

# Tetra<sup>®</sup> Dimming Module

Product Code #75612

Description Code #GEDM1-A

## Easily control lighting levels of Tetra LED Lighting Systems

- Designed for use with any 12V or 24V Tetra LED Lighting System
- Compatible with most 0-10V dimming controllers
- Small, compact size facilitates low-profile installation
- Damp location rated



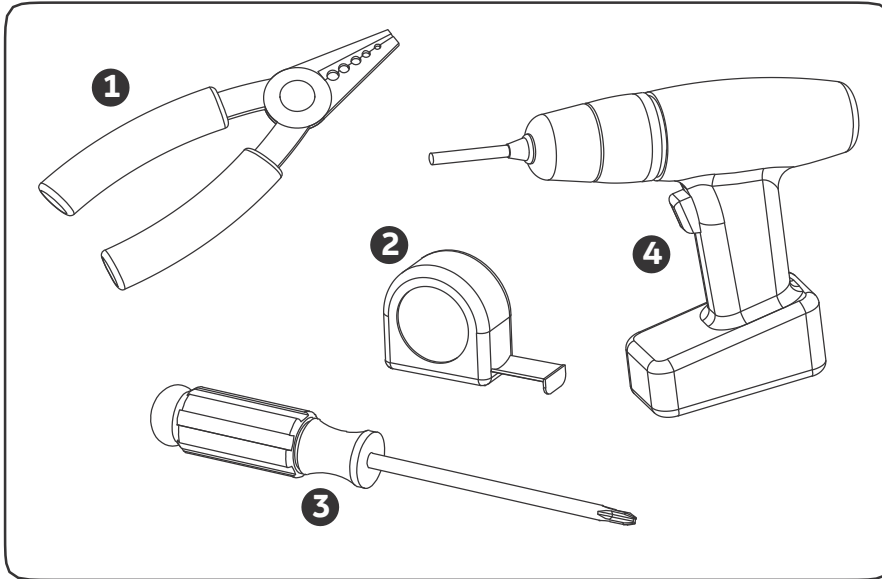
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This Class [A] RFLD complies with the Canadian standard ICES-005. Ce DEFR de la classe [A] est conforme á la NMB-005 du Canada.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



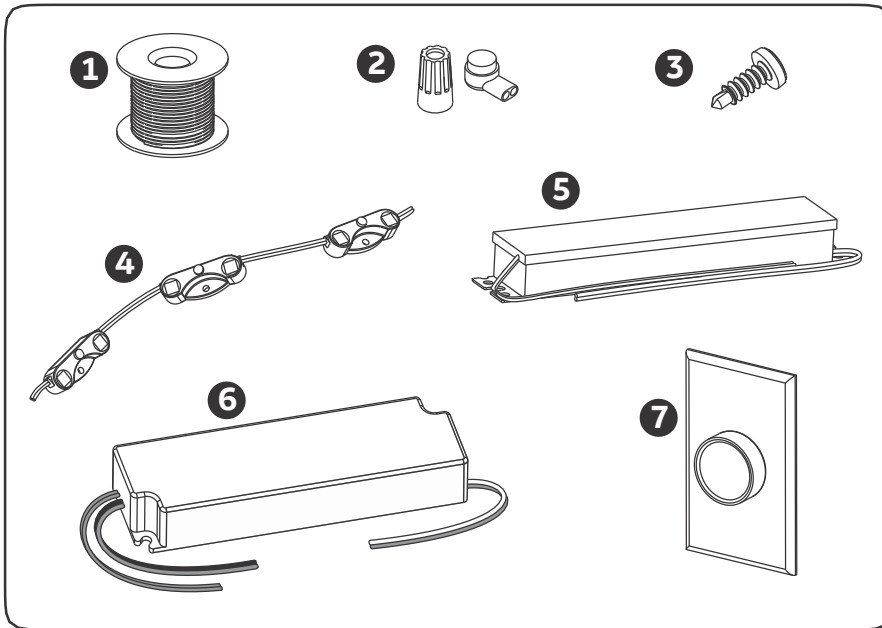
imagination at work

## Tools and Components



### Tools required:

- 1 Wire stripper/cutter
- 2 Tape measure
- 3 Screwdriver
- 4 Cordless drill



### Components required:

- 1 UL approved 18 AWG (0.82mm<sup>2</sup>) supply wire
- 2 UL approved 22-14 AWG twist-on wire connectors (0.33 - 2.08 mm<sup>2</sup>) or 3M Scotchlok™ connectors
- 3 #6 or #8 (M3 or M4) self drilling pan headed screws
- 4 12 Volt or 24 Volt Tetra LED Lighting System
- 5 12 Volt or 24 Volt Tetra Power Supply
- 6 Tetra Dimming Module
- 7 Compatible 0-10V Dimming Controller



## BEFORE YOU BEGIN

Read these instructions completely and carefully.

### **⚠ WARNING / AVERTISSEMENT**

**Risk of electrical shock.** Disconnect power before servicing or installing product.

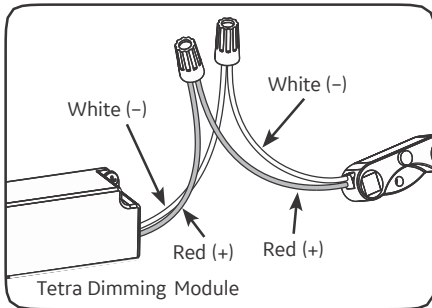
**Risque de choc électrique.** Couper l'alimentation avant le dépannage ou avant l'installation du produit.

- A. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
- B. Before servicing or cleaning unit, switch power off at the service panel and follow appropriate lock out / tag out safety procedures.

# Installation

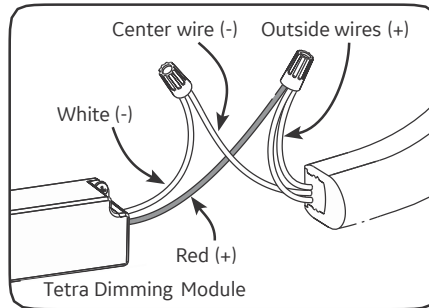
## Step 1: Attach Tetra Dimming Module to Tetra LED Lighting System

2 wire Tetra LED system



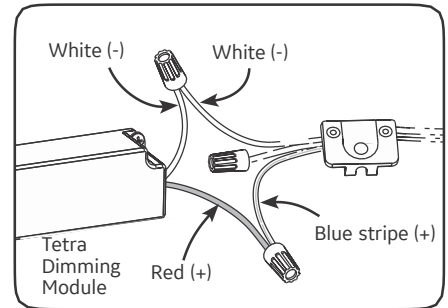
**A** Connect the (+) red output wire of the Tetra Dimming Module to the red (+) input wire of the Tetra LED system. Connect the (-) white output wire of the Tetra Dimming Module to the (-) white input wire of the Tetra LED system. Refer to the Tetra LED system for specific connection and loading information.

Tetra Contour



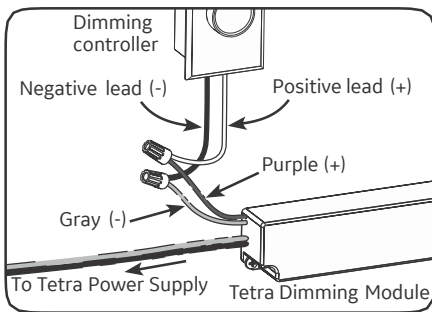
**B** Connect the (+) outside wires of Tetra Contour to the (+) red wire of the Tetra Dimming Module. Connect the (-) inside wire of Tetra Contour to the (-) white wire of the Tetra Dimming Module.

Tetra Power White XL



**C** Cap the middle wire of Tetra Power White XL with a twist-on wire connector. Connect the outside (-) white wire of Tetra Power White XL to the (-) white wire of the Tetra Dimming Module. Connect the (+) blue striped wire of Tetra Power White XL to the (+) red wire on the Tetra Dimming Module.

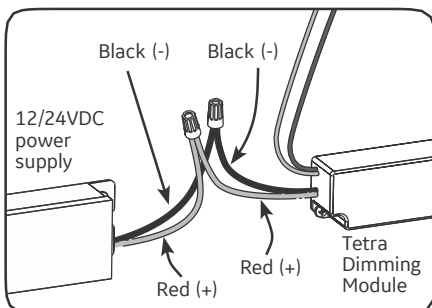
## Step 2: Attach Tetra Dimming Module to Dimming Controller



Connect the (+) purple and (-) gray wires of the Tetra Dimming Module to the 0-10V dimming controller. Refer to the dimming controller installation instructions for specific connection information.

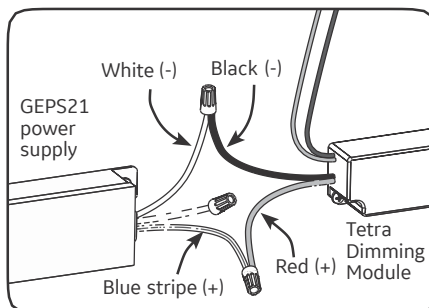
## Step 3: Attach Tetra Dimming Module to Tetra Power Supply

2 wire system



**A** Connect the red (+) and black (-) wires of the Tetra Dimming Module to the corresponding wires of the 12V or 24V Tetra power supply.

GEPS21 & GEPS21U



**B** Cap the center wire of the power supply with a twist-on wire connector. Connect the blue striped wire (+) of the Tetra power supply to the red input wire (+) of the Tetra Dimming Module. Connect the outside white wire (-) of the Tetra power supply to the black wire (-) of the Tetra Dimming Module.

### CAUTION

**Risk of damage.** The GEDM1 is a low voltage device. Only 12/24VDC Tetra power supplies should be attached to the black/red input leads. Damage to the GEDM1 may result if connected directly to 120/240VAC.

# Technical Specifications

## GEDM1

Input Voltage (VDC)	12–24VDC
Output Voltage (VDC)	12–24VDC
Output Current (ADC)	5.0A max.
Dimmer (VDC)	0–10VDC
Environmental Operating Temperature Range	-40°C to +60°C
Storage Operating Temperature Range	-40°C to +80°C
Dimensions	5.2 in. x 1.4 in. x 1.0 in. (132 mm x 34 mm x 25 mm)
Limited Warranty	5 years

## Technical Requirements

1. LED light output is controlled by DC voltage applied to the control leads (0-10V DIM purple and gray) on the GEDM1.
2. The dimming control device must accept, or sink, the power supply's DC current flow (maximum of 500 microamps per GEDM1 unit).
3. The power supply control leads are isolated from the power lines and are rated Class II. As many GEDM1 units as desired may be connected in parallel in a bus configuration. The length, wire size, and number of GEDM1 units on the bus must be configured so that the DC voltage drop as a function of the resistance of the wire and the control current flowing does not exceed 0.2 volts for dimming controls. The maximum DC voltage drop must not exceed 0.5 volts for controls used as a minimum/maximum, or hi-lo 2-level application.
4. Maximum light output will be achieved when the voltage on the control bus is opened (10±0.5 volts).
5. If the control bus is shorted, the current on the control bus will be 500 microamps maximum per GEDM1. All GEDM1 units on the control bus will then operate at minimum light level.
6. Two-level operation of the GEDM1 can be achieved using an open/close switch on the control bus. Maximum light is achieved when the switch is open and minimum light when the switch is closed (as can be determined from items 4 and 5 above).
7. The GEDM1 is intended for use with control voltages between 0 and 10 VDC. The control equipment must not impose a voltage greater than 11.0-volt peak maximum on the GEDM1 control leads.
8. The DC control voltage should have a maximum peak to peak ripple (low and high frequency ripple) not exceeding 10% of the average VDC. Short term transient voltage of the control devices must not exceed 14 volts.
9. Control equipment intended to control multiple GEDM1 units must be capable of sinking the current supplied to the control bus by the maximum number of GEDM1 units specified for the dimming control device. At any given level setting it must maintain control bus voltage constant within a range of ±5% as the number of GEDM1 units connected to the control bus varies from a minimum of one GEDM1 up to the maximum number specified for the control device.
10. Power supplies of various ratings (120V, 230V...) may be mixed on the same control system.
11. The control bus uses Class II wiring. All control devices connected to the power line must be properly isolated between the power line and the control leads and be UL approved Class II equipment.

### **WARNING!**

#### **RISK OF ELECTRIC SHOCK:**

- Turn power OFF before inspection, installation or removal.
- Properly ground Tetra Power Supply enclosure.
- Shut off power at fuse box or circuit breaker before installation.

#### **RISK OF FIRE:**

- Follow all NEC and local codes.
- Use only UL approved wire for input/output connections. Minimum size 18 AWG (0.82 mm<sup>2</sup>)

Conforms to the following standards:



This product is intended to be used as a lamp control gear that is installed after the mains control switch.

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