

CUSTOMER	PROJECT	DATE
TYPE	QTY	PO #

LS-PSU-24V-240W-IP67-B

24 VDC LED power supply · 240 W · IP67 · 0-10 V dimming



IP67	UL8750 · CSA	0-10 V	ACTIVE PFC
CLASS I			

24 VDC

Output voltage

240 W

Rated power

10 A

Rated current

90–305 VAC

Universal input (120–277 V)

92.5%

Typical efficiency

–40 to +90 °C

Case temperature (Tc)

Description

240 W dual-mode LED power supply — constant voltage and constant current — for indoor and outdoor installations. Its 90–305 VAC universal input accepts 120 V to 277 V networks. The fanless, IP67-rated metal housing delivers 92.5% typical efficiency and operates from –40 °C to +90 °C (case temperature).

The B version includes 3-in-1 dimming: 1–10 VDC, 10 V PWM signal or resistance.

Applications

- 24 V LED strips and fixtures
- Street and parking lot lighting
- Industrial high-bay lighting
- Greenhouse horticultural lighting
- Class I, Division 2 hazardous locations (type HL)

Key features

- Constant voltage + constant current output
- Active power factor correction (PF ≥ 0.95 at 230 VAC)
- 3-in-1 dimming: 1–10 VDC, 10 V PWM, resistance
- Class I metal housing, IP67 waterproof
- Protections: short circuit, overcurrent, overvoltage, over-temperature
- Typical lifetime over 62,000 hours
- UL8750 (type HL) and CSA C22.2 No. 250.0 listed
- 7-year warranty

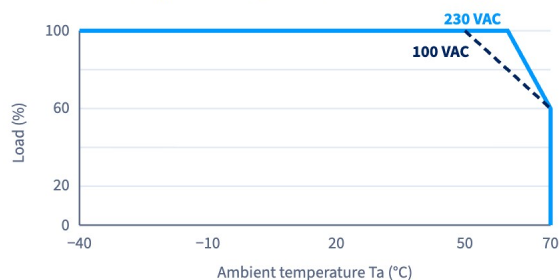
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Specifications

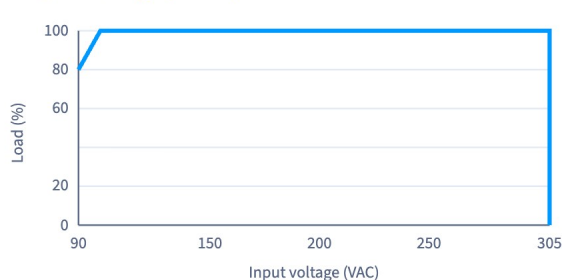
OUTPUT	
Output voltage	24 VDC
Constant current region	12–24 V
Rated current	10 A
Rated power	240 W
Ripple & noise (max.)	150 mVp-p
Voltage / current adjustment	Not adjustable (B version)
Voltage tolerance	±1.0%
Line regulation	±0.5%
Load regulation	±0.5%
Setup / rise time	1000 ms / 80 ms at 115 VAC · 500 ms / 80 ms at 230 VAC
Hold-up time (typ.)	15 ms at 115 VAC and 230 VAC
INPUT	
Voltage range	90–305 VAC · 127–431 VDC
Frequency	47–63 Hz
Power factor (typ.)	≥ 0.98 at 115 VAC · ≥ 0.95 at 230 VAC (full load)
Total harmonic distortion	< 20% (load ≥ 50% at 115/230 VAC · ≥ 75% at 277 VAC)
Efficiency (typ.)	92.5%
AC current	4 A at 115 VAC · 2 A at 230 VAC · 1.2 A at 277 VAC
Inrush current (typ.)	Cold start 75 A (width 570 µs at 50% of peak) at 230 VAC, per NEMA 410
Max. units per 16 A breaker	2 (type B) · 4 (type C) at 230 VAC
Leakage current	< 0.75 mA at 277 VAC

Derating curves

Load vs ambient temperature (horizontal mounting)



Load vs input voltage (60 Hz)



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Specifications (continued)

PROTECTION	
Overcurrent	95–108% · constant current limiting, auto-recovery
Short circuit	Hiccup mode, auto-recovery
Overvoltage	27–34 V · output shuts down and latches off; re-power to recover
Over-temperature	Output shuts down, auto-recovery once temperature drops
ENVIRONMENT	
Operating temperature	T _c = –40 °C to +90 °C (see derating curves)
Max. case temperature	T _c = +90 °C
Operating humidity	20–95% RH, non-condensing
Storage	–40 °C to +80 °C · 10–95% RH
Temperature coefficient	±0.03%/°C (0–50 °C)
Vibration	10–500 Hz, 5 G, 12 min/cycle, 72 min along each X, Y, Z axis
Ingress protection	IP67
SAFETY & EMC	
Safety standards	UL1012 · CAN/CSA-C22.2 No. 107.1-01 · UL8750 (type HL) · CSA C22.2 No. 250.0-08 · BS EN/EN/AS/NZS 61347-1 and 61347-2-13 (independent) · IEC/UL/BS EN/EN 62368-1 · GB19510.1, GB19510.14 · J61347-1, J61347-2-13 · KC61347-1, KC61347-2-13 · EAC TP TC 004
Withstand voltage	Input/output 3.75 kVAC · input/ground 2 kVAC · output/ground 1.5 kVAC
Isolation resistance	Input/output, input/ground, output/ground: 100 MΩ at 500 VDC, 25 °C, 70% RH
EMC emission	BS EN/EN55015, BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class C (load ≥ 50%), BS EN/EN61000-3-3, GB/T 17743, GB17625.1, EAC TP TC 020, KC KN15, KN61547
EMC immunity	BS EN/EN61000-4-2, -3, -4, -5, -6, -8, -11, BS EN/EN61547, BS EN/EN55024, light industry level (surge line-earth 4 kV, line-line 2 kV), EAC TP TC 020, KC KN15, KN61547
OTHER	
MTBF	2,015,100 h min. (Telcordia SR-332) · 176,400 h min. (MIL-HDBK-217F, 25 °C)
Dimensions (L × W × H)	244.2 × 68 × 38.8 mm
Weight	1.3 kg
Packing	12 units · 16.6 kg · 0.84 cu ft per carton
Lifetime	> 62,000 hours (typical)
Warranty	7 years

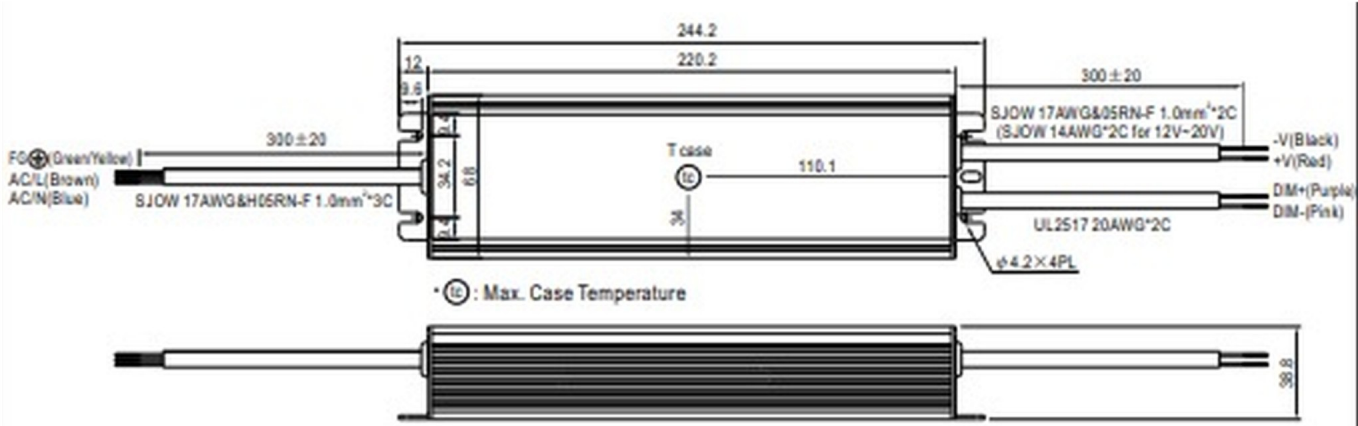
Notes

1. Unless otherwise specified, values are measured at 230 VAC input, rated current and 25 °C ambient.
2. Ripple and noise measured at 20 MHz bandwidth using a 30 cm (12 in) twisted pair terminated with 0.1 μF and 47 μF parallel capacitors.
3. Derating may be required at low input voltage (see curve, page 2).
4. Typical lifetime > 62,000 h when the T_c point temperature is about 75 °C or less.
5. Above 2000 m (6500 ft) altitude, derate the max. ambient temperature by 3.5 °C per 1000 m.
6. Component for integration: EMC compliance must be re-verified on the final installation.

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Dimensions

Dimensions in millimetres · top and side views



Housing 244.2 × 68 × 38.8 mm

Mounting 4 × Ø 4.2 mm

Cables 300 ± 20 mm

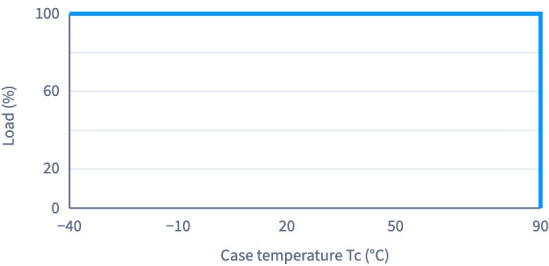
T_{case} case temperature measuring point

Wiring

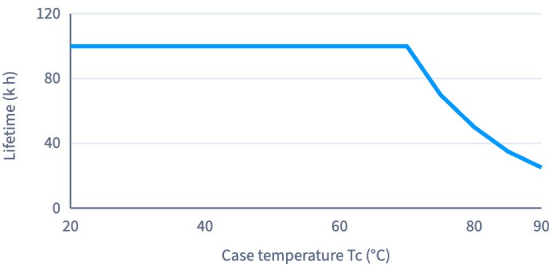
CIRCUIT	COLOUR	FUNCTION	CABLE
AC input	Brown	AC/L (line)	SJOW 17 AWG and H05RN-F 1.0 mm ² × 3C
	Blue	AC/N (neutral)	
	Green / yellow	Ground	
DC output	Red	+V	SJOW 17 AWG and 05RN-F 1.0 mm ² × 2C
	Black	−V	
Dimming	Purple	DIM+	UL2517 20 AWG × 2C
	Pink	DIM−	

Case temperature and lifetime

Load vs case temperature T_c



Lifetime vs case temperature T_c



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3-in-1 dimming

Output current is adjusted by applying one of the following three methods between DIM+ and DIM-.

METHOD 1

1-10 VDC

Applied DC voltage. $1\text{ V} = 10\% \cdot 10\text{ V} = 100\%$.

METHOD 2

10 V PWM

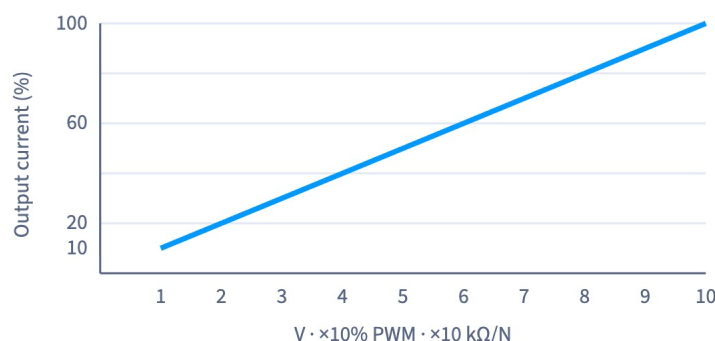
10 V PWM signal, 100 Hz to 3 kHz. Duty cycle 10% to 100%.

METHOD 3

Resistance

$10\text{ k}\Omega/\text{N}$ to $100\text{ k}\Omega/\text{N}$ (N = number of units in synchronized dimming).

Output current vs dimming signal



- Dimming source current: 100 μA (typ.)
- Direct connection to LEDs recommended; not suitable for use with additional drivers.

Important — never connect DIM- to -V.

Full shut-off (0%)

Dimming goes down to 10%. For full shut-off, cut the AC supply to the unit with a relay controlled by the dimmer's switch.

