

Axceleron™ by AQUARIi

Installation and Operations Manual

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Axceleron™

Installation and Operations Manual

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AXCELERON™ FIXTURE INSTALLATION

INTRODUCTION

This manual contains information regarding the safe installation, operation, maintenance, and troubleshooting of the Aquarii Axceleron™ LED Luminaire. The Axceleron has been designed for general indoor and other use lighting applications. The fixture is UL listed under standards 1598 and CSA certified under standards CSA C22.2 No. 250.

CUSTOMER SERVICE

If you have any questions regarding the installation, operation, maintenance and/or troubleshooting of your new Axceleron, please contact an Aquarii Customer Service Representative at (315) 672-8807 Monday – Friday, 8:00am to 5:00pm Eastern Standard Time. You may also contact us at service@aquariitech.com or write to us at:

AQUARII, INC.
ATTN: Customer Service Department
17 Genesee Street
Camillus, New York, U.S.A. 13031

SAFETY PRECAUTIONS

Please read and understand this manual before attempting to install or operate the Axceleron.

INSPECTION

Upon receiving your Axceleron, inspect the unit for any signs of damage. Should any damage be noted, immediately contact Aquarii's Customer Service Representative to report the damage and file the appropriate claim. The damaged unit must be appropriately packaged and shipped back to Aquarii within 24 hours of filing the claim. Refer to the *Customer Service* section for the appropriate contact information.

STORAGE

Axceleron LED fixtures must be stored in a clean and dry location and should be kept within the original shipping containers. They shall be protected from dirt, water and sunlight and shall be positioned to allow for adequate air circulation in a controlled environment to prevent condensation.

Storage Temperature: 32°F to 125°F (0°C to +50°C)

OPERATING CONDITIONS

Operating Temperature: 32°F to 105°F (0°C to +40°C)

Humidity: 5% to 95% (non-condensing)

The Axceleron is designed for use in typical indoor environments such as theaters, auditoriums, places of assembly, etc.

It is not designed for use in environments that have:

- + Damp or wet conditions
- + Corrosive atmospheres
- + Oil and/or chemical vapors
- + Excessive dust or explosive gases (such as grain silos)
- + Excessive heat or exposure to areas with high temperatures
- + Exposure to surges in electrical power. NOTE: the Axceleron warranty is void if the unit is exposed to excessive fluctuations (surges) in power, voltage or cycles. Main power for Axceleron fixtures should be filtered through a power conditioner to ensure that no surges are passed through to the Axceleron.

ELECTRICAL (POWER AND DATA CABLE INTERFACE)

Main Power and Low Voltage Data cables must maintain proper separations or maintain proper electrical insulation. Wiring should be installed in accordance with local authority having jurisdiction and/or NEC requirements.

Depending on mounting option selected and conditions of facility for fixture installation, contractor shall contact Aquarii representative for assistance with recommended installation procedures of both power and data cables.

QUICK START

Prior to using the Axceleron, the installer must perform the following:

1. Before exposing the unit, please remove any shipping or storage debris from the exterior of the packaging.
2. Once the Axceleron packaging is open please verify that all parts are included and that nothing has been damaged or modified during shipping or storage.

Please see Axceleron™ Operations Manual for more detailed information.

WARNINGS

Before beginning the installation:



1. Disconnect the power supply leading to the Axceleron at the circuit breaker. **DO NOT INSTALL LUMINAIRE WITH LIVE "HOT" POWER SUPPLIES.**
2. If applicable, perform proper "lock-out/tag-out" procedures.

All electrical connections must be installed in conformance with the National Electrical Code (NEC) and local codes, as applicable. Contact the local codes office for applicable codes, permits and/or inspections that may be required.

Confirm that the supply voltage matches the Axceleron's requirements before completing any connections to the supply voltage. **The Axceleron requires non-dimmed mains power within the range of 100-264VAC 50/60Hz.**

Note that the Axceleron has multiple mounting options: yoke, c-clamp, pendant, and recessed methods. Please confirm that the Axceleron ordered is correct for the desired mounting.



Altering the Axceleron in any manner is prohibited and will void any and all warranties. **DO NOT CONNECT Axceleron to DC voltages or AC voltages/cycles not approved for its operation. Doing so will damage the Axceleron and void all warranties.**

DO NOT CONNECT Axceleron to an electrical system that does not provide a means for equipment grounding, including, but not limited, to two-wire systems that are not grounded. FAILURE TO ADHERE TO THIS WARNING COULD PERMANENTLY DAMAGE THE UNIT AND/OR CAUSE ELECTRICAL CURRENT TO FLOW THROUGH ANY METAL PARTS OF THE UNIT, WHICH COULD CAUSE SERIOUS INJURY OR DEATH TO ANYONE COMING INTO CONTACT WITH THE LUMINAIRE.

Product must be protected from power surges via conditioned main power supplies in order for all warranties to be valid.

ALWAYS mount Axceleron according to Aquarii mounting instructions.

DO NOT suspend the Axceleron by the supply wires or from junction boxes that cannot safely support a rated load of 150 pounds (68 kg). If safety cables have been supplied they must be attached to hard points within the house structure that are suitable of suspension of the complete weight of the Axceleron unit (12 pounds (11.4kg), with 6:1 safety factor (72 pounds (68 kg))). Failure to properly install the fixture, attach the safety cable or modifying the cable will reduce its strength, violate the warranty and create a serious hazard.

WARNING: THE AXCELERON MUST NOT BE SUPPORTED BY WIRE CONNECTORS. ATTEMPTING TO SUSPEND IT BY THE FACILITY WIRES AND/OR WIRE CONNECTORS WILL RESULT IN FALLING, WITH THE POSSIBILITY OF PERSONAL INJURY OR DEATH AND THE DANGER OF ELECTRICAL SHOCK OR FIRE.

WARNING: IF THE AXCELERON IS SUPPLIED WITH A SAFETY CABLE. FAILURE TO ATTACH THE

SAFETY CABLE TO A TIE-OFF CAPABLE OF SUPPORTING THE WEIGHT OF THE UNIT CAN RESULT IN FALLING, WITH THE POSSIBILITY OF PERSONAL INJURY OR DEATH. THE SAFETY CABLE SHALL NOT BE SHORTENED NOR ATTACHED WITH FASTENERS (SUCH AS "DOG CLIPS") THAT ARE NOT RATED FOR USE IN SECURING LOADS ABOVE PEOPLE.

Installer shall be careful to not damage or cut any of the AXCELERON wiring system(s) throughout the installation process. Wire SHALL NOT contact any surface having a sharp edge. Damage to the wires may possibly cause personal injury or death from electrical shock.

Installer shall wear the appropriate personal protective equipment during the installation process as the Axceleron luminaire produces high intensity light output. Prolonged and/or direct viewing of the output of the Axceleron at a close range when operating can cause severe eye damage. **USE APPROPRIATE EYE PROTECTION.**

PREPARATION FOR INSTALLATION

Before beginning assembly and installation of the Axceleron verify that all parts are present. Should any part be missing or damaged, the installer shall immediately contact [an Aquarii Customer Service](#) representative. Do not proceed with installing a damaged unit.



CAUTION: Hazardous voltage and current are associated with the usage of LED Lighting; Aquarii recommends that a qualified electrician install and maintain these units.

Before beginning this installation, disconnect the power supply for the Axceleron at the circuit breaker. If applicable, perform proper "lock-out/tag-out" procedures.



Warning: Units with Analog (0-10V) or DMX/RDM control options may retain a charge for up to 10 seconds after power has been disconnected from unit.

MOUNTING CONDITIONS

Verify that the Axceleron delivered matches the specific mounting condition. If the Axceleron does not match the specified mounting condition, DO NOT ATTEMPT TO modify the unit. Upon discovery of improper mounting hardware for the specific installation, [immediately notify an Aquarii Customer Service Representative.](#)

INSTALLATION

These are general installation instructions for the Axceleron – see also Section 2 of this manual. These steps will vary depending on the mounting options chosen for each unit. Please refer to the individual mounting instructions for detailed mounting instructions:

1. Carefully remove from shipping container and inspect for damage.
2. Separate the housing from the Axceleron unit by removing the (2) tapered screws located on the side the housing. Retain the screws, which are required to reinstall the housing.
3. Install mounting option as per instructions provided with mounting kit.
4. Rough-in facility power and data wires based on the mounting option that is being used.
5. Secure the power and any data connections as noted in mounting instructions.



6. If required based on the mounting option, secure the safety harness to the Axceleron. **FAILURE TO ATTACH THE SAFETY CABLE TO A TIE-OFF CAPABLE OF SUPPORTING THE WEIGHT OF THE FIXTURE CAN RESULT IN FALLING, WITH THE POSSIBILITY OF PERSONAL INJURY OR DEATH. THE SAFETY CABLE SHALL NOT BE SHORTENED NOR ATTACHED WITH FASTENERS (SUCH AS "DOG CLIPS") THAT ARE NOT RATED FOR USE IN SECURING LOADS.**

7. Slide the housing over the Axceleron unit. Align the 2 mounting holes on the housing with the nut on the mounting bracket. Secure the housing to the unit with the (2) tapered screws. Ensure that when reinstalling housing that no wire is pinched or binding on housing and brackets.
8. Turn on power and test Axceleron for proper operation.

Overview

The Axceleron 2-Channel LED controller provides 150 Watts maximum output, full range dimming, step-less dimming curves emulating the dimming curve of an incandescent source, and RDM capability to change fixture settings. Step-less dimming is produced with Analog (0-10V) or 8-bit DMX512.

Specifications

- + 75W, 100W, 125W and 150W output.
- + Controls: Analog (0-10V), DMX/RDM
- + Programmable through RDM

CARE AND MAINTENANCE



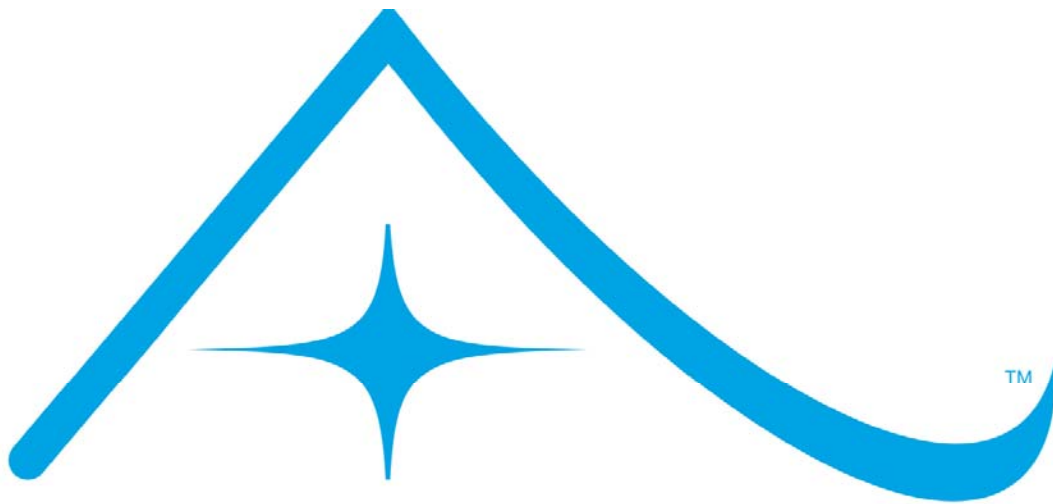
The fixture must be disconnected from the power supply before any internal maintenance is performed. Failure to do so may result in damage to the fixture and/or injury to the Aquarii authorized technician.

To maximize the appearance and performance of the Axceleron, periodically remove dust and debris from the surface and lower light diffuser. If excessive dust is present; disconnect power to the unit, remove the exterior housing, and safely vacuum interior components with a fine bristle covered nozzle. Re-secure housing and reconnect power to the unit.

AQUARII'S PRODUCT RETURN POLICY

1. Before returning any product to Aquarii, please call customer service to receive an RMA number for your return. Product returned without an RMA will delay, or may void, any return credit.
2. Clearly note RMA number next to the address label on the shipping container and packing slip.
3. Please return all products "freight prepaid" unless instructed otherwise by customer service.
4. Please ship all Returns to the following address:

**AQUARII, INC.
c/o Product Returns
3195 Vickery Road
North Syracuse, New York, U.S.A. 13212**



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Note: the Axceleron™ is a high-performance LED fixture and is designed and built to be extremely reliable in proper use. However, it is a precision instrument and must be treated as such. Rough handling, dropping the unit, etc. can result in damage to the LED array or the electronic components that drive it. Such treatment voids the warranty and will result in poor performance, reductions in longevity of the unit or complete failure. The following pages illustrate the handling and installation techniques designed to ensure long life and safe operation of your Axceleron™ units.

Please handle with care!

UNPACKING THE AXCELERON™

1. Check box for damage – if damaged, wet, or crushed contact Aquarii.
2. Remove top foam packaging.
3. Use two hands on the top bracket and lift the Axceleron from the container.

If provided, confirm that the pre-assembled electrical cord (or whip) did not slide down the inside of the unit. Use care in extending cord (or whip), accordingly.

HOUSING REMOVAL (PENDANT AND YOKE)

Gently place the Axceleron on its side on a clean and dust-free surface free of items that might scratch the housing. Remove the two housing screws and set aside for re-installation.

(Note - The 2nd screw is opposite the one shown.) When both screws are removed, you can pull the Axceleron engine from the housing. Once removed, gently place the Axceleron face (LED array) down on the clean surface to prepare it for installation.

Visually inspect unit for loose connections or damage to heat sink fins, cables, LED array, etc. The heart of the Axceleron is the LED engine.

Inspect for any damage to the LED array including the lenses (not applicable to 110° units), the circuit board and the connections to the DC power and control cables. Contact Aquarii immediately if any of the components of the LED array have been damaged in shipping. Do not install any Axceleron with damaged LED arrays.

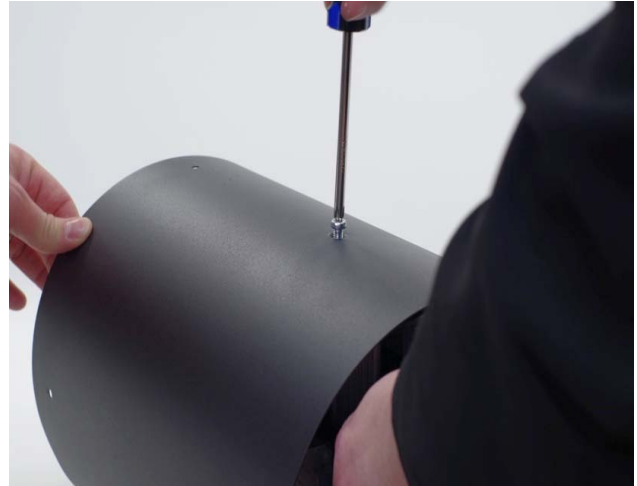


Figure 1 – Housing Removal

POWER CONNECTIONS

Mains feed terminations are as follows:

- AC Live - Black
- AC Neutral – White
- Ground – Green (Green with yellow stripe)

If optional whip was ordered, these terminations were completed by Aquarii. Otherwise, field terminations are to be completed in the field by the installer.

MOUNTING TECHNIQUES

The Axceleron has numerous mounting options: C-Clamp, Yoke, Pendant, Cable, Sloped, and Recessed. Each mount has been designed to provide a secure, dependable and easy-to-install method for suspending the Axceleron.

Where appropriate, the mounts have been shipped with safety cables. If safety cables have been supplied, it is the installer's responsibility to attach safety cable to hard points within house structure that are suitable for suspending the load of an Axceleron. Failure to do so or modification of the safety in a manner that reduces / eliminates its load capacity, violates the warranty and creates a serious hazard. If you have questions about the safe hanging of any Axceleron unit, contact Aquarii before installation.

Example of pendant mount:

1. Secure the top bracket to the j-box or structure at the top of the pendant as noted in the mounting kit instruction sheet. Note: recessed and yoke mountings will not require this step.
2. Install the Axceleron on to the bottom of the pendant stem and install power and data cabling as applicable.

3. Secure the power and any data connections as noted in mounting instructions (within the Technical and Installation Manual). DMX connections are via direct connection to the screw terminal, insulation displacement connector (IDC), RJ45, or XLR 5-pin connectors (mounted on the top cover).
4. If required based on the mounting option, secure the safety harness to the Luminaire. **FAILURE TO ATTACH THE SAFETY CABLE TO A TIE-OFF CAPABLE OF SUPPORTING THE WEIGHT OF THE CAN RESULT IN FALLING, WITH THE POSSIBILITY OF PERSONAL INJURY OR DEATH. THE SAFETY CABLE SHALL NOT BE SHORTENED NOR ATTACHED WITH FASTENERS (SUCH AS "DOG CLIPS") THAT ARE NOT RATED FOR USE IN SECURING LOADS.**
5. Slide the housing over the Axceleron unit. Secure the housing to the unit with the (2) tapered screws. Ensure that when reinstalling housing that no wire is pinched or binding on housing and brackets.
6. Turn on power and test Axceleron for proper operations.



COMMUNICATION

The fixture is compliant with ANSI E1.11 – 2008 (R2013) USITT DMX512-A, ANSI E1.20 – 2010 RDM over DMX512 Networks, ANSI E1.37-1 – 2012 Additional RDM Message Sets, and ANSI E1.3 – 2001 (R2011) 0 to 10v Analog Controls. All configuration settings are made via RDM commands, serial TTL commands, and the Aquarii tablet programmer. The configurable settings are as follows:

- DMX Address**1** – 512
- DMX Loss Mode**Full On**, Hold, DMX value (0-256)
- Dimming Curve**Incandescent**, Linear, S-Curve, Exponential

Values in **bold** are factory defaults.

In addition to DMX/RDM settings, on-board fixture monitoring (temperature, power cycles, hours of operation, etc.) is continuously recorded.