

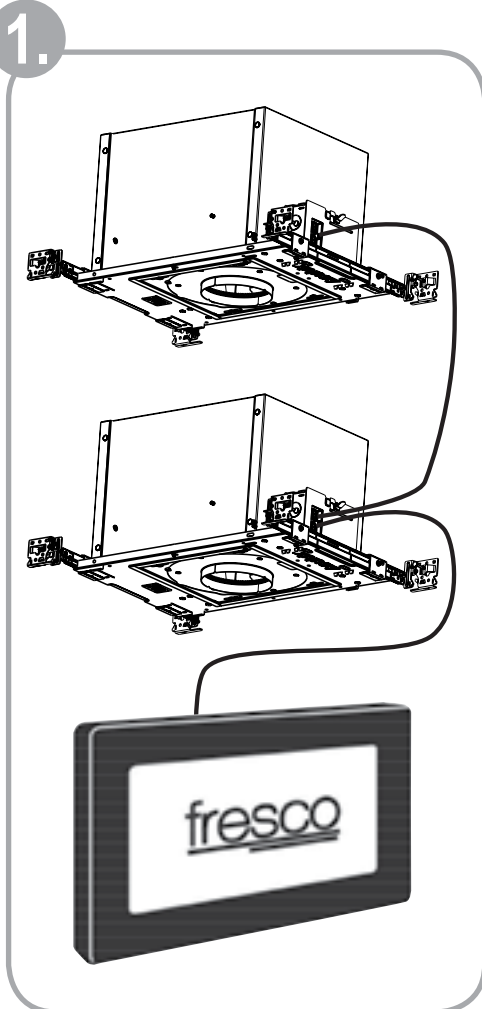
DMX512 / RDM FIELD INSTALLATION MANUAL

Required Materials for Network Installation

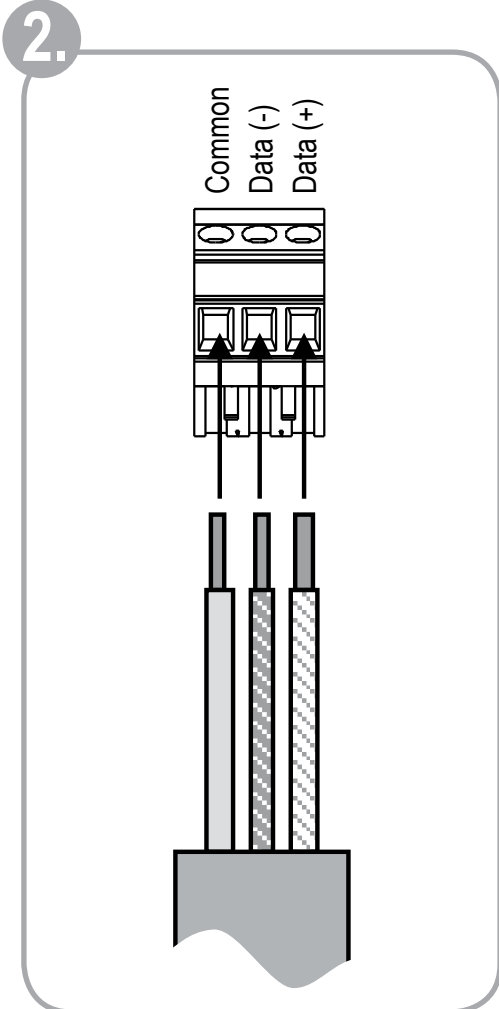
Aculux recommends installer seek quotation for start-up/commissioning services from Acuity sales agency or theatrical dealer prior to installation.

- Aculux LED Fixture with DMX512 (abbreviated here as DMX)
- DMX Controller (e.g. Fresco FCS7TSNX or similar)
- RDM Configuration Device (e.g. Fresco FCS7TSNX or DXT1M122M09NE1L)
- DMX/RDM Splitter (Optional, e.g. Fresco DXT1M122M09NE1L)
- Twisted pair, 120ohm, shielded cable (e.g. Belen 9842 or equal)
- Termination Resistor (Pre-installed in every Aculux DMX fixture)
- Small slotted screwdriver

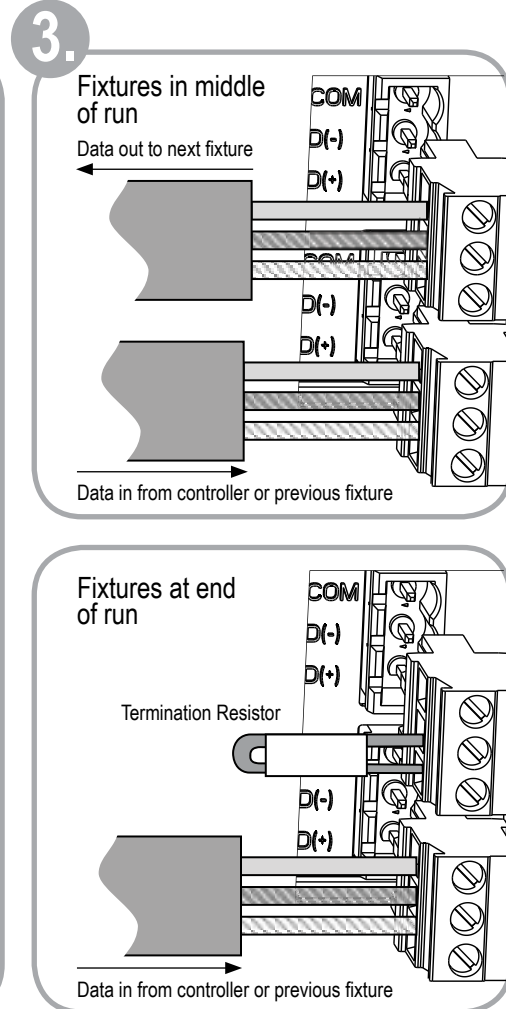
DMX Quick Installation Guide (Downlights Only)



**Install Fixtures
and Controller**



**Terminate Network
Cables**



**Plug Cables into
Fixtures**

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS! SAVE THESE INSTRUCTIONS AND DELIVER TO OWNER AFTER INSTALLATION

- To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included with and on the fixture box and all fixture labels.
- Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.
- Installation and service of luminaires should be performed by a **qualified licensed electrician**.
- Maintenance of the luminaires should be performed by person(s) familiar with the luminaires' construction and operation and any hazards involved. Regular fixture maintenance programs are recommended.
- It will occasionally be necessary to clean the outside of the refractor/lens. Frequency of cleaning will depend on ambient dirt level and minimum light output which is acceptable to user. Refractor/lens should be washed in a solution of warm water and any mild, non-abrasive household detergent, rinsed with clean water and wiped dry. Should optical assembly become dirty on the inside, wipe refractor/lens and clean in above manner, replacing damaged gaskets as necessary.
- **DO NOT INSTALL DAMAGED PRODUCT!** This luminaire has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.
- Recycle: For information on how to recycle LED electronic products, please visit www.EPA.gov
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's or owner's purposes, this matter should be referred to Acuity Brands Lighting, Inc.



CAUTION: RISK OF PRODUCT DAMAGE

- Never connect components under load.
- Do not mount or support these fixtures in a manner that can cut the outer jacket or damage wire insulations.
- Never connect an LED product to an unapproved dimmer pack. Contact ABL directly for any dimmers not specifically recommended for the product.
- LEDs are polarity Sensitive. Ensure proper Polarity before installation.
- Electrostatic Discharge (ESD): ESD can damage LED fixtures. Personal grounding equipment must be worn during all installation or servicing of the unit.
- Do not touch individual electrical components as this can cause ESD, shorten lamp life, or alter performance.



WARNING RISK OF ELECTRIC SHOCK

- Disconnect or turn off power before installation or servicing.
- Verify that supply voltage is correct by comparing it with the luminaire label information.
- Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements.
- All wiring connections should be capped with UL approved recognized wire connectors.



CAUTION RISK OF INJURY

- Wear gloves and safety glasses at all times when removing luminaire from carton, installing, servicing or performing maintenance.
- Avoid direct eye exposure to the light source while it is on.



WARNING RISK OF BURN

- Allow lamp/fixture to cool before handling. Do not touch enclosure or light source.
- Follow all manufacturer's warnings, recommendations and restrictions for: driver type, burning position, mounting locations/methods, replacement and recycling.



CAUTION RISK OF FIRE

- Keep combustible and other materials that can burn, away from lamp/lens.
- Do not operate in close proximity to persons, combustible materials or substances affected by heat or drying.

All luminaires that contain electronic devices that generate frequencies above 9kHz from any component within the luminaire comply with one of the following Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with Part 18 of the FCC Rules, but may cause interference with cordless and cell phones, radios, televisions, and other electronic devices. To correct the problem move the device away from the luminaire or plug into a different outlet. This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communications equipment operating between 0.45-30MHz.

Failure to follow any of these instructions could void product warranties. For a complete listing of product Terms and Conditions, please visit www.acuitybrands.com

OUR BRANDS

Indoor/Outdoor: Lithonia Lighting, Carandim Holophane, RELOC

Indoor Lighting: Gotham, Mark Architectural Lighting, Peerless, Renaissance Lighting, Winona Lighting, Juno, Aculux, Indy

Outdoor Lighting: American Electric Lighting, Antique Street Lamps, Hydrel, Tersen

Controls: DARK TO LIGHT, Lighting Control & Design, ROAM, Sensor Switch, Synergy

Acuity Brands Lighting, Inc. assumes no responsibility for claims arising out of improper or careless installation or handling of its products.

Product Services Phone (888) 387-2212

Network Installation and Setup

DMX Downlight Installation

1. Determine system layout. A DMX/RDM splitter is required for >30 fixtures or if star configuration is desired. See Figure 1 for an example system layout.
2. Install DMX fixtures according to included installation instructions.
3. Run DMX cable from eventual splitter or controller location to first fixture or DMX/RDM splitter. Daisy-chain cable from fixture to fixture.
4. Install included 3-position connectors on DMX cable as shown in Figure 2 and plug into fixtures as shown in Figure 3.
5. Ensure the termination resistor is installed into the last luminaire in each run as shown in Figure 4.
Note: Remove and discard pre-installed termination resistor from all other fixtures.
6. Use an RDM configuration* device to discover fixtures and set DMX start addresses.
7. Install DMX controller and connect to DMX cable.
8. Configure controller according to Tables 1-2 on page 4.

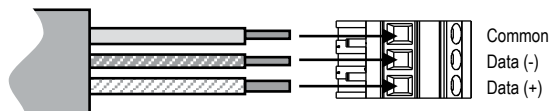


Figure 2. DMX cable pinout for CAT5 cable.

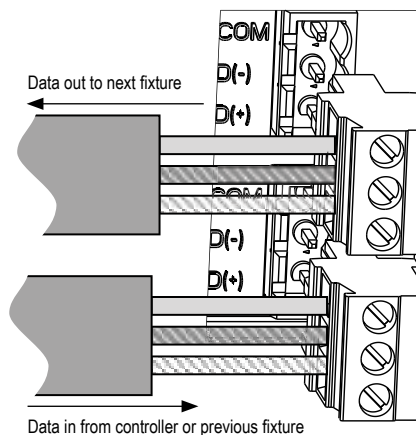


Figure 3. Location of data in and out jacks on fixture.

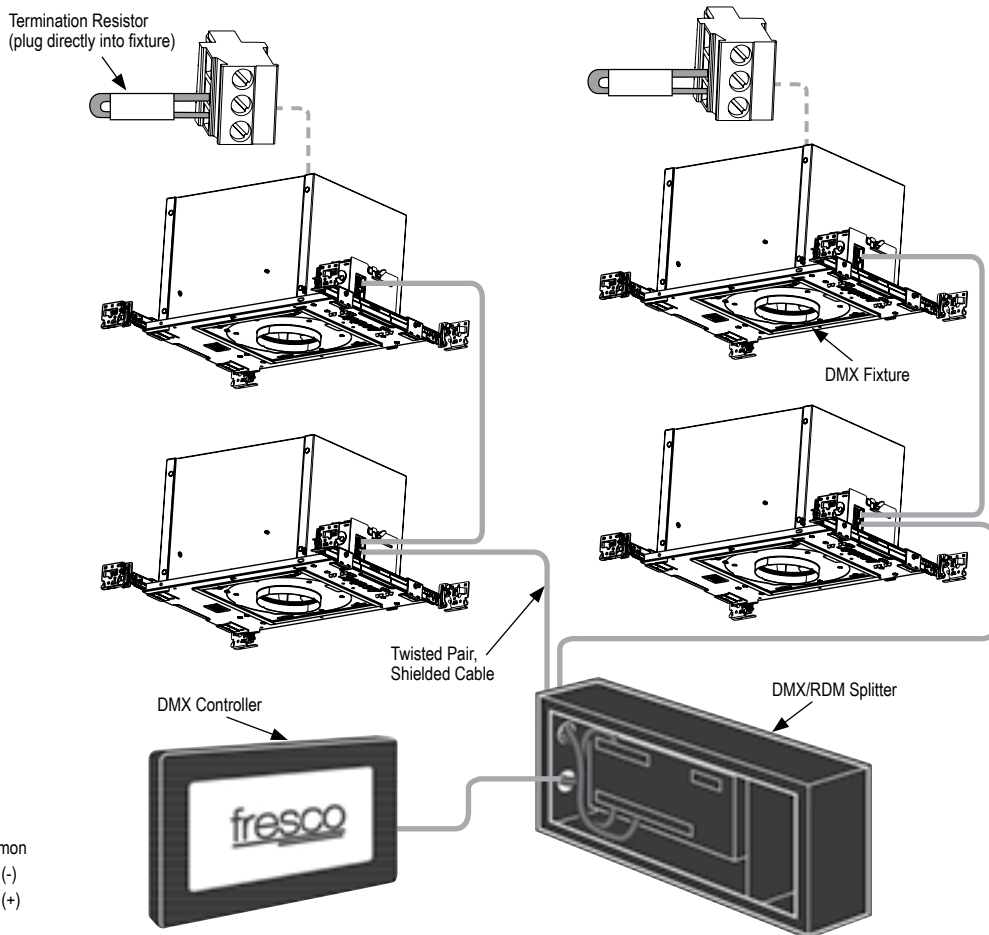


Figure 1. DMX network featuring one universe splitting into two runs of up to 30 fixtures each.

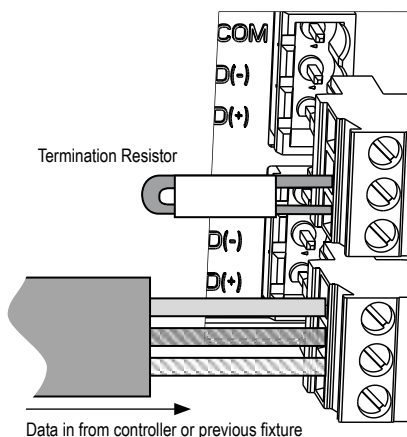


Figure 4. Fixtures come with pre-installed termination resistor. The resistor should remain installed only in the last fixture of each run.

Product Services Phone (888) 387-2212

DMX Downlight Installation

1. DMX Cable needs to meet the ANSI/TIA/EIA-485 standard for DMX-512 and have nominal characteristic impedance of 120 Ohms.
2. Termination resistors are included with each luminaire and should remain installed in the last luminaire of each run to prevent erratic network behavior.
3. No more than 30 fixtures may be installed on a single run.
4. No more than 1000 ft. of wire may be installed on a single run.
5. No T-TAPS, STARS (except by a DMX/RDM splitter), splices, or Ys allowed.
6. All fixtures intended to be controlled as a zone should be given the same DMX start address. Fixtures default to a start address of 1.
7. The following RDM configuration devices are recommended for fixture addressing and configuration
 - a) Acuity Controls Fresco DXT-1M12-2M09-NE1L and Pathport Manager 5.3 software
 - b) Fresco FCS7TSNX

DMX Installation Guide

Commissioning with Remote Device Manage (RDM)

After the fixtures are properly wired together as a DMX network (also known as a DMX universe):

1. Use an RDM controller (such as Fresco) that is compliant with *ANSI E1.20 - 2010 Entertainment Technology RDM Remote Device Management Over DMX512 Networks* requirements.
2. Set the address(s) for the fixture(s) (addresses are also known as slots).
3. Do not use other personalities before consulting with factory.
4. After commissioning, do not operate the system with RDM and DMX messages at the same time.

Table 1:

Supported RDM PIDs

DMX-RDM PIDs Standard PID definition	Req	Get	Set	Aculux PID Implementation	Aculux Tunable White/BBD PID Implementation
Disc_Unique_Branch	Yes	Yes			
Disc_Mute	Yes	Yes			
Disc_Un_Mute	Yes	Yes			
Supported_Parameters	Yes	Yes			
Parameter_Description	Yes	Yes			
Device_Info	Yes	Yes			
Software_Version_Label	Yes	Yes			
DMX_Start_Address	Yes	Yes	Yes		
Identify_Device	Yes	Yes	Yes		
Device_Model_Description		Yes		Aculux	Aculux BBD and Tunable White
Manufacturer_Label		Yes		Acuity Brands	Juno Lighting Group
Device_Label		Yes	Yes	Settable	Aculux IC/TC410T(SQ)
DMX_Personality		Yes	Yes	N/A	See Table of Personalities
DMX_Personality_Description		Yes		N/A	See Table of Personalities
Curve		Yes	Yes	Logarithmic and Linear, Preset to Logarithmic	N/A
Curve_Description		Yes		See note above	N/A

Table 2:

For TW/BBD Aculux only:

Please use personality 2 for Black Body Dimming (BBD), also known as Warm Dimming, or personality 5 for Tunable White (CCT Tuning). Consult with factory before using other personalities.

DMX-RDM Personalities Item	Personality	Slots	Slot 1 Handle	Slot 2 Handle	Description
2	Warm Dimming 3000K SQ	1	Brightness	n.a.	BBD 1800-3000K, square law response
5	Tunable White 4300K SQ	2	Brightness	CCT	CCT tuning 2000-4350K, square law response

Product Services Phone (888) 387-2212

Additional Notes & Definitions

Lighting controller: is an electronic device used to control multiple lights at once. A lighting controller can be a console type processor such as the Pathway Cognito™ or a wall controller such as the Acuity Controls Fresco™.

DMX512: is a standard for digital communication networks that control lighting.

Slot: is a sequentially numbered byte in a DMX512 packet. Slot 0 is the START Code. Slots 1 through 512 are data slots.

Universe: is a DMX512 data link originating from a single DMX512 source. 512 data slots comprise a single universe.

Daisy chain: is a wiring scheme in which multiple devices are wired together in series.

RDM (Remote Device Management): is a protocol enhancement to USITT DMX512 that allows bi-directional communication between a lighting or system controller and attached RDM compliant devices over a standard DMX line. This protocol allows configuration, status monitoring, and management of these devices in such a way that does not disturb the normal operation of standard DMX512 devices that do not recognize the RDM protocol.

Termination resistor: is used when you are using several DMX luminaires on a single DMX line (Universe). It removes noise and flickering on the DMX line which improves the reliability of the DMX system. The termination resistor should match the cable impedance.

Square Law Curve: is a dimming curve most closely correlating to that of traditional halogen dimming performance

DMX Fail: This parameter defines the behavior of the device when the DMX512 control signal is lost.

DMX Startup: This parameter defines the behavior of the device when it starts up and the DMX512 control signal is absent.

Emergency: If the DMX signal fails, the driver (EDXB) will hold the last setting until the DMX signal is restored. In a power outage, the driver completely powers off so it will lose whatever the last DMX level was. The fixture will then be lit at the emergency backup's max current setting. The emergency level is a function of the battery pack and has no correlation at all with the last DMX setting. When power is restored, if the fixture powers up before the control system and does not acknowledge any DMX signal, the driver defaults to 20% output. Once the DMX signal is restored it will operate as normal.

Tunable White (TW): Allows for the CCT of a fixture to be adjusted along the Planckian locus independent of dimming.

Black Body Dimming (BBD): Luminaire duplicates halogen dimming by shifting the CCT lower as the fixture is dimmed.