Dimensions

All measurements are given in millimeters.
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Safety Information

**WARNING!**
Read the safety precautions in this section before installing, powering, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this document:

- **DANGER!** Safety hazard. Risk of severe injury or death.
- **DANGER!** Hazardous voltage. Risk of lethal or severe electric shock.
- **WARNING!** Fire hazard.
- **WARNING!** Burn hazard. Hot surface. Do not touch.
- **WARNING!** Intense light emission.
- **WARNING!** Refer to user documentation.

**Warning!** The ERA 500 Hybrid IP from Martin® contains components that are accessible and live at high voltage while the fixture is connected to power. These components remain under tension for up to five minutes after power is disconnected.

**Warning!** Risk Group 3 product (see “Protection from eye injury” on page 6 for full details). This product produces intense light output that may be hazardous if suitable precautions are not taken. Do not view the light output with optical instruments or any device that may concentrate the beam.

This product presents risks of severe injury or death due to fire and burn hazards, electric shock and falls if the safety precautions in this manual are not followed.

**Read this manual** before installing, powering or servicing the fixture. Follow the safety precautions and observe all warnings in this manual, in the ERA 500 Hybrid IP User Guide and printed on the fixture.

The latest versions of this Safety and Installation Manual and the ERA 500 Hybrid IP User Guide are available for download from the ERA 500 Hybrid IP area of the Martin website at www.martin.com. Before you install, operate or service the ERA 500 Hybrid IP, check the Martin website and make sure that you have the latest user documentation for the fixture. Document revisions are indicated at the bottom of page 2.

This product is for professional use only. It is not for household use. Respect all locally applicable laws, codes and regulations when installing, powering, operating or servicing the fixture. The product is IP65-rated. Suitable for wet locations. Do not immerse in water. Do not expose to high-pressure water or air jets.

Install, operate and service Martin products and accessories only as directed in their user documentation, or you may create a safety hazard or cause damage that is not covered by product warranties.

The latest software, manuals and other documentation for all Martin products are available for download at www.martin.com

**Technical Support**
If you have questions about how to install, service or operate the fixture safely, please contact Harman Professional Technical support:

- For technical support in North America, please contact: HProTechSupportUSA@harman.com
  Phone: (844) 776-4899
- For technical support outside North America, please contact your national distributor.
**PROTECTION FROM ELECTRIC SHOCK**

- Do not remove any cover from the fixture except as described under “Service and maintenance” on page 14.
- To ensure that the fixture’s IP65 rating has not been affected by removal of a cover, test that the fixture is correctly sealed after reassembly using a vacuum tester as described in this manual.
- Disconnect the fixture from AC mains power before servicing it and when it is not in use.
- Ensure that the fixture is electrically connected to ground (earth).
- 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.
- Consult a qualified electrician to ensure correct branch circuit conductor.
- The fixture accepts AC mains power at 100-240 VAC (nominal), 50/60 Hz. Do not connect the fixture to mains power that is not within this range.
- Do not connect devices to power in a chain or circuit that will exceed the electrical ratings of any cable or connector used in the circuit.
- Power input cables must be rated 16 A minimum, 12 AWG or 1.5 mm² minimum conductor size and heat-resistant to 90°C (194°F) minimum. Cables must have three conductors and an outer cable diameter of 6 - 12 mm (0.24 - 0.47 in.). In North America the cable must be UL/CSA-recognized, hard usage, type SJT, SJOOW or better. In the EU, the cable must be type HO5VV-F, H07RN-F or better.
- Connect only a Neutrik powerCON TRUE1 NAC3FX-W (TOP) type cable connector to the power input socket.
- If operating outdoors, in wet conditions or in conditions where condensation may appear, arrange cables so that they arrive from below connectors. Create a ‘drip loop’ if necessary, but do not allow heavy cable runs or loops of cable to hang from connectors.
- Before using the fixture, check that all power distribution equipment, connectors and cables are in perfect condition and rated for the current requirements of all connected devices.
- Isolate the fixture from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed or showing signs of overheating. Do not reapply power until repairs have been completed.
- The ERA 500 Hybrid IP contains components that are accessible and live at high voltage while the fixture is connected to power and that remain under tension for up to five minutes after power is disconnected. Wait for at least five minutes after disconnecting from power before opening any of the fixture’s covers (if the fixture has been in use, allow to cool for 60 minutes before handling).
- Refer any service operation not described in this manual or in the ERA 500 Hybrid IP User Guide to Martin Service or an authorized Martin Service partner.

**LAMP SAFETY**

- Prolonged exposure to an unshielded discharge lamp can cause eye and skin burns. Do not stare directly into the light output. Never look at an exposed lamp while it is lit. Do not operate the fixture with missing or damaged covers, shields, lenses or ultraviolet screens.
- A hot discharge lamp is under pressure and can explode without warning. Allow the fixture to cool for at least 60 minutes and protect yourself with safety glasses and gloves before handling a lamp or carrying out any service work inside the fixture.
- Replace the lamp immediately if it becomes visually deformed, damaged or in any way defective.
- Monitor hours of lamp use and lamp intensity and replace the lamp when it reaches the limit of its service life as specified in this product’s specifications or by the lamp manufacturer.
- Install only a lamp that is specifically approved by Martin for this product.
- If the clear bulb of a discharge lamp is broken, it releases a small quantity of mercury and other toxic gases. Have suitable mercury vapor protection masks ready when servicing the fixture and use them if there is any risk that potentially harmful vapors may be inhaled. If a discharge lamp breaks in a confined area, evacuate the area and ventilate it thoroughly. If there is a possibility that the lamp has exploded or the bulb has broken inside the fixture, move the fixture outdoors or make it safe by using an air extractor system that will remove any potentially harmful vapor, then put on a mercury vapor protection mask and safety gloves before opening the fixture.
- Wear nitrile gloves when handling a broken discharge lamp. Treat broken or used discharge lamps as hazardous waste and send to a specialist for disposal.
- The wires that supply power to the lamp carry high voltage. Wear insulating safety gloves and do not touch the lamp wiring or lamp wiring connectors when carrying out lamp adjustment.
PROTECTION FROM BURNS AND FIRE

- The exterior of the fixture becomes hot during use. After 5 minutes of operation a surface temperature of 60° C (140° F) shall be expected. The maximum steady state surface temperature is also 60° C (140° F). Avoid contact by persons and materials.
- Allow the fixture to cool for at least 60 minutes before handling.
- Keep all combustible materials (e.g. fabric, wood, paper) at least 0.2 m (8 in.) away from the fixture.
- Keep flammable materials well away from the fixture.
- Ensure that there is free and unobstructed airflow around the fixture.
- Provide a minimum clearance of 0.2 m (8 in.) around fans and air vents.
- Do not illuminate surfaces within 10 m (33 ft.) of the fixture.
- Do not expose the front glass to sunlight or any other strong light source from any angle. Lenses can focus the sun's rays inside the fixture, creating a potential fire hazard.
- Do not attempt to bypass thermostatic switches or fuses.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).
- Do not modify the fixture in any way not described in this manual or the fixture’s User Guide or install other than genuine Martin parts. Do not stick filters, masks or other materials onto any lens or other optical component. Use only accessories approved by Martin to mask or modify the light beam.

PROTECTION FROM EYE INJURY

- This fixture corresponds to Risk Group 3 according to EN 62471 when all photobiological risks are considered and Risk Group 2 product according to IEC/TR 62778 for blue light only. It emits possibly hazardous optical radiation. It falls into the Risk Group categories shown below according to both EN 62471 and IEC/TR 62778 under worst-case conditions:

- At a distance of less than 19.2 m (63 ft.) from the fixture, the light output can potentially cause eye or skin injury before an exposed person’s natural aversion responses (blink reflex and reaction to skin discomfort) can protect them. At distances greater than 19.2 m (63 ft.), potential eye and skin injury hazards from the light output are normally prevented by natural aversion reflexes.
- Position the fixture so that persons cannot be exposed to the fixture’s light output at a distance of less than 19.2 m (63 ft.) from the fixture, and so that prolonged staring into the light output at less than 115 m (378 ft.) from the fixture is not expected.
- Do not look directly into the fixture’s light output.
- Do not look at the light output with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light output.
- Ensure that persons are not looking at the fixture 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.
- Disconnect the fixture from power at all times when the fixture is not in use.
- Provide well-lit conditions to reduce the pupil diameter of anyone working on or near the fixture.

PROTECTION FROM INJURY

- Fasten the fixture securely to a fixed surface or structure when in use. The fixture is not portable when installed.
- Do not lift or carry the fixture alone.
- Use two evenly spaced omega brackets with clamps to suspend the fixture from rigging structures. Do not use only one clamp.
- When clamping the fixture to a truss or other supporting structure, use two half-coupler clamps. Do not use G-clamps, quick-trigger clamps or any other type of clamp that does not completely encircle the supporting structure when fastened.
• When suspending the fixture, check that the supporting structure and all hardware used to suspend the fixture can hold at least six (6) times the weight of the load suspended from them and that the installation respects all similar safety factors that are required by locally applicable regulations. Check that the structure and hardware are in perfect condition and suitable for their purpose.

• If the fixture is installed in a location where it may cause injury or damage if it falls, install as described in this manual a secondary attachment such as a safety cable that is approved by an official body such as TÜV as a safety attachment for the weight that it secures. The safety cable must comply with EN 60598-2-17 Section 17.6.6 or BGV C1 / DGUV 17, and must be capable of bearing a static suspended load at least six times (or more if required by locally applicable regulations) the weight that it secures.

• Eliminate as much slack as possible in the safety cable (by looping it more than once around the rigging truss, for example). Make sure that, if the primary attachment fails, the fixture cannot fall more than 20 cm (8 inches) maximum before the safety cable catches it.

• If the safety cable attachment point becomes deformed, do not suspend the fixture. Have the fixture repaired by an authorized Martin service partner.

• Check that all external covers and rigging hardware are securely fastened.

• Block access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.

• Allow enough clearance around the head to ensure that it cannot collide with a person or object such as another fixture when it moves.
Introduction

Thank you for selecting the ERA 500 Hybrid IP from Martin®. This moving-head spotlight offers the following features:

• IP65 rating
• 370 W Philips MSD Platinum 18 R LL discharge lamp that produces sharp gobo projections with a flat field
• 12 000 lumens output
• 6 000 hours lamp lifetime possible in typical entertainment situations
• Crisp Martin optics
• 2° – 40° 1:20 fast-action zoom
• CMY color mixing
• 9 dichroic color filters (including 3 color temperature control filters) with full and split color effects
• 9 rotating/indexing gobos
• 11 static gobos including 3 fixed iris apertures plus a ‘see-saw’ gobo animation zone for use together with rotating gobos
• Eight-facet circular rotating prism and six-facet linear rotating prism that can be deployed together for complex projections and mid-air effects.

For the latest firmware updates, documentation, and other information about this and all Martin products, please visit the Martin website at http://www.martin.com

Unpacking

The ERA 500 Hybrid IP is packed in a cardboard box that is designed to protect the fixture during initial shipment only.

This Safety and Installation Manual is included with the fixture. The ERA 500 Hybrid IP User Guide, containing full details of setting up, controlling and monitoring the fixture, is available for download from the ERA 500 Hybrid IP area of the Martin website at www.martin.com. If you have any difficulty locating this document, please contact your Martin supplier for assistance.

Packing

Warning! Allow the fixture to cool for 60 minutes before packing it in its flightcase.

A rugged two-unit flightcase is available from Martin for the ERA 500 Hybrid IP. We strongly recommend that you store and transport fixtures in the Martin flightcases or custom flightcases of the same quality.
Physical installation

Warning! The ERA 500 Hybrid IP has a powerful pan motor. There is a powerful torque reaction when the head is panned suddenly. Do not apply power to the ERA 500 Hybrid IP unless it is either securely fastened to a structure such as a rigging truss or standing securely on a stable horizontal surface.

Warning! Use two clamps to rig the fixture. Do not hang the fixture from only one clamp. Lock each clamp with both 1/4-turn fasteners. Fasteners are locked only when turned a full 90° clockwise.

Warning! When suspending the fixture above ground level, secure it against failure of primary attachments by attaching a safety cable that is approved as a safety attachment for the weight of the fixture to the attachment point in the base. Do not use the carrying handles for secondary attachment.

Warning! When clamping the fixture to a truss or other structure at any other angle than with the yoke hanging vertically downwards, use two clamps of half-coupler type. Do not use any type of clamp that does not completely encircle the structure when fastened.

Warning! Position or shade the head so that the front lens will not be exposed to sunlight or another strong light source from any angle – even for a few seconds. See Figure 1. The ERA 500 Hybrid IP’s lens can focus the sun’s rays, creating a potential fire hazard and causing damage.

Important! Do not point the output from other lighting fixtures at the ERA 500 Hybrid IP, as powerful light can damage the display.

See Figure 1. Lenses can focus sunlight and strong light, presenting a risk of fire and damage to the fixture. Shield or shade the head if necessary.

The ERA 500 Hybrid IP can be fastened to a surface such as a stage or clamped to a truss in any orientation.

Clamps must be approved for the weight supported. They must be half-coupler (see Figure 3) or equivalent type that fully encircles the truss. If the fixture is installed with the yoke hanging vertically downwards and is not subject to vibration or any other forces, G-clamps or quick-trigger clamps may be used provided that they are approved for the weight supported.

See Figure 2. The mounting points in the base allow a pair of omega brackets with quarter-turn fasteners with 106 mm (4.17 ins.) center-to-center spacing to be fastened to the base to allow rigging clamp attachment.

Figure 1: Potential sunlight damage

Figure 2: Omega bracket positions
Clamping the fixture to a truss

1. Check that all rigging hardware is undamaged and can bear at least six (6) times the weight of the fixture or as required by locally applicable regulations. Check that the supporting structure can safely bear the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc. and complies with locally applicable regulations.

2. Bolt each rigging clamp securely to an omega bracket with an M12 bolt (minimum grade 8.8) and self-locking nut.

3. See Figure 2 on page 9. Align the first clamp and bracket with 2 mounting points in the base, and engage both the clamp bracket’s quarter-turn fasteners in corresponding sockets in the base. See Figure 3. Turn the levers on the quarter-turn fasteners a full 90° clockwise to lock. Repeat for the second clamp.

4. Block access under the work area. See Figure 4. The front of the fixture is the side opposite the cable tails and is indicated with an arrow on the base of the fixture. Working from a stable platform, hang the fixture on the truss with the front facing towards the area to be illuminated. Tighten the rigging clamps.

5. See Figure 5. Install a safety cable that is approved as a safety attachment for the weight of the fixture by looping it through the safety cable attachment point (arrowed) in the bottom of the base and around a secure anchoring point so that the safety cable will catch the fixture if a primary attachment fails. Remove as much slack as possible from the safety cable (by looping it more than once around the truss bar, for example).

6. Check that there are no combustible materials within 0.2 m (8 in.) or surfaces to be illuminated within 10 m (33 ft.) of the fixture, and that there are no flammable materials nearby.

7. Check that there is no possibility of the head colliding with objects or other fixtures.

8. Check that other lighting fixtures cannot project light at the ERA 500 Hybrid IP, as powerful illumination can damage the fixture’s display, seals and pressure relief valves.
AC power

Warning! Read “Safety Information” on page 4 before connecting the fixture to AC mains power.

For protection from electric shock, the fixture must be electrically connected to ground (earth). The AC mains power distribution circuit must be equipped with a fuse or circuit breaker and ground-fault (earth-fault) protection.

Power input

Important! Connect the ERA 500 Hybrid IP directly to AC power. Do not connect it to a dimmer system; doing so may damage the fixture.

The ERA 500 Hybrid IP features an auto-sensing switch-mode power supply that automatically adapts to AC mains power at 100-240 VAC (nominal), 50/60 Hz. Do not connect the fixture to power that is not within this range.

The ERA 500 Hybrid IP requires a power input cable with a Neutrik powerCON TRUE1 NAC3FX-W (TOP) IP65-rated female cable connector for AC mains power input. The cable must meet the requirements listed under “Protection from electric shock” on page 5. Martin can supply suitable cables with IP65-rated female Neutrik input connectors 1.5 m (4.9 ft.) or 5 m (16.4 ft.) long. Alternatively, Martin can supply loose IP65-rated female Neutrik input connectors (see “Accessories” on page 34).

Connection to an AC mains power source

The power cable can be hard-wired to a building installation circuit or fitted with a mains plug (cord cap) to allow connection to local AC mains power outlets.

If you install a mains plug on the power cable, install a grounding-type (earthed) plug rated minimum 16 A, 250 V (example rating: EN 60309-2 CEE 2P+E 16 A/250 VAC), following the plug manufacturer’s instructions. Table 1 shows some possible mains power pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

<table>
<thead>
<tr>
<th>Wire Color (US)</th>
<th>Wire Color (EU)</th>
<th>Pin</th>
<th>Symbol</th>
<th>Screw (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>black</td>
<td>brown</td>
<td>live</td>
<td>L</td>
<td>yellow or brass</td>
</tr>
<tr>
<td>white</td>
<td>blue</td>
<td>neutral</td>
<td>N</td>
<td>silver</td>
</tr>
<tr>
<td>green</td>
<td>yellow/green</td>
<td>ground (earth)</td>
<td>or 1</td>
<td>green</td>
</tr>
</tbody>
</table>

Table 1: Cord cap (mains plug) connections

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

Connecting to power

Warning! The ERA 500 Hybrid IP does not have a power On/Off switch. As soon as you connect an energized power input cable to the fixture or apply power to a power input cable that has already been connected, the fixture will power up: check that there is no safety risk from head movement or intense light output.

To apply power to the ERA 500 Hybrid IP:
1. Check that the base is held securely. Be prepared for the fixture to light up and the head to move suddenly when power is applied.
2. See Figure 6. Remove the rubber sealing cap from the MAINS IN socket (arrowed). Line up the keys in the power input cable’s TRUE1 connector with the keyways in the MAINS IN socket (arrowed). Insert the connector into the socket and twist clockwise to engage. If the connector seems difficult to twist, remove it from the socket, check that you have lined up the keyways correctly and try again – do not use excessive force. Make sure that the connector latch clicks and that the connector is locked into the socket.

3. If operating outdoors, in wet conditions or in conditions where condensation may appear, ensure that all cables arrive from below connectors. Create a ‘drip loop’ in cables at connectors if necessary. Do not allow the weight of cable runs or coils of cable to hang from connectors because this can affect the IP rating of the connectors.

4. Apply AC mains power to the power input cable to power the fixture on. To disconnect the ERA 500 Hybrid IP from power, pull the release latch on the connector towards you to unlock the connector, then twist the connector counter-clockwise and withdraw it from the MAINS IN socket.
Data links

Important! Shut down power to the fixture before connecting to or disconnecting from data.

DMX and RDM

The ERA 500 Hybrid IP has 5-pin locking XLR sockets for DMX and RDM input and output (see A in Figure 7). The default pin-out on both sockets is:

- pin 1 to shield
- pin 2 to data 1 cold (-)
- pin 3 to data 1 hot (+).

Pins 4 and 5 are not used by the fixture but are bridged between input and output sockets. These pins can therefore be used as a pass-through connection for an additional data signal if required.

Tips for reliable data transmission

- Use shielded twisted-pair cable designed for RS-485 devices: standard microphone cable cannot transmit control data reliably over long runs. 24 AWG cable is suitable for runs up to 300 meters (1000 ft). Heavier gauge cable and/or an amplifier is recommended for longer runs.
- To split the data link into branches, use a Martin RDM 5.5 Splitter optically isolated splitter-amplifier (see “Related Items” on page 26).
- Do not overload the DMX data link. You can connect up to a maximum of 32 devices on a serial DMX link.
- Install a DMX termination plug on the last fixture on the link.

Connecting to data via DMX cable

To connect the ERA 500 Hybrid IP to DMX and/or RDM data carried over DMX cable:

1. Shut down power to the fixture and remove the rubber seals from the DATA IN and DATA OUT sockets.
2. Connect the DMX data output from the controller to the ERA 500 Hybrid IP’s DATA IN (male XLR) socket using good-quality DMX cable.
3. Run DMX cable from the ERA 500 Hybrid IP’s DATA OUT (female XLR) socket to the data input of the next fixture and continue until the link is complete. Do not allow the weight of cable runs or coils of cable to hang from connectors because this can affect the IP rating of the connectors.
4. Terminate the data link by connecting a 120 Ohm, 0.25 Watt resistor between the data 1 hot (+) and cold (-) conductors at the data output of the last fixture on the link. If the link is divided into branches using a DMX splitter, terminate each branch of the link.
5. Make sure that rubber seals are installed on all unused connectors.
6. You can now apply power.
Service and maintenance

Warning! Read “Safety Information” on page 4 before servicing the ERA 500 Hybrid IP.

To maintain the fixture’s IP rating it is necessary to vacuum test the fixture using the vacuum tester and instructions that are available from Martin every time a cover has been removed. Failure to carry out this test may leave the fixture unprotected against the entry of water and dirt.

Disconnect the fixture from AC mains power and allow to cool for at least 60 minutes before handling. Do not stare into the light output. Do not view the light output from less than 19.2 m (63 ft.). Be prepared for the fixture to light and move suddenly when connected to power.

The ERA 500 Hybrid IP contains components that are accessible and live at high voltage while the fixture is connected to power and that can remain under tension for up to five minutes after power is disconnected.

Only qualified technicians are permitted to service the fixture as described in this manual. Any service operation not described in this manual or in the fixture’s User Guide must be referred to an authorized Martin service agent.

Important! Excessive dust, smoke fluid, and particle buildup degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.

If you need to have the fixture powered on during service, you can disable pan and tilt by pressing the MENU and ENTER buttons on the control panel together immediately after you have applied power to the fixture and keeping them pressed for a few seconds. A ‘SERV’ message will appear in the display. To re-enable pan and tilt, shut down and reapply power to the fixture, allowing it to boot as normal.

The user must clean the ERA 500 Hybrid IP periodically to maintain optimum performance and cooling. The user may replace and adjust the lamp following the instructions in this chapter. The user may also upload firmware (fixture software) to the fixture via the DMX data input connector using the Martin Companion Cable USB/DMX interface (see “Related Items” on page 26) and the Martin Companion software suite available for download free of charge from the Martin website at www.martin.com. All other service operations on the ERA 500 Hybrid IP must be carried out by Martin, its approved service agents, or trained and qualified personnel who are using the official Martin service documentation for the ERA 500 Hybrid IP.

Installation, on-site service and maintenance can be provided worldwide by the Martin Professional Global Service organization and its approved agents, giving owners access to Martin’s expertise and product knowledge in a partnership that will ensure the highest level of performance throughout the product’s lifetime. Please contact your Martin supplier for details.

It is Martin policy to apply the strictest possible calibration procedures and use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. However, optical components are subject to wear and tear over the life of the product, resulting in gradual changes in color over many thousands of hours of use. The extent of wear and tear depends heavily on operating conditions and environment, so it is impossible to specify precisely whether and to what extent performance will be affected. However, you may eventually need to replace optical components if their characteristics are affected by wear and tear after an extended period of use and if you require fixtures to perform within very precise optical and color parameters.

Managing humidity

Because the ERA 500 Hybrid IP is a sealed unit, humidity inside the fixture must be monitored and managed. A small amount of condensation is normal under certain environmental conditions. It will very gradually disappear as humidity is purged from the fixture by the pressure relief valves. If excessive condensation appears, or if the INFORMATION → HUMIDITY menu indicates that humidity in the base and head is much higher than 50%, carry out the procedure described in “Dehumidifying the fixture” on page 15. If excessive condensation persists despite correct dehumidification, or if there is any pooling of water inside the fixture, stop using the fixture and contact Martin Service. A cover or seal may be damaged and the fixture must be inspected and any faults remedied.
Take the following precautions to avoid humidity during service:

- Carry out lamp replacement and adjustment during dry weather conditions or in a dry location indoors only. The relative humidity level should be no higher than 50%. If the humidity level is above 50%, remove water vapor from the fixture using the procedure described in “Dehumidifying the fixture” on page 15.
- Make sure that seals and sealing surfaces are clean, dry and in perfect condition before installing a cover. If you need to clean seals, use water and a soft cloth only. Replace any seal that shows signs of aging, damage, cracking, stretching or deformation. Replacement seals are available from Martin.
- Reinstall seals in exactly their original position.
- Do not use liquid gasket or any other type of sealant on sealing surfaces or seals.

**Pressure relief valves**

Three valves with gas-permeable but waterproof membranes manufactured by Gore (arrowed in Figure 9) equalize pressure by allowing air and water vapor to pass into and out of the fixture when it heats up and cools down, but they act as barriers to water in liquid form. The expulsion of warm air (with a slightly higher water vapor content) and intake of cool air (with a slightly lower water vapor content) prevents humidity buildup over time, provided that the valves work correctly and that the fixture is correctly sealed.

Valves become blocked over time as the micropores in the membranes fill with dirt particles. If a valve becomes blocked, excess pressure can cause water to be sucked into the fixture and damage seals. Valves cannot be cleaned – they are service items that require occasional replacement. It is impossible to give precise replacement intervals because environment and conditions of use vary, but if the fixture is used in an environment where airborne dust or dirt is present, we recommend that you replace the valves with their rubber seals each time you replace the lamp. If heavy dust or dirt is present and the fixture is powered on and off frequently you should monitor a potential need for valve replacement carefully. If any valve shows signs of contamination or is not in perfect condition, replace it immediately.

The instructions supplied with the Martin vacuum tester contain details of checking permeability of pressure relief valves.

New pressure relief valves are available from Martin (see “Spare parts” on page 26).

**Dehumidifying the fixture**

The fixture’s pressure relief valves prevent humidity buildup, but if any cover is opened – and for the user this means the rear cover for lamp replacement and adjustment – in an environment where relative humidity is higher than 50%, it is necessary to dehumidify the fixture after reinstalling the cover.

To dehumidify the fixture:

1. Work indoors or in dry conditions only. Place the fixture on a suitable work surface. Disconnect the fixture from DMX.
2. See Figure 8. Unscrew and remove the fixture’s three pressure relief valves (one valve in the base and two valves on the sides of the head) and remove them completely. Make sure that the valves’ rubber O-rings stay in position on the valves.
3. Apply power to the fixture and wait for it to complete a full reset without any errors when it starts up.
4. In the fixture’s control panel, go to SERVICE → DEHUMIDIFY → RUN. Make sure that nobody is looking at the front of the fixture because the lamp will now strike. Press ENTER to start the dehumidification program.
5. The lamp will strike and the frost and spot diffuser effects will deploy. The fixture’s sensors will measure the relative humidity level inside the fixture:
   - If the level is above 45%, the fixture will run the dehumidification program until relative humidity inside the fixture has been reduced to 45% or for 10 minutes, whichever comes sooner.
• If the level is below 45%, the fixture will run the dehumidification program for 30 seconds.

The fixture will then stop the dehumidification program and the control panel display will return to the main menu page.

*Note that you can stop the dehumidification process at any time by selecting EXIT in the control panel and pressing ENTER to confirm.* Note also that, for safety reasons, you cannot run the dehumidification process if the fixture is too hot (above 65°C or 149°F).

6. If the fixture is receiving a DMX signal, it will begin to obey DMX control. If no DMX signal is present, the fixture will go to standby.

7. Shut down power the fixture. Check that the pressure relief valves and their O-rings are clean, dry and in perfect condition. If in any doubt, replace the valves with new items. Reinstall the valves, tightening them to 0.6 - 0.8 Nm.

8. When the fixture is powered on again it will no longer be in Service mode: pan and tilt will no longer be immobilized.

**Vacuum testing**

To be sure that the fixture’s IP65 rating is maintained, it is necessary to vacuum test the fixture after reassembly each time you have removed a cover (including the rear cover during lamp replacement or lamp readjustment). You will need the following items:

- Vacuum tester – you can obtain a suitable tester from Martin (see “Related Items” on page 26).
- M12 x 1.5 adapter, available from Martin (see “Related Items” on page 26), to connect the tester to the fixture.
- Vacuum pump with a minimum capacity of 30 liters per minute that can create a vacuum of minimum 10 kPa (0.1 bar), maximum 50 kPa (0.5 bar). Suitable pumps are available commercially – the instructions supplied with the vacuum tester include some suggested products.
- Two M12 x 1.5 nylon or steel blanking plugs with rubber seals. Suitable blanking plugs are available commercially.

![Figure 9: Preparing for a vacuum test](image)

When you test the fixture, follow the instructions supplied with the vacuum tester. Disconnect any cables that are connected to the fixture. See Figure 9. Install all the connectors’ rubber seals A. Remove the two pressure relief valves B on the sides of the head and replace them temporarily with two M12 x 1.5 blanking plugs. Remove the pressure relief valve C on the connections side of the base and screw the M12 x 1.5 vacuum tester adapter with its O-ring seal into this valve’s threaded hole.

After testing is complete, remove the tester adapter and blanking plugs. Check that the rubber seals on the pressure relief valves are in perfect condition and that the valves are perfectly clean. If in any doubt, replace the valves with new items. Reinstall the valves, tightening them to 0.6 - 0.8 Nm.
Cleaning

Regular cleaning is very important for fixture life and performance. Buildup of dust, dirt, smoke particles, fog fluid residues, etc. degrades the fixture’s light output and cooling ability.

Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the ERA 500 Hybrid IP. In extreme cases fixtures may require cleaning after surprisingly few hours of operation. Inspect fixtures within their first few hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation. If in doubt, consult your Martin dealer about a suitable maintenance schedule.

Follow these precautions when cleaning the fixture:
- Work in dry, well-lit conditions.
- Use gentle pressure only. Do not use any product that contains abrasives. Do not use solvents. Use care when cleaning optical components: avoid scratching surfaces.
- Do not spray the fixture with a high-pressure water jet or you may damage seals.
- Use a vacuum cleaner – do not use a high-pressure air jet. A vacuum cleaner will remove dirt from the fixture and from the area where you are working. An air jet may damage a seal, reducing the fixture’s protection against the entry of water and dirt.

Cleaning procedure

To clean the fixture:
1. Disconnect the fixture from power and allow it to cool for at least 60 minutes.
2. Vacuum dust and loose particles from the outside of the fixture, especially the fan cover on the back of the head and the cooling ribs, using a soft brush to help dislodge dust.
3. Clean the front glass on the front of the head by wiping gently with a soft, clean, lint-free cloth moistened with a weak detergent solution. Do not rub the surface hard: lift particles off with a soft repeated press. Dry with a soft, clean, lint-free cloth or low-pressure compressed air. Remove stuck particles with an unscented tissue or cotton swab moistened with glass cleaner or distilled water.
4. If the fixture’s other outer surfaces are oily, wipe clean with a soft cloth and detergent solution. Do not spray any part of the fixture with high-pressure water jets.

Lubrication

The ERA 500 Hybrid IP does not require lubrication under normal circumstances. Moving parts can be checked and a long-lasting Teflon-based grease reapplied by a Martin service partner if necessary.

Lamp

Warning! Read “Lamp safety” on page 5 before replacing or adjusting the lamp.

If the bulb of a discharge lamp breaks, the lamp releases a small amount of harmful mercury vapor. If the lamp has exploded or broken inside the ERA 500 Hybrid IP, that vapor will be trapped inside the fixture. If the lamp in a fixture stops working, assume that the bulb has broken and follow the safety precautions given under “Lamp safety” on page 5.

The ERA 500 Hybrid IP is designed for use with a 370 W Philips MSD Platinum 18 R LL discharge lamp. Do not install any lamp in the fixture that is not specifically approved by Martin for use in the ERA 500 Hybrid IP.

Lamp life

The Philips MSD Platinum 18 R LL lamp has an average service life of 1500 hours of constant use. However, in practice the service life of the lamp can be up to 6000 hours depending on how the lamp is used. If the fixture is dimmed to blackout for extended periods, for example, lamp life will be extended significantly.

Monitor lamp hours using the resettable lamp lifetime counter in the INFORMATION control menu. The fixture will also give a warning in its control panel display when it reaches 80%, 90% and 100% of its service life.
To reduce the risk of explosion, replace the lamp before it reaches the limit of its service life. Do not exceed the lamp’s service life. Replace the lamp immediately if it is deformed or in any way defective.

For maximum service life:

- Do not power the lamp off until it has warmed up for at least 5 minutes.
- Avoid short lamp power cycles wherever possible – use the fixture’s dimmer if light output is not required for a short period.
- Before shutting down power completely, douse the lamp but leave power applied for a few minutes so that cooling fans can prevent any momentary lamp temperature increase caused by heat from surrounding components.

Lamp replacement

**Warning! Read “Lamp safety” on page 5 before replacing the lamp.**

Wear safety glasses and gloves when handling lamps. The lamp bulb is integral with the reflector. Do not try to separate the bulb from the reflector. Install only a lamp that is approved by Martin for the ERA 500 Hybrid IP or you may cause damage or create a safety hazard.

Replacement lamps are available from Martin (see “Spare parts” on page 26).

The lamp bulb and reflector must be perfectly clean when you install the lamp. Do not touch them with your fingers. Clean the lamp with an alcohol wipe and polish it with a clean, dry lint-free cloth before installing, particularly if you accidentally touch the bulb.

Avoid internal condensation by replacing the lamp in dry conditions (relative humidity <50%) only. If this is not possible, use the de-humidifying procedure described in “Dehumidifying the fixture” on page 15 after replacing and adjusting the lamp.

To replace the lamp:

1. If the fixture has been in use, douse the lamp but leave power applied for at least 30 minutes so that cooling fans continue to run and reduce fixture temperature evenly.
2. Disconnect the fixture from power. Make sure that power cannot be reconnected while you are working on the fixture.
3. Tilt the head so that the front lens is pointing towards the control panel side of the base.
4. See Figure 10. Release the four Torx 20 rear cover screws (arrowed) and lift the rear cover away from the fixture slightly.

![Figure 10: Rear cover retaining screws](image)

![Figure 11: Rear cover fan connector and safety wire](image)
5. See Figure 11. Disconnect the rear cover fan lead at its connector A. Remove the Torx 20 screw B that attaches the rear cover safety wire to the head and keep the screw for use during reassembly. You can now remove the rear cover with its safety wire completely from the head.

6. See Figure 12. Remove the rubber lamp compartment seal (arrowed) from the back of the head to avoid damaging or losing it while you replace the lamp. Keep the seal for use during reassembly.

7. Disconnect the two high-tension lamp wires in silicone sleeves from the spade connectors on the lamp and position the lamp wires out of the way of the lamp.

8. See Figure 13. Loosen, but do not remove, the Torx lamp slider locking screw (arrowed) on the left-hand side of the lamp compartment, just above the horizontal lamp adjustment screw. Do not confuse the two screws: the lamp slider locking screw is smaller than the horizontal lamp adjustment screw.

9. See Figure 14. Slide the lamp to the left, pushing it against the tension in the lamp slider springs. When the right-hand side of the lamp is free of its clip, lift the lamp towards you slightly and then to the right so that it is also free of the lamp slider clip on the left. Lift the lamp out of the lamp compartment.

10. Check that the replacement lamp is perfectly clean. Hold it so that its two spade connectors are on the left, in the same position as with the lamp that you removed. Slide the lamp under its clips in the lamp slider on the left, push it to the left against the lamp slider spring tension, and then hook the
right-hand side of the lamp under its clips on the right-hand side of the lamp compartment. Allow the spring tension to push the lamp back to the right.

11. Check that the lamp is held securely in its clips on both sides, then tighten the lamp slider locking screw (see Figure 13).

12. Connect the high-tension lamp wires to the spade connectors on the left-hand side of the lamp.

13. You will save time if you carry out lamp adjustment (see next section) now, if possible. Otherwise we recommend that you check lamp adjustment and if necessary adjust the lamp before the fixture is used again.

14. Check that the rubber lamp compartment seal and seal channel on the back of the head are perfectly clean, and push the seal onto the back of the head so that the lip in the seal locates in the channel and the flat side of the seal faces outwards.

15. See Figure 11. Reinstall the rear cover safety wire and rear cover fan connector.

16. Reinstall the rear cover on the back of the head. Use a torque driver and tighten the four rear cover retaining screws to a torque of 0.8 – 0.9 Nm (0.6 – 0.66 ft. lb.). This will compress the lamp compartment seal correctly.

17. If you have not been working in dry conditions (relative humidity <50%), reduce internal condensation by carrying out the de-humidifying procedure described in “Dehumidifying the fixture” on page 15.

18. To make sure that the fixture is correctly resealed to its original IP65 level, carry out a vacuum test as described in “Dehumidifying the fixture” on page 15.

19. Each time you install a new lamp, reset the lamp lifetime counter in the fixture’s control panel. Send used lamps to a specialized waste disposal center. Do not dispose of them with household or office waste.

Lamp adjustment

Warning! Read “Lamp safety” on page 5 before adjusting the lamp.

Start the lamp adjustment procedure with the fixture cool. The fixture may become hot during adjustment, so wear heat-resistant safety gloves that also provide protection from electric shock.

The lamp wiring and connectors carry high voltage, so do not touch them with a tool or with any part of your body.

Important! If the fan in the rear cover is disconnected, you have two minutes to carry out lamp adjustment before the fixture shuts down power to the lamp. If two minutes is not enough and lamp power is shut down before you have finished adjusting the lamp, you must power the fixture off and on again before you can re-strike the lamp. Disable pan and tilt when powering the fixture on by pressing the MENU and ENTER menu buttons together for a few seconds immediately after applying power.

As well as giving uneven projection, a significant hot-spot in the beam will focus extra heat onto optical components and may cause damage that is not covered by the product warranty.

After installing a new lamp, adjustment may be required to obtain an even beam.

To adjust the lamp:

1. If the fixture has been in use, shut down power to the fixture and allow it to cool for at least 60 minutes.
2. Apply power to the fixture and allow it to reset.
3. Strike the lamp and open the shutter.
4. Set zoom to wide so that it is easier to see any unevenness in the projection.
5. Aim the fixture at an even surface, using either the manual pan and tilt commands in the fixture's control panel or a DMX controller. Make sure that no further commands can be sent by DMX while you are working.
6. Remove the fixture’s rear cover as described under “Lamp replacement” on page 18. You now have two minutes before the fixture shuts down power to the lamp as a safety precaution because the rear cover fan is disconnected.
7. See Figure 15. Turn the two Torx 20 lamp adjustment screws A for vertical adjustment and B for horizontal adjustment until you obtain the most even projection.
8. Shut down power to the fixture.
9. Reinstall the rubber lamp compartment seal, rear cover safety wire, rear cover fan connector and rear cover using “Lamp replacement” on page 18 as a guide.
10. If you have not been working in dry conditions (relative humidity <50%), reduce internal condensation by carrying out the de-humidifying procedure described in the next section.
11. To make sure that the fixture is correctly resealed to its original IP65 level, carry out a vacuum test as described in “Dehumidifying the fixture” on page 15.
Using the fixture

Before using the fixture, download and read the latest version of the ERA 500 Hybrid IP User Guide from the ERA 500 Hybrid IP area of the Martin website at www.martin.com. The User Guide contains details of:
- The effects available in the fixture.
- The control options available using DMX and/or RDM.
- The setup, monitoring and control options available using the onboard control and display panel.
- Software service functions.

Applying power

Warning! Before applying power to the fixture:
- Read the safety information section of this manual starting on page 4.
- Read “Connecting to power” on page 11.
- Check that the installation is safe and secure.
- Check that the base is fastened securely so that the torque reaction when the head moves will not cause the base to move.
- Be prepared for the fixture to light up suddenly. Check that no-one is looking at the fixture from close range.
- Be prepared for the head to move suddenly. Check that there will be no risk of collision with persons or objects.

The ERA 500 Hybrid IP does not have an On/Off switch. To apply power to the fixture, apply power to the power input cable. Neutrik powerCON TRUE1 connectors also support hot-plugging.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Probable cause(s)</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>One or more of the fixtures is completely dead.</td>
<td>No power to fixture.</td>
<td>Check that power is switched on and cables are plugged in.</td>
</tr>
<tr>
<td></td>
<td>Fuse blown or internal fault.</td>
<td>Contact Martin Service or authorized service partner. Do not remove base or yoke covers, attempt to replace a fuse or carry out any repairs or service that are not described in this Safety and Installation Manual unless you have both authorization from Martin and official Martin service documentation.</td>
</tr>
<tr>
<td>Fixtures reset correctly but respond erratically or not at all to the controller.</td>
<td>Bad data link.</td>
<td>Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.</td>
</tr>
<tr>
<td></td>
<td>Data link not terminated.</td>
<td>Insert DMX termination plug in data output socket of the last ERA 500 Hybrid IP on the data link.</td>
</tr>
<tr>
<td></td>
<td>Incorrect addressing of fixtures.</td>
<td>Check fixture address and protocol settings.</td>
</tr>
<tr>
<td></td>
<td>One of the fixtures is defective and is disturbing data transmission on the link.</td>
<td>Unplug the XLR in and out connectors and connect them directly together to bypass one fixture at a time until normal operation is regained. Have the fixture serviced by a qualified technician.</td>
</tr>
<tr>
<td>Timeout error after fixture reset.</td>
<td>Effect requires mechanical adjustment.</td>
<td>Check fixture’s stored error messages for more information. Contact Martin Service or authorized Martin service partner.</td>
</tr>
<tr>
<td>Mechanical effect loses position.</td>
<td>Mechanical train requires cleaning, adjustment, or lubrication.</td>
<td>Check fixture’s stored error messages for more information. Contact Martin Service or authorized Martin service partner.</td>
</tr>
<tr>
<td>Light output cuts out intermittently.</td>
<td>Fixture is too hot.</td>
<td>Check fixture’s stored error messages for more information. Allow fixture to cool. Clean fixture. Reduce ambient temperature.</td>
</tr>
</tbody>
</table>

Table 2: Troubleshooting
# Specifications

## Physical

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (head)</td>
<td>560 mm (22.1 in.)</td>
</tr>
<tr>
<td>Width (base)</td>
<td>360 mm (14.2 in.)</td>
</tr>
<tr>
<td>Length (base)</td>
<td>467 mm (18.4 in.)</td>
</tr>
<tr>
<td>Width (across yoke)</td>
<td>492 mm (19.4 in.)</td>
</tr>
<tr>
<td>Height (head straight up)</td>
<td>776 mm (30.6 in.)</td>
</tr>
<tr>
<td>Height (maximum)</td>
<td>796 mm (31.4 in.)</td>
</tr>
<tr>
<td>Minimum center-to-center distance in side-by-side installation</td>
<td>700 mm (27.6 in.)</td>
</tr>
<tr>
<td>Weight</td>
<td>46.5 kg (102.6 lbs.)</td>
</tr>
<tr>
<td>Height (base)</td>
<td>360 mm (14.2 in.)</td>
</tr>
</tbody>
</table>

## Dynamic Effects

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color mixing</td>
<td>CMY, independently variable 0-100%</td>
</tr>
<tr>
<td>Color wheel</td>
<td>9 color filters incl. 3 CT filters plus open</td>
</tr>
<tr>
<td>Rotating gobo wheel</td>
<td>7 gobos plus open, wheel rotation, gobo rotation, indexing and shake</td>
</tr>
<tr>
<td>Static gobo wheel</td>
<td>11 gobos, gobo animation zone plus open, wheel indexing, rotation and shake</td>
</tr>
<tr>
<td>Beam effects</td>
<td>2 rotating/indexing prisms (8-facet circular and 6-facet linear)</td>
</tr>
<tr>
<td>Diffuser</td>
<td>Spot diffuser / beamsmoother</td>
</tr>
<tr>
<td>Shutter</td>
<td>Strobe effect, pulse effects, instant open and blackout</td>
</tr>
<tr>
<td>Dimming</td>
<td>0 - 100% continuous</td>
</tr>
<tr>
<td>Zoom</td>
<td>Motorized</td>
</tr>
<tr>
<td>Pan</td>
<td>540°, coarse &amp; fine control and speed</td>
</tr>
<tr>
<td>Tilt</td>
<td>260°, coarse &amp; fine control and speed</td>
</tr>
</tbody>
</table>

## Control and Programming

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control options</td>
<td>DMX, RDM</td>
</tr>
<tr>
<td>16-bit control</td>
<td>Dimming, pan and tilt</td>
</tr>
<tr>
<td>Setting and addressing</td>
<td>Control panel with backlit LCD display</td>
</tr>
<tr>
<td>DMX channels</td>
<td>24</td>
</tr>
<tr>
<td>DMX compliance</td>
<td>USITT DMX512/1990</td>
</tr>
<tr>
<td>RDM compliance</td>
<td>ANSI/ESTA E1.20</td>
</tr>
<tr>
<td>Transceiver</td>
<td>Opto-isolated RS-485</td>
</tr>
</tbody>
</table>

## Optics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>370 W Philips MSD Platinum 18 R LL</td>
</tr>
<tr>
<td>Average lamp lifetime to &gt;70% output</td>
<td>1500 hours at nominal lamp power</td>
</tr>
<tr>
<td>Entertainment lamp lifetime to &gt;70% output</td>
<td>6000 hours</td>
</tr>
<tr>
<td>Front lens diameter</td>
<td>143 mm (5.63 in.)</td>
</tr>
<tr>
<td>Zoom range (half peak with beamsmoother applied)</td>
<td>2° - 40°</td>
</tr>
</tbody>
</table>

## Photometric Data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum luminous flux</td>
<td>12 000 lumens</td>
</tr>
<tr>
<td>CCT (Calibrated Color Temperature)</td>
<td>6500 K (+/-350K)</td>
</tr>
<tr>
<td>CRI (Color Rendering Index)</td>
<td>&gt;70</td>
</tr>
</tbody>
</table>

## Construction

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Die-cast aluminum, high-impact flame-retardant thermoplastic</td>
</tr>
<tr>
<td>Color</td>
<td>Black/white</td>
</tr>
<tr>
<td>Protection rating</td>
<td>IP65</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Suitable for wet locations</td>
</tr>
</tbody>
</table>

## Rotating gobos

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>External diameter</td>
<td>15.8 mm +0 / -0.2 mm (0.622 in. +0 / -0.008 in.)</td>
</tr>
<tr>
<td>Maximum image diameter</td>
<td>10 mm (0.393 in.)</td>
</tr>
<tr>
<td>Maximum gobo thickness</td>
<td>1.1 mm (0.043 in.)</td>
</tr>
<tr>
<td>Material</td>
<td>Borofloat 33</td>
</tr>
</tbody>
</table>
### Installation
- **Mounting points**: 2 pairs of 1/4-turn points for 106 mm (4.17 in.) center-to-center omega brackets
- **Location**: Indoor and outdoor use, must be fastened to surface or structure
- **Orientation**: Any
- **Minimum distance to combustible materials**: 0.2 m (8 in.)
- **Minimum distance to illuminated surfaces**: 10 m (33 ft.)

### Connections
- **AC mains power input**: Neutrik TRUE1 socket, accepts TRUE1 NAC3FX-W (TOP) connector
- **DMX and RDM data in/out**: IP65-rated 5-pin locking XLR

### Electrical
- **AC power**: 100-240 VAC (nominal), 50/60 Hz
- **Power supply unit**: Auto-ranging electronic switch mode
- **Maximum total power consumption**: 700 W
- **Power consumption, all effects static, zero light output**: 104 W
- **Half-cycle RMS inrush current at 230 V, 50 Hz**: 16 A
- **Recommended MCB (Miniature Circuit Breaker)**: per IEC 60898/UL489/CSA C22.2 No. 5

### Typical Power and Current

<table>
<thead>
<tr>
<th>Condition</th>
<th>Voltage</th>
<th>Current</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 V, 60 Hz</td>
<td>5.4 A, 645 W</td>
<td>PF 0.994</td>
<td></td>
</tr>
<tr>
<td>230 V, 50 Hz</td>
<td>2.8 A, 624 W</td>
<td>PF 0.985</td>
<td></td>
</tr>
</tbody>
</table>

*Figures are typical, not maximum. Measurements made at nominal voltage. Allow for a deviation of +/- 10%. PF = power factor*

### Thermal
- **Cooling**: Forced air (temperature-regulated, low noise)
- **Maximum surface temperature, steady state**, at Ta 40°C: 60°C (140°F)
- **Maximum ambient temperature (Ta max.)**: 40°C (104°F)
- **Minimum ambient temperature (Ta min.)**: -20°C (-4°F)*
- **Maximum total heat dissipation (calculated, +/- 10%)**: 2120 BTU/hr.

*Allow for a warm-up time of up to 10 minutes from -20°C (-4°F) before full performance is obtained.

### Approvals

<table>
<thead>
<tr>
<th>Certification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global CB Certification/IECEE</td>
<td>IEC 60598-2-17 (IEC 60598-1)</td>
</tr>
<tr>
<td>EU safety</td>
<td>EN 60598-2-17 (EN 60598-1), EN 62471, EN62493</td>
</tr>
<tr>
<td>EU EMC</td>
<td>EN 55015, EN 55032, EN 55026, EN 61000-3-2, EN 61000-3-3, EN 61547</td>
</tr>
<tr>
<td>US safety</td>
<td>UL 1573</td>
</tr>
<tr>
<td>US EMC</td>
<td>FCC Part 15 Class B</td>
</tr>
<tr>
<td>Canadian safety</td>
<td>CSA C22.2 No. 166</td>
</tr>
<tr>
<td>Canadian EMC</td>
<td>ICES-3 (B) / NMB-3 (B); ICES-5 (B) / NMB-5 (B)</td>
</tr>
<tr>
<td>Australia/NZ</td>
<td>RCM</td>
</tr>
</tbody>
</table>

### Included Items
- Two omega brackets with 1/4 turn fasteners for rigging clamp attachment

### Accessories

#### Power input cables
- **Power Input Cable, H07RN-F, 2.5 mm², 14 AWG, bare ends to TRUE1 NAC3FX-W (female)**: 1.5 m (4.9 ft.) P/N 91611797
- **Power Input Cable, H07RN-F, 2.5 mm², 14 AWG, bare ends to TRUE1 NAC3FX-W (female)**: 5 m (16.4 ft.) P/N 91611786
- **Power Input Cable, SJOOW, 12 AWG, bare ends to TRUE1 NAC3FX-W (female)**: 1.5 m (4.9 ft.) P/N 91610173
- **Power Input Cable, SJOOW, 12 AWG, bare ends to TRUE1 NAC3FX-W (female)**: 5 m (16.4 ft.) P/N 91610174

#### Power connectors
- **Cable Connector, Neutrik powerCON TRUE1 NAC3FX-W TOP (female)**: P/N 91611789HU
- **Cable Connector, Neutrik powerCON TRUE1 NAC3MX-W TOP (male)**: P/N 91611788HU
**Installation hardware**

- Half-Coupler Clamp .......................................................... P/N 91602005
- Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, black .................. P/N 91604006
- Safety Cable, SWL 60 kg, BGV C1 / DGUV 17, silver ................ P/N 91604007

**Spare parts**

- Pressure Relief Valve with Gore membrane, M12 x 1.5 ..................... P/N 5127181-00
- Philips MSD Platinum 18 R LL 370 W discharge lamp .......................... P/N 5127182-00

**Related Items**

- Martin® Companion software suite (incl. firmware uploader) .............. Free download from www.martin.com
- Martin® Companion Cable USB/DMX hardware interface .......................... P/N 91616091
- Martin® RDM 5.5 Splitter .......................................................... P/N 90758150
- Martin® Vacuum Tester ................................................................ P/N 91611580
- M12 x 1.5 adapter for Martin® Vacuum Tester .................................... P/N 50503002

**Ordering Information**

- ERA 500 Hybrid IP in cardboard box ........................................... P/N 9025122033
- ERA 500 Hybrid IP (White) in cardboard box ................................. P/N 9025122034
- Flightcase, two unit, holds 2 x ERA 500 ........................................... P/N 91512203

*Specifications subject to change without notice. For the latest product specifications, including photometric data, see www.martin.com*
Photobiological Safety Warning
The warnings shown on the right are displayed on this product. If the warnings become difficult or impossible to read, they must be replaced using the illustration on the right to reproduce a label 45 x 44 mm (1.8 x 1.8 in.) printed in black on a yellow background.

FCC Compliance
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Supplier’s Declaration of Conformity
Harman Professional, Inc. have issued an FCC Supplier’s Declaration of Conformity for this product. The Declaration of Conformity is available for download from the ERA 500 Hybrid IP area of the Martin website at www.martin.com

Canadian Interference-Causing Equipment Regulations - Règlement sur le Matériel Brouilleur du Canada
This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada. CAN ICES-3 (B) / NMB-3 (B); CAN ICES-5 (B) / NMB-5 (B)

EU Declaration of Conformity
An EU Declaration of Conformity covering this product is available for download from the ERA 500 Hybrid IP area of the Martin website at www.martin.com.

Intellectual Property Rights
Martin® ERA 500 products are covered by one or more of the intellectual property rights listed on www.martin.com/ipr

Disposing of this product
Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Martin products.