impression X5 IP Maxx

Quick Start and Safety Manual

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GLP® impression X5 IP Maxx Quick Start and Safety Manual

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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 impression X5 IP Maxx lighting fixture.

If you have any doubts or questions about how to use the impression X5 IP Maxx safely, contact your GLP® supplier for assistance. Your GLP supplier will be happy to help.

The user documentation for the impression X5 IP Maxx consists of:

- The impression X5 IP Maxx Quick Start and Safety Manual, supplied with impression X5 IP 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 impression X5 IP Maxx User Manual, available for download from www.glp.de. The User Manual explains features and control of impression X5 IP Maxx fixtures.
- The impression X5 IP 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 impression X5 IP 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 impression X5 IP Maxx is not user-replaceable.
- Read and follow the user documentation for all additional equipment.

Electrical safety

- The fixture's IP65 rating means that it is protected against water droplets, such as rain, and splashing water, but do not expose the fixture to high-pressure water jets. 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 IP65 minimum, in perfect condition, rated for the electrical requirements of all connected devices, suitable for their application and suitable for the installation environment.
- If you link devices to AC mains power in a daisy chain by running power cable from THRU/OUT connectors to IN connectors, add together the total current draw of all the devices that you intend to connect together, including the first device, and check the current ratings of all elements (circuits, cables and connectors) in the chain. Do not exceed the current rating of any element in the chain. Respect the following limits:
  - When operating on 200-240 VAC mains power, you may connect MAXIMUM TWO X5 IP Maxx fixtures to mains power together in a daisy chain.
  - When operating on 100-120 VAC mains power, you may connect ONLY ONE X5 IP Maxx fixture to mains power – you must not connect X5 IP Maxx fixtures to mains power in a daisy chain. You may use the power OUT/THRU connector only to supply devices that draw a maximum current of 3 amps total.
- To ensure IP65 protection, only use connectors from the same manufacturer and of the same type as those installed on the fixture. This applies in particular to power input and power relay cables. 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 1.5 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.

- The main fuse is located behind the triangular covers on the yoke. Disconnect the fixture from power and move it to a dry area before attempting to replace the fuse. 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 fixture if the ambient temperature exceeds 45° C (115° F).
- The hottest parts of the fixture's surface can reach up to 100° C (212° 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 impression X5 IP 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.

Eye safety

- The impression X5 IP 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

- Do not touch motorized moving assemblies.
- The fixture is heavy. Apply the tilt lock and carry the fixture by holding the yoke.
- Installation must be performed by qualified personnel only and carried out in accordance with applicable regulations such as DIN VDE 0711-217.
- The fixture is not portable when installed.
- Ensure that the supporting structure and 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 of the fixture.
- Fasten the fixture to a structure or surface 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 cable as the primary means of support.
- When installing the fixture hanging vertically downwards only, you may use either two omega brackets with rigging clamps or two rigging clamps without omega brackets fastened directly to the fixture's baseplate as described in this manual.

- When installing the fixture in any other orientation than hanging vertically downwards, you must use two omega brackets with rigging clamps as described in this manual.
- 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.
- If you fasten two M10 bolts into the fixture's baseplate to use when rigging the fixture, the bolts must protrude minimum 10 mm and maximum 16 mm into the mini-base.
- Allow a minimum center-to-center distance of 500 mm / 19.7 in. between fixtures when installed.
- If the fixture is installed in a location where it may cause injury or damage if it falls, install as directed in this manual a safety cable or similar secondary attachment that will hold the fixture if a primary attachment fails. The secondary attachment must be approved by an official body such as TÜV as a safety attachment for the weight that it secures, it must comply with EN 60598-2-17 Section 17.6.6, and it must be able to support a static suspended load that is ten times the weight that it secures.
- 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. 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 fixture may suffer damage that is not covered by the product warranty.

General precautions

Check that the head is unlocked and that the head will be free of any obstacles through its full movement range before powering the fixture on.

SET THE FIXTURE'S TILT LOCK TO OFF before putting the fixture into its flightcase for transportation. The tilt lock must NOT be locked when the fixture is being transported, or bumps and shocks during transport can damage the lock. Before closing the flightcase, check that the protective liner in the flightcase will hold the head and protect it from shocks.

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.

Do not lift or carry the fixture by the head. Carry the fixture by the yoke with the tilt lock applied.

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.

Protection against environmental factors

The fixture's IP65 rating means that it is designed for temporary outdoor use only. Its power and data connections are designed for flexible installation and removal, making the fixture convenient to use in temporary installations. However, for this reason – among others – the fixture is not suitable for permanent outdoor installation.

For permanent outdoor installation, you must provide additional protection against dust, water, low and high temperatures, UV radiation etc. and carry out regular maintenance with scheduled service intervals.

The fixture is not suitable for permanent use in marine or coastal environments or near sources of corrosive agents (a swimming pool that can release chlorine into the atmosphere, for example). Installing the fixture in a harsh environment like one of these will probably result in corrosion or excessive wear to case components, moving parts, optics, cooling systems or 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.

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.

Exterior maintenance

Devices used in outdoor or harsh environments need more frequent service. If the equipment is to be used outdoors or in a harsh environment for a long period, check the installation and all cable connections regularly, at least every 30 days.

- Perform an external visual inspection of the housing surfaces, all connections, and their bolts and seals.
- Look for signs of contamination or corrosion.
- Check the optics and the cooling system for contamination.

Based on the first days of operation, plan the required maintenance actions and the maintenance intervals. Bear in mind that maintenance work may have to be carried out outdoors.

Due to the increased environmental stress when a fixture is installed outdoors, maintenance must be carried out regardless of whether the fixture has been in operation or not.

We recommend that you apply a permanent wax to the fixture housing, as this will protect against the accumulation of contaminants.

We recommend that you carry out an annual inspection, both inside and outside the fixture. To ensure water- and dust-tightness, we recommend that you replace vent valves and seals at this time.

Avoiding damage from dust and airborne particles

- Carry out regular visual inspections of the fixture to make sure that there is no accumulation of dirt, especially on the front glass and on air vents.
- If cleaning is necessary, follow the instructions in ‘Service and maintenance’ on page 24.

Avoiding damage from light sources

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

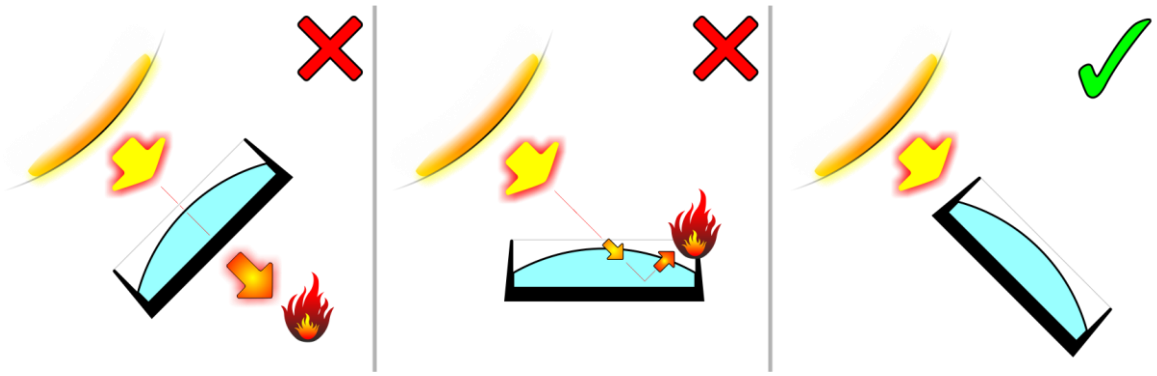


Figure 1. Avoiding damage from light sources

Damage can occur whether the fixture is powered on or off. See Figure 1. 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.

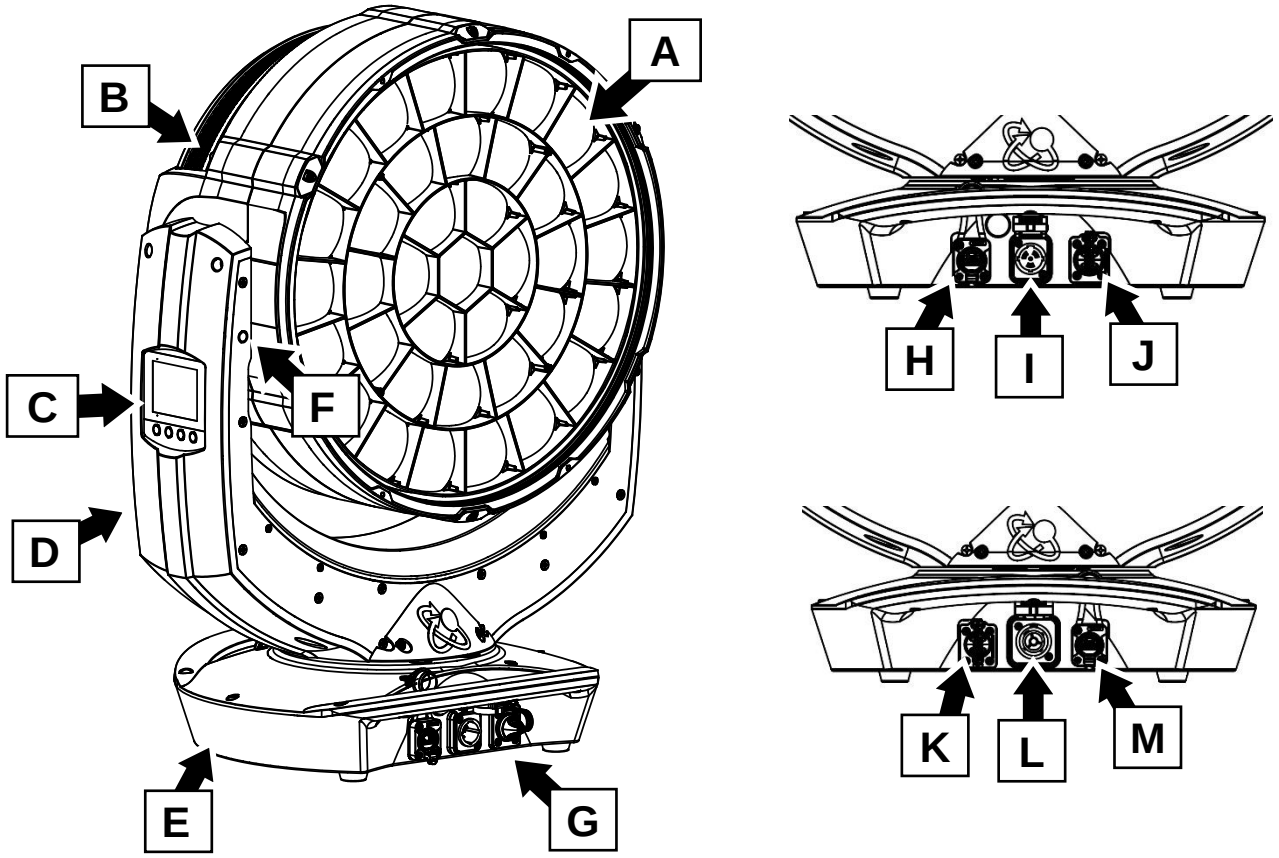
To avoid problems from strong light sources:

- 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.

Transportation and storage

- Transport the fixture either in a flightcase or in its original packaging to protect it from damage caused by shocks during transportation.
- Store the fixture in a dry location when not in use.

3. Overview



A – Lens array

B – Cooling vents

C – Control panel and backlit LCD display

D – NFC sensor for GLP iQ.Service

E – Base

F – Tilt lock

G – Input connections panel

H – DMX IN (5-pin XLR)

I – Mains power IN (Neutrik powerCON TRUE1)

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

K – DMX OUT/THRU (5-pin XLR)

L – Mains power OUT/THRU (Neutrik powerCON TRUE1)

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

4. Overview of features

The impression X5 IP Maxx is 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 or suspended from a suitable structure as described in this manual.

The impression X5 IP 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 28.

The impression X5 IP Maxx shall 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 is a powerful 34 x 40 W RGBL LED engine.

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 Camlock attachment points for Camlock fasteners on omega brackets that can be used for rigging clamp attachment. The baseplate also has two M10 threaded holes for fastening rigging clamps directly to the base of the fixture.

5. Preparation for use

Warning! Read 'Safety' starting on page 5 before installing the impression X5 IP Maxx.

Important! Set the tilt lock to OFF before transporting the fixture in its flightcase and before applying power to the fixture.

Included items

The impression X5 IP Maxx is supplied with a power cable with a Neutrik powerCON TRUE1 TOP connector.

Tilt lock

See photo on right. The fixture has a tilt lock for use when carrying and during service. Set the tilt lock to OFF before transporting the fixture in its flightcase and before applying power to the fixture.

Lifting and carrying

To carry the fixture, apply the tilt lock and lift the fixture by the yoke.

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

- install two half-coupler rigging clamps directly on the base of the fixture using the M10 threaded holes in the baseplate, or
- install two half-coupler rigging clamps with *GLP 89mm Omega Brackets* on the baseplate using the camlock bracket attachment points in the baseplate.

Lift the fixture straight up out of the flightcase and install it as described in this chapter.

Orientation and location

The fixture may be rigged in any orientation following the instructions in this chapter or placed on a level surface in locations where it is safe to stand the fixture.

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 / 3.3 ft. 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 500 mm / 19.7 in. when installing fixtures side by side.

Identifying the front of the fixture

See Figure 2. An arrow **A** 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, increasing the DMX value for tilt moves the head towards the front.

Mounting the fixture

The fixture may be rigged in any orientation using the hardware configuration described in this chapter or placed on a stable horizontal surface. If there is a risk of injury or damage if an item of mounting or rigging hardware fails, you must secure the fixture with a secondary attachment such as a 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 only. 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.

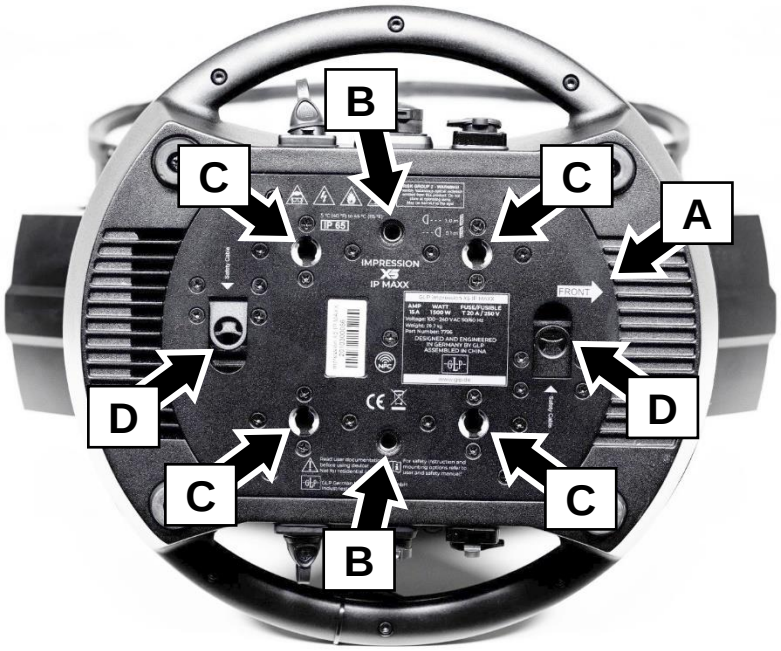


Figure 2. Fixture baseplate

Mounting directly with rigging clamps

To suspend the impression X5 IP Maxx from a rigging truss or similar structure using rigging clamps bolted directly to the fixture:

1. Obtain two suitable half-coupler type rigging clamps. See Figure 3. Pass an M10 grade 8.8 steel bolt through each rigging clamp and check that the bolts will protrude minimum 10 mm / 0.4 in. and maximum 16 mm / 0.63 in. into the base of the fixture when tightened.
2. See Figure 2. Fasten the bolts through the half-coupler clamps and into the M10 threaded holes **B** in the fixture's baseplate so that the clamps are held securely.
3. Fasten the rigging clamps securely around a rigging truss chord or similar bar.

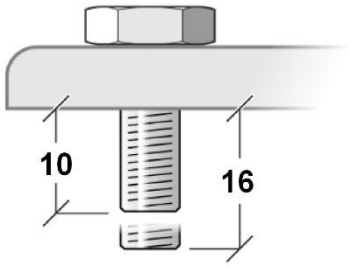


Figure 3. Min./max. bolt protrusion into fixture base (millimeters)

4. Secure the fixture against clamp failure as described in 'Securing the fixture with a safety cable' on page 18.
5. 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.

Mounting with omega brackets and rigging clamps

To suspend the impression X5 IP Maxx from a rigging truss or similar structure using two omega brackets and rigging clamps:

1. Obtain two standard GLP 89 mm Omega Brackets with camlock fasteners and two suitable half-coupler rigging clamps. Bolt the rigging clamps to the omega brackets using suitable grade 8.8 strength minimum steel bolts and self-locking nuts.
2. See Figure 2. Line up the camlock quarter-turn pins in the omega brackets with the camlock fastener points **C** in the base of the fixture and turn the four camlock locking levers a full 90° clockwise to lock the brackets to the fixture.
3. Fasten the rigging clamps securely around a rigging truss chord or similar bar.
4. Secure the fixture against clamp failure as described in 'Securing the fixture with a safety cable' on page 18.
5. 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 cable

If you install the fixture in a location where the fixture can cause injury or damage if it falls, secure it with a safety cable that is in perfect condition and approved as a secondary attachment for the weight of the fixture.

To secure the fixture with a safety cable:

1. See Figure 2. Pass the safety cable through one of the two safety cable attachment points **D** in the base of the fixture. Do not use either of the fixture's handles for safety cable attachment. Do not use an omega bracket installed on

the fixture for safety cable attachment, as a bracket failure can allow the fixture to fall.

2. Pass the safety cable through or around a secure anchoring point such as the rigging truss or other supporting structure and take up as much slack as possible, then lock the safety cable closed.
3. Check that the safety cable will hold the fixture safely if a primary attachment fails.

6. Connections

Warning! Read 'Safety' starting on page 5 before connecting the impression X5 IP Maxx to power.

AC power

The fixture has an IP65-rated 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 IP65 rating, use only this type of cable connector.

The autosensing power supply accepts 100-240 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.

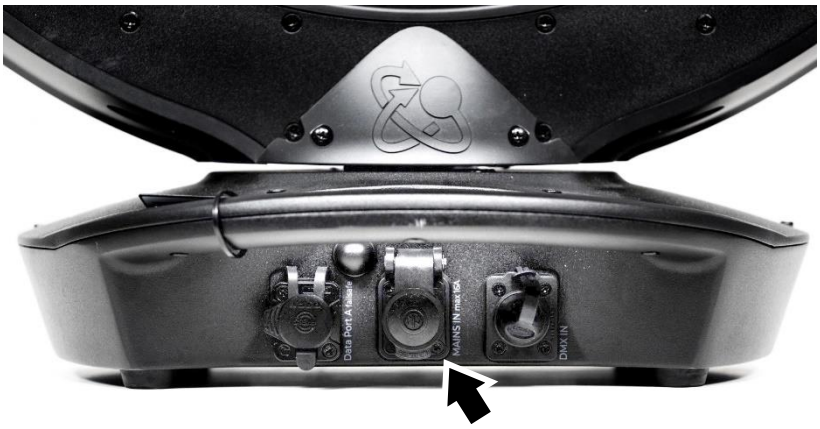


Figure 4. Mains power IN socket

2. Remove the rubber connector seal from the powerCON TRUE1 TOP MAINS IN socket (arrowed in Figure 4). 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 tilt lock, 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 devices to power in a daisy-chain

The fixture has an IP65-rated Neutrik powerCON TRUE1 TOP (True Outdoor Protection) power THRU/OUT female socket for connecting other devices to AC mains power in a daisy-chain. To maintain the fixture's IP65 rating, connect only a cable with a Neutrik powerCON TRUE1 TOP male cable connector to this socket.

Add together the current draw of all the devices that you intend to connect together in a daisy chain and do not exceed the current capacity of any circuit, cable or connector in the chain.

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 'Overview' on page 14. The fixture has IP65-rated 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 IP65 protection, use Neutrik TOP 5-pin XLR connectors only. Use certified DMX cable only.

Ethernet link

See 'Overview' on page 14. The fixture has two IP65-rated Neutrik EtherCON TOP ports for connection to an Ethernet link. To connect fixtures to an Ethernet link while maintaining their IP65 protection, use network cable with Neutrik EtherCON TOP RJ45 connectors only.

7. Using the fixture

For guidance on using the impression X5 IP 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.

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 professional service technician with the tools, skills, and personal protective equipment to maintain high-powered lighting equipment safely and efficiently.

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.

The user can upload firmware (device software) using D3Prog or GLP iQ.Service. All other maintenance operations must be carried out by professionals or trained and qualified personnel. Please contact your GLP dealer for this.

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. 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.

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.

To get the best performance and lifetime from the fixture, inspect it regularly and clean it as soon as you see signs of dirt buildup. 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 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.

- Use a vacuum cleaner and soft brush to remove dust and loose particles from surfaces and air vents. 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. 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.

Seal maintenance and vacuum testing

The impression X5 IP Maxx is an IP65-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 IP65 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.

Suggested maintenance intervals

We suggest the maintenance schedule below, but bear in mind that cleaning intervals depend on the operating environment. Our suggested cleaning intervals are based on our experience with typical installations – check the fixture to assess the need for cleaning and adjust intervals as necessary.

Maintenance Task	Environment	Interval	How
Clean front lens, fixture housing. Clean fans, clean or replace air filter.	High levels of airborne contaminants (club, bar, touring, concert etc.)	After each job	Use soft, lint-free cloth moistened with weak detergent solution
	Low levels of airborne contaminants	Monthly	

Maintenance Task	Environment	Interval	How
Clean cooling fans and air vents Clean / service air filters	High levels of airborne contaminants (club, bar, touring, concert etc.)	After each job	Remove dust from air vents and fan blades with vacuum cleaner and soft brush. Hold fans still with a screwdriver while applying suction to avoid spinning them too fast and damaging them
	Low levels of airborne contaminants	Monthly	
Vacuum testing to maintain IP rating	All	Every six months	For guidance3 on vacuum testing, please contact GLP Service.
Moving parts	All	Yearly	Visual and functional test. If movement is noticeably difficult or slow, a GLP service partner should lubricate with a Teflon-based high-temperature grease.

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.

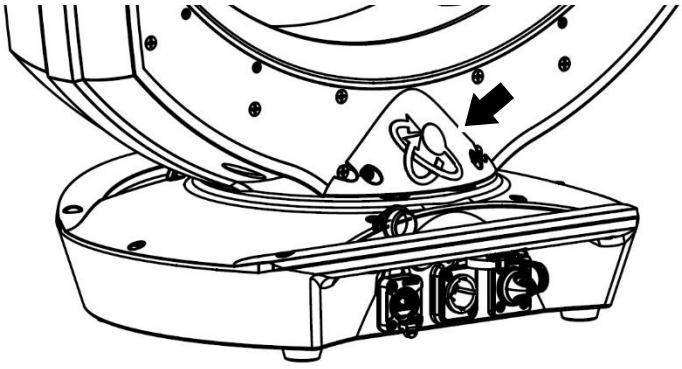


Figure 5. Main fuse location

See Figure 5. The main fuse is located behind the triangular covers (arrowed) at the bottom of the yoke. Remove either of the two covers for access, and 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 IP65 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. If any effects or moving parts show signs of rough movement, consult a GLP service partner.

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.

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

37 x 40 W RGBL LEDs

CRI (Ra)

- 87 @ 8000K
- 86.7 @ 6500K
- 86.4 @ 5600K
- 86.1 @ 4200K
- 84.8 @ 3200K

TLCI

- 90 @ 8000K
- 88.5 @ 6500K
- 86.6 @ 5600K
- 80.7 @ 4200K
- 74.1 @ 3200K

Duv: Perfect white point matches with low Duv values

Five LED PWM frequency options: Low / Optimal / High 1 / High 2 / Maximum

LED lifetime: 50 000 hours to 70% output*

**Figure obtained under manufacturer's test conditions*

Optical system

37 output lenses with full circular aperture, front diameter 380 mm / 14.9 in.

Total fixture output: Up to 21 000 lm

Maximum peak luminous intensity: 3.33 Mcd

Minimum zoom

- 3.3° Beam angle (50%)
- 5.1° Field angle (10%
- 6.1° Cutoff angle (3%)

Maximum zoom

- 37° Beam angle (50%)
- 55° Field angle (10%)
- 66° Cutoff angle (3%)

Zoom ratio: 1:19

White points: 8000 K, 6500 K, 5600 K, 4200 K, 3200 K

Movement

Resolution: 8 / 16 bit

Position feedback: Yes

Pan: Normal = 540°, Extended = 650°

Tilt: 240°

Super-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: 6

NFC sensor

16-bit control: Pan & tilt, intensity, color mixing

Standalone operation: One captured scene

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

Display power: Self-charging buffer battery

Fan modes: Regulated, High, Medium, Low, Off

Sub-fixture module modes: Normal, Independent

Firmware update: DMX Link via DProg, GLP iQ.Mesh, Fixture2Fixture push

RDM Manufacturer ID: 0x676C (GLP German Light Products GmbH)

RDM Device Model ID: 0x023B

Effects

Color mixing: RGB, RGBL, x:y (all 16-bit resolution)

CTC: 10 000 K – 2 500K

CQC: High output, high quality, desaturation

Virtual color wheel effect: 64 LEE-referenced colors

Color mix priority: Choice of layer priority settings

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

FX: Choice of 50 pre-programmed dynamic effect macros

Performance mode options: Fast, Normal (Balanced), Smooth

Tungsten simulation: 8x with fixed CCT, 8x with individual CCT

Pattern effects: More than 50 static patterns and 50 dynamic patterns with indexing and rotation, random pixel, pattern crossfade effects, pattern transition effects

Zoom: 3.5° – 65°, super-fast zoom action

Electrical

AC mains power: 100-240 V nominal, 50/60 Hz

Internal power supply unit: Auto-ranging electronic switch mode

Power consumption:

- @ 230 V: 1500 W, PF >0.95
- @ 100 V: 1500 W, PF >0.99

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: 5° C / 41° F

Total heat dissipation at 230 V, calculated, +/-10°: 5120 BTU/hr.

Installation

Operating position: Any

Location: Indoor permanent, outdoor temporary installation

Mounting: Fastened to surface or structure

Mounting points: Two pairs of camlock fastener points, two M10 threaded holes for direct mounting of rigging clamps

Safety cable attachment points: Two in fixture baseplate

Minimum center-to-center distance: 500 mm / 19.7 in.

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

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

Connections

Mains power IN and THRU: Neutrik powerCON TRUE1

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

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

Construction

Ingress protection: IP65

Standard color: Black

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

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

4 x 4 mm screw threads for mounting external accessories on head

Tilt lock

Accessories supplied

Power cable with Neutrik powerCON TRUE1 connector

Shipping options

Single fixture in carton

Two fixtures in tourpack

Dimensions and weight

Width across yoke: 483 mm / 19.1 in.

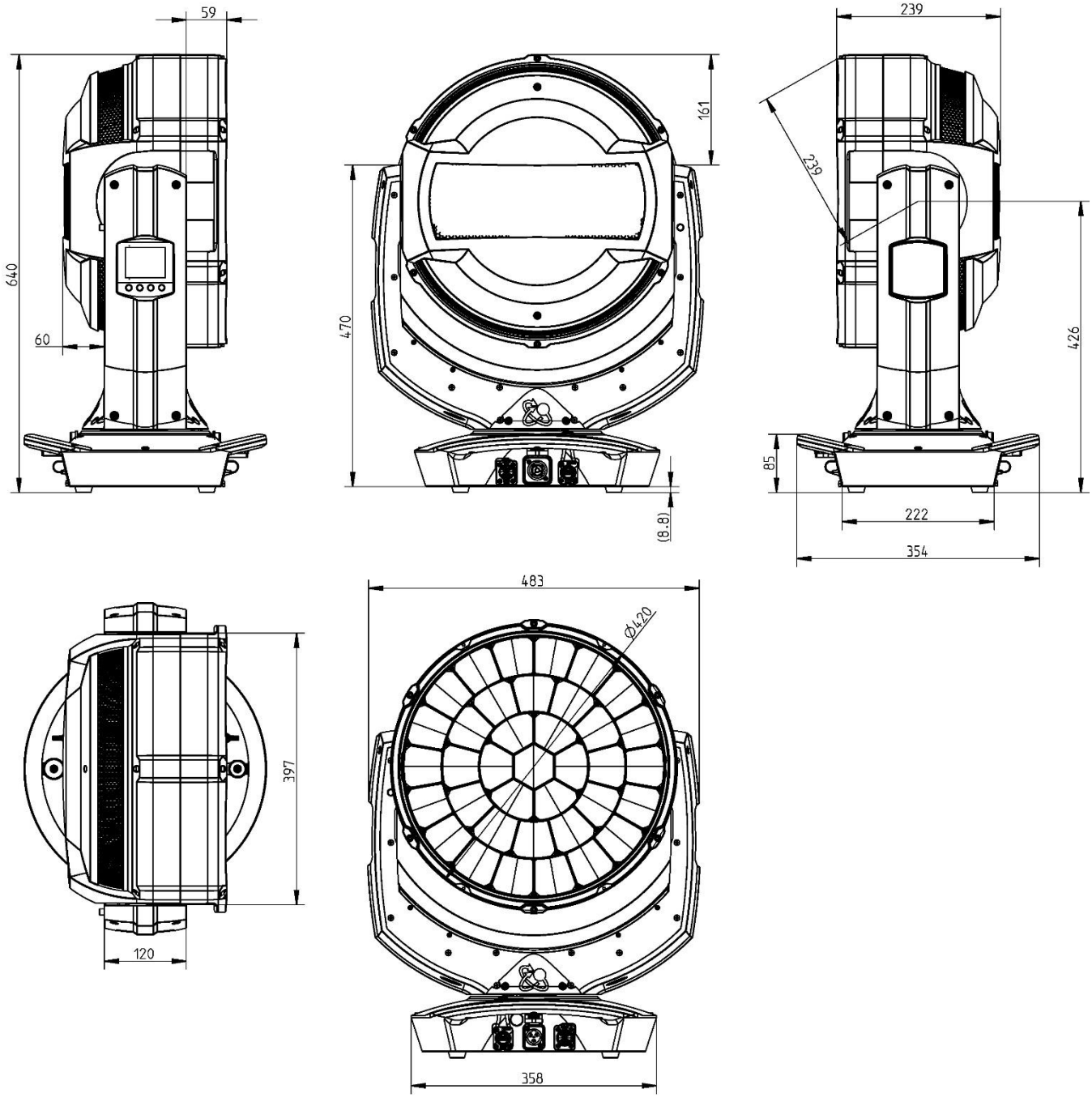
Height (head vertical, including rubber feet): 640 mm / 25.2 in.

Height (head at max. vertical extension, including rubber feet): 665 mm / 26.2 in.

Weight (fixture only): 29.7 kg / 65.5 lb.

10.Dimensions

Dimensions are given in millimeters




GLP