Universal Dimming LED Drivers
24, 45, 60, 96, and 120-watt models available in 12 or 24-volt DC output

Outstanding LED dimming performance, architectural-quality brightness control, and guaranteed dimmer compatibility. Excellent for any type of dimmable LED lighting requiring constant voltage – from LED strips, modules, and light bars to puck and accent lights.

- Delivers smooth, stable, flicker-free dimming with soft start and desirable fade-on and fade-to-dark performance.
- When a dimmer is set to full brightness, drivers deliver full brightness – there is no loss of top-end light output.
- Depending on model, little or no load required for dimming.
- No de-rating required, power up to 100% of the rated load.
- For large area lighting brightness control, connect multiple LED drivers to a single 120-volt AC dimmer switch.
- Thin profile: 24-watt is 3/4-in. thick, 45-watt is less than 1 in.
- Direct wire or plug-in options are available on some models.
- Class 2 power units up to 96 watts. 60-watt models and below use Class II AC inputs with a fully isolated case – no ground wire is required.
- Auto reset protection in case of lighting overload, open circuit, short circuit, or over-temperature.
- Indoor/outdoor – ETL listed for dry or damp locations, 96 and 120-watt models are ETL listed for wet location use.

Although virtually all dimmers will work with Universal Dimming Drivers, Armacost recommends dimmers that can have an adjustment dial to set the low end dimming range, such as Lutron® CL and Leviton IllumaTech® Universal Dimmers. These dimmers are readily available in stores and offered in a wide range of styles and colors.

120-watt 12-volt model features dual 16AWG DC outputs to reduce voltage drop when at full 10 amp load.

All Universal Dimming Drivers are ETL listed and have been tested to comply with FCC Part 15B. 24, 45, 60, and 96-watt drivers conform to UL Standards 1310 and 8750, and are certified to Canada CSA Standard C22.2 No. 223-M91 and C22.2 No. 250.13. 120-watt drivers conform to UL Standard 1012, and are certified to Canada CSA C22.2 No.107.1.

For direct wire connection, 24, 45, and 60-watt drivers have sturdy, built-in terminal block connectors to accept 14-gauge solid core cable (Romex® style).

24, 45 and 60-watt drivers can be supplied with an optional 5 ft. AC cord with plug.

All drivers are available with optional enclosures.

To learn more, contact sales@armacostlighting.com
Universal Dimming LED Drivers

24, 45, 60, 96, and 120-watt models available in 12 or 24-volt DC output

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MD24W12VA</th>
<th>MD24W24VA</th>
<th>MD45W12VA</th>
<th>MD45W24VA</th>
<th>MD60W12VA</th>
<th>MD60W24VA</th>
<th>MD96W24VA</th>
<th>MD120W12VA</th>
<th>MD120W24VA</th>
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<tbody>
<tr>
<td>Dimming Technology</td>
<td>PWM</td>
<td>PWM</td>
<td>PWM</td>
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<tr>
<td>Load Requirement</td>
<td>1W – 24W</td>
<td>1W – 45W</td>
<td>3W – 60W</td>
<td>5W – 96W</td>
<td>20W – 120W</td>
<td>60W</td>
<td>96W</td>
<td>120W</td>
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<tr>
<td>Dimming Range (Standard Triac)</td>
<td>5% – 100%</td>
<td>10% – 100%</td>
<td>10% – 100%</td>
<td>20% – 100%</td>
<td>0% – 100%</td>
<td>0% – 100%</td>
<td>0% – 100%</td>
<td>0% – 100%</td>
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<tr>
<td>Dimming Range (Lutron CL)</td>
<td>400Hz</td>
<td>600Hz</td>
<td>400Hz</td>
<td>600Hz</td>
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<tr>
<td>DC Voltage</td>
<td>12V</td>
<td>24V</td>
<td>12V</td>
<td>24V</td>
<td>12V</td>
<td>24V</td>
<td>12V</td>
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<tr>
<td>Rated Current</td>
<td>2A</td>
<td>1A</td>
<td>3.75A</td>
<td>1.87A</td>
<td>5A</td>
<td>2.5A</td>
<td>4A</td>
<td>10A</td>
<td></td>
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<tr>
<td>Rated Power</td>
<td>24W</td>
<td>45W</td>
<td>60W</td>
<td>60W</td>
<td>24W</td>
<td>45W</td>
<td>60W</td>
<td>60W</td>
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<tr>
<td>Voltage Tolerance</td>
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<td>+/-0.5V</td>
<td>+/-0.5V</td>
<td>+/-0.5V</td>
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<td>+/-0.5V</td>
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<tr>
<td>Start-up Time (Typ.)</td>
<td>350ms</td>
<td>500ms</td>
<td>500ms</td>
<td>600ms</td>
<td>350ms</td>
<td>500ms</td>
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</tbody>
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### OUTPUT

- **Voltage Range**: 100 – 120VAC
- **Frequency Range**: 47 – 63Hz
- **Efficiency (Typ.)**: 80%
- **Rated Current (Typ.)**: 0.52A
- **Inrush Current (Typ.)**: 6.5A / 120VAC
- **Leakage current**: <0.7mA / 120VAC

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### GUARDS

- **Over Current**: Hiccup mode, auto-recovery upon removal of fault condition
- **Short Circuit**: Hiccup mode, auto-recovery upon removal of fault condition
- **Over Temperature**: Shut down, auto-recovery

### ENVIRO.

- **Ta**: 4°F (-20°C) to 104°F (40°C)
- **Humidity**: 20 – 90% Relative Humidity, non-condensing
- **Vibration**: 10 – 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes

### SAFETY & EMC

- **Safety Standards**: UL Std. 1310 and 8750, Cert. to CAN/CSA Std. C22.2 No. 223-M91 and C22.2 No. 250.13; Class 2 LED power supply, ETL Listed for dry and damp location use
- **Withstand Voltage**: IP – O/P: 1.2KVAC
- **Isolation Resistance**: IP – O/P: 100M Ohms / 500VDC / 25°C / 70% RH
- **EMC Emission Compliance to FCC Part 15B**: (>=50% loading)
- **MTBF**: 318.5K hrs min. (25°C, MIL-HDBK-217F)
- **Cooling**: Free Air Convection
- **Life Time**: 30,000 hours

### OTHER

- **Life Time**: 20,000 hours
- **Case**: Fully isolated polycarbonate plastic case with built in terminal block for direct-wire connections
- **Dimension**: 6.10” L x 2.13” W x 0.79” H (155mm L x 54mm W x 20mm H) / 24, 45, 60, 96, and 120-watt models available in 12 or 24-volt DC output

*Note: Life time tested under adverse operating conditions with ambient air temperature at 104°F and under full wattage load, failure rate <10%.

Limited three-year warranty
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