Introduction

This product is to be used for controlling fixtures via a 0-10 volt control wire. Refer to this manual for instructions on installation, and operation. The small form factor allows this controller to easily be installed. The high penetrating power of the 915 MHz radio allows this controller to transmit further than other wireless controllers.

Fixture Installation

Install controller utilizing the threaded nipple that mounts to a standard ½" knockout in electrical enclosures, fixture bodies, etc. Wire power and dim output to LED driver as seen in the diagram below. For best range, ensure wire antenna is vertical when positioning the controller box. Do not bend the antenna from the original orientation. Once powered, the controller will auto-connect with other Fusion controllers to develop the control system.

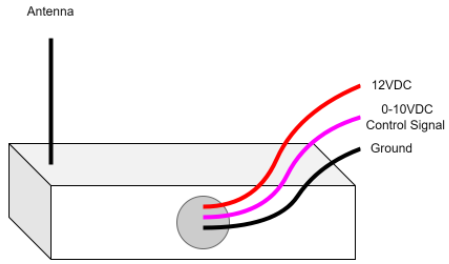

Figure 1: Fusion 4.0 Controller

Fail-To-On Functionality

This controller was designed with safety as a number one priority. We use fail-to-on practices. This means if there is a malfunction, the controller will default to turning the fixture on to ensure you are not left without light.

System Capabilities

- Solar Energy Harvesting
- Ambient Light Harvesting
- 2 Level Zone Motion Settings
- Demand Response
- Color Tuning
- Hardwire Controls
  - 2 Dim Outputs
  - Control up to 30 fixtures per output when wired with 24 AWG CU or larger

Applications

- General lighting
- Troffers
- Special area lighting
- High bay lighting
- Low bay lighting

FCC Compliance

FCC ID: 2A8T5-GENIUSIOT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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.

- Warning: Changes or modifications not expressly approved by Genesis Energy Technology LLC could void the user's authority to operate the equipment.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Controller Specifications

Absolute Max Ratings

Characteristics are under the following conditions unless otherwise stated: Supply voltage V_S = +12 V, ambient temperature T_A = 25 °C. Operation exceeding Recommended Operating Conditions may lower the lifespan of the system.

Table 1. Absolute Maximum Ratings

Function	Conditions	Value	Unit
Maximum Supply Voltage (V_{smax})		+ 30 / - 35	V
Maximum Supply Current (I_{smax})	Open Inputs and Outputs	90	mA
Maximum Storage Temperature (T_{smax})		+ 85	°C
Maximum ambient Operating Temperature (T_{amax})		+ 65	°C
Maximum Dim Signal Output/Input Voltage (V_{dimmax})		+ 28	V
Dim Signal Output Max Current (sourcing/sinking) (I_{dim})	Sinking from an ideal +12 v resistive source, sourcing to an ideal 0 v resistive load.	5/30	mA

Recommended Operating Characteristics

Characteristics are under the following conditions unless otherwise stated: Supply voltage V_S = +12 V, ambient temperature T_A = 25 °C

Table 2. Recommended Operating Characteristics

Function	Conditions	Value	Unit
Supply Voltage Range (V_s)		6.5 ~ 28	V
Supply Current (typ/max) (I_{sradio}) - TX/RXing	Open Inputs and Outputs	45/71	mA
Typical Supply Current (typ/max) (I_s) - No Radio Connections	Open Inputs and Outputs	24/45	mA
Maximum Storage Temperature (T_s)		+ 75	°C
Ambient Operating Temperature (T_a)		+ 55	°C
Dim signal output voltage range (V_{dim})	Output connected to a 2.5 mA source	0 ~ (V_s – 1)	V
Dim Signal Output Current (sourcing/sinking) (I_{dim})	Sinking from an ideal +12 v resistive source, sourcing to an ideal 0 V resistive load.	5/30	mA

Misc.

For more information, please contact energybank: www.energybankinc.com - (920) 682-6220.