DESCRIPTION: EF-DC-8A DC DC Converter, high efficiency Up to 96%, Use Aluminum solid capacitors, long life of 50,000 hours, high-precision constant voltage output, dedicated to 90w the following, all types of LED panels, to meet the EN55022classA, EN61000, EN60555 requirements

1. high efficiency (Up to 96%)
2. 8A Continuous Output Current
3. ±0.5% constant voltage
4. Stable with Low ESR Aluminum solid capacitors
5. Input Under Voltage Lockout
7. Waterproof IP67
8. Very small size 58x35x18.8mm
9. 3 year warranty

SPECIFICATION

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DC voltage</th>
<th>Rated current</th>
<th>Current range</th>
<th>Rated Power</th>
<th>Voltage tolerance</th>
<th>Ripple &amp; Noise</th>
<th>Setup Time</th>
<th>DC voltage</th>
<th>Rated current</th>
<th>Current range</th>
<th>Rated Power</th>
<th>Voltage tolerance</th>
<th>Ripple &amp; Noise</th>
<th>Setup Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF-DC-2A-9.0V</td>
<td>9.0V</td>
<td>8A</td>
<td>0~8A</td>
<td>20W</td>
<td>±0.5% (Line Regulation 0.5% , Load Regulation 0.5%)</td>
<td>&lt;600mVpp-p</td>
<td>Max 22mS</td>
<td>EF-DC-2A-9.3V</td>
<td>9.3V</td>
<td>8A</td>
<td>0~8A</td>
<td>EF-DC-2A-9.6V</td>
<td>9.6V</td>
<td></td>
</tr>
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<td>EF-DC-2A-9.6V</td>
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<td></td>
</tr>
</tbody>
</table>

INPUT

Output

<table>
<thead>
<tr>
<th>Mini DC Current</th>
<th>Efficiency (Typ.)</th>
<th>Power in No-Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A</td>
<td>&gt;95% (INPUT 12V)</td>
<td>&lt; 0.9W</td>
</tr>
</tbody>
</table>

PROTECTION

Short Circuit

Cycle-by-Cycle Over Current Protection

Over Temperature

Thermal Shutdown 160°C

Input Under Voltage Lockout

Input Under Voltage Lockout

ENVIRONMENT

Working TEMP

-25°C~55°C

Storage TEMP.

-40°C~80°C

Working Humidity

IP67

Vibration

10~500Hz 2G 10min/1cycle period for 60min. each along X, Y, Z axes

TEMP. coefficient

±0.03%/°C (0~50°C)

SAFETY & EMC

EMI CONDUCTION & RADIATION

Compliance to EN55022classA

EMS IMMUNITY

Compliance to EN61000, EN60555

MTBF

600KHours MIL-HDBK-217F (25°C)

Life Time

55KHours / 80%Load and 45°C ambient temperature

OTHER

Weight

55g

Dimension

58x35x18.8mm

Notes

All parameters NOT specially mentioned are measured at 12V DC input, Input output wire 16AWG, rated load and 25°C of ambient temperature.

Direct connecting to LEDs is not using additional drivers is highly recommended.

Do not reverse the positive and negative terminals, Wrong connection will damage product.
DC DC Converter– High Precision constant voltage high efficiency dedicated to the LED panel  MODEL:  EF-DC-8A

Efficiency

![Efficiency Graph]

Dimension

![Dimension Diagram]
Wiring diagram

Power supply
DC DC Converter and the LED panel’s related issues

1. Why use constant drive LED panel?

   There is a variety of sizes, power consumption in LED panel light, but also continued to increase in species. If you use a constant current drive, need to match each other, so will need to be very many types of constant current drive. Our LED panels, regardless of power level, input voltage is unified. For easy installation, so we use the constant voltage drive! Less than 20W power LED panel, you can use my EF-DC-2A converter. Less than 100W power LED panel, you can use EF-DC-8A converter.

2. Temperature rise, the constant voltage drive LED panel, current increases, will not damage the LED panel?

   Our LED panel with full Aluminum plate heat, Temperature Rise is very small, Different models according to specifications, the relative Ambient Temperature, temperature rises are 5°C, 10°C, 15°C. We tested the highest temperature rise model RX-ALF5050-25, at Ambient Temperature 55°C, LED panel, the surface temperature of 70 °C, Current rise is less than 10%( Relative Ambient Temperature 25°C). We produce the LED panels are all derating of 10% -20%.That is our LED panel, when the ambient temperature of 55 °C, as stable and reliable! Together with our DC DC converter has a very good stability, measured at 80°C ambient temperature, can be reliable. We tested LED panel an additional 30% of the current; also stability.
## 1. Comparison of two LED panels

<table>
<thead>
<tr>
<th>LED panel TYPE</th>
<th>Common type and LED panel size mm</th>
<th>Luminous flux</th>
<th>Illuminance Lux(Centre distance) Spacing 6cm</th>
<th>Spacing 1m</th>
<th>Spacing 2m</th>
<th>Light efficiency</th>
<th>Input voltage</th>
<th>Comparative advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12V LED panel</strong></td>
<td>RX-ALF3528-33 300x300x3.5 5W</td>
<td>460Lm</td>
<td>3300</td>
<td>150</td>
<td>39</td>
<td>90Lm/W</td>
<td>Input DC12V</td>
<td>Advantages: safe, reliable, after the test of time, the direct use 12V power supply; or 12V battery power supply, common voltage, power supply to buy is easy, you can use a large power supply to drive multiple LED panels, you can use low-cost PWM dimming</td>
</tr>
<tr>
<td></td>
<td>RX-ALF3528-33 300x600x3.5 10W</td>
<td>900Lm</td>
<td>3500</td>
<td>260</td>
<td>70</td>
<td></td>
<td></td>
<td>Disadvantages: relatively low luminous efficiency</td>
</tr>
<tr>
<td></td>
<td>RX-ALF3528-33 600x600x3.5 20W</td>
<td>1800Lm</td>
<td>3300</td>
<td>380</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RX-ALF5050-33 300x300x3.5 15W</td>
<td>1350</td>
<td>9000</td>
<td>380</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RX-ALF5050-33 300x600x3.5 30W</td>
<td>2650</td>
<td>9000</td>
<td>700</td>
<td>205</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RX-ALF5050-33 600x600x3.5 58W</td>
<td>5200</td>
<td>8600</td>
<td>1000</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9.6V LED panel</strong></td>
<td>RX-ALF3528-33 300x300x3.5 5W</td>
<td>550Lm</td>
<td>3500</td>
<td>155</td>
<td>42</td>
<td>110Lm/W</td>
<td>Input DC9.6V</td>
<td>Advantages: light-emitting efficiency is relatively 12V LED panel light efficiency increased by 20%</td>
</tr>
<tr>
<td></td>
<td>RX-ALF3528-33 300x600x3.5 10W</td>
<td>1100Lm</td>
<td>3600</td>
<td>280</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RX-ALF3528-33 600x600x3.5 19W</td>
<td>2100Lm</td>
<td>3680</td>
<td>430</td>
<td>136</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>RX-ALF5050-25 300x300x3.5 25W</td>
<td>2750Lm</td>
<td>16000</td>
<td>780</td>
<td>216</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>RX-ALF5050-33 300x600x3.5 30W</td>
<td>3200Lm</td>
<td>10000</td>
<td>820</td>
<td>220</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RX-ALF5050-33 600x600x3.5 58W</td>
<td>6200Lm</td>
<td>10000</td>
<td>1150</td>
<td>390</td>
<td></td>
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</tr>
</tbody>
</table>
2. Comparison of LED panel drive

<table>
<thead>
<tr>
<th>LED panel drive type</th>
<th>LED panel type</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>TY Light efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant voltage power supply driver</td>
<td>12V or 24V</td>
<td>Can be a big power to drive multiple LED panels; damage to one module will not affect the other LED panel; power can be backward compatible; the power to choose the brand and more; certification is complete, the power easy to buy. Choose low-cost PWM dimming.</td>
<td>Relatively low luminous efficiency However, compared to other vendors LED panel; Luminous efficiency increased by 30%</td>
<td>90Lm/W (12V input) 76Lm/W (AC input) Power Efficiency 85%</td>
</tr>
<tr>
<td>Constant current Power supply driver</td>
<td>9.0~9.6V</td>
<td>Integrated light-emitting efficiency, high power factor, compatible with TRIAC dimmer. Type less, only a 20W drive, only the LED panel for the 20W</td>
<td></td>
<td>90Lm/W (AC input)</td>
</tr>
<tr>
<td>Constant voltage power supply + DC DC converter drive</td>
<td>9.6V</td>
<td>You can use an ordinary power supply, a dedicated DC, DC converters, integrated light-emitting efficiency. Easy to match the power to choose the brand and more, you can use a power supply to drive multiple LED panels. Additional DC DC Converter</td>
<td></td>
<td>90Lm/W (AC input) Power Efficiency 85%</td>
</tr>
</tbody>
</table>

Note: The above parameters for the white LED data

Recommended:
1. LED panel, the only 20W, it is recommended to use suite of products RX-ALF3528-KD20
2. the need to use a power-driven multi-block LED panel, it is recommended to use constant voltage power supply + DC DC Converter
   20W using the following EF-DC-2A; 100W following use EF-DC-8A
3. higher reliability requirements, please use the 12V LED panels