

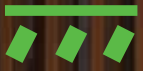


Dimmable LED Drivers

SMALL | SMART | CONNECTED™

Revision: July 2018

Our Target Markets



- Indoor Residential and Commercial lighting



- Outdoor street and area lighting



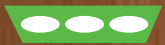
- Office lighting



- Warehouses, manufacturing facilities, and Large retail store application



- Parking garages



- Architectural lighting



- Display / Signage



- Stage Lighting (entertainment, concert)

About ERP

ERP designs and manufactures energy-efficient LED drivers/power supplies for a wide range of lighting applications: from residential to commercial, industrial, outdoor, office buildings, architectural and stage lighting. Small, yet powerful, ERP products deliver an industry-leading combination of compact size, extensive dimmer compatibility, and high efficiency at competitive cost. Headquartered in Moorpark, CA, ERP owns and operates its own ISO 9001 certified manufacturing facility to ensure quality of design, sourcing, production and testing.

- Industry leader in high-efficiency (high-power-saving) & high-density (small footprint) LED drivers/power supplies
- Product offerings include standard and custom solutions for LED Lighting
- U.S.A. Headquarters in Moorpark, California, with sales/marketing, R&D, and technical support to serve the North-American market
- China Operations Center in Zhuhai include document center, QA, R&D, manufacturing, and sales / technical support to serve China and Asia

Our Presence



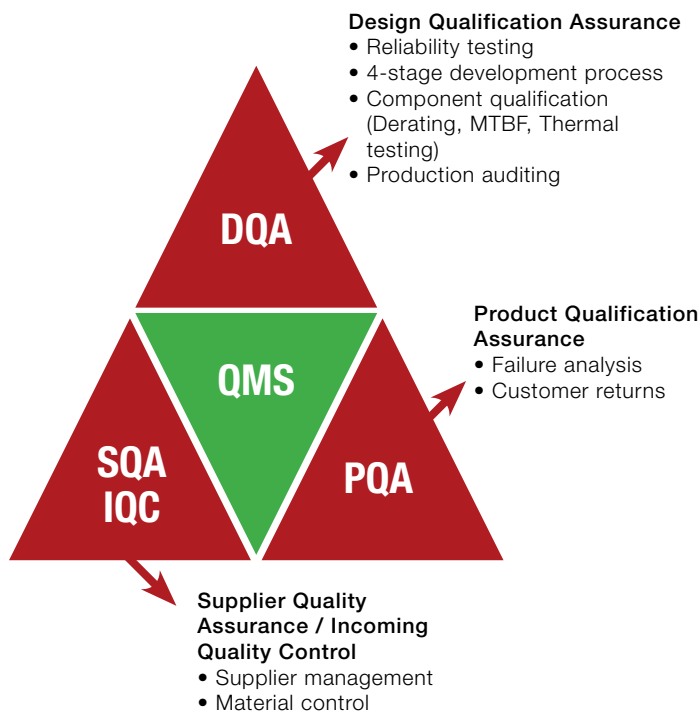
ERP Manufacturing

ERP products are manufactured in our wholly owned manufacturing facility in Zhuhai, China. The factory is configured with high-speed production lines for LED drivers and high-density power supplies, as well as state of the art burn-in chambers and automated test equipment. Strategic manufacturing partners provide significant upside capabilities. ERP products go through 100% burn-in to eliminate “infant mortality” failures. ISO 9001:2008 certified, with regular audits by safety agencies.



ERP Quality

Quality Management Systems (QMS)



Standard Certifications

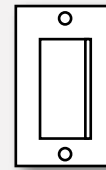
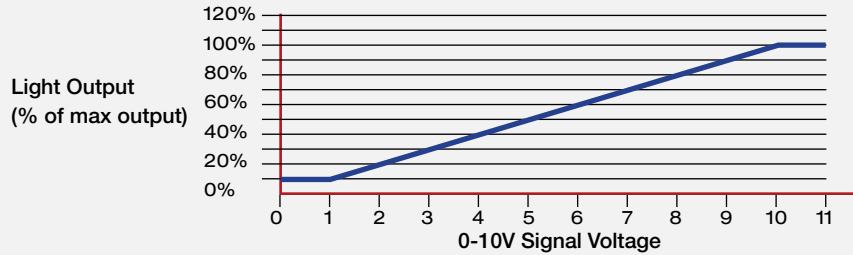
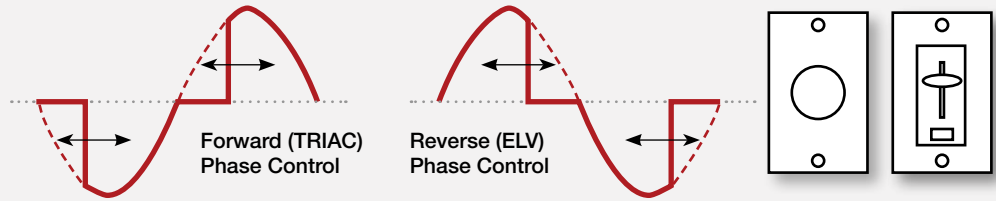
ERP products are designed and manufactured to comply with worldwide international IEC standards for lighting applications, and carry certifications by safety agencies such as UL, CSA and Nemko.

ERP products also comply with EMC regulations from Europe, and FCC/ICES in North America.



Best-In-Class Dimming

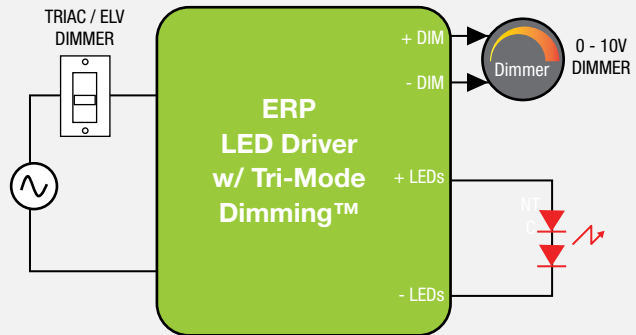
Forward-phase (TRIAC or leading-edge) and reverse-phase (ELV or trailing-edge)



0-10V control

Tri-Mode Dimming™

The ESS, ESP, ESM, EVM, and EVB series of LED drivers are compatible with Tri-Mode Dimming™ from 6 W up to 160 W, i.e. they are compatible with forward-phase (TRIAC or leading-edge), reverse-phase (ELV or trailing-edge) and 0-10 V dimmers.



Broad Dimming Compatibility

ERP LED drivers deliver an extensive dimmer compatibility. For each LED driver, a dimming compatibility matrix is available upon request, showing how the LED driver scores against a long list of dimmers according to several criteria such as: flicker, shimmer, smooth dimming, no flash at startup, etc...

Power Density

Highest Power Density in the industry

The new patent-pending power electronics design delivers more than double the density of the previous generation ERP platform, while delivering 5 times the power density of current industry competitors.



LED Cross-Reference

ERP has developed an extensive cross-reference for 12 different LED manufacturers. This cross-reference can be directly accessed from the ERP website at www.erp-power.com. On the homepage, using the pull-down menus, select the LED manufacturer and then the LED. You may also select your desired drive current. The cross-reference tool will return a list of driver(s) that are the most relevant for your LED selection. You can also access the cross-reference by clicking on **LED GUIDE** at the top of the homepage. The LED guide lists the 12 LED manufacturers whose LEDs have been cross referenced to some of our LED drivers.

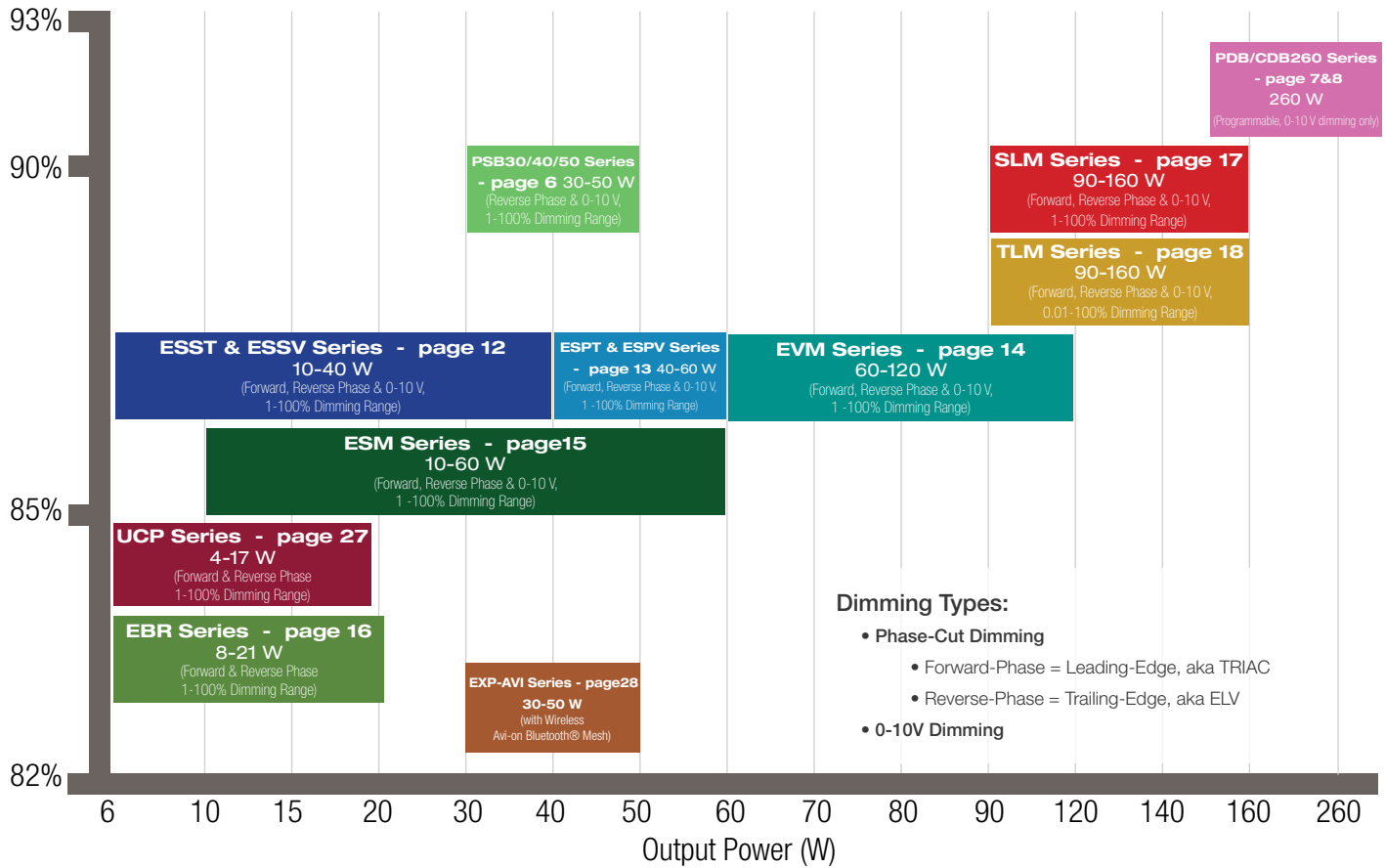
| | | |
|---|---|---|
|  | <p>CITIZEN</p> |  |
|  |  |  |
|  | <p>PHILIPS LUMILEDS</p> |  |
|  | <p>lumenetix</p> | <p>XICATO AUTHORIZED DISTRIBUTOR</p> |

ERP Constant Current and Constant Voltage LED Driver Portfolios

Below are two graphs that illustrate our portfolio of constant current and constant voltage LED drivers. ERP LED drivers are targeted at architectural, commercial and industrial applications requiring 10 W to 260 W of power with dimming, programming and connectivity to the Internet of Lights. The color coded drivers are represented in this brochure and include page number references.

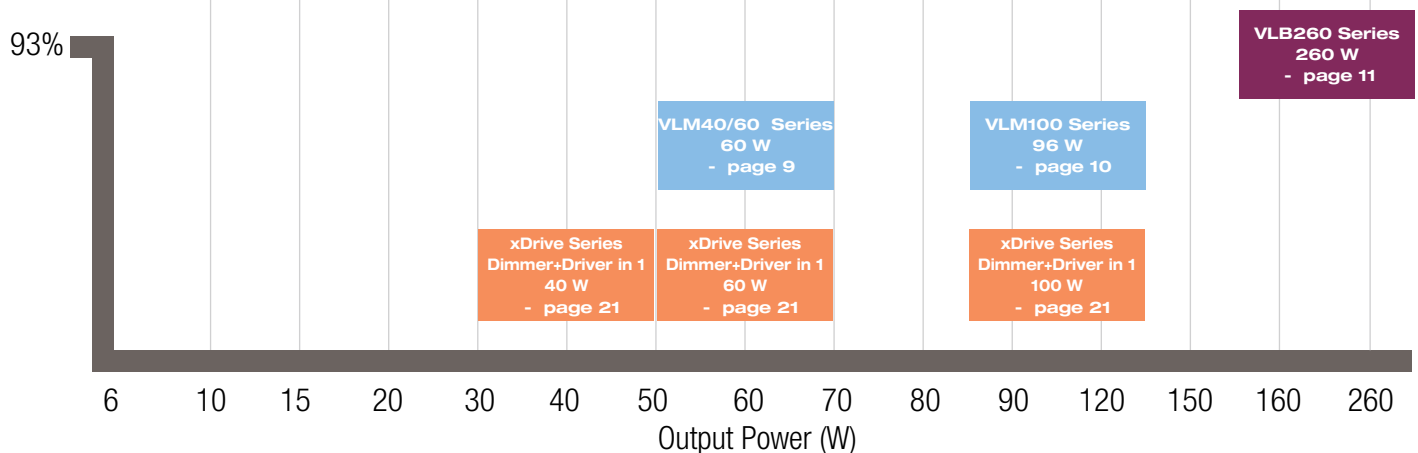
Efficiency (%)

Constant Current LED Drivers



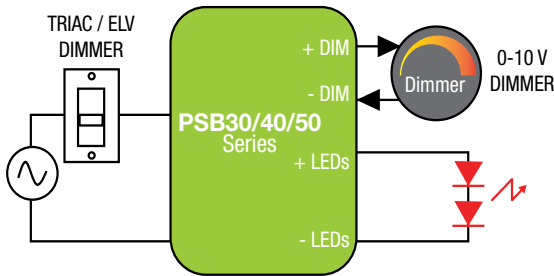
Efficiency (%)

Constant Voltage LED Drivers

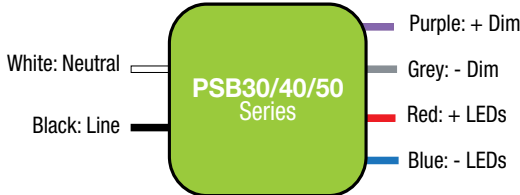


| Nominal Input Voltage | Max. Output Power | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|--------------------------------|-------------------|-------------------|------------------------------------|-------|--------------|---|--------------------------|-------------------|
| 120/277 Vac, 220 to 240 Vac | 50 W | up to 90% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0-10 V | 1 to 100% (% of Iout) | 300 ms typical |

Typical Application Diagram



Wiring Diagram



**Models with Flying Leads,
Aluminum case**
L 98.5 x W 26.2 x H 21.85 mm
(L 3.88 x W 1.03 x H 0.86 in)



**Models with "-S" Suffix
Bottom Leads with Studs, Aluminum Case**
L 98.5 x W 26.2 x H 23.85 mm
(L 3.88 x W 1.03 x H 0.94 in)



**Models with "-T" Suffix
Aluminum case with terminal blocks**
L 154.2 x W 26.2 x H 21.85 mm
(L 6.07 x W 1.03 x H 0.86 in)



| ERP Part Number | Nominal Input Voltage (Vac) | Max. Output Power (W) | Iout (mA) | Vout Min. (Vdc) | Vout Nom. (Vdc) | Vout Max. (Vdc) | Open Loop (No Load) Voltage (Vdc) |
|---|-----------------------------|-----------------------|-------------|-----------------|-----------------|-----------------|-----------------------------------|
| 120 / 277 VAC NOMINAL INPUT VOLTAGE | | | | | | | |
| PDB30W: 21 to 30 W | | | | | | | |
| PSB30W-0700-42 | 120/277 | 29.4 | 350 to 700 | 28 | 37.8 | 42 | 50 |
| PSB30W-1050-27 | 120/277 | 28.4 | 525 to 1050 | 18 | 24.3 | 27 | 35 |
| PSB30W-0700-34 | 120/277 | 27.2 | 350 to 700 | 23 | 30.6 | 34 | 44.2 |
| PSB30W-0700-42-S | 120/277 | 29.4 | 350 to 700 | 28 | 37.8 | 42 | 50 |
| PSB30W-1050-27-S | 120/277 | 28.4 | 525 to 1050 | 18 | 24.3 | 27 | 35 |
| PSB30W-0700-34-S | 120/277 | 27.2 | 350 to 700 | 23 | 30.6 | 34 | 44.2 |
| PDB40W: 31 to 40 W | | | | | | | |
| PSB40W-1400-27 | 120/277 | 37.8 | 700 to 1400 | 18 | 24.3 | 27 | 35 |
| PSB40W-1400-27-S | 120/277 | 37.8 | 700 to 1400 | 18 | 24.3 | 27 | 35 |
| PDB50W: 41 to 50 W | | | | | | | |
| PSB50W-0550-85 | 120/277 | 46.8 | 275 to 550 | 57 | 76.5 | 85 | 100 |
| PSB50W-0850-56 | 120/277 | 47.6 | 425 to 850 | 38 | 50.4 | 56 | 60 |
| PSB50W-1200-42 | 120/277 | 50.4 | 600 to 1200 | 28 | 37.8 | 42 | 50 |
| PSB50W-1400-34 | 120/277 | 47.6 | 700 to 1400 | 23 | 30.6 | 34 | 44.2 |
| PSB50W-0550-85-S | 120/277 | 46.8 | 275 to 550 | 57 | 76.5 | 85 | 100 |
| PSB50W-0850-56-S | 120/277 | 47.6 | 425 to 850 | 38 | 50.4 | 56 | 60 |
| PSB50W-1200-42-S | 120/277 | 50.4 | 600 to 1200 | 28 | 37.8 | 42 | 50 |
| PSB50W-1400-34-S | 120/277 | 47.6 | 700 to 1400 | 23 | 30.6 | 34 | 44.2 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | | | |
| PDB30E: 21 to 30 W | | | | | | | |
| PSB30E-0700-42-T | 220 to 240 | 29.4 | 350 to 700 | 28 | 37.8 | 42 | 50 |
| PSB30E-1050-27-T | 220 to 240 | 28.4 | 525 to 1050 | 18 | 24.3 | 27 | 35 |
| PSB30E-0700-34-T | 220 to 240 | 27.2 | 350 to 700 | 23 | 30.6 | 34 | 44.2 |
| PDB40E: 31 to 40 W | | | | | | | |
| PSB40E-1400-27-T | 220 to 240 | 37.8 | 700 to 1400 | 18 | 24.3 | 27 | 35 |
| PDB50E: 41 to 50 W | | | | | | | |
| PSB50E-0550-85-T | 220 to 240 | 46.8 | 275 to 550 | 57 | 76.5 | 85 | 100 |
| PSB50E-0850-56-T | 220 to 240 | 47.6 | 425 to 850 | 38 | 50.4 | 56 | 60 |
| PSB50E-1200-42-T | 220 to 240 | 50.4 | 600 to 1200 | 28 | 37.8 | 42 | 50 |
| PSB50E-1400-34-T | 220 to 240 | 47.6 | 700 to 1400 | 23 | 30.6 | 34 | 44.2 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

- Non-linear 0-10V dimming profile with dim-to-off (10V to 9.1V=100%, 1.5V to 0.6V=1%, <0.6V=dim-to-off)
- Class 2 power supply
- IP20-rated (IP64 as option) case with silicone-based potting
- Surge protection:
 - IEC61000-4-5: 2 kV line to line/2 kV line to earth
 - 2.5 kV ring wave: ANSI/IEEE c62.41.1-2002 & c62.41.2-2002 category A
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- 90°C maximum case hot spot temperature
- UL Class P

Programming

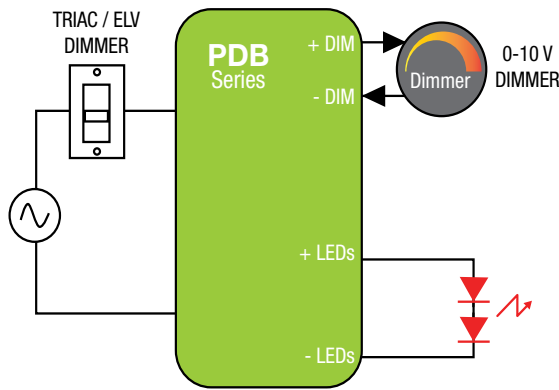
- Serial port programming
 - Current: 100% to 50% in each voltage range
 - Data log read: SKU, S/N, lot code, hours of operation, FW rev., fault events: power failure, transients (short or surge), thermal
- Fully programmable and selectable 0-10V dimming profiles: Non-linear with dim-to-off, Logarithmic, Non-Linear without dim-to-off.

Applications

- Commercial & residential lighting
- Architectural lighting
- Cove Lights

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|----------------|-----------------------|
| 120/277 Vac | 260 W | 114 to 400 Vdc | 325 to 1700 mA Constant Current | up to 93% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | 0-10 V | 1 to 100% (% of Iout) |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Max. Output Power (W) | Iout 1 (mA) | Vout 1 (Vdc) | Iout 2 (mA) | Vout 2 (Vdc) |
|-------------------------|-----------------------------|-----------------------|-------------|--------------|-------------|--------------|
| PDB260W: 260 W | | | | | | |
| PDB260W-0860-400 | 120/277 | 260.0 | 430 to 860 | 234 to 300 | 325 to 650 | 312 to 400 |
| PDB260W-1300-280 | 120/277 | 260.0 | 650 to 1300 | 158 to 200 | 485 to 930 | 218 to 280 |
| PDB260W-1700-210 | 120/277 | 260.0 | 850 to 1700 | 117 to 150 | 820 to 1240 | 164 to 210 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Programming

- Current: 100% to 50% in each voltage range
- Output voltage range selection
- Data log read: SKU, S/N, lot code, hours of operation, FW rev., fault events: power failure, transients (short or surge), thermal events

Options

- Ripple <10% @ 120 Hz and <8% @ 100 Hz (IEEE1789)
- Auxiliary output: up to 24 V / down to 3.3 V / up to 500 mA
- Alternate 0-10V dimming profiles: Linear, Logarithmic, Ballast type Mark7 (IEC60929, ANSI C82.11)
- Energy metering (as part of future software upgrade)

Applications

- Street lighting
- Industrial LED Lighting
- Outdoor Lighting
- Wide-area Lighting
- Tunnels lighting

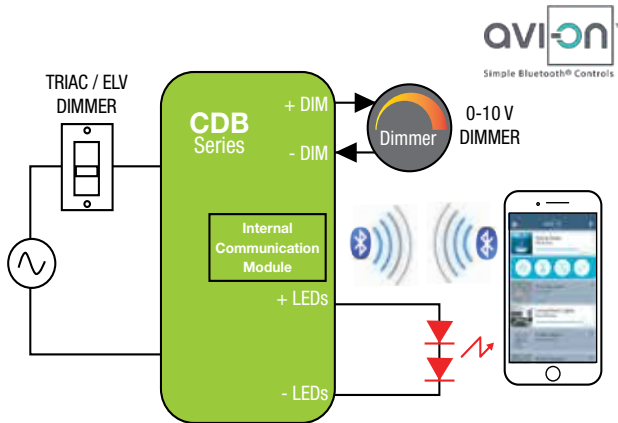


Features

- Non-linear 0-10 V dimming profile with dim-to-off (10 V to 9.1 V=100%, 1.5 V to 0.6 V=1%, <0.6 V=dim-to-off)
- Auxiliary output 12 V/100 mA
- Dual output voltage range
- IP66-rated case with silicone-based potting
- Surge protection:
 - Combination wave IEC61000-4-5: 4 kV line to line/4 kV line to earth
 - 2.5 kV ring wave: ANSI/IEEE c62.41.1-2002 & c62.41.2-2002 category A
- 90°C maximum case hot spot temperature
- Complies with ENERGY STAR® luminaire specification and DLC (Design Light Consortium®) technical requirements
- UL Class P
- 90°C maximum case hot spot temperature

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|----------------|-----------------------|
| 120/277 Vac | 260 W | 114 to 400 Vdc | 325 to 1700 mA Constant Current | up to 93% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | 0-10 V | 1 to 100% (% of Iout) |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Max. Output Power (W) | Iout 1 (mA) | Vout 1 (Vdc) | Iout 2 (mA) | Vout 2 (Vdc) |
|-------------------------|-----------------------------|-----------------------|-------------|--------------|-------------|--------------|
| CDB260W: 260 W | | | | | | |
| CDB260W-0860-400 | 120/277 | 260.0 | 325 to 650 | 304 to 400 | 430 to 860 | 228 to 300 |
| CDB260W-1300-280 | 120/277 | 260.0 | 465 to 930 | 213 to 280 | 650 to 1300 | 152 to 200 |
| CDB260W-1700-210 | 120/277 | 260.0 | 620 to 1240 | 160 to 210 | 850 to 1700 | 114 to 150 |

1. To order the antenna option "Wire whip antenna", add the suffix "-W". Example: CDB260W-0860-400-W
2. To order the antenna option "Removable external antenna connected to RPSMA connector", add the suffix "-R". Example: CDB260W-0860-400-R

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Programming

- Dual output voltage range selection
- Serial port programming
 - Current: 100% to 50% in each voltage range
 - Data log read: SKU, S/N, lot code, hours of operation, FW rev., fault events: power failure, transients (short or surge), thermal

Communication

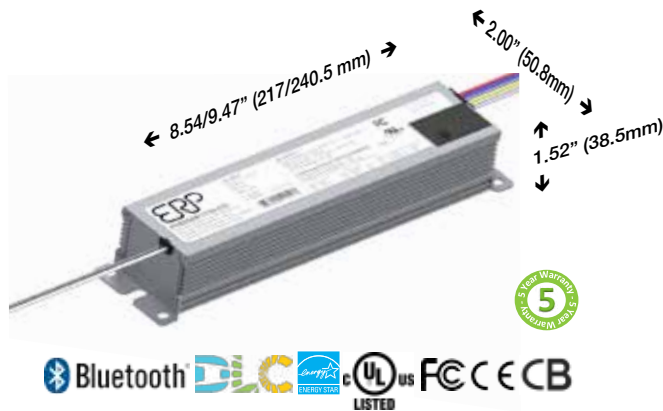
- Bi-directional (dimming up and down and data log read)
- Bluetooth Mesh with wire whip antenna and external removable antenna

Avi-on Bluetooth Mesh Solution

- Wireless lighting controls with simple set-up that anyone can use
- Pre-integrated Bluetooth Smart + CSRmesh module enables brands to create multi-way controls and switching without additional wiring; no central gateway required
- Utility grade, secure, reliable mobile app & software
- Dimming, grouping, many users, schedules, timers
- Virtually unlimited range with mesh
- Download for free, additional services available
- Compatible with large ecosystem of products from major brands
- Avi-on battery-powered movable dimming switches available to complete the turnkey solution

Applications

- Outdoor & Indoor
- Street lights, Area lights
- Horticulture grow lights
- Industrial high-bay lights

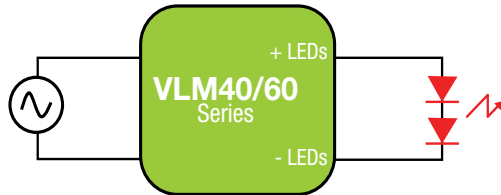


Features

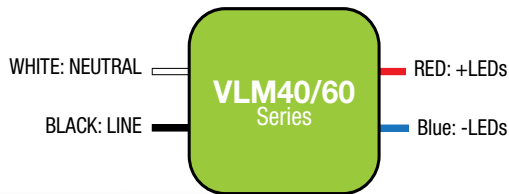
- Non-linear 0-10V dimming profile with dim-to-off
- Auxiliary output 12 V/100 mA
- IP66-rated case with silicone-based potting
- Outdoor Surge protection:
 - IEC61000-4-5: 4 kV line to line/4 kV line to earth
 - 2.5 kV ring wave: ANSI/IEEE c62.41.1-2002 & c62.41.2-2002 category A
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class A at 120 Vac & 277 Vac
- Lifetime: 50,000 hours @ Tc = 70°C
- 90°C maximum case hot spot temperature
- UL Class P

| Nominal Input Voltage | Max. Output Power | Nominal Output Voltage | Max. Output Current | Efficiency | Max. Case Temperature | THD | Power Factor |
|--------------------------------|-------------------|------------------------|---------------------|-------------------|---------------------------------|-------|--------------|
| 120/277 Vac, 220 to 240 Vac | 60 W | 12, 24, 48 Vdc | 5, 2.5, 1.25 A | up to 90% typical | 90°C (measured at the hot spot) | < 20% | >0.9 |

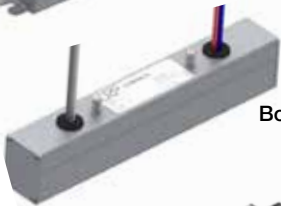
Typical Application Diagram



Wiring Diagram



Models with Flying Leads,
Aluminum case
L 130 x W 19.85 x H 19.85 mm
(L 5.12 x W 0.78 x H 0.78 in)



Models with "-S" Suffix
Bottom Leads with Studs, Aluminum Case
L 130 x W 19.85 x H 23.85 mm
(L 5.12 x W 0.78 x H 0.94 in)



Models with "-T" Suffix
Aluminum case with terminal blocks
L 183.2 x W 19.85 x H 19.85 mm
(L 7.12 x W 0.78 x H 0.78 in)



Features

- Very high power density of 20 W/in³
- Class 2 power supply
- IP20-rated case with silicone-based potting
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- Lifetime: 50,000 hours min at 70°C case temperature
- UL Class P

| ERP Part Number | Nominal Input Voltage (Vac) | Pout Max (W) | Vout Nom (Vdc) | Iout Max (A) |
|---|-----------------------------|--------------|----------------|--------------|
| 120 / 277 VAC NOMINAL INPUT VOLTAGE | | | | |
| VLM40W: 40 W | | | | |
| VLM40W-12 | 120/277 | 40.0 | 12 | 3.33 |
| VLM40W-24 | 120/277 | 40.0 | 24 | 1.67 |
| VLM40W-48 | 120/277 | 40.0 | 48 | 0.83 |
| VLM40W-12-S | 120/277 | 40.0 | 12 | 3.33 |
| VLM40W-24-S | 120/277 | 40.0 | 24 | 1.67 |
| VLM40W-48-S | 120/277 | 40.0 | 48 | 0.83 |
| VLM60W: 60 W | | | | |
| VLM60W-12 | 120/277 | 60.0 | 12 | 5 |
| VLM60W-24 | 120/277 | 60.0 | 24 | 2.5 |
| VLM60W-48 | 120/277 | 60.0 | 48 | 1.25 |
| VLM60W-12-S | 120/277 | 60.0 | 12 | 5 |
| VLM60W-24-S | 120/277 | 60.0 | 24 | 2.5 |
| VLM60W-48-S | 120/277 | 60.0 | 48 | 1.25 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | |
| VLM40E: 40 W | | | | |
| VLM40E-12-T | 220 to 240 | 40.0 | 12 | 3.33 |
| VLM40E-24-T | 220 to 240 | 40.0 | 24 | 1.67 |
| VLM40E-48-T | 220 to 240 | 40.0 | 48 | 0.83 |
| VLM60E: 60 W | | | | |
| VLM60E-12-T | 220 to 240 | 60.0 | 12 | 5 |
| VLM60E-24-T | 220 to 240 | 60.0 | 24 | 2.5 |
| VLM60E-48-T | 220 to 240 | 60.0 | 48 | 1.25 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

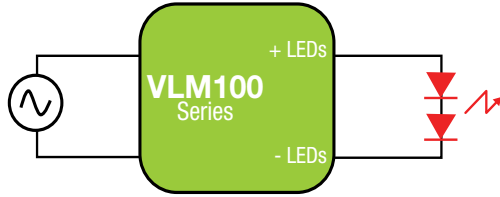
Applications

- Strip lights
- Pendant lights
- Linear lights
- Cove Lights

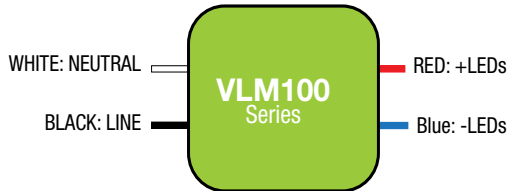


| Nominal Input Voltage | Max. Output Power | Nominal Output Voltage | Max. Output Current | Efficiency | Max. Case Temperature | THD | Power Factor |
|--------------------------------|-------------------|------------------------|---------------------|-------------------|---------------------------------|-------|--------------|
| 120/277 Vac, 220 to 240 Vac | 96 W | 12, 24, 48 Vdc | 8, 4, 2 A | up to 92% typical | 90°C (measured at the hot spot) | < 20% | >0.9 |

Typical Application Diagram



Wiring Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Pout Max (W) | Vout Nom (Vdc) | Iout Max (A) |
|---|-----------------------------|--------------|----------------|--------------|
| 120 / 277 VAC NOMINAL INPUT VOLTAGE | | | | |
| VLM60W: 60 W | | | | |
| VLM100W-12 ⁽¹⁾ | 120/277 | 96.0 | 12 | 8 |
| VLM100W-24 | 120/277 | 96.0 | 24 | 4 |
| VLM100W-48 | 120/277 | 96.0 | 48 | 2 |
| VLM100W-12-S ⁽¹⁾ | 120/277 | 96.0 | 12 | 8 |
| VLM100W-24-S | 120/277 | 96.0 | 24 | 4 |
| VLM100W-48-S | 120/277 | 96.0 | 48 | 2 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | |
| VLM100E: 100 W | | | | |
| VLM100E-12-T | 220 to 240 | 96.0 | 12 | 8 |
| VLM100E-24-T | 220 to 240 | 96.0 | 24 | 4 |
| VLM100E-48-T | 220 to 240 | 96.0 | 48 | 2 |

1. Not Class 2 because the over-current protection of this model exceeds the 8A UL Class 2 limit.

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com



Models with Flying Leads, Aluminum case
L 137 x W 26.25 x H 19.85 mm
(L 5.12 x W 1.03 x H 0.78 in)

Models with "-S" Suffix Bottom Leads with Studs, Aluminum Case
L 137 x W 26.25 x H 23.85 mm
(L 5.12 x W 1.03 x H 0.94 in)

Models with "-T" Suffix Aluminum case with terminal blocks
L 193.2 x W 26.25 x H 19.85 mm
(L 7.60 x W 1.03 x H 0.78 in)



Features

- Very high power density of 24 W/in³
- Class 2 power supply
- IP20-rated case with silicone-based potting
- Complies with ENERGY STAR® luminaire specification and DLC (DesignLight Consortium®) technical requirements
- 90°C maximum case hot spot temperature
- Lifetime: 50,000 hours min at 70°C case temperature
- UL Class P

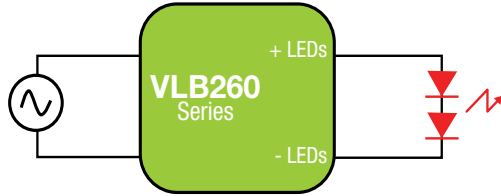
Applications

- Strip lights
- Pendant lights
- Linear lights
- Cove Lights



| Nominal Input Voltage | Max. Output Power | Nominal Output Voltage | Max. Output Current | Efficiency | Max. Case Temperature | THD | Power Factor |
|-----------------------|-------------------|------------------------|---------------------|-------------------|---------------------------------|-------|--------------|
| 120/277 Vac | 260 W | 12, 24, 48 Vdc | 21.6, 10.8, 5.4 A | up to 93% typical | 90°C (measured at the hot spot) | < 20% | >0.9 |

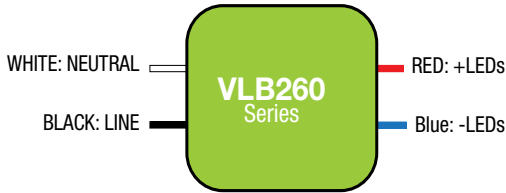
Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Pout Max (W) | Vout Nom (Vdc) | Iout Max (A) |
|-----------------|-----------------------------|--------------|----------------|--------------|
| VLB260W: 260 W | | | | |
| VLB260W-12 | 120/277 | 260.0 | 12 | 21.67 |
| VLB260W-24 | 120/277 | 260.0 | 24 | 10.83 |
| VLB260W-48 | 120/277 | 260.0 | 48 | 5.42 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Wiring Diagram



Applications

- Horticulture
- Industrial lights
- Outdoor and indoor

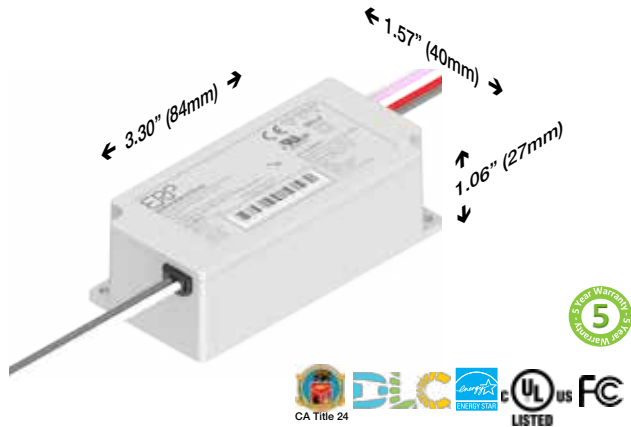
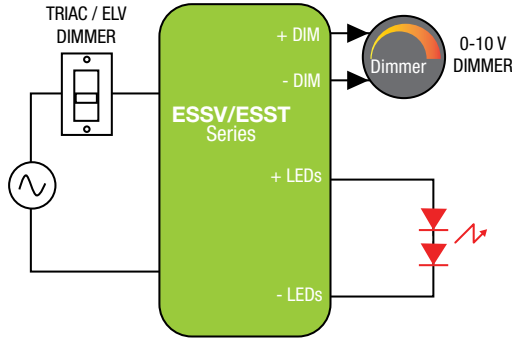


Features

- Very high power density of 10.2 W/in³
- IP66-rated case with silicone-based potting
- Complies with ENERGY STAR® luminaire specification and DLC (DesignLight Consortium®) technical requirements
- 90°C maximum case temperature
- UL Class P

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|--------------------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|---------------------------------------|-----------------------|--------------|
| 120 to 277 Vac, 220 to 240 Vac | 40 W | 14 to 42 Vdc | 250 to 1400 mA Constant Current | up to 87% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|--------------------------------------|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| ESSV010W: up to 10 W | | | | | |
| ESSV010W-0250-42 | 120 to 277 | 250 | 10.5 | 24 | 42 |
| ESSV015W: 11 to 15 W | | | | | |
| ESSV015W-0300-42 | 120 to 277 | 300 | 12.6 | 24 | 42 |
| ESSV020W: 16 to 20 W | | | | | |
| ESSV020W-0400-42 | 120 to 277 | 400 | 16.8 | 24 | 42 |
| ESSV030W: 21 to 30 W | | | | | |
| ESSV030W-0500-42 | 120 to 277 | 500 | 21.0 | 24 | 42 |
| ESSV030W-0620-42 | 120 to 277 | 620 | 26.0 | 24 | 42 |
| ESSV030W-0700-42 | 120 to 277 | 700 | 29.4 | 24 | 42 |
| ESSV040W: 31 to 40 W | | | | | |
| ESSV040W-0900-42 | 120 to 277 | 900 | 37.8 | 24 | 42 |
| ESSV040W-1400-27 | 120 to 277 | 1400 | 37.8 | 20 | 27 |
| ESST040W: 31 to 40 W | | | | | |
| ESST040W-0800-42 | 120 to 277 | 800 | 33.6 | 24 | 42 |
| ESST040W-0900-42 | 120 to 277 | 900 | 37.8 | 24 | 42 |
| ESST040W-1400-24 | 120 to 277 | 1400 | 33.6 | 14 | 24 |
| ESST040W-1400-27 | 120 to 277 | 1400 | 37.8 | 20 | 27 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | |
| ESST040E: 31 to 40 W | | | | | |
| ESST040E-0800-42 | 220 to 240 | 800 | 33.6 | 24 | 42 |
| ESST040E-0900-42 | 220 to 240 | 900 | 37.8 | 24 | 42 |

Features

- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- Lifetime: 50,000 hours at 70°C case hot spot temperature
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac) and Class A (277 Vac)
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- IP66-rated thermally-enhanced case with silicone-based potting
- ESSV model: with 5VA flammability, UL Class P and a thermally-enhanced plastic case
- 90°C maximum case hot spot temperature
- Class 2 power supply

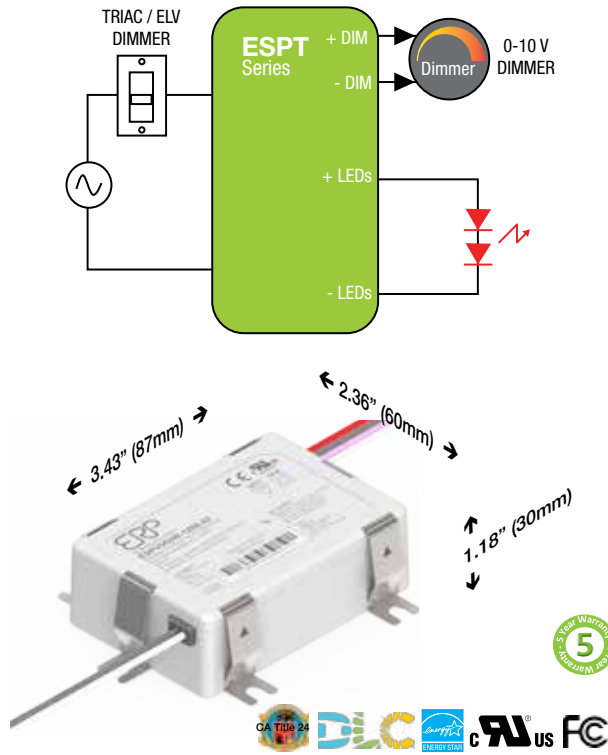
Applications

- Indoor & outdoor
- Recessed lighting (down lights)
- Commercial lighting & residential lighting
- Architectural lighting
- Office Lighting



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|-----------------------------------|-------------------|----------------|------------------------------------|----------------------|------------------------------------|-------|--------------|---|--------------------------|--------------|
| 120 to 277 Vac, 220 to 240 Vac | 60 W | 21 to 56 Vdc | 700 to 1400 mA Constant Current | up to 87% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|---|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| 120 TO 277 VAC NOMINAL VOLTAGE | | | | | |
| ESPT040W: 30 to 40 W | | | | | |
| ESPT040W-0700-56 | 120 to 277 | 700 | 39.2 | 40 | 56 |
| ESPT040W-0800-42-Z1 ⁽¹⁾ | 120 to 277 | 800 | 33.6 | 24 | 42 |
| ESPT040W-0900-42-Z1 ⁽¹⁾ | 120 to 277 | 900 | 37.8 | 24 | 42 |
| ESPT050W: 41 to 50 W | | | | | |
| ESPT050W-1050-42-Z1 ⁽¹⁾ | 120 to 277 | 1050 | 44.1 | 24 | 42 |
| ESPT050W-1200-42-Z1 ⁽¹⁾ | 120 to 277 | 1200 | 50.4 | 24 | 42 |
| ESPT050W-1400-34 | 120 to 277 | 1400 | 47.6 | 23 | 34 |
| ESPT060W: 51 to 60 W | | | | | |
| ESPT060W-1400-42-Z1 ⁽¹⁾ | 120 to 277 | 1400 | 58.8 | 24 | 42 |
| ESPV050W: 41 to 50 W | | | | | |
| ESPV050W-1050-42-Z1 ⁽¹⁾ | 120 to 277 | 1050 | 44.1 | 24 | 42 |
| ESPV050W-1200-42-Z1 ⁽¹⁾ | 120 to 277 | 1200 | 50.4 | 24 | 42 |
| ESPV060W: 51 to 60 W | | | | | |
| ESPV060W-1400-42-Z1 ⁽¹⁾ | 120 to 277 | 1400 | 58.8 | 24 | 42 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | |
| ESPT040E: 30 to 40 W | | | | | |
| ESPT040E-0800-42 | 220 to 240 | 800 | 33.6 | 24 | 42 |
| ESPT040E-0900-42 | 220 to 240 | 900 | 37.8 | 24 | 42 |
| ESPT050E: 41 to 50 W | | | | | |
| ESPT050E-1050-42 | 220 to 240 | 1050 | 44.1 | 24 | 42 |
| ESPT050E-1200-42 | 220 to 240 | 1200 | 50.4 | 24 | 42 |
| ESPT060E: 51 to 60 W | | | | | |
| ESPT060E-1400-42 | 220 to 240 | 1400 | 58.8 | 24 | 42 |

1. Models with the "-Z1" suffix exhibit a non-linear 0-10V dimming profile with dim-to-off: 10V to 9.1V=100%, 1V to 0.8V=1%, <0.8V dim-to-off.
2. The ESPV driver case must be mounted by using a minimum of two metal clips. By default, the ESPV driver is shipped with 2 metal clips.
3. Please note that the metal clips are identical between the ESPV and ESPT series.

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- ESPTxxxW: TRIAC and ELV dimming only at 120 Vac
- ESPTxxxE models: ELV dimming only at 230 Vac
- ESPV model: with a thermally-enhanced plastic case
- Two 0-10V dimming profiles are available:
 - Linear 0-10 V dimming: 10V=100%, 1V=10%, 0.1V=1%.
 - Non-linear 0-10V dimming: 10V to 8.1V=100%, 1V to 0.8V=1%, <0.8V dim-to-off.
- Lifetime: 50,000 hours at 70°C case hot spot temperature
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac) and Class A (277 Vac)
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- IP66-rated case with silicone-based potting
- 90°C maximum case hot spot temperature
- Class 2 power supply

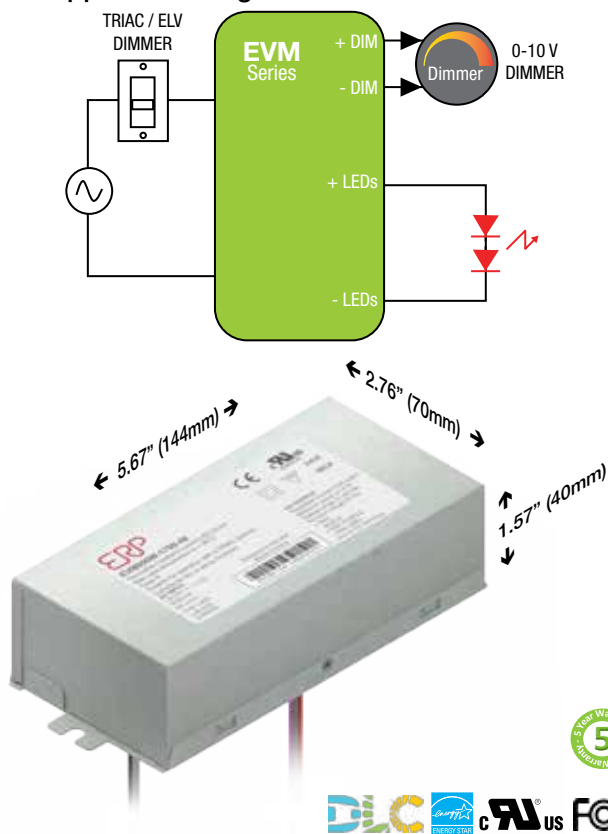
Applications

- Indoor & outdoor
- Recessed lighting (down lights)
- Commercial lighting & residential lighting
- Architectural lighting
- Office Lighting



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|-----------------------|-------------------|----------------|----------------------------------|-------------------|---------------------------------|-------|--------------|---------------------------------------|-----------------------|--------------|
| 120 to 277 Vac | 120 W | 30 to 84 Vdc | 1050 to 3000 mA Constant Current | up to 87% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|-----------------------------------|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| EVM060W: up to 60 W | | | | | |
| EVM060W-1400-42-C0B | 120 to 277 | 1400 | 58.8 | 30 | 42 |
| EVM060W-1400-42-Z1B | 120 to 277 | 1400 | 58.8 | 30 | 42 |
| EVM080W: 61 to 80 W | | | | | |
| EVM080W-1250-56 | 120 to 277 | 1250 | 70.0 | 40 | 56 |
| EVM080W-1750-42 | 120 to 277 | 1750 | 73.5 | 30 | 42 |
| EVM080W-1750-42-Z1B | 120 to 277 | 1750 | 73.5 | 30 | 42 |
| EVM080W-1900-42 | 120 to 277 | 1900 | 79.8 | 30 | 42 |
| EVM090W: 81 to 90 W | | | | | |
| EVM090W-1050-84 ¹⁾ | 120 to 277 | 1050 | 88.2 | 70 | 84 |
| EVM090W-1700-48-N1B ²⁾ | 120 to 277 | 1700 | 81.6 | 37 | 48 |
| EVM090W-2000-42 | 120 to 277 | 2000 | 84.0 | 30 | 42 |
| EVM090W-2000-42-Z1B | 120 to 277 | 2000 | 84.0 | 30 | 42 |
| EVM100W: 91 to 100 W | | | | | |
| EVM100W-1200-80 ¹⁾ | 120 to 277 | 1200 | 96.0 | 66 | 80 |
| EVM100W-1200-84 ¹⁾ | 120 to 277 | 1200 | 100.8 | 70 | 84 |
| EVM100W-1700-56 | 120 to 277 | 1700 | 95.2 | 40 | 56 |
| EVM100W-2100-45 | 120 to 277 | 2100 | 94.5 | 32 | 45 |
| EVM100W-2350-42 | 120 to 277 | 2350 | 98.7 | 30 | 42 |
| EVM110W: 101 to 110 W | | | | | |
| EVM110W-2000-52-N1B ³⁾ | 120 to 277 | 2000 | 104.0 | 40 | 52 |
| EVM110W-2500-42 ¹⁾ | 120 to 277 | 2500 | 105.0 | 30 | 42 |
| EVM120W: 111 to 120 W | | | | | |
| EVM120W-1400-84-S | 120 to 277 | 1400 | 117.6 | 70 | 84 |
| EVM120W-2700-42 ¹⁾ | 120 to 277 | 2700 | 113.4 | 30 | 42 |
| EVM120W-3000-40 ¹⁾ | 120 to 277 | 3000 | 120.0 | 30 | 40 |

1. Not class 2.
 2. The EVM090W-1700-48-N1B is specifically intended to drive the Cree LMH2 6000 module and exhibits a customized 0-10V dimming transfer function.
 3. The EVM110W-2000-52-N1B is specifically intended to drive the Cree LMH2 8000 module and exhibits a customized 0-10V dimming transfer function.

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- TRIAC and ELV dimming only at 120 Vac
- Outdoor surge protection: 4 kV line to line/6 kV line to earth
- Optional non-linear 0-10V dimming profile with dim to off
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac) and Class A (277 Vac)
- IP20-rated Bottom Leads with Studs metal case with silicone-based potting. Optional IP64 metal case with side leads
- Complies with ENERGY STAR® luminaire specification and DLC (Design Light Consortium®) technical requirements
- Lifetime: 50,000 hours at 70°C case temperature
- 90°C maximum case hot spot temperature
- Class 2 power supply (only some models)

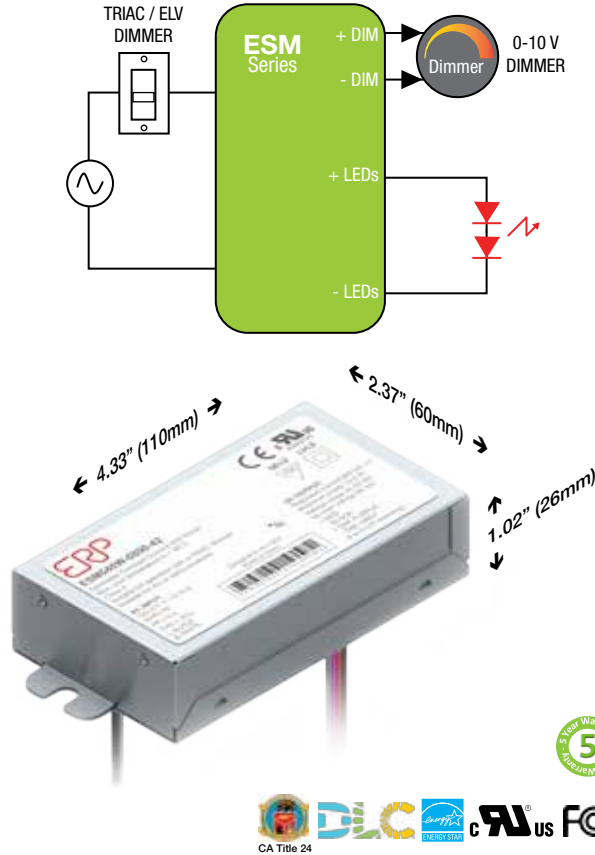
Applications

- High Bay Lights
- Industrial LED Lighting
- Metal Halide replacement
- Tunnels and street lighting
- Outdoor LED Lighting
- Wide-area downlights
- Suitable for driving high current COB LEDs such as Cree's CXA3050/3070/2590/3590, Bridgelux' Vero series and modules such as Cree's LMH2 6000/8000



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|------------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|--|-----------------------|--------------|
| 120 to 277 Vac maximum | 60 W | 8 to 56 Vdc | 280 to 1400 mA Constant Current | up to 87% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase, & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|-------------------------------------|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| ESM020W: up to 20 W | | | | | |
| ESM020W-0280-42 | 120 to 277 | 280 | 11.8 | 24 | 42 |
| ESM020W-0350-42 | 120 to 277 | 350 | 14.7 | 24 | 42 |
| ESM020W-0350-42-Z1 [®] | 120 to 277 | 350 | 14.7 | 24 | 42 |
| ESM020W-0400-42 | 120 to 277 | 400 | 16.8 | 24 | 42 |
| ESM020W-0440-25 | 120 to 277 | 440 | 11.0 | 19 | 25 |
| ESM020W-0440-25-SS-F1B [®] | 120 to 277 | 440 | 11.0 | 19 | 25 |
| ESM020W-0440-34-SS-F1B [®] | 120 to 277 | 440 | 15.0 | 27 | 34 |
| ESM020W-0440-34 | 120 to 277 | 440 | 15.0 | 19 | 34 |
| ESM020W-1000-14 | 120 to 277 | 1000 | 14.0 | 8 | 14 |
| ESM030W: 21 to 30 W | | | | | |
| ESM030W-0500-42 | 120 to 277 | 500 | 21.0 | 24 | 42 |
| ESM030W-0550-42 | 120 to 277 | 550 | 23.1 | 24 | 42 |
| ESM030W-0700-32 | 120 to 277 | 700 | 22.4 | 21 | 32 |
| ESM030W-0700-42 | 120 to 277 | 700 | 29.4 | 24 | 42 |
| ESM030W-0700-42-Z1 [®] | | | | | |
| ESM030W-0900-26 | 120 to 277 | 900 | 23.4 | 20.5 | 26 |
| ESM030W-0940-26-SS-F1B [®] | 120 to 277 | 940 | 24.4 | 19 | 26 |
| ESM030W-1750-14 | 120 to 277 | 1750 | 24.5 | 8 | 14 |
| ESM040W: 31 to 40 W | | | | | |
| ESM040W-0700-56 | 120 to 277 | 700 | 39.2 | 40 | 56 |
| ESM040W-0800-42 | 120 to 277 | 800 | 33.6 | 24 | 42 |
| ESM040W-0850-42 | 120 to 277 | 850 | 35.7 | 24 | 42 |
| ESM040W-0900-42 | 120 to 277 | 900 | 37.8 | 24 | 42 |
| ESM040W-0940-33-SS-F1B [®] | 120 to 277 | 940 | 31.0 | 24 | 33 |
| ESM040W-0940-43 | 120 to 277 | 940 | 40.4 | 32 | 43 |
| ESM050W: 41 to 50 W | | | | | |
| ESM050W-1050-42 | 120 to 277 | 1050 | 44.1 | 24 | 42 |
| ESM050W-1050-42-Z1 [®] | 120 to 277 | 1050 | 44.1 | 24 | 42 |
| ESM050W-1200-42 | 120 to 277 | 1200 | 50.4 | 24 | 42 |
| ESM050W-1400-34 | 120 to 277 | 1400 | 47.6 | 23 | 34 |
| ESM060W: 51 to 60 W | | | | | |
| ESM060W-1400-42 | 120 to 277 | 1400 | 58.8 | 24 | 42 |

1. The ESM020W-0440-25-SS-F1B is specifically intended to drive the Cree LMH2 850 sunset module and exhibits a customized 0-10V dimming transfer function. It will not work with any other LED or LED string.
2. The ESM020W-0440-34-SS-F1B is specifically intended to drive the Cree LMH2 1250 sunset module and exhibits a customized 0-10V dimming transfer function. It will not work with any other LED or LED string.
3. The ESM030W-0940-26-SS-F1B is specifically intended to drive the Cree LMH2 2000 sunset module and exhibits a customized 0-10V dimming transfer function. It will not work with any other LED or LED string.
4. The ESM040W-0940-33-SS-F1B is specifically intended to drive the Cree LMH2 3000 sunset module and exhibits a customized 0-10V dimming transfer function. It will not work with any other LED or LED string.
5. Models with the "Z1" suffix exhibit a non-linear 0-10V dimming profile:(10V to 9.1V=100%, 1V to 0.8V=1%, <0.8V dim-to-off).

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- TRIAC and ELV dimming only at 120 Vac
- Two 0-10V dimming profiles are available:
 - Linear 0-10 V dimming: 10V=100%, 1V=10%, 0.1V=1%.
 - Non-linear 0-10V dimming: 10V to 8.1V=100%, 1V to 0.8V=1%, <0.8V dim-to-off.
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Lifetime: 50,000 hours at 70°C case temperature
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac) and Class A (277 Vac)
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- IP20-rated case with silicone-based potting
- 90°C maximum case temperature

Applications

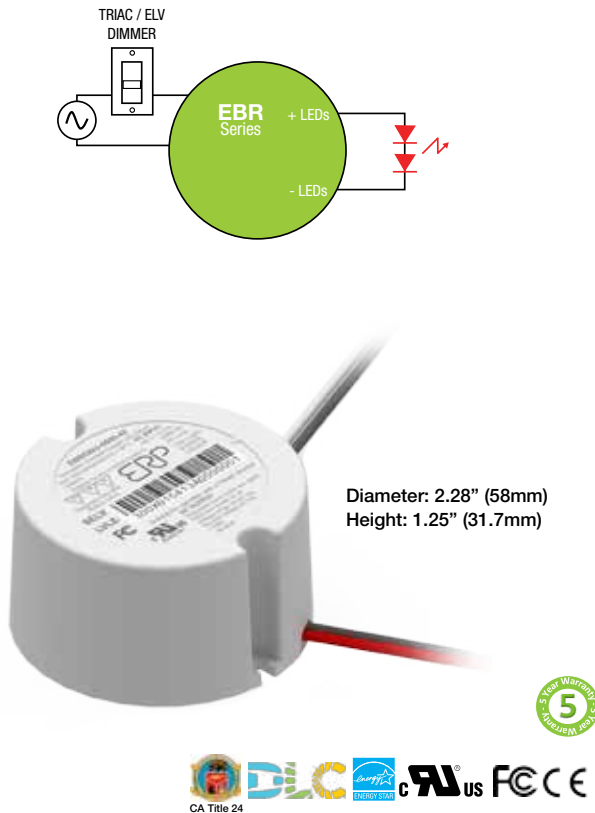
- Indoor & outdoor
- Recessed lighting (down lights)
- Commercial lighting & residential lighting
- Architectural lighting
- Office Lighting

EBR SERIES 8 W - 21 W

Constant Current LED Drivers with Deep TRIAC and ELV Dimming (1% to 100%) and with Fast Startup Time

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|--------------------------|-------------------|----------------|--------------------------------|-------------------|---------------------------------|-------|--------------|------------------------------|-----------------------|--------------|
| 120 Vac, 220/230/240 Vac | 21 W | 16 to 42 Vdc | 200 to 700 mA Constant Current | up to 85% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase | 1 to 100% (% of Iout) | 200 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|---|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| 120 VAC NOMINAL VOLTAGE | | | | | |
| EBR010U: 8 to 10 W | | | | | |
| EBR010U-0200-42 | 120 | 200 | 8.4 | 30 | 42 |
| EBR010U-0250-42 | 120 | 250 | 10.5 | 30 | 42 |
| EBR010U-0440-24 | 120 | 440 | 10.6 | 16 | 24 |
| EBR010U-0700-14 | 120 | 700 | 9.8 | 9 | 14 |
| EBR015U: 11 to 15 W | | | | | |
| EBR015U-0300-42 | 120 | 300 | 12.6 | 30 | 42 |
| EBR015U-0350-32 | 120 | 350 | 11.2 | 21 | 32 |
| EBR015U-0350-42 | 120 | 350 | 14.7 | 30 | 42 |
| EBR015U-0440-36 | 120 | 440 | 15.8 | 24 | 36 |
| EBR015U-0500-28 | 120 | 500 | 14.0 | 19 | 28 |
| EBR020U: 16 to 21 W | | | | | |
| EBR020U-0400-42 | 120 | 400 | 16.8 | 30 | 42 |
| EBR020U-0460-32 | 120 | 460 | 19.3 | 30 | 42 |
| EBR020U-0500-42 | 120 | 500 | 16.0 | 21 | 32 |
| EBR020U-0500-37 | 120 | 500 | 18.5 | 25 | 37 |
| EBR020U-0500-42 | 120 | 500 | 21.0 | 30 | 42 |
| EBR020U-0700-24 | 120 | 700 | 16.8 | 16 | 24 |
| EBR020U-0700-30 | 120 | 700 | 21.0 | 20 | 30 |
| EBR020U-0720-21 | 120 | 720 | 15.1 | 14 | 21 |
| EBR020U-0720-28 | 120 | 720 | 20.2 | 19 | 28 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | |
| EBR010E: 8 to 10 W | | | | | |
| EBR010E-0200-42-CE | 220/230/240 | 200 | 8.4 | 30 | 42 |
| EBR010E-0250-42-CE | 220/230/240 | 250 | 10.5 | 30 | 42 |
| EBR015E: 11 to 15 W | | | | | |
| EBR015E-0350-42-CE | 220/230/240 | 350 | 14.7 | 30 | 42 |
| EBR015E-0440-36-CE | 220/230/240 | 440 | 15.8 | 24 | 36 |
| EBR020E: 16 to 21 W | | | | | |
| EBR020E-0400-42-CE | 220/230/240 | 400 | 16.8 | 30 | 42 |
| EBR020E-0500-42-CE | 220/230/240 | 500 | 21.0 | 30 | 42 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

- Compatible with industry standard phase-cut dimmers: TRIAC (forward-phase or leading-edge) and ELV (reverse-phase or trailing-edge)
- Lifetime: 50,000 hours at 70°C case hot spot temperature
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B at 120 Vac and EN55015 (CISPR 15) at 220, 230 and 240 Vac
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- IP20-rated case with silicone-based potting
- 94V-0 flammability rating (5VA available upon request)
- 90°C maximum case hot spot temperature
- Class 2 power supply

Applications

- Recessed lighting (downlights)
- Commercial & Residential lighting
- Architectural lighting

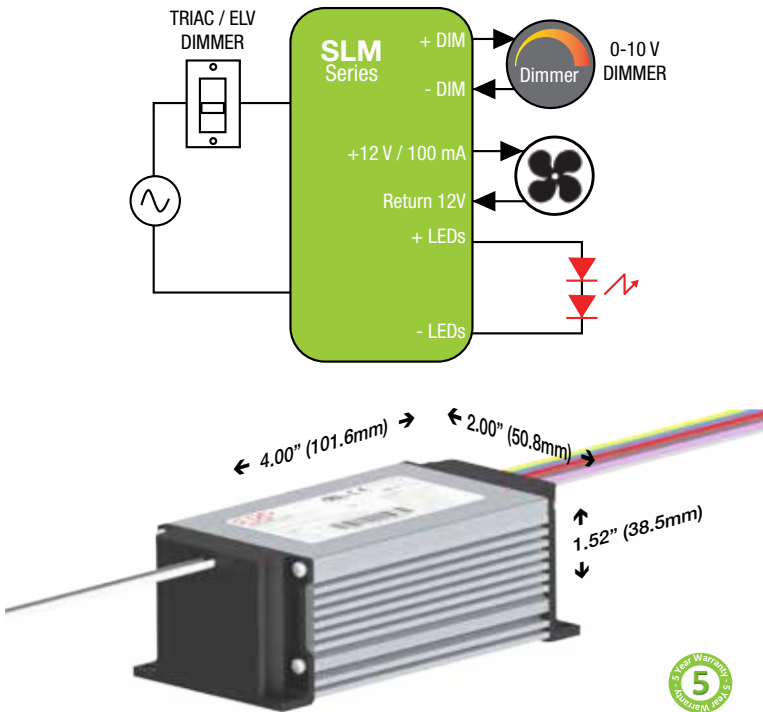


SLM SERIES 90 W - 160 W

Tri-Mode Dimming™ (TRIAC, ELV & 0-10 V) , High Power
Constant Current LED Drivers with 1-100% Dimming Range
and with 12 V / 100 mA Auxiliary Output

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|-----------------------|-------------------|----------------|-------------------------------|-------------------|---------------------------------|-------|--------------|--|-----------------------|--------------|
| 120 to 277 Vac | 160 W | 28 to 160 Vdc | 1.0 to 4.4 A Constant Current | up to 90% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0 - 10V | 1 to 100% (% of Iout) | 0.75 sec |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Max. Output Power (W) | Iout (A) | Output Voltage Range (Vdc) | |
|------------------------------------|-----------------------------|-----------------------|----------|----------------------------|------|
| | | | | min. | max. |
| SLM90W: up to 90 W | | | | | |
| SLM090W-1.05-84-ZA ⁽⁴⁾ | 120 to 277 | 88.2 | 1.05 | 60 | 84 |
| SLM090W-2.1-42-TC ⁽¹⁾ | 120 to 277 | 88.2 | 2.1 | 30 | 42 |
| SLM100W: 91 to 100 W | | | | | |
| SLM100W-1.7-56-TA ⁽²⁾ | 120 to 277 | 95.2 | 1.7 | 40 | 56 |
| SLM120W: 111 to 120 W | | | | | |
| SLM120W-2.0-56-TA ⁽²⁾ | 120 to 277 | 112.0 | 2 | 40 | 56 |
| SLM120W-2.8-42-XA ⁽³⁾ | 120 to 277 | 117.6 | 2.8 | 30 | 42 |
| SLM140W: 131 to 140 W | | | | | |
| SLM140W-1.05-130-ZA ⁽⁴⁾ | 120 to 277 | 136.5 | 1.05 | 90 | 130 |
| SLM160W: 151 to 160 W | | | | | |
| SLM160W-1.0-160-ZA ⁽⁴⁾ | 120 to 277 | 160 | 1 | 129 | 160 |
| SLM160W-2.8-56-ZA ⁽³⁾ | 120 to 277 | 156.8 | 2.8 | 40 | 56 |
| SLM160W-3.7-42-XA ⁽³⁾ | 120 to 277 | 155.4 | 3.7 | 30 | 42 |
| SLM160W-3.9-40-ZA ⁽⁴⁾ | 120 to 277 | 156.0 | 3.9 | 30 | 40 |
| SLM160W-4.4-36-ZA ⁽⁴⁾ | 120 to 277 | 158.4 | 4.4 | 28 | 36 |

1. T: ELV & 0-10 V dimming (1-100%), C: 1kV /2kV surge protection & IP66
2. T: ELV & 0-10 V dimming (1-100%), A: 4kV/4kV surge protection & IP66
3. X: No dimming, A: 4kV/4kV surge protection & IP66
4. Z: 0-10V dimming only (1-100%), A: 4kV/4kV surge protection & IP66

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Applications

- Outdoor & Indoor
- Street lights, Area lights
- Horticulture grow lights
- Industrial high-bay lights



Features

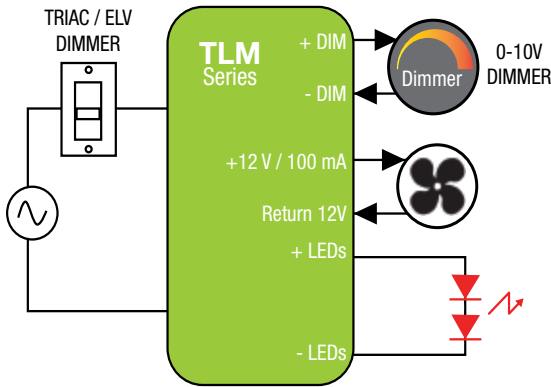
- Compatible with TRIAC (forward-phase or leading-edge) / ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- TRIAC and ELV dimming only at 120 Vac
- 12 V/100 mA auxiliary output
- Protections: output open load, short-circuit (latch-off), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class A at 120 Vac & 277 Vac
- IP66-rated case with silicone-based potting
- 90°C maximum case hot spot temperature
- Complies with ENERGY STAR® luminaire specification and DLC (DesignLight Consortium®) technical requirement

TLM SERIES 90 W - 160 W

Tri-Mode Dimming™ (TRIAC, ELV & 0-10 V) High Power
Constant Current LED Drivers with 0.01 to 100% Dimming Range
and with 12 V / 100 mA Auxiliary Output

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|------------------------------------|----------------------|------------------------------------|-------|--------------|--|-----------------------------|
| 120 to 277 Vac | 160 W | 30 to 85 Vdc | 1.8 A to 2.1 A Constant Current | up to 90% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0 - 10V | 0.01 to 100% (% of Iout) |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (A) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|-----------------------|-----------------------------|----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| TLM90W: 81 to 90 W | | | | | |
| TLM90W-2.1-42 | 120 to 277 | 2.1 | 88.2 | 30 | 42 |
| TLM160W: 151 to 160 W | | | | | |
| TLM160W-1.8-85 | 120 to 277 | 1.8 | 153.0 | 68 | 85 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com



Applications

- Stage, Theatrical lighting
- Studio Lighting



Features

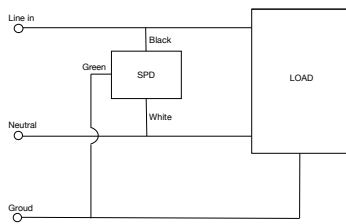
- Dimming range: 0.01% – 100% with ETC, Leprecon and Elation stage lighting AC phase dimmers
- +12 V/100 mA auxiliary output to power external fan, motion or ambient light sensor, or wireless module
- TRIAC and ELV dimming only at 120 Vac
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class A at 120 Vac & 277 Vac
- Complies with ENERGY STAR® luminaire specification and DLC (Design Light Consortium®) technical requirements
- IP66-rated case with silicone-based potting
- 90°C maximum case hot spot temperature

| ERP Part Number | Nominal Input Voltage | MCOV/Uc ⁽¹⁾ (Vac) | Max. Peak Current (8/20µs) (kA) | | Combination Wave (1.2/50µs-8/20µs) (kV/kA) | | Measured Limited Voltage (MLV) ⁽³⁾ (V) | | | Thermal Fuse | EOL (End of Life) Remote Indicator LED | Connection | Case |
|-----------------------------------|-----------------------|------------------------------|---------------------------------|---------------------------------|--|------|---|------|------|--------------|--|--------------------------------------|------|
| | | | Inom ⁽²⁾ | I _{max} ⁽²⁾ | Vnom | Vmax | L-N | L-G | N-G | | | | |
| SPD-277P-10KA | 120 to 277 | 320 | 5 | 10 | 10 | 20 | 1230 | 1400 | 1420 | | | Parallel | A |
| SPD-277P-20KA ⁽⁴⁾ | 120 to 277 | 320 | 10 | 20 | 20 | 20 | 1890 | 1900 | 1870 | | | Parallel | B |
| SPD-277S-20KA ⁽⁴⁾ | 120 to 277 | 320 | 10 | 20 | 20 | 20 | 1260 | 1280 | 1840 | • | | Series | B |
| SPD-277S-20KA-EILR ⁽⁴⁾ | 120 to 277 | 320 | 10 | 20 | 20 | 20 | 1300 | 1290 | 2000 | • | • | Series with EOL Remote LED Indicator | B |

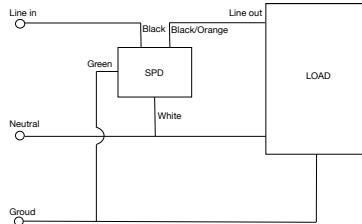
1. NOMINAL DISCHARGE CURRENT (In) (kA): It is the peak value of the current through the device having a current waveshape of 8/20µs where the device is capable of discharging 15 times.
2. MAXIMUM DISCHARGE CURRENT (I_{max}) (kA): It is the peak value of the current through the device having a current waveshape of 8/20µs where the device is capable of discharging once.
3. MEASURED LIMITING VOLTAGE (MLV) (V): Maximum residual voltage after the application of 8/20µs impulses at nominal discharge current.
4. MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV/Uc) (Vac): It is the maximum root-mean-square (rms) voltage that may be continuously applied to the device.
5. MAXIMUM LOAD: 8 A for "xxxS-10kA", 12 A for "xxxS-20kA-xxxx"

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

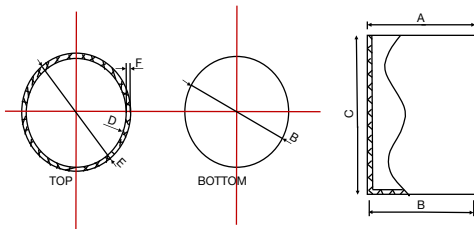
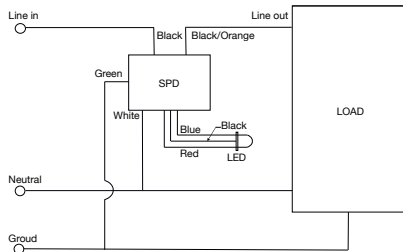
Parallel Connection



Series Connection



Series Connection with Remote EOL Indicator



| | Case A | Case B |
|-------------------|--------------|--------------|
| Diameter (E): | 35mm (1.38") | 45mm (1.77") |
| Height (C): | 64mm (2.52") | 65mm (2.56") |
| Top Width (A): | 35mm (1.38") | 45mm (1.77") |
| Bottom Width (B): | 33mm (1.30") | 43mm (1.69") |

RoHS c US

Features

- IP67, optimized for use in outdoor applications
- Protects against surges in accordance with UL1449 and IEEE C62.41.2.C
- 90°C high temperature flameproof enclosure
- CAUTION: Only for use with universal input voltage LED drivers (277 Vac)

Applications

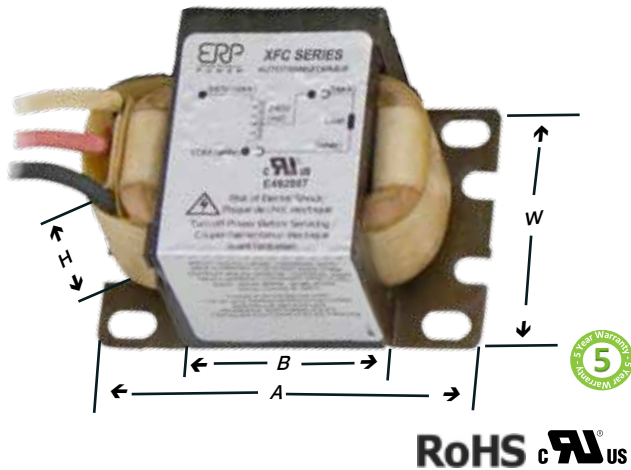
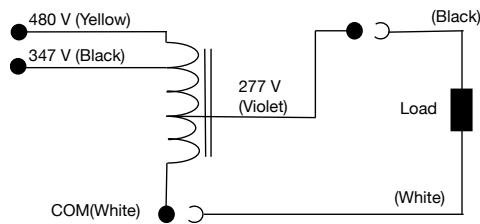
- Additional level of protection from dangerous power line transient in commercial and industrial applications.
- Area & Roadway lighting
- Factory, Warehouse, and Distribution Center lighting
- Sports & Stage lighting
- Airports & Dockyard lighting



| ERP Part Number | Max Load (VA) | Max Input Current (A) @ 480 Vac @ 377 Vac | Max Output Current (A) | Basic Dimensions inches mm | | | | Max Net Weight (lbs) | UL Temperature Rating (°C) |
|--------------------|---------------|---|------------------------|----------------------------------|-------------|-----------------------|-----------------------|----------------------|----------------------------|
| | | | | A | B | W | H | | |
| XFC160-347/480-277 | 160 | 0.36 0.5 | 0.58 | 3.07 ± 0.04 78 ± 1 | 3.94 100 | 1.93 ± 0.04 49 ± 1 | 1.61 ± 0.04 41 ± 1 | 2.44 | 180 |
| XFC215-347/480-277 | 215 | 0.46 0.64 | 0.77 | 3.07 ± 0.04 78 ± 1 | 4.06 103 | 1.93 ± 0.04 49 ± 1 | 1.61 ± 0.04 41 ± 1 | 2.54 | 180 |
| XFC300-347/480-277 | 300 | 0.69 0.91 | 1.08 | 2.17 ± 0.04 55 ± 1 | 3.43 87 | 2.64 ± 0.04 49 ± 1 | 2.21 ± 0.04 41 ± 1 | 3.46 | 180 |
| XFC450-347/480-277 | 450 | 1 1.38 | 1.62 | 2.95 ± 0.04 75 ± 1 | 4.33 110 | 2.64 ± 0.04 49 ± 1 | 2.21 ± 0.04 41 ± 1 | 4.69 | 180 |
| XFC675-347/480-277 | 675 | 1.48 2.04 | 2.43 | 3.54 ± 0.04 90 ± 1 | 4.92 125 | 2.64 ± 0.04 49 ± 1 | 2.21 ± 0.04 41 ± 1 | 5.39 | 180 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Typical Application Diagram



Applications

- Area & Roadway lighting
- Factory, Warehouse, and Distribution Center lighting
- Sports & Stage lighting
- Airports & Dockyard lighting



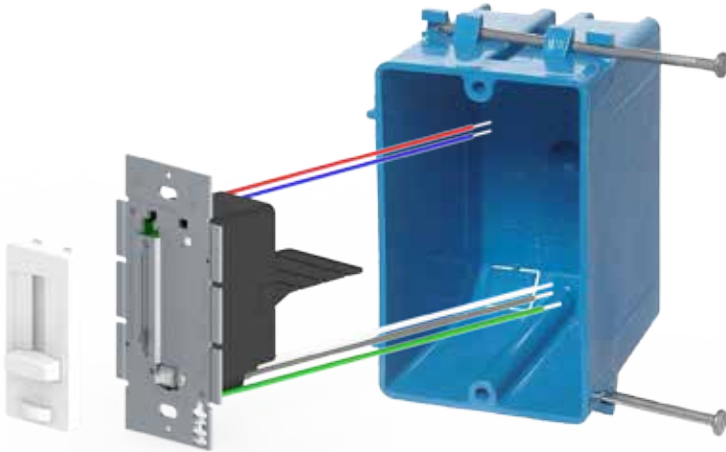
Features

- Optimized for use with 277 Vac universal input drivers
- Suitable for indoor and outdoor applications
- 180°C maximum case hot spot temperature
- 5 year limited warranty
- Lead type: (AVLV2, AVLV8), Type 3135, 18 AWG (or equivalent), rated 200°C, 600 V insulation rating, stripped by 10mm and tin plated. 347 V lead wire is pre-insulated.
- UL 5085-1, UL 5085-2
- UL CCN: XPTQ2, XPTQ8

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current Min | Output Current Max | Efficiency | Max. Ambient Temperature | THD | Power Factor | Dimming Range | Startup Time |
|-----------------------|-------------------|------------------------------|--------------------|--------------------|----------------------|--------------------------|-------|--------------|---------------|----------------|
| 120 Vac | 100 W | 12, 24 V Constant Voltage | 0 | 4.2 A | up to 91% typical | 40°C | < 20% | > 0.9 | 1 to 100% | 500 ms typical |

| ERP Part Number | Pout Max (W) | Vout Nom (V) | Iout Max (A) |
|-----------------|--------------|--------------|--------------|
| VSW40U-12-ERP | 40 | 12 | 3.3 |
| VSW60U-12-ERP | 60 | 12 | 5 |
| VSW60U-24-ERP | 60 | 24 | 2.5 |
| VSW100U-24-ERP | 100 | 24 | 4.2 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com



Applications

- Track lights, downlights
- For Tape/strip lights, under-cabinet lights please contact Diode LED at: <https://www.diodeled.com/switchex.html>

Features

- LED Driver + Dimmer in one physical unit
- Simplifies LED installation by eliminating compatibility issues between driver and dimmer
- Fits in a standard recessed electrical box (gang box)
- 100% - 1% smooth dimming
- No minimum load
- Single pole preset dimmer with on/off push switch
- Adjustable voltage output dial to address voltage drop
- Includes voltage barrier partition to install high and low voltage circuit in same gang box
- No derating required when ganging units
- Power failure memory: If power is interrupted, xDrive will return to the setting prior to interruption.
- The Glossy White color is the default color for the face plate and the trim plate. Other colors (Glossy Light Almond, Glossy Dark Brown, and Glossy Black) are available but sold separately.

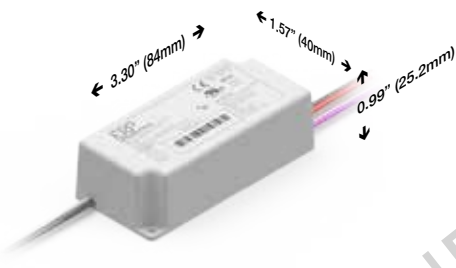
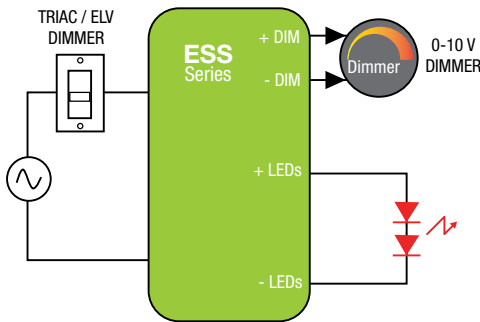


ESS SERIES 6 W - 40 W

Constant Current LED Drivers with
Tri-Mode Dimming™ (TRIAC, ELV & 0-10 V)

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | |
|-----------------------------------|-------------------|----------------|--|-----------------------|--------------|
| 120 to 277 Vac, 220 to 240 Vac | 40 W | 6 to 56 Vdc | 180 to 2100 mA Constant Current | up to 87% typical | |
| Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
| 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase, & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



Features

**NOT RECOMMENDED FOR NEW DESIGNS.
FOR NEW DESIGNS, USE OTHER SERIES.**

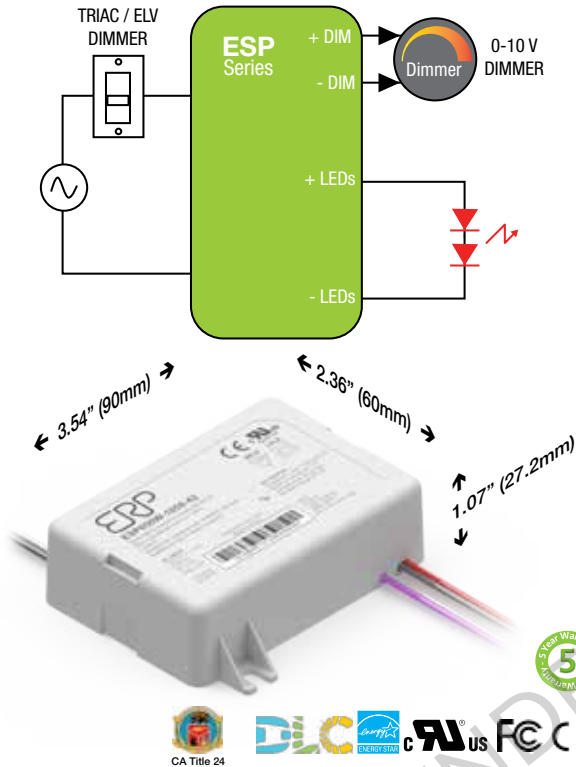
- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- ESSxxxW models: TRIAC and ELV dimming only at 120 Vac.
- ESSxxxE models: TRIAC and ELV dimming only at 230 Vac.
- Lifetime: 50,000 hours at 70°C case hot spot temperature
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac) and Class A (277 Vac), and EN55015 (CISPR 15) at 220, 230, and 240 Vac
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- IP64-rated case with silicone-based potting. IP66 for ESST040.
- 90°C maximum case hot spot temperature
- Class 2 power supply

| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|---|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| 120 TO 277 VAC NOMINAL VOLTAGE | | | | | |
| ESS010W: up to 10 W | | | | | |
| ESS010W-0180-42 | 120 to 277 | 180 | 7.6 | 24 | 42 |
| ESS010W-0200-42 | 120 to 277 | 200 | 8.4 | 24 | 42 |
| ESS010W-0250-42 | 120 to 277 | 250 | 10.5 | 24 | 42 |
| ESS010W-0250-42-Z1 ¹ | 120 to 277 | 250 | 10.5 | 24 | 42 |
| ESS010W-0350-24 | 120 to 277 | 350 | 8.4 | 14 | 24 |
| ESS010W-0500-12 | 120 to 277 | 500 | 6.0 | 6 | 12 |
| ESS010W-0500-18 | 120 to 277 | 500 | 9.0 | 10 | 18 |
| ESS010W-0750-12 | 120 to 277 | 750 | 9.0 | 6 | 12 |
| ESS015W: 11 to 15 W | | | | | |
| ESS015W-0300-42 | 120 to 277 | 300 | 12.6 | 24 | 42 |
| ESS015W-0350-32 | 120 to 277 | 350 | 11.2 | 21 | 32 |
| ESS015W-0400-32 | 120 to 277 | 400 | 12.8 | 21 | 32 |
| ESS015W-0350-42 | 120 to 277 | 350 | 14.7 | 24 | 42 |
| ESS015W-0350-42-Z1 ¹ | 120 to 277 | 350 | 14.7 | 24 | 42 |
| ESS015W-0400-32 | 120 to 277 | 400 | 12.8 | 21 | 32 |
| ESS015W-0440-25 | 120 to 277 | 440 | 11.0 | 19 | 25 |
| ESS015W-0440-34 | 120 to 277 | 440 | 15.0 | 24 | 34 |
| ESS015W-0700-18 | 120 to 277 | 700 | 12.6 | 10 | 18 |
| ESS015W-0700-18-Z1 ¹ | 120 to 277 | 700 | 12.6 | 10 | 18 |
| ESS015W-1000-12 | 120 to 277 | 1000 | 12.0 | 6 | 12 |
| ESS015W-1050-14 | 120 to 277 | 1050 | 14.7 | 8 | 14 |
| ESS015W-1050-14-Z1 ¹ | 120 to 277 | 1050 | 14.7 | 8 | 14 |
| ESS020W: 16 to 20 W | | | | | |
| ESS020W-0350-56 | 120 to 277 | 350 | 19.6 | 40 | 56 |
| ESS020W-0400-42 | 120 to 277 | 400 | 16.8 | 24 | 42 |
| ESS020W-0450-42 | 120 to 277 | 450 | 18.9 | 24 | 42 |
| ESS020W-0500-32 | 120 to 277 | 500 | 16.0 | 21 | 32 |
| ESS020W-0500-34 | 120 to 277 | 500 | 17.0 | 24 | 34 |
| ESS020W-0600-27 | 120 to 277 | 600 | 16.2 | 20 | 27 |
| ESS020W-0700-24 | 120 to 277 | 700 | 16.8 | 14 | 24 |
| ESS020W-1400-14 | 120 to 277 | 1400 | 19.6 | 8 | 14 |
| ESS020W-1400-14-Z1 ¹ | 120 to 277 | 1400 | 19.6 | 8 | 14 |
| ESS030W: 21 to 30 W | | | | | |
| ESS030W-0500-42 | 120 to 277 | 500 | 21.0 | 24 | 42 |
| ESS030W-0500-42-Z1 ¹ | 120 to 277 | 500 | 21.0 | 24 | 42 |
| ESS030W-0550-42 | 120 to 277 | 550 | 23.1 | 24 | 42 |
| ESS030W-0550-42-Y1 ¹ | 120 to 277 | 550 | 23.1 | 24 | 42 |
| ESS030W-0620-42 | 120 to 277 | 620 | 26.0 | 24 | 42 |
| ESS030W-0620-42-Z1 ¹ | 120 to 277 | 620 | 26.0 | 24 | 42 |
| ESS030W-0700-32 | 120 to 277 | 700 | 22.4 | 21 | 32 |
| ESS030W-0700-42 | 120 to 277 | 700 | 29.4 | 24 | 42 |
| ESS030W-0700-42-Z1 ¹ | 120 to 277 | 700 | 29.4 | 24 | 42 |
| ESS030W-0900-27 | 120 to 277 | 900 | 24.3 | 20 | 27 |
| ESS030W-0900-32 | 120 to 277 | 900 | 28.8 | 21 | 32 |
| ESS030W-1050-21 | 120 to 277 | 1050 | 22.1 | 14 | 21 |
| ESS030W-1100-27 | 120 to 277 | 1100 | 29.7 | 20 | 27 |
| ESS030W-1750-14 | 120 to 277 | 1750 | 24.5 | 8 | 14 |
| ESS030W-1750-14-Z1 ¹ | 120 to 277 | 1750 | 24.5 | 8 | 14 |
| ESS030W-2100-14 | 120 to 277 | 2100 | 29.4 | 8 | 14 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | |
| ESS010E: up to 10 W | | | | | |
| ESS010E-0250-42 | 220 to 240 | 250 | 10.5 | 24 | 42 |
| ESS015E: 11 to 15 W | | | | | |
| ESS015E-0350-32 | 220 to 240 | 350 | 11.2 | 21 | 32 |
| ESS015E-0350-42 | 220 to 240 | 350 | 14.7 | 24 | 42 |
| ESS030E: 21 to 30 W | | | | | |
| ESS030E-0500-42 | 220 to 240 | 500 | 21.0 | 24 | 42 |
| ESS030E-0700-32 | 220 to 240 | 700 | 22.4 | 21 | 32 |
| ESS030E-0700-42 | 220 to 240 | 700 | 29.4 | 24 | 42 |

1. Non-linear 0-10V Dimming Profile (10V to 9.1V=100%, 1V to 0.8V=1%, <0.8V dim-to-off).
2. Non-linear 0-10V dimming profile: 10V to 9.1V=100%, 1.2V to 0.6V=1%, Dim to off <0.68V.

| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|--------------------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|---------------------------------------|-----------------------|--------------|
| 120 to 277 Vac, 220 to 240 Vac | 60 W | 21 to 56 Vdc | 700 to 1400 mA Constant Current | up to 87% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Forward-Phase, Reverse-Phase & 0-10 V | 1 to 100% (% of Iout) | 400 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|---|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| 120 TO 277 VAC NOMINAL VOLTAGE | | | | | |
| ESP040W: 30 to 40 W | | | | | |
| ESP040W-0700-56 | 120 to 277 | 700 | 39.2 | 40 | 56 |
| ESP040W-0800-42 | 120 to 277 | 800 | 33.6 | 24 | 42 |
| ESP040W-0850-42 | 120 to 277 | 850 | 35.7 | 24 | 42 |
| ESP040W-0900-42 | 120 to 277 | 900 | 37.8 | 24 | 42 |
| ESP040W-0940-33-SS-F1 ⁽¹⁾ | 120 to 277 | 940 | 31.0 | 24 | 33 |
| ESP040W-0940-43 | 120 to 277 | 940 | 40.4 | 35 | 43 |
| ESP050W: 41 to 50 W | | | | | |
| ESP050W-1050-42 | 120 to 277 | 1050 | 44.1 | 24 | 42 |
| ESP050W-1200-42 | 120 to 277 | 1200 | 50.4 | 24 | 42 |
| ESP050W-1400-32 | 120 to 277 | 1400 | 44.8 | 21 | 32 |
| ESP050W-1400-34 | 120 to 277 | 1400 | 47.6 | 23 | 34 |
| ESP060W: 51 to 60 W | | | | | |
| ESP060W-1400-42 | 120 to 277 | 1400 | 58.8 | 24 | 42 |
| 220 TO 240 VAC NOMINAL INPUT VOLTAGE | | | | | |
| ESP040E: 30 to 40 W | | | | | |
| ESP040E-0800-42 | 220 to 240 | 800 | 33.6 | 24 | 42 |
| ESP040E-0850-42 | 220 to 240 | 850 | 35.7 | 24 | 42 |
| ESP040E-0900-42 | 220 to 240 | 900 | 37.8 | 24 | 42 |
| ESP050E: 41 to 50 W | | | | | |
| ESP050E-1050-42 | 220 to 240 | 1050 | 44.1 | 24 | 42 |
| ESP050E-1200-42 | 220 to 240 | 1200 | 50.4 | 24 | 42 |
| ESP060E: 51 to 60 W | | | | | |
| ESP060E-1400-42 | 220 to 240 | 1400 | 58.8 | 24 | 42 |

1. The ESP040W-0940-33-SS-F1 is specifically intended to drive the Cree LMH2 3000 sunset module and exhibits a customized 0-10V dimming transfer function. It will not work with any other LED or LED string.

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

**NOT RECOMMENDED FOR NEW DESIGNS.
FOR NEW DESIGNS, USE THE ESPT SERIES.**

- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- ESPxxxW: TRIAC and ELV dimming only at 120 Vac.
- ESPxxxE models: ELV dimming only at 230 Vac
- Lifetime: 50,000 hours at 70°C case hot spot temperature
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: Compliant with FCC CFR Title 47 Part 15 Class B (120 Vac)/Class A (277 Vac) and EN55015 (CISPR 15) at 220/230/240 Vac
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- IP64-rated case with silicone-based potting
- 90°C maximum case hot spot temperature
- Class 2 power supply

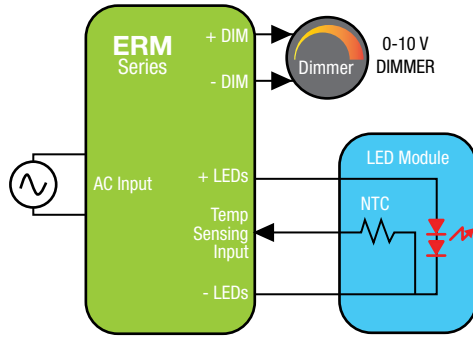
Applications

- Indoor & outdoor
- Recessed lighting (down lights)
- Commercial lighting & residential lighting
- Architectural lighting
- Office Lighting



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|---------------------------------|-------------------|-----------------------------|-------|--------------|----------------|---------------|
| 120 & 277 Vac | 70 W | 21 to 82 Vdc | 700 to 2100 mA Constant Current | up to 90% typical | 90°C (measured at hot spot) | < 20% | > 0.9 | 0-10 V | 10 to 100% |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | I _{out} (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|--------------------------------|-----------------------------|-----------------------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| ERM050W: 40 to 50 W | | | | | |
| ERM050W-1050-42 | 120 & 277 | 1050 | 44.1 | 32 | 42 |
| ERM050W-1200-42 | 120 & 277 | 1200 | 50.4 | 32 | 42 |
| ERM050W-1800-28 | 120 & 277 | 1800 | 50.4 | 21 | 28 |
| ERM060W: 51 to 70 W | | | | | |
| ERM060W-0700-82 ⁽¹⁾ | 120 & 277 | 700 | 57.4 | 62 | 82 |
| ERM060W-1400-42 | 120 & 277 | 1400 | 58.8 | 32 | 42 |
| ERM060W-1600-42 | 120 & 277 | 1600 | 67.2 | 32 | 42 |
| ERM060W-1750-40 | 120 & 277 | 1750 | 70 | 30 | 40 |
| ERM060W-2100-28 | 120 & 277 | 2100 | 58.8 | 21 | 28 |

1. Not Class 2

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com



Features

NOT RECOMMENDED FOR NEW DESIGNS. FOR NEW DESIGNS, USE OTHER SERIES.

- Highest power density in the market: 8.5 W/in³
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: FCC CFR Title 47 Part 15 compliant with Class B at 120 Vac and Class A at 277 Vac
- Enables ENERGY STAR® and DLC (DesignLight Consortium®) luminaire compliance
- IP64-rated case with silicone encapsulation
- 50,000 hours lifetime
- 90°C maximum case hot spot temperature
- Double-insulated power supply between input and output (class II)
- Class 2 power supply

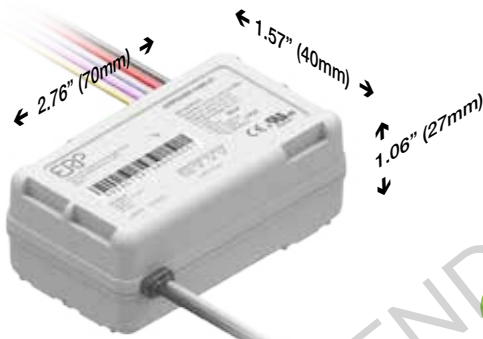
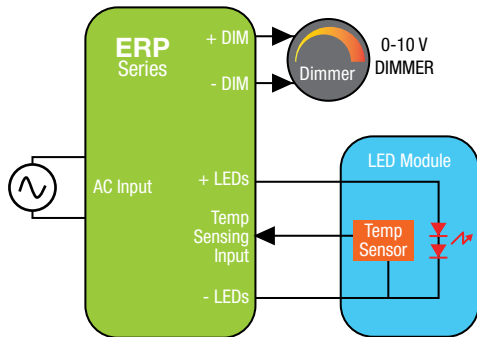
Applications

- High Bay Lights
- Troffers
- Outdoor LED Lighting
- Office LED Lighting
- Industrial LED Lighting



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|---------------------------------|-------------------|---------------------------------|-------|--------------|----------------|---------------|
| 120 to 277 Vac | 40 W | 16 to 54.5 Vdc | 350 to 1400 mA Constant Current | up to 90% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | 0-10 V | 10 to 100% |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|----------------------------|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| ERP020W: 10 to 20 W | | | | | |
| ERP020W-0350-28 | 120 to 277 | 350 | 9.8 | 21 | 28 |
| ERP020W-0350-54.5 | 120 to 277 | 350 | 19.1 | 41 | 54.5 |
| ERP020W-0450-42 | 120 to 277 | 450 | 18.9 | 31.5 | 42 |
| ERP020W-0700-23.5 | 120 to 277 | 700 | 16.5 | 17.5 | 23.5 |
| ERP020W-0720-24.5 | 120 to 277 | 720 | 17.6 | 18 | 24.5 |
| ERP030W: 21 to 30 W | | | | | |
| ERP030W-0500-42 | 120 to 277 | 500 | 21.0 | 31.5 | 42 |
| ERP030W-0500-54.5 | 120 to 277 | 600 | 27.3 | 41 | 54.5 |
| ERP030W-0600-42 | 120 to 277 | 600 | 25.2 | 31.5 | 42 |
| ERP030W-0700-32 | 120 to 277 | 700 | 22.4 | 22.5 | 32 |
| ERP030W-0700-38.5 | 120 to 277 | 700 | 27.0 | 29 | 38.5 |
| ERP040W: 31 to 40 W | | | | | |
| ERP040W-0700-45.5 | 120 to 277 | 700 | 31.9 | 34 | 45.5 |
| ERP040W-0900-42 | 120 to 277 | 900 | 37.8 | 31.5 | 42 |
| ERP040W-1050-38 | 120 to 277 | 1050 | 39.9 | 28.5 | 38 |
| ERP040W-1400-24.5 | 120 to 277 | 1400 | 32.9 | 17.4 | 23.5 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

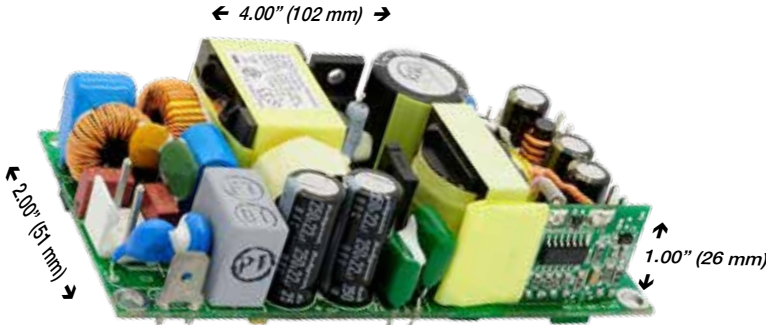
NOT RECOMMENDED FOR NEW DESIGNS. FOR NEW DESIGNS, USE OTHER SERIES.

- Highest power density in the market: 8.5 W/in³
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: FCC part 15 Class B (120 Vac) /Class A (277 Vac) and EN55015 (CISPR 15) compliant
- Enables ENERGY STAR® and DLC (DesignLight Consortium®) luminaire compliance
- IP64-rated case with silicone encapsulation
- 50,000 hours lifetime
- 90°C maximum case hot spot temperature
- Double-insulated power supply between input and output (class II)

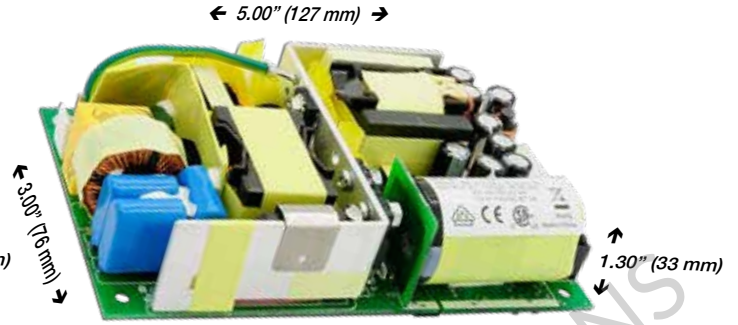
Applications

- Commercial lighting
- Residential lighting
- Architectural lighting
- Tunnels and street lighting
- Wide-area downlights





UHD160 Series



UHD365 Series

| ERP Part Number | Main Output V1 | | 12 V Auxiliary Output V2 (A) | | Maximum Power (W) | |
|-----------------|----------------|------------------|------------------------------|-----|-------------------|--------|
| | V1 (V) | Max. Current (A) | | | With Fan | No Fan |
| UHD160-1004 | 3.3 | 20 | 0.5 | 66 | 66 | 46 |
| UHD160-1000 | 5 | 20 | 0.5 | 100 | 100 | 70 |
| UHD160-1001 | 12 | 13.3 | 0.5 | 160 | 160 | 100 |
| UHD160-1005 | 15 | 8 | 0.5 | 120 | 120 | 90 |
| UHD160-1002 | 24 | 6.66 | 0.5 | 160 | 160 | 100 |
| UHD160-1010 | 28 | 5.7 | 0.5 | 160 | 160 | 100 |
| UHD160-1007 | 29 | 5.5 | 0.5 | 160 | 160 | 100 |
| UHD160-1009 | 36 | 4.4 | 0.5 | 160 | 160 | 100 |
| UHD160-1003 | 48 | 3.33 | 0.5 | 160 | 160 | 100 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

| ERP Part Number | Main Output V1 | | 12 V Auxiliary Output V2 (A) | +5 Vsb Output (A) | Maximum Power (W) | |
|-----------------|----------------|------------------|------------------------------|-------------------|-------------------|--------|
| | V1 (V) | Max. Current (A) | | | With Fan | No Fan |
| UHD365-1001 | 12 | 30.4 | 1 | 2 | 365 | 200 |
| UHD365-1005 | 15 | 24.3 | 1 | 2 | 365 | 200 |
| UHD365-1006 | 19 | 19.2 | 1 | 2 | 365 | 200 |
| UHD365-1002 | 24 | 15.2 | 1 | 2 | 365 | 200 |
| UHD365-1007 | 29 | 12.5 | 1 | 2 | 365 | 200 |
| UHD365-1008 | 32 | 11.4 | 1 | 2 | 365 | 200 |
| UHD365-1009 | 36 | 10 | 1 | 2 | 365 | 200 |
| UHD365-1003 | 48 | 7.6 | 1 | 2 | 365 | 200 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Features

NOT RECOMMENDED FOR NEW DESIGNS. FOR NEW DESIGNS, USE OTHER SERIES.

- Efficiency over 90%
- Universal nominal 90 to 264 Vac input
- Power density up to 18W/in³
- Active power factor correction (PFC)
- OVP, OTP and short-circuit protection

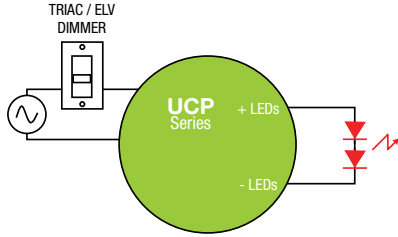
Applications

- Stage lighting
- LED displays
- RGB LED color mixing
- Diagnostic and imaging equipment
- Video, audio and broadcast gear



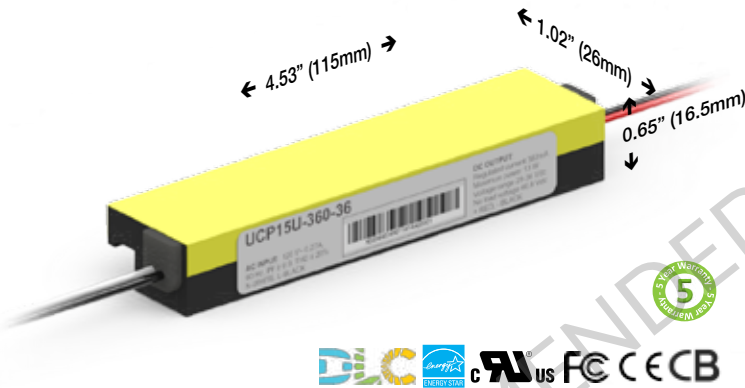
| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range | Startup Time |
|-----------------------|-------------------|----------------|--------------------------------|-------------------|-----------------------|-------|--------------|------------------------------|---------------|--------------|
| 120 Vac | 17.3 W | 11 to 36 Vdc | 120 to 480 mA Constant Current | up to 87% typical | 90°C | < 20% | > 0.9 | Forward-Phase, Reverse-Phase | 1 to 100% | 200 ms |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Max. Output Power (W) | I _{out} (mA) | Output Voltage Range (Vdc) | |
|--------------------|-----------------------------|-----------------------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| UCP05: up to 5 W | | | | | |
| UCP05U-120-36 | 120 | 4.3 | 120 | 28 | 36 |
| UCP10: >5 to 10 W | | | | | |
| UCP10U-350-16 | 120 | 5.6 | 350 | 11 | 16 |
| UCP10U-240-36 | 120 | 8.6 | 240 | 28 | 36 |
| UCP15: >10 to 15 W | | | | | |
| UCP15U-350-30 | 120 | 10.5 | 350 | 24 | 30 |
| UCP15U-360-36 | 120 | 13.0 | 360 | 28 | 36 |
| UCP20: >15 to 20 W | | | | | |
| UCP20U-480-36 | 120 | 17.3 | 480 | 28 | 36 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com



Features

NOT RECOMMENDED FOR NEW DESIGNS. FOR NEW DESIGNS, USE OTHER SERIES.

- Low profile of 16.5 mm
- Compatible with industry standard TRIAC (forward-phase or leading-edge) and ELV (reverse-phase or trailing-edge)
- 1% to 100% dimmable output
- Very short startup time of 200 ms
- 120 Vac nominal input
- Protections: output open load, over-current and short-circuit (hiccup), and over-temperature with auto recovery
- Conducted and radiated EMI: compliant with FCC CFR Title 47 Part 15 Class B
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) technical requirements
- 90°C maximum case temperature
- Lifetime: > 66,000 hours at 70°C case temperature

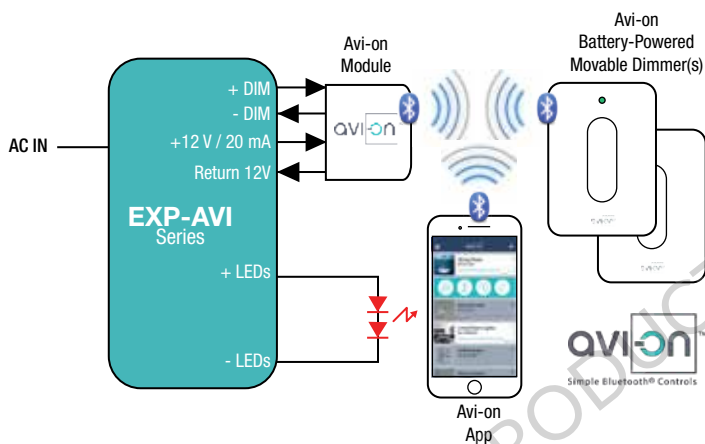
Applications

- Undercabinet Lighting



| Nominal Input Voltage | Max. Output Power | Output Voltage | Output Current | Efficiency | Max. Case Temperature | THD | Power Factor | Dimming Method | Dimming Range |
|-----------------------|-------------------|----------------|------------------------------------|----------------------|------------------------------------|-------|--------------|----------------|-------------------------|
| 120 to 277 Vac | 44.1 W | 30 to 42 Vdc | 700 to 1050 mA Constant Current | up to 82% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 | Bluetooth® | 1 - 100% (% of Iout) |

Typical Application Diagram



| ERP Part Number | Nominal Input Voltage (Vac) | Iout (mA) | Max. Output Power (W) | Output Voltage Range (Vdc) | |
|---|-----------------------------|-----------|-----------------------|----------------------------|------|
| | | | | min. | max. |
| EXPN030W: 21 to 30 W with Bluetooth® Mesh Module from Avi-on Labs | | | | | |
| EXPN030W-0700-42-AVI | 120 to 277 | 700 | 29.4 | 30 | 42 |
| EXPN050W: 41 to 50 W with Bluetooth® Mesh Module from Avi-on Labs | | | | | |
| EXPN050W-1050-42-AVI | 120 to 277 | 1050 | 44.1 | 30 | 42 |

For additional options of output current and output voltage, contact your sales representative or send an email to: SaveEnergy@ERP-Power.com

Avi-on Bluetooth® Mesh Solution

- Wireless lighting controls with simple set-up that anyone can use
- Pre-integrated Bluetooth® Smart + CSRmesh module enables brands to create multi-way controls and switching without additional wiring; no central gateway required
- Utility grade, secure, reliable mobile app & software
- Dimming, grouping, many users, schedules, timers
- Virtually unlimited range with mesh
- Download for free, additional services available
- Compatible with large ecosystem of products from major brands
- Avi-on battery-powered movable dimming switches available to complete the turnkey solution

Applications

- Recessed downlights
- Residential lighting
- Architectural lighting
- Commercial lighting



Features

- Demonstration Product, intended for customers to evaluate Bluetooth-enabled LED drivers. Not released to production
- Wireless lighting controls with simple set-up that anyone can use
- Pre-integrated Bluetooth Smart mesh module enables multiway controls and switching without additional wiring; no central gateway required
- Utility grade, secure, reliable mobile apps & software
- Dimming, grouping, many users, schedules, timers
- Virtually unlimited range with mesh
- Download for free, additional services available
- Compatible with large ecosystem of products from major brands





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