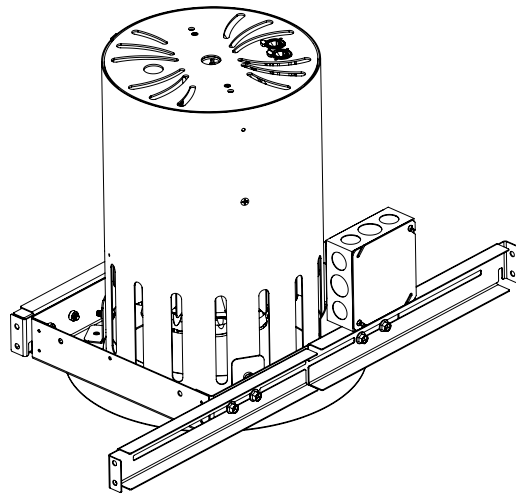




## **AXCELERON Flat Recessed Installation Manual**



***DO NOT DISCARD THIS MANUAL***

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## PREFACE

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### **Details of this Manual**

This manual contains the installation and operation instructions for the Aquarii Axceleron (pronounced: Ax-Cell-Aron) to be performed by a qualified and trained installer. The Mounting Option detailed in this manual is:

- Flat Recessed Mount

Be sure to read this entire manual before beginning the installation procedures. DO NOT DISCARD THIS MANUAL.

### **Questions about this Manual?**

The present material is subject to change without notice. If you have any questions or concerns regarding your Aquarii Product you can contact us at:

Aquarii Inc  
 17 Genesee Street  
 Camillus, NY, 13031  
 315-672-8807  
 support@aquariitech.com  
 aquariitech.com

<b>NOTE</b>	The information in this manual may not be copied or distributed without the written consent of Aquarii, Inc. The goal of this manual is to provide basic information regarding the material herein. Any other use is prohibited.
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## CLEANING AND MAINTENANCE

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All Cleaning and Maintenance procedures must be performed by a qualified individual (Electrician/Technician) or Aquarii Personnel. The following precautions and actions must be taken to ensure personal and product safety during all Cleaning and Maintenance Procedures:

- The sites power supply is disconnected/shut-off
- Wear the required Protective Eye Wear
- DO NOT TOUCH the LED Array or Optical Lenses
- The fixture is not altered or does not receive any non-authorized services. Doing so will void the Aquarii Warranty.

### **Fixture Safety Warnings**

The following MUST BE read and adhered to before beginning any installation or mounting procedures.

- Do not connect the fixture to an electrical system that does not provide grounding equipment.
- Do not connect the fixture to a power source with a Voltage/AC level outside the fixture parameters.
- The fixture cannot be hung with supply wires or wire connectors.
- Wiring MUST NOT come into contact with any surfaces that have sharp edges to ensure personal/product safety.
- The fixture power supply MUST BE disconnected from the sites power input until instructed otherwise.
- All installation procedures must be performed by a properly trained/certified electrician.

## AQUARII WARRANTY

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This limited warranty is provided by Aquarii, Inc. indicated as Seller on the invoice provided to the original purchaser of the LED lighting Product. Seller warrants that the Product will be free of defects in material and workmanship which cause the Product to fail to operate in accordance with the performance specifications set forth in the documentation published for or provided with the Product (the "Specifications"). The determination of whether the Product is defective shall be made by Seller in its sole discretion with consideration given to the overall performance of the Product. *A Product shall not be considered defective*





*solely as a result of the failure of individual LED components to emit light if the number of inoperable components is less than 10% of the total number of LED components in the Product.*

If any Product covered by this warranty is returned by Purchaser within the Warranty Period referred to below in accordance with Seller's Product Return Policy (noted in Schedule "A"), and Seller determines to its satisfaction that such Product failed to satisfy this warranty, Seller will, at its option, repair or replace the Product or the defective part, or reimburse Purchaser for the purchase price, subject to the limited warranty terms and conditions set forth in attached Schedule "A". For the purpose of clarity, "repair or replacement of the Product or the defective part thereof" does not include any removal or reinstallation costs or expense, including without limitation labor costs or expenses. If Seller chooses to replace the Product and is not able to do so because it has been discontinued or is not available, Seller may replace it with a comparable product.

This warranty shall become effective only upon satisfaction of the conditions set forth on Schedule "A". The warranty shall be in effect for a period (the "Warranty Period") of 5 years from the Product ship date.

This warranty only applies when the product has been properly handled, stored, transported, wired, installed, and operated within the electrical values, operating range and environmental conditions provided in the Specifications. Seller will not be responsible under this warranty for any failure of the Product that results from external causes such as: acts of nature; physical damage; exposure to adverse or hazardous chemical or other substances; use of reactive cleaning agents and/or harsh chemicals to clean the Product; environmental conditions; vandalism; fire; power failure, improper power supply, power surges or dips and/or excessive switching; induced vibration; animal or insect activity; fault or negligence of purchaser, any end user of the Product and/or any third party not an authorized representative of Seller; improper or unauthorized use, installation, handling, storage, alteration, maintenance or service, including failure to abide by any product classifications or certifications, or failure to comply with any applicable standards, codes, recommendations, product specification sheets or instructions of Seller; use of the Product with products, processes or materials supplied by any end user or third party; or any other occurrences beyond Seller's reasonable control.

This warranty shall become void in the event (a) any repairs, modifications, or alterations not specifically authorized by Seller are made to the Product by any person, (b) the Product has been serviced by personnel not authorized by Seller, (c) the Product is not used for the purpose for which it is designed, (d) the Product is exposed to operating conditions or environments other than those mentioned in the Specifications, product brochures, or user manuals, or (e) the serial numbers on the Products have been altered, defaced or rendered illegible.

The provisions of this warranty are exclusive and are given and accepted in lieu of any and all other warranties, whether expressed or implied, including without limitation any warranty against infringement and any implied warranties of merchantability or fitness for particular purpose, all of which are expressly disclaimed. No person, agent, distributor, dealer or company is authorized to change, modify or extend the terms of this warranty in any matter whatsoever. Under no circumstances shall Seller's aggregate liability arising out of or in connection with a defective Product, in contract, tort or otherwise, exceed the purchase price of the Product to which such liability relates. In no event shall Seller be liable for special, incidental, consequential, indirect or compensatory damages, including, without limitation, damages resulting from loss of use, profits, business or goodwill.

Seller reserves the right to modify this warranty from time to time and any modifications shall be effective for all orders placed on or after the effective date of such revised warranty.

This warranty may not be transferred or assigned by the original end user and product must be purchased directly from Seller or an authorized distributor or representative of Seller.





### **Schedule "A"**

The following conditions must be met in order for the Aquarii Warranty to become effective.

1. All invoices related to the Product under warranty must be paid in full.
2. Purchaser must notify Seller in writing within 30 days of discovering a defect in the product.

### **Aquarii Product Return Policy**

1. Before returning any product to Aquarii, please contact customer service to receive a RMA Number for your return. Product(s) returned without a RMA will delay or may void any return credit.
2. Clearly note the RMA Number on the shipping container and packing slip.
3. Please return all product(s) as "freight prepaid" unless instructed otherwise by customer service.
4. Include all paperwork provided by Aquarii, such as the Warranty Claim.
5. Ship all returns to the following address:

Aquarii Inc  
Attn: Returns  
3195 Vickery Road  
Syracuse, NY, 13212  
315-672-8807  
support@aquariitech.com  
aquariitech.com

Proceed to the Mounting Option section on Page 4 of this manual.



## MOUNTING OPTION

### Flat Recessed (Mounting #7)

The parts of the Flat Recessed Mount are labeled as:

- A - Recessed Housing
- B - Extension Rails
- C - Center Pan
- D - Trim Ring
- E - Junction Box
- F - Junction Box Cover
- G - Bolts x8
- H - Axceleron Assembly

Not shown: Armored Cable, Trim Ring Springs

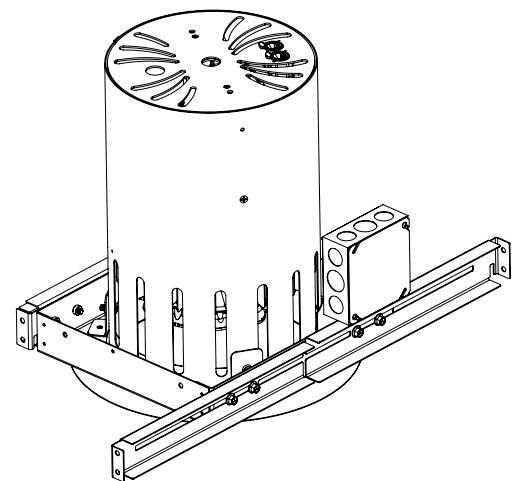
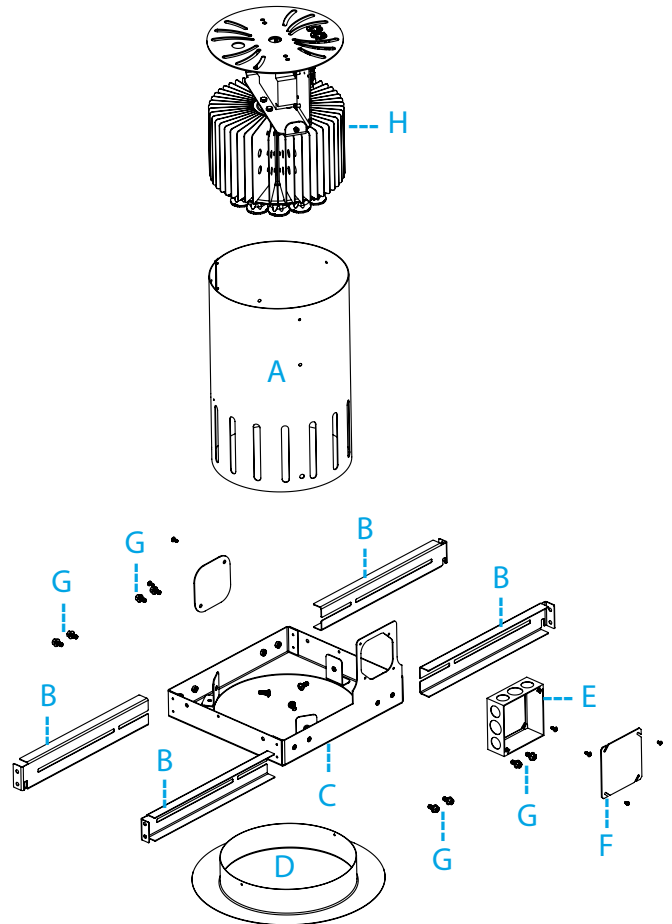
The fixture and mounting option are designed for non-IC (Insulation Contact) Environments. Ensure insulation is kept away from the fixture installation location.

Follow the steps below to secure the mount/fixture to the local site.

1. Loosen the four Bolts on the Left/Right Extension Rails to extend them to the required mounting length then tighten the Bolts to secure the Rails in place.
2. Secure the Rails to the sites building structure using eight screws. See the following table for recommended screw parameters based on the building material.

WOOD	CONCRETE
No. 12 x 2" Zinc-Plated Steel Screws (3/16" pilot hole)	3/16" Dia. X 2 1/4" Blue-Coated Steel Screws (5/32" pilot hole)

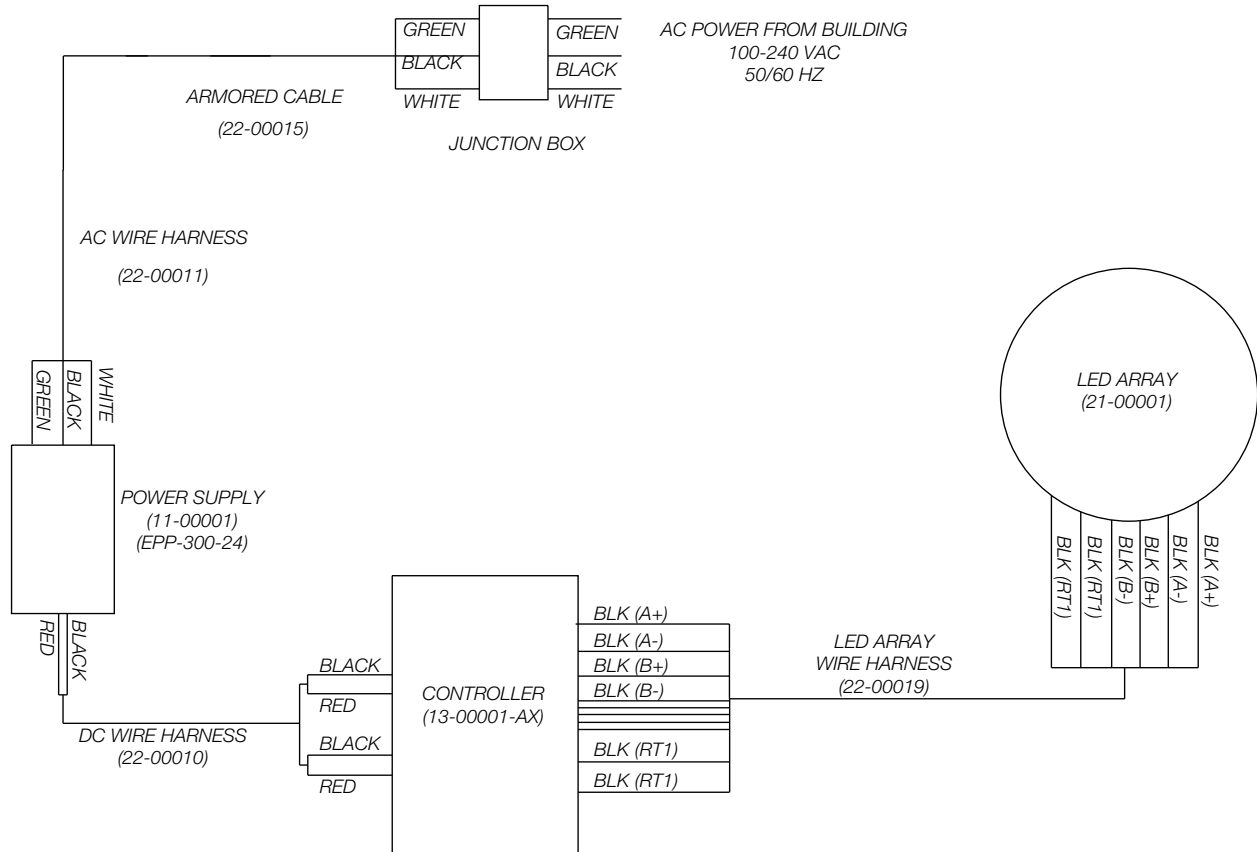
3. If a Trim Ring is required proceed to Step 4, if not, then proceed to the Wiring Connections section on Page 5 of this manual.
4. Release the bottoms of both Trim Ring Springs from the Recessed Housing.
5. Align the holes on the Trim Ring so the Springs are completely vertical.
6. Secure the Springs to the Trim Ring Holes and gently position the ring against the sites ceiling surface.
7. See the image below for an Axceleron installed in a Flat Recessed Mount.
8. Proceed to the Wiring Connections section on Page 5 of this manual.



## WIRING CONNECTIONS

### Secure Power Connections

The information below also details the procedure required to secure the *Constant Controls* Connection for the Axceleron as shown in the Wiring Diagram below:



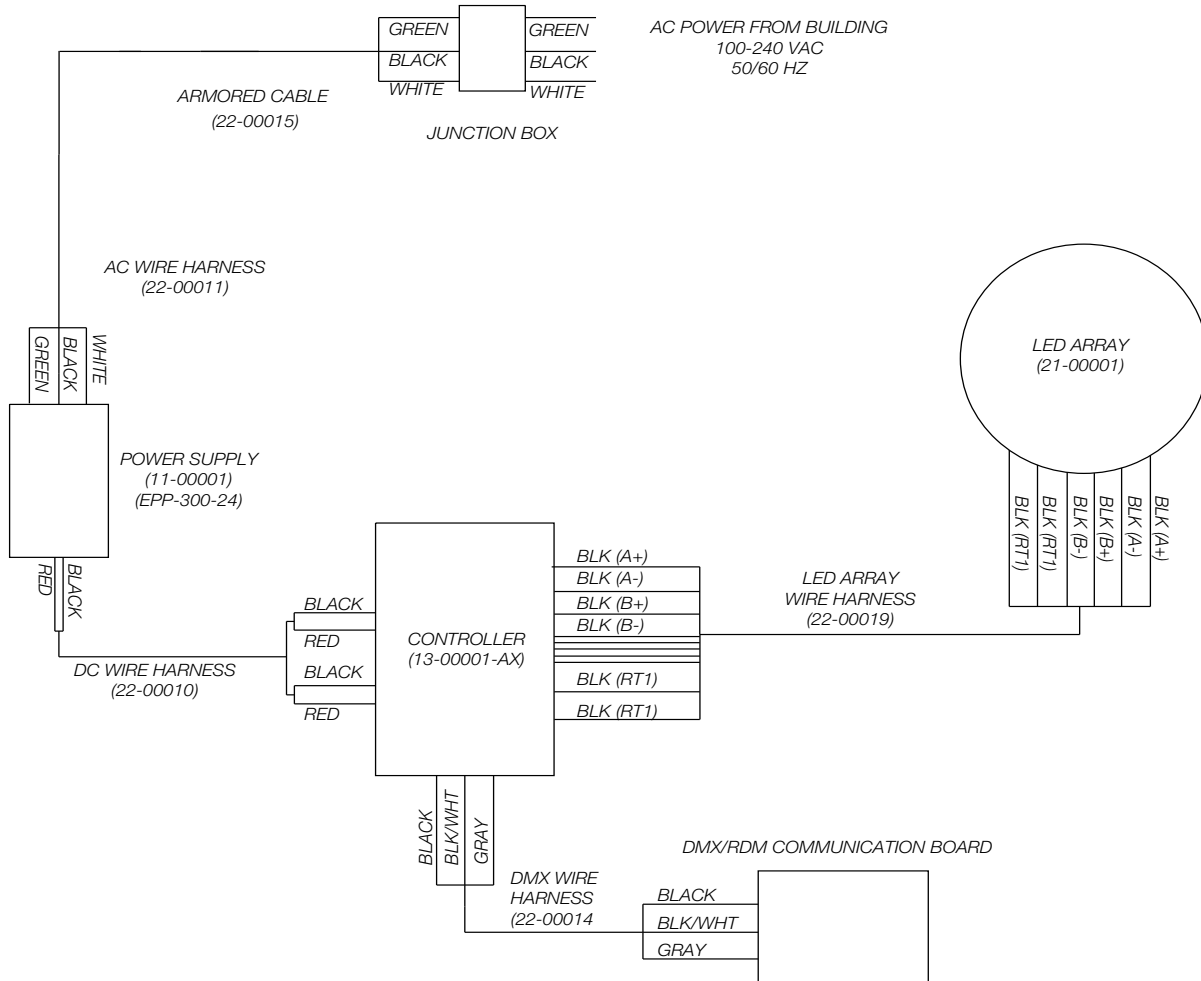
Follow the steps below to secure the Power Connections to the mounted fixture.

1. Remove the Flat Recessed Junction Box Cover to expose the Wagos inside.
2. Secure the required connections from the sites Power Cable to the Armored Cable connections as described below:
  - Site Ground Wire > Green Lead of the Armored Cable
  - Site Neutral Wire > White Lead of Armored Cable
  - Site Line Voltage Wire > Black Lead of Armored Cable
3. Reinstall the Flat Recessed Junction Box Cover.
4. Proceed to the required procedure in the Communication Connections section on Page 6 of this manual, if not, then test the fixture to ensure proper function.

## COMMUNICATION CONNECTIONS

### Secure DMX/RDM Connection

See the DMX Wiring for an Axceleron LED Fixture in the diagram below:



Follow the steps below to secure the DMX/RDM Connections to the fixture.

1. Determine the present Communication Board, then secure the DMX Communication Wiring to the board based on the local sites wiring options. The four possible options are:
  - XLR - 5 Pin (P/N: 17-00005)
  - RJ-45 (P/N: 17-00004)
  - Insulation Displacement Connector (IDC) (P/N: 17-00003)
  - Screw Terminal (P/N: 17-00002)
2. Ensure the DMX Wire Harness connection from the Controller to Communication Board has not been disrupted.
3. Set the fixtures DMX Address as needed, and test the fixture to ensure proper function.

#### NOTE:

All DMX Wiring should be compatible with Telecommunications Industry Association TIA/EIA-485 (RS-485). See the table on Page 7 of this manual for the required DMX over CAT 5e/6 Information.







## DMX over CAT5e/6

WIRE COLOR	FUNCTION	IEC 60603-7 8-position Modular Connector (RJ-45) Pin Number	XLR PIN NUMBER
Brown	Pair 2 - Signal common / ground / shield (0V)	8	1
White / Brown	Pair 1 - Signal common / ground / shield (0V)	7	1
Orange	Pair 1 - Data negative (D-)	2	2
White / Orange	Pair 1 - Data positive (D+)	1	3
Green	Pair 2 - Data negative (D-)	6	4
White / Green	Pair 2 - Data positive (D+)	3	5
Blue	Unassigned	4	
White / Blue	Unassigned	5	

Be sure to read the Notes/Warning below:

### NOTES:

1. Pin numbering and colors are in accordance with ANSI/TIA/EIA-568 scheme T568B.
2. Pin 8 should be wired as signal common even if pins 3 and 6 are NOT wired so that both conductors 7 and 8 are at equal potential.

### WARNING:

Accidental connection to non-DMX512 equipment likely to be encountered (e.g., an Ethernet Hub at a patch bay) may result in damage to equipment. Pins 4 and 5 may carry voltages outside the EIA-485 range in telecom applications (e.g., telephone ringing). Pins 4 and 7 may carry voltages outside the EIA-485 range in other applications (e.g., some manufacturers whose distributed DMX512 buffering products require low voltage DC power may use these wires for this purpose). Because of these various uses, mis-plugging unlike systems could cause serious damage.

## DMX Addressing Information

The Axceleron LED Fixture requires one DMX Channel in a universe. See the example below for how to address the fixture.

- Channel 1: Intensity (0-255)

An intensity value of 0 will cause the fixture to not illuminate, while a value of 255 is the highest intensity.

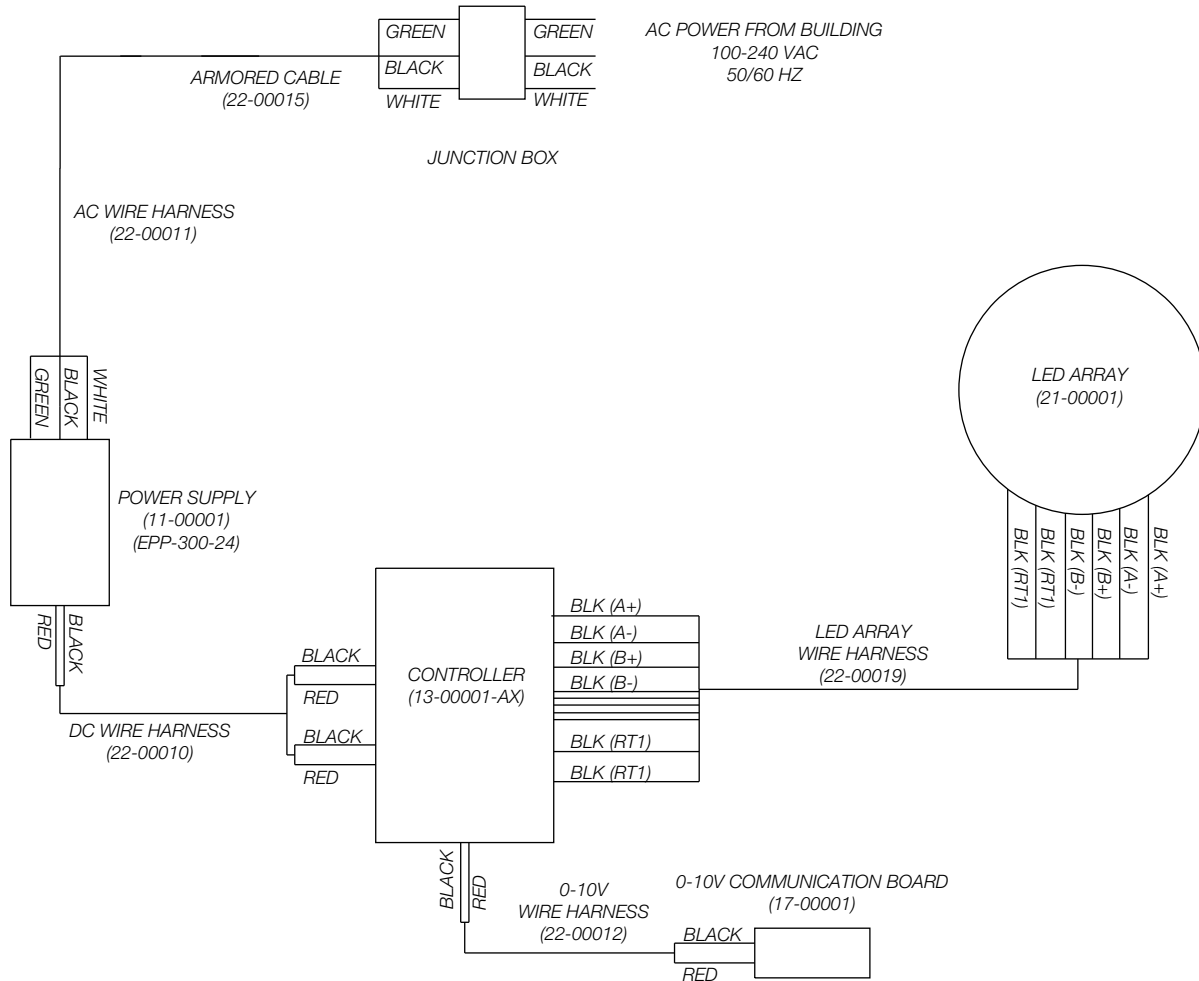
See the table below for the Axceleron DMX Protocol:

PERSONALITY	CHANNEL	FUNCTION	VALUE		
			DECIMAL	%	HEX
1	1	Intensity	0 - 255	0 - 100	00 - FF



### Secure 0-10V Connection

See the 0-10V Wiring Diagram for an Axceleron LED Fixture below:



**NOTE:**

All 0-10V Analog Wiring should be run as Class 2 per National Electric Code (NEC) Article 725. See the 0-10V Information section of this manual for more information.

Follow the steps below to secure the sites 0-10V Communication Wiring to the fixture.

1. Ensure the local sites power supply is shut-off for personal safety.
2. Secure the Screw Terminal Plug-in Connection from the local site to the 0-10V Connector.
3. Confirm the Polarity for 0-10V Communication Wiring.
4. Test the fixture to ensure proper function.





## 0-10V Information

Please read and understand the following information about 0-10V Wiring:

- Local site wiring must utilize properly rated insulation so no spacing or separation is required regardless of circuit conductor voltage.
- The local site must utilize power limited/circuit wiring that has the required insulation rating for the maximum voltage in any of the circuits if the power limit/branch circuit wiring comes in contact with other wiring.
- Class 2 0-10V Wiring follows NEC Requirement 725.136 (D). Meaning electric light, power, and Class 1 circuits must have a 6 mm separation from the Class 2 Wiring.
- Conductors that operate at 150V, or less, to Ground must comply with the following:  
*The Class 2 circuits are installed using Type CL3, CL3R, or CL3P or permitted substitute cables provided these Class 3 cable conductors extending beyond the jacket are separated by a minimum of 6 mm (0.25 in.) or by a non-conductive sleeve or non-conductive barrier from all other conductors.*
- There must be a minimum of 0.25 in. between line voltage and bus terminals for Class 2 installations.

## TROUBLESHOOTING/CORRECTIVE ACTIONS

Troubleshooting/Corrective Action Assessments can only be performed by qualified/trained personnel. Failure to do so will void any Aquarii Product Warranties.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No light output	Power is off	Check if power supply is on
	Poor wire connection	Check wiring connections
	Faulty supply switch	Test or replace supply switch
	Shorted dim lines	Verify no shorts in dim lines
Fuse blown or Circuit Breaker trips	Crossed wire(s) or a supply wire has grounded out	Check wiring connections
Red LED diode illuminated on Controller	Faulty Communication	Verify Correct Communication Protocol
Red + Green LED diode illuminated on Controller	Faulty Controller	Replace the Controller
Green LED diode not illuminated on Power Supply	Faulty Power Supply	Replace Power Supply
	Local Site Power issue	Verify local site Power Supply is on/running

If the Axceleron is still not functioning as required after the Troubleshooting/Corrective Actions have been performed, please contact Aquarii Customer Service for further assistance.

