

# CENB1050

Universal Input 50 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 50W
- Modified and Custom Designs Available
- Regulated Output with Low Ripple
- Impact-Resistant Polycarbonate Enclosure
- No load Power Consumption <0.3W



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. @ 230 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                                                                                                                                                                 |
| Efficiency                     | EISA2007, CEC Efficiency Level V, EU (EC) No 278/2009 Phase II | Topology                 | Switching – Fixed Frequency Flyback                                                                                                                                         |
| Output Voltage                 | See chart                                                      | Safety Standards         | EN/IEC/CSA/UL60950-1, 2nd Edition LPS (9V thru 48V models)                                                                                                                  |
| Output Power                   | See chart                                                      | EMC                      | See chart below                                                                                                                                                             |
| Ripple and Noise               | 1% pk-pk max., 20MHz BW                                        | Dielectric Withstand     | Input-Output: 4,242 Vdc, 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         | 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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| Model Number     | Volts (V) | Output Current (max) | Max Watts | Ripple (Vp-p max) |
|------------------|-----------|----------------------|-----------|-------------------|
| CENB1050A0503F01 | 5 V       | 6.00 A               | 30.0 W    | 50mV              |
| CENB1050A0903F01 | 9 V       | 5.00 A               | 45.0 W    | 90mV              |
| CENB1050A1203F01 | 12 V      | 4.20 A               | 50.4 W    | 120mV             |
| CENB1050A1503F01 | 15 V      | 3.36 A               | 50.4 W    | 150mV             |
| CENB1050A1803F01 | 18 V      | 2.80 A               | 50.4 W    | 180mV             |
| CENB1050A2403F01 | 24 V      | 2.10 A               | 50.4 W    | 240mV             |
| CENB1050A4803F01 | 48 V      | 1.10 A               | 52.8 W    | 480mV             |

Notes: Part numbers above include #3 output connector and IEC320 C14 grounded input receptacle. See below for other options.

## Model Number Key

CENB 1 050 A VV 03 F 01

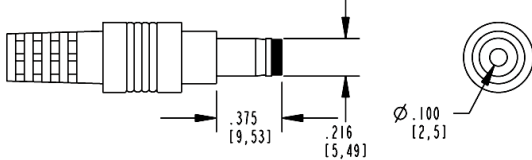
|                          |                                                                                 |
|--------------------------|---------------------------------------------------------------------------------|
| <b>Model</b>             | "01" = Standard. "02" and higher indicates a modified model.                    |
| <b>Input Connector:</b>  | "F" = IEC320 C14 grounded, Other options available, see next page.              |
| <b>Output Connector:</b> | "03" = 2.5mm Barrel Type Connector. Other options available, contact factory.   |
| <b>Output Voltage:</b>   | "05" = 5Vdc, "12" = 12Vdc, "24" = 24Vdc, etc.                                   |
| <b>Model</b>             | "A" = Original Configuration                                                    |
| <b>Output Power:</b>     | "050" = 50 Watts                                                                |
| <b># of Outputs</b>      | "1" = Single Output                                                             |
| <b>Product Family:</b>   | "C" = Commercial/ITE/Industrial, "E" = External, "NB" = Model Series Designator |

## Input Receptacle Options

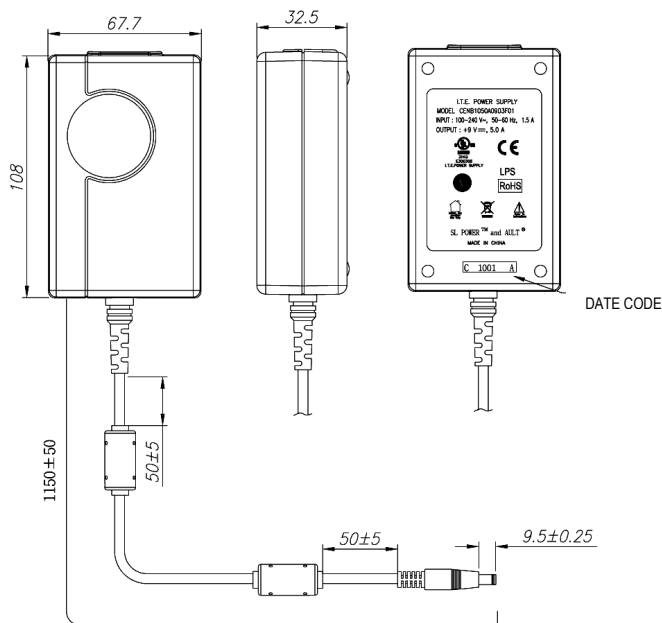
## Output Connector

|                                                                                    |                                                                                    |                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |
| IEC320 - C14<br>Class I<br>Grounded (F)                                            | IEC320 - C18<br>Class II<br>Ungrounded (Q)                                         | IEC320 - C8<br>Class II<br>"Shaver" (N)                                            |

|   |                                                                                     |
|---|-------------------------------------------------------------------------------------|
| 3 |  |
|---|-------------------------------------------------------------------------------------|

## Outline Drawing



Dimensions are in mm (Cable length is 1500mm on 12V thru 48V models)

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