



# **AXCELERON Standard 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 Options detailed in this manual are:

- C-Clamp
- Wall Bracket
- Yoke Mount
- Pendant
- Cable Pendant

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  
6805 Newbrook Ave  
East Syracuse, NY 13057  
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  
 6805 Newbrook Ave  
 East Syracuse, NY 13057  
 315-672-8807  
 support@aquariitech.com  
 aquariitech.com

## MOUNTING OPTIONS

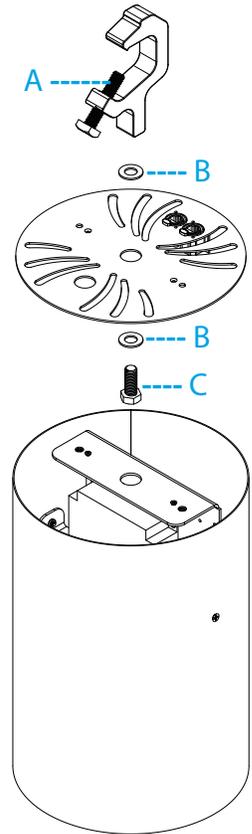
### C-Clamp (Mounting #1)

The parts of the C-Clamp are labeled as:

- A - Top Bolt
- B - Washer x2
- C - Bolt

Follow the steps below to secure a C-Clamp to the fixture and sites building structure.

1. Remove the two side-cap screws, lift the Housing off the fixture, and set both aside to be used later.
2. Place a Washer on the Bolt then guide the Bolt through the Center Hole of the Top Cover.
3. Place another Washer on the Bolt, then secure the Bolt to the C-Clamp.
4. Loosen the Top Bolt of the C-Clamp so the mount can fit on the sites mounting location then tighten the Top Bolt to lock in place once installed.
5. See the image below for a C-Clamp installed on the fixture.



6. Proceed to the Wiring Connections section on Page 8 of this manual.



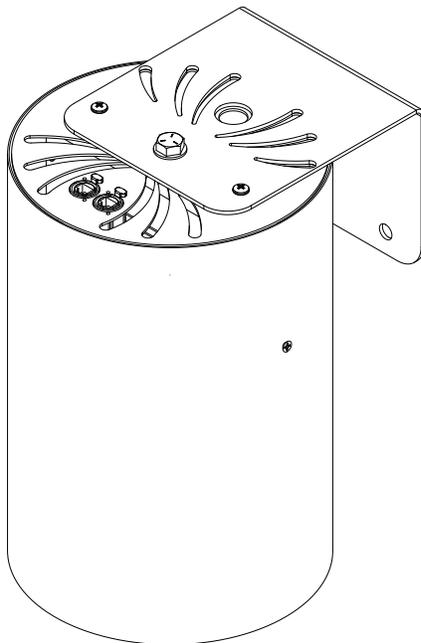
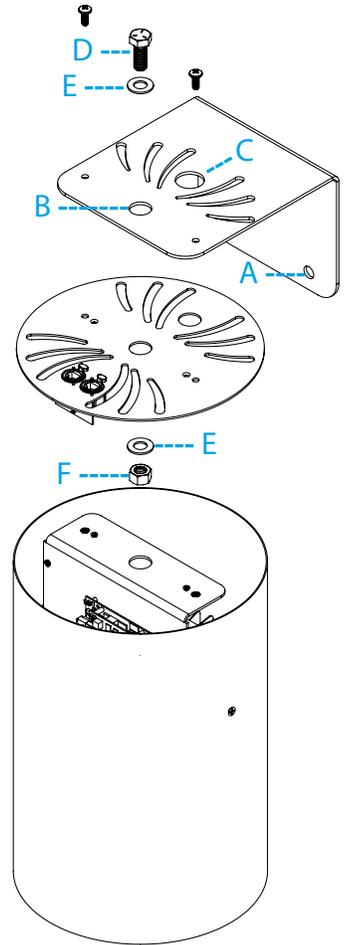
## Wall Bracket (Mounting #2)

The parts of the Wall Bracket are labeled as:

- A - Mounting Holes to site x4
- B - Mounting Holes to fixture x2
- C - Power Cable Hole
- D - Bolt
- E - Washer
- F - Nut

Follow the steps below to secure a Wall Bracket Mount to the fixture and sites building structure.

1. Remove the two side-cap screws, then the Housing from the fixture, and set both aside to be used later.
2. Obtain four fastener screws that are properly rated for the sites wall material and can each support a 25lb load.
3. Secure the Wall Bracket to the sites building structure. The fixture must be oriented so the Power Cable Hole on the mount is aligned with the Top Cover Power Cable Hole and not over the Communication Board (if present).
4. Align the Mounting Hole with the Center Hole of the Top Cover and ensure the Wall Bracket Power Cable Hole is aligned with the corresponding hole on the Top Cover.
5. Slide the Bolt through the first Washer then guide the Bolt through the Mounting Hole of the Wall Bracket, Top Cover, and Mounting Bracket.
6. Secure another Washer and a Locknut on the Bolt flush to the bottom of the Mounting Bracket, then tighten Locknut to secure the Mount to the fixture.
7. Insert and secure the two provided screws in the holes to the right and left of the fixture Mounting Hole.
8. See the image below for a Wall Bracket installed on the fixture.



9. Proceed to the Wiring Connections section on Page 8 of this manual.

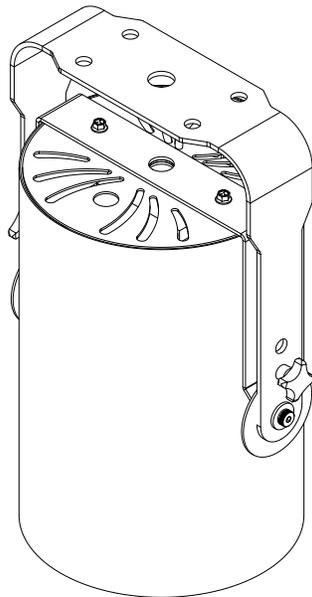
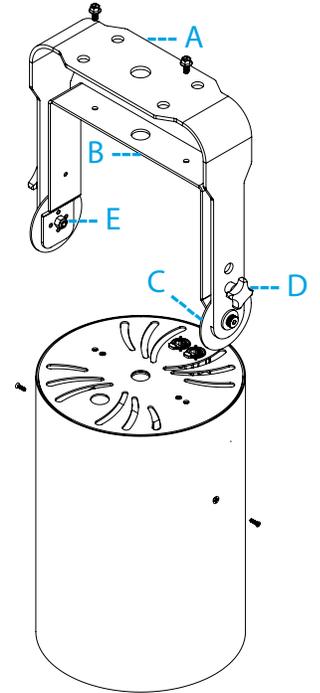
### Yoke Mount (Mounting #3)

The parts of the Yoke Mount are labeled as:

- A - Yoke Arm
- B - Casemount Assembly
- C - Friction Rings x2
- D - Primary Locking Knobs x2
- E - Shoulder Screws x2

Follow the steps below to secure a fixture with a Yoke Mounting Kit to the sites building structure.

1. Remove the two side-cap screws, then the Housing from the fixture, and set both aside to be used later.
2. Secure the Yoke Arm to the sites building structure with screws capable of handling the weight of the load.
3. Loosen but do not remove the Primary Locking Knobs.
4. Adjust the angle of the mount until the fixture is at the desired orientation, then tighten the Primary Locking Knobs to secure the angle of the mounted fixture.
5. See the image below for a Yoke Mount installed on the fixture.



6. Proceed to the Wiring Connections section on Page 8 of this manual.

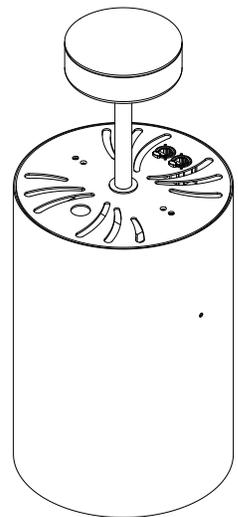
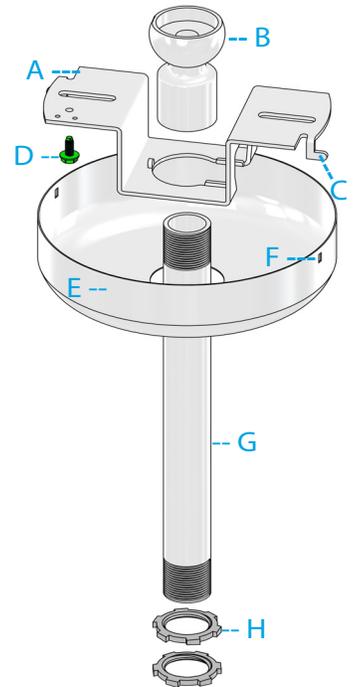
### **Pendant Mount (Mounting #4)**

The parts of the Pendant Mount are labeled as:

- A - Crossbar
- B - Swivel Ball
- C - Crossbar Tabs x2
- D - Ground Screw
- E - 5" Dia. Canopy
- F - Canopy Side Slots
- G - IPS Stem
- H - Locknuts x2

Follow the steps below to secure a Pendant Mount to the fixture and sites building structure.

1. Place the fixture on a clean/flat surface.
2. Remove the two side-cap screws, then the Housing from the fixture, and set both aside to be used later.
3. Secure the Safety Cable to the sites building structure and the fixture.
4. Secure the Swivel Ball to the top of the IPS Stem.
5. Insert and secure the Ground Screw to the Crossbar.
6. Align and insert the Crossbar Tabs with the Canopy Side Slots to secure the Crossbar to the 5" Dia. Canopy.
7. Guide the IPS Stem through the Crossbar and Canopy until the Swivel Ball is flush with the Crossbar/Canopy.
8. Insert the end of the IPS Stem through one Locknut, the center hole of the Top Cover, and the Mounting Bracket before securing it in place with the second Locknut.
9. Run the sites Power Cable through the assembled Stem.
10. Secure the Crossbar and Canopy to the sites building structure.
11. See the image below for a Pendant Mount installed on the fixture.
12. Proceed to the Wiring Connections section on Page 8 of this manual.



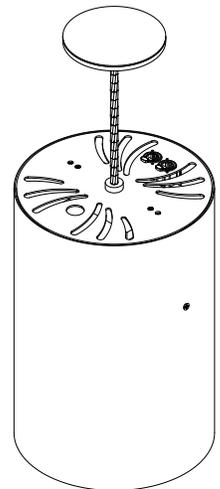
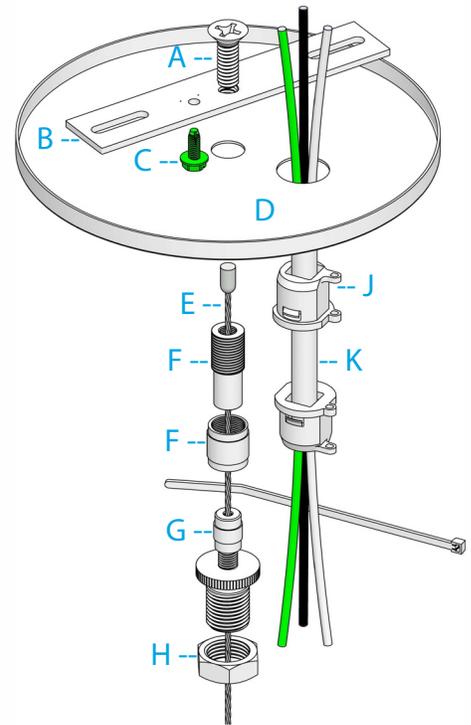
## Cable Pendant (Mounting #6)

The parts of the Cable Pendant Mount are labeled as:

- A - Flat Head Screw
- B - Crossbar
- C - Ground Screw
- D - 5" Dia. Canopy
- E - 3/32" Cable
- F - 2 Piece Cable Coupler
- G - Gripper
- H - Locknut
- J - Strain Relief x2
- K - Power Cable

Follow the steps below to secure a Cable Pendant Mount to the fixture and sites building structure.

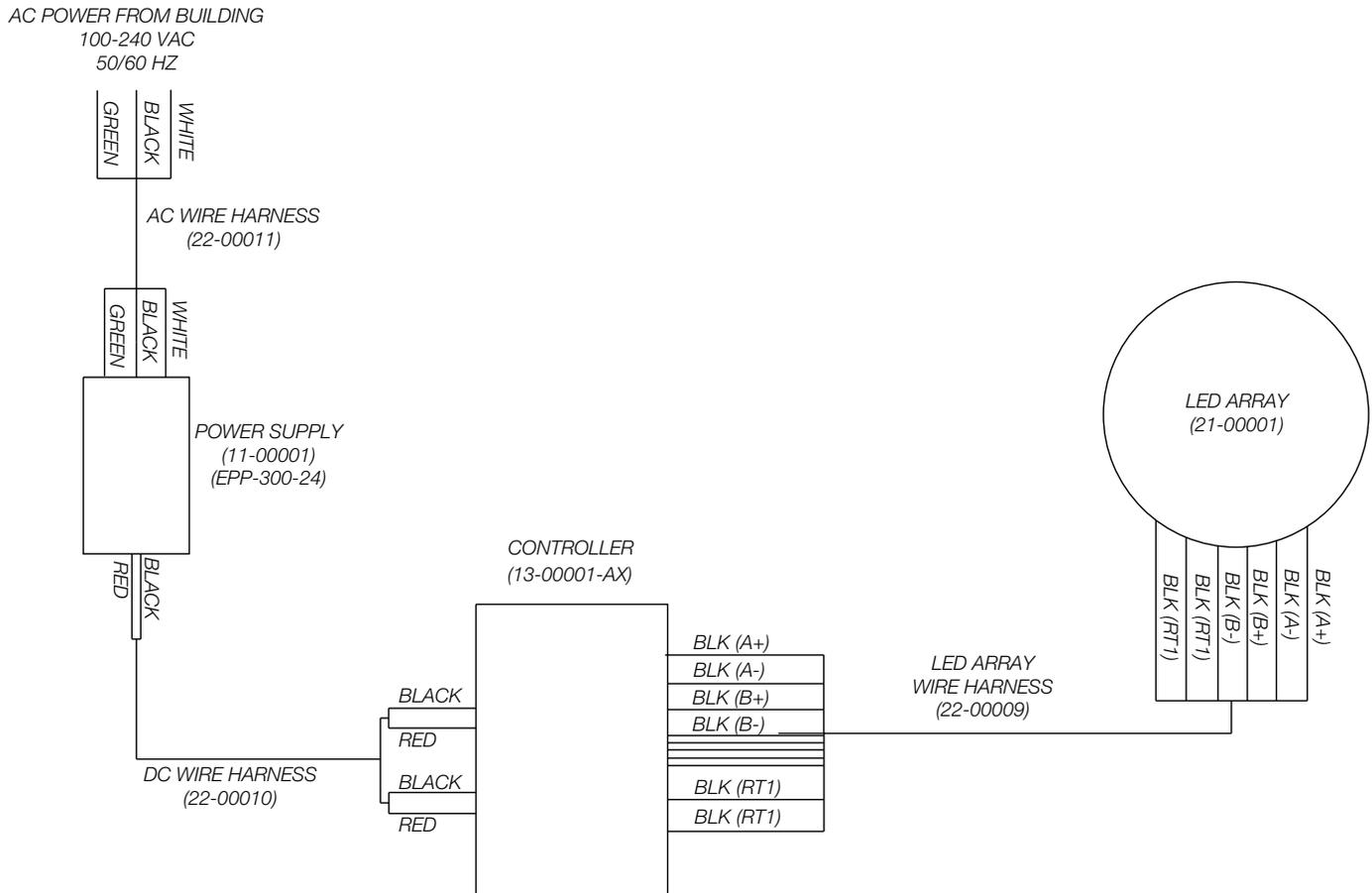
1. Place the fixture on a clean/flat surface.
2. Remove the two side-cap screws, then the Housing from the fixture, and set both aside to be used later.
3. Secure the Safety Cable to the sites building structure and the fixture.
4. Guide the 3/32" Cable through the 2 Piece Cable Coupler, Gripper, and Locknut until the Stopper on the Cable reaches the bottom of the 2 Piece Cable Coupler.
5. Secure the Ground Screw to the Crossbar.
6. Insert the Flat Head Screw through the center hole of the Crossbar, then through the center hole of the 5" Canopy.
7. Secure the 2 Piece Cable Coupler to the Flat Head Screw.
8. Run the sites Power Cord through the other hole of the 5" Canopy and secure with a Strain Relief once the required length is fed through.
9. Continue to run the Power Cord through the rear hole of the fixture Top Cover and secure in place with a Strain Relief.
10. Guide the Mounting Cable through the center hole of the Top Cover and Main Bracket, then secure the Gripper and Locknut.
11. Secure the Crossbar and 5" Canopy to the sites building structure.
12. See the image below for a Cable Pendant installed on the fixture.
13. Proceed to the Wiring Connections section on Page 8 of this manual.



## WIRING CONNECTIONS

### Secure Power Connections

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



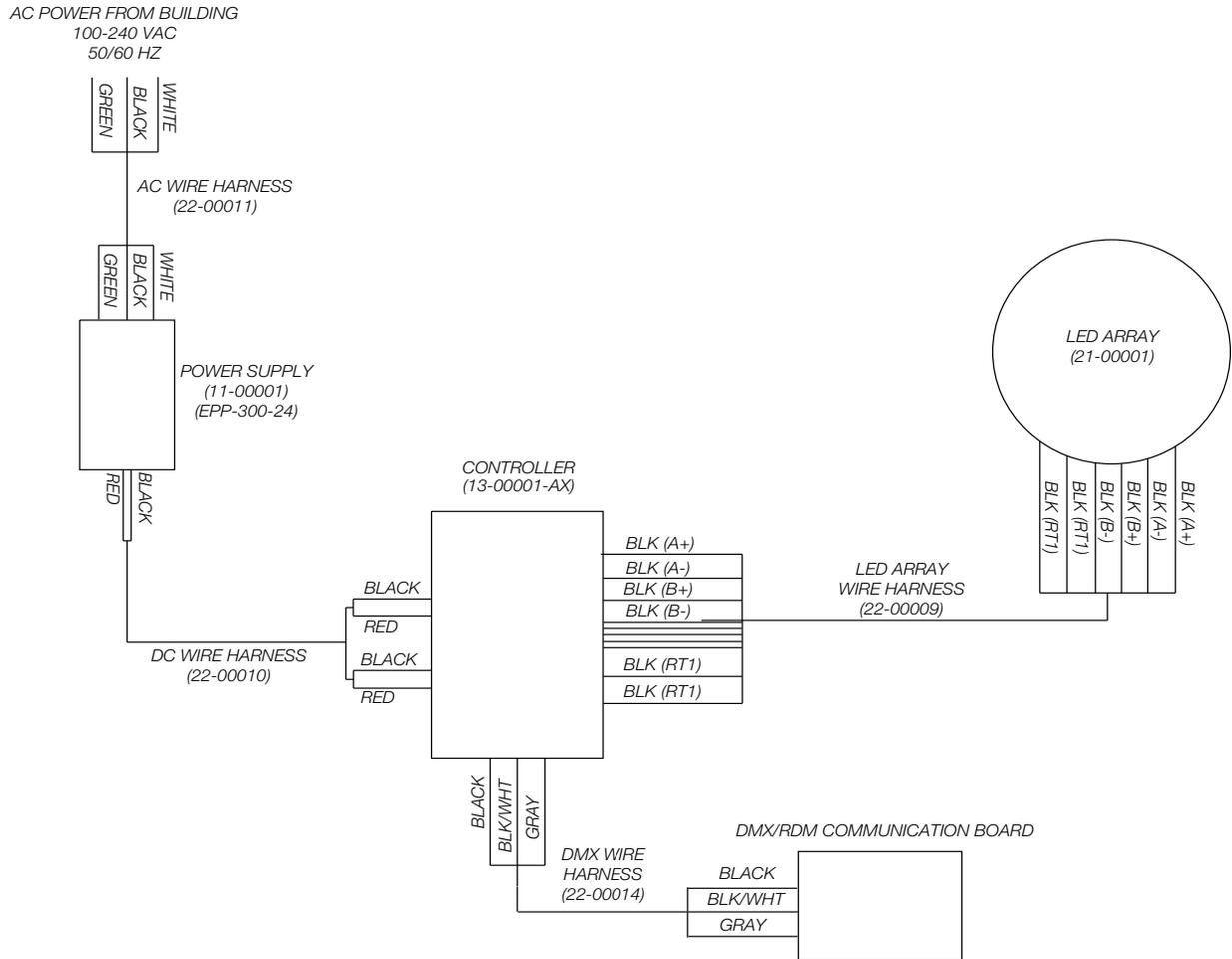
Follow the steps below to secure the Power Connections to the mounted fixture.

1. Fully insert the ends of the Power Cable in the Wagos connected to the AC Wire Harness. See the Power Connections below:
  - Site Ground Wire > Green Lead of AC Wire Harness
  - Site Neutral Wire > White Lead of AC Wire Harness
  - Site Line Voltage Wire > Black Lead of AC Wire Harness
2. Slide the Housing back on the fixture and secure with the two side-cap screws previously set aside.
3. Proceed to the required procedure in the Communication Connections section on Page 9 of this manual.

## 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.



## 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.

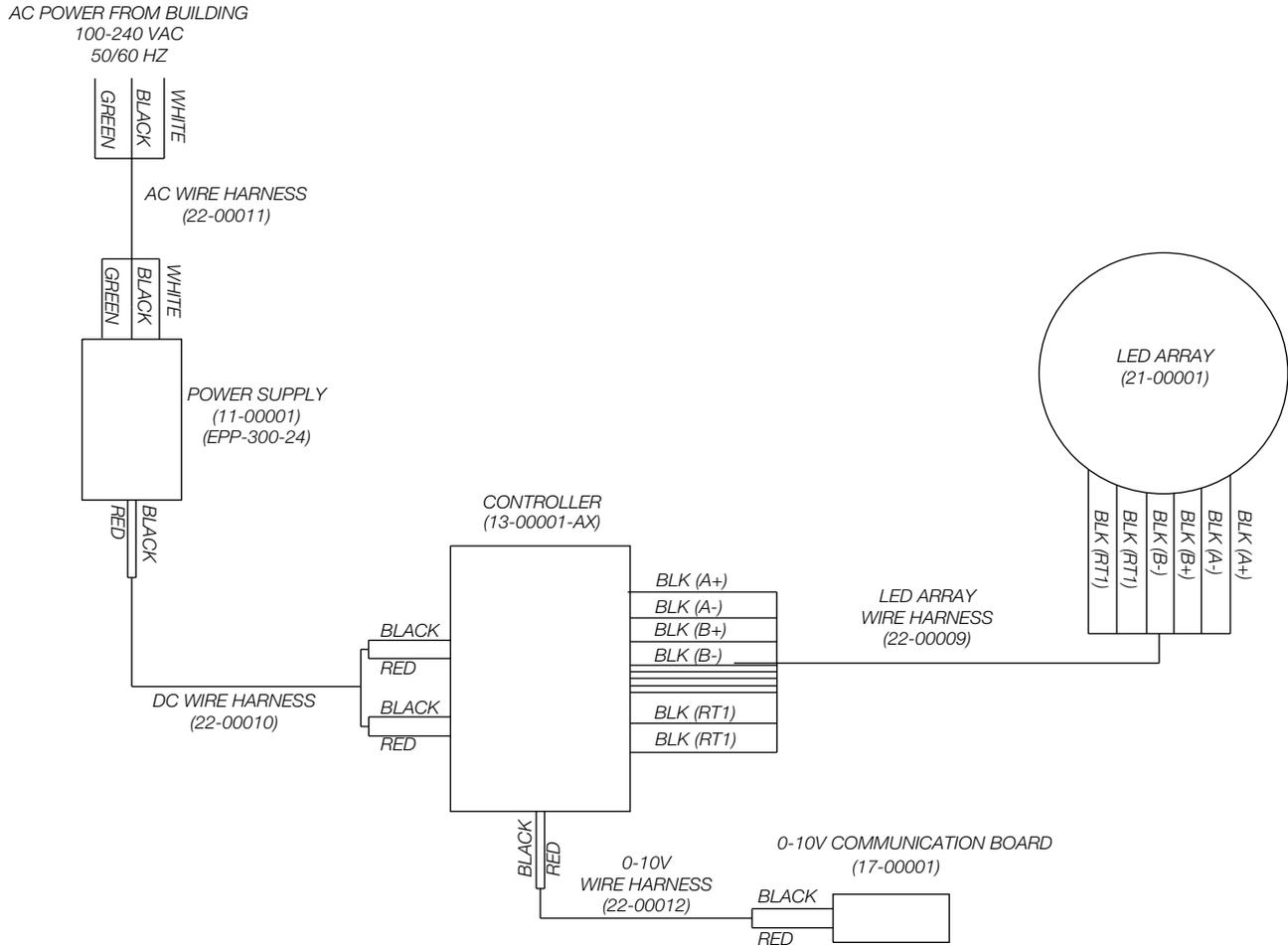
See the table below for the Axceleron DMX Protocol:

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. Determine the type of circuit present at the local site.
3. Secure the Screw Terminal Plug-in Connection from the local site to the 0-10V Connector.
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, 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.

