

LDB200

LED Power Supply

Constant Voltage /Current



LED Power
200W

LDB Series

FEATURES

- **Universal Input: 90-305VAC**
- **Constant Voltage/Current**
- **High Efficiency 93%**
- **IP67 rated**
- **Power Factor: Typical 0.95**
- **OCP, OVP, SCP, OTP**
- **-30 to 70°C deg operation⁽³⁾**
- **5 Year Warranty**

The LDB200 series of constant voltage/current LED power supplies can deliver up to 200W output power in an extremely compact package size.

The LDB200 can deliver constant voltage single outputs 24V and 48V outputs in a compact package. At only 35mm high, the LDB200 offers the lowest profile LED driver solution. Furthermore, the LDB200 can operate as a constant current driver delivering the maximum output current range over the defined voltage range.

| Model Number | Output Voltage in Constant Voltage Mode | Output Current Range in Constant Voltage Mode | Output Voltage Range in Constant Current Mode | Output Current in Constant Current Mode | Efficiency |
|--------------|---|---|---|---|------------|
| LDB200-024SW | 24V | 0 - 8.50A | 12 - 24V | 8.50A | 92.5% |
| LDB200-048SW | 48V | 0 - 4.25A | 24 - 48V | 4.25A | 93.5% |

Input Specifications

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|------------------------------|-----------------------------|-----|------|------|-------|
| Input Voltage Range | Universal Input | 90 | | 305 | VAC |
| Input Frequency Range | | 47 | | 63 | Hz |
| Input Current | 240VAC, 200W | | | 0.91 | A |
| Inrush Current | 240VAC in, 25°C, Cold Start | | | 65 | A |
| Power Factor | 240VAC, 100VAC | | 0.95 | | |

Output Specifications

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|---------------------------------|----------------------------------|------|-----|------|---------|
| Line Regulation | | | | ±0.5 | % |
| Load Regulation | | | | ±1.5 | % |
| Voltage Accuracy | % of Vout | | | ±2.0 | % |
| Voltage Range | See individual models | | | | |
| Current Regulation | Across Model Voltage Range | | | ±3.0 | % |
| Ripple and Noise | 20MHz Bandwidth. See Note 1 | | | 2.0 | % pk-pk |
| Turn-on Delay | Measured at 200VAC and full load | | | 0.5 | s |
| Hold Up Time | | 20 | | | ms |
| Short Circuit Protection | Hiccup, Auto Recovery | | | | |
| Over Voltage Protection | Hiccup, Auto Recovery | 105% | | 130% | V |
| Over Temp Protection | Hiccup, Auto Recovery, T case | 85 | 92 | 100 | °C |

General Specifications

| Parameter | Conditions/Description | Min | Nom | Max | Units |
|----------------------------------|--|--------------|-----------|------|------------|
| Isolation Voltage | Input to Output Input to Chassis | 3750 1500 | | | VAC VAC |
| Efficiency | See individual models | | 93 | | % |
| Safety Agency Approvals | UL8750, CSA C22.2 No.223, EN61347-2-13, EN61347-1 | | | | |
| No load Power Dissipation | Measured at 100VAC and 240VAC | | | 2.0 | W |
| MTBF | Telecordia SR-33, Full Load, 25°C | | 1,000,000 | | Hours |
| Lifetime | T case = 50°C | | 100,000 | | Hours |
| Weight | | | 1 | | Kg |
| Operating Temperature | Maximum T case = 80°C. See Note 2 | -30 | | +50 | °C |
| Storage Temperature | | -40 | | +85 | °C |
| Relative Humidity | Non-condensing (operating) | 5 | | 95 | %RH |
| Altitude | Operating, Non Operating 10,000m | | | 2000 | m |
| Vibration | 5-500Hz, random vibration | | | 1.0 | Grms |
| Shock | Half-Sine, 11ms duration | | | 10 | Grms |

Note 1. Output connected in parallel with 0.1uF ceramic capacitor and 10uF electrolytic capacitor.

Note 2. Maximum allowable case temperature is 80°C

Note 3. Derate output power by 5W/°C above 50°C. Refer to derating curves for line voltage and ambient temperature



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| EMC | | | | |
|----------------------------------|--------------------------|--|-------------|-------|
| Parameter | Standard Tested To | | Level | Units |
| Emissions | | | | |
| Conducted | EN55015, EN55022 Class B | | Compliant | |
| Radiated | EN55015, EN55022 Class B | | Compliant | |
| Harmonic Distortion | EN61000-3-2, Class C | | Compliant | |
| Flicker and Fluctuation | EN61000-3-3 | | Compliant | |
| Immunity | | | | |
| ESD | EN61000-4-2 | | Level 4 | |
| Radiated RFI | EN61000-4-3 | | Level 3 | |
| Fast Transients - burst | EN61000-4-4 | | Level 4 | |
| Input Line Surges | EN61000-4-5 | | Level 4 | |
| Conducted RFI | EN61000-4-6 | | Level 3 | |
| Power Freq Magnetic Field | EN61000-4-8 | | Compliant | |
| Voltage Dips | EN61000-4-11 | | Criterion B | |

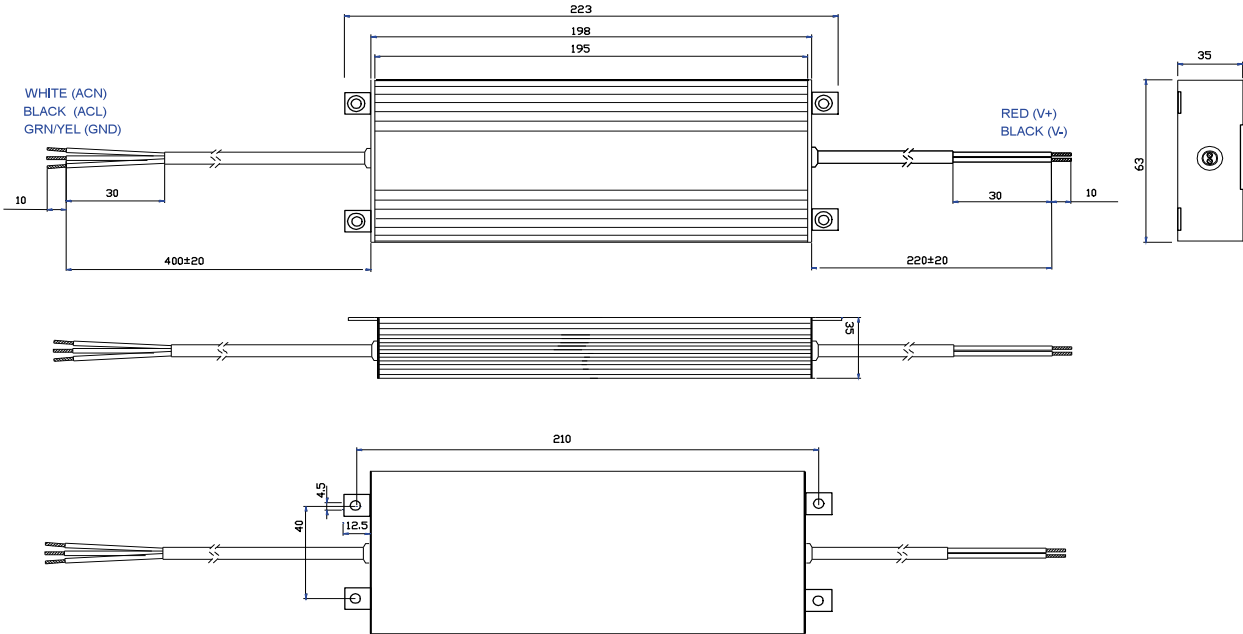
INPUT / OUTPUT WIRING

INPUT CABLE

Black (L), White(N) and Green/Yellow (E) 400±20mm
SJTW 18AWG

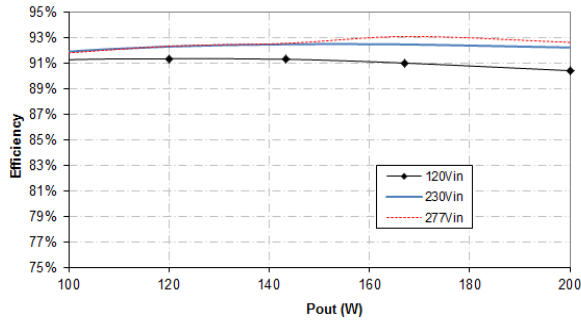
OUTPUT CABLE

Red (+V) and Black (-V) 220±20mm
SJTW 18AWG

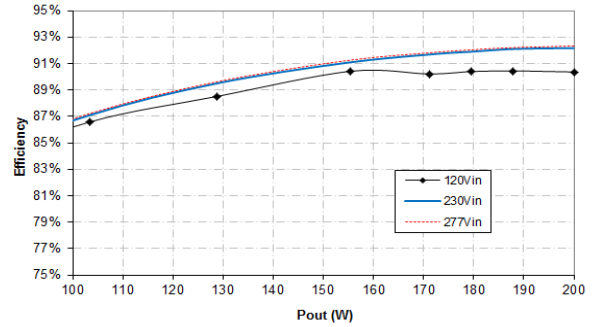


EFFICIENCY CURVES

Efficiency under Constant Voltage

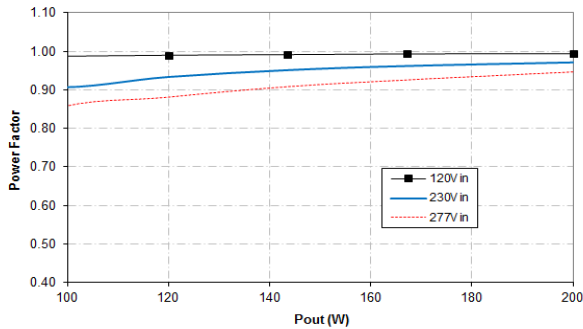


Efficiency under Constant Current

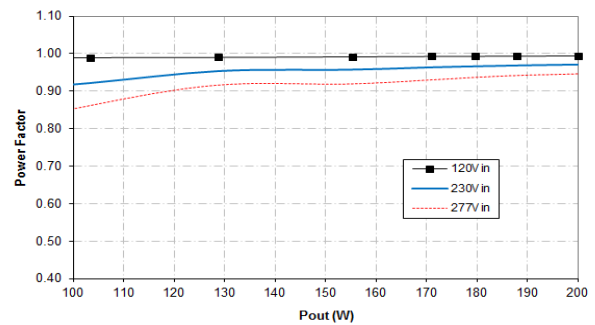


POWER FACTOR CHARACTERISTICS

Power Factor under Constant Voltage

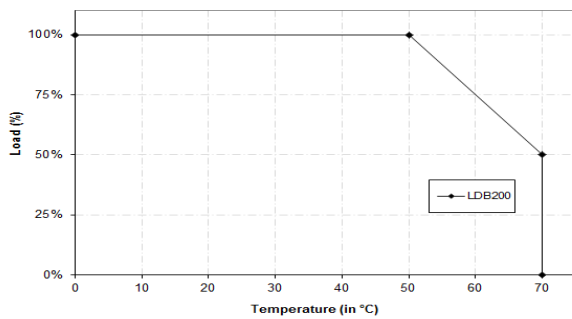


Power Factor under Constant Current

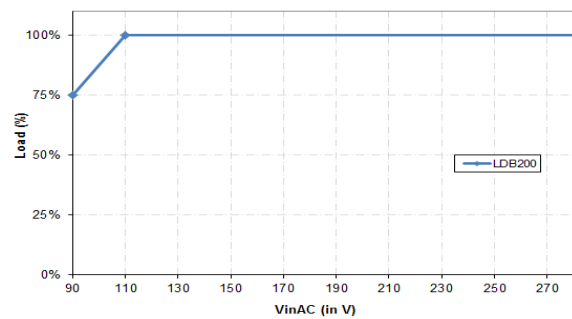


DERATING CURVES

Temperature Derating Curve for LDB200



Line Derating Curve for LDB200



Specifications are subject to change without notice



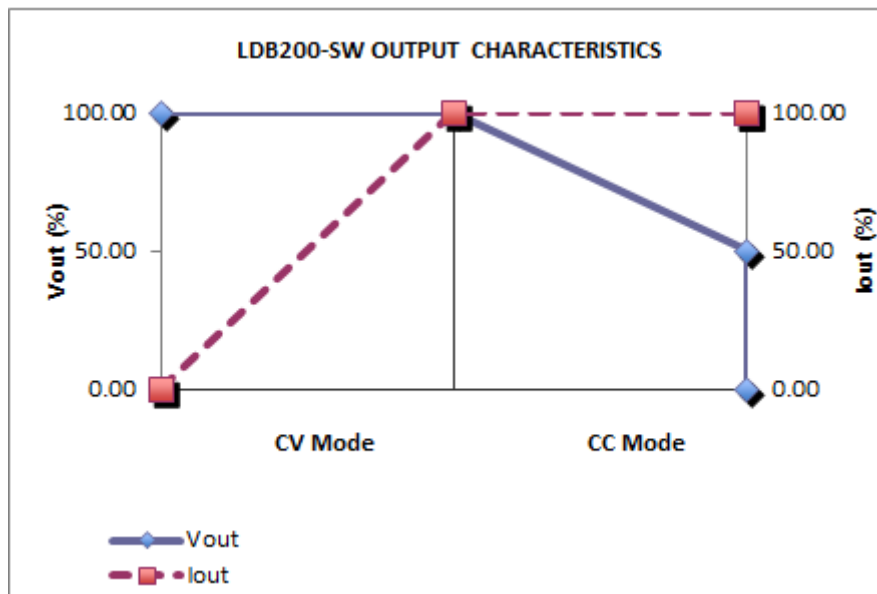
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| Model Number | Output Voltage in Constant Voltage Mode | Output Current Range in Constant Voltage Mode | Output Voltage Range in Constant Current Mode | Output Current in Constant Current Mode | Maximum Output Power in All Modes |
|--------------|---|---|---|---|-----------------------------------|
| LDB200-024SW | 24V | 0 - 8.50A | 12 - 24V | 8.50A | 200W |
| LDB200-048SW | 48V | 0 - 4.25A | 24 - 48V | 4.25A | 200W |



For more information on the Constant Voltage/Constant Current characteristics of the LDB200 series LED Driver see our LED Driver Application Note 1:

Driving LEDs & how to choose the correct LED power supply

On our website:

http://www.excelsys.com/technical_support/application.html