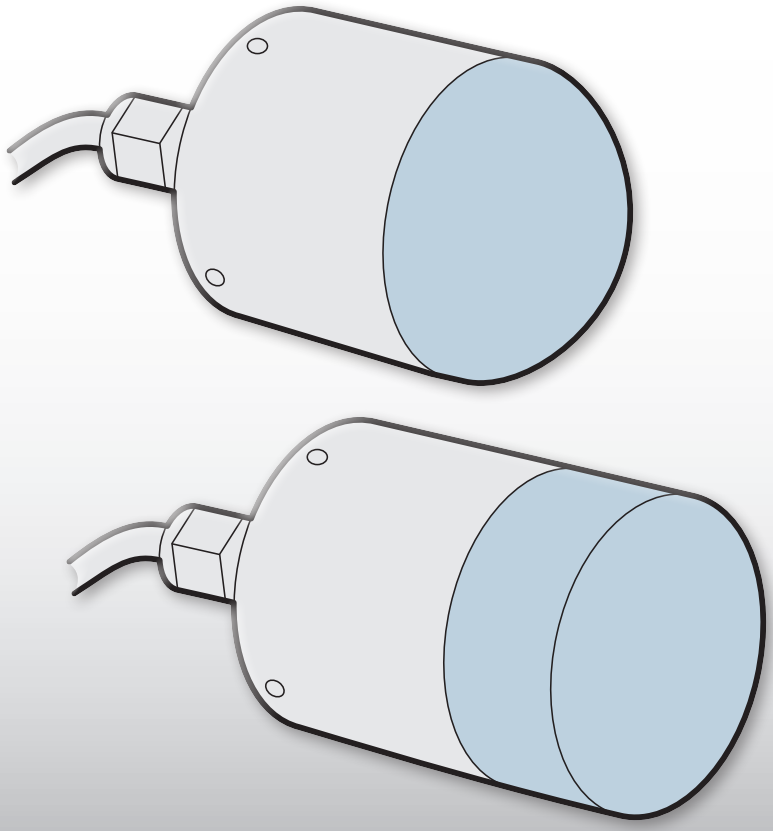
Acclaim™



AL Dot AC™

User guide

Contents

Introduction

Welcome

AL Dot AC™ fixtures are great building blocks for creating low-resolution graphic displays or wherever individual dots of light are required. Each AL Dot AC is sized to fit directly onto a standard 4" electrical box and the all-aluminum construction is rated to IP66 for wet location use.

A wide choice of emitter types plus two diffused lens options allow you to achieve the right appearance for your project. DMX control (together with RDM) makes it simple to remotely configure every AL Dot AC in situ and to combine them with any industry-standard control solution.

Mains power is supported, from 100 to 277VAC and the maximum power draw is just 15W.

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

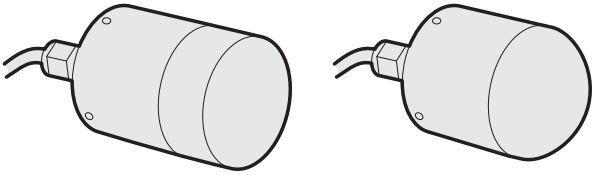
CAUTION: Always isolate mains power before starting maintenance operations.

- 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 when cleaning each fixture.
- Never use alcohol or solvents.

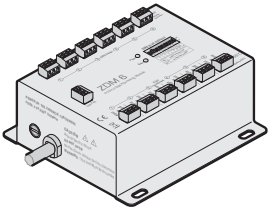
Supplied items



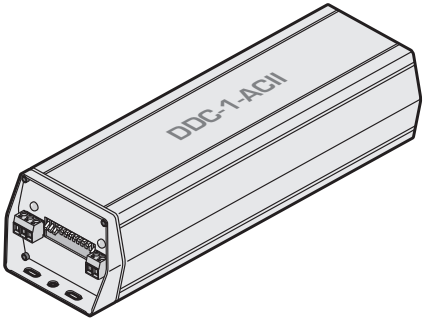
AL Dot AC fixtures with diffused flat or diffused dome lens options
Available with 3000K, 4000K, RGBW, Dynamic White or RGBA emitter options

Optional extras

Signal protocol converters (see page 8)

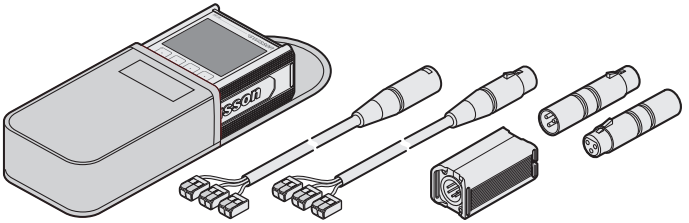


0-10V multiple channel converter [ZDM 6]



DALI multiple channel converter
[DDC 1 AC]

Test and configuration tool kit



XMT-500
DMX/RDM, ArtNet and sACN test/configuration tool with cable dongle, 3/5-pin converters, bare cable connectors and pouch

[XMT-500]

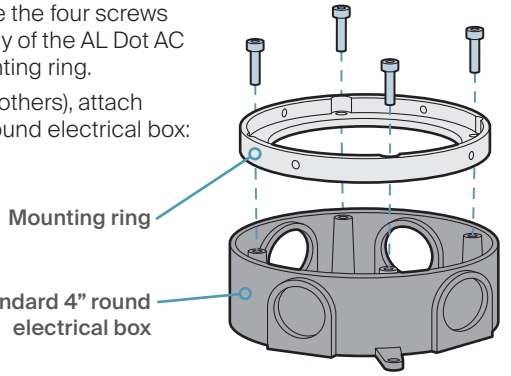
Installation

AL Dot AC fixtures are primarily designed to be mounted onto standard 4” round electrical boxes, but can also be attached directly to flat surfaces.

To mount on a 4” round electrical box

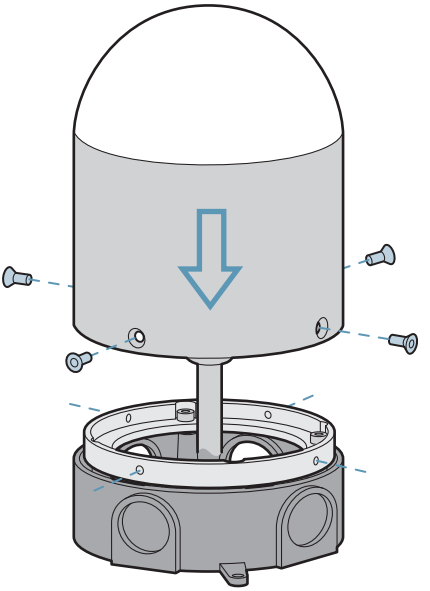
1 Using a hex wrench, remove the four screws located around the rear body of the AL Dot AC to release the internal mounting ring.

2 Using appropriate bolts (by others), attach mounting ring onto the 4” round electrical box:



3 Insert the cable of the AL Dot AC and make the necessary connections within the electrical box (see “Power cabling” on page 5 and “Wired DMX control” on page 6).

4 Place the body of the AL Dot AC onto the mounting ring and insert the four screws to fix it in place:



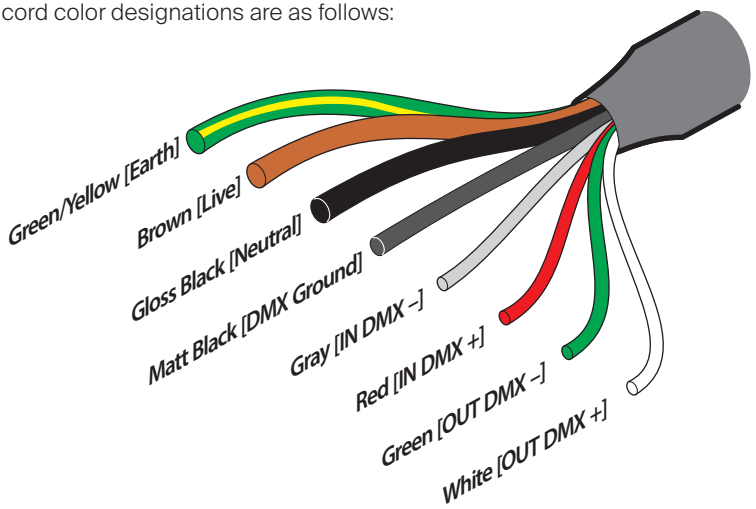
5 Ensure the electrical box is properly sealed to achieve a wet location rating.

To mount on a flat surface

When installing directly to a surface instead of an electrical box, use screws through the mounting ring that are appropriate for the mounting surface. You may need to drill a hole that is a minimum of 1.5” in diameter to accommodate the cable and wire gland.

Power cabling

The supplied combined power and control cord (roughly 10 feet, 3m in length and with bare wire tails) attaches to the rear of the AL Dot AC fixture through an IP66-rated gland. The cord color designations are as follows:



Power requirements

The power requirements are as follows:

- Voltage: 100-277VAC 50/60Hz
- Power: 15W

General cabling requirements

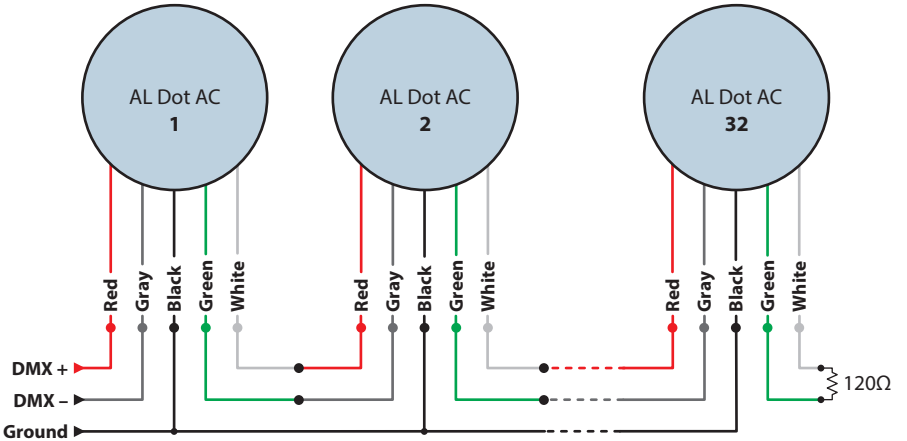
Ensure that:

- The mains input is derived from a suitable overload-protected supply.
- All cable access points, plus the enclosure cover are correctly sealed.
- All local codes are followed during planning and installation.
- Only suitable cable connectors are used within the junction box.
- Connections are made, inspected and certified by a qualified electrician.

DMX+ 24VDC

Wired DMX control

When connecting multiple AL Dot AC fixtures, connect the DMX output of the controlling device to the input wires of the first fixture and feed the output of that fixture to the next. The final fixture in the line should have a 120Ω terminating resistor connected between its DMX + (white) and DMX – (green) output lines:



Cable selection

We recommend the following Belden signal cables:

- Indoor exposed or inside conduit above grade: . . . . . .Belden 9842
- Indoor plenum: . . . . . .Belden 82842
- Outdoor exposed, direct burial, or inside conduit below grade: Belden 3107DB

Suitable alternative cables must meet all of the following requirements:

- Construction: Shielded, twisted pair (or multi-pair).
- Impedance: Between 90 and 120Ω.
- Capacitance: 15pF or less.

Tips for achieving successful DMX control

- Do not exceed a total cable length of 1,500 ft (457m) without buffering.
- Do not exceed a total of 32 fixtures on a single line without buffering.
- Use only connection cables with a characteristic impedance of 120Ω, preferably where the DMX + and DMX – data lines are twisted around each other and the ground link exists as a coaxial screen surrounding the inner cores.
- Connect a 120Ω terminating resistor between the DMX + and DMX – output connections of the final fixture.
- 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/buffer.
- Ensure that the DMX + and DMX – connections do not become crossed at any point.

DMX channel designations

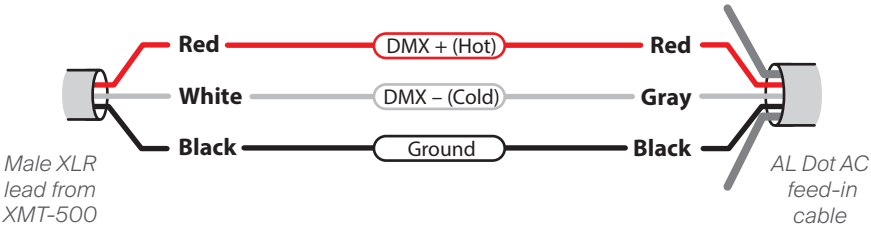
The various AL Dot AC variants apply their LED emitters to DMX channels in different ways, as summarized in the table below.

DMX	3000K	4000K	DW	RGBW	RGBA
1	White	White	Warm	Red	Red
2			Cool	Green	Green
3				Blue	Blue
4				White	Amber

The channel allocations above are shown beginning at DMX address 1. When you configure a fixture with an alternative DMX address, that value will become the first channel in the list shown above and the other channels will increment from there.

Making a temporary control link

Each XMT-500 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 AL Dot AC feed-in cable. Use a 3-pin terminal block, wire nuts, conn blocks or Wago® connectors to temporarily join the two cables:

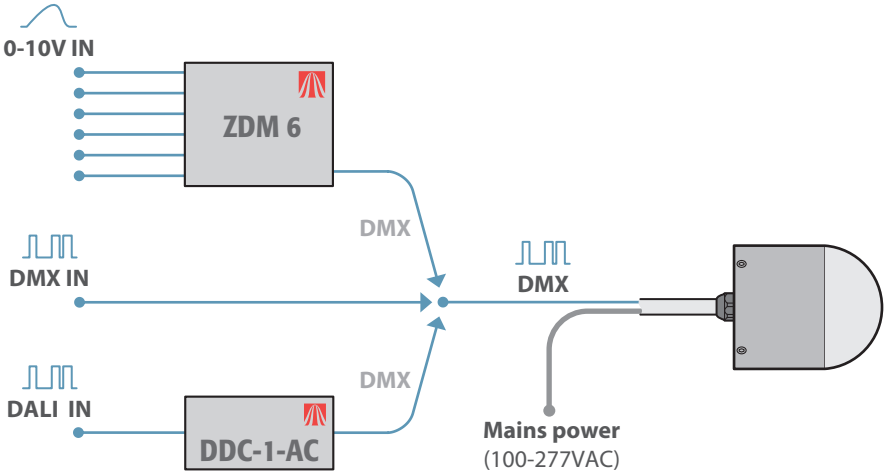


Alternative control inputs

AL Dot AC fixtures use DMX as their native control method, however, it is possible to use other common control protocols when required, such as 0-10V (source or sink) or DALI.

Control inputs via converters

- DMX - connect a DMX input directly into the feed cable.
- 0-10V - use an Acclaim Lighting ZDM 6 (or similar) to convert one or more analog control feeds into a combined DMX feed[1].
- DALI - use an Acclaim Lighting DDC-1-AC (or similar) to convert one or more DALI channels into a combined DMX feed[1].



Notes:

[1] When using Acclaim Lighting ZDM 6 or DDC-1-AC modules it is possible to convert multiple inputs into separate DMX channels within a consolidated feed. The ZDM 6 can convert up to six 0-10V inputs into DMX channels, whereas the DDC-1-AC can convert a maximum of 64 DALI channels (although large numbers of channels are not recommended due to the timing limitations of the DALI standard).

Operation

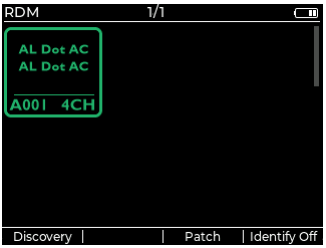
AL Dot AC fixtures have no external controls and instead rely on RDM (Remote Device Management) for all configuration via the DMX interface. This allows multiple devices to be configured either before or after installation.

Addressing fixtures

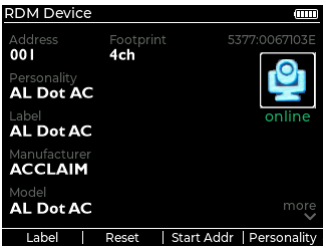
To configure the DMX address using the XMT-500

1 Connect the XMT-500 to the DMX input line of the AL Dot installation.

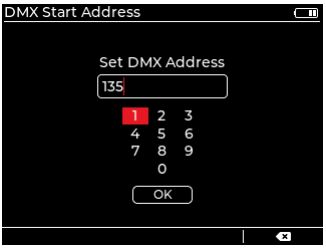
2 On the XMT-500 main menu, highlight the RDM app and press ☑ - the XMT-500 will search for RDM devices and after a short while it will display a list of all located fixtures:



3 Highlight the AL Dot fixture and press ☑ to view the fixture details:



4 Press the • **[Start Addr]** softkey to set the address:



- Use the arrow buttons to move the red highlight between digits.
- Press ☑ to enter a digit into the address box.
- Use the • **[⌫]** softkey to delete a digit.

5 When the address is complete, either long press ☑ or highlight **OK** and press ☑.

6 Press ↩ to return to the RDM app.

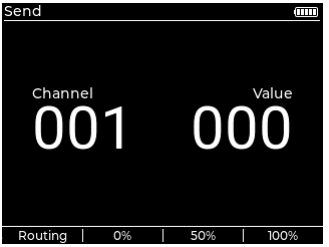
Testing emitter output

After you have addressed each fixture we recommend that you also test each one. This can be achieved using an RDM (Remote Device Management) tool; we recommend the XMT-500 for this task.

To test emitter output using the XMT-500

1 Connect the XMT-500 to the DMX input line of the installation.

2 On the XMT-500 main menu, highlight the Send app and press ☑:



3 Use the XMT-500 buttons to determine the values sent out to the fixture(s):

- Choose DMX channel: CH+ CH−
- Change the value: + −
- Use preset values: • **[0%] [50%] [100%]**
- View the Settings page: ⚙

Note: If you wish to send DMX values to all addresses simultaneously (rather than cycling through them individually), when the XMT-500 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

Luminaire doesn't turn on

- Check that power is correctly applied to the fixture and that there is no damage to the power input cord.
- Use an RDM tool (such as the Swisson XMT-500) to check the settings and internal temperature of the fixture.
- Using an RDM tool, check that the DMX address set within the fixture matches that being output by the controlling source device.
- Check that the DMX + (hot) and DMX - (cold) lines on the incoming control link have not been crossed.

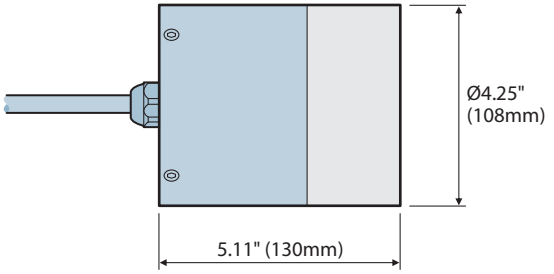
Specifications

Color models	3000K white, 4000K white, Spectrum RGBW (W=3000K), Dynamic White or RGBA
Beam angle	120°
Output	Up to 447 lumens (RGBW full on)
Lumen maintenance (L_{70})	150,000 hours
Control	DMX512-A (+ RDM configuration)
Ingress protection	IP66, wet location
Impact protection	IK08, protection against 5 joule impact (30cm distance)
Vibration protection	ANSI C136.31, 3G-rated for high vibration and bridge applications
Connection	10' (3m) AC _ DMX in and out feed cable with bare tails
Power input	100-277VAC, 50/60Hz
Power consumption	15W
Housing	Aluminum with acrylic lens
Finish	Finished aluminum, black (RAL 9005), white (RAL 9003) or custom colors (provide RAL #)
Mounting	Direct mounting onto 4" round electrical box
Operating temperature	-40°F to 123°F (-40°C to 50°C)
Weight	TBD
Certifications	

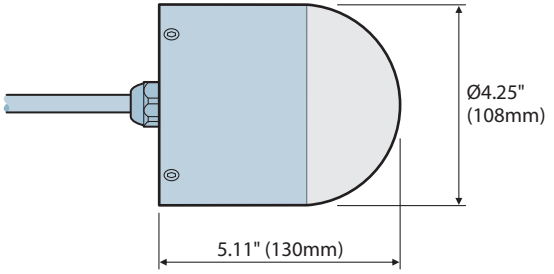
Release 3.0a

Dimensions

Diffused flat model



Diffused domed models



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