

0-10V Controllers

20A Area Controller

5A Fixture Controller

The 0-10V Controller adjusts brightness of compatible fluorescent ballasts and LED drivers by responding to wireless signals from Self-powered wireless switches, wireless sensors and/or central controllers. The wireless dimmer reduces time, frustration and the mess of installation, allowing sensors and switches to be installed in optimal locations without need for maintenance or batteries. The controller is compatible with all 120VAC, 240VAC, or 277VAC circuits.

Specifications

Electrical:

Power Input: 100-277 VAC 50 or 60 Hz
< 0.5W standby power *no load on 12VDC

Outputs:

1 - Latching Form A Relay, Selectable N.O. or N.C.
power up state
1 - 0-10V output signal
1 - 12VDC output (not on 5A model)

Inputs:

1 - 0-10V input signal

Maximum Load:

	20A	50A
General Duty:	20A	5A
Tungsten (Incand.):	20A	5A
Fluorescent Ballast:	20A	5A
Motor Load:	1HP	¼ HP
Power up state:	Selectable N.O. or N.C.	

0-10V:

Output: 100mA sink / 1mA source
Input: 0.1mA source (not on 5A model)

12VDC output:

10mA source (not on 5A model)

Wireless:

Range: 50-150 feet (typical)
Frequency: 902 MHz

Mechanical:

Dimensions 2.11 x 1.73 x 1.09 inches
(54 x 44 x 28 mm)
Operating: 32° to +122°F 0° to +50°C
Storage: -4° to +176°F (-20° to +80°C)

Operating Specifications:

Memory Storage: 20 links
Transmit EEP: A5-38-08

Radio Certification:

FCC (United States): SZV-TCM300U
I.C. (Canada): 5713A-TCM300U

Safety Approval:

ETL (U.S.): UL 60730 (safety pending)
ETL (U.S.): UL 2043 (plenum pending)
ETL (Canada): CSAc22.2#14-05 (pending)
CE - IEC 60730 (pending)

Compatible Wireless Devices EnOcean Equipment Profiles

Wireless Light Switch EEPs: F6-02-01, F6-02-02, F6-03-01, F6-03-02
Key Card Switch EEPs: F6-04-01, F6-02-01, F6-02-02
SLT Wireless Sensor EEPs: F6-02-01, F6-02-02, Proprietary
Wireless Occupancy Sensor EEPs: A5-07-01, A5-07-02, A5-07-03
Door/Window Sensor EEP: D5-00-01, A5-30-01
Light Sensor EEP: A5-06-02, A5-06-03
Central Command EEP: A5-38-08 - untimed commands only

Transmitted EnOcean Equipment Profile

Central Command - Transmit teach packet w/ MENU button EEP: A5-38-08

Package Contents

(1) 0-10V Dimmer
(1) Instruction Sheet

Equipment Needed for Installation

• Wire Nuts/connectors
• Electrical Tape

INSTALLATION - CAUTION/NOTES

- Caution: The 0-10V Dimmer is intended only for use indoors and in dry locations.
- It may be more convenient to link the wireless controls to the Dimmer prior to final installation.
- To be installed and used in accordance with electrical codes and regulations.
- If unsure about any part of these instructions, consult an electrician.

CHOOSING THE OPTIMAL MOUNTING LOCATION

The long term reliability and wireless performance of the Dimmer is strongly influenced by the mounting location.

Choose a mounting location carefully. For best radio performance:

- Straighten antenna out and away from metal.
- Create separation distance away from interfering electronics such as fluorescent tube ends, electronic transformers/power supplies, motors, etc.
- Avoid mounting inside metal enclosures.
- Obstructions of metal, concrete and dense building materials will reduce the range. Mount higher and away from obstructions to maximize the range.
- Site survey tools are available to help fine-tune wireless communications.

INSTALLATION OVERVIEW:

1. Identify best mounting locations for receiver and transmitter. Perform range test to confirm operation prior to installation.
2. Connect the Dimmer to circuit following wiring diagram and local electrical codes.
3. Press and release SELECT button to toggle output and confirm operation. Hold SELECT to test dimming.
4. Link Transmitters and Receivers following Linking Instructions below.

OPERATING OVERVIEW

Use the 0-10V Area Controller to switch and adjust brightness for up to 20 amperes of 0-10V controllable loads. Compatible loads include LED and Fluorescent lighting, motors, etc.

LINKING INSTRUCTIONS

Note: The Dimmer must be powered on while linking. After linking, the Dimmer retains all settings in the event of power loss. For best results, transmitters should be within 15 ft. (5 m) of the Dimmer when linking. Link up to 25 devices to one controller.

BASIC LINKING

Use basic linking for common applications:

1. Press and hold the MENU button until the relay clicks, then release (about 5 seconds). The receiver will toggle a steady pattern indicating Basic Link Mode is active: — — — —
2. To create a link, triple press the top button on switches or single press the LNK button on sensors to create a link. Toggling will pause for 3 seconds when the link is created, then toggling will resume.
3. Link additional transmitters (up to 25) as needed. Link mode will exit automatically after 30 seconds of inactivity and toggling will stop. Holding MENU button for 6 seconds will also exit basic link mode.

Basic link mode operating behavior

- Wireless Switch(es)
 - Quick Press: top button is ON to preferred level or full brightness, bottom is OFF
 - Press and Hold: top or bottom buttons to adjust preferred level
 - Double Press: top for full brightness, bottom for OFF
- Occupancy Sensor
 - Auto On/Auto Off to preferred level
 - Manual On/Auto Off to preferred level if one or more wireless switches are linked
- Control Extender - ON to preferred level and OFF
- Window/door Sensor – Closed-ON to preferred level, Open-OFF

WIRED 0-10V INPUT / MASTER CONTROL

The 0-10V input can be driven from a wall mount 0-10V slider or knob, a wired Light Sensor with 0-10V output, or any other 0-10V control device. The Dimmer will directly respond to this input and will still work with wireless switches and sensors.

In addition, the Dimmer can be linked as a Master Controller to other EnOcean enabled receivers, controlling their outputs. This enables a wired 0-10V controller to be turned into a wireless dimming controller.

The Master Controller feature is also used to synchronize multiple dimmers in a single space. When multiple dimmers are controlled from 1 sensor or switch, it is possible for one to occasionally miss a packet, resulting in one light being at a different level than the others.

To Link a 0-10V Line Powered Dimmer to another EnOcean enabled receiver:

- Make sure that the receiver can link with a Central Command device (EEP: A5-38-08)
- Follow the receivers instructions to place it into Link Mode.
- Press the MENU button on the 0-10V Line Powered Dimmer (sends the teach message).
- Follow the rest of the instructions for the receiver.

Any time the Master Controller dim level is changed (either with a wireless device or wired input), the output of any linked dimmer will follow the Master Controller. In addition, the Master Controller will send an update message every 112-127 seconds in case the receiver(s) miss a message.

ADDITIONAL FUNCTIONS

SELECT BUTTON FUNCTIONS:

Toggle - Press and release the *SELECT* button to select between 0%, Saved Level and 100%. Long presses on the *SELECT* button adjust the 0-10V output level up or down.

Purge All Links - First activate Link mode by holding the MENU button until the receiver starts toggling, then press and hold the *SELECT* button for 10 seconds to purge all Links from the receiver.

SELECTIVE LINK DELETION

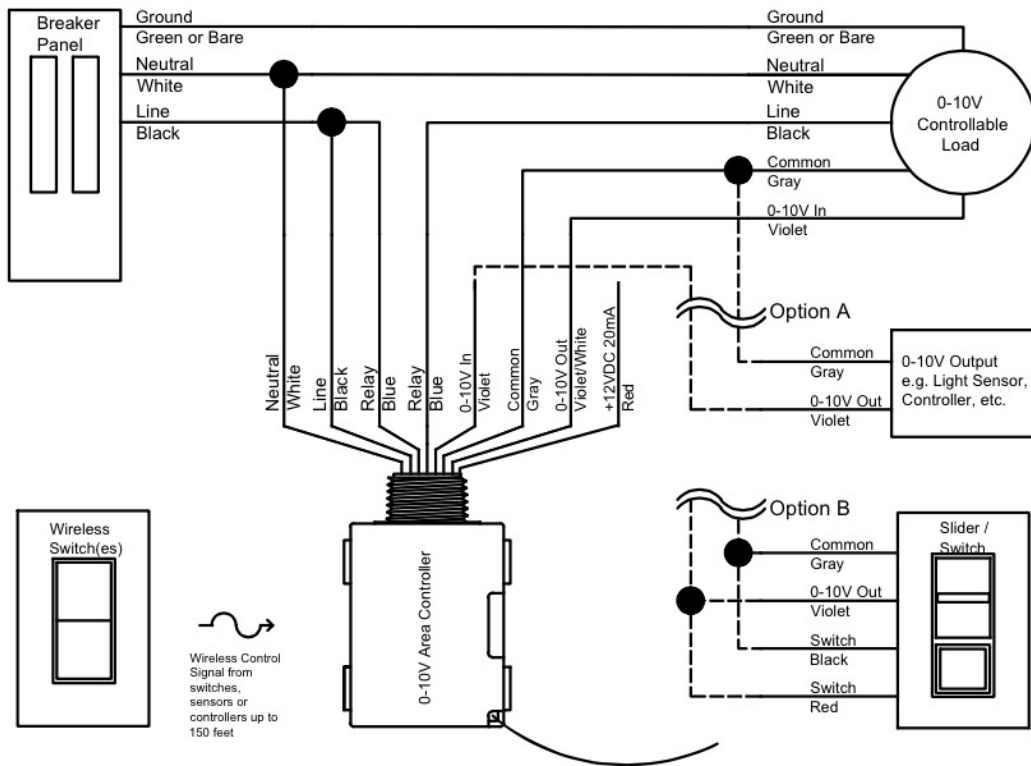
To remove one Link from receiver and leave others unaffected:

1. Activate the specific Link Mode used to Link the transmitter (e.g. Link mode 1,2 or 3, etc). The LED will blink a pattern indicating the active Link Mode.
2. Press the MENU button on the sensor or triple press a wireless switch or key card for the transmitter to be deleted. The LED will pause red for 3 seconds indicating the link is removed, then resume toggling. (Blinking pauses green when Links are added.)
3. Wait 30 seconds for Link Mode to exit. Toggling stops when Link Mode stops.

SENSOR LINK TEST MODE

After Linking, press the Link or Teach button on a sensor 5 times to activate the Link Test Mode. Subsequent presses from any linked sensor will cause the relay to blink for 1 second confirming the sensor is linked and testing the reliability of wireless communications. Link Test Mode will timeout after 60 seconds of no activity.

20A Area Controller Wiring Diagram



5A Fixture Controller Wiring Diagram

