

# CENB1060

Universal Input 60 Watt Series

I.T.E Switch-Mode Power Supply



3 Year Warranty

- 100-240VAC Universal Input
- Meets EISA2007, CEC Efficiency Level V, EU (EC) No 278/2009 Phase II
- Certified to UL/EN60950-1, 2<sup>nd</sup> Edition, LPS
- Desktop Style
- 5V to 48V Single Output Models, up to 60W
- Modified and Custom Designs Available
- Regulated Output with Low Ripple
- Impact-Resistant Polycarbonate Enclosure
- No Load Power Consumption <0.5W



CE RoHS V LPS



## Specifications

All Specifications are typical at nominal input, full load at 25°C unless otherwise stated.

|                              |                                                                      |                          |                                                                                                                                                                             |
|------------------------------|----------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC Input                     | 100-240Vac, -/-10%, 47-63 Hz, 1Ø                                     | MTBF                     | >100,000 hours (calculated)                                                                                                                                                 |
| Input Current                | 100VAC: 1.5A max                                                     | Hold-up Time             | 18 ms min. @ 115Vac, 60 ms min. @ 240 Vac                                                                                                                                   |
| Inrush Current               | 60 A peak, 264 V, cold start                                         | Overload Protection      | Hiccup Mode                                                                                                                                                                 |
| Input Fuse                   | 2.0A, 250V Internal Primary Current Fuse is provided                 | Short Circuit Protection | Hiccup Mode                                                                                                                                                                 |
| Output Voltage               | See chart                                                            | Topology                 | Switching – Fixed Frequency Flyback                                                                                                                                         |
| Efficiency                   | Meets EISA2007, CEC Efficiency Level V, EU (EC) No 278/2009 Phase II | Safety Standards         | EN/IEC/CSA/UL60950-1, 2nd Edition LPS (9V thru 48V Models)                                                                                                                  |
| Output Power                 | See chart                                                            | EMC                      | See chart on page 2                                                                                                                                                         |
| Ripple and Noise             | 1% pk-pk max., 20MHz BW                                              | Dielectric Withstand     | Input-Output: 5,656Vdc, Input-GND: 1,500 Vac, Output-GND: 500Vdc                                                                                                            |
| Line/Load Voltage Regulation | Line: +/- 1%, Load: +/-5%                                            | Operating Temperature    | 0° to 40°C, no derating                                                                                                                                                     |
| Transient Response           | 500µs max., 50% load step, typical                                   | Storage Temperature      | -30 to +85°C                                                                                                                                                                |
| Minimum Load                 | Not required                                                         | Relative Humidity        | 5% to 95%, non-condensing                                                                                                                                                   |
| Case Material                | Black 94V0 Polycarbonate                                             | Altitude                 | 0 to 10,000 ft                                                                                                                                                              |
| Case Dimensions              | See outline drawing                                                  | Output Cable             | 5V – 9V models: #18AWG (UL2464), 1,200mm, 4 conductor<br>12V – 15V models: #18AWG (UL2464), 1,500mm, 4 conductor<br>18V – 48V models: #18AWG (UL2464), 1,500mm, 2 conductor |
| Weight                       | 400g                                                                 | Output Connector         | 5V model: Molex 39-01-2060 or equiv. (Ault #51)<br>Other models: 2.5mm barrel type (Ault #3), center contact positive (+)                                                   |

## EMC Specifications

|                                         |                                                       |
|-----------------------------------------|-------------------------------------------------------|
| Conducted Emissions                     | EN55022 Class B, FCC Part 15, Class B.                |
| Radiated Emissions                      | EN55022 Class B, FCC Part 15, Class B.                |
| Line Frequency Harmonics                | EN61000-3-2, Class A                                  |
| Voltage Fluctuations/Flicker            | EN61000-3-3                                           |
| Static Discharge Immunity               | EN61000-4-2, 6kV Contact Discharge, 8kV air discharge |
| Radiated RF Immunity                    | EN61000-4-3, 3V/m.                                    |
| EFT/Burst Immunity                      | EN61000-4-4, 2kV/5kHz.                                |
| Line Surge Immunity                     | EN61000-4-5, 1kV differential, 2kV common-mode        |
| Conducted RF Immunity                   | EN61000-4-6, 3Vrms                                    |
| Power Frequency Magnetic Field Immunity | EN61000-4-8, 3A/m                                     |
| Voltage Dip Immunity                    | EN61000-4-11, Criteria B                              |

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## ***I.T.E Switch Mode Power Supply***

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| Model Number     | Volts (V) | Output Current (max) | Max Watts | Ripple (Vp-p max) |
|------------------|-----------|----------------------|-----------|-------------------|
| CENB1060A0551F01 | 5 V       | 7.00 A               | 35.0 W    | 50mV              |
| CENB1060A0903F01 | 9 V       | 6.00 A               | 54.0 W    | 90mV              |
| CENB1060A1203F01 | 12 V      | 5.00 A               | 60.0 W    | 120mV             |
| CENB1060A1503F01 | 15 V      | 4.00 A               | 60.0 W    | 150mV             |
| CENB1060A1803F01 | 18 V      | 3.40 A               | 61.2 W    | 180mV             |
| CENB1060A2403F01 | 24 V      | 2.70 A               | 64.8 W    | 240mV             |
| CENB1060A4803F01 | 48 V      | 1.30 A               | 62.4 W    | 480mV             |

## Model Number Key

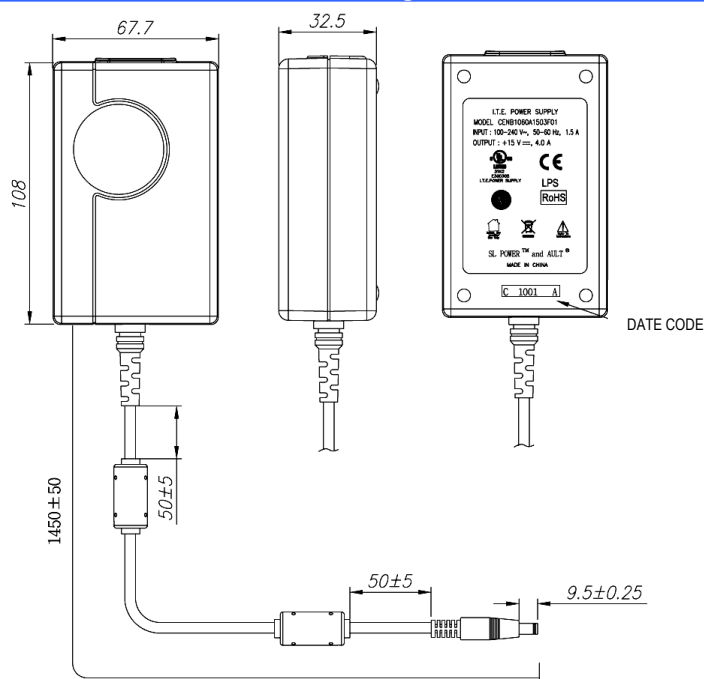
**CENB 1 060 A VV 03 F 01**

|                                 |                                                                                 |
|---------------------------------|---------------------------------------------------------------------------------|
| <b><u>Model</u></b>             | "01" = Standard. "02" and higher indicates a modified model.                    |
| <b><u>Input Connector:</u></b>  | "F" = IEC320 C14 grounded, Other options available, see next page.              |
| <b><u>Output Connector:</u></b> | "03" = 2.5mm Barrel Type Connector. Other options available, contact factory.   |
| <b><u>Output Voltage:</u></b>   | "05" = 5Vdc, "12" = 12Vdc, "24" = 24Vdc, etc.                                   |
| <b><u>Model</u></b>             | "A" = Original Configuration                                                    |
| <b><u>Output Power:</u></b>     | "060" = 60 Watts                                                                |
| <b><u># of Outputs</u></b>      | "1" = Single Output                                                             |
| <b><u>Product Family:</u></b>   | "C" = Commercial/ITE/Industrial. "E" = External, "NB" = Model Series Designator |

| Input Receptacle Options                                                         |                                                                                   |                                                                                   | Output Connector                                                                  | Output Connector (5V Model)                                                         |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| IEC320 C14                                                                       | IEC320 C18                                                                        | IEC320 C8                                                                         | 3                                                                                 | 51                                                                                  |
| Grounded                                                                         | Ungrounded                                                                        | "Shaver"                                                                          |                                                                                   |                                                                                     |
| (F)                                                                              | (Q)                                                                               | (N)                                                                               |                                                                                   |                                                                                     |

**Pins 1,4 = (+), Pins 3,6 = (-)**

## Outline Drawing



**Dimensions are in mm (Cable length is 1200mm on 5V thru 12V models)**

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