Safety and User Manual

ArenaLED 1 Touring White / Color

-G-L-P-

Document revisions

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20241104-01	First public release version Firmware version: 0.5.0	November 2024

GLP® ArenaLED1 Touring White / Color Safety and User Manual

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1. Safety

Key to symbols

The following symbols are used in the 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 documentation for important safety information.	🔥	**Warning!** Fire hazard.
👓	**Warning!** Risk of eye injury.	♨	**Warning!** Hot surface. Risk of burn injury.

Warning! Read this Safety and User Manual supplied with the fixture and available for download from www.glp.de before installing, operating or servicing the fixture. The Safety and User Manual contains important information for the safe use of the product. If you fail to read that information you may create a safety hazard with a risk of serious or lethal injury or damage.

If you have any doubts or questions about how to use the GLP® ArenaLED1 Touring lighting fixture safely, contact your GLP supplier for assistance. Your GLP supplier will be happy to help.

This Safety chapter contains important safety information and installation instructions that the installer and user must read.

The GLP® ArenaLED1 Touring 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 this manual.

- Respect all warnings and directions given in the fixture's user documentation and on the fixture. Read the fixture's Safety and User Manual and familiarize yourself with the safety precautions that it contains. GLP and affiliated companies will take no responsibility for damage or injury resulting from disregard for the information in the user documentation.

- Check the GLP website at www.glp.de and make sure that you have the latest versions of the fixture's Safety and User Manual.

- Check the fixture software version indicated on page 2 of this user manual and then use the fixture's control panel to check the version installed in the fixture. If the versions are not the same, the user 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 user manual on the GLP website if necessary.

- Make this Safety and User Manual available to all persons who will install, operate or service the fixture.

- 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 fixture is suitable for temporary and permanent indoor use and for temporary outdoor use.

- 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.

- Do not allow water to collect or pool around the pressure relief valve on the back of the fixture.

- 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.

- You may connect a MAXIMUM of EIGHT (8) ArenaLED1 Touring fixtures to mains power together in a daisy chain.

- To ensure IP65 protection, only use IP65-rated 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.

- 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.

- Do not place any optical components other than accessories for the fixture 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 ArenaLED1 Touring 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 RDM commands 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

- 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.

- 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 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

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

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 is protected to IP65. It is designed for temporary and permanent indoor use and temporary outdoor use. It is protected against water drops and splashing, but do not immerse it, install it in a location that may become flooded, or expose it to high-pressure water jets. Do not allow water to pool on or around the pressure relief valve on the back of the fixture.

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 pressure relief valves and seals at this time.

Avoiding damage from dirt 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 air vents.

- If cleaning is necessary, wipe the fixture with a soft brush and/or cloth soaked in soapy water or a car-wash solution. Do not use any kind of abrasive cleaner. Do not use a high-pressure water jet.

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.
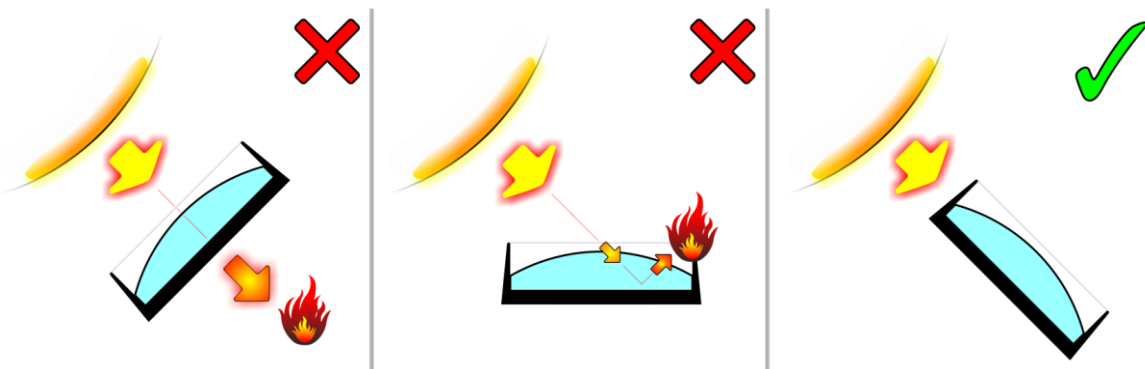
Figure 1. Avoiding damage from light sources

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 for damage to be caused.

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. Fixture overview
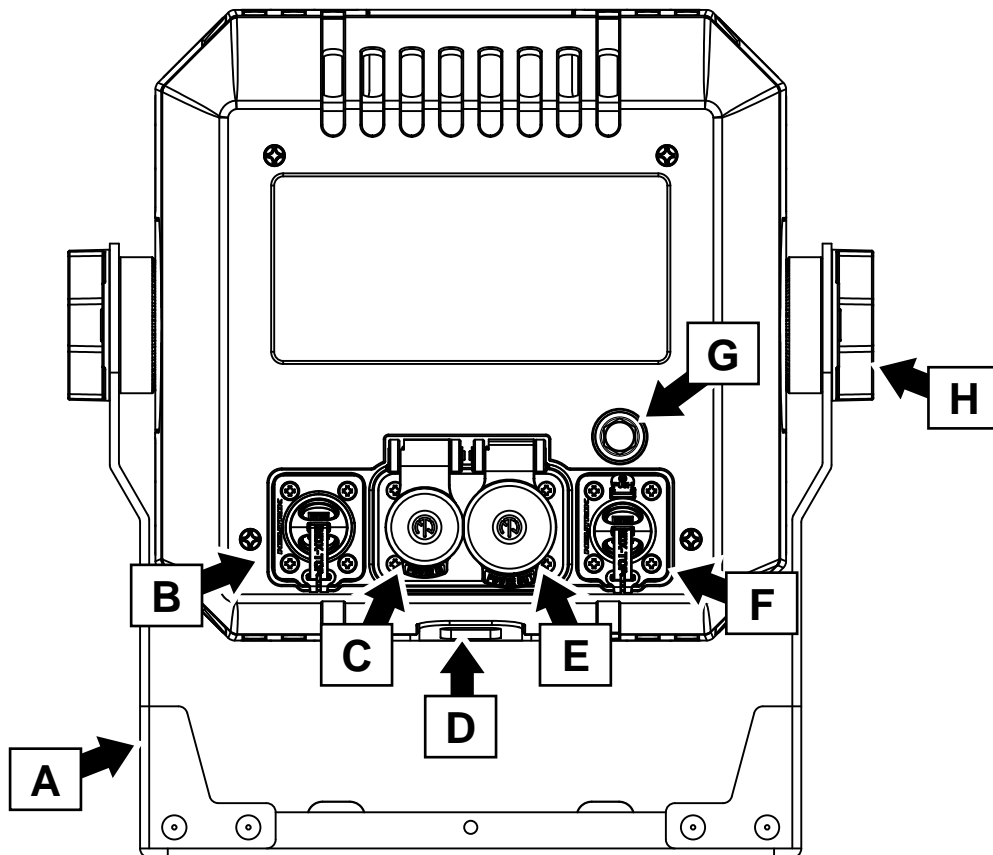
Figure 2. Fixture overview

A – **Mounting yoke**

B – **DMX IN (5-pin XLR)**

C – **AC mains power IN (Neutrik powerCON TRUE1 TOP)**

D – **Safety cable attachment point**

E – **AC mains power THRU (Neutrik powerCON TRUE1 TOP)**

F – **DMX THRU (5-pin XLR)**

G – **Pressure relief valve**

H – **Tilt adjustment handles**

4. Preparation for use

⚠️ **Warning!** Read 'Safety' starting on page 4 before installing the fixture.

Orientation and location

The fixture may be installed in one of the following ways:

1. Fastened to a surface at any angle with a bolt or other fastener passed through the mounting yoke.

2. Fastened to a rigging truss or similar structure at any angle by means of a standard GLP omega bracket and rigging clamp (or other clamp fixed to the omega bracket).

Make sure that the front of the fixture will be at least 0.2 m / 8 in. away from combustible materials (wood, paper, textiles, etc.) when the fixture is installed.

Make sure that there will be a minimum of 0.5 m / 1.6 ft. between the fixture and any surface to be illuminated.

Securing the fixture with a safety cable

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

To secure the fixture with a safety cable:

1. Loop a safety cable around a secure anchoring point such as a truss or fixed structure. Take up as much slack as possible in the safety cable (by looping it more than once around the truss, for example).

2. See **D** in Fixture overview on page 13. Fasten the safety cable to the attachment point on the back of the fixture. Check that the safety cable will secure the fixture if the primary attachment fails.

Figure 3. Attachment points in Mounting yoke

Installing on a surface at any angle

To install the fixture on a surface at any angle:
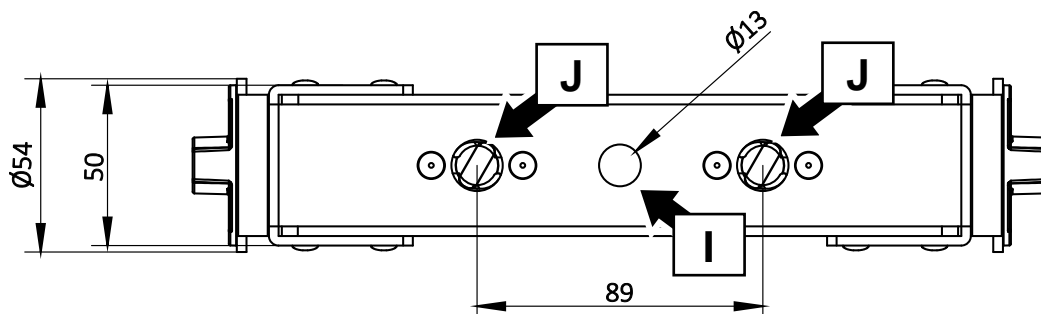
1. Check that the surface is secure and can safely hold the weight of the fixture plus all hardware and cables. Fasteners must be suitable for their purpose and the installation environment.

2. Fasten the mounting yoke to the surface by passing a suitable fastener such as a grade 8.8 steel bolt or screwbolt through the 13 mm hole in the yoke (see **I** in Figure 3) and fastening it to the surface. Adjust the aim of the fixture before tightening the fastener.

3. Loosen the tilt adjustment handles (**H** in the fixture overview drawing on page 13) on either side of the mounting yoke, tilt the fixture to aim it correctly and re-tighten the handles.

4. In a temporary installation, secure the fixture with a safety cable as described in 'Securing the fixture with a safety cable' on page 14 if there is any risk that the fixture will cause injury or damage if it falls.

Installing on a rigging truss or similar structure

You can suspend the fixture from a rigging truss or pipe using a rigging clamp bolted to a suitable omega bracket that is fastened to the fixture's mounting yoke.

If you are going to install the fixture hanging vertically downwards from a horizontal rigging truss or pipe, you can fasten it to the truss using a G-clamp. If you are going to install the fixture in any other orientation, you must use a half-coupler clamp that completely encircles the truss chord or pipe.

1. Attach a suitable rigging clamp to a GLP standard 89 mm Omega Bracket.

2. Fasten the omega bracket to the fixture's mounting yoke by inserting the camlock fasteners into the camlock receptacles (**J** in Figure 3) in the mounting yoke and turning the handles on the camlock fasteners a full 90 degrees clockwise to lock them.

3. Fasten the rigging clamp to the truss or structure with the fixture facing towards the area to be illuminated.

4. Secure the fixture with a safety cable as described in 'Securing the fixture with a safety cable' on page 14.

5. Loosen the tilt adjustment handles (**H** in the fixture overview drawing on page 13) on either side of the mounting yoke, tilt the fixture to aim it correctly and re-tighten the handles.

5. Connections

⚠️ **Warning!** Read 'Safety' starting on page 4 before connecting the fixture to power.

AC mains power

The ArenaLED1 TOURING has a TRUE1 TOP-compatible socket for connection to AC mains power from a TRUE1-TOP compatible female cable connector. The auto-sensing 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.

The fixture includes a Power THRU connector which allows you to daisy-chain multiple fixtures. See 'Connecting multiple fixtures to power in a chain' on page 17.

Remove the rubber seals from sockets before inserting cable connectors. Reinstall the seal if you remove a cable connector from a socket. Keep rubber seals installed on all unused sockets at all times.

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 nobody will be looking directly at the fixture if it lights up suddenly.

Connecting to power

Although TRUE1 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. Remove the rubber sealing cap from the MAINS IN socket (**C** in 'Fixture overview' on page 13) on the back of the fixture.

2. Check that the TRUE1 TOP-compatible 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.

3. Line up the keys in the cable connector correctly with the keyways in the MAINS IN socket on the fixture.

4. 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.

5. Twist the connector fully clockwise to lock. Listen for a 'click' that indicates that the connector is locked.

Installing power connectors on the input cable

The AC mains power cable can be connected to AC mains power inside a dry area such as IP65-rated junction box, but it is possible to install a cord cap / mains power plug that is suitable for your local convenience receptacles / power sockets on the power input cable if you can do this safely. If you use this option, 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 TRUE1 TOP-compatible connector on a power cable, follow the instructions given on the manufacturer's website.

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	Green/yellow

Connecting multiple fixtures to power in a chain

You can connect fixtures to power in a daisy-chain to simplify your power circuit layout.

Warning! Do not connect more than **eight (8)** ArenaLED1 fixtures in total to power in one chain at 180-305 VAC, 50/60 Hz.

The power input cable supplied with the fixture is rated 16 A maximum. Add together the maximum current draw ratings of all the devices that you intend to connect to power in a daisy chain and do not create a chain with a total maximum current draw of more than 16 A, or you will create a risk of fire and electric shock.

To connect fixtures to power in a chain:

1. Obtain power relay cables that have male and female TRUE1 TOP-compatible connectors. Cables must be minimum 14 AWG or 1.5mm2, rated minimum 16 A and suitable for the environment and application.

2. Connect the power input cable to the MAINS IN socket of the first fixture as described under 'Connecting to power' on page 16.

3. Connect a relay cable to the MAINS OUT / THRU socket (**E** in 'Fixture overview' on page 13) of the first fixture and to the MAINS IN socket of the second fixture.

4. You can continue connecting ArenaLED1 fixtures MAINS OUT / THRU socket to MAINS IN socket until the chain contains a maximum of eight (8) fixtures in total.

Control data

Besides wireless setup using GLP iQ.Mesh via the GLP iQ.Service App, the fixture can be controlled and set up using:

- USITT512 DMX over a standard DMX cable link
- RDM (Remote Device Management) over the DMX cable link.

See 'Fixture overview' on page 13. The fixture has 5-pin XLR IN (see **B**) and THRU (see **F**) 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, use certified DMX cable with IP65-rated Neutrik TOP-compatible connectors only.

Remove the rubber seals from sockets before inserting cable connectors. Reinstall the seal if you remove a cable connector from a socket. Keep rubber seals installed on all unused sockets at all times.

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

6. Features

The ArenaLED1 Touring fixture is the perfect solution for professional sports and event venues, as well as for all types of large events that want dynamic, innovative lighting for unforgettable visitor experiences. In addition to the standard conventional basic lighting, dynamic and color-dynamic sceneries can also be integrated at any time.

As a touring version of the ArenaLED system with a single light head, it has an integrated power supply and DMX connection. This makes it ideal for large events and sports events where fast, flexible solutions are required.

The ArenaLED1 Touring is available in two versions:

- The **ArenaLED1 Touring White** has 36 x 6W LEDs with a native color temperature of 5700 K. The spotlight offers a luminous flux of 18,800 lm, with boost up to 24,900 lm, with CRI 85+ and TLCI 80+. The beam angle of 15°/15° (50%) and field angle 27°/27° (10%) ensures homogeneous illumination.

- The **ArenaLED1 Touring Color** has 9 x 40W RGBL LEDs with a calibrated white point of 5700 K. The spotlight offers a luminous flux of 5720 lm, with boost up to 7,620 lm, with CRI 85+ and TLCI 80+. The beam angle of 9.9°/9.5° (50%) and field angle 23°/22° (10%) ensures homogeneous, colorful illumination.

Fixture intensity and fixture color (in the color version) can be controlled using a standard DMX-512 controller. Using DMX, you can create static scenes with brightness and white or color control depending on model, and you can implement dynamic sequences.

The GLP ArenaLED1 Touring is designed without any external display or buttons to protect the fixture from tampering.

The most important fixture settings can be adjusted using the fixture's DMX control channel or RDM. Basic settings such as the fixture's DMX address can be adjusted using RDM.

The ArenaLED1 Touring mounting yoke makes fixture mounting and aiming easy. The yoke can be permanently mounted on a structure or surface using a bolt or screwbolt passed through its 13 mm hole, or it can be temporarily fastened to a structure using a GLP standard Omega bracket. These options make the fixture suitable for both permanent and temporary installations.

DMX start address

Before controlling the fixture using DMX, you need to set its DMX start address using RDM.

DMX control modes

Select the control mode (DMX control channel layout) that you want to use:

ArenaLED1 Touring White

- **Mode 1** – Most simple DMX control mode, with 8-bit Intensity channel and a Control/Settings channel for adjusting fixture settings.

- **Mode 2** - Advanced DMX control mode, with 16-bit Intensity channel, a Control/Settings channel for adjusting fixture settings and two additional channels for Intensity effects (Shutter FX select channel) and speed (Shutter FX speed channel).

  > *NB: In firmware v. 0.5.0 not all Shutter FX are fully implemented in DMX Mode 2. Some FX may not work as intended. Some Control/Settings channel commands are not fully implemented.*

ArenaLED1 Touring Color

- **Mode 1** - Most simple DMX control mode, with 8-bit Intensity channel, Control/Settings channel for adjusting fixture settings, Color Temperature channel and Color Mixing channel.

  > *NB: In firmware v. 0.5.0, it is only possible to adjust Lime individually when at least one other RGB color DMX value is greater than 1.*

- **Mode 2** - Advanced DMX control mode, with 16-bit Intensity channel, Control/Settings channel for adjusting fixture settings, Color Temperature channel, Tungsten effects, Color Mixing channels and two additional channels for Intensity effects (Shutter FX select channel) and speed (Shutter FX speed channel).

  > *NB: In firmware v. 0.5.0 not all Shutter FX are fully implemented in DMX Mode 2. Some FX may not work as intended. The Tungsten and CTC channels are available but not fully implemented. Some Control/Settings channel commands are not fully implemented.*

Control Channels

Intensity / Dimmer channel

The Intensity channel controls the output intensity of the fixture with 8- or 16-bit resolution. Different dimming curve options are available (see 'Dimmer Curves' on page 23).

Shutter FX Select channel

This channel lets you select between open (DMX 000) or different Intensity effects (shutter effects).

> *NB: Not all Shutter FX are fully implemented in firmware v.0.5.0.*

- **Single Flash** – The fixture flashes once each time you change the value on the speed channel.

- **Strobe Sync** - You can adjust the strobe rate using the speed channel.

- **Strobe Random** - Flashes at random intervals across multiple fixtures. All the pixels on one fixture flash together. Set flash intensity, duration, and rate as normal.

- **Double Flash** - Quick Double Flashes that are synchronized across multiple fixtures on the same DMX link. Set intensity and rate as normal. Duration is not adjustable.

- **Double Flash Random** - Quick Double-Flashes that are synchronized across multiple fixtures on the same DMX link. Set intensity and rate as normal. Duration is not adjustable.

- **Triple-Flash** - Quick Triple-Flash that are synchronized across multiple fixtures on the same DMX link. Set intensity and rate as normal. Duration is not adjustable.

- **Triple-Flash Rnd** - Quick Triple-Flash at random intervals across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse** - Light increases and decreases. Synchronized across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse Open** - Light increases in intensity, then blacks out. Synchronized across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse Close** - Light snaps open (flashes to full intensity), then decreases in intensity. Synchronized across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse Random** - Light increases and decreases randomly across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse Open Random** - Light increases in intensity, then blacks out randomly across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Pulse Close Random** - Light snaps open (flashes to full intensity), then decreases in intensity randomly across multiple fixtures. Set intensity and rate as normal. Duration is not adjustable.

- **Lightning** – The flashes simulate lightning. Set intensity and rate as normal. Duration is not adjustable.

- **Paparazzi** – The flashes simulate paparazzi mob photo flashes.

- **Spikes** – The fixture remains dimly illuminated between flashes. Set flash intensity, duration, and rate as normal.

- **Pixel Sparkle** (available in Color fixtures only) – pixels flash randomly to give a color sparkle effect.

  ⓘ   *NB: Pixel Sparkle is not implemented in firmware v.0.5.0.*

Shutter FX Speed channel

The Shutter FX Speed channel lets you adjust the speed of the effect that is selected on the Shutter FX Select channel.

Control / Settings channel

The Control/Settings channel lets you change certain fixture settings by DMX. This can be very helpful if a performance setting needs to be changed while the fixture is being used. To apply a change to one of the settings on this channel, you need to hold the relevant DMX value for a certain number of seconds.

To trigger a complete reset (reboot) of the fixture using the Control/Settings channel, the DMX value for this function needs to be held for 3 seconds.

If you want to trigger an additional reset using the Control/Settings channel, you must first leave the Reset DMX value and then send this value again. This requirement avoids continuous reboots if the fixture is patched wrongly.

> *NB: In firmware v. 0.5.0 not all Control/Settings channel commands are fully implemented.*

CTC (Color Temperature Control)

Available in Color fixtures only.

The CTC (Color Temperature Correction) channel lets you temporarily change the fixture's defined white point. Color temperatures from 10 000 K to 2 500 K are available.

- In RGB color mixing mode, the color mix needs to be set to all 100% for pure white light (RGB: R255/G255/B255).

- In RGBL color mixing mode, the color mix needs to be set to all 100% (RGBL: R255/G255/B255/L255).

If a color temperature is selected using the CTC channel, it is still possible to mix colors. The system will then mix colors relative to the selected new white point of the CTC channel.

RGB / RGBL color values differ from values mixed by open white.

> *NB: In firmware v.0.5.0 the CTC channel is fully functional in DMX Mode 1. In DMX Mode 2 bugs are to be expected. During RGBL use the CTC channel is disabled*

Tungsten (Tungsten Simulation Channel)

Available in Color fixtures only

Tungsten lamps have a delay when dimming level is changed and a color shift along the black body line when light intensity is decreased. The tungsten simulation channel gives tungsten lamp behavior options in all color mixing modes.

In the first part of the channel the user can choose between different standard tungsten features with fixed color temperature, red shift and dimming delay for the main fixture's color mixing. Color temperature, color shift and inertia of the selected light source are fully simulated. Tungsten modes have higher priority than the color wheel or CTC.

In the second part of the channel, one of the corresponding tungsten effects (color shift and inertia) can be superimposed onto the currently set color mix color or the color temperature that has been selected on the CTC channel.

> *NB: In firmware v.0.5.0 the Tungsten channel is available but bugs are to be expected. During RGBL use the Tungsten channel is disabled.*

Fixture Settings

ℹ️ *NB: In firmware v.0.5.0 not all fixture settings options are fully implemented. You may experience bugs.*

Dimmer Curves

Different dimming curve options are available on the DMX Control Channel or via RDM.

- **Square-law** (Soft) is the default setting and gives finer control at lower light levels, where the eye is most sensitive to changes in light intensity, and coarser control at higher light levels.

- **Linear** gives a dimming curve where output and DMX value are proportional.

- **S-Curve** gives finer control at lower and higher light levels and coarser control at medium light levels.

Color mixing mode

Available in Color fixtures only

Changing the color mixing mode lets you select between different color mixing options:

1. **RGB** - gives individual Red, Green and Blue color mixing control. Lime is added automatically by the internal GLP iQ.Gamut algorithm. The Lime control channel is disabled and does not affect the color mix.

   RGB mode also offers a clean default white light at open which is called white point (RGB all at 100%). You can use fixed white point selection or temporary CTC channel value selection to select between different color temperatures. M/G shift and CQC manipulation are still possible in this mode.

2. **RGBL -** gives individual control of the four LED colors. The color gamut is still calibrated to the X5 range but the white point (open) is not adjusted to the black body line and consists of a white that is obtained with RGBL all at 100%. The CTC channel lets you quickly change to any white color temperature you want on the black body line.

CQC (Color Quality Control)

Available in Color fixtures only

The CQC (Color Quality Control) setting lets you modify the spectral mix of white output and/or the gamma curves of the color mix. It lets you make choices depending on what has highest priority for you: smoother color mixing behavior, better color rendering or higher output.

Physically, a better light spectrum created by multiple LEDs will give better color rendering performance but lower output intensity, while lower color rendering performance allows higher output intensity. At the same time, better color rendering performance results in a less even color gamut, which can give different color impressions. These parameters are managed by GLP's innovative iQ.Gamut technology and can be modified using the Color Quality Control setting.

RGB color mixing

Available in Color fixtures only

- **High Quality (HQ)** – Colors are mixed with RGB Control while the internal iQ.Gamut color algorithm mixes colors using Red, Green, Blue and Lime. The white light priority is best color rendering quality. RGBL dimmer curves are smoothed and Lime is slightly reduced in yellow colors for optimal color mixing performance.

- **High Output (HO)** – Colors are mixed with RGB Control while the internal iQ.Gamut color algorithm mixes colors using Red, Green, Blue and Lime. The white light priority is high output. RGBL dimmer curves are more aggressive and Lime is pushed in yellow colors for powerful color mixing performance.

RGBL color mixing

Available in Color fixtures only

- **High Quality (HQ)** - Colors are mixed directly with RGBL control. The spectrum is always mixed with the priority on high output. RGBL dimmer curves are smoothed for optimal color mixing performance.

- **High Output (HO)** - Colors are mixed directly with RGBL control. The spectrum is always mixed with the priority on high output. RGBL dimmer curves are more aggressive to push output performance.

White Point

Available in Color fixtures only

White point selection is available in RGB color mixing mode and lets you set the fixture's color temperature when it is "open". You can select between the following white points (color temperatures):

- 8000K - (Effect light)
- 6500K - (Daylight)
- **5600K - (TV and Studio, default setting)**
- 4200K - (CDM)
- 3200K - (Tungsten filament light bulb)

If a white point is selected, the fixture will mix colors with reference to it, and GLP iQ.Gamut navigates through the color space in RGB Color Mix Mode.

Note: Fixed white point settings apply in RGB mode only.

PWM Frequency

> ℹ️ *NB: This option is not implemented in firmware v.0.5.0.*

This setting allows the operator to select between different PWM refresh rates for different applications and to match LED frequencies to camera shutter frame rates. Changing PWM frequency can help avoid flicker and beat frequencies in video

images. You can adjust the PWM frequency using either the Control/Settings DMX channel or RDM.

The following PWM settings are available:

- **Low** - PWM is fixed at a lower frequency, giving good results when dimming.

- **Optimum** (default setting) - PWM is set to a frequency which offers best results in dimming.

- **High1** - PWM set to a higher frequency.

- **High2** - PWM set to a higher frequency than High1.

- **Max** - PWM frequency is set to the highest possible level. Use this setting for slow motion video or high speed camera applications. Dimming resolution is lower than at all the other PWM settings.

No Signal

NB: No Signal functionality is not fully implemented in firmware v.0.5.0. Some functions may be absent or may not work.

Sets what the fixture should do if no DMX signal is present (if the fixture is being controlled by DMX but the DMX signal stops, or if you apply power to the fixture when no DMX signal is present):

- **Blackout** - The fixture blacks out whenever it is not receiving a DMX signal.

- **Emergency Scene** –The fixture switches to medium-level utility lighting (so that an audience is not left in total darkness, for example).

- **Standalone Scene** – The fixture plays its stored stand-alone scene. This is either the last scene that was set via DMX or the scene that has been captured and stored (see Capture DMX Values below). If no stand-alone scene is stored in memory, the fixture plays the default scene which is "black out".

- **Capture DMX Values -** Takes a snapshot of the DMX values that are currently being received and stores them in the fixture's memory as its standalone scene. The fixture will display this scene if it is set to Standalone Scene (See Standalone Scene above).

Power Mode

NB: Boost Mode is not implemented in firmware v.0.5.0. The fixture operates in Normal Mode only.

Lets you boost LED output for a short time and then regulate it down to normal. This feature gives a very dynamic performance, especially for show and effect lighting.

- **Normal** – Runs the fixture with standard RGBL-White output for continuous output level without automatic self-dimming.

- **Boost** – Pushes the fixture's maximum output for punchy short-duration flashes with automatic self-dimming to control fixture temperature.

iQ.Service Connect ON

NB: Not fully implemented in firmware v.0.5.0 – limited functionality only.

- **iQ.Service Connect** – Wakes up the integrated GLP iQ.Mesh Module for 5 minutes and enables connectivity to the GLP iQ.Service App.

Load Setting Defaults

- Returns the fixture to its factory default settings.

7. DMX Modes

GLP ArenaLED1 Touring White

DMX Mode 1: Normal (default)

2 DMX channels

Channel		Command	DMX range		Default DMX	Fade
1	Intensity	0% → 100%	0	255	100	Fade
2	Control/Settings	*See 'Control / Settings channel on page 30*				

DMX Mode 2: Advanced
(not fully implemented in firmware 0.5.0)

5 DMX channels

Channel		Command	DMX range		Default DMX	Fade
1	Intensity coarse	Intensity 0% → 100%	0	65535	0	Fade
2	Intensity fine					
3	Shutter FX Select	Open	0	4	0	Snap
		Close	5	9		Snap
		Single Flash (each time value on speed channel is changed)	10	14		Snap
		Strobe Synch	15	19		Snap
		Strobe Random	20	24		Snap
		Double Flash	25	29		Snap
		Double Flash Random	30	34		Snap
		Triple Flash	35	39		Snap
		Triple Flash Random	40	44		Snap
		Pulse	45	49		Snap
		Pulse Open	50	54		Snap
		Pulse Close	55	59		Snap
		Pulse Random	60	64		Snap
		Pulse Random Open	65	69		Snap
		Pulse Random Close	70	74		Snap
		Lightning	75	79		Snap
		Paparazzi	80	84		Snap
		Pixel Sparkel (Color Version Only)	85	89		Snap
		No function	90	255		Snap
		Open	251	255		Snap
4	Shutter FX Speed	Rate / Effect Speed (slow → fast)	0	255	0	Fade
5	Control/Settings	*See 'Control / Settings channel on page 30*				

GLP ArenaLED1 Touring Color

DMX Mode 1: Normal (default)

7 DMX channels

Channel	Command		DMX range		Default DMX	Fade
1	**Intensity**	Intensity 0% → 100%	0	255	100	Fade
2	**Control/Settings**	*See 'Control / Settings channel on page 30*				
3	**CTC**	Open	0	9		Snap
		10000K → 2500K	10	255	0	Fade
4	**[1] Red** **[2] Red** **[3] Red**	Intensity 0% → 100%	0	255	100	Fade
5	**[1] Green** **[2] Green** **[3] Green**	Intensity 0% → 100%	0	255	100	Fade
6	**[1] Blue** **[2] Blue** **[3] Blue**	Intensity 0% → 100%	0	255	100	Fade
7	**[1] --** **[2] Lime** **[3] White**	Intensity 0% → 100%	0	255	100	Fade

[1] = ColorMix Mode Setting RGB
[2] = ColorMix Mode Setting RGBL
[3] = ColorMix Mode Setting RGBW

DMX Mode 2: Advanced (not fully implemented in firmware 0.5.0)

11 DMX Channels

Channel	Command		DMX range		Default DMX	Fade
1	**Intensity coarse**	Intensity 0% → 100%	0	65535	0	Fade
2	**Intensity fine**					
3	**Shutter FX Select**	Open	0	4	0	Snap
		Close	5	9		Snap
		Single Flash (if speed value change)	10	14		Snap
		Strobe Synch	15	19		Snap
		Strobe Random	20	24		Snap
		Double Flash	25	29		Snap
		Double Flash Random	30	34		Snap
		Triple Flash	35	39		Snap

Channel		Command	DMX range		Default DMX	Fade
		Triple Flash Random	40	44		Snap
		Pulse	45	49		Snap
		Pulse Open	50	54		Snap
		Pulse Close	55	59		Snap
		Pulse Random	60	64		Snap
		Pulse Random Open	65	69		Snap
		Pulse Random Close	70	74		Snap
		Lightning	75	79		Snap
		Paparazzi	80	84		Snap
		Pixel Sparkle (Color fixtures only)	85	89		Snap
		No function	90	255		Snap
		Open	251	255		Snap
4	**Shutter FX Speed**	Rate / Effect Speed (slow → fast)	0	255	0	Fade
5	**Control/Settings**	*See 'Control / Settings channel on page 30*				
6	**CTC**	Open	0	9	0	Snap
		10000K → 2500K	10	255		Fade
7	**Tungsten**	Off	0	9		Snap
		Tungsten ACL 250W/28V	10	19		Snap
		Tungsten Blinder 650W/120V	20	29		Snap
		Tungsten 750W/80V	30	39		Snap
		Tungsten 1000W/240V	40	49		Snap
		Tungsten 1200W/240V	50	59		Snap
		Tungsten 2000W/230V	60	69		Snap
		Tungsten 2500W/230V	70	79		Snap
		Tungsten 5000W/230V	80	89		Snap
		No function (= Off)	90	120		--
		Off	120	139		Snap
		FX Tungsten ACL 250W/28V	140	149		Snap
		FX Tungsten Blinder 650W/120V	150	159		Snap
		FX Tungsten 750W/80V	160	169		Snap
		FX Tungsten 1000W/240V	170	179		Snap
		FX Tungsten 1200W/240V	180	189		Snap
		FX Tungsten 2000W/230V	190	199		Snap
		FX Tungsten 2500W/230V	200	209		Snap
		FX Tungsten 5000W/230V	210	219		Snap
		No function (= Off)	220	255		--
8	**[1] Red [2] Red [3] Red**	Pulse Close	0	255		Snap
9	**[1] Green [2] Green [3] Green**	Pulse Random	0	255		Snap
10	**[1] Blue [2] Blue [3] Blue**	Pulse Random Open	0	255		Snap
11	**[1] -- [2] Lime [3] White**	Pulse Random Close	0	255		Snap

[1] = ColorMix Mode Setting RGB
[2] = ColorMix Mode Setting RGBL
[3] = ColorMix Mode Setting RGBW

Control/Settings DMX channel

Control / Settings channel			

Command	DMX range		Fade	Note
Idle	0	5	Snap	
No function	6	9		
ColorMix Mode: [1] RGB(L)	10	11	Snap	**(hold 3 seconds)**
ColorMix Mode: [2] RGBL	12	13	Snap	(hold 3 seconds)
ColorMix Mode: [3] RGBW	14	15	Snap	(hold 3 seconds)
No function	16	17		
CQC: HO	18	19	Snap	(hold 3 seconds)
CQC: HQ	20	21	Snap	**(hold 3 seconds)**
No function	22	25		
No Signal: Blackout	26	27	Snap	(hold 3 seconds)
No Signal: Hold	28	29	Snap	**(hold 3 seconds)**
No Signal: Scene	30	31	Snap	(hold 3 seconds)
No Signal: Emergency Light	32	33	Snap	(hold 3 seconds)
Capture DMX (Scene)	34	35	Snap	(hold 3 seconds)
No function	36	39		
Dimmer Curve: Square	40	41	Snap	**(hold 3 seconds)**
Dimmer Curve: Linear	42	43	Snap	(hold 3 seconds)
Dimmer Curve: S-Curve	44	45	Snap	(hold 3 seconds)
No function	46	47		
Power Mode: Normal	48	49	Snap	**(hold 3 seconds)**
Power Mode: Boost	50	51	Snap	
No function	52	233		
Load User Setting Defaults	234	235	Snap	(hold 3 seconds)
No function	236	247		
iQ.Service Connect	248	249	Snap	
No function	250	253		
Reset ALL	254	255		(hold 3 seconds)

ℹ️ *NB: Not all Control/Settings channel options are fully implemented in firmware v. 0.5.0.*

8. Specifications

	ARENA LED1 WHITE	ARENA LED1 COLOR
LIGHT SOURCE		
Type	5700 K LED	RGBL LED
LED count	36	9
CRI (Ra)	58+	
TLCI	80+	
TM-30	80+	
TM-15	Rf: 98, Rg: 86	
OPTICAL SYSTEM		
Total output	Normal: 18 800 lm	Normal: 5 270 lm
	Boost: 24 900 lm	Boost: 7 620 lm
Beam angles	15°/15° (50%)	9.9°/9.5° (50%)
	27°/27° (10%)	18°/17° (10%)
	36°/36° (3%)	23°/22° (3%)
Efficiency	Normal: 94 lm/W	Normal: 26 lm/W
	Boost: 97 lm/W	Boost: 27 lm/W
CONTROL AND PROGRAMMING		
DMX channels	2 / 5	7 / 11 / 34
DMX control modes	Normal, Advanced	Normal, Advanced
Control protocols	DMX (USITT DMX512-A) RDM (ANSI/ESTA E120)	DMX (USITT DMX512-A) RDM (ANSI/ESTA E120)
Intensity / dimming	10–100%, 8/16-bit	10–100%, 8/16-bit
Dimming curves	Linear, Soft, Logarithmic	Linear, Soft, Logarithmic
Color mixing modes		RGB(L), RGBL, RGBW
Power modes	Normal, Boost	Normal, Boost
Setting and addressing	RDM	RDM
Firmware update	DMX link via DProg or GLP iQ.Tool	DMX link via DProg or GLP iQ.Tool
CONNECTIONS		
AC mains power	Neutrik PowerCON TRUE1 TOP In and Thru/Out	
Control data	Neutrik XLR TOP In and Thru/Out	
ELECTRICAL		
Power input	180–305 VAC, 50/60 Hz	180–305 VAC, 50/60 Hz
Internal power supply unit	Auto-ranging electronic switch-mode	Auto-ranging electronic switch-mode
Typical power consumption	Normal: 200 W	Normal: 210 W
	Boost: 260 W	Boost: 285 W

THERMAL

Cooling type	Convection	Convection
Maximum ambient temperature (Ta max.)	50° C / 122° F	50° C / 122° F
Minimum ambient temperature (Ta min.)	-40° C / -40° F	-40° C / -40° F
Thermal protection	Automatic overtemperature protection	Automatic overtemperature protection
Total heat dissipation (calculated, +/- 10%)	720 BTU/hr.	760 BTU/hr.

INSTALLATION

Mounting	Tiltable yoke for surface mounting (13 mm hole), 2 x camlock fastener receptacles for standard 89 mm GLP Omega Bracket
Orientation	Any
Location	Temporary or permanent indoor, temporary outdoor

CONSTRUCTION

Housing color	Grey (RAL 7035)
Housing material	Aluminum, steel
Accessory options	8 x M4 screw threads for mounting external optical accessories

DIMENSIONS AND WEIGHT

Without brackets

Height	209 mm / 8.3 in.	209 mm / 8.3 in.
Width	209 mm / 8.3 in.	209 mm / 8.3 in.
Depth	200 mm / 7.9 in.	214 mm / 8.5 in.
Net weight	7.5 kg / 16.5 lb.	8.5 kg / 18.7 lb.

Including brackets

Height	281 mm / 11.1 in.	281 mm / 11.1 in.
Width	267 mm / 10.5 in.	267 mm / 10.5 in.

-GLP-