

CUSTOMER	PROJECT	DATE
TYPE	QTY	PO #

LS-PSU-24V-150W-IP67-B

24 VDC LED power supply · 150 W · IP67 · 0-10 V dimming



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

24 VDC

Output voltage

151.2 W

Rated power

6.3 A

Rated current

90–305 VAC

Universal input (120–277 V)

93%

Typical efficiency

–40 to +90 °C

Case temperature (Tc)

Description

150 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 93% 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 ≥ 0.92)
- 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

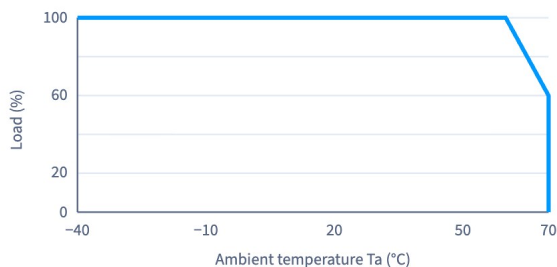
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Specifications

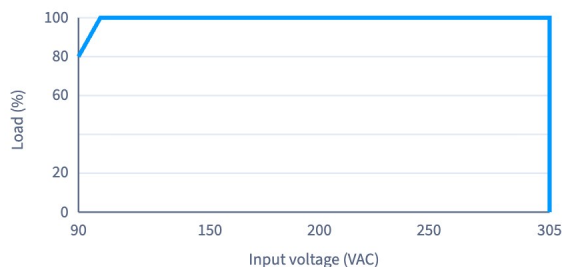
OUTPUT	
Output voltage	24 VDC
Constant current region	12–24 V
Rated current	6.3 A
Rated power	151.2 W
Ripple & noise (max.)	150 mVp-p
Voltage / current adjustment	Not adjustable (B version)
Voltage tolerance	±1.0%
Line regulation	±0.5%
Load regulation	±0.5%
Setup / rise time	1000 ms / 200 ms at 115 VAC · 500 ms / 200 ms at 230 VAC
Hold-up time (typ.)	16 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 · ≥ 0.92 at 277 VAC (full load)
Total harmonic distortion	< 20% (load ≥ 60% at 115/230 VAC · ≥ 75% at 277 VAC)
Efficiency (typ.)	93%
AC current	1.7 A at 115 VAC · 0.75 A at 230 VAC · 0.7 A at 277 VAC
Inrush current (typ.)	Cold start 65 A (width 425 µs at 50% of peak) at 230 VAC, per NEMA 410
Max. units per 16 A breaker	4 (type B) · 7 (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	Constant current limiting, auto-recovery
Overvoltage	28–34 V · output shuts down, auto-recovery or re-power to recover
Over-temperature	Output shuts down, auto-recovery once temperature drops (at light or no load: re-power to recover)
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 (0–60 °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	UL8750 (type HL) · CSA C22.2 No. 250.0-08 · BS EN/EN 61347-1 and 61347-2-13 · AS/NZS 61347-1 and 61347-2-13 (independent) · GB19510.1, GB19510.14 · J61347-1, J61347-2-13 · BIS IS15885 · 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 ≥ 60%), BS EN/EN61000-3-3, GB/T 17743, GB17625.1, EAC TP TC 020, KSC 9815
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, KSC 9547
OTHER	
MTBF	2,176,100 h min. (Telcordia SR-332) · 166,400 h min. (MIL-HDBK-217F, 25 °C)
Dimensions (L × W × H)	228 × 68 × 38.8 mm
Weight	1.15 kg
Packing	12 units · 14.8 kg · 0.8 cu ft per carton
Lifetime	> 62,000 hours (typical)
Warranty	7 years

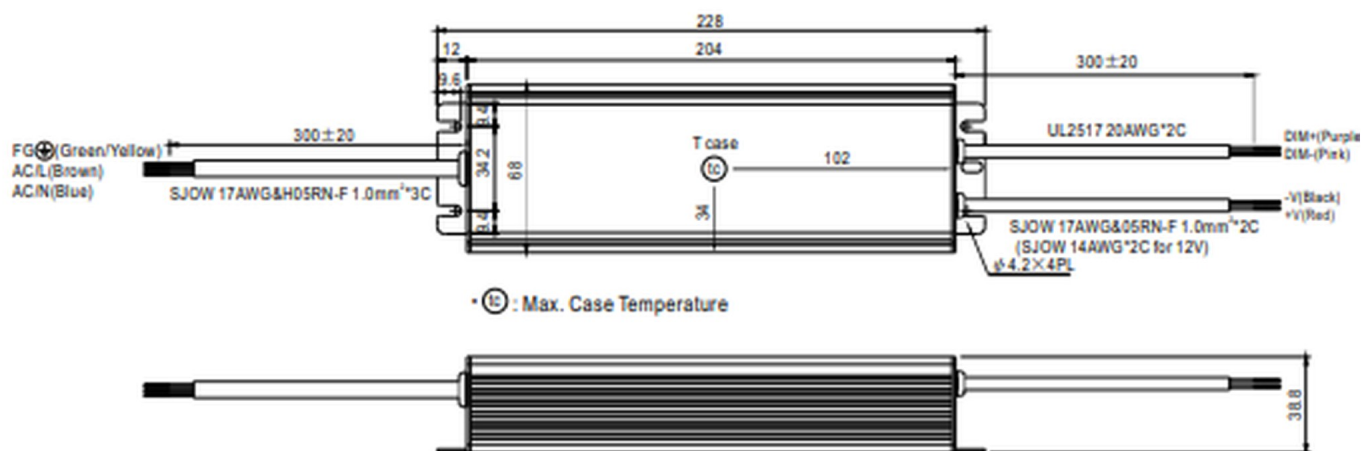
Notes

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. Voltage tolerance includes setup tolerance, line regulation and load regulation.
4. Derating may be required at low input voltage (see curve, page 2).
5. Typical lifetime > 62,000 h when the T_c point temperature is about 80 °C or less.
6. Above 2000 m (6500 ft) altitude, derate the max. ambient temperature by 3.5 °C per 1000 m.
7. 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 228 × 68 × 38.8 mm

Mounting 4 × Ø 4.2 mm

Cables 300 ± 20 mm

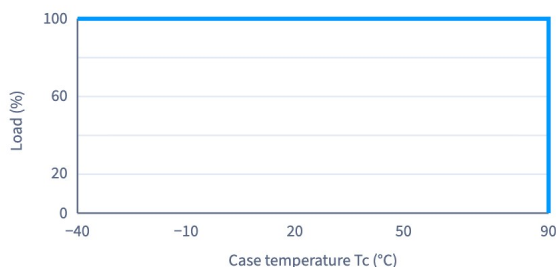
Tc case temperature measuring point

Wiring

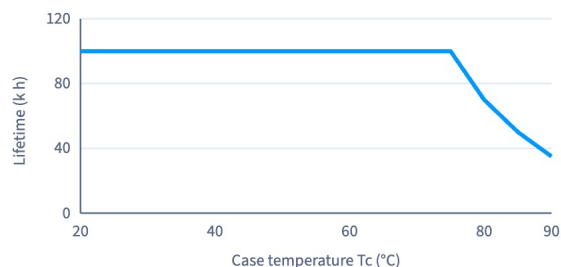
CIRCUIT	COLOUR	FUNCTION	CABLE
AC input	Brown	AC/L (line)	SJOW 17 AWG and H05RN-F 1.0 mm ² × 3C
	Blue	AC/N (neutral)	
	Green / yellow	Ground	
DC output	Red	+V	SJOW 17 AWG and 05RN-F 1.0 mm ² × 2C
	Black	-V	
Dimming	Purple	DIM+	UL2517 20 AWG × 2C
	Pink	DIM-	

Case temperature and lifetime

Load vs case temperature Tc



Lifetime vs case temperature Tc



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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

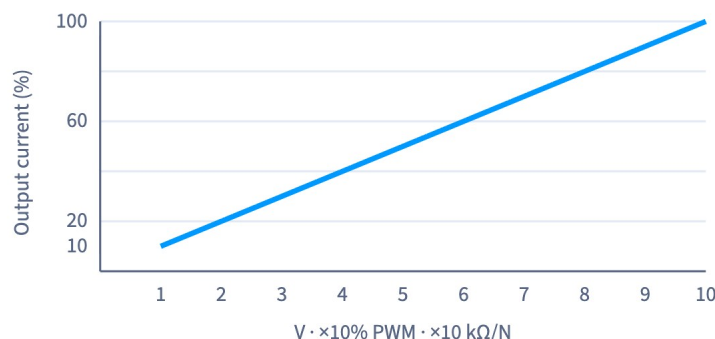
10 V PWM signal, 100 Hz to 3 kHz. Duty cycle 10% to 100%.

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.

