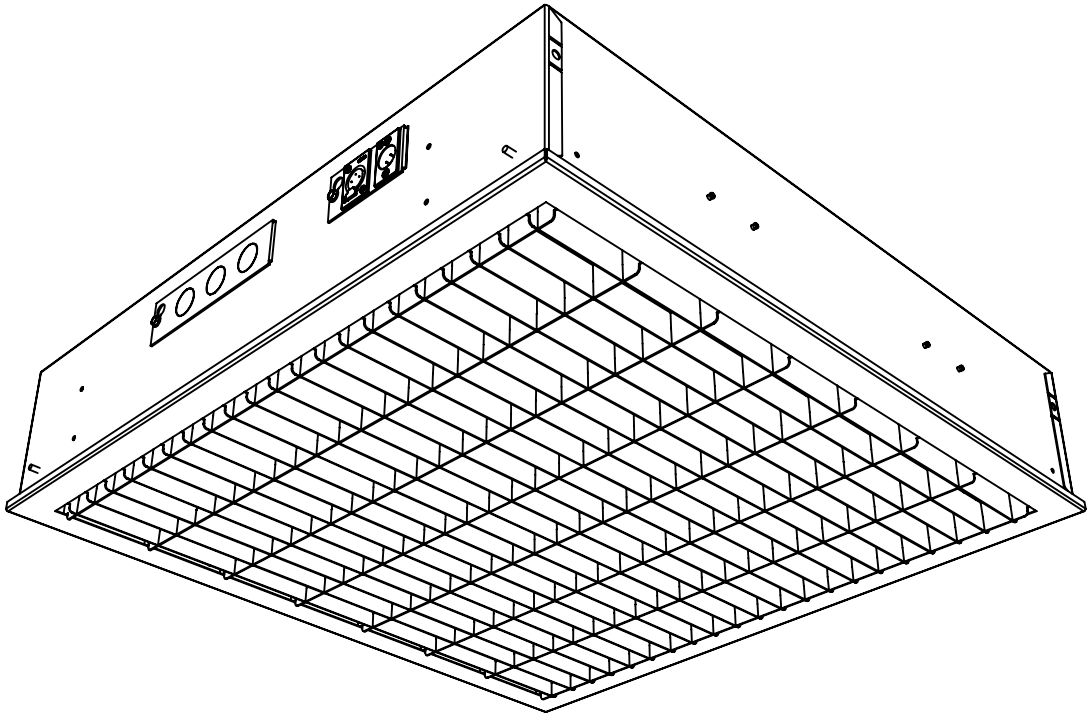
brightline®
Evolutionary Lighting Systems

Stealth-T™ Videoconference Fixture

230V Operation and Installation Guide



580 Mayer Street, Building #7, Bridgeville, PA 15017 • phone: 412.206.0106 • fax: 412.206.0146
www.brightlines.com

REV 11/17/2011

Safety

- Fixture installation should be performed in accordance with local and national codes. All fixtures must be properly grounded.
- To prevent fire or electric shock, do not expose the fixtures to water or moisture. Stealth-T fixtures are listed for indoor use only.
- Do not attempt to dim a non-dim fixture. Do not attempt to operate a fixture without lamps installed, as this could damage the ballast.
- Do not attempt to change the lamps on a fixture that is energized, or to work with your hands near an exposed socket that is energized.
- A qualified technician should perform service on fixtures. Do not remove the ballast cover until the unit has been de-energized.
- **Brightline** fixtures are not Insulated Ceiling (IC) rated. Maintain the proper distance from insulation.
- In case of lamp failure:

    1. Turn the fixture power off.
    2. Wait 30 seconds for the ballast to reset.
    3. Install the new lamp(s).
    4. Turn the fixture back on.

Owner's Record

- The serial number of this product can be found on the top of the ballast cover. You should note the model number and the serial number in the space provided and retain this book for future reference as a permanent record of your purchase.

Model No._____

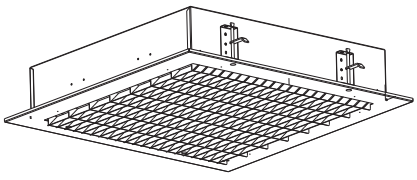
Serial No._____

Date of Purchase_____

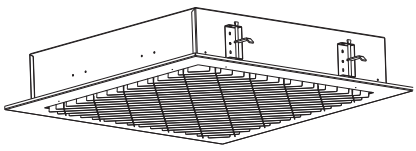
Product Description

Stealth-T Fixtures

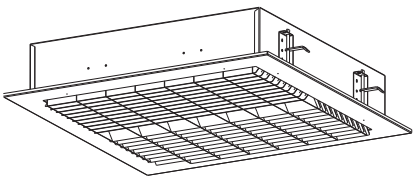
Two-lamp, glare-free videoconference lighting fixtures, ideal for distance-learning and telepresence applications. Available with four louver types: Forward Throw, Corner Throw, Bidirectional Throw, or Downward Throw. Multiple ballast types available.



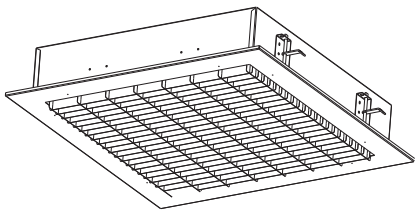
Forward-Throw Louvers



Corner-Throw Louvers



Bidirectional-Throw Louvers



Downward-Throw Louvers

Brightline fixtures are not Insulated Ceiling (IC) rated. Maintain the proper distance from insulation.

Specifications

Housing:
Die-formed, code-gauge, cold-rolled steel housing. Aluminum louvers. Fixture may be used in a 24-in or 600mm lay-in grid ceiling or cut into drywall or plaster. Thin-flange grids may require a flange kit.

Reflector:
Die-cut, code-gauge, cold-rolled steel with (4) pull-down spring latches. Door frame may be removed from fixture without tools.

Finish:
Fixture body is painted with high-gloss, electrostatically applied white enamel finish. Louver and door frame are painted with matte white enamel.

Luminaire/Ballast:
High-frequency electronic ballast with a power factor > .97, THD < 10%. Class A sound rating. Luminaire operates at 230VAC, 50 Hz., .51A

Lamp Socket:
2G11 4-pin. Molded white high-strength thermoplastic. Push-wire connections for 18-gauge leads.

Lamp: 55W/DL

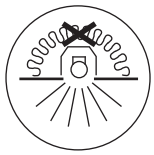
3000 K - 82 CRI, 10,000 hours
3000 K - 96 CRI, 10,000 hours
3500 K - 82 CRI, 10,000 hours
4100 K - 82 CRI, 10,000 hours

Studioline
3200 K - 85 CRI, 8,000 Hours
5600 K - 85 CRI, 8,000 Hours

Optional Accessories:
Louvers are available for angled operation (approx. 45º) in one direction (FW and CA options) or bidirectionally (BI option). Louvers are also available for downward-throw operation (DN option).

Dimensions:
The overall dimension of the fixture body (with the exception of the door frame) is 23.4- x 23.4- x 4.8-in [595- x 595- x 122-mm]. The approximate weight of the fixture is 18 lb [8.2 kg].

Labels:
CE approved; patent pending; IP20



Installation

1. Unpack the fixtures. The louver frames and lamps may be packed with the fixtures or separately. To prevent damage, install the fixtures before installing lamps and louver frames.

2. Prepare the line-voltage wiring to the fixtures. Depending on building conditions, it may be necessary to install the power and control wiring before the fixture is placed in the ceiling. Ensure that the supply voltage matches that required by the ballasts. To install the power feed, remove the knockouts as needed and install the correct type of power cabling and strain relief (not provided). Connect the wires from the feed using wire nuts, observing the wire color-coding, and re-install the knockout plate. **Brightline** fixtures intended for the North American market use Black/White/Green wires respectively for Line/Neutral/Earth Ground; fixtures shipped to other locations use Brown/Blue/Green-Yellow for Line/Neutral/Earth Ground. You may want to install sufficient slack in the power cable so that, if necessary, the fixture can be moved to an adjacent ceiling opening.

3. These fixtures are not Insulated Ceiling (IC) rated. Maintain the proper distance from insulation (3 in [76 mm] in the US and Canada).

4. If the fixture requires low-voltage control, the proper wiring must be run to each fixture. Connect the control wires inside the fixture, observing the proper color-coding. Install the control wiring above the ceiling. (See the *Control Wiring* section below.)

5. Fixtures can be mounted in two ways: either flush-mount in a “hard” ceiling, such as plaster or drywall; or mounted in a T-Grid acoustical-tile ceiling.

- **Hard Ceilings:** Verify that the locations in which you intend to mount the fixtures are free of above-ceiling obstructions such as ceiling joists, air conditioning ducts, etc. For ease of installation, a minimum of 8 in [203 mm] of clear height above the ceiling is recommended. In accordance with drawings provided by **Brightline** or the local architect or engineer, prepare the ceiling by cutting openings that are 24.56- x 24.56-in [624- x 624-mm] in size. Depending on ceiling construction, it may be necessary to install a frame in the opening to accommodate the weight of the fixture. Install the power and control wiring as described above. With the mounting clips in their recessed position (folded back next to the fixture, see figure 1), lift the fixture into its opening.

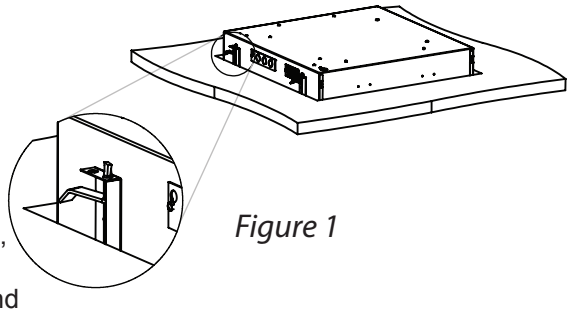


Figure 1

Using a screwdriver, turn the screws on the bottom of the mounting clips until the clips turn approximately 90° and rest on the frame or ceiling structure. (Figure 2) Adjust the clips so the bottom of the fixture is flush with the exposed side of the ceiling. (Figure 3)

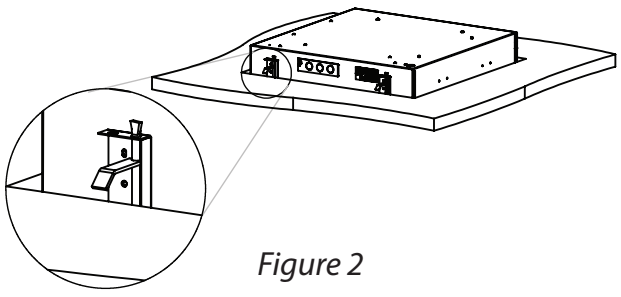


Figure 2

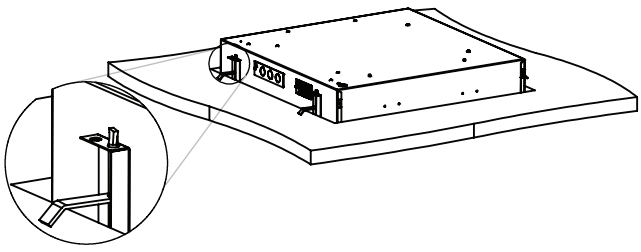


Figure 3

Installation

5. (continued)

- **T-Grid Ceilings**: Prepare the T-Grid to receive the fixtures. Fixtures are available for either 2- x 2-ft or 600- x 600-mm grid spacings. Depending on the ceiling layout, it may be necessary to add additional track sections and/or prepare different sized ceiling tiles. For ease of installation, a minimum of 8 in (200 mm) of clear height above the track is recommended. Make sure that the T-Grid is sufficiently braced to accept the weight of the fixtures. Place the fixtures into the correct openings in the ceiling grid in accordance with plans provided by **Brightline** or the local architect or engineer. If required by local code, install "safety clips" to attach the fixtures to the T-Grid or the building structure.

5A. Install "safety wires" on the tabs on the sides of the fixtures and attach to the building structure, in compliance with local codes. (Figures 4 and 5) **Brightline** recommends not relying on the t-track alone to hold the weight of the fixtures.

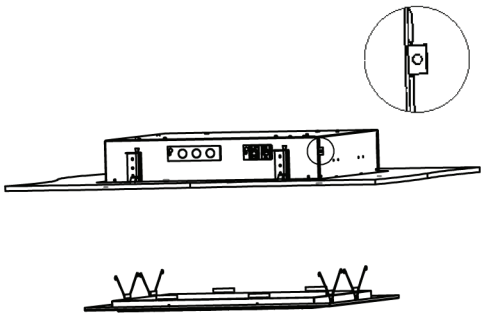


Figure 4

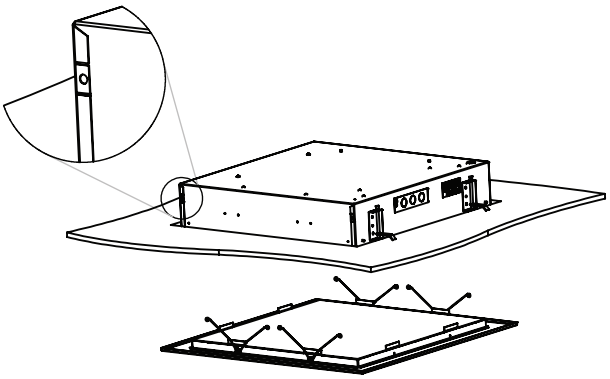


Figure 5

Note: Use screwdriver to bend tabs outward to install safety wires.

6. If necessary, complete the installation of the power and control wiring

7. With the power off, install the lamps. Make sure they are firmly seated in their sockets and clips.

8. Energize the fixtures and test for proper operation.

9. Install the door frame and louver assembly, with the openings in the louvers pointed in the correct direction(s) as indicated on the project drawings. (Figure 6 and 7)

10. For optimal performance, Season lamps for 12 hours prior to dimming.
Note: Approximate initial Lumens after 100 hours of operation.

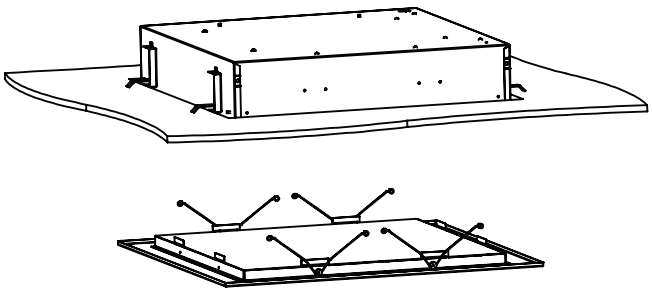


Figure 6

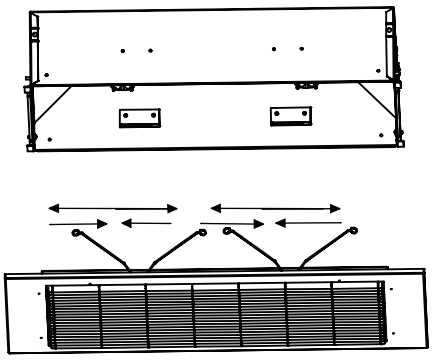
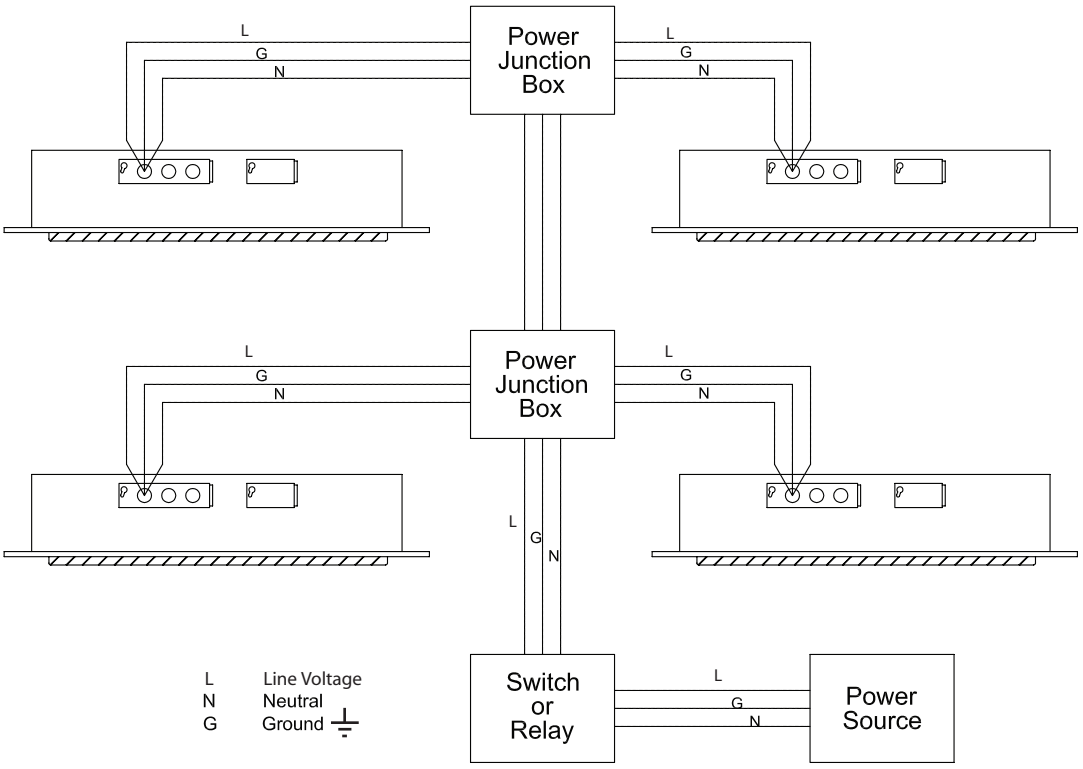


Figure 7

Non-Dim (Switched) Riser Diagram

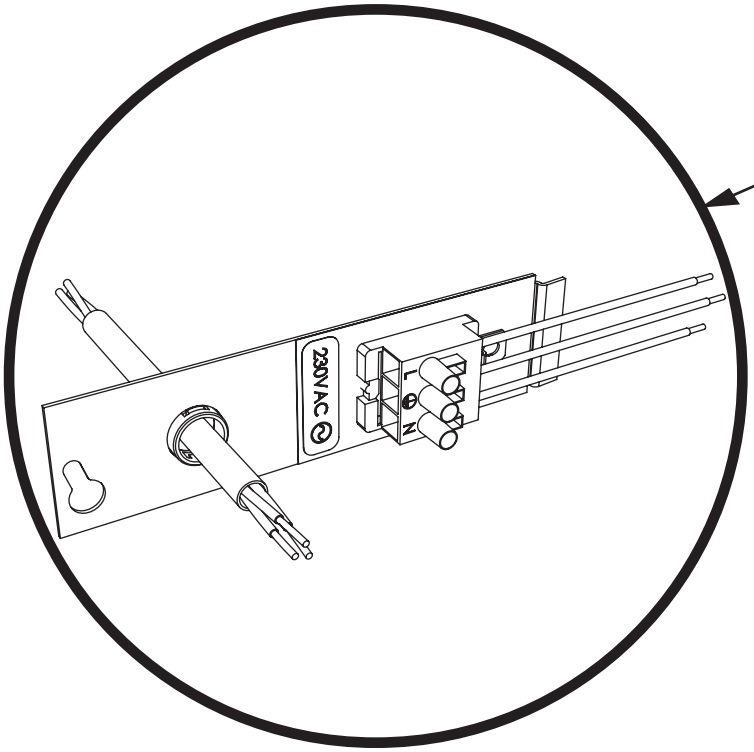


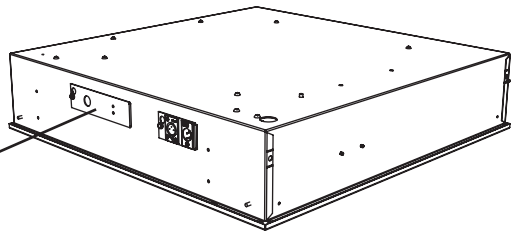
Non-Dim (Switched)

The fixture may be controlled by a local on/off switch, or by a relay panel.

The fixture is wired to a source of AC power (Line/Neutral/Ground) only.

Phase-Control (Two-Wire) Riser Diagram





Electrical installation:

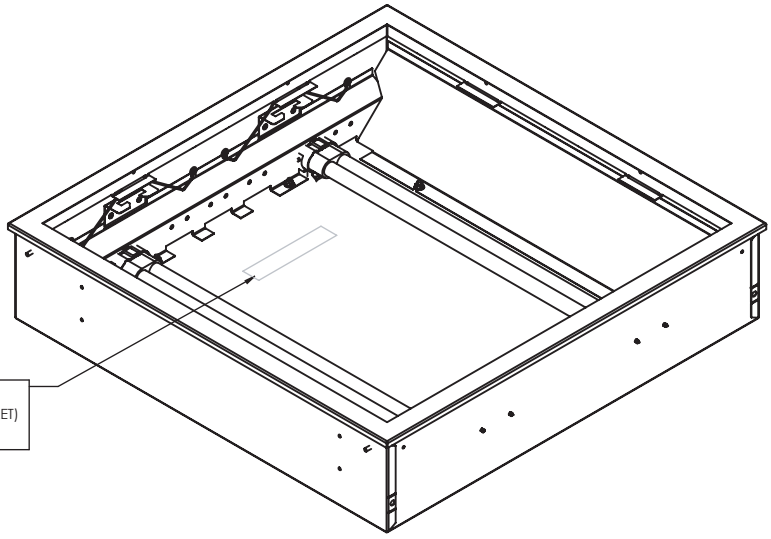
Brightline provides a sealable power bracket with a 3-pole terminal block on its interior face and a power inlet for cord up to 15mm. To wire the fixture:

1. Untighten self-tapping screw
2. Remove bracket from fixture enough to access terminal block
3. Feed leads through the grommetted hole
4. Wire according to label adjacent to terminal block. Tighten contact screws
5. Re-insert bracket into fixture and close with self-tapping screw

Phase-Control Dimmed (Two-Wire)

Connect your fixtures to the output of forward phase-fired dimmers. Most dimmers are of this type; "SCR" and "SSR" dimmers work in this way, as do most architectural dimmers. The use of reverse phase-fired dimmers is not recommended. If it is possible to set the type of load the dimmer will control, configure it as a two-wire fluorescent type, or choose a dimmer intended for a two-wire fluorescent ballast.

Label Placement Reference

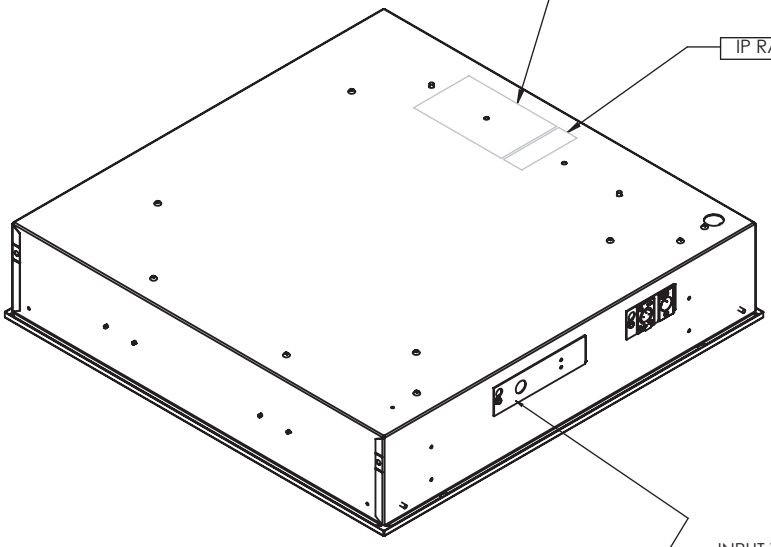


- TURN OFF FIXTURE BEFORE RELAMPING
- CAUTION: RISK OF FIRE - USE WITH MAXIMUM 55 WATT LAMP (BIAX, 2G11 SOCKET)
- AMBIENT TEMPERATURE (T_a): 25°C

brightline®

MODEL: ST2X2-24FW-IG
230VAC, 50Hz., .51 AMPS

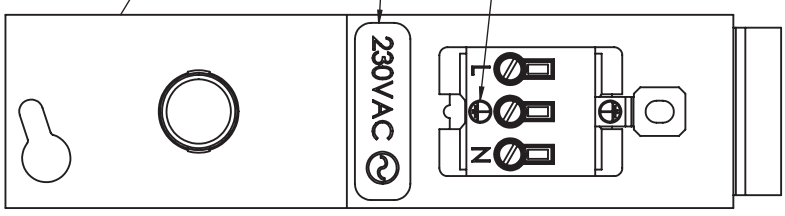
- USE MINIMUM 90°C SUPPLY CONDUCTORS
- DO NOT INSTALL INSULATION WITHIN 76MM (3 IN.) OF ANY PART OF THE LUMINAIRE
- DRY LOCATIONS ONLY



IP RATING: IP20

INPUT VOLTAGE

GROUND (EARTHLING)



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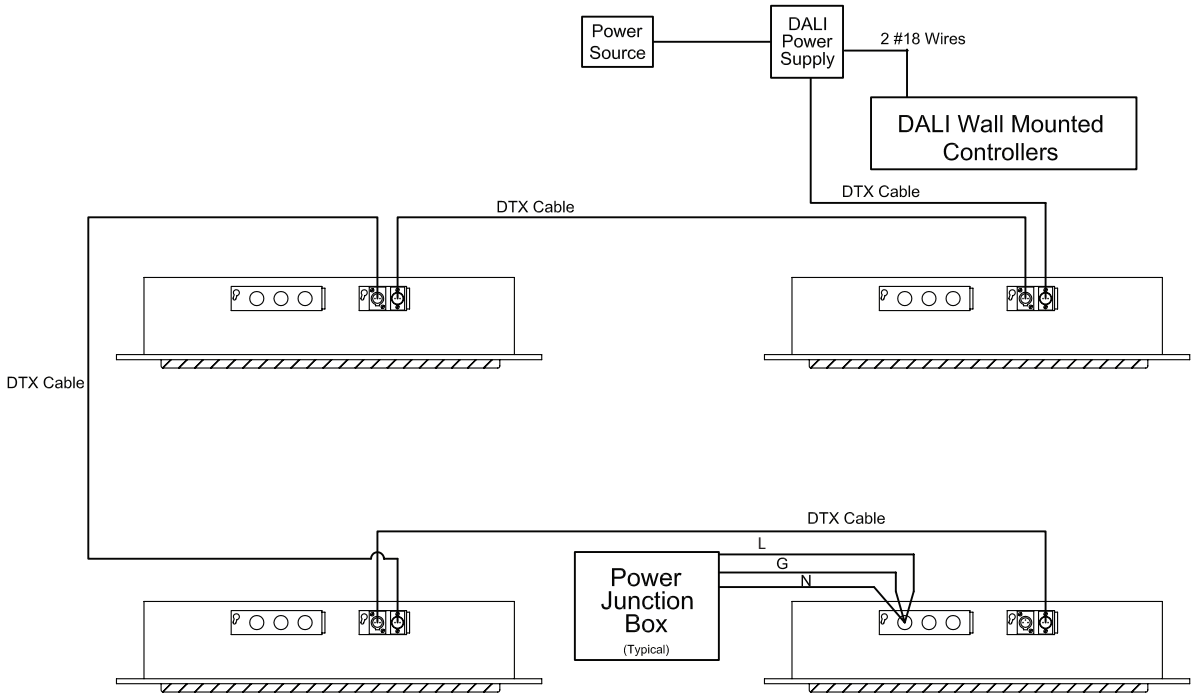
Digital-Dimmed (DALI with Wall Controller) Riser Diagram



DALI Dimmed

A DALI (Digital Addressable Lighting Interface) signal controls these fixtures. The fixtures will function (but not dim) in the absence of a control signal.

The control signal is connected to the fixture through the 3-pin XLR-type receptacle on the side of the unit. As this is low-voltage wiring, it may not be necessary to install the control wiring conduit. If they were specified, the DALI control cables may be provided as part of your order. Two receptacles are provided to allow the control wiring to be daisy-chained.

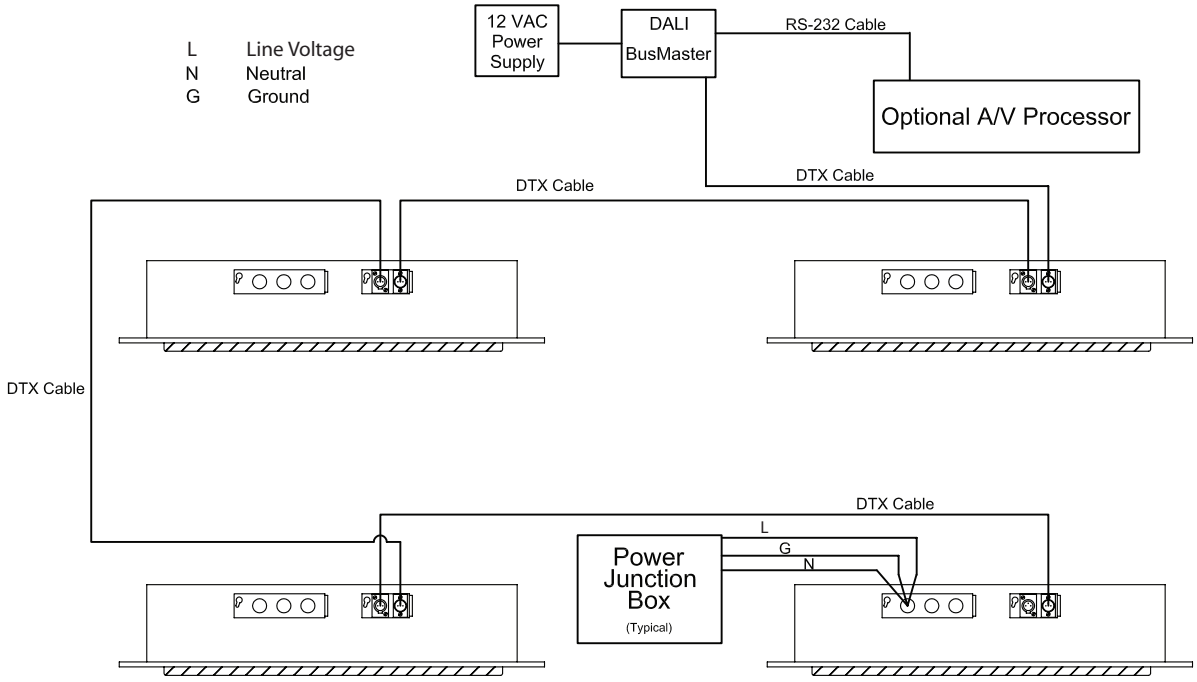
As each fixture is assigned an individual address, fixtures on a DALI control line may be dimmed to differing intensities.

DALI control wiring is topology and polarity independant. DALI control cables may be daisy chainned. Keep the total wire run as short as possible. See the literature that is provided with your DALI controller, or contact Brightline for details.

Power for the DALI network is provided by a seperate power supply. See the instructions that come with it for installtion instructions.

For clarity, only one fixture's power feed is shown. Each fixture requires a source of unswitched AC power.

Digital-Dimmed (DALI with RS-232 Busmaster) Riser Diagram



DALI Dimmed with BusMaster

A DALI (Digital Addressable Lighting Interface) signal controls these fixtures. The fixtures will function (but not dim) in the absence of a control signal.

The control signal is connected to the fixture through the 3-pin XLR-type receptacle on the side of the unit. As this is low-voltage wiring, it may not be necessary to install the control wiring in conduit. If they were specified, the DALI control cables may be provided as part of your order. Two receptacles are provided to allow the control wiring to be daisy-chained.

As each fixture is assigned an individual address, fixtures on a DALI control line may be dimmed to differing intensities.

DALI control wiring is topology and polarity independent. DALI control cables may be daisy-chained. Keep the total wire run as short as possible. See the literature that is provided with your DALI controller, or contact **Brightline** for details.

Power for the DALI Network is provided by the BusMaster. The BusMaster and the DALI network are configured by using the supplied WinDIM software. The BusMaster may optionally be controlled by an A/V proccessor via its RS-232 serial interface.

For clarity only one fixture's power feed is shown. Each fixture requires a source of unswitched AC power.

Troubleshooting Guide

Problem	Possible Cause	Solution
Fixture does not light.	1. Missing or improper incoming power. 2. Defective lamp(s)	1.Verify that the fixture is recieving proper voltage. 2. Troubleshoot by replacing with known good lamps. If necessary, replace with new lamps.
Lights go to full but do not dim to minimum.	1. Ballasts are not properly grounded. 2. Lamps are too old. 3. Improper control signal.	1. Check to see that the fixture is properly grounded. 2. Relamp the entire fixture. 3. If yours is a low-voltage-controlled fixture, the control signal may be missing or the fixture may not be properly configured.
Lights flicker or drop out at low end.	Defective or damaged lamps.	Test with lamps from a known good fixture; replace bad lamps as required.
Lights are flashing or strobing.	Wrong voltage for ballast installed.	Verify that the supply voltage is correct for ballast installed.
Lamps are not at the same light level.	Mixture of lamp ages or color temperatures.	Check that all the lamps are of the same type and age.
Ballast buzzes or hums.	Defective ballast.	Indentify location of buzz and replace ballast if necessary.

Maintenance

- The fluorescent lamps provided with the fixtures are rated for up to 10,000 hours. However, as with all lamps, there will be some drop-off in intensity as they approach their rated life. A conservative user may want to re-lamp at 75-80% of the rated life. **Brightline** recommends that as lamp intensity begins to drop off, or when the life expectancy is reached, all lamps in a room be replaced as a group.

- The lamps provided with your **Brightline** fixture have been selected to provide the correct operating parameters for your video system. All lamps should be replaced with those having an identical model number and manufacturer. After relamping, it may be necessary to perform a new white-balance on your camera(s) after re-lamping. Contact your **Brightline** dealer or representative if you need assistance in purchasing replacement lamps.

- Dispose of used fluorescent lamps in conformance with local regulations or by participating in **Brightline's** lamp-recycling program.

- For optimal fixture performance, it is necessary to keep the lamps and lenses clean. Use a dry, non-abrasive cloth to remove dust. Avoid the use of materials that might scratch the lenses.

WARRANTY

Brightline guarantees all its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment.

PROCEDURES

If any product is found to be unsatisfactory under this warranty, the buyer must notify **Brightline** immediately. Once a course of action has been determined, if it is necessary to return the product to **Brightline** a Return Authorization (RA) will be issued. Ship the product directly to **Brightline**, 580 Mayer Street, Building #7, Bridgeville, PA 15017. The RA number should be marked on the shipping carton. The unit will be replaced or put into proper operating condition, free of all charges. The correction of any defects through repair or replacement by **Brightline** shall constitute fulfillment of all obligations and liability of **Brightline** to the buyer under this warranty and the contract of sale.

DISCLAIMERS

Brightline is not responsible for damage to its products caused by improper installation, maintenance, or use; by improper electrical hookups; or by unauthorized repairs.

Failure to notify **Brightline** of unsatisfactory operation or any improper or unauthorized installation, maintenance, use, repairs, or adjustments shall terminate the warranty and **Brightline** shall have no further responsibility under the warranty.

Brightline shall not be liable for special or consequential damages in any claim, action, suit, or proceeding arising under this warranty or contract of sale, nor shall **Brightline** be liable for claims for labor, loss of profits or goodwill, repairs, or other expenses incidental to replacement. **Brightline** makes no other warranty of any kind whatsoever, expressed or implied, and all implied warranties of merchantability and fitness for a particular purpose that exceed the obligation specifically described in this warranty are hereby disclaimed by **Brightline** and excluded from this agreement.

All shipments, unless otherwise noted, are F.O.B. factory.

The customer is advised to inspect for shipping damage, apparent and/or hidden. If detected, notify the transportation company and file your claim.

580 Mayer Street, Building #7, Bridgeville, PA 15017 • phone 412.206.0106 • fax 412.206.0146

www.brightlines.com

Notes