LED DRIVER + DIMMER
INSTALLATION GUIDE

Safety & Warnings

1. UNLIKE TRADITIONAL DIMMING CONTROLS, LED DRIVER + DIMMER REQUIRES UNIQUE WIRING STEPS. READ ALL WARNINGS AND INSTALLATION INSTRUCTIONS THOROUGHLY.

2. Install in accordance with national and local electrical code.

3. This product is intended to be installed and serviced by a qualified, licensed electrician.

4. NEC Code 725.136: Class 1 and Class 2 circuits in same enclosure must be separated by a barrier unless Class 2 circuit conductors are installed in accordance with 725.41 Class 1 Circuits.

5. Only install compatible 12 V or 24 V Constant Voltage DC fixtures or warranty will be void. 5 Year Limited Warranty, visit www.kichler.com/warranty for details.

6. Do not modify product beyond instructions or warranty will be void.

Quick Specs / Models

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Max Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>4DD12V040WH</td>
<td>12 VDC</td>
<td>40 W</td>
</tr>
<tr>
<td>4DD12V060WH</td>
<td>12 VDC</td>
<td>60 W</td>
</tr>
<tr>
<td>6DD24V060WH</td>
<td>24 VDC</td>
<td>60 W</td>
</tr>
<tr>
<td>6DD24V100WH</td>
<td>24 VDC</td>
<td>100 W</td>
</tr>
</tbody>
</table>

Supplied Accessories

- LED Driver + Dimmer
- Barrier Wire Connectors (4)
- Mounting Screws (2)
- Face Plate

Tools for Install

- Flat-Head Screwdriver
- Phillips-Head Screwdriver
- Pliers

Installation

1. TURN POWER OFF AT CIRCUIT BREAKER.

SHOCK HAZARD! May result in serious injury or death. Turn power OFF at circuit breaker prior to installation.

2. DETERMINE LOCATION TO INSTALL COMPONENTS

3. REMOVE EXISTING SWITCH (IF NECESSARY)
   a. Remove trim plate and switch mounting screws.
   b. Pull switch from wall.
   c. Identify wires connected to switch and mark wires if desired.
   d. Disconnect wires from switch.

4. REMOVE FINS (IF NECESSARY)
   It’s required to break off dimmer fins when ganging multiple dimmers in same wall box.
4. CONTINUED.

Grip with pliers. Bend back and forth until fin breaks off.

Fins have been removed.

**ZERO LOAD DERATING**

Unlike standard high voltage AC controls, removing LED Driver + Dimmer fins does not reduce the dimmer’s maximum wattage rating.

5. ATTACH VOLTAGE PARTITION (BARRIER)

A voltage barrier is provided, which separates high voltage and low voltage wires in the wall box. Attach before mounting.

**NEC CODE 725.136**

Class 1 and Class 2 circuits in same enclosure must be separated by a barrier unless Class 2 circuit conductors are installed in accordance with 725.41 Class 1 Circuits. For example, Non-Metallic (NM) cable is considered a Class 1 circuit conductor. Therefore, if both high voltage and low voltage circuits are installed with NM cable then the voltage barrier is not required for installation.

6. WIRE DIMMER

**SPECIAL WIRING INSTRUCTIONS!**

LED Driver + Dimmer requires unique wiring steps. Read thoroughly.

a. Strip wires on dimmer.

b. Wire dimmer. Ensure main power is OFF.
   - GND (GREEN): To ground wire in box.
   - V+ (RED): To low voltage V+.
   - V− (BLUE): To low voltage V−.
   - N (WHITE): To 120 V Neutral.
   - H (BLACK): To 120 V Line Hot.

**VOLTAGE DROP**

See VOLTAGE DROP CHARTS at end of this guide for wire gauge recommendations installed between dimmer and fixture.
Installation Continued

6. CONTINUED.

SYSTEM DIAGRAM

7. MOUNT DIMMER TO WALLBOX AND ATTACH TRIM PLATE

8. TURN POWER ON AT THE CIRCUIT BREAKER

Operation

Troubleshooting

Symptom | Common Cause
--- | ---
Fixture does not illuminate. | • Incorrect wiring. Polarity of Low Voltage V+ and V- are reversed.  
• Circuit breaker is OFF or tripped.  
• Incorrect voltage pairing of dimmer and fixture. 12 V dimmer models will not power a fixture with a higher voltage rating.

• Different fixtures do not dim in sync.  
• Fixture turns off at low dim level.  
• Fixture strobos/flickers at low dim level.  
• Dimmer buzzes excessively.  
• Only install 12 V or 24 VDC tape lights on the compatibility list.

Fixture heats up excessively. | • Incorrect voltage pairing of dimmer and fixture. Do not attach a 12 V fixture to a 24 V dimmer.  
• Fixture is not compatible.

SYSTEM WORKING IMPROPERLY?

Turn power OFF at circuit breaker and verify all connections. Review WIRING and TROUBLESHOOTING or call Advanced Product Support (APS) at 844-KICHLER (844-542-4537) M-F 8:00 a.m. – 6:30 p.m., EST or email: techsupport@kichler.com

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Voltage Drop Charts

For best performance and lumen output, ensure proper wire gauge is installed to compensate for voltage drop of low voltage circuits.

Example: 12V Voltage Drop & Wire Length Distance Chart

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>10 W</th>
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<th>40 W</th>
<th>50 W</th>
<th>60 W</th>
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<tbody>
<tr>
<td>18 AWG</td>
<td>34 ft/10.4 m</td>
<td>17 ft/5.2 m</td>
<td>11 ft/3.4 m</td>
<td>8 ft/2.4 m</td>
<td>5 ft/1.5 m</td>
<td></td>
</tr>
<tr>
<td>16 AWG</td>
<td>54 ft/16.5 m</td>
<td>27 ft/8.2 m</td>
<td>18 ft/5.5 m</td>
<td>13 ft/4.0 m</td>
<td>9 ft/2.7 m</td>
<td></td>
</tr>
<tr>
<td>14 AWG</td>
<td>86 ft/26.2 m</td>
<td>43 ft/13.1 m</td>
<td>29 ft/8.9 m</td>
<td>21 ft/6.4 m</td>
<td>14 ft/4.3 m</td>
<td></td>
</tr>
<tr>
<td>12 AWG</td>
<td>134 ft/40.8 m</td>
<td>68 ft/20.7 m</td>
<td>45 ft/13.7 m</td>
<td>34 ft/10.4 m</td>
<td>22 ft/6.7 m</td>
<td></td>
</tr>
<tr>
<td>10 AWG</td>
<td>199 ft/60.7 m</td>
<td>99 ft/30.18 m</td>
<td>66 ft/20.1 m</td>
<td>49 ft/14.9 m</td>
<td>33 ft/10.1 m</td>
<td></td>
</tr>
</tbody>
</table>

Determine load size. Let’s assume load 1 is 55 W. Round up to nearest load.

It’s recommended to install 12 AWG to eliminate excess voltage drop.

12V Voltage Drop & Wire Length Distance Chart

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Determine distance from LED Driver + Dimmer to 2 load. Let’s assume the distance is 20.

24V Voltage Drop & Wire Length Distance Chart

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>10 W</th>
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<td>33 ft/10.1 m</td>
<td>27 ft/8.2 m</td>
<td>22 ft/6.7 m</td>
</tr>
<tr>
<td>16 AWG</td>
<td>215 ft/65.5 m</td>
<td>109 ft/33.2 m</td>
<td>72 ft/22.0 m</td>
<td>54 ft/16.5 m</td>
<td>43 ft/13.1 m</td>
<td>36 ft/11.0 m</td>
</tr>
<tr>
<td>14 AWG</td>
<td>345 ft/105.2 m</td>
<td>174 ft/53.0 m</td>
<td>115 ft/35.1 m</td>
<td>86 ft/26.2 m</td>
<td>69 ft/21.0 m</td>
<td>57 ft/17.4 m</td>
</tr>
<tr>
<td>12 AWG</td>
<td>539 ft/164.3 m</td>
<td>272 ft/82.9 m</td>
<td>181 ft/55.2 m</td>
<td>135 ft/41.2 m</td>
<td>108 ft/32.9 m</td>
<td>90 ft/27.5 m</td>
</tr>
<tr>
<td>10 AWG</td>
<td>784 ft/239.0 m</td>
<td>397 ft/121.0 m</td>
<td>263 ft/80.2 m</td>
<td>197 ft/60.1 m</td>
<td>158 ft/48.2 m</td>
<td>131 ft/39.9 m</td>
</tr>
</tbody>
</table>

Voltage Adjustments

LED Driver + Dimmer can provide a 1V boost if the fixture is receiving noticeable light degradation.

a. Pop off face plate as shown in the figure on the right.

b. Use a small screwdriver to adjust output voltage by turning adjustment dial clockwise.

c. Gently squeeze top and bottom of face plate.

b. Lift face plate from housing.

c. Insert replacement face plate into top housing groove. Position housing slider and face plate slider at min brightness (bottom level) and pop on face plate.

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