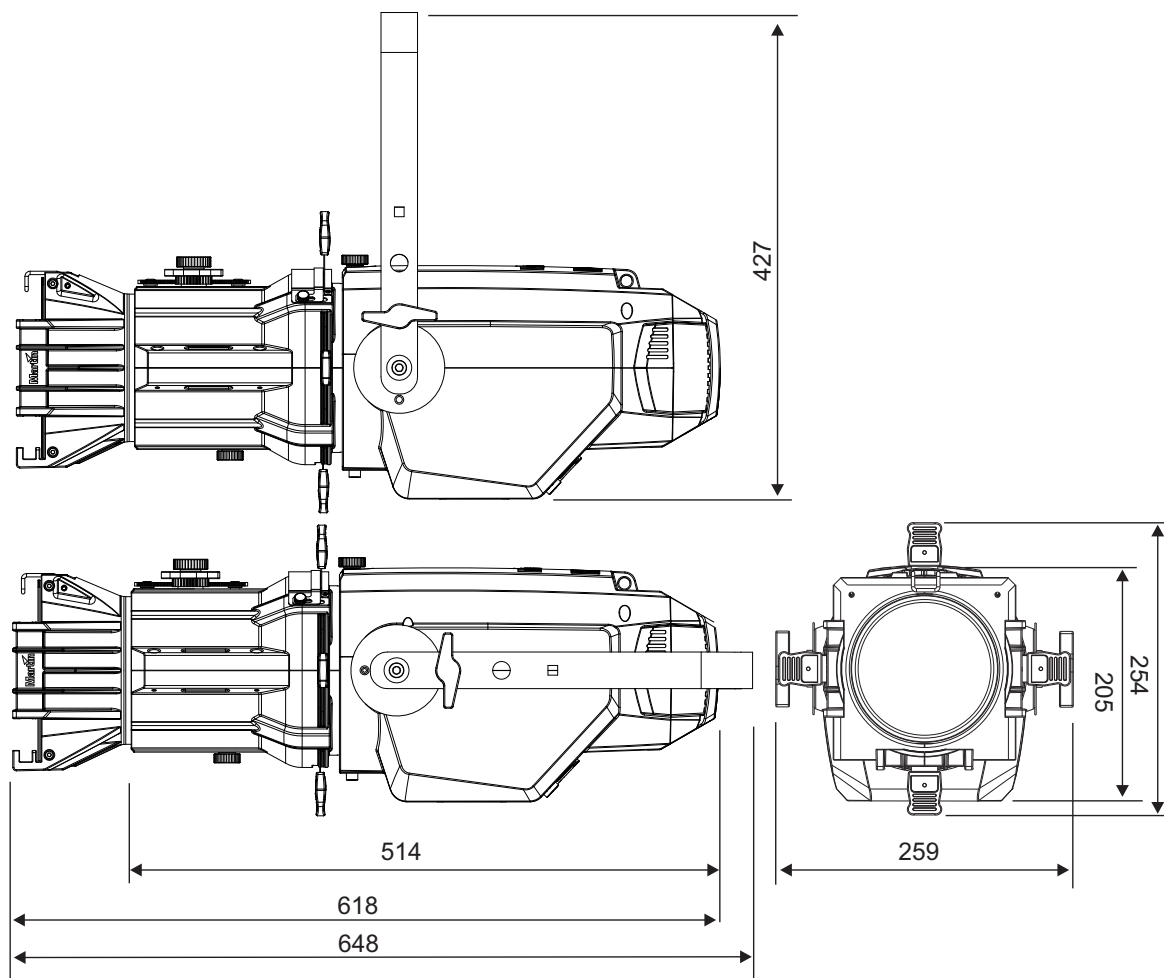


# ELP WW LED Profile

## User Guide



# Dimensions



All dimensions are given in millimeters.

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[www.martin.com](http://www.martin.com)

Martin ELP-WW LED Profile User Guide Revision B

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# Safety information



## WARNING!

**Read the safety precautions in this manual before installing, operating or servicing this product.**

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



### Warning!

**Safety hazard. Risk of severe injury or death.**



### Warning!

**Powerful light emission. Risk of eye injury.**



### Warning!

**See user manual for important safety information.**



### Warning!

**Hazardous voltage. Risk of lethal or severe electric shock.**



### Warning!

**Fire hazard.**



### Warning!

**Hot surfaces.**



Warning! Risk Group 1 product according to EN 62471 and IEC/TR 62778. Do not look directly into the beam. Do not view the light output with optical instruments or any device that may concentrate the beam.

This lighting fixture is for professional use only and must be installed by a qualified technician. It is not for household use. It presents risks of severe injury or death due to fire hazards, electric shock and falls. It can create a fire hazard or a risk of eye injury if the safety precautions below are not followed.



Install, operate and service Martin® products only as directed in their user manuals, or you may create a safety hazard or cause damage that is not covered by product warranties. Follow the safety precautions listed below and observe all warnings in this manual and printed on the product. Keep this user manual for future use.

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

If you have any questions about how to install, operate or service the fixture safely, please contact your Martin® distributor (see [www.martin.com/distributors](http://www.martin.com/distributors) for details) or in the USA on 1-844-776-4899.

Respect all locally applicable laws, codes and regulations when installing, operating or servicing the fixture.



### **Protection from electric shock**

Ensure that the fixture is electrically connected to ground (earth).

Disconnect the fixture from AC power when not in use.

Do not open the fixture or remove any cover. Refer any service operation not described in this manual to an authorized Martin Service partner.

Shut down power to the entire installation at the main power distribution board and lock out power before carrying out any installation or maintenance work.

Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.

The 0.75 mm<sup>2</sup> / 18 AWG mains power input cable supplied with the fixture is rated 6 A and can supply only one fixture with mains power. Do not connect any device to the fixture's MAINS OUT socket when using this input cable.

Before you can connect other devices to the fixture's MAINS OUT socket, you must use one of the 16 A rated power input cables available as optional accessories from Martin to connect the fixture to power at the MAINS IN socket.

Use one of the 16 A rated power relay cables available as optional accessories from Martin to relay power from the fixture's MAINS OUT socket to the MAINS IN socket of the next fixture. If you link fixtures to power in a chain in this way, do not exceed the following limits:

- Connect a maximum of four (4) ELP PROFILE fixtures in total to power in a chain at 100-120 V, or
- Connect a maximum of nine (9) ELP PROFILE fixtures in total to power in a chain at 200-240 V.

Before using the fixture, check that all power distribution equipment and cables are in perfect condition, are rated for the current requirements of all connected devices, and are of suitable type for the location (including water, pollution, temperature and UV resistance).

The voltage and AC frequency of the power at the MAINS OUT socket are the same as those applied at the MAINS IN socket.

Isolate the fixture from power immediately if 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

Do not immerse the fixture in water or any other fluid. Do not install the fixture in a location where flooding may occur.



#### ***Protection from burns and fire***

Do not operate the fixture if the ambient temperature (Ta) exceeds 45° C (113° F).

The surface of the fixture can reach up to 55° C (131° F) if the fixture is operated at the maximum permitted ambient temperature. Allow the fixture to cool for at least 5 minutes before handling.

Install the fixture on a non-combustible surface (brick, concrete, plaster etc.) only.

Do not aim the fixture towards combustible materials (fabric, wood, paper etc.) that are within 50 cm (19 in.) of the fixture.

Keep the fixture well away from flammable materials (volatile liquids etc.).

Ensure that there is free and unobstructed airflow around the fixture.

Allow at least 0.2 m (8 in.) free space around the fixture.

Do not attempt to bypass thermostatic switches or fuses.

Do not modify the fixture in any way not described in this manual 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 modify the light beam.



#### ***Protection from eye injury***

To minimize the risk of eye irritation or injury, disconnect the fixture from power at all times when the fixture is not in use, and provide well-lit conditions to reduce the pupil diameter of anyone working on or near the fixture.

The light from the LED emitters is possibly hazardous and may be harmful to the eyes. Do not stare directly into the product'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 directly into the fixture when the product lights up suddenly. This can happen when power is applied, when the product receives a DMX signal, or when certain control menu items are selected.



***Protection from injury***

Fasten the fixture securely to a fixed surface or structure when in use. The fixture is not portable when installed.

Ensure that all supporting structures, surfaces, fasteners and lifting equipment can bear the weight of all the devices they are intended to support plus an adequate safety margin, and that they conform to local building and safety regulations.

Ensure that any accessory such as gel frames, gobo holders are securely fastened.

Block access below the work area and work from a stable platform whenever installing, setting, adjusting, or cleaning the fixture.

Do not operate the fixture with missing or damaged covers, shields or any optical component.

If an operating problem occurs, stop using the fixture immediately and disconnect it from power. Do not attempt to use a fixture that is obviously damaged.

# Introduction

The ELP WW from Martin® is an ellipsoidal/profile lighting fixture with a 260 W warm white LED engine that produces a sharp gobo projection with a flat field

The fixture provides a class leading CRI of 97 at a color temperature of 3000 K with an output of 7000 lumens and has 16-bit dimming with 4 selectable curves. Its innovative features include a gear-based fine focus system which is still compatible with industry standard accessories. The fixture is ideal for theatre, gobo projection, art lighting, architectural lighting and key lighting applications.

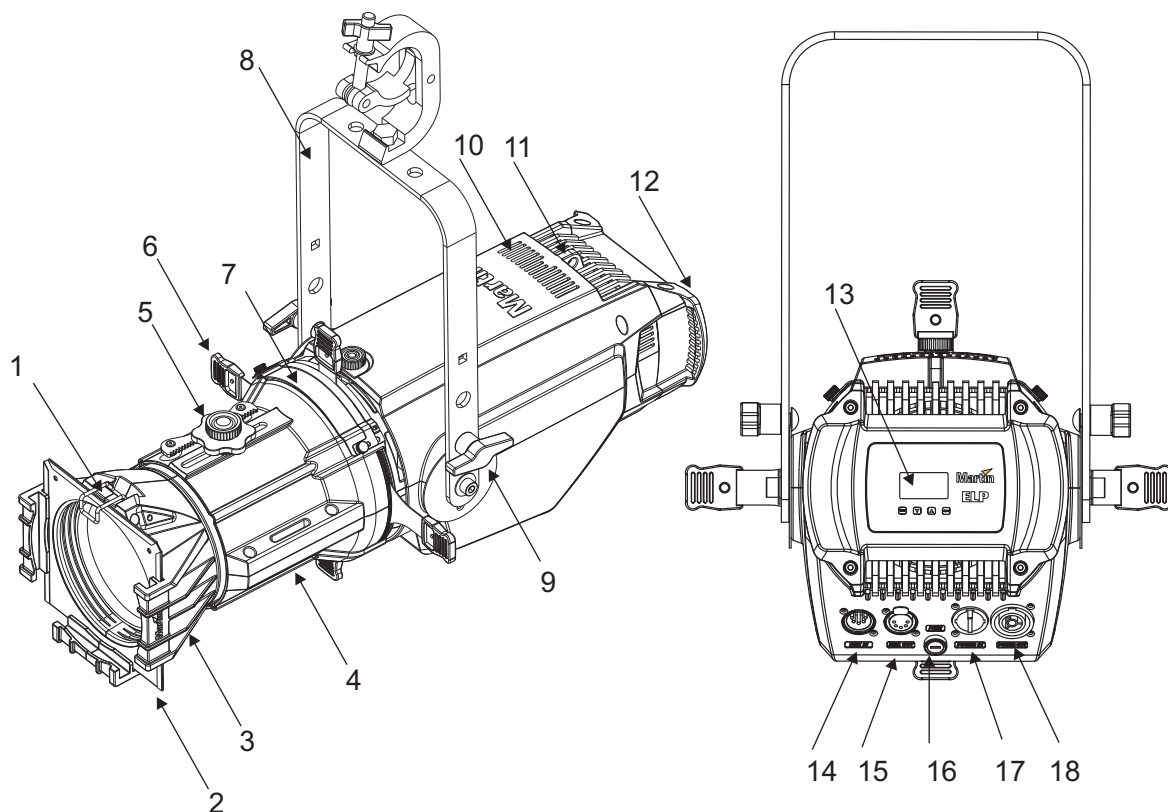
The Martin® ELP WW can be controlled using any DMX-compliant controller and can be remotely configured by RDM. It also features stand-alone operation with capacity for up to 20 scenes.

The fixture is supplied with this user manual, a 1.5 m (4.9 ft.) power cable ready for a local power plug (not included) and a yoke for attachment of suitable user-supplied rigging clamps.

## Before using the product for the first time

1. Read 'Safety information' on page 4 before installing, operating or servicing the fixture.
2. Unpack and ensure that there is no transportation damage before using the fixture. Do not attempt to operate a damaged fixture.
3. Before operating, ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
4. If the fixture is not going to be hard-wired to a mains supply, install a local power plug (not supplied) on the end of the supplied power cable.
5. If fixtures are exposed to a sudden temperature change, give them time to warm or cool to the ambient temperature before applying power. This will help avoid damage due to condensation.
6. Check the support pages on the Martin® website at [www.martin.com](http://www.martin.com) for the most recent user documentation and technical information about the fixture. Martin® user manual revisions are identified by the revision letter at the bottom of the inside cover.

# Fixture overview



- 1 – Filter frame retaining clip
- 2 – Filter frame
- 3 – Interchangeable optical lens tube
- 4 – Aluminum lens tube housing
- 5 – Fine Focus adjustment knob
- 6 – Shutter knobs for beam shaping
- 7 – Gobo / accessory gate with sliding cover
- 8 – Mounting bracket / yoke
- 9 – Tilt locking knob for mounting bracket
- 10 – Heatsink vent
- 11 – Safety eye to attach safety bond
- 12 – Rear handles for positioning

- 13 – Control panel. The display flashes when DMX is not present
- 14 – DMX input (5-pin XLR plug)
- 15 – DMX output (5-pin XLR socket)
- 16 – Mains fuse
- 17 – Mains power input (Neutrik powerCON TRUE1 socket).
- 18 – Mains power output (Neutrik powerCON TRUE1 socket)



# Physical installation



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

**Warning!** The safety and suitability of lifting equipment, installation location, anchoring method, mounting hardware and electrical installation are the responsibility of the installer. All local safety regulations and legal requirements must be observed when installing and connecting the ELP Profile fixture. Installation must be carried out by qualified professionals only.

Contact your Martin supplier for assistance if you have any questions about how to install this product safely.

## Fixture location

The ELP Profile fixture is intended for interior use only. Do not install outside or in damp or humid locations. The fixture requires free and unobstructed airflow around it to ensure adequate cooling.

Observe the following limitations in selecting a location:

- Respect the limitations listed under 'Safety information' on page 4.
- Do not locate the fixture in an unventilated space.

## Mounting the fixture



**Warning!** All fasteners used to mount ELP Profile fixtures must be strong enough to hold the fixture safely. Install a washer directly under the head of each fastener when anchoring the mounting bracket to the installation surface.

## Fastening the fixture to a flat surface

The fixture can be fastened to a hard, fixed, flat surface in any orientation. Ensure that the surface and all fasteners used can support at least 10 times the weight of all fixtures and equipment they will support.

Fasten the fixture securely. Do not free stand on a surface where it may fall over. If you install the fixture in a location where it may cause injury or damage if it falls, secure it as directed below with a securely anchored safety cable that will hold the fixture if the primary fastening method fails.

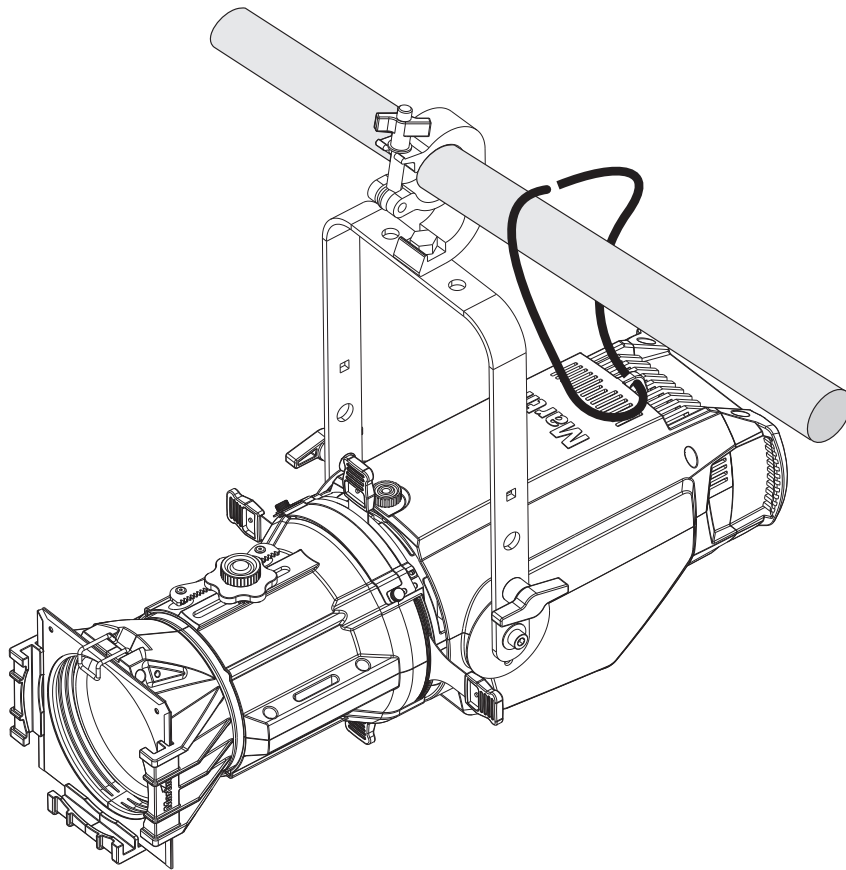
## Mounting the fixture on a truss

The fixture can be clamped to a truss or similar rigging structure in any orientation. Use a suitable rigging clamp such as a G-clamp or a half-coupler clamp (see illustration on right) fastened to the mounting yoke.

To clamp the fixture to a truss:

1. Check that the rigging structure can support at least 10 times the weight of all fixtures and equipment to be installed on it.
2. Block access under the work area.
3. Bolt a rigging clamp securely to the mounting yoke. The bolts used must be M12, grade 8.8 steel minimum, and fastened with a self-locking nut.
4. Working from a stable platform, mount the fixture on the truss and fasten the rigging clamp onto the truss.
5. Secure the fixture with a safety cable through the rear safety eye as directed on the next page.





### **Securing with a safety cable**

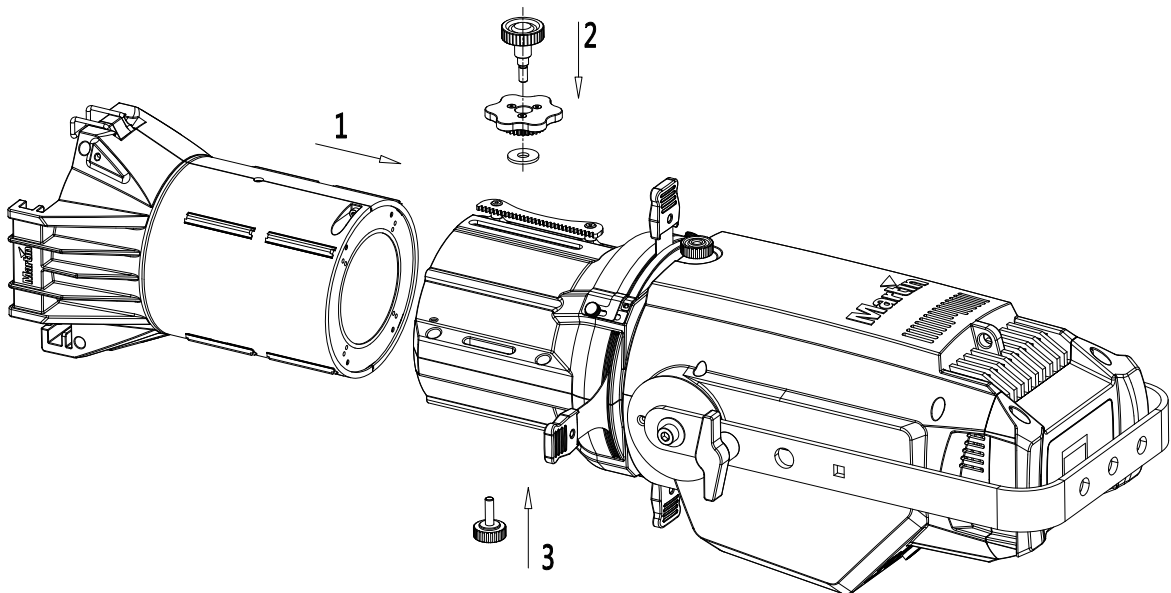
Secure the fixture with a safety cable (or other secondary attachment) that is approved for the weight of the fixture so that the safety cable will hold the fixture if the primary attachment fails. Loop the safety cable through the attachment eye at the rear of the fixture (see illustration above) and around a secure anchoring point.

If a safety cable attachment point becomes damaged or deformed, do not use the fixture. Return it to a Martin Service Centre for repair.

## Changing the lens tube

Four different lens tubes with varying beam angles are available for the fixture. To change the lens tube, refer to the diagram below:

1. Hold the front of the lens assembly with one hand so it cannot fall out.
2. Remove the thumbwheel screws on the top and bottom of the lens tube. The top screw also has the focusing knob attached.
3. Slide the lens tube forward out of the fixture.
4. Slide in the new lens tube (1).
5. Replace the thumbwheel screws (2) and (3). For the top screw (2), ensure the focusing knob is in place on the screw with the gear teeth on the underside. Rotate the focusing knob until the gear teeth mesh with the bar on the lens tube housing.
6. Tighten the screws.



# AC power connection



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



**Warning!** The 18 AWG / 0.75 mm<sup>2</sup> mains power input cable supplied with the fixture is rated 6 A and can supply only one fixture with mains power. Do not connect any device to the fixture's MAINS OUT socket when using this input cable. If you want to connect other fixtures to the MAINS OUT socket, see 'Linking fixtures to power in a chain' on page 12.

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

Do not use an external dimming system to supply power to the fixture, as this may cause damage to the fixture that is not covered by the product warranty.

The fixture can be hard-wired to a building electrical installation if you want to install it permanently, or a power plug (not supplied) that is suitable for the local power outlets can be installed on the power cable. Socket outlets or external power switches used to supply the fixture with power must be located near the fixture and easily accessible so that the fixture can easily be disconnected from power.

If you install a power plug on the supplied power cable, install a grounding type (earthed) plug with integral cable grip that is suitable for your local mains voltage at a current of 6A. Follow the plug manufacturer's instructions and connect the wires in the power cable as shown in this table:

	Live or L	Neutral or N	Earth, Ground or ⊕
<b>US system</b>	Black	White	Green
<b>EU system</b>	Brown	Blue	Yellow/green

The fixture has an auto-ranging power supply that accepts AC mains power at 100-240 V at 50/60 Hz. Do not apply AC mains power at any other voltage or frequency to the fixture.

## Linking fixtures to power in a chain

The mains power input cable supplied with the fixture is rated 6 A and can safely supply power to one fixture only.

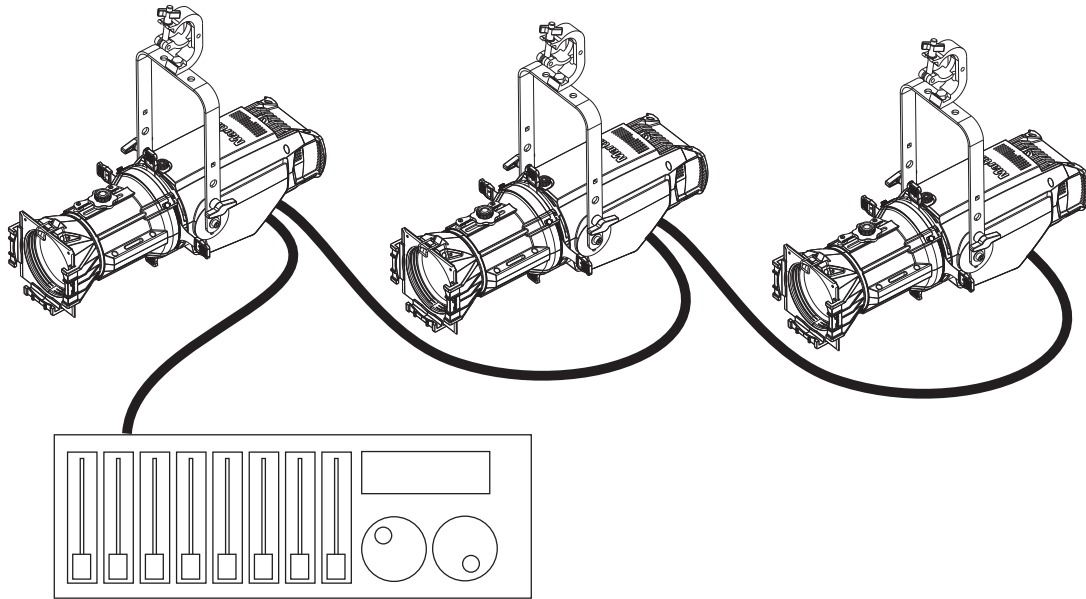
If you want to use the MAINS OUT socket on the fixture to link power to another fixture in a daisy-chain, you must first replace the supplied power input cable with one of the 16 amp rated 12 AWG / 2.5 mm<sup>2</sup> power input cables available as optional accessories from Martin (see 'Accessories' on page 30). If you install a power plug on a 12 AWG / 2.5 mm<sup>2</sup> power input cable, install a grounding type (earthed) plug with integral cable grip that is rated minimum 16 A, 250 V.

To link fixtures to power in a daisy-chain, use the 16 amp rated 12 AWG / 2.5 mm<sup>2</sup> power relay cables available from Martin (see 'Accessories' on page 30) to link fixtures' MAINS OUT sockets to MAINS IN sockets. Using the 16 amp rated cables available as accessories from Martin, you can link:

- Maximum four (4) ELP PROFILE fixtures in total at 100-120 V, or
- Maximum nine (9) ELP PROFILE fixtures in total at 200-240 V.

## Data network requirements

A DMX 512 data link is required in order to control the fixture via DMX. The fixture has 5-pin XLR connectors for DMX data input and output.



Up to 32 devices can be linked together on a single daisy chain. The total number of fixtures in one 512-channel DMX universe is limited by the number of DMX channels required by the fixtures. Note that if independent control of a fixture is required, it must have its own DMX channels. Fixtures that are required to behave identically can share the same DMX address and channels. To add more fixtures or groups of fixtures when the above limits are reached, add another DMX universe or split the daisy-chained link into branches using a powered DMX splitter.

## 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 a DMX buffer is recommended for longer runs. The pin-out on all connectors is:

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

Pins 4 and 5 in the XLR connectors are not used in the fixture but are passed through for possible additional data signals as required by the DMX512-A standard. Standard pin-out is pin 4 = data 2 cold (-) and pin 5 = data 2 hot (+).

To split the link into branches, use an opto-isolated splitter such as the Martin™ DMX 5.3 Splitter. Terminate the link by installing a termination plug in the output socket of the last fixture. The termination plug, which is a male XLR plug with a 120 Ohm, 0.25 W resistor soldered between pins 2 and 3, “soaks up” the control signal so it does not reflect and cause interference. If a splitter is used, terminate each branch of the link.

## Connecting the data link

To connect the fixture to data:

- Connect the DMX data output from the controller to the closest fixture’s male XLR DMX input connector.
- Connect the first fixture’s DMX output to the DMX input of the next fixture and continue connecting fixtures output to input. Terminate the last fixture on the link with a DMX termination plug.

# Fixture setup

This section explains the fixture characteristics you can set that determine how it can be controlled and will behave. You choose the settings using the menus available from the control panel, and they are retained even when the fixture is powered off.

Options can also be set over the DMX line using RDM from a suitable controller, see “Setting options by RDM” on page 19.

A complete map of the control menu structure and brief explanations of their purposes can be found in “Control menus” on page 25. Only the most-used functions are described in this section.

## Using the control menus

Use the fixture’s control panel as follows:

- To access the control menus, press the MENU button.
- Navigate the menu structure using the ENTER, DOWN and UP buttons.
- To select a menu option or to confirm a selection, press the ENTER button.
- To return to a higher level in the menu structure without making a change, press the MENU button.
- To exit the control menus completely, press and hold the MENU button.

The display flashes when DMX is not present.



## Fast focus mode

If you need to focus the fixture but there is nobody to operate the lighting console, you can quickly turn the fixture on in “Fast Focus mode” using the control panel. Hold down the ENTER button for 5 seconds and the fixture will come on at full brightness for 60 seconds, allowing you to set the focus. After 60 seconds the fixture will return to normal operation.

## Setting DMX address

Each fixture must be assigned a DMX address. The DMX address, also known as the start channel, is the first channel used to receive instructions from a DMX controller. The fixture is controlled using between 1 and 4 DMX channels depending on the personality set. If a fixture using 4 channels has a DMX address of 1, then it uses channels 1 to 4 inclusive. The following fixture in the DMX chain can then be set to a DMX address of 5.

For independent control, each fixture must be assigned its own control channels. Two fixtures of the same type may share the same address if identical behavior is desired. Address sharing can be useful for diagnostic purposes and symmetric control, particularly when combined with the inverse pan and tilt options.

To set the fixture's DMX address:

1. Enter the control menu and select DMX SETUP. Press ENTER.
2. Select DMX ADDRESS and press ENTER.
3. Use the UP and DOWN buttons to select the desired address setting.
4. Press ENTER to confirm your selection (or to return to the top level menu without changing the settings, press the MENU button).

## Setting DMX personality

DMX personality sets how many control channels are used. There are 3 personalities to choose from:

- 1 channel – Dimmer only
- 10 channel – 8-bit dimmer with 8-bit control of functions (default)
- 17 channel – 16-bit dimmer with 16-bit control of functions

The function of each channel is described in the section “DMX protocol” on page 24.

To set the DMX personality:

1. Enter the control menu and select DMX SETUP. Press ENTER.
2. Select DMX MODE and press ENTER.
3. Use the UP and DOWN buttons to select 1, 10 or 17.
4. Press ENTER to confirm your selection (or to return to the top level menu without changing the settings, press the MENU button).

## Other fixture settings

The PERSONALITY menu allows you to set other options for the fixture.

### Stand-alone mode

The fixture can operate in stand alone mode allowing control of multiple fixtures from a single master fixture if no DMX console is connected. The options are OFF (default), MASTER and CLIENT. Stand alone operation will be automatically overridden by incoming DMX signal.

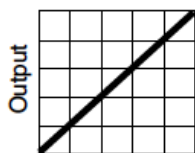
### Light quality

The fixture can be set to either HIGH QUALITY mode (CRI 90, CCT of 6000K at 5600 lumens) or HIGH OUTPUT mode (CRI 85, CCT of 5000K at 6900 lumens).

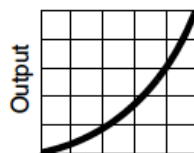
### Dimming curves

Four dimming modes are available:

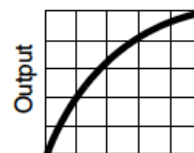
- |            |   |
|------------|---|
| LINEAR     | The increase in light intensity appears to be linear as DMX value is increased.                 |
| SQUARE LAW | light intensity control is finer at low levels and coarser at high levels.                      |
| INV SQ LAW | (Inverse square law) light intensity control is coarser at low levels and finer at high levels. |
| S-CURVE    | light intensity control is finer at low levels and high levels and coarser at medium levels.    |



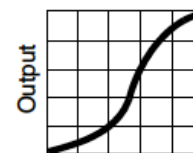
Optically linear



Square law



Inverse square law



S-curve

To set the fixture's dimmer curve, select DIMMER CURVE from the PERSONALITY menu and press ENTER to confirm. Use the UP and DOWN buttons to select the desired mode. Press ENTER to save your selection.

### **PWM Frequency**

Sets the frequency of the PWM dimming used on the fixture. It can sometimes be necessary to change this if flickering is seen on TV cameras running at a high shutter speed.

The setting is 600Hz to 1200Hz, the default is 1200Hz.

### **No Data Mode**

This option sets what will happen when DMX data is not present.

To set No Data Mode, select NO DATA MODE from the PERSONALITY menu and press ENTER to confirm. Use the UP and DOWN buttons to select:

BLACKOUT – If data connection is lost, fixture will blackout

HOLD – If data connection is lost, fixture holds latest received data value at all channels (default)

Press ENTER to confirm.

### **Cooling Mode**

This option sets whether the cooling fans run at full speed all the time or are controlled by fixture output power.

To set cooling mode, select COOLING MODE from the PERSONALITY menu and press ENTER to confirm. Use the UP and DOWN buttons to select:

REGULATED FANS – Fan speed will be controlled by heat demand in the fixture.

FULL – Fans set to full constant speed.

LOW – Fans set to constant low speed

Press ENTER to confirm.

### **Display**

This option allows you to set some parameters for the display screen.

Select DISPLAY from the PERSONALITY menu and press ENTER to confirm.

Use the UP and DOWN buttons to select:

- DISPLAY SLEEP – Use the UP and DOWN buttons to select display sleep time, settings are ON (Display permanently on), 2 MINUTES, 5 MINUTES or 10 MINUTES
- DISPLAY ROTATION – Use the UP and DOWN buttons to select Normal (Display orientation normal) or ROTATE 180 (Display orientation rotated 180°)
- DISPLAY INTENSITY – Use the UP and DOWN buttons to adjust display intensity from 10%-100% (default = 100%)
- TEMPERATURE UNIT – Use the UP and DOWN buttons to select °C or °F

Press ENTER to confirm.

### **Set all settings to factory default**

To return all settings to factory default, select DEFAULT SETTINGS and press ENTER to confirm, FACTORY DEFAULT will show on the display. Press ENTER again.

Use the UP and DOWN buttons to select NO (cancel) or YES (return all settings except calibrations to factory defaults).

Press ENTER to confirm (or press MENU to exit without making a change).

### **Fixture Test**

This menu allows you to run self test sequences on the fixture's LED emitters. A sequence of LED test, dimmer test, strobe test will be run.



## **Fixture information**

The INFORMATION menu allows you to view various fixture information: Power on time, LED hours, Software version, Fixture ID, RDM unique ID, Fan speeds, temperatures.

## **Viewing live DMX values**

This menu allows you to view the current DMX values for any function.

Select the DMX LIVE menu and press ENTER.

Use the UP and DOWN buttons to select the function you wish to view.

## **Setting control values manually**

You can manually set control values. This may be useful when testing, or to use the fixture in a static setting without a DMX controller.

This menu also allows you to reset the fixture.

## **Reset**

To reset the fixture, go to the MANUAL CONTROL menu and press ENTER. Use the UP and DOWN buttons to select RESET and press ENTER again.

Then use UP and DOWN to select YES, and press ENTER to activate.

## **Setting values**

Go to the MANUAL CONTROL menu and press ENTER. Use the UP and DOWN buttons to select the function you wish to control.

Once you have selected a function, press ENTER, then use the UP and DOWN buttons to select a value from 0 to 255.

Press MENU to go back up and select a different function to control.

## **Brightness calibration**

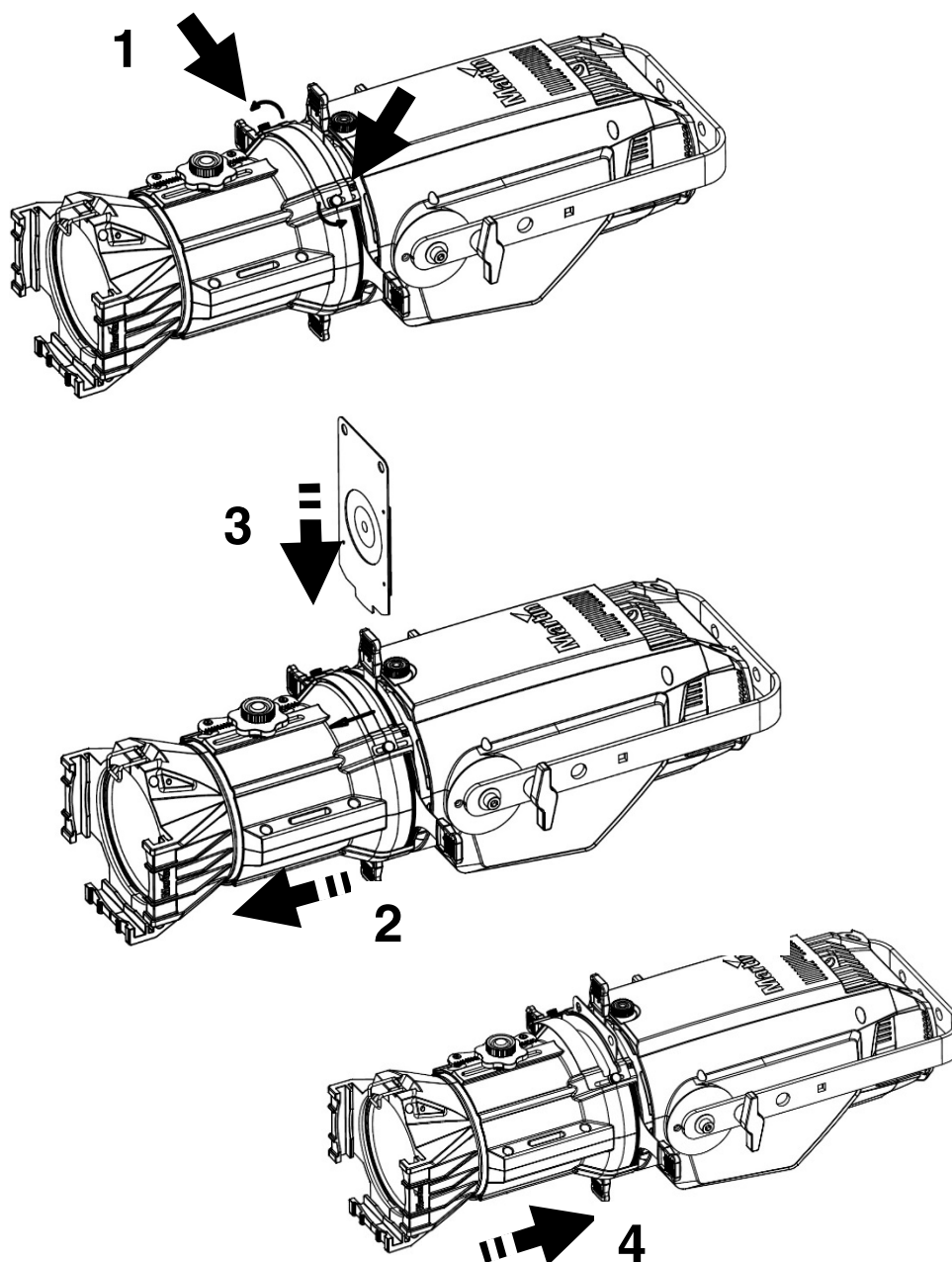
From the SERVICE menu you can select CALIBRATION. This menu allows you to adjust the overall brightness of the fixture to match with other fixtures. The fixture is calibrated in the factory but over time the brightness of the LED emitters will gradually reduce, so this function can be useful if you need to match a new fixture with older ones.

DIMMER sets the overall maximum brightness of the fixture.

## Use of gobos and irises

The fixture will accept an A-size or B-size goboholder or an iris (items not included) in the gobo/Accessory gate. There is a sliding cover over the gate to prevent light spill and retain the gobo holder in the fixture. To install a goboholder or iris:

1. Allow the fixture to cool. Loosen the two thumbscrews at the sides of the cover
2. Slide the cover towards the front of the fixture.
3. Slide the goboholder into the accessory gate in the fixture.
4. Slide the cover back so that it holds the goboholder in place and tighten the thumbscrews.



# Setting options by RDM

You can remotely configure the fixture over the DMX line using a suitable RDM-compatible controller that is connected to the installation via a DMX data link.

A full list of the RDM functions that the ELP fixture supports is given at the end of this chapter. These functions are generally referred to using the more specific term 'PIDs' or 'Parameter IDs'.

## Scanning for RDM devices on the data link

Before you can communicate with fixtures using RDM, you must send a scan command (also called a device discovery command) to all the devices on the data link so that the RDM controller can identify them. It does this by retrieving each device's factory-set unique identifier (UID). This process can take some time depending on the number of devices on the link.

## Getting status and setting options by RDM

The status and options listed in the table below can be read and set by RDM.

You can set an option on one fixture by sending a unicast RDM command to that one fixture only, or you can set the same option on all the fixtures on the data link by sending a broadcast RDM command to all the devices on the link.

For status reading, you can only use unicast RDM to read information from an individual fixture.

## RDM

As a minimum, the ELP Profile fixtures support the following RDM functions:

### Device discovery

DISC_UNIQUE_BRANCH
DISC_MUTE
DISC_UN_MUTE

### Device management

	GET	SET
QUEUED_MESSAGE	✓	
STATUS_MESSAGES	✓	
STATUS_ID_DESCRIPTION	✓	
SUPPORTED_PARAMETERS	✓	
DEVICE_INFO	✓	
DEVICE_MODEL_DESCRIPTION	✓	
MANUFACTURER_LABEL	✓	
DEVICE_LABEL	✓	✓
SOFTWARE_VERSION_LABEL	✓	
BOOT_SOFTWARE_VERSION_ID	✓	
BOOT_SOFTWARE_VERSION_LABEL	✓	

DMX_PERSONALITY	✓	✓
DMX_START_ADDRESS	✓	✓
DEVICE_HOURS	✓	✓
IDENTIFY_DEVICE	✓	✓
LAST_STATE		✓
DIMMER_CURVE		✓

# Effects

This section describes the effects provided by the ELP Profile fixture. See 'DMX protocol' on page 24 for a full list of the DMX channels and values required to control the different effects.

## Dimming

Overall intensity can be precisely adjusted from 0 to 100% using 16-bit coarse and fine control. In 1Ch or 2Ch mode the control is 8-bit. In 1Ch mode this is the only control.

## Strobe effects

An electronic shutter provides instant open and blackout, random and variable speed flash from 1 to 12 flashes per second, and pulse effects.

## Manual focus

The ELP profile has a unique "Fine Focus" system which allows you to easily make small focus adjustments using a gear-based knob on top of the lens tube. To focus the fixture, loosen the thumbwheel bolts on the top and bottom of the lens tube slightly, then turn the focus knob to slide the lens in or out of the tube. Tighten the thumbwheel bolts again to hold the focus setting.

## Manual beam shaping shutters

The fixture has 4 manually operated beam shaping shutters.

## Use of gobos and irises

The fixture will accept a standard A-size or B-size goboholder or an iris (items not included) in the gobo/accessory gate. There is a sliding cover over the gate to prevent light spill and retain the gobo holder in the fixture. To open the cover, loosen the two thumbscrews at the sides of the cover and slide it towards the lens. When the gobo holder or accessory is installed, slide the cover back so it holds the gobo in place and tighten the thumbscrews.

## Use of color filters

Using the color filter frame (supplied with lens tube) you can add color correction or diffusion filters to the front of the unit. Push the securing clip to one side to release it. Ensure the securing clip is clicked back into place to prevent the color filter frame from falling out.

# Maintenance



**Warning!** Read 'Safety information' on page 6 before servicing the fixture.

Refer any service operation not described in this user manual to a qualified service technician.

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.

Disconnect mains power before cleaning or servicing the fixture.

Fixtures must be serviced in an area where there is no risk of anyone being injured by failing parts, tools or other materials.

## Cleaning

The cleaning of external optical lenses must be carried out periodically to optimize light output. Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the fixture. Environmental factors that may result in a need for frequent cleaning include:

- Use of smoke or fog machines.
- High airflow rates (near air conditioning vents, for example).
- Presence of cigarette smoke.
- Airborne dust (from stage effects, building structures and fittings or the natural environment at outdoor events, for example).

If one or more of these factors is present, inspect fixtures within their first 100 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.

Use gentle pressure only when cleaning, and work in a clean, well-lit area. Do not use any product that contains solvents or abrasives, as these can cause surface damage.

To clean the fixture:

1. Disconnect the fixture from power and allow it to cool for at least 10 minutes.
2. Vacuum or gently blow away dust and loose particles from the outside of the fixture and the air vents at the back and sides of the head and in the base with low-pressure compressed air.
3. Clean the lens 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. You can remove the lens tube to clean the rear side of the lens if needed.
4. Check that the fixture is dry before reapplying power.

## Fuse replacement

If you need to replace a fuse:

1. Disconnect the fixture from power and allow it to cool for at least 10 minutes.
2. Unscrew the cap of the fuseholder (see Fixture overview on page 8) and remove the fuse. Replace with a fuse of the same size and rating only.
3. Reinstall the fuseholder cap before reapplying power.
4. Service and repairs

There are no user serviceable parts inside the fixture. Do not open the housing.

Do not try to repair the fixture by yourself as this may result in damage, malfunction and it may potentially void your product warranty. The equipment must only be serviced or repaired by an authorized Martin service technician.

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.

# DMX protocol

Channel			DMX range	Function
1CH	2CH	4CH		
1	1	1	0-255	Dimmer 0-100%
		2	0-255	Dimmer Fine
		3	Shutter	
			000-031	Blackout
			032-063	Open
			064-095	Strobe (Slow-Fast)
			096-127	Open
			128-159	Pulse effect in sequences
			160-191	Open
			192-223	Random strobe effect (Slow-Fast)
			224-255	Open
	2	4	0-255	Dimmer fade time



# Control menus

To access the control menus, press the MENU button. Use the UP and DOWN buttons to navigate the menus. Select any required menu option using the ENTER button. For more information, see Using the control menus on page 14.

Default fixture settings are shown in **bold**.

Top Menu	Menu level 2	Menu level 3	Menu level 4	Notes
DMX Setup	DMX Addr	<b>1</b> - XXX		DMX address ( <b>default address = 1</b> ). The DMX address range is limited so that the fixture will always have enough DMX channels within the 512 available.
	DMX Mode	<b>1/2/4</b> ch		DMX control mode
Personality	Stand-Alone	<b>Off</b>		
		Master		Fixture acts as master in master/client operation - DMX/RDM signal will override master/client operation
		Client		Fixture copies master in master/client operation - DMX/RDM signal will override master/client operation
	Dim Curve	Linear		Optically linear dimming curve
		<b>Square</b>		Square law dimming curve
		Inv Sq		Inverse square law dimming curve
		S-Curve		S-curve (fixture emulates incandescent lamp voltage linear RMS dimming curve)
	PWM Freq	<b>600-1200</b> Hz		
	No Data	Blackout		If data connection is lost, fixture will blackout
		<b>Hold</b>		If data connection is lost, fixture holds latest received data value at all channels

Personality (continued)	Cool Mode	<b>Reg fan</b>		Fan optimized for light intensity (temperature controlled by regulating fan speed, light output unaffected)
		Full		Fans set to full/low, constant speed, fixture temperature controlled by regulating light output.
		Low		
	Display	Sleep	On	Display remains permanently on
			<b>2 min</b>	Display goes into sleep mode 2 minutes after last key press
			5 min	Display goes into sleep mode 5 minutes after last key press
			10 min	Display goes into sleep mode 10 minutes after last key press
		Rotation	<b>Normal</b>	Display orientation normal
			Rotate 180	Display orientation rotated 180°
		Intensity	<b>10-100</b>	Set display intensity in % (default = 100)
		Temp Unit	°C	All temperature readouts in C°
			°F	All temperature readouts in F°
Default settings	Fac Default	<b>No</b>		
		Yes		Return all settings to factory defaults
Fixture test	Test LEDs			Run test sequence of LEDs, Dimmer and Strobe effect. Press Enter to restart test sequence. Press Menu button to exit test.
Information	Power On	0 - XXXX h		Hours fixture has been powered on since manufacture (not user-resettable)
	LED Hours	0 - XXXX h		Number of hours fixture LEDs have been powered on since manufacture (not user-resettable)
	SW Version	XX.XX.XX		Displays currently active software version

Information (continued)	Fixture ID	0 - 9999		User-settable fixture ID number
	RDM UID	XXXXXXXXXX XX		Displays fixture's unique RDM ID
	Temperature	LED / CPU Temp		Displays temperature in °C of all PCBs and LED
DMX Live	Dimmer, Shutter etc .....	0 - 255 ...		Scroll to see values being received on each DMX channel
Manual Ctrl	Reset	<b>No</b>		
		Yes		Reset fixture
	Dimmer, Dimmer Fine, Shutter, Dimmer Fade	0-255		Manual control of all 4 channels
Service	Calibration	Dimmer	0-100 %	Intensity master, defining maximum intensity

# Troubleshooting

This section describes a few common problems that may occur during operation and provides some suggestions for easy troubleshooting:

Symptom	Potential cause	Remedies
No light from fixture.	Shutters are all pushed in, blocking the light.  Power supply issue, such as blown fuse, faulty connector or damaged cable.	Pull out the 4 shutter blades.  Ensure that the mains supply is connected and supplying power to the fixture. Ensure that the fixture's display screen lights up when a button is pressed. Check all power connections and cables. Replace the fixture fuse.
Fixture does not respond to DMX control.	Fault in the DMX network due to wiring problem, connector or cable damaged, or...  ...incorrect DMX addressing, or...  ...potential interference from proximity to a high-voltage installation.	Check if the fixture display is flashing to show that DMX is not being received, and if so, check all DMX cables and connections to ensure the integrity of the physical network. Ensure that the DMX network is terminated. Check that the components in the DMX network all use standard DMX polarity. Ensure that the fixture is set to the correct DMX address, one that matches that set on the DMX control device. Check the pins on the connectors from the previous fixture in the DMX network. Attempt to control the fixture with another DMX control device. Move the fixture if it is being operated very close to an unshielded high-voltage installation.

# Specifications

## Physical

Length.....	648 mm (25.5 in.)
Width .....	259 mm (10.2 in.)
Height .....	254 mm (10.0 in.)
Height (with bracket).....	427 mm (16.8 in.)
Weight .....	7.7 kg (17 lb.)

## Dynamic Effects

Electronic dimming .....	0 - 100%
Strobe and pulse effects.....	Variable speed and action, random strobe
Electronic 'shutter' effect .....	Instant open and blackout
Electronic dimming .....	Four dimming curve options

## Control and Programming

DMX channels .....	1/2/4
16-bit control.....	Intensity
Control options .....	DMX, stand-alone
PWM .....	600-1200 Hz
DMX address setting .....	Control panel with OLED display or via RDM
Stand-alone programming.....	Control panel with OLED display
DMX compliance .....	USITT DMX512-A
RDM compliance .....	ANSI/ESTA E1.20
Transceiver.....	Opto-isolated RS-485

## Optics

Light source .....	91 x 3 W warm white LEDs
Color Temperature .....	3000 K
Lens Tube Options .....	19°, 26°, 36° & 50°
Minimum LED lifetime .....	30 000 hours (to >70% luminous output)*

*\*Figure obtained under manufacturer's test conditions:*

## Photometric Data

Light engine luminous output .....	16 000 lumens
Fixture luminous output .....	7000 lumens
CRI (Color Rendering Index) .....	>97
CQS (Color Quality Scale) .....	>93
TM-30 Rf (IES TM-30-15 Fidelity Index) .....	>93
TM-30 Rg (IES TM-30-15 Gamut Index) .....	>101
TLCI (Television Lighting Consistency Index) .....	>96

## Construction

Color(s).....	Black or white variant
Housing .....	Die-cast aluminum
Protection rating .....	IP20

## Gobos and Color Frame

Gobo size .....	A size, 100 mm OD, 75 mm image*
Gobo size .....	B size, 86 mm OD, 64.5 mm image*
Color frame size .....	159 x 159 mm (6.25 in. x 6.25 in.)

*\* Goboholder not included*

## Installation

Mounting .....	Adjustable bracket
Location .....	Indoor use only
Orientation .....	Any
Minimum distance to combustible materials.....	0.2 m (0.7 ft.)
Minimum distance to illuminated surfaces.....	0.5 m (1.6 ft.)

## Connections

AC power in/thru .....	Neutrik PowerCON TRUE1
DMX & RDM data in/thru .....	5-pin XLR

## Electrical

AC power .....	100-240 V nominal, 50/60 Hz
Power supply unit .....	Auto-ranging electronic switch-mode
Idle power (zero intensity) .....	5 W
Half-cycle RMS inrush current at 230 V, 50 Hz .....	15.3 A
Fixture link via PowerCON at 100-120 V.....	Up to 4 fixtures
Fixture link via PowerCON at 200-240 V.....	Up to 9 fixtures

*Power consumption figures are typical, not maximum. Allow for +/-10% variation.:*

## Typical Power and Current

110 V, 60 Hz .....	2.6 A, 280 W, PF 0.99
208 V, 60 Hz .....	1.4 A, 270 W, PF 0.97
230 V, 50 Hz .....	1.2 A, 269 W, PF 0.96
240 V, 50 Hz .....	1.2 A, 268 W, PF 0.96

*Measurements made at nominal voltage with all LEDs at full intensity. Allow for a deviation of +/- 10%.*

## Thermal

Cooling.....	Forced air (temperature-regulated, low noise)
Maximum ambient temperature (Ta max.) .....	40° C (104° F)
Minimum ambient temperature (Ta min.) .....	0° C (32° F)
Total heat dissipation (calculated, +/- 10%, at full intensity, full white) .....	1000 BTU/hr.

## Approvals

EU safety .....	EN 60598-2-17 (EN 60598-1), EN 62471, EN 62493
EU EMC.....	EN 55015, EN 55032, EN 55103-2, EN 61000-3-2-3, EN 61547
US safety .....	UL 1573
US EMC.....	FCC Part 15 Class B
Canadian safety.....	CSA C22.2 No. 166
Canadian EMC .....	ICES-003 Class B, ICES-005 Class B
Australia/NZ.....	RCM

## Included Items

Power input cable (0.75mm <sup>2</sup> , 18 AWG), bare ends to Neutrik TRUE1 NAC3FX-W (female), 1.5 m (4.9 ft.)
Mounting bracket
User manual

## Accessories

### Cables, 16 A, for connection to power in chains

#### Power input cables

Power Input Cable, H07RN-F, 2.5 mm <sup>2</sup> , bare ends to TRUE1 NAC3FX-W (female), 1.5 m (4.9 ft.) .....	P/N 91611797
Power Input Cable, H07RN-F, 2.5 mm <sup>2</sup> , 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 relay cables**

Power Relay Cable, H07RN-F, 2.5 mm<sup>2</sup>, TRUE1-TRUE1 0.45 m (1.5 ft.)..... P/N 91611784

Power Relay Cable, H07RN-F, 2.5 mm<sup>2</sup>, TRUE1-TRUE1 1.2 m (3.9 ft.)..... P/N 91611785

Power Relay Cable, H07RN-F, 2.5 mm<sup>2</sup>, TRUE1-TRUE1 2.5 m (8.2 ft.)..... P/N 91611796

Power Relay Cable, SJOOW, 12 AWG, TRUE1-TRUE1, 0.45 m (1.5 ft.) ..... P/N 91610170

Power Relay Cable, SJOOW, 12 AWG, TRUE1-TRUE1, 1.2 m (3.9 ft.) ..... P/N 91610171

Power Relay Cable, SJOOW, 12 AWG, TRUE1-TRUE1, 2.5 m (8.2 ft.) ..... P/N 91610172

#### **Power connectors**

Neutrik PowerCON TRUE1 NAC3MX-W (male) ..... P/N 91611788

Neutrik PowerCON TRUE1 NAC3FX-W (female)..... P/N 91611789

#### **Lens Tube Options (see below for part numbers)**

Martin ELP Lens Tube 19° including filter frame, black or white version

Martin ELP Lens Tube 26° including filter frame, black or white version

Martin ELP Lens Tube 36° including filter frame, black or white version

Martin ELP Lens Tube 50° including filter frame, black or white version

#### **Related Items**

Martin RDM 5.5 Splitter .....P/N 90758150

Martin Companion Cable.....P/N 91616091

Martin Companion software suite.....Free download from [www.martin.com](http://www.martin.com)

#### **Ordering Information**

Martin ELP WW (Body Only).....P/N 9045107781

Martin ELP WW (Body Only), White .....P/N 9045115165

Martin ELP Lens Tube 19° .....P/N 9045107782

Martin ELP Lens Tube 26° .....P/N 9045107783

Martin ELP Lens Tube 36° .....P/N 9045107784

Martin ELP Lens Tube 50° .....P/N 9045107785

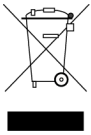
Martin ELP Lens Tube 19°, White.....P/N 9045115166

Martin ELP Lens Tube 26°, White.....P/N 9045115167

Martin ELP Lens Tube 36°, White.....P/N 9045115168

Martin ELP Lens Tube 50°, White.....P/N 9045115170

Specifications are subject to change without notice. For the latest product specifications, see [www.martin.com](http://www.martin.com)

	<p><b>Disposing of this product</b></p> <p>Martin products are supplied in compliance with Directive 2012/19/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), where applicable. 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</p>
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