

ZDM 6

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INTRODUCTION

WELCOME

Welcome to the **ZDM 6** 0-10V \leftrightarrow DMX converter from Acclaim Lighting, a device which efficiently bridges the gap between the worlds of analog 0-10V and digital DMX lighting control. Please see the Overview on page 3 for more details.

0-10V: CURRENT SOURCE AND CURRENT SINK

There are two arrangements of 0-10V analog control: *current source* and *current sink*. Current source was commonly used for theatrical dimming prior to the advent of digital techniques, such as DMX. Current sink is most often used in architectural settings. The primary difference between the two schemes lies with where the control voltage is generated:

- **current source** requires the controlling device to provide (source) the control voltage,
- **current sink** mandates that the controlled fixture must provide the voltage.

The ZDM 6 can accept either current source or current sink 0-10V inputs when it is operating in *0-10V to DMX* mode - Note: It is also possible to mix the two formats at the same time across the inputs, ie current source on some inputs and current sink on other inputs.

When operating in *DMX to 0-10V* mode, the ZDM 6 produces a current sink output, ie the controlled device must provide the control voltage.

SAFETY

- 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.

OVERVIEW

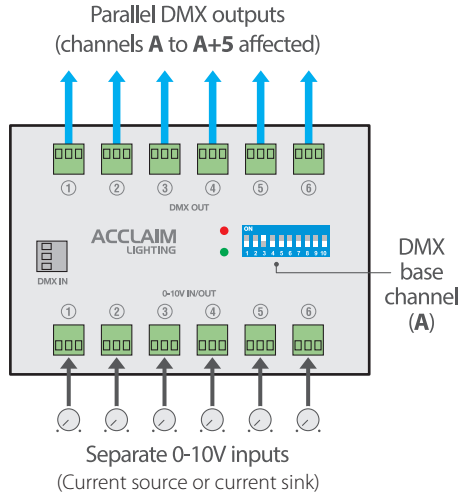
The ZDM 6 unit operates in either of two modes to bridge the divide between 0-10V and DMX.

0-10V TO DMX

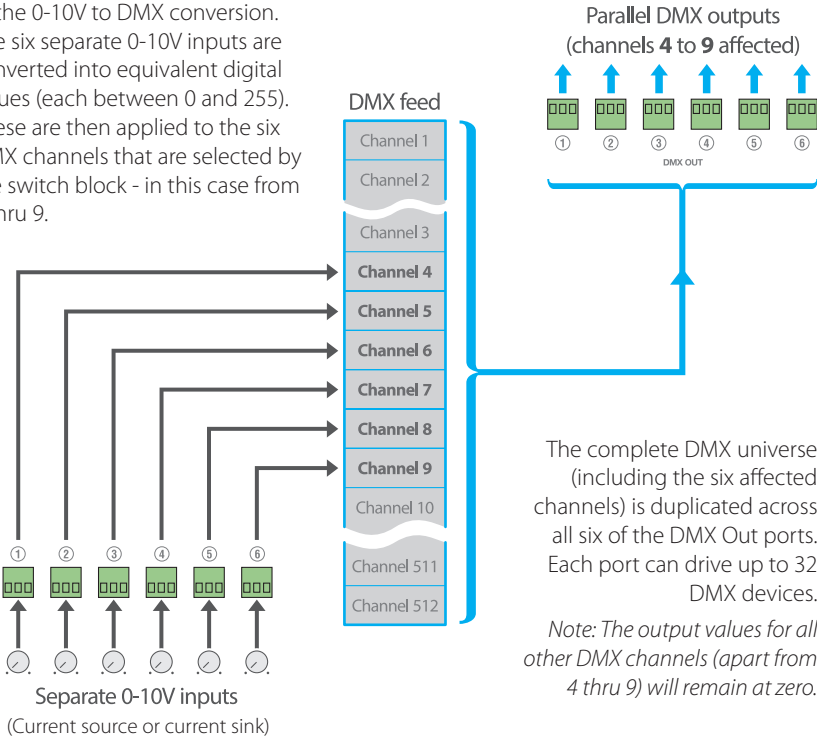
In this arrangement, the six 0-10V inputs each affect one DMX channel (from **A** to **A+5**). The same DMX outputs (containing the six affected channels) are applied across all six of the DMX Out connectors.

To select 0-10V to DMX conversion, switch 10 must be OFF (down).

Note: To gain further DMX output ports, add Acclaim Lighting RDS 6 repeaters to one or more of these six ports.



This diagram shows the inside story of the 0-10V to DMX conversion. The six separate 0-10V inputs are converted into equivalent digital values (each between 0 and 255). These are then applied to the six DMX channels that are selected by the switch block - in this case from 4 thru 9.

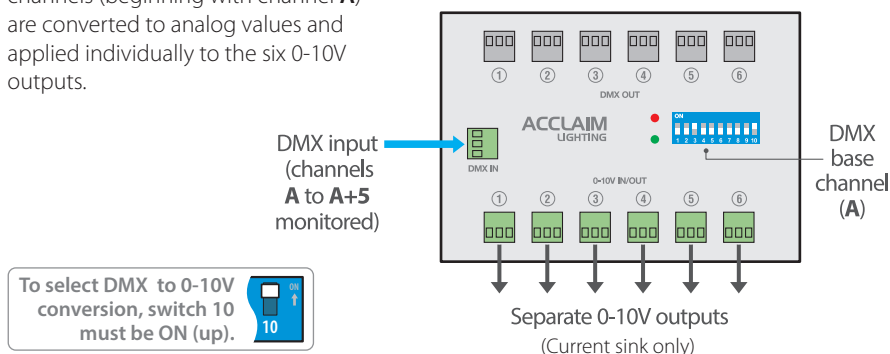


The complete DMX universe (including the six affected channels) is duplicated across all six of the DMX Out ports. Each port can drive up to 32 DMX devices.

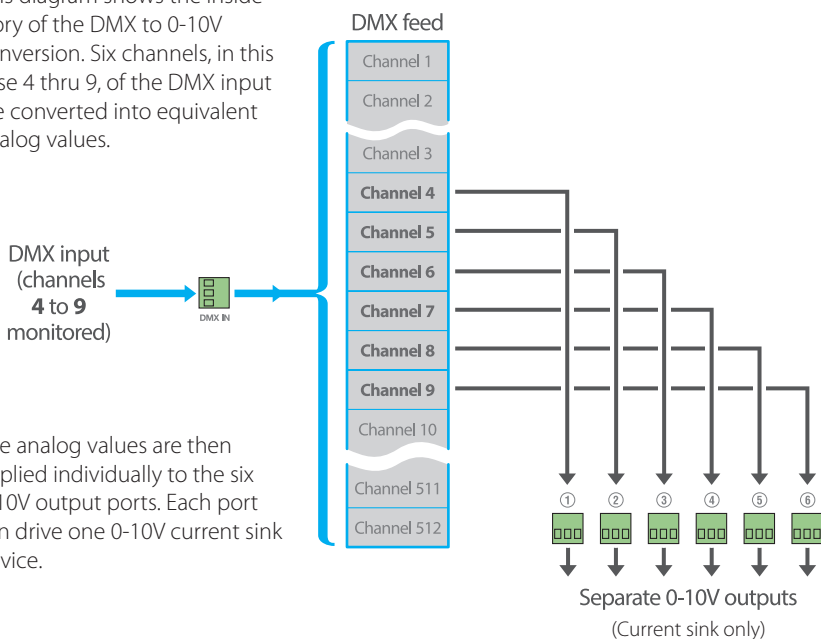
Note: The output values for all other DMX channels (apart from 4 thru 9) will remain at zero.

DMX TO 0-10V

In this arrangement, the DMX feed is received at the DMX In port. Six of the channels (beginning with channel **A**) are converted to analog values and applied individually to the six 0-10V outputs.



This diagram shows the inside story of the DMX to 0-10V conversion. Six channels, in this case 4 thru 9, of the DMX input are converted into equivalent analog values.



The analog values are then applied individually to the six 0-10V output ports. Each port can drive one 0-10V current sink device.

SEE ALSO:

- Connections [page 7](#)
- Switch settings [page 8](#)

INSTALLATION

MOUNTING

The ZDM 6 converter can be mounted in any orientation, as required. Four slotted holes ($\varnothing 0.22 \times 0.45'' / \varnothing 5.5 \times 11.5\text{mm}$) are built into the base for mounting purposes (see page 11 for dimensions).

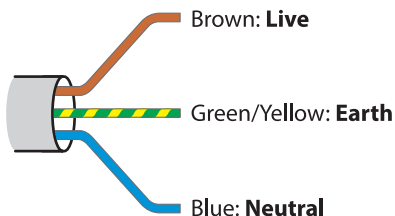
POWER

The power cord is roughly 4.2 feet (1.3m) in length. The power requirements are as follows:

- Voltage: 100-277VAC 50/60Hz (autosensing)
- Power: 14.4W

The power cord color designations are as shown here.

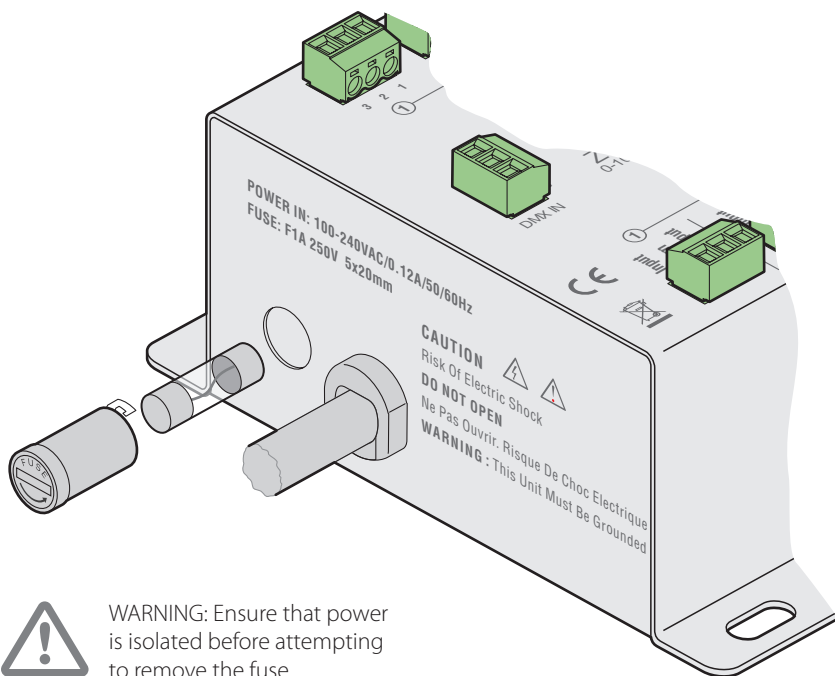
Note: Apply power to the unit only once all connections have been made.



FUSE REPLACEMENT

First ensure that power is isolated and then use a flat blade screwdriver to remove the fuse carrier. Push in and then turn 45 degrees counter-clockwise to release.

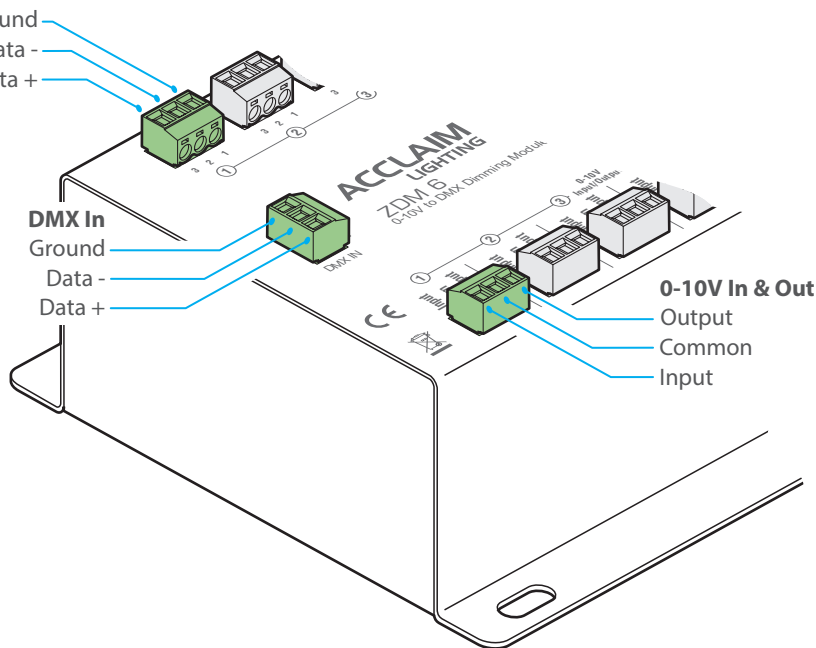
Fuse type: 5 x 20mm glass 1A quick acting (F1L250V)



DATA CONNECTIONS OVERVIEW

Connections to the two data busses are made via pluggable 3.5mm-pitch PCB connectors (all 3-way). The contact ports of each connector are suitable for cable cores in the range 24 to 14 AWG (0.2 to 2.08mm²).

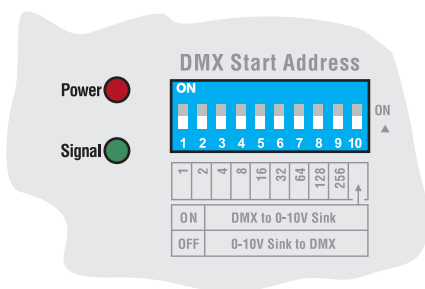
DMX Out



INDICATORS

Two indicators are located adjacent to the switch block:

- **Power** - On when power is applied to the unit.
- **Signal** - [DMX to 0-10V mode] Flashes when a valid DMX input is sensed.
- **Signal** - [0-10V to DMX mode] Flashes when power is applied to the unit.

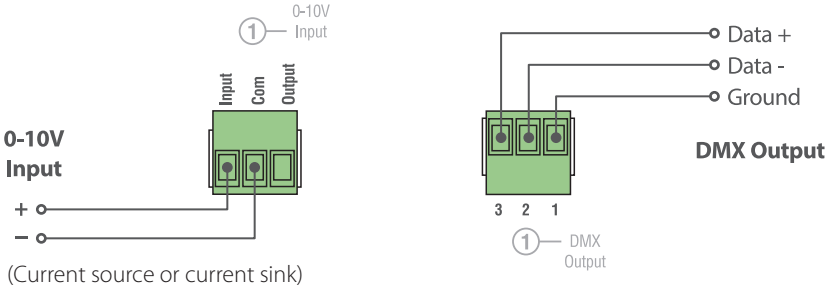


SEE ALSO:

- Connections page 7
- Switch settings page 8

0-10V TO DMX CONNECTIONS

For each 0-10V input, connect the positive wire to the terminal marked **Input** and the negative wire to the terminal marked **Com**:



Port 1 of the 0-10V inputs is linked to the DMX channel chosen by the start address set by switches 1 thru 9 on the switch block. The remaining five 0-10V inputs are linked to the next five consecutive DMX channels.

Note: It is possible to mix current source and current sink control devices across the inputs at the same time, ie current source on some inputs and current sink on other inputs.

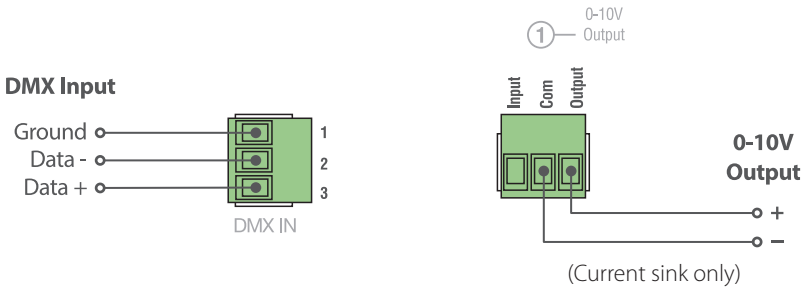
Note: All six of the DMX outputs are identical, there is no correlation between the physical DMX ports and the six 0-10V input ports. The same output signal (carrying the six affected channels) is repeated across all six DMX output ports.

To select 0-10V to DMX conversion, switch 10 must be OFF (down).



DMX TO 0-10V CONNECTIONS

The DMX input connection is via the single DMX IN port on the left side of the panel. For each 0-10V output, connect the positive wire to the terminal marked **Output** and the negative wire to the terminal marked **Com**:



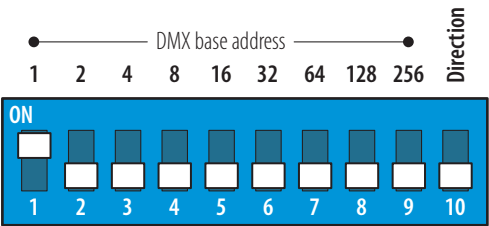
Port 1 of the 0-10V outputs is linked to the DMX channel chosen by the start address set by switches 1 thru 9 on the switch block. The remaining five 0-10V outputs are linked to the next five consecutive DMX channels.

To select DMX to 0-10V conversion, switch 10 must be ON (up).



CONFIGURATION

SWITCH SETTINGS



Note: Switch changes may be made while the unit is on, however, they will not be recognized until power is reset.

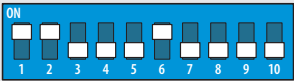
- Switches 1 to 9: **DMX channel**
- Switch 10: **Direction**
OFF 0-10V to DMX conversion
ON DMX to 0-10V conversion

CONFIGURATION EXAMPLES

To convert 0-10V input signals into DMX outputs:

- Direction: 0-10V to DMX
- DMX channel: 35

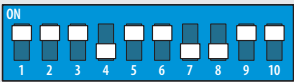
The switch block would need to be configured like this:



To convert DMX input signals into 0-10V outputs:

- Direction: DMX to 0-10V
- DMX channel: 100

The switch block would need to be configured like this:

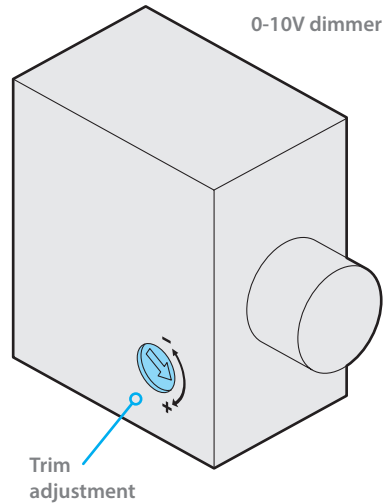


0-10V TRIM ADJUSTMENT

When operating in 0-10V to DMX mode it may be necessary to trim the output of the controlling device up or down to optimize dimming performance.

TO ADJUST THE 0-10V TRIM

- 1 Attach a DMX monitoring device (such as the Acclaim Lighting XMT-350 or any other equipment that allows you to read the channel values) to any of the ZDM 6 DMX outputs.
- 2 Raise the 0-10V controller to its maximum dimming position and monitor the ZDM 6 DMX output channel that aligns with the 0-10V input port being used.
- 3 Use the trim adjustment on the 0-10V controller (refer to the manufacturer's instructions) to adjust its upper control voltage until the corresponding DMX channel, being output by the ZDM 6, shows 100% (or 255 decimal or FF hex). Once this adjustment has been made, the ZDM 6 DMX output will always show 100% at the moment that the 0-10V control reaches its upper dimming position.



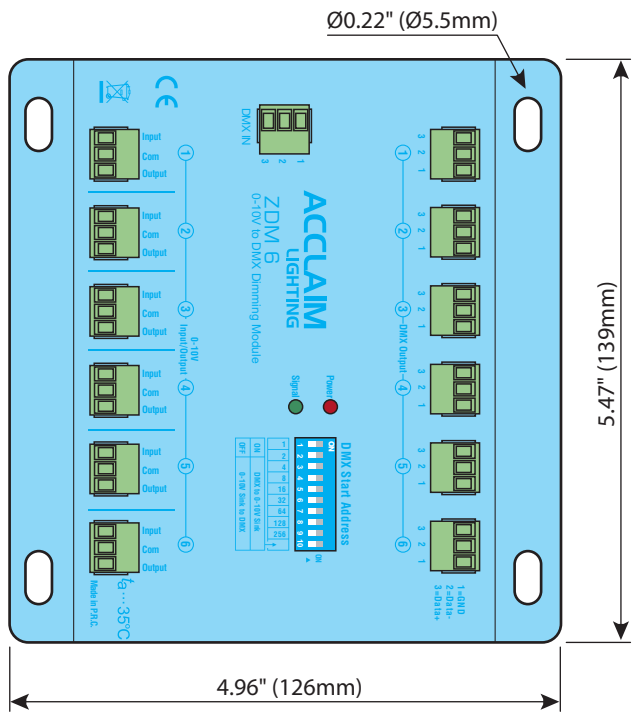
FURTHER INFORMATION

SPECIFICATIONS

Operating Voltage	100-240VAC, 50/60Hz
Conversion modes	0-10V (current source or sink) to DMX-512A DMX-512A to 0-10V (current sink)
0-10V Input/output	6 connectors (combined input and output ports)
DMX Input	1 connector
DMX outputs	6 connectors (with same universe repeated across all)
Data connector types	3-way 3.5mm-pitch suitable for 24 to 14 AWG (0.2 to 2.08mm ²) wire connections
Power Consumption	14.4W (0.12A at 120VAC)
Fuse	5 x 20mm glass 1A quick acting (F1L250V)
Housing Material	Aluminum
Finish	Black
IP Rating	IP20, dry location
Operating Temperature	14°F to 122°F (-10°C to 50°C)
Fixture Connectors	Attached 4.2ft (1.3m) lead for AC input
Certifications	



DIMENSIONS



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 thereof. 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