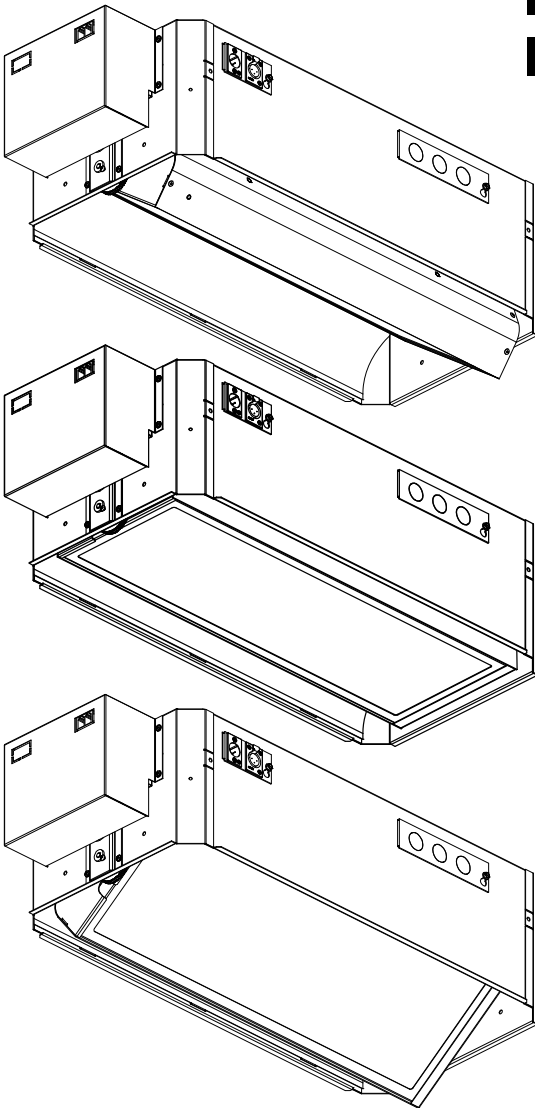




brightline®
Evolutionary Lighting Systems

T-Series - Motor Module

Installation and Operating Instructions



Advanced Motorized Positioning Capability

- * Simultaneously pivot up to 100 luminaires
- * Preset and store up to 60 scenes
- * Angular motion - 100 degrees at 1 degree resolution
- * Compatible with most Building Automation Controllers

Brightline has Introduced second-generation motor capability to our T-Series fixtures. Adding a motor module provides the T-Series fixture with self-contained, independently addressable motion capability, which enables rotating the luminaire lamp carriage about its horizontal axis to angular positions through +/-50 degrees from the down-light position with 1-degree incremental resolution. T-Series fixtures so equipped are stand-alone “nodes”, which may also be interconnected via 6-conductor data cable with RJ-25 plugs to comprise a “node control network”. The “node control network” facilitates simultaneously orienting up to 100 luminaires within a span of a few seconds. Luminaire node control networks are typically supervised by AV / building automation controllers, via serial protocol RS-232 / RS-422.

Onboard memory provides for up to 60 unique scenes on a node control network of up to 1000 feet total length in standard configuration. Special configurations for greater network lengths are possible upon request.

Motor modules accept universal single-phase AC power (90-264VAC 50/60Hz).

For information concerning the lamps, drivers, fluorescent ballasts and dimming systems please refer to the T-Series fixture data.

T-Series Fixture Manual - Motor Module Addendum

Overview

The Motor Module is a factory-installed option to the T-Series fixture, as opposed to a field-fitted add-on kit. Each Motor Module is comprised of a low voltage DC motor, a geared transmission coupled to the lamp carriage, an onboard control module and its power supply. A T-Series fixture equipped with the Motor Module is a self-contained system, capable either of independent operation or functioning as an element of a network of up to 100 motorized lamp fixtures.

This addendum provides the details of networking individual motorized T-Series fixtures, connecting to a building controller or similar device employing serial communications using ASCII code, setting / recalling lamp carriage cues/scenes and some basic troubleshooting hints. Please note that this section of the manual is primarily devoted to the Motor Module system. For information on the lamps, ballasts, dimming network / protocol, etc please see the manual index.

Setup and Connections

The Motor Module is shown on a T-Series fixture in *figure 1* below. Please note the two RJ-25 telephone-style data connectors located on the Motor Module, called out in *figure 1* and labeled *A* and *E*, are the ports used in serially connecting individual units. Brightline's RQF Modular

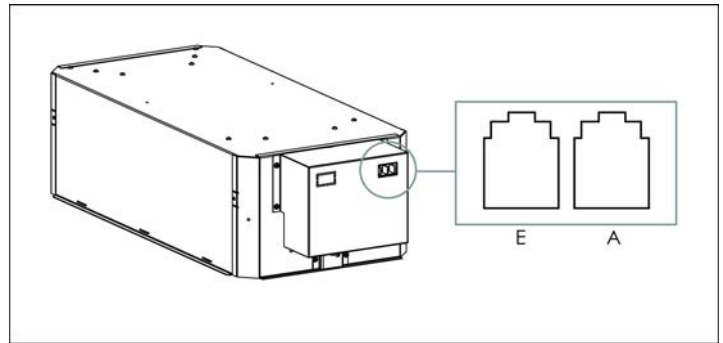


FIGURE 1: FIXTURE (SHOWN WITHOUT PANEL)

Data Cable telephone style data cables are used in making these connections, with the *A* port of one module connected to the *E* port of the next in succession, as shown *figure 2* below. The RJ style jacks and mating

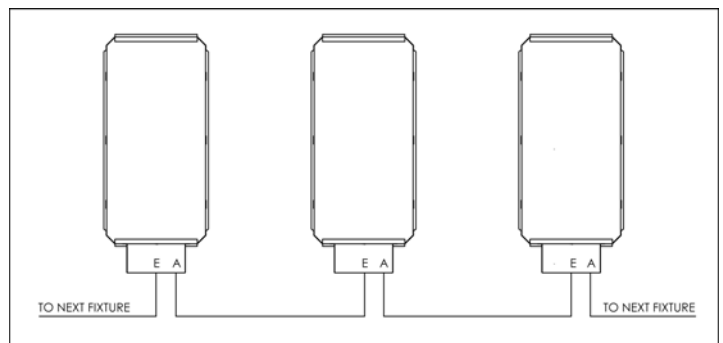


FIGURE 2: FIXTURES IN SERIES

plugs on the cables include a latch, which both secures the connection and ensures correct alignment. Up to 100 motor modules may be connected with total network cable run of up to 1000 feet (304 meters).

The first Motor Module with the open *E* port should be

within a cable run length of 100 feet (30 meters) to the building automation control. This Motor Module *E* port is connected to either of the two *red* RJ-25 ports on the RQ Bridge, as called out in *Figure 3* below, using a Brightline RQF Modular Data Cable. The Bridge is the communications hub for the networked Motor Modules. An RQF Modular Data Cable is also used to connect the *black* RJ-14 port on the RQ Bridge to the 9-pin Serial Adapter which in turn is connected with the building control system

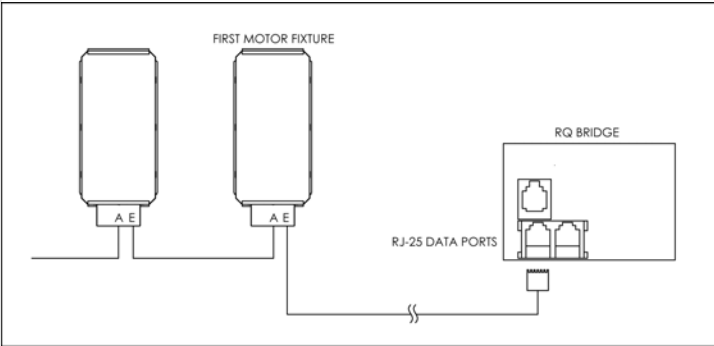


FIGURE 3: RQ BRIDGE CONNECTION TO TERMINAL MODULE

as shown in *Figure 4*.

Setting Cues and Scenes with Various Control Systems

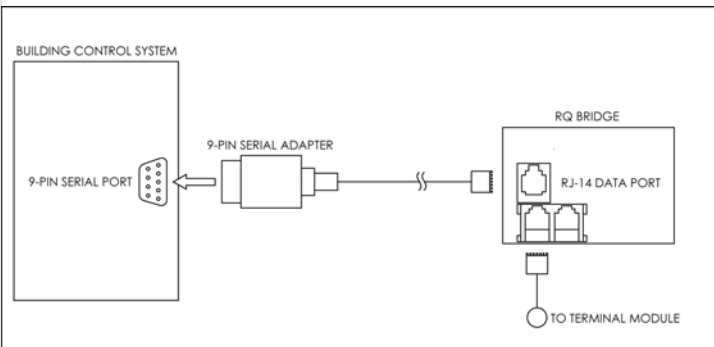


FIGURE 4: RQ BRIDGE CONNECTION TO BUILDING CONTROL SYSTEM

Definitions

A motor “Cue” corresponds to the angular position of the attached luminaire lamp carriage with respect to the overhead “down-light position” as shown in *Figure 5* below. The Motor Module provides capability to control the luminaire lamp carriage movement over an arc of 100 degrees (+/- 50 degrees centered on the down-light position) with resolution of 1 degree. Each Motor Module can store up to 60 distinct cues.

A motor “Scene” consists of the corresponding “Cues” of all motor modules connected to comprise a “Node Control Network.” For example:

“Scene 1” consists of Cue 1 of Motor 1, Cue 1 of Motor 2, Cue 1 of Motor 3, etc.

“Scene 2” is composed of Cue 2 / Motor 1, Cue 2 / Motor 2, Cue 2 / motor 3 etc.

The motor control network has the capacity for defining / recalling up to 60 such scenes. Recalling a scene causes all motors on the network to simultaneously reposition the lamp carriages within time of under five seconds.

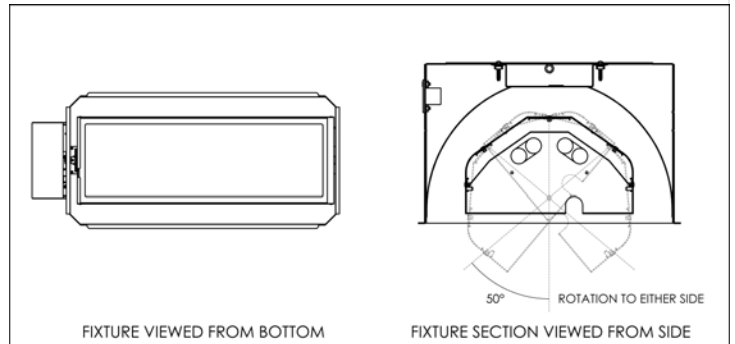


FIGURE 5: DOWN-LIGHT POSITION

Dimmable T-Series fixtures are programmed via DALI or other dimming protocol appropriate to the onboard ballasts to associate a dim level in correspondence with the motor position cue. A “Fixture Cue” is comprised of a motor cue and its corresponding dimming cue. “Fixture Scenes” are comprised of the corresponding Fixture Cues for all networked fixtures. This programming is accomplished in the building controller system, the programming of which is particular to the system used in your specific installation.

Using the AMX In-Concert DVX-2100, AVX-400 Controllers

Using the Crestron 2-Series, 3-Series Control Systems

Using the Extron IP Link Devices

Using the Savant Systems “Rosie” Control ROSIE System Controllers

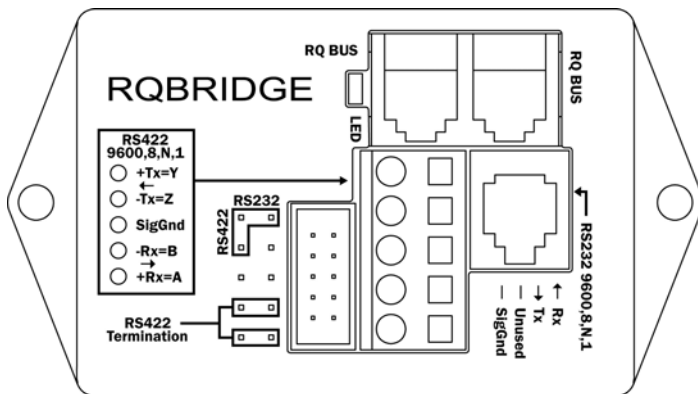
Basic Troubleshooting for Motor Modules / Networks

T-Series Fixtures equipped with Motor Modules are shipped pre-calibrated & tested from the Brightline factory and should not require any adjustment or programming, aside from defining & recalling of Cues and Scenes as described above. Almost any problems with the Motor Modules will be the result of incorrect or unsecured cable connections. Connections should be checked to conform to the diagrams in the instructions provided above, and that the cable plug latch is secured.

Should these actions fail to resolve a problem, please contact Brightline Customer Service or the service group for the building automation controller in use at your installation.

RS422 Serial Interface

In addition to the most commonly used RS-232 serial interface, the RQ-Bridge also includes an RS-422 interface (spring terminal block) which enables the user to extend the motor module network up to approximately 4000 feet (1200 meters) total length.





Notes: