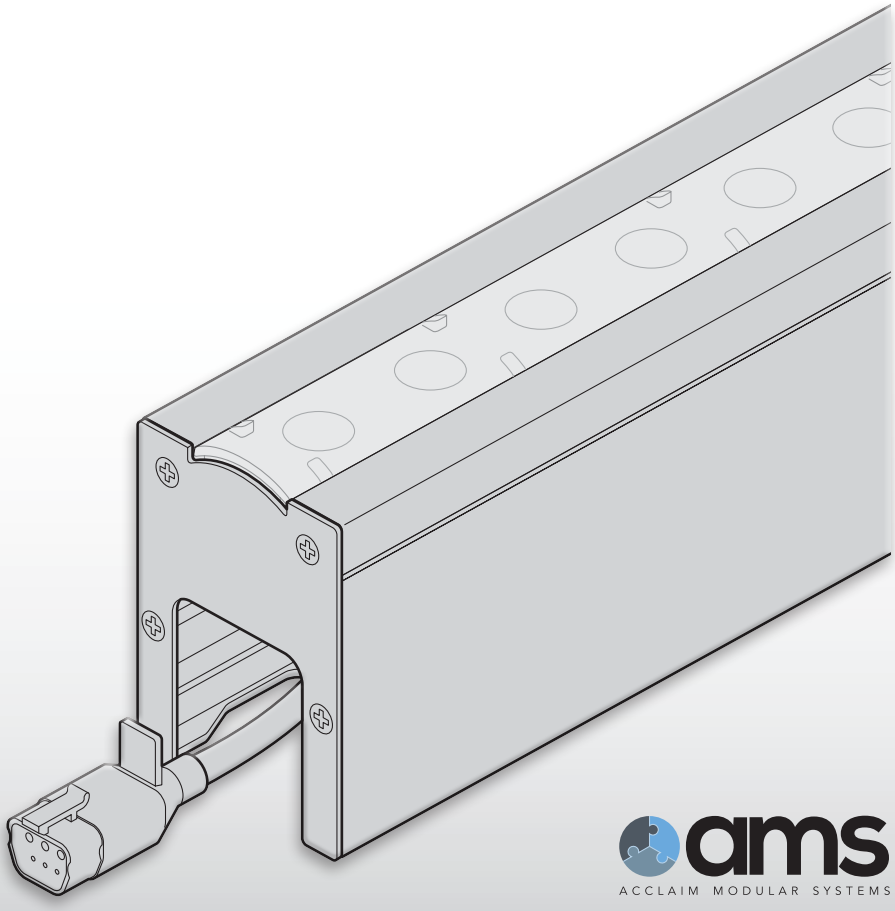
ACCLAIM LIGHTING



ACCLAIM MODULAR SYSTEMS

Linear One DMX Exterior

User guide

CONTENTS

INTRODUCTION

WELCOME

Welcome to the Linear One DMX Exterior range from Acclaim Lighting. These aluminum bodied IP66, natatorium-ready fixtures are available in 1' and 4' lengths and are easily interconnected in series to greatly simplify installation.

The Linear One DMX Exterior range fully embraces Acclaim Lighting's Modular Systems (AMS) design standard; AMS allows a wider choice of interior and exterior options to be configured in our Los Angeles headquarters and delivered in industry-leading time. In both 1' and 4' lengths, there are numerous emitter options, including multiple choices of RGBW, RGBA or Dynamic White, together with an extensive range of lens options to suit every installation.

Additionally, optional glare shields and louvers allow the light output to be shaped further.

Control is achieved using the industry standard DMX-512A format, with RDM for configuration. Each Linear One DMX Exterior fixture has a short in-line input cable and a panel mount output connector (power and control signals are combined via a proprietary IP67 rated socket). These allow the fixtures to be seamlessly daisy-chained in lengths up to 100 feet (30m) without the need for separate link cables.

With the addition of the optional Acclaim Lighting Aria and UDM•W units (see page 15), you can add remote wireless connectivity to the long list of abilities within the Linear One Exterior range.

The internal auto-sensing power supply within each unit can accept mains inputs between 100 to 277VAC at 50 or 60Hz.

SAFETY

- When fixtures are mounted off-ground, ensure they are securely fitted to an appropriate mounting surface.
- Ensure that the power input is supplied from a correctly fused, earthed and environmentally protected location.

MAINTENANCE

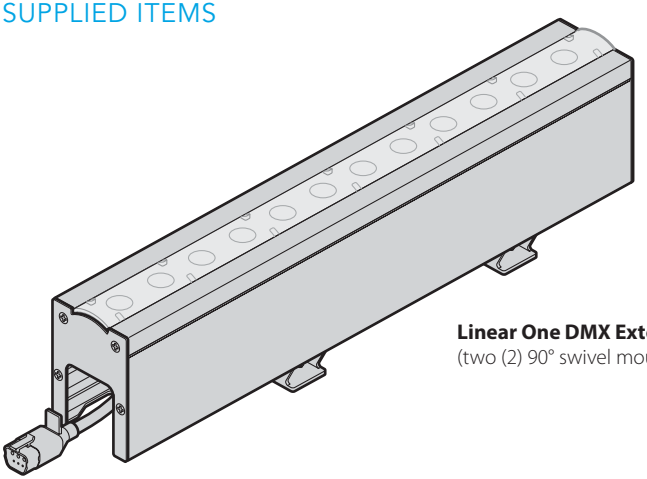
CAUTION: Always isolate mains power before starting maintenance operations.

- Ensure that all mounting (and device) screws/bolts are fully tight and free of corrosion.
- Ensure there is no deformation to the housing, lenses or fixing points.
- Check that all power supply cables are free from physical damage or material fatigue.
- Use only genuine spare parts supplied by Acclaim Lighting.

CLEANING

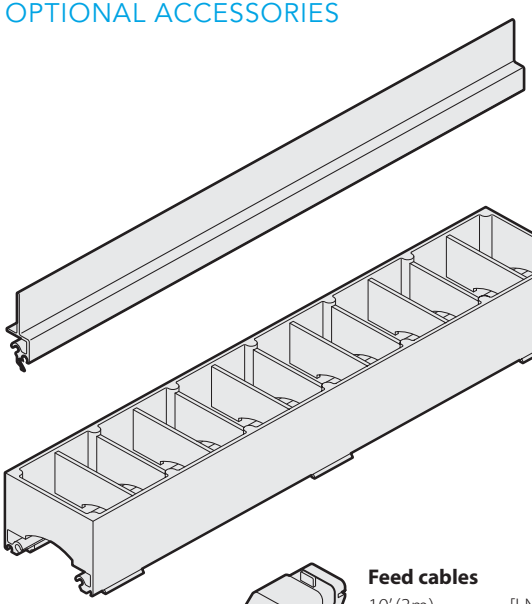
- Use a moist, lint-free cloth along with warm water when cleaning each fixture.
- Never use alcohol or solvents.

SUPPLIED ITEMS



Linear One DMX Exterior 1′ or 4′
(two (2) 90° swivel mount brackets included)

OPTIONAL ACCESSORIES

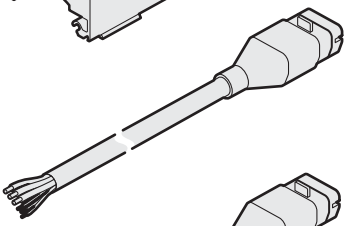


Glare shield

1′ (30cm)	[LXEGS1]
4′ (121cm)	[LXEGS4]

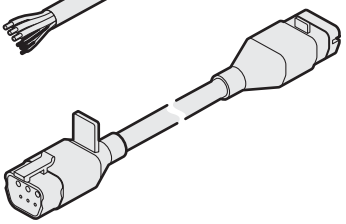
Louver

1′ (30cm)	[LXELV1]
4′ (121cm)	[LXELV4]



Feed cables

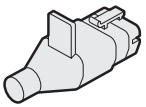
10′ (3m)	[LNFC10]
50′ (15m)	[LNFC50]



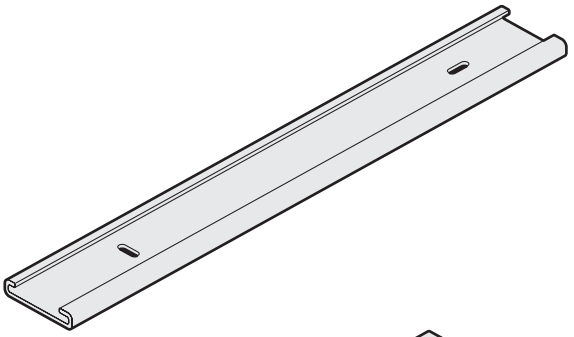
Link cables

6″ (15cm)	[LNLC0]
1′ (30cm)	[LNLC1]
5′ (1.5m)	[LNLC5]
10′ (3m)	[LNLC10]

Terminator end cap
[LXTEC]

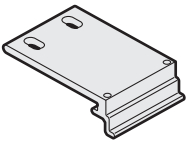


OPTIONAL ACCESSORIES (CONTINUED)



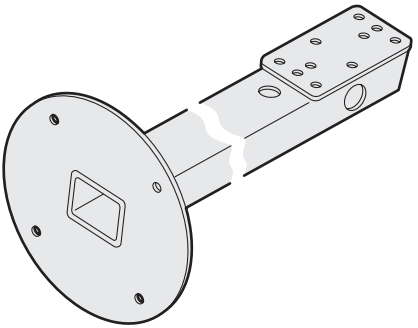
Mounting track*
1' (30cm) [LNMT1]
4' (121cm) [LNMT4]

** not required for all installations*

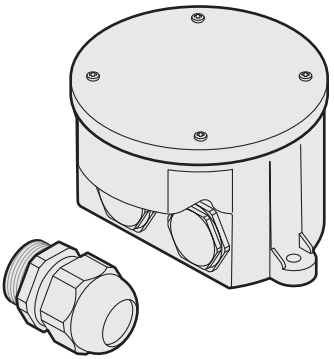


Flat mounting bracket*
[LXFMB]

** factory fitted option*



Extender bars
1' (30cm) [LNEB1]
2' (60cm) [LNEB2]
3' (91cm) [LNEB3]



IP66 junction box plus outlet cable gland
See page 13
[AJBOX1]

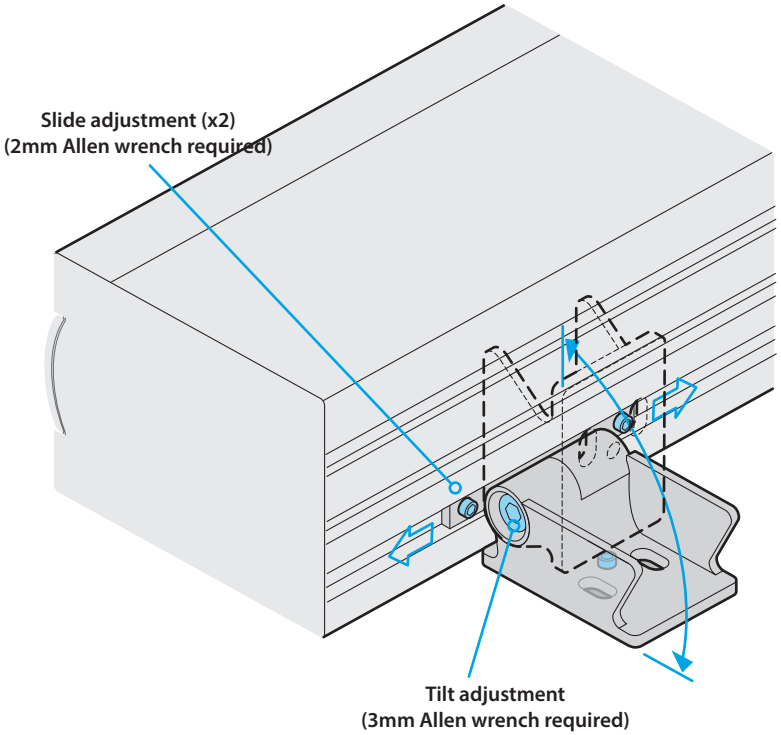
INSTALLATION

When installing each Linear One fixture, ensure that the surface is level and that nothing is protruding to damage the mounting bracket(s). Suitable mounting surfaces include steel, aluminum, concrete or wood structures.

Each Linear One fixture is fitted with two swivel mounting brackets, each of which have two slots measuring 0.26" x 0.18" (6.5 x 4.5mm), with a base thickness of 0.12" (3mm). Select bolts or screws (not supplied) that fit the swivel mounting brackets correctly and are particularly suited to the mounting surface. Optional mounting tracks (see page 6) and flat mounting brackets (factory fitted option) are also available.

MOUNT ADJUSTMENT

The swivel mounting brackets allow a tilt range of approximately 90 degrees to be achieved. Use a 0.12" (3mm) Allen wrench to adjust the tilt angle.



Ensure that each swivel mounting bracket is securely fixed to the mounting surface with appropriate screws/bolts. If necessary, use a 2mm Allen wrench to loosen the two grub screws on each swivel mounting bracket to allow them to slide along the length of the fixture to the required position before re-tightening.

USING AN OPTIONAL MOUNTING TRACK

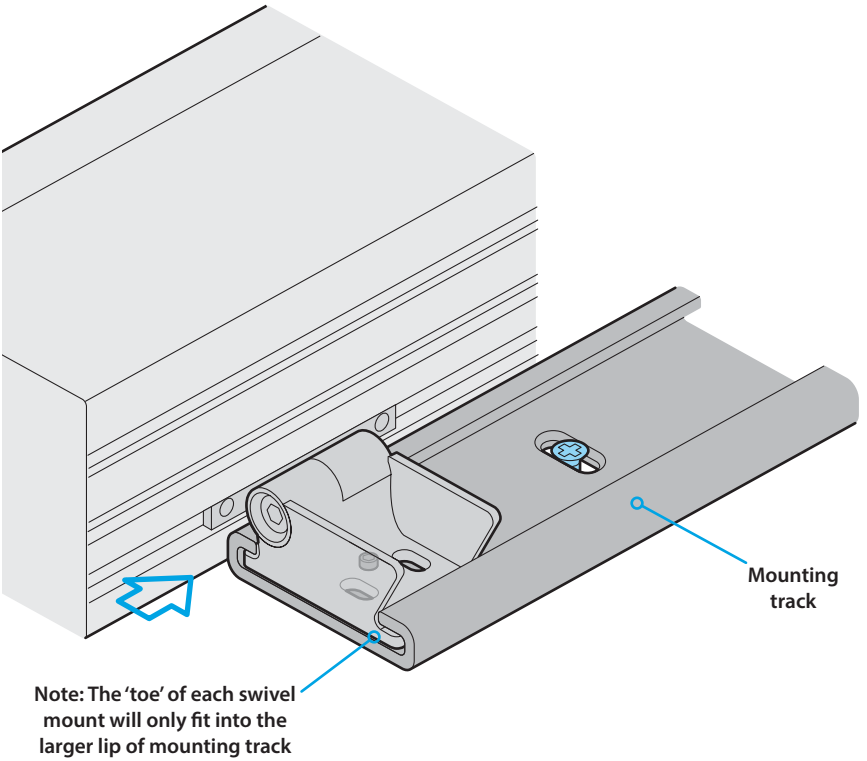
Mounting tracks are aluminum profiles that provide an additional way to secure Linear One fixtures to surfaces. Once attached to the surface, the mounting track allows the standard swivel mounting brackets to slide into and be fixed to the track.

Note: The mounting tracks are not symmetrical, one lip is larger than the other in order to accommodate the shape of the swivel mounts.

TO USE A MOUNTING TRACK

1 Fix the mounting track to your surface using suitable countersunk screws, taking care to orientate the mounting track correctly, see the note above.

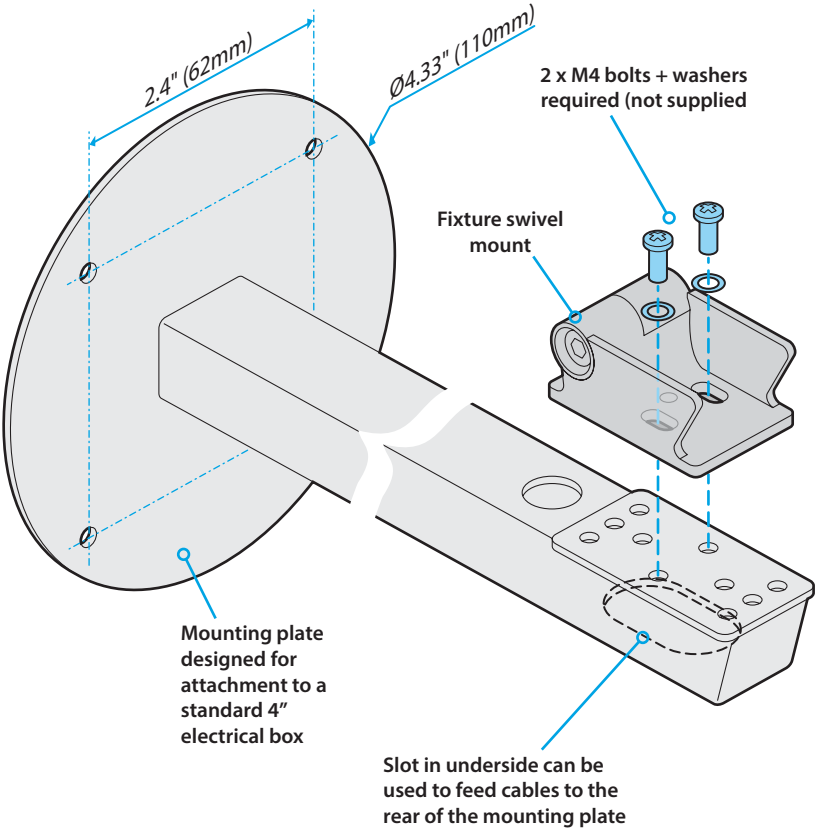
Note: It is important that the countersunk screw heads lie almost flat with the inner surface of the mounting track, otherwise the swivel brackets of the fixture will not slide over them.



2 Slide the swivel brackets of the fixture into the mounting track and secure them at the required position using small grub screws.

USING OPTIONAL EXTENDER BARS

A common fixing method is to use optional extender bars. These are available in 1', 2' and 3' (30, 60 and 91cm) standoff lengths. Each Linear One fixture requires two extender bars.



Note: When feeding cables through the extender bar, check for any irregularities that may have occurred during the manufacturing process - take care not to snag cables.

REMOVING AND REFITTING THE END PANELS

Several alterations to the Linear One fixture begin with the removal of the end panels. There are just four screws holding each end panel in place and these require a medium sized Pozi-Drive (Philips) screwdriver.

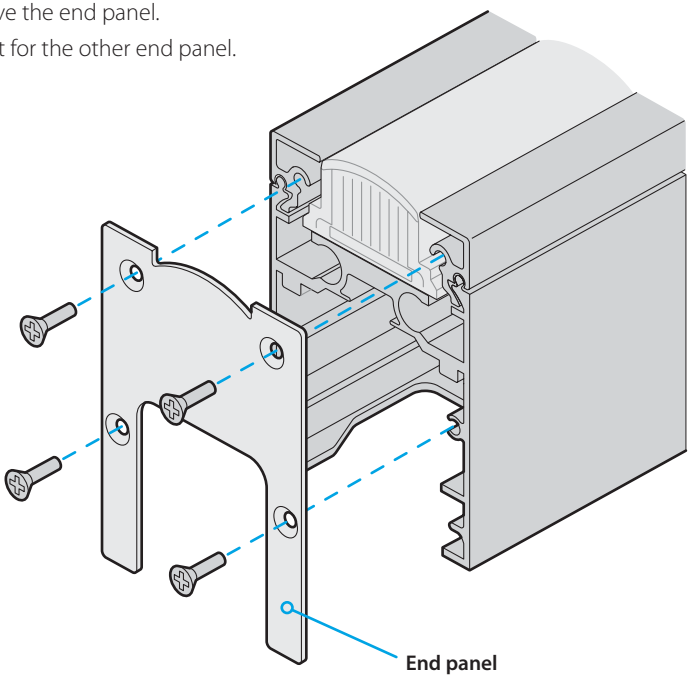
Please note that removing the end panels in no way affects the integrity of the IP66 rating and there should be no fear of water infiltration in performing this task.

TO REMOVE THE END PANELS

1 Using a medium sized Pozi-Drive (Philips) screwdriver, remove the four screws and store safely for refitting.

2 Remove the end panel.

3 Repeat for the other end panel.



TO REFIT THE END PANELS

1 Position an end panel onto the fixture, ensuring that the countersinks of the four holes are facing outwards.

2 Insert the four screws and tighten them using a medium sized Pozi-Drive (Philips) screwdriver.

3 Repeat for the other end panel.

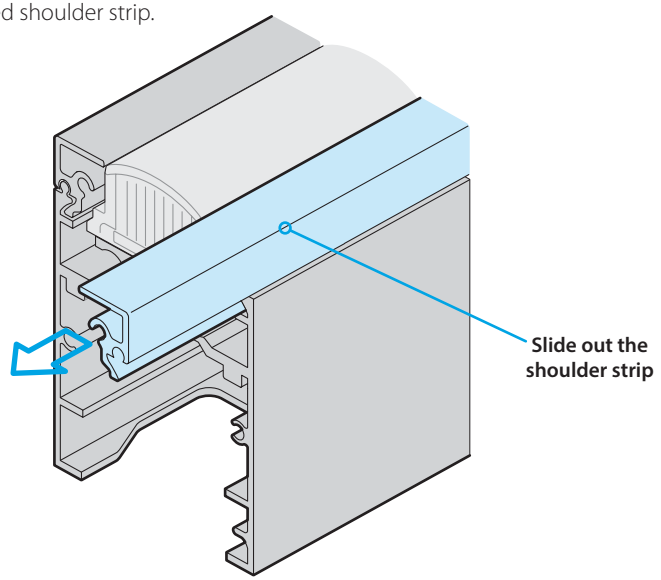
FITTING AN OPTIONAL GLARE SHIELD

Optional glare shields are available which can be fitted on either side of the emitter housing to help conceal the emitters from side view.

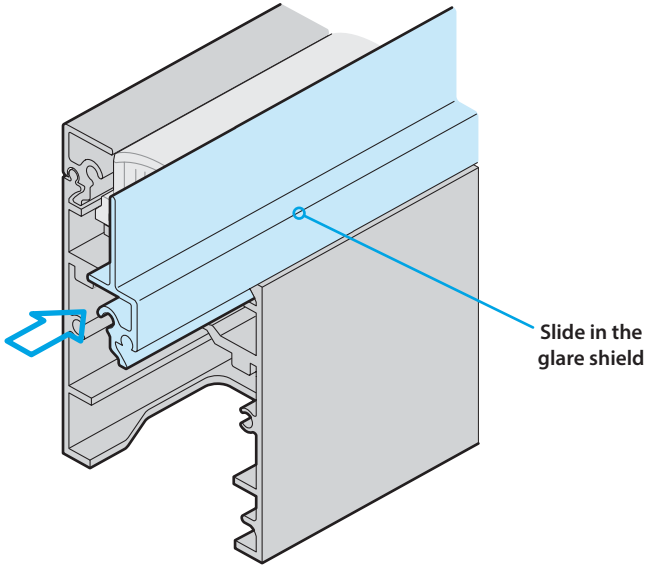
TO INSERT A GLARE SHIELD

1 Remove both of the end panels (see page 8).

2 Slide out the required shoulder strip.



3 Slide in the glare shield to replace the removed shoulder strip.



4 Refit the end panels (see page 8).

FITTING AN OPTIONAL LOUVER

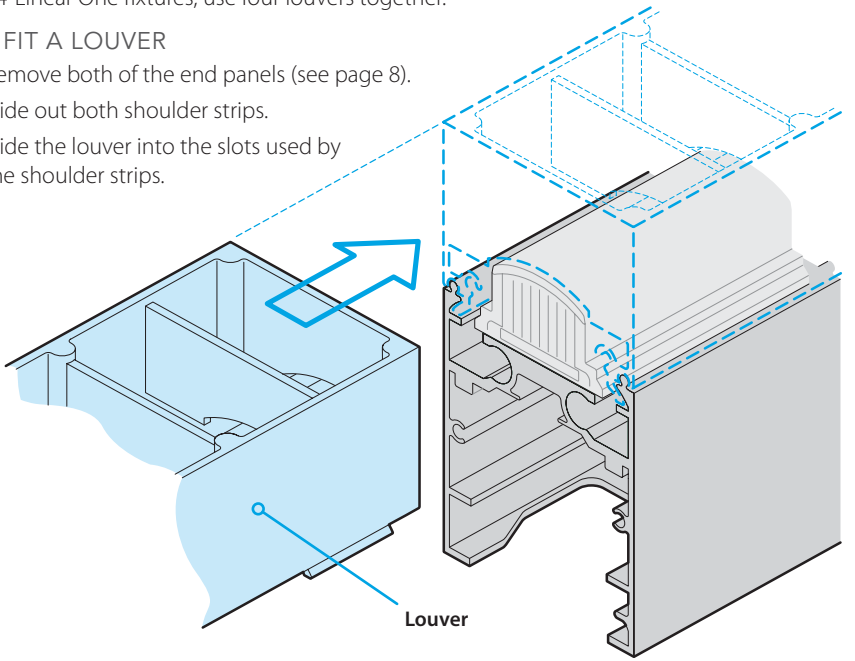
Optional 1' louvers are available, which can be fitted to eliminate side spill in all directions. For 4' Linear One fixtures, use four louvers together.

TO FIT A LOUVER

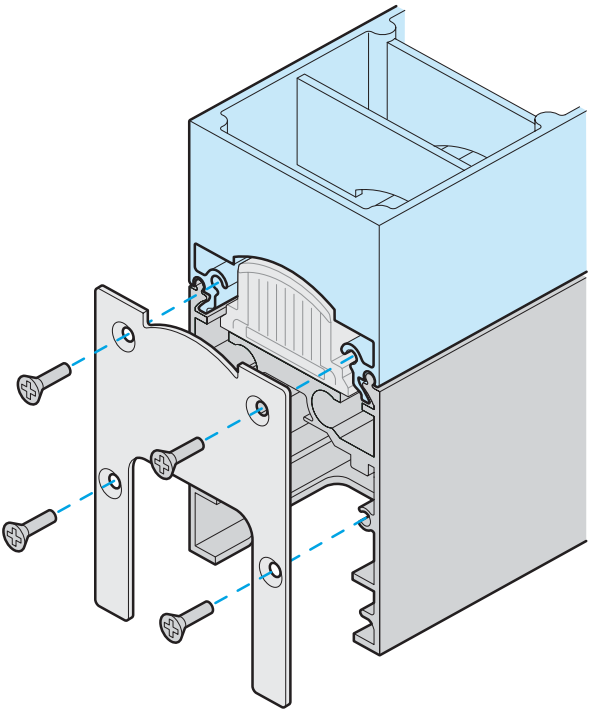
1 Remove both of the end panels (see page 8).

2 Slide out both shoulder strips.

3 Slide the louver into the slots used by the shoulder strips.



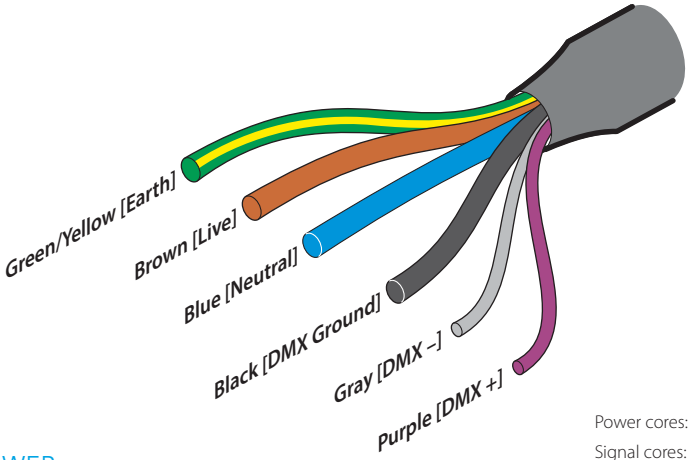
4 Refit the end panels.



POWER AND CONTROL WIRING

Power and control are combined within the IP66-rated feed and inter-connect cables. Input and output connectors are proprietary six pin designs; with a male input connector located at one end and female output connector at the other. Connector placements are such that abutted units can be directly connected without need for extra cables.

The color designations for the optional feed in cable are as follows:



Power cores: AWG 18 / 1.02mm^2

Signal cores: AWG 26 / 0.13mm^2

POWER

The power requirements are as follows:

- Voltage: 100-277VAC 50/60Hz
- Power: 1' models: 20W steady state
  4' models: 80W steady state

Note: Acclaim recommends taking proper precautions for external surge protection, as control and power electronics can be damaged by major events. Ensure that the mains power is supplied from a suitably protected source and initial connections are made within IP rated enclosures. Acclaim requires Belden 9842 or approved equivalent for all DMX wiring applications.

IMPORTANT: These connectors are not rated for live connection or disconnection. Check that power is isolated before making or breaking any links. Ensure the connectors have locked and are seated correctly before applying power.

IN-RUSH CURRENTS

Linear One fixtures are specially designed to ramp up their current intake (relatively) slowly in order to prevent in-rush current issues. When first powered on, a Linear One DMX fixture should not exceed its standard rating of 20W per linear foot (depending on model).

MAXIMUM NUMBER OF LINEAR ONE FIXTURES

The total length of Linear One DMX fixtures that can be connected in a single series run are as follows:

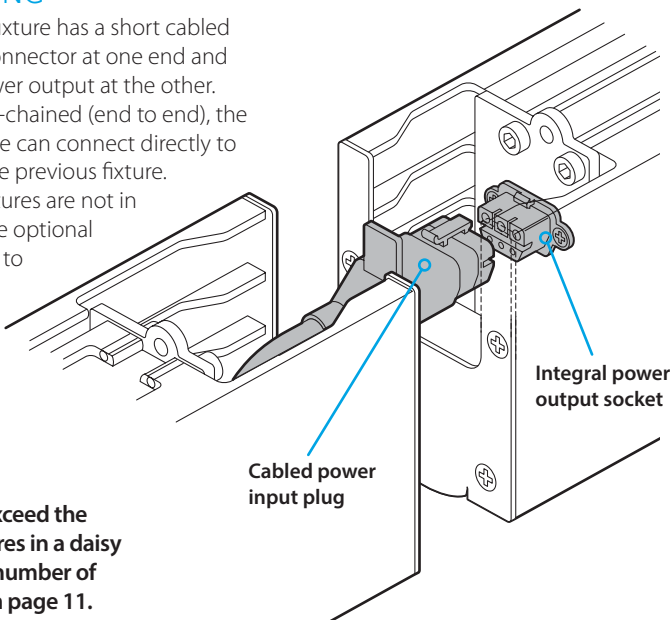
- @ 120VAC 50 feet (15m)
- @ 230VAC 100 feet (30m)

Note: Do not exceed a total of 32 fixtures on a single line without signal boosting. An Acclaim Lighting RDS-6 RDM/DMX splitter or equal device can be used for this purpose.

Ensure that the output connector of the final fixture has a terminator plug [Part #: LXTEC] fitted to correctly terminate the DMX signal.

INTERCONNECTING

Each Linear One DMX fixture has a short cabled control/power input connector at one end and an integral control/power output at the other. When fixtures are daisy-chained (end to end), the input plug of one fixture can connect directly to the output socket of the previous fixture. Alternatively, where fixtures are not in a daisy chain, one of the optional link cables can be used to space any two fixtures.

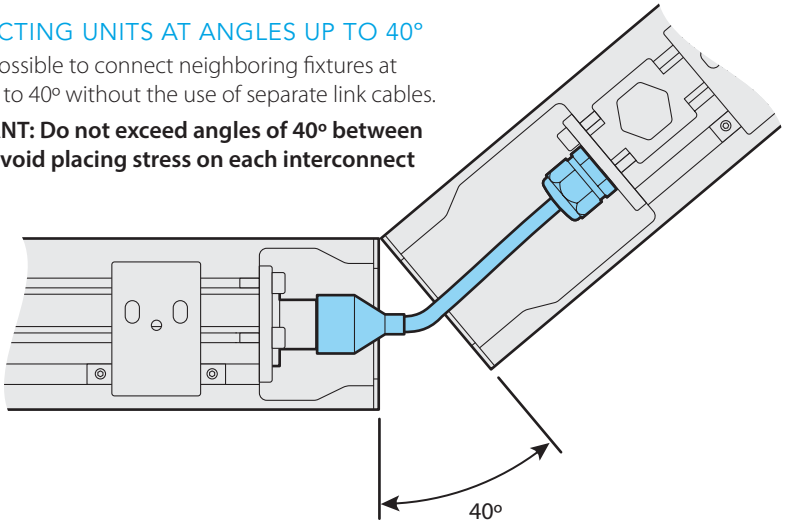


IMPORTANT: Do not exceed the stated maximum fixtures in a daisy chain. See"Maximum number of Linear One fixtures" on page 11.

CONNECTING UNITS AT ANGLES UP TO 40°

It is also possible to connect neighboring fixtures at angles up to 40º without the use of separate link cables.

IMPORTANT: Do not exceed angles of 40º between units to avoid placing stress on each interconnect cable.

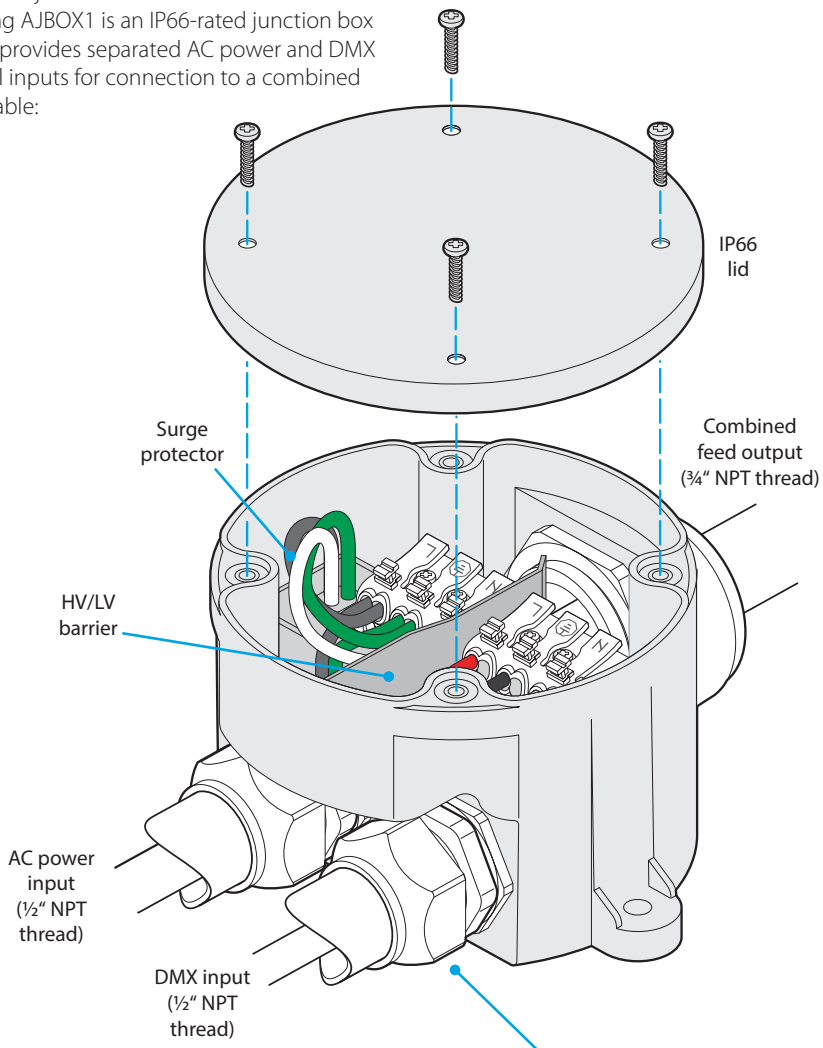


CONNECTING UNITS AT ANGLES BETWEEN 40 AND 90°

When mounting Linear One fixtures at greater angles to each other, such as in a 90º corner-to-corner arrangement, do not attempt to interconnect them using only the cabled control/power input plug as it is not long enough to reach. Always use a 6" (15cm) link cable [Part#: LNLC0] - or longer, if the spacing is greater.

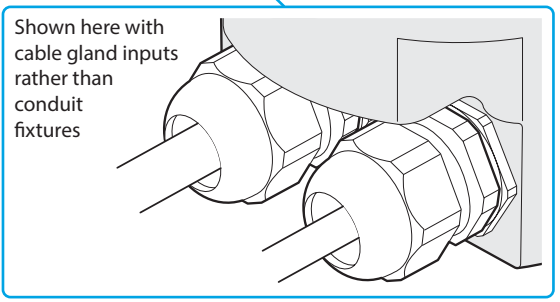
THE AJBOX1 JUNCTION BOX

Ensure that appropriate care is taken to protect the junction where the mains and control inputs are joined to the feed cable. The Acclaim Lighting AJBOX1 is an IP66-rated junction box which provides separated AC power and DMX control inputs for connection to a combined feed cable:



INPUT FIXTURES/GLANDS

You will need to source 3rd-party conduit fixtures/cable glands for the inputs, as suits your installation. The large cable gland for the output is provided with the AJBOX1.



INPUT WIRING PROTECTION

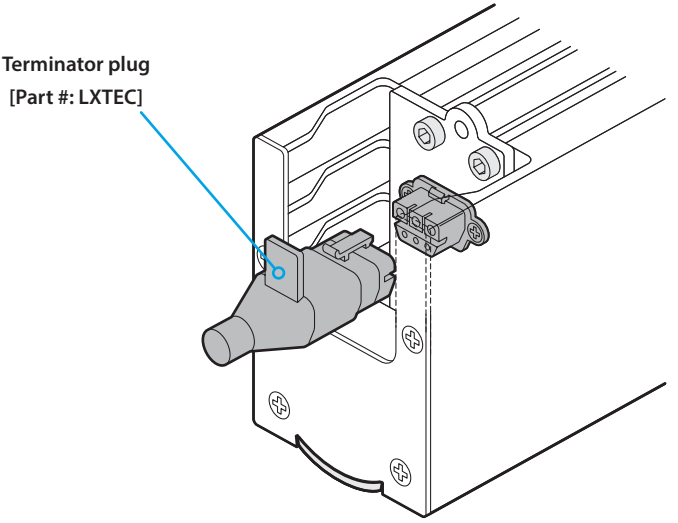
Ensure that appropriate care is taken to protect the junction where the mains and control inputs are joined to the feed cable.

Ensure that:

- the mains input is derived from a suitable overload-protected supply.
- local codes are followed during planning and installation. Some municipalities have specific requirements when wiring low and high voltage cables in close proximity. In such cases we recommend using the AJBOX1, see page 13.
- connections are made, inspected and certified by a qualified electrician.

TIPS FOR ACHIEVING SUCCESSFUL DMX CONTROL

- Do not exceed a total cable length of 3,900 ft (1200m) or a total of 32 fixtures on a single line without signal boosting. An Acclaim Lighting RDS-6 RDM splitter or equal device can be used for this purpose.
- Attach a terminator plug [Part #: LXTEC] to the output connector of the final fixture. The terminator plug will correctly terminate the DMX signal:

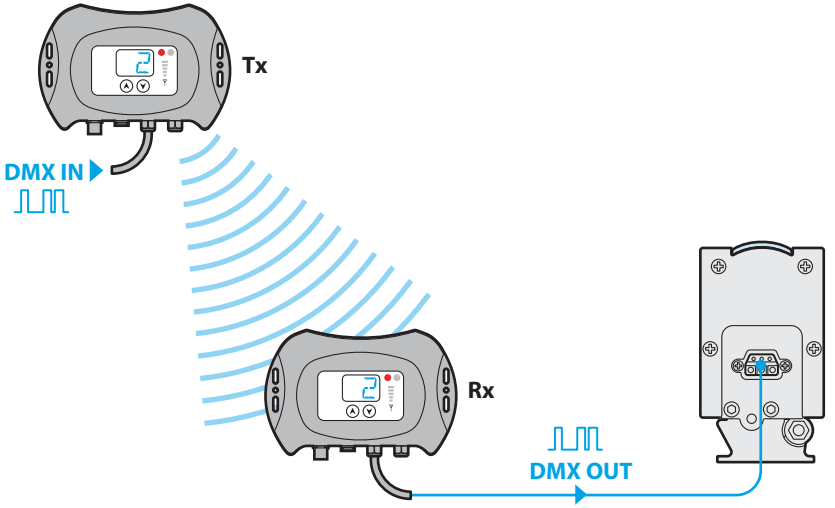


- The DMX cable connected to the feed cable should be suited for RS-485 data transmission and have a characteristic impedance of 120 ohms, such as Belden 9842 or equivalent.
- Do not introduce a passive Y-split into the control cabling. If it is necessary to split the control link in order feed fixtures located in different directions, use a powered DMX splitter such as the Acclaim Lighting RDS 6: https://acclaimlighting.com/rds-6
- Ensure that the DMX + and DMX – connections do not become crossed at any point.

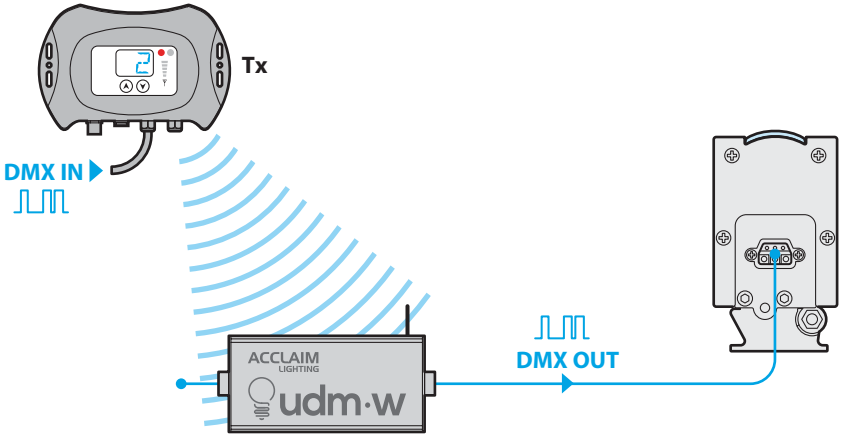
OPTIONAL WIRELESS CONTROL

Using optional units it is possible to wirelessly transmit and receive a DMX signal over distances up to 2600 feet (792m):

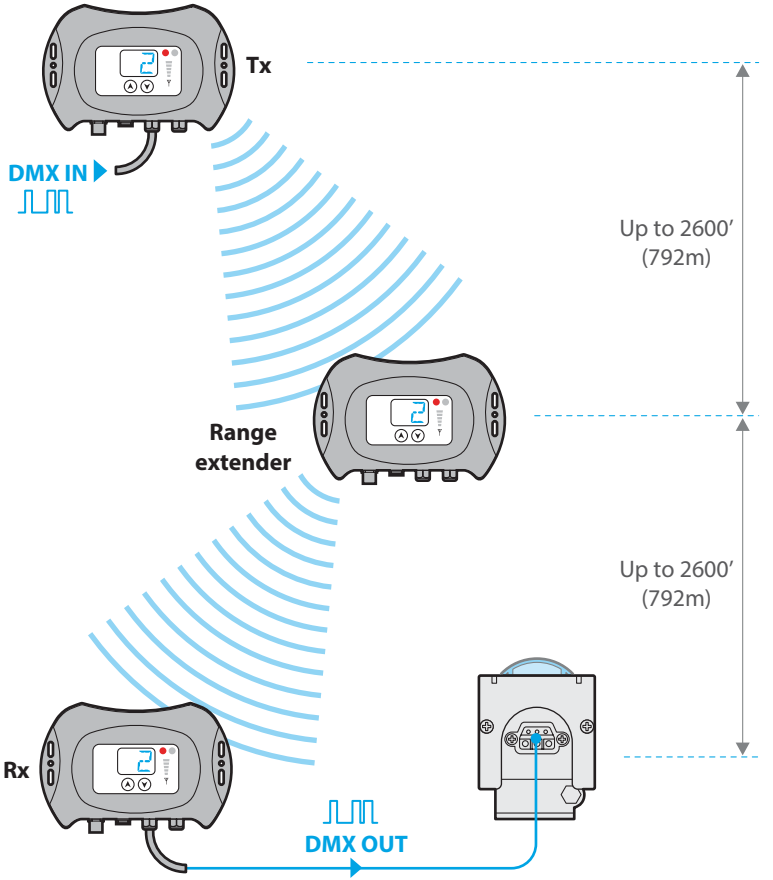
USING TWO ARIA MODULES



USING A COMBINATION OF ARIA AND UDM•W MODULES



USING TWO ARIA MODULES PLUS ONE OR MORE RANGE EXTENDERS



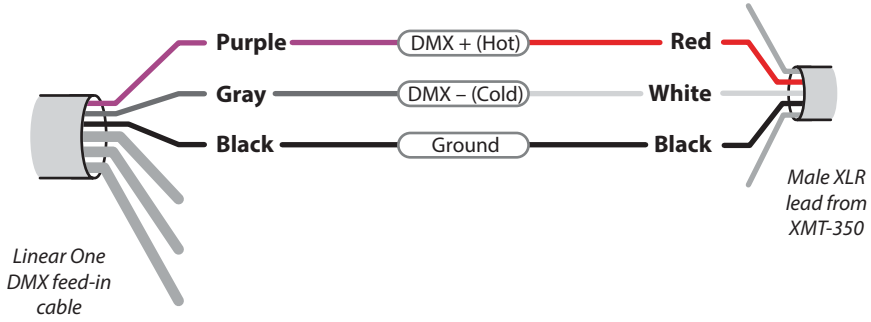
OPERATION

Linear One fixtures have no external controls and instead rely on RDM (Remote Device Management) for all configuration via the DMX interface. This allows multiple devices to be configured either before or after installation.

Various third party DMX/RDM tools are available; we recommend the Acclaim Lighting XMT-350 for this task.

MAKING A TEMPORARY CONTROL LINK WITH THE XMT-350

Each Acclaim lighting XMT-350 DMX/RDM tool is supplied with a 5-pin male XLR lead that can be used to make a temporary control input link with the Linear One feed-in cable. Use a 3-pin terminal block, wire nuts, conn blocks or Wago® connectors to temporarily join the two cables:



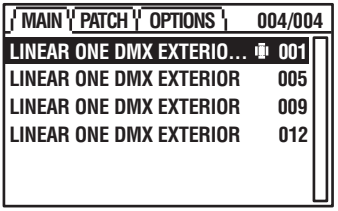
ADDRESSING FIXTURES

TO ADDRESS FIXTURES USING THE ACCLAIM LIGHTING XMT-350

1 Connect the XMT-350 to the DMX input line of either a single fixture or multiple fixtures in a pre-arranged daisy chain configuration.

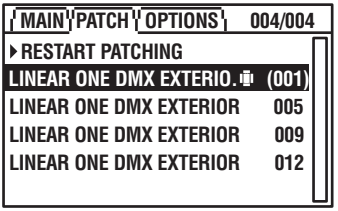
2 Power on the fixture(s) and the XMT-350.

3 On the XMT-350, press the **MODE** button, then use the arrow buttons to highlight the **RDM** function and press the ✓ button to select. The XMT-350 will search for RDM devices and after a short while the XMT-350 will display a list of all located fixtures:



The fixture that is highlighted within the list should begin flashing its emitters to identify itself.

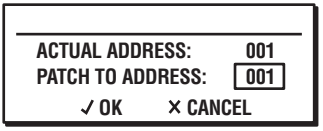
4 On the XMT-350, press the right arrow button to change to the **PATCH** tab:



Note: DMX addresses shown in brackets, e.g. (001), have been temporarily assigned by the XMT-350, but are not yet stored within the fixture(s).

5 If necessary, use the up/down buttons to choose an alternative fixture.

6 Press the ✓ button to set the address for the currently highlighted fixture:



7 Use the up/down buttons to set the required DMX address and then press the ✓ button to store it within the fixture.

8 The highlight will automatically move to the next fixture so that you can address it. Repeat steps 5 to 7 until all fixtures are addressed.

DMX CHANNELS

The number of DMX channels required per fixture depends on the model and, for 4' models, also the mode (see page 19):

- Dynamic white models 2 DMX channels (8 channels for 4' models in EXD. mode)
- RGBW/A models 4 DMX channels (16 channels for 4' models in EXD. mode)

SETTING THE CELL MODE (4' MODELS ONLY)

The 4' (1.2m) models offer a choice of modes that determine whether all of the emitters act as a single 4' cell or as four separate 1' cells, each with their own set of DMX addresses:

SINGLE CELL (STD MODE)

SEPARATE CELLS (EXD MODE)

The cell mode is configured in the same Personality section that deals with signal loss behavior (as discussed on the next page).

TO SET THE CELL MODE USING THE XMT-350

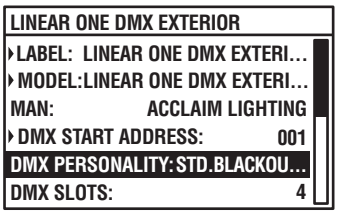
*Note: If you are setting a **Fast Color On** mode, first use your XMT-350 in Send mode to apply a desired color/intensity mix to the fixture before switching to RDM mode (see page 20).*

1 Connect the XMT-350 to the DMX input line of the Linear One installation.

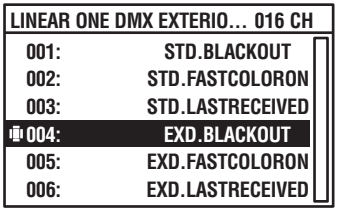
2 On the XMT-350, press the **MODE** button, then use the arrow buttons to highlight the **RDM** function and press the ✓ button to select. The XMT-350 will search for RDM devices and after a short while the XMT-350 will display a list of all located fixtures. The fixture highlighted in the list should show output from its emitters to identify itself.

3 If necessary, use the up/down buttons to highlight an alternative fixture.

4 Press the ✓ button to view details for the chosen fixture and then use the down button to highlight the **DMX PERSONALITY** entry:



5 Press the ✓ button to view the options:



4' RGBW/A models require 4 DMX addresses in STD mode, rising to 16 DMX addresses in EXD.

4' DW models require 2 DMX addresses in STD mode, rising to 8 DMX addresses in EXD.

6 Highlight the required signal loss behavior mode: Blackout, Fast Color On or Last Received (as discussed on the next page) with either the **STD.** or **EXD.** prefixes to choose either the single cell or separate cell modes, respectively.

7 Press the ✓ button to fix the highlighted choice.

8 Press the ✕ button to return to the previous screen.

SETTING THE SIGNAL LOSS BEHAVIOR

You can choose how the fixture should respond to a loss of the control signal, the options are:

- **Blackout** - if the DMX signal is lost then blackout all emitters until the signal is re-established.
- **Fast color on** - allows you to set a constant color/intensity output that will be shown whenever a DMX signal is not present. Useful when installing isolated fixtures.
- **Last received** - if the DMX signal is lost then keep displaying the instructions that were last received, until the signal is re-established.

TO SET THE SIGNAL LOSS BEHAVIOR USING THE XMT-350

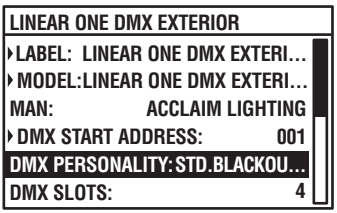
*Note: If you are setting the **Fast Color On** mode, first use your XMT-350 in Send mode to apply a desired color/intensity mix to the fixture before switching to RDM mode.*

1 Connect the XMT-350 to the DMX input line of the Linear One installation.

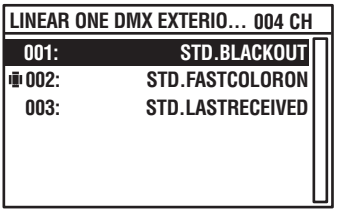
2 On the XMT-350, press the **MODE** button, then use the arrow buttons to highlight the **RDM** function and press the ✓ button to select. The XMT-350 will search for RDM devices and after a short while the XMT-350 will display a list of all located fixtures. The fixture highlighted in the list should show output from its emitters to identify itself.

3 If necessary, use the up/down buttons to highlight an alternative fixture.

4 Press the ✓ button to view details for the chosen fixture and then use the down button to highlight the **DMX PERSONALITY** entry:

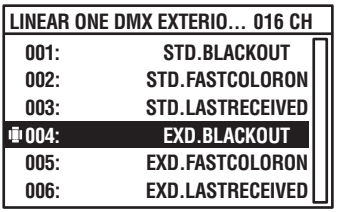


5 Press the ✓ button to view the options:



< 1' models

4' models > (see page 19)



6 Highlight the required signal loss behavior mode (4' models offer STD or EXD options):

- BLACKOUT - will blackout all emitters until the signal is restored.
- FASTCOLORON - choosing this item will fix in memory the color/intensity mix that is currently showing on the fixture (as directed by your XMT-350 while in Send mode). This will be shown by the fixture whenever the control signal is not detected.
- LASTRECEIVED - will keep displaying the last received DMX instructions until the control signal is restored.

7 Press the ✓ button to fix the highlighted choice.

8 Press the ✕ button to return to the previous screen.

TESTING EMITTER OUTPUT

After you have addressed each Linear One fixture we recommend that you also test each one prior to installation. This can be achieved with your RDM (Remote Device Management) tool. Various third party DMX/RDM tools are available; we recommend the Acclaim Lighting XMT-350 for this task.

TO TEST EMITTER OUTPUT USING THE ACCLAIM LIGHTING XMT-350

1 Connect the XMT-350 to the DMX input line of either a single fixture or multiple fixtures in a pre-arranged daisy chain configuration.

2 Power on the fixture(s) and the XMT-350.

3 On the XMT-350, press the **MODE** button, then use the arrow buttons to highlight the **SEND** function and press the ✓ button to select.

4 Use the arrow buttons to determine the DMX output:

- Use the left and right buttons to choose the DMX address,
- Use the up and down buttons to increase/decrease the level at the chosen address.

Note: If you wish to send DMX values to all addresses simultaneously (rather than cycling through them individually), when the XMT-350 is showing address 001, press the left button once to change to **ALL CHANNELS**. *Now when you set the level it will affect all emitters equally.*

FURTHER INFORMATION

TROUBLESHOOTING

NO LIGHT OUTPUT IS VISIBLE WHEN EXPECTED

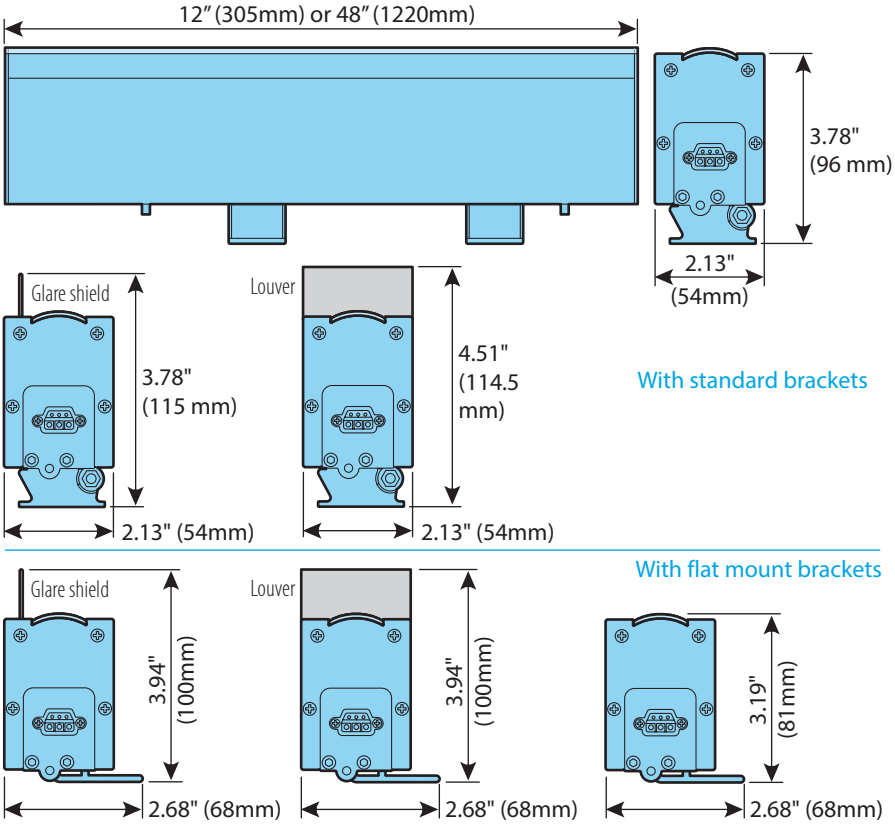
- Check that power is correctly applied to the fixture and that there is no damage to the power input cord.
- Use an RDM tool to perform an emitter test.
- Check that the DMX address set within the fixture matches that being output by the controlling source device.
- If wired DMX control is being used, check the DMX output near to the source to confirm a valid signal is being originated.
- If wired DMX control is being used, check that the DMX + (hot) and DMX - (cold) lines have not been crossed.
- If Aria wireless DMX control is being used, check that the fixture is set to the same wireless address as the transmitter (the wireless address is independent of the DMX address). Try changing the transmitter and receiving fixture(s) to different (but equal) wireless channels to check for clear space in the radio spectrum from interference by other devices, such as WiFi.

DIMMING AND/OR CHASE CHANGES ARE PULSING WHEN USING ARIA

- Check for WiFi sources near to the transmitter or receiver devices. Try changing the transmitter and receiving fixture(s) to different (but equal) wireless addresses to check for clear space in the radio spectrum from interference by other devices.

SPECIFICATIONS

Color models	RGBW (W=3000K, 4000K or 6000K), RGBA, DW (2200K to 5000K)
Beam angle options	10º x 10º, 10º x 25º, 10º x 40º, 10º x 70º, 30º x 30º, 30º x 60º, 60º x 60º, 40º x 70º, Asymmetric (60º x 60º + 20º tilt),
Lumen maintenance (L_{70})	150,000 hours (25ºC)
Control	0-100% dimming via internal DMX+RDM driver, wireless option
Operating voltage	100 - 277VAC, 50/60Hz
Power consumption	1' model: 20W, 4' model: 80W
Maximum lengths in series	50' (15m) at 120VAC, 100' (30m) at 230VAC
Housing	Silver / finished aluminum body, polycarbonate lens
Mounting	90º swivel mounts. Optional flat mounts available
IP rating	IP66, wet location - marine environment housing standard
IK rating	IK10, protection against 5 joule impact (40cm distance)
Operating temperature	-40ºF to 131ºF (-40ºC to 55ºC)
Weight	2.4 lbs/1.1kg (1' model), 9.7 lbs/4.4kg (4' model)
Certifications	



LIMITED PRODUCT WARRANTY

A. Acclaim Lighting™ hereby warrants, to the original purchaser, Acclaim Lighting finished products to be free of manufacturing defects in material and workmanship for a standard period of:

- Fixtures: 5 Years (1,825 days) from the date of purchase.
- Drivers, power supplies and accessories: 5 Years (1,825 days) from the date of purchase.
- Flex Products: 3 Years (1,095 days) from the date of purchase.
- Controllers: 2 Years (730 days) from the date of purchase.

It is the owner's responsibility to establish the date and place of purchase and warranty terms by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the Acclaim factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Acclaim Lighting will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Acclaim Lighting shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return there of. Acclaim reserves the right to replace the item with same or similar product at its discretion.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Acclaim concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Acclaim Lighting factory unless prior written authorization was issued to purchaser by Acclaim Lighting; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up nor do we guarantee as part of this warranty any lumen performance during period. Parts not covered by this warranty include: fuses, external power supplies, third party items not manufactures by Acclaim lighting. During the period specified above, Acclaim Lighting will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Acclaim Lighting under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Acclaim Lighting. At no time will installation or re-installation or products labor or liability costs will be assumed by Acclaim Lighting. All products covered by this warranty were manufactured after January 1, 2012, and bear identifying serial number marks to that effect.

E. Acclaim Lighting reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products describe above. Except to the extent prohibited by applicable law, all implied warranties made by Acclaim Lighting in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired.

F. Marine or extreme weather location applications using Acclaim lighting products are subject to a 2 year limited warranty and Acclaim must be notified prior to delivery of units for such applications so that preventative treatment can be made to the products to ensure proper performance and product life with a special marine code coating / sealing process at an additional cost.

G. The consumer's and or dealer's sole remedy shall be such repair or replacement as is expressly provide above; and under no circumstances shall Acclaim Lighting be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product. This warranty is the only written warranty applicable to Acclaim Lighting products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

www.acclaimlighting.com