

# 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<sup>(3)</sup>
- 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<br>Input to Chassis                  | 3750<br>1500 |           |      | VAC<br>VAC |
| Efficiency                | See individual models                                |              | 93        |      | %          |
| Safety Agency Approvals   | UL8750, CSA C22.2 No.223,<br>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 |
| <b>Emissions</b>                 |                          |  |             |       |
| <b>Conducted</b>                 | EN55015, EN55022 Class B |  | Compliant   |       |
| <b>Radiated</b>                  | EN55015, EN55022 Class B |  | Compliant   |       |
| <b>Harmonic Distortion</b>       | EN61000-3-2, Class C     |  | Compliant   |       |
| <b>Flicker and Fluctuation</b>   | EN61000-3-3              |  | Compliant   |       |
| <b>Immunity</b>                  |                          |  |             |       |
| <b>ESD</b>                       | EN61000-4-2              |  | Level 4     |       |
| <b>Radiated RFI</b>              | EN61000-4-3              |  | Level 3     |       |
| <b>Fast Transients - burst</b>   | EN61000-4-4              |  | Level 4     |       |
| <b>Input Line Surges</b>         | EN61000-4-5              |  | Level 4     |       |
| <b>Conducted RFI</b>             | EN61000-4-6              |  | Level 3     |       |
| <b>Power Freq Magnetic Field</b> | EN61000-4-8              |  | Compliant   |       |
| <b>Voltage Dips</b>              | EN61000-4-11             |  | Criterion B |       |

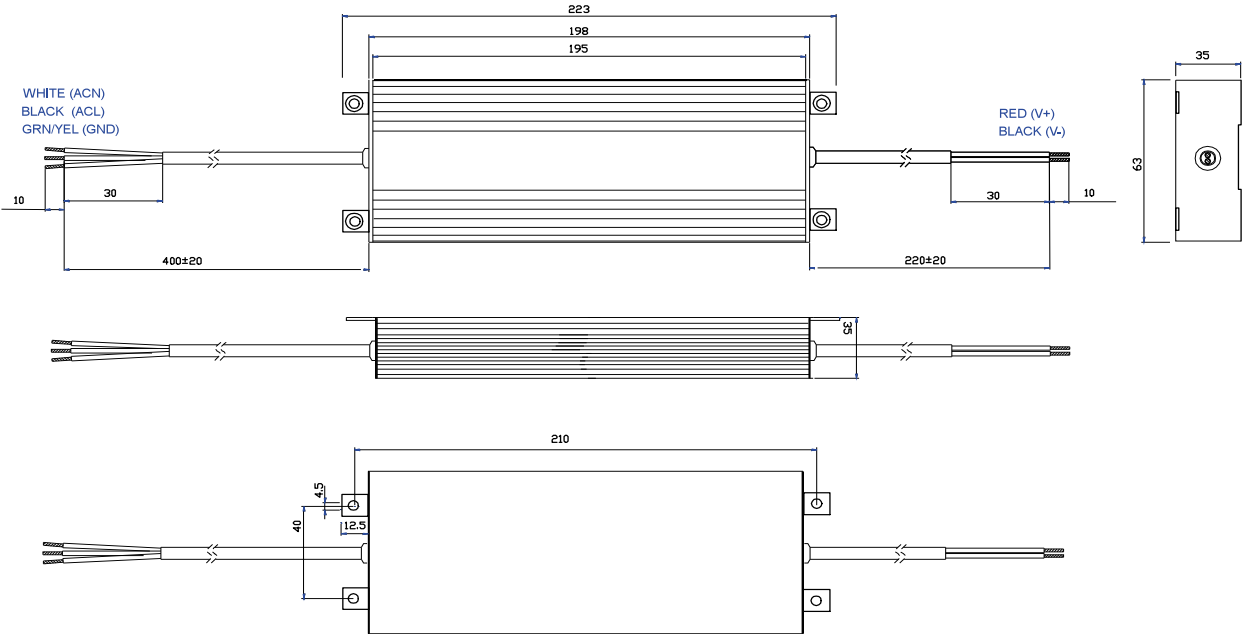
**INPUT / OUTPUT WIRING**

**INPUT CABLE**

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

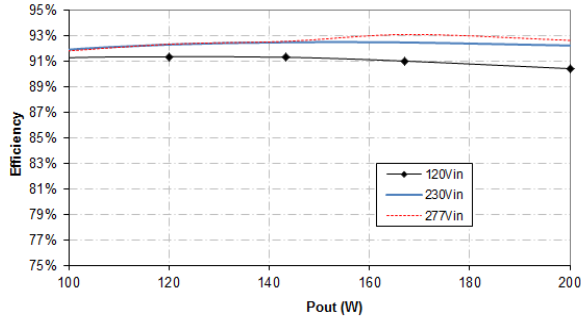
**OUTPUT CABLE**

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

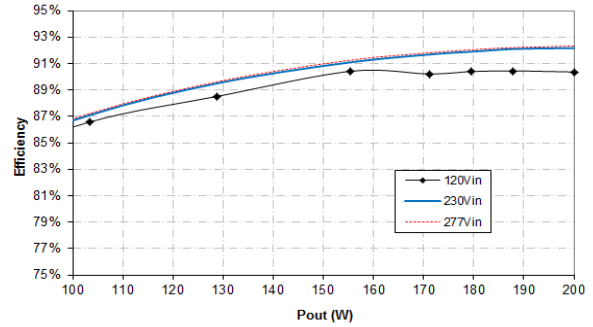


## EFFICIENCY CURVES

Efficiency under Constant Voltage

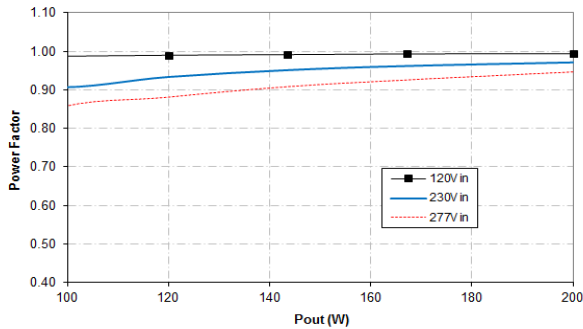


Efficiency under Constant Current

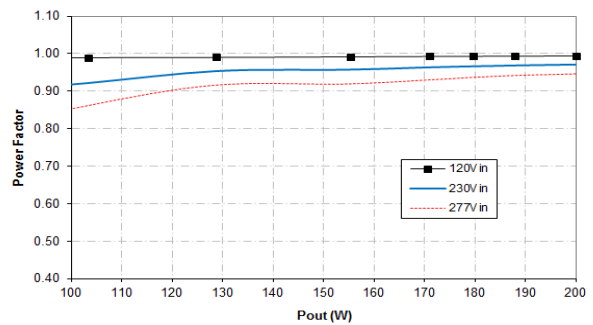


## POWER FACTOR CHARACTERISTICS

Power Factor under Constant Voltage

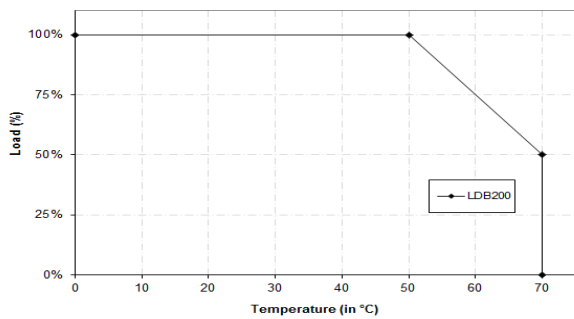


Power Factor under Constant Current

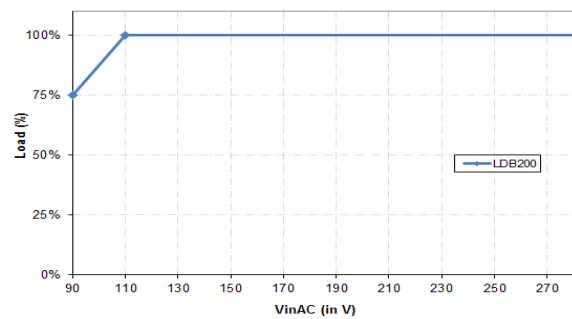


## DERATING CURVES

Temperature Derating Curve for LDB200



Line Derating Curve for LDB200

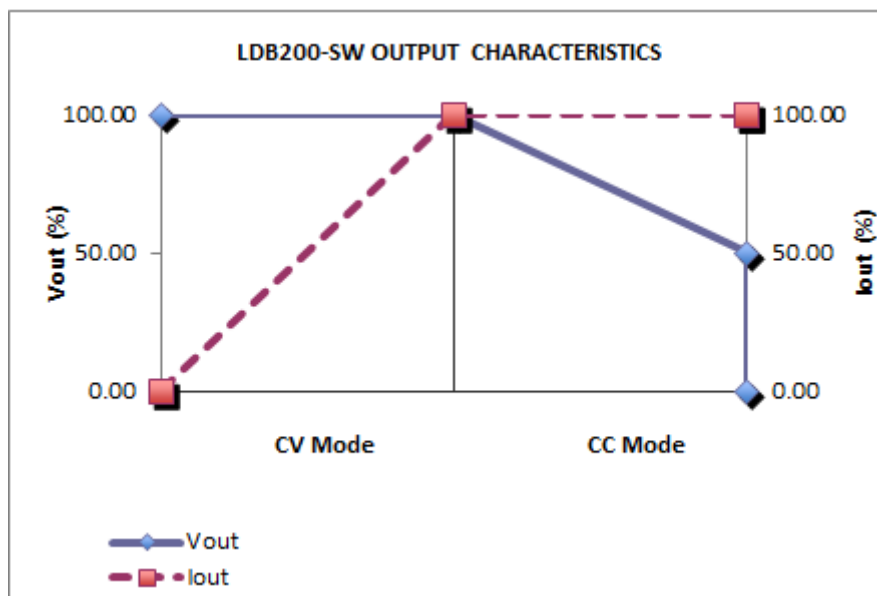


Specifications are subject to change without notice



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|---|--|--|---|
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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](http://www.excelsys.com/technical_support/application.html)

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