	Notes	Date released
20251202-1	Improved guidance on using the fixture outdoors.	December, 2025
20250819-1	IP rating upgraded. Fixture is now IP66-rated.	August, 2025
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1. Safety

Key to symbols

The following symbols are used in this product's user documentation:

	**Warning!** Safety hazard. Risk of severe injury or death.		**Warning!** Hazardous voltage. Risk of lethal or severe electric shock.
	**Warning!** See user manual for important safety information.		**Warning!** Fire hazard.
	**Warning!** Risk of eye injury.		**Warning!** Hot surface. Risk of burn injury.

General safety information

Read this manual carefully before installing, operating or servicing the GLP MAD MAXX lighting fixture.

If you have any doubts or questions about how to use the fixture safely, contact your GLP® supplier for assistance. Your GLP supplier will be happy to help.

The user documentation for the fixture consists of:

- The GLP MAD MAXX Quick Start and Safety Manual, supplied with MAD MAXX fixtures and available for download from www.glp.de. The Quick Start and Safety Manual contains important safety information and installation instructions that the installer and user must read.
- The GLP MAD MAXX User Manual, available for download from www.glp.de. The User Manual explains features and control of MAD MAXX fixtures.
- The GLP MAD MAXX DMX Channel Index, available for download from www.glp.de. The Channel Index is a separate guide to the DMX control channel layout and DMX commands available.

All documents are available for download from www.glp.de.

The GLP MAD MAXX is intended for use by experienced professionals with the knowledge and skills to set up, operate, and maintain high-powered, remotely controlled lighting equipment safely and efficiently. These operations require expertise that may not be provided in the fixture's user documentation.

- Respect all warnings and directions given in the fixture's user documentation and on the fixture. Read the user documentation and familiarize yourself with the safety precautions it contains before installing or using the fixture. GLP and affiliated companies will take no responsibility for damage or injury resulting from disregard for the information in the fixture's user documentation.
- Check the GLP website at www.glp.de and make sure that you have the latest version of this manual. Check the fixture software version indicated on page 2 of this manual and then use the fixture's control panel to check the version installed in the fixture. If the versions are not the same, this manual may still cover the fixture, because software updates do not always affect the use of the fixture. However, it is possible that this manual does not match the fixture perfectly. Software release notes can help clarify this question. You can consult software release notes and download the correct version of this manual on the GLP website if necessary.
- Make all user documentation available to all installers and operators. Save user documentation for future reference.
- If you have any questions about the safe operation of the fixture, please contact an authorized GLP distributor (see list of distributors at www.glp.de).
- Use the fixture only as directed in this manual. Observe all markings in this manual and on the fixture.
- Refer all repairs and any service operation not described in this manual to a technician authorized by GLP.
- The LED light source in the fixture is not user-replaceable.
- Read and follow the user documentation for all additional equipment.

Electrical safety

- The MAD MAXX is suitable for indoors installation. It is also suitable for outdoors installation provided that it is not exposed to aggressive environmental factors (see guidance in this Safety Manual). For long-term outdoor use, you must carry out regular service with the specific maintenance tasks described in the 'Service and Maintenance' chapter of this safety manual.
- The fixture's IP66 rating means that it is protected against water droplets such as rain and splashing water, and from strong jets of water (it is tested to withstand water sprayed at 100 l/min. ± 5 % using a 12.5 mm diameter nozzle from any angle from a distance of 2.5 m – 3 m). However, it must not be used underwater. Do not immerse the fixture. Do not install the fixture in a location that may become flooded.
- Use only a source of AC mains power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Ensure that the fixture is electrically connected to ground (earth).

- Disconnect the fixture from AC mains power before carrying out any installation or maintenance work and when the fixture is not in use.
- Disconnect the fixture from power immediately if any seal, cover, cable, connector or other component is damaged, defective, deformed or showing signs of overheating. Do not reapply power until the fixture has been repaired and made safe by a technician authorized by GLP.
- Check that all power distribution equipment, cables and connectors are rated IP66 minimum, in perfect condition, rated for the electrical requirements of all connected devices, suitable for their application and suitable for the installation environment.
- To ensure IP66 protection, use only a power cable with a Neutrik PowerCON True1 connector and data cables with IP66-rated Neutrik XLR or EtherCON connectors. If a cable connector is not in perfect condition, install a new connector on the cable following the connector manufacturer's instructions. Send old connectors for recycling.
- The fixture's connectors are equipped with tethered rubber seals. Apply the rubber seal to every connector that does not have a plug inserted in it so that the connectors are protected from water and moisture.
- Use a power cable that is minimum 14 AWG or 2.5 mm^2, minimum 16 A-rated and temperature-rated to suit the application. In the USA and Canada the cables must be UL-listed, type SJTW or equivalent. In the EU the cables must be type H05RN-F or equivalent, or for outdoors applications cables must be type H07RN-F or equivalent.
- Make sure that cables open into dry areas or sealed junction boxes. Moisture can be drawn along cables by capillary action or pressure variations resulting from thermal expansion.
- Arrange cables so that they arrive at connectors from below. Make sure that it is impossible for water to flow down cables and accumulate at connectors. If necessary, provide extra cable slack and create 'drip loops' before connectors.

- See the 'Fixture overview' section later in this Safety Manual for the location of the main fuse. Disconnect the fixture from power before attempting to replace the fuse. Replace the fuse in dry conditions only. Replace fuses with ones of the same type and rating only. If you have any questions about fuse replacement, please contact GLP Service.
- Some internal components carry a high voltage while the device is connected to AC mains power. Some of these components can remain live for up to 30 minutes after the power supply has been disconnected.

Fire safety and protection from burns

- Do not operate the MAD MAXX if the ambient temperature exceeds 45° C (115° F).
- The hottest parts of the fixture's surface can reach up to 80° C / 176° F during operation. Avoid contact by persons and materials. Do not install the fixture in a location where there is a risk of accidental contact. Allow the fixture to cool for at least 30 minutes before handling it.
- Keep the fixture well away from flammable materials.
- Do not illuminate surfaces within 1 m / 40 in. of the fixture. The light output from the fixture is powerful enough to cause burns or fire in illuminated objects at close range.
- Keep all combustible materials (e.g. fabric, wood, paper) at least 10 cm / 4 in. away from the fixture.
- Ensure that there is free and unobstructed airflow around the fixture. Provide a minimum clearance of 30 cm / 12 in. around fans and air vents.
- Do not place any optical components other than MAD MAXX accessories from GLP onto the front of the fixture.
- Do not stick filters, masks or other materials onto the fixture. Do not block the light output in any way. The front surface becomes hot during operation and can melt or ignite objects that are in contact with the surface. Ensure that the front surface is clean and unobstructed at all times in order to prevent a fire hazard and damage to the fixture.
- The fixture's optical components can focus the sun's rays, creating a risk of fire and damage. Do not expose the front of the fixture to sunlight or any other intense light source, even from an angle. Follow the guidance given on page 14 of this manual.

Eye safety

- The MAD MAXX is classified as a Risk Group 2 lighting fixture according to EN 62471. Possibly hazardous radiation emitted. Do not stare into the light output from the fixture. May be harmful to the eyes.
- Do not look at the fixture's light output with optical instruments or any device that may concentrate the light output.
- Make sure that persons near to or working on the fixture are not looking directly into the light output when the fixture lights up suddenly. This can happen when power is applied, when the fixture receives a DMX signal, or when certain control menu items are selected.
- Provide well-lit conditions to reduce the pupil diameter of anyone working on or near the fixture.

Strobe safety

- Flashing light, particularly at 5 - 30 Hz, may cause seizures in persons with photosensitive epilepsy. Do not use strobe effects for extended periods.
- Comply with local regulations on the use of strobe lighting and notify the public in advance with highly visible warning signs when strobe effects are used.
- If a seizure occurs, stop using strobe effects. Seek professional medical help. Note the time that the seizure starts and finishes. Call emergency medical help urgently if the seizure lasts more than five minutes, if it is the person's first seizure, or if the person is injured. While waiting for help to arrive, protect the affected person from injuring themselves on hard or sharp objects. If necessary, move the person to a safe place. Lay them on their side with their head supported to prevent it from hitting the floor. Loosen any tight clothing around their neck. Do not use force to hold the person or restrict their movements. Do not put anything in their mouth, including your fingers.

Installation safety and protection from personal injury

- The size of the MAD MAXX means that the fixture's head can cause injury to any persons who are within its range of movement. Before applying power to the fixture, the operator must ensure that there is no risk of injury from fixture movement and must, if necessary, block access to the area around the fixture during operation.
- Do not touch motorized moving assemblies.
- The MAD MAXX weighs 208 kg / 459 lbs. It must be moved and lifted using equipment that can safely bear its weight and following the instructions given in this manual only. All lifting equipment and lifting hardware (chains, shackles, cables, hooks etc.) must be approved for the weight to be lifted and in perfect condition. Do not try to lift the fixture manually.
- The four pillars at the corners of the base are provided only for guiding a fixture that has its weight supported. Do not use the pillars to support the weight of the fixture.
- Apply the pan and tilt locks before moving the fixture (remember to release these two locks before applying power to the fixture and before putting the fixture into its flightcase).
- Installation must be performed by qualified personnel only and carried out in accordance with applicable regulations such as DIN VDE 0711-217.
- Ensure that any surface or structure that the fixture is placed on or suspended from, and all installation hardware used, can hold at least ten times the weight of the load that they support. All rigging hardware must be approved for the weight that it will support. Ensure that the supporting surface or structure is stable and

can safely handle any forces that result from pan and tilt movement of the fixture's head.

- Install the fixture only as directed in this manual and only with hardware that is specifically designed, approved and rated for its purpose. Do not use a safety chain or safety cable as the primary means of support.
- Installation hardware and fasteners must be suitable for the installation environment, particularly with regard to weather and corrosion resistance as well as protection from environmental factors in outdoor locations.
- Check that installation hardware is in perfect condition. Fasteners must be steel grade 8.8 strength or better. Nuts must be self-locking type and in good condition. Rigging clamps must be half-coupler type that completely encircle the rigging truss chord and approved for the weight that they will support.
- The fixture may be used standing on a secure, stable surface. The fixture may be suspended hanging vertically downwards only from a secure rigging truss using the two truss mount bars available from GLP suppliers as accessories for the fixture and minimum two rigging clamps per truss bar.
- Allow a minimum center-to-center distance of 600 mm / 24 in. between fixtures when installed.
- If the fixture is installed in a location where it may cause injury or damage if it falls, secure it as directed in this manual against the failure of a primary attachment using at least one safety chain and shackle supplied by GLP for the fixture (or similar approved chain or cable and shackle with minimum 1 tonne SWL). All safety chains, cables and shackles used must be approved by an official body such as TÜV as a safety attachment for the weight that they secure and they must comply with EN 60598-2-17 Section 17.6.6. Ensure that the chain will hold the fixture if a primary attachment fails. Remove all slack from the safety chain to minimize any drop by the fixture if a primary attachment fails.
- If the fixture is installed in a location where it may be exposed to forces such as wind pressure, vibration or movement, make sure that the installation can withstand these forces. Monitor weather forecasts constantly. Evacuate the site and take down the installation immediately if there is any risk of weather conditions that could destabilize the installation.
- Check that all covers and items of rigging hardware are secure before using the fixture. Do not operate the fixture with missing or damaged covers, shields or any optical component.
- Restrict access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.
- If the fixture becomes damaged, stop using it immediately and disconnect it from power. Do not attempt to use a fixture that is obviously damaged.
- Do not modify the fixture in any way not described in its user documentation.
- Install genuine GLP parts only.

2. Avoiding damage to the fixture

Important! Follow the directions in this section carefully, or the MAD MAXX may suffer damage that is not covered by the product warranty.

Important! Follow the guidelines and the suggested service intervals in the 'Service and maintenance' chapter at the end of this Safety Manual. Note that more frequent cleaning and service may be necessary depending on the installation environment.

General precautions

Important! Set the fixture's pan and tilt locks to **OFF** and check that the head will be free of any obstacles through its full movement range before powering the fixture on.

Important! Set the fixture's pan and tilt locks to **OFF** before putting the fixture into its flightcase for transportation. The pan and tilt locks must NOT be locked when the fixture is being transported, or bumps and shocks during transport can damage the locks. Before closing the flightcase, check that the protective liner in the flightcase will hold the head and protect it from shocks.

Place the fixture on a surface by standing it upright on its base only – do not rest the fixture on its side, head, yoke or front glass.

Do not drop the fixture or expose it to mechanical stress.

Protect the LCD display and control panel from shocks, or they may suffer damage that is not covered by the product warranty.

Move the fixture only as described in this Safety Manual.

Do not expose the fixture to heat (from other lighting fixtures for example).

Clean optical components only as directed in this manual. Oils, solvents, and other chemicals commonly used for cleaning can damage the lens coatings and surfaces.

Use only original spare parts. Do not make any structural modifications to the fixture or you will void the product warranty.

Installation environment

The fixture's IP66 rating means that it is safe to use it outdoors. However, when used outdoors you must provide protection against dust, low and high temperatures, UV radiation etc. and carry out maintenance as described in this chapter at scheduled intervals.

Do not use the fixture if the ambient temperature is below -10° C / 14° F. If the ambient temperature is below 5° C / 41° F or if frost, ice or snow is visible on the fixture, warm the fixture up by setting light output to at least 50% for fifteen minutes or for as long as required to increase the fixture's temperature to at least 5° C / 41° F before using pan, tilt or any of the effects.

The fixture is not suitable for permanent installation in marine or coastal environments or near a source of corrosive agents (a swimming pool that can release chlorine into the atmosphere, for example). Installing the fixture in an aggressive environment like this will probably result in corrosion or excessive wear to case components, moving parts, optics, cooling systems and even the interior of the

fixture. Damage or premature wear resulting from use in this type of environment is not covered by the manufacturer's warranty.

Devices used in outdoor environments need more frequent cleaning and service. Follow the guidelines in the ‘Service and maintenance’ chapter at the end of this Safety Manual.

Condensation

High humidity and strong temperature fluctuations can lead to condensation inside fixtures. When a fixture is brought from a colder to a much warmer environment, the risk of condensation is particularly high. Do not switch on the fixture immediately. Let it warm up to room temperature before connecting it to power.

In order to ensure that the fixture performs as it should, we strongly recommend that you first bring the fixture to operating temperature and keep it there for at least 30 minutes. This ensures that any moisture that has accumulated internally can escape via the vent valve. The time required for residual moisture to escape completely depends heavily on the ambient conditions of the installation and must be adapted according to the situation.

Wax treatment

We recommend that you apply a permanent wax to the fixture housing before use, as this will create a thin hydrophobic layer and protect against the accumulation of contaminants. Regular carnauba or synthetic wax polish for car bodywork is suitable for this purpose. For longer-lasting protection, you can use a special headlight sealant or ceramic/UV coating made for polycarbonate car headlights.

- Do not use beeswax, furniture wax, candle wax or silicone oil, as these are not suitable.
- Do not apply the wax to optics, as this will cause reduced light output and in extreme cases may cause overheating.

We recommend that you repeat the wax treatment after each annual inspection and service.

Transport and storage

- Transport the fixture either in a flightcase or in its original packaging to protect it from damage caused by shocks during transportation.
- Check that the head is supported and release both the pan lock and the tilt lock before transporting the fixture.
- Make sure that the fixture is dry before transporting or storing it.
- Store the fixture in a dry location when not in use.

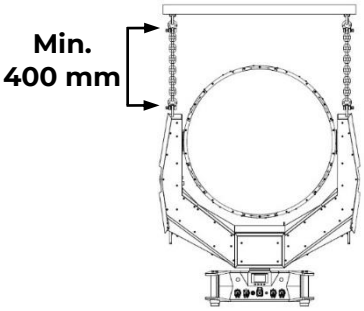
Lifting and moving the fixture

To lift the fixture:

1. Obtain two chains or cables and shackles that can safely support the weight of the fixture.

2. Attach the chains or cables to the fixture using shackles passed through the 25 mm diameter eyelets provided in the yoke (see Fixture overview on page 15 – two pairs of eyelets are provided, one pair at the ends of the yoke and one pair close to the base of the yoke).

Important! There must be minimum 400 mm / 16 inches of chain or cable between the lifting bar or lifting equipment and the eyelets in the yoke, no matter which pair of eyelets you use.



3. Lift the fixture using lifting equipment. Do not try to lift the fixture manually. Apply the pan and tilt locks as soon as possible to avoid head movement that can destablize the fixture.

Warning! See Figure 1. When lifting the fixture, chains or cables must be attached to at least TWO points as shown at **A** and **B**. Do NOT try to lift the fixture using cables or chains that are attached to one point only as shown at **C**.

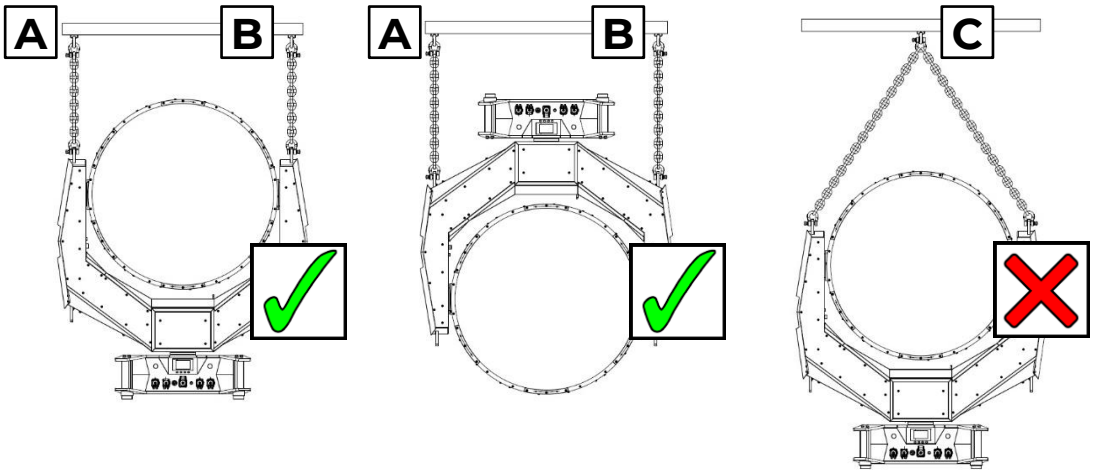
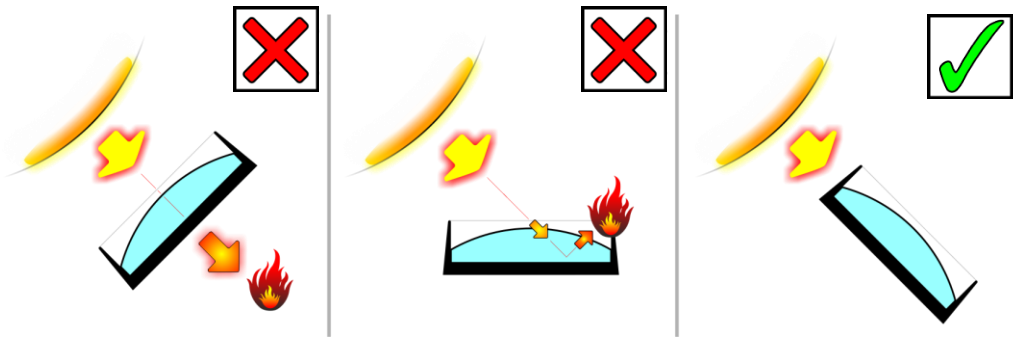


Figure 1. Lifting the fixture to move it

Warning! The four pillars at the corners of the fixture's base are provided to let installers guide the fixture when the fixture's weight is already supported. They are not designed to support the weight of the fixture. Do NOT use them as handles to lift the fixture.

Avoiding damage from light sources

See drawing below. Do not point the front of the fixture towards the sun or any other strong light source. Strong light can cause internal damage to the fixture, melting components or starting an internal fire within seconds.



Damage can occur whether the fixture is powered on or off. Damage can also occur if the light hits the front of the fixture at an angle: the fixture does not need to be pointing *directly* at the sun or other light source.

To avoid problems from strong light sources:

- Do not expose the front of the fixture to sunlight or any other strong light source.
- In outdoor applications during daylight, make sure that the front face of the fixture is shielded or points away from the sun, even when the fixture is not in use.
- Do not aim other high-powered beam lights directly at the fixture.

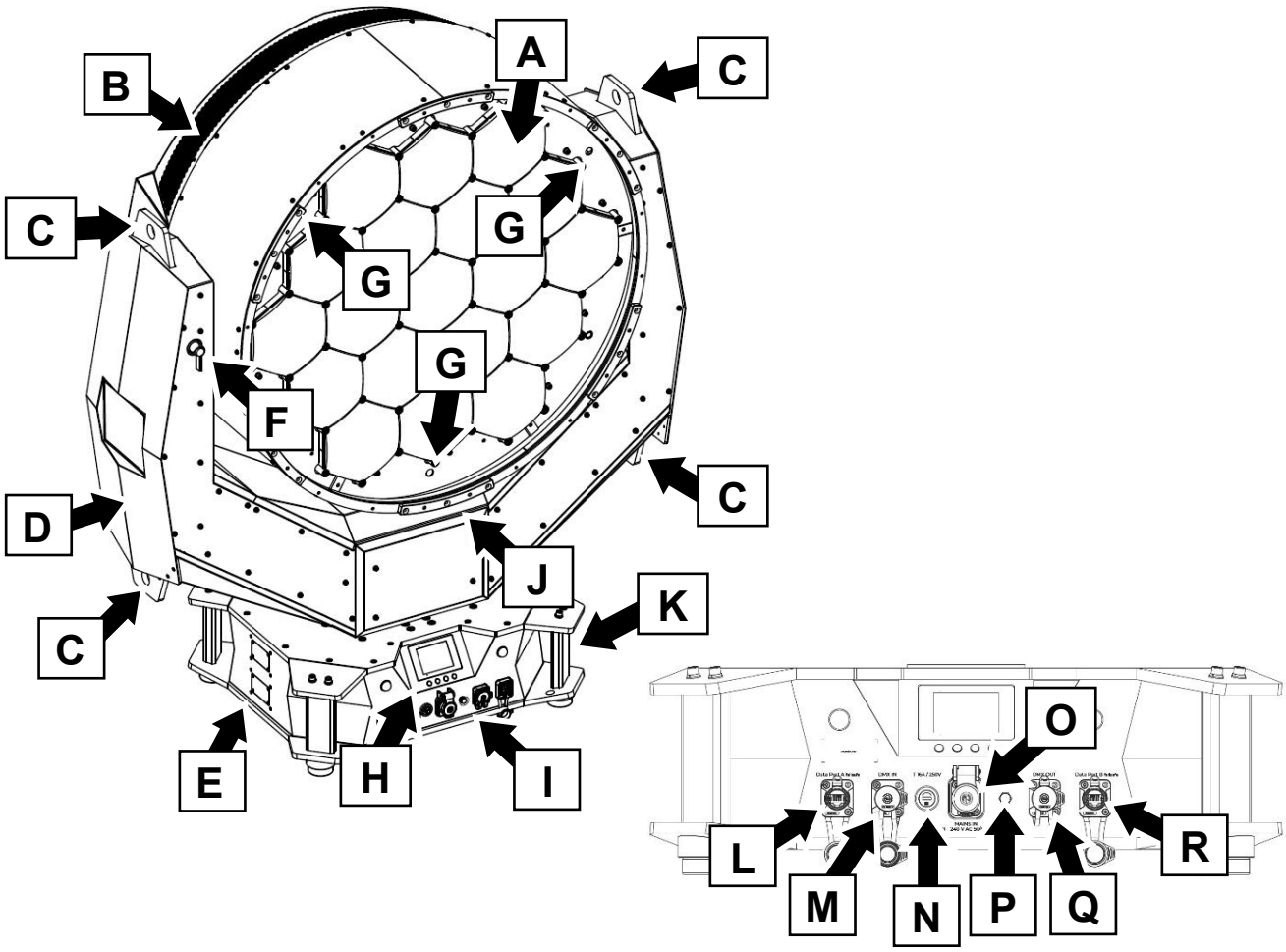
Mechanical sun protection system

The fixture has an integrated sun protection system that can help protect the internal light source from damage caused by direct sunlight or other intense light sources. In situations where strong external light is to be expected, we recommend that you open the SUN PROTECTION menu in the fixture's control panel or on the DMX Control / Settings channel, set the fixture to PERMANENT or SENSOR and leave power permanently applied to the fixture. This will keep sun protection permanently active and move the head to a safe position when exposed to external light for too long. The fixture's User Manual that is available for download from www.glp.de contains details.

Important! The integrated sun protection system is a helpful tool if strong light beams or sunlight are present. However, it only protects the internal light source from light shining directly into the head – it will not prevent damage caused by light arriving from the side of the head. The sun protection system cannot provide 100% protection against damage – you must still follow the guidelines given in this section.

If the fixture is powered off, the sun protection system can be damaged by overheating if the fixture is aimed directly towards the sun. Aim the head away from the sun or cover the lenses (using the MAD MAX Dust Cover, for example).

3. Fixture overview



A – Lens array

B – Cooling vents

C – Eyelets for shackles when lifting

D – Fixture yoke

E – Fixture base

F – Tilt lock

G – Light sensor (sun protection system)

H – Connections panel

I – Control panel and backlit LCD display, NFC sensor behind display

J – Pan lock

K – Handle for guiding the fixture only – do NOT use to support the fixture's weight!

L – Neutrik EtherCON port A for Art-Net/sACN control data (fail-safe)

M – DMX IN (5-pin XLR)

N– Primary fuse

O – Mains power input (Neutrik powerCON TRUE1)

P – Pressure equalization valve

Q – DMX OUT/THRU (5-pin XLR)

R – Neutrik EtherCON port B for Art-Net/sACN control data (fail-safe)

4. Overview of features

The GLP MAD MAXX is suitable for permanent or temporary indoor use. It may be used outdoors in temporary installations if precautions are taken to prevent damage from direct sunlight. It may be placed upright on a level surface that can safely support its weight or suspended from a suitable structure that can safely support its weight as described in this manual.

The GLP MAD MAXX is not suitable for household use, wherever unattended children have access to it, for permanent outdoor installation, or in areas where the distances from the fixture to illuminated surfaces or combustible materials are less than those given under 'Technical specifications' on page 30.

The GLP MAD MAXX may be installed, operated, and maintained only by persons with the training, knowledge and skills to do so safely.

LED light source

The fixture's light source consists of 19 x 90 W white LEDs.

Control panel and display

The control panel with LCD display and self-charging battery allows you to change fixture settings quickly and intuitively under any conditions, even when the power is off.

Baseplate and rigging options

The fixture's baseplate has eight (8) Camlock attachment points for the two Truss Mount Bars (rigging clamp mounting rails) that are available from GLP as accessories for the fixture. These two Truss Mount Bars must be used together with four approved half-coupler type rigging clamps (not supplied) when installing the fixture on a rigging truss.

Two Truss Mount Bars are included in the MAD MAXX Rigging Kit accessory available from GLP suppliers. Single Truss Mount Bars are also available separately.

Included items

The GLP MAD MAXX is supplied with a power cable with a Neutrik powerCON TRUE1 TOP connector.

Accessories

For details of rigging hardware, flightcase options, dolly etc. that are available for the fixture from GLP, see 'Optional accessories' in the 'Technical specifications' section at the end of this manual.

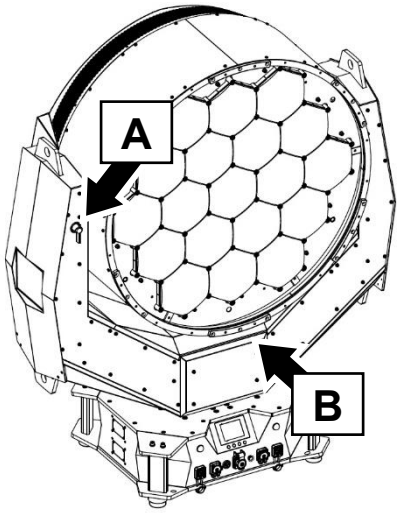
5. Preparation for use

Warning! Read 'Safety' starting on page 5 and read 'Avoiding damage to the fixture' on page 11 before installing the GLP MAD MAXX.

Important! Set the pan and tilt locks to OFF before putting the fixture in its flightcase and before applying power to the fixture.

Pan and tilt locks

See drawing on right. The fixture has a tilt lock **A** and pan lock **B** that lock the position of the head and yoke. Set both locks to ON before lifting the fixture and for convenience when servicing the fixture. Set both locks to OFF before transporting the fixture in its flightcase and before applying power to the fixture.

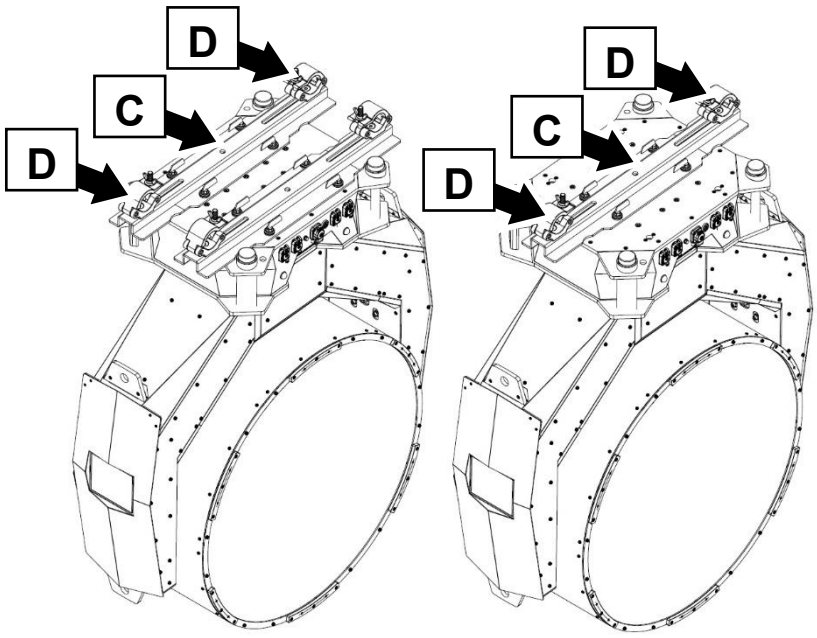


Preparing to install the fixture

Warning! The four pillars at the corners of the base are provided only for guiding a fixture when the weight of the fixture is supported. Do not use the pillars to support the weight of the fixture.

To remove the fixture from a flightcase and prepare for installation on a truss or similar structure:

1. See Figure 2. Obtain one or two GLP Truss Mount Bars **C** for the MAD MAXX. You can suspend the fixture from one or two bars installed as shown. If you use one single bar, it must be installed along the center axis as shown in Figure 2.
2. Bolt two rigging clamps **D** to each Truss Mount Bar **C** using suitably dimensioned bolts, grade 8.8 steel, and self-locking nuts. Use only rigging clamps (half-coupler, G-clamps or quick-trigger clamps) that are approved to hold the weight of the fixture.



Installation with two Truss Mount Bars

Installation with one Truss Mount Bar

Figure 2. Rigging the fixture

3. Line up the camlock quarter-turn pins in each Truss Mount Bar with the camlock fastener points (see **G** in Figure 4) in the base of the fixture as shown in Figure 2 and turn the camlock locking levers a full 90° clockwise to lock the Bar to the fixture. Check that all camlock fasteners are securely fastened.
4. See Figure 3. Fasten two chains or cables to the eyelets (arrowed) in the fixture yoke using shackles passed through the eyelets and fastened securely so that they cannot open accidentally.
5. Fasten lifting equipment to the chains or cables as shown in 'Transport and storage' on page 12 and lift the fixture straight up out of the flightcase. Apply the fixture's pan and tilt locks as soon as the fixture is free of the flightcase.
6. Keep the pan and tilt locks applied while lifting and moving the fixture. Only release the pan and tilt locks when physical installation is complete. Do not forget to check that both of the locks are released before applying power!

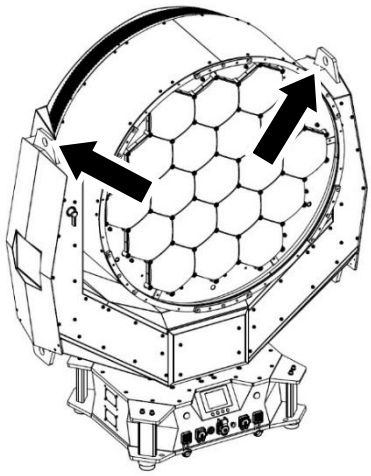


Figure 3. Lifting eyelets

Installation location

Make sure that the head will be at least 0.1 m / 4 in. away from combustible materials (wood, paper, textiles, etc.) including curtains and stage scenery when the fixture is installed. Make sure that there will be a minimum of 1 m / 40 in. between the fixture and any surface to be illuminated. Make sure that there is no risk of collision when the head pans and tilts. Allow a minimum center-to-center distance of 600 mm / 24 in. when installing fixtures side by side.

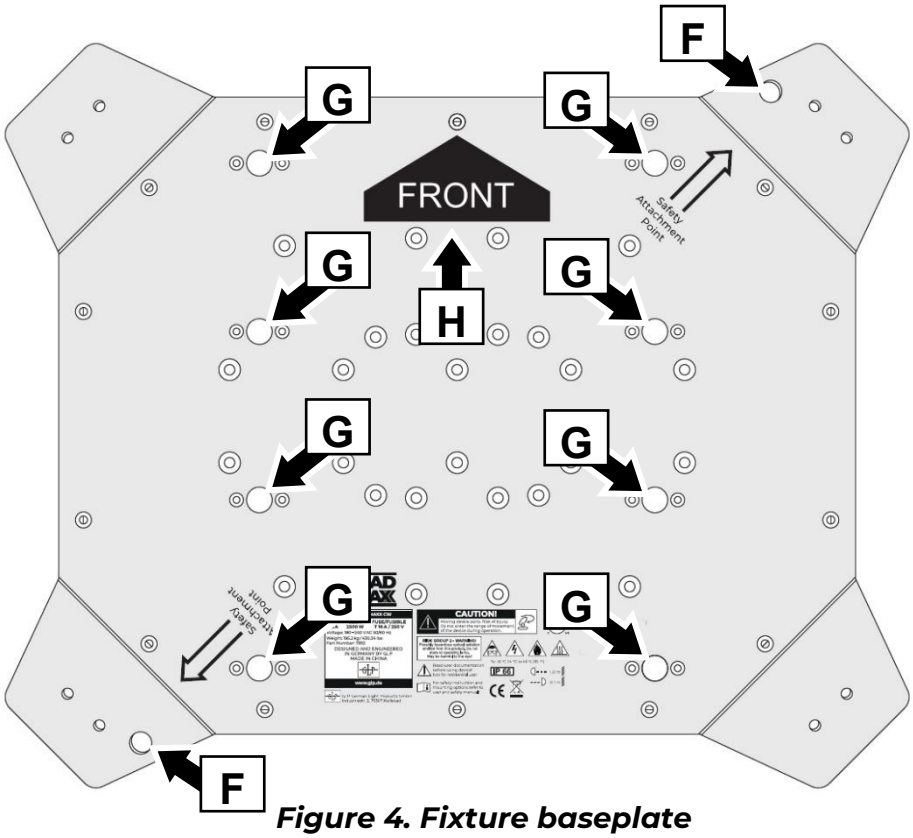


Figure 4. Fixture baseplate

Identifying the front of the fixture

See Figure 4. An arrow **H** marked FRONT is printed on the baseplate. Install the fixture with this arrow pointing towards the stage or main target.

When the yoke is in its pan home position (pan centered), increasing the DMX value for tilt moves the head towards the front. The connections panel and control panel are on the back of the fixture.

Mounting the fixture

The fixture may be placed on a stable horizontal surface or rigged as described in this chapter. If there is a risk of injury or damage if an item of mounting or rigging hardware fails, you must secure the fixture with at least one secondary attachment such as a safety chain or safety cable as described in this chapter.

Installing upright on a horizontal surface

You may install the fixture standing upright on a stable horizontal surface. Make sure that the fixture and cables do not present a risk of tripping or causing injury. Make sure that the head will not collide with another fixture or any other object when it moves through its full pan and tilt ranges.

We recommend that you secure the fixture against movement and tipping by anchoring the base to the surface using ratchet straps attached to the handles (**K** in 'Fixture overview' on page 15) and fastened to secure anchoring points.

Warning! Do not use ratchet straps to support the weight of the fixture or as a safety attachment to secure the fixture.

Important! Do not overtighten the ratchet straps, or you risk distorting the handles.

Mounting on a rigging truss

To suspend the GLP MAD MAXX from a rigging truss or similar structure using rigging clamps:

1. Fasten one or two Truss Mount Bars and rigging clamps to the base of the fixture as described in 'Preparing to install the fixture' on page 17. If you are using only one Truss Mount Bar, fasten it along the center axis of the fixture baseplate as shown in Figure 5.

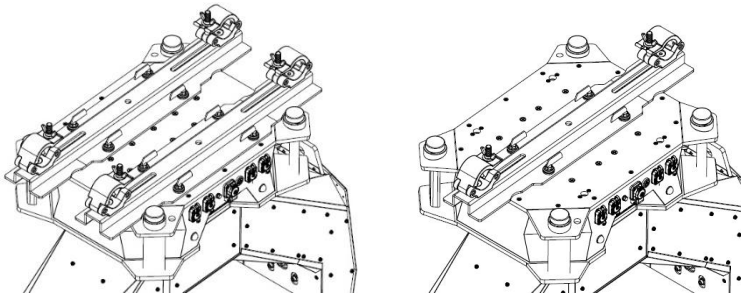


Figure 5. Truss Mount Bar options

2. Use lifting equipment to lift the fixture up to the truss, then fasten the rigging clamps securely around the rigging truss chords.
3. Secure the fixture against clamp failure as described in 'Securing the fixture with a safety chain or cable' on page 20 .

4. Make sure that the head will not collide with another fixture or any other object when it moves through its full pan and tilt ranges.

Securing the fixture with a safety chain or cable

If you install the fixture in a location where the fixture can cause injury or damage if it falls, secure it with at least one safety cable or safety chain and shackle that are in perfect condition and approved as secondary attachments for the weight that they secure. Suitable safety chains and shackles are available from GLP as optional accessories for the fixture.

To secure the fixture with a safety chain or safety cable:

1. Pass the chain or cable through or around a secure anchoring point such as the rigging truss or other supporting structure.
2. Remove as much slack as possible from the chain or cable. The safety chain available from GLP for the MAD MAXX has a shortening link. A safety cable can be looped more than once around a truss chord, for example.
3. See Figure 4 on page 18. Fasten the chain or cable to one or both of the two 15 mm diameter safety chain attachment points **F** in the base of the fixture. If you use more than one chain or cable, use both attachment points. Ensure that shackles etc. are securely locked closed.
4. Check that the safety chain or cable will hold the fixture safely if a primary attachment fails.

6. Connections

Warning! Read 'Safety' starting on page 5 before connecting the GLP MAD MAXX to power.

AC power

The fixture has a Neutrik powerCON TRUE1 TOP (True Outdoor Protection) socket for connection to AC mains power from a Neutrik powerCON TRUE1 TOP female cable connector. To maintain the fixture's IP66 rating, use only this type of cable connector.

The auto-sensing power supply accepts 180-240 V, 50/60 Hz AC power. Do not connect the fixture to AC power at any other voltage.

The AC mains power distribution circuit must include a connection to ground / protective earth. It must be protected against ground / earth leakage and overload.

Do not connect the fixture to a power distribution circuit that is equipped with an external dimmer.

Powering the fixture on

The fixture does not have an ON/OFF switch. It is powered on as soon as power is applied to the power input cable. Before applying power, check that the head is unlocked, check that the head will not collide with anything, and check that nobody will be looking directly at the fixture if it lights up suddenly.

Connecting to power

Although powerCON TRUE1 TOP connectors support hot-plugging, it is still good practice to shut down power to power cables before connecting them to fixtures.

To connect the fixture to power:

1. Check that the connector on the power input cable is in perfect condition, paying attention to the keys on the connector. If the connector or its keys show signs of damage, replace the connector with a new item.

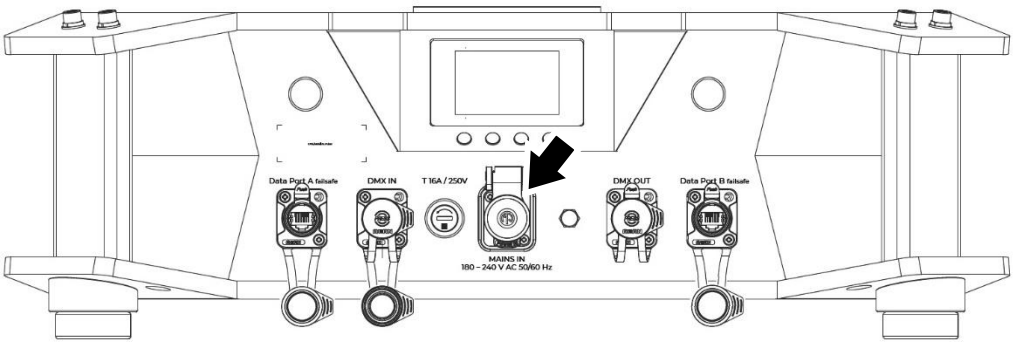


Figure 6. Mains power IN socket

2. Remove the rubber connector seal from the powerCON TRUE1 TOP MAINS IN socket (arrowed in Figure 6). Line up the keys in the connector correctly with the keyways in the socket.

3. Insert the connector into the socket. Do not use force. If you feel any more than light resistance when you try to push the connector into the socket, something is wrong – you may have lined up keys and keyways incorrectly. Remove the connector and check the positions of keys and keyways before trying to insert the connector again.
4. Twist the connector fully clockwise to lock. Listen for a 'click' that indicates that the connector is locked.
5. Release the pan and tilt locks, check the clearance around the head and make sure that nobody is looking directly at the fixture. Then apply power to the power input cable.

Installing power connectors on the input cable

It is possible to install a cord cap / mains power plug that is suitable for your local convenience receptacles / power sockets on the supplied power input cable. If you do this, check that the cord cap / plug is rated minimum 250 V, 16 A, that it has a connection to ground / earth and that it has an integral cable grip. Follow the cord cap / plug manufacturer's assembly instructions.

If you need to install a Neutrik powerCON TRUE1 TOP connector on a power cable, follow the instructions given on the Neutrik website at www.neutrik.com.

Respect the color coding used in the supplied power cable and in your local mains power wiring system. US and EU systems use the color coding shown below:

	Live or L	Neutral or N	Ground / Earth or ⏚
US system	Black	White	Green
EU system	Brown or black	Blue	Yellow/green

Connecting to control data

The fixture can be controlled via USITT512 DMX over a standard DMX cable link or via other control protocols over an Ethernet link. The fixture's **Protocol Setup** control menu lets you set the fixture's control protocol (see the fixture's User Manual available online at www.glp.de for details).

If you would like advice with planning and installing a suitable control link, your GLP supplier will be happy to provide assistance.

DMX link

See 'Fixture overview' on page 15. The fixture has Neutrik TOP 5-pin XLR IN and THRU sockets for connection to a DMX cable link. Connectors use standard DMX pinout:

- Pin 1 = Ground
- Pin 2 = Negative / data cold
- Pin 3 = Positive / data hot.
- Pins 4 and 5 are not used.

To link fixtures in cabled DMX daisy-chains using their XLR connectors while maintaining the fixture's IP66 protection, use Neutrik TOP 5-pin XLR connectors only. Use certified DMX cable only.

Ethernet link

See 'Fixture overview' on page 15. The fixture has two Neutrik EtherCON TOP ports for connection to an Ethernet link. To connect fixtures to an Ethernet link while maintaining the fixtures' IP66 protection, use network cable with Neutrik EtherCON TOP RJ45 connectors only.

7. Using the fixture

Warning! Read 'Safety' starting on page 5 before operating the GLP MAD MAXX.

For guidance on using the GLP MAD MAXX, see the latest version of the fixture's User Manual, available for download from www.glp.de. Check that the software version given at the front of the user manual matches the software version installed in the fixture.

Check that the pan and tilt locks are released and that there is no risk of the head colliding with other fixtures, objects or people before applying power.

When power is applied, the fixture carries out a reset which takes a few seconds. Be prepared for the yoke and head to move during the reset. If the fixture is not receiving DMX commands, the head then moves to its idle position (pan 50%, tilt 100%).

8. Service and maintenance

Warning! There are no user-serviceable parts inside the fixture. Any service operation that requires removal of a cover must be performed by a trained, professional service technician with the tools, skills, and personal protective equipment to maintain high-powered lighting equipment safely and efficiently. Please contact your GLP office or distributor if you would like service and maintenance guidance or interventions. Your office or distributor can give you information on service and maintenance contracts as well as extended warranties that may be available for your products.

Servicing the fixture can expose the user to safety hazards. Read the Safety Precautions section at the beginning of this manual carefully before carrying out any service or maintenance operation.

Regular maintenance and cleaning is essential to get the best performance and service lifetime from your fixture. Accumulations of dust and dirt will cause loss of performance and overheating that may damage the fixture. Damage caused by lack of maintenance, improper service or improper cleaning is not covered by the product warranty.

Optical and mechanical components are subject to normal wear and tear during the product's lifetime. This may result in physical wear and gradual changes in optical characteristics such as color. Seals, connectors and cables are also subject to wear and tear if the fixture is used outdoors. The amount of wear depends strongly on the operating and environmental conditions. It is therefore impossible to give a general indication of when changes may occur and to what extent it may be necessary to replace optical or mechanical components.

Visual inspection and parts replacement

Perform an external visual inspection of the housing surfaces, connectors, cables, fasteners (screws, bolts etc.) and seals at the intervals recommended in the table given later in this section. If you see signs of dirt buildup, clean the fixture as described below. If you see signs of corrosion or any form of deterioration, remove the fixture from the installation and replace parts as necessary.

Cleaning

The buildup of dust, dirt and other airborne particles will reduce the fixture's light output. It will also prevent the fixture from cooling correctly, and this will reduce the fixture's lifetime. The rate of dirt buildup will vary depending on environmental factors such as airborne dust, use of smoke machines, airflow from ventilation systems, etc. The fixture's cooling fans will accelerate buildup, and any smoke particles that are present in the atmosphere will increase the tendency for dirt to clog.

Assess the operating environment each time you begin to use the fixture. In dusty or smoky conditions, inspect the fixture after a few hours and check it frequently – the fixture may attract dirt faster than you expect. Draw up a cleaning schedule that will make sure that dirt is removed before it can build up.

Follow these cleaning guidelines:

- Disconnect the fixture from power and allow it to cool completely before cleaning.
- Do not use solvents, abrasives or any other aggressive product to clean the fixture.
- Do not use a compressed air jet to remove dust and loose particles from surfaces and air vents – instead use a vacuum cleaner and soft brush. Prevent the blades of cooling fans from turning before you aim a vacuum at them, or you may spin the fan too fast and damage it.
- Do not let optical components come into contact with oil or grease. Do not apply protective wax to optical components. Put on clean, dry lint-free gloves before you touch them.
- Clean glass components by wiping gently with alcohol wipes or a soft, clean, lint-free cloth moistened with a weak detergent solution. Put the solution on the cloth, not on the surface to be cleaned. Avoid rubbing glass surfaces. If particles are stuck to the glass, try to lift them off by dabbing them repeatedly with a cotton swab or moistened lint-free cloth.
- Dry the fixture with a soft, clean, lint-free cloth or low-pressure compressed air before reapplying power.
- Remove all debris (dirt, leaves etc.) from air vents.

Seal maintenance and vacuum testing

The GLP MAD MAXX is an IP66-rated fixture. It leaves the factory having passed vacuum tests. Depending on how and in what conditions the product is used, seals will age over time. Seals must be considered as parts that are subject to wear and tear. They must be checked regularly and replaced if necessary. Regular vacuum testing and seal maintenance is necessary to maintain the fixture's IP66 rating in the long term. A leak caused by seal aging or by not carrying out regular leak tests is not grounds for a warranty claim. Please contact GLP Service for guidance with vacuum testing.

Maintenance intervals

We suggest that you use the maintenance schedule in the following table. Bear in mind that cleaning and maintenance intervals depend on the operating environment. The maintenance schedule is offered as a guide only. You must draw up your own schedule for cleaning and maintenance based on regular visual inspection of the fixture.

Each time you install a fixture in a new location, carry out a visual check after a few days of use to determine whether there is a need for more frequent cleaning and maintenance than indicated in the table.

Bear in mind that maintenance work may have to be carried out in an outdoor location.

Applications

The applications mentioned in the following table involve the following conditions:

- **Indoor use, low environmental stress** = little pollution, low humidity, no special or aggressive environmental conditions. Examples: TV studio, exhibition hall etc.
- **Indoor use, heavy environmental stress** = airborne pollution, higher humidity, slightly tougher environmental conditions. Examples: club, stage, confetti, pyro, indoor festival etc.
- **Temporary outdoor use** = outdoor pollution from foliage, dust and pollen, high humidity, short UV exposure, rain, snow, ice, etc. Examples: festival, outdoor event etc.
- **Long-term outdoor use** = heavy outdoor pollution from foliage, dust and pollen, high humidity, heavy UV exposure, more frequent rain, snow, ice, etc. Examples: theme parks, building illumination etc.

Task	Application	Recommended frequency	Note
External inspection of fixture surfaces, screws, handles, lifting eyelets etc. External inspection of cables and connectors External inspection of front glass and optical components External inspection of Cooling system (fans, vents etc.)	Indoor use, low environmental stress	After each use and at least every three months	Test housing parts for appearance, breakage, cracks, defects, corrosion, or other damage. Replace any defective parts. Perform leak test and functional tests. Test cables and connectors for appearance, breakage, cracks, defects, corrosion, porosity or other damage. Replace any defective parts. Check the front glass and optical components for appearance, breakage, cracks, defects and any other damage. Replace any defective parts. Check ventilation system for free airflow, pollution, and correct operation. Clean ventilation slots and cooling ribs if necessary. Inspect for appearance, breakage, cracks, defects, corrosion, porosity and any other damage. Replace any parts that seem to be abnormal or defective.
	Indoor use, heavy environmental stress	After each use and at least every three months	
	Temporary outdoor use	After each use and at least every three months	
	Long-term outdoor use	After each use and at least once per month	
Sun protection system	Indoor use, low environmental stress	After each use and at least every three months	Verify sun protection functionality and ensure that it automatically closes when the fixture is powered off. Test sun protection system operation per the instructions. If the system seems to be defective, stop using the fixture and organize repairs. Perform a leak test after repairs.
	Indoor use, heavy environmental stress	After each use and at least every three months	
	Temporary outdoor use	After each use and at least once per month	
	Long-term outdoor use	After each use and at least once per month	

LED and color wheel test Pan/tilt functionality test	Indoor use, low environmental stress	After each use and at least every six months	Check the function of each LED light source. Compare the brightness of the different cells. Test each color wheel of the cells individually. Check the synchronized rotation behavior of the color wheels and correct them if necessary. If defective, stop using the fixture and arrange for repairs. Perform a leak test after repairs. Check for smooth pan and tilt movement. Move pan and tilt with varying angle, direction and speed, and listen for any unusual driving noises that could indicate faulty belt tension or a defective belt. Check the areas of the yoke and base close to the centers of head rotation. Clean them if dirty. If movement is rough or defects are visible, stop using the fixture and arrange for repairs. Perform a leak test after repairs.
	Indoor use, heavy environmental stress	After each use and at least every six months	
	Temporary outdoor use	After each use and at least every three months	
	Long-term outdoor use	After each use and at least once per month	
Leak test	Indoor use, low environmental stress	Every six months and after opening the housing	Perform a vacuum and/or pressure test to check for leaks and make sure that IP66 protection is maintained. If leaking is present, change the fixture's seals. You must normally carry out a leak test after opening the housing. If the fixture fails a leak test, do not use it outdoors or in an area with high humidity. Note that regular leak testing is required to maintain the manufacturer's warranty.
	Indoor use, heavy environmental stress	Every six months and after opening the housing	
	Temporary outdoor use	Every three months and after opening the housing	
	Long-term outdoor use	Every three months and after opening the housing	

If the fixture is installed outdoors, the maintenance tasks described in the above table must be carried out regardless of whether the fixture has been in operation or not due to the increased environmental stress in outdoor locations.

Annual overhaul

Besides the above maintenance tasks, we recommend an annual overhaul consisting of:

- full inspection, both inside and outside the fixture,
- visual and functional test – if movement is noticeably difficult or slow, a GLP service partner should lubricate with a Teflon-based high-temperature grease,

and if the fixture is used outdoors:

- replacement of pressure relief valves and seals, and
- vacuum or pressure testing to maintain IP rating.

For guidance on replacing pressure relief valves and seals, as well as on vacuum or pressure testing, please contact GLP Service.

Main fuse

If the fixture appears to be completely shut down even though power is applied, the main fuse may have blown. Disconnect the fixture from power before replacing the fuse.

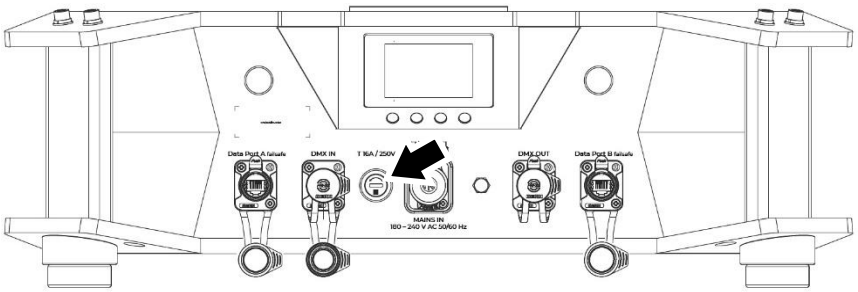


Figure 7. Main fuse location

See Figure 7. The main fuse is located in a fuseholder (arrowed) on the connections panel. Replace the fuse only with a fuse of the same type and rating. Ensure that the cover is correctly reinstalled and sealed in order to maintain the fixture's IP66 rating.

If the fuse blows repeatedly, disconnect the fixture from power and contact GLP for service and repair.

Lubrication

The fixture does not normally need lubrication. Moving parts must be subject to regular visual and functional tests. If smooth functionality is noticeably reduced, parts should be re-lubricated by an authorized GLP service partner with a long-life Teflon-based grease.

Firmware uploads

The user can upload firmware (device software) directly from a mobile device with the GLP *iQ.Service* app using the fixture's integrated wireless GLP iQ.Mesh module. It is also possible to update multiple fixtures at the same time over the DMX link using the GLP *iQ.Tool*.

Guarantee and warranty

As manufacturer, GLP guarantees the specified IP certification for new products when delivered to the end customer. This is ensured through careful factory assembly and subsequent quality testing.

When a product is used correctly, as described in its operating instructions, there will be no reduction in the certified water and dust resistance after delivery.

However, all fixtures are subject to normal wear and tear – including aging of seals – after prolonged or repeated use, especially outdoors. This leads to a gradual decline in water and dust resistance. For this reason, leak tests must be carried out by the user at regular intervals, depending on the type of use.

Water or dust damage caused by improper use, failure to carry out regular leak tests or failure to close a fixture properly after service is not covered by the product warranty.

Wear parts

Due to the normal operation of the motorized moving fixture, normal wear and tear of wear parts will occur. Wear of wear parts is a normal physical process that is not covered by the manufacturer's warranty. Wear parts such as pan and tilt drive belts must be inspected periodically and replaced when necessary.

GLP Service and Support

Contact information for the nearest GLP service and support is available online at www.glp.de/en/service, by email at info@glp.de, or by telephone at the following numbers:

- GLP Germany: +49 (7248) 927 1955
- GLP N. America: +1 818 767-8899
- GLP U.K.: +44 1392 690140
- GLP Asia: +852 (3151) 7730
- GLP Nordic: +46 737 57 11 40

9. Technical specifications

Light source

19 x 90 W white LEDs

LED PWM frequency options: Low (550 Hz) / Optimal (dynamic algorithm) / High 1 (4 600 Hz) / High 2 (13 000 Hz). All values rounded up/down; for detailed information please contact GLP Support)

LED lifetime: 20 000 hours to 50% output*

**Figure obtained under manufacturer's test conditions*

Optical system

19 x output lenses with full circular aperture, front diameter 750 mm / 29.5 in.

Fixture CCT: 6 500 K (+/-200K)

Fixture CRI (Ra): 70+ (default), 90 with high CRI filter on color wheel deployed

Beam angle (half-peak): 1.6°

Fixture output: Up to 3 580 lm per beam, total output 68 000 lm (calculated)

Maximum peak luminous intensity: 4.7 Mcd per beam

Output aperture diameter: 750 mm / 29.5 in.

Movement

Pan range: Normal = 540°, Extended = 650°

Tilt range: 200°

Control resolution: 16-bit

Position feedback: Yes

Fast pan/tilt movement

Control and programming

Control protocols: DMX via USITT DMX512-A, Art-Net and sACN protocols, GLP iQ.Mesh / LumenRadio CRMX, RDM (ANSI/ESTA E1.20)

DMX control modes: 3 (Normal, Segment, MultiBeam)

NFC sensor

16-bit control: Pan and tilt, intensity, color wheel (in Color Wheel model)

Standalone operation: One captured scene (SkyFX in preparation)

Setting and addressing: Onboard control panel with invertible backlit graphic display, DMX, RDM, GLP iQ.Mesh smartphone app

Display power: Self-charging buffer battery

Firmware update: DMX Link via DProg, GLP iQ.Mesh

Effects

1 mechanical color wheel per Beam (in MAD MAXX CW fixture), each with variable CTO area and 18 fixed colors including High CRI enhancement and CTB.

Virtual shutter: Variable speed with effects, instant open and blackout

Dimming: 0 – 100% continuous with 16-bit resolution, Linear, Soft and S-Curve dimming curve options

Virtual iris effect

FX engine with 50 static and 50 dynamic color and intensity FX patterns

CTC: Open 6 500 K – approx. 3 000 K

Electrical

AC mains power: 200-240 V nominal, 50/60 Hz

Internal power supply unit: Auto-ranging electronic switch mode

Power consumption at 200-240 VAC: 2500 W, PF >0.97 typical at 230 VAC, full load

Maximum current draw at 200-240 VAC: 13 A

Primary fuse: 20 A

Thermal

Cooling system: Combined convection and forced air, overheat protection

Cooling regulation: temperature-controlled or constant fan options

Max. ambient temperature: 45° C / 115° F

Min. ambient temperature: -10° C / 14° F

Total heat dissipation at 230 V, calculated, +/-10°: 8530 BTU/hr.

Installation

Operating position: Any

Location: Indoor and outdoor installation (protected from aggressive environmental factors). Not suitable for marine, coastal or harsh environments.

Mounting: Fastened to rigging structure using one or two Truss Mount Bars and rigging clamps. Placed on surface or structure

Mounting points: 8 camlock fastener points

Safety cable attachment points: Two in fixture baseplate, Ø15 mm

Minimum center-to-center distance: 600 mm / 24 in.

Minimum distance to illuminated surfaces: 1 m / 40 in.

Minimum distance to combustible materials: 0.1 m / 4 in.

Connections

Mains power IN: Neutrik powerCON TRUE1 TOP

DMX data IN and THRU via DMX cable: Neutrik TOP 5-pin XLR

DMX data IN and THRU via Ethernet: Fail-safe Neutrik TOP EtherCON

Construction

Ingress protection: IP66

Automatic mechanical sun protection system

Standard color: Black

Housing: High-impact flame-resistant thermoplastic, aluminum, steel

GLP iQ.Mesh module with NFC sensor for GLP iQ.Mesh connectivity

Pan and tilt locks

Accessories supplied

Power cable with Neutrik powerCON TRUE1 connector

Optional accessories

#9033 – Basic Flightcase for MAD MAXX

#9034 – Touring Flightcase for MAD MAXX (Premium)

#81531. – Dolly (Cart) for MAD MAXX

#81530 – Rigging Kit for MAD MAXX, containing following items*:*

- *2 x Truss Mount Bar (81520)*
- *1 x Safety Chain 1 tonne SWL (81522)*
- *2 x Shackle 1.5 tonne SWL (81526)*
- *2 x Swivel Eyelets (81524)*
- *1 x Accessory Bag (tbd.)*

#81520 – 1 x Truss Mount Bar for MAD MAXX

#81522 – 1 x Safety Chain 1 tonne SWL

#81526 – 1 x Shackle 1.5 tonne SWL

Shipping options

#7992 – GLP MAD MAXX CW
If the fixture is ordered without a separate flightcase/dolly, the fixture will be delivered in a wooden shipping crate

#7992 – GLP MAD MAXX CW + #9033 Basic Flightcase for MAD MAXX
Single fixture in basic transport flightcase (simple logistics wooden crate / fixture standing only)

#7992 GLP MAD MAXX CW + #9034 Touring Flightcase for MAD MAXX (Premium)
Single fixture in premium touring flightcase, flightcase can be rotated 180° to allow easy preparation for hanging installation (no rigging kit included, please order separately)

#7992 – GLP MAD MAXX CW + #81531 Dolly (Cart) for MAD MAXX
Single fixture in touring dolly (cart), aluminum dolly can be rotated 180° to allow easy preparation for hanging installation (no rigging kit included, please order separately)

Dimensions and weight

Height (head in home position): 1 057 mm / 41.7 in.

Height (Head vertical): 1 248 mm / 49.2 in.

Width (across yoke): 1 043 mm / 41.1 in.

Depth (Head Home Position): 789 mm / 31.1 in.

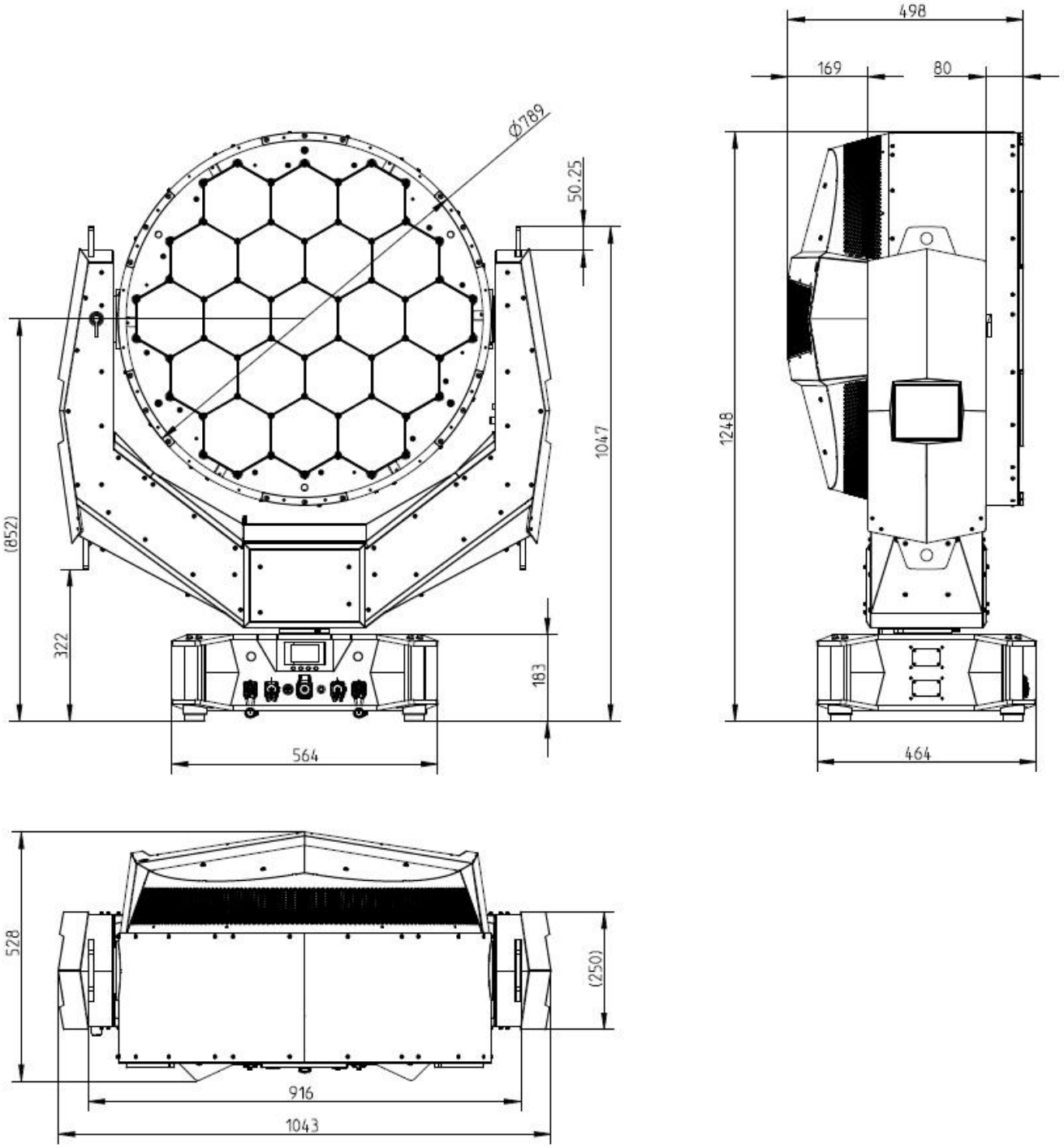
Depth (Head vertical): 528 mm / 20.8 in.

Min. center-to-center distance: 600 mm / 24 in.

Weight: 208 kg / 459 lb.

10.Dimensions

Dimensions are given in millimeters




GLP