

# Switch Mode Power Supplies Single Output AC/DC Power Supply

# **AEU65-050**

#### **Description:**

The AEU65-050 is a single output power supply. This power supply is designed for a wide variety applications where high reliability is desired, including applications for the industrial and telecommunications markets. Excellent performance specifications are provided, together with compliance to European EMC (EN55022, Class B and EN61000-3-2), and Low Voltage directive.

#### Specifications (@25C)

### **Input Characteristics:**

Input Voltage: 90-264VAC, 127-373VDC

Input Frequency Range: 47-63Hz

 Input Current:
 1.6A @ 115VAC, 0.8A @ 230VAC typ.

 Max Inrush Current:
 30A@115VAC, 60A@230VAC at cold start

Leakage Current: <2.4mA/240Vac

#### **Output Characteristics:**

Output Voltage: 5.0VDC±2.0%Vdc

Output Current (Convection): 0-10A Output Power (Convection): 50W

Adjustable Output Range: 4.75 – 5.25V. Output voltage can be adjusted at VR51

 Ripple & Noise¹:
 60mVp-p

 Load Regulation:
 ±1.0%

 Line Regulation:
 ±0.5%

 Efficiency:
 84.0%

 Start-up Time:
 1000ms/230VAC, 2000ms/115VAC, full load

 Rise-up Time:
 30ms/230VAC, 30ms/115VAC, full load

 Hold-up Time:
 24ms/230VAC, 12ms/115VAC, full load

**Over Current Protection:** 110 – 160%. Hiccup mode. Resets automatically once the fault condition is

removed.

Over Voltage Protection: 5.75 – 6.75 VDC.

#### **General Specifications:**

**Dimension (LxWxH):** 99(3.9) x 75(3.0) x 35.0(1.38) mm (in)

Weight: 200g

Cooling: Natural Convection

 Isolation Resistance:
 I/P—O/P, I/P—FG, O/P—FG: 500VDC/100M Ohms

 Dielectric Strength:
 I/P—O/P:4.3KVDC; I/P—FG:1.5KVAC; O/P—FG:0.5KVAC

Warranty: 3 years

MTBF: 250K hrs. min. MIL-HDBK-217F (25°C)

### **Environmental Specifications:**

Operating Temperature: -20° to 50°C at full load (Refer to output load derating curve)

Operating Humidity: 20 to 90% RH, non-condensing

Storage Temperature: -40 to 85°C

Storage Humidity: 10 to 95% RH, non-condensing

**Temperature Drift:** <0.03%/°C (0-50°C)

Vibration: 10-500Hz, 2G 10min/cycle, period of 60min, each X, Y & Z axis

### EMC & Safety Specifications<sup>2</sup>:

EMI Emissions: Compliance to EN55022, CISPR22 Class B (Conducted & Radiated)

Harmonic Current: Compliance to EN61000-3-2, 3

**EMS Immunity:** Compliance to EN61000-4-2, 3-6, 8 & 11; EN55024 heavy, light

industry level, criteria A

Safety Approval: UL 60950-1, (insulation class -1)





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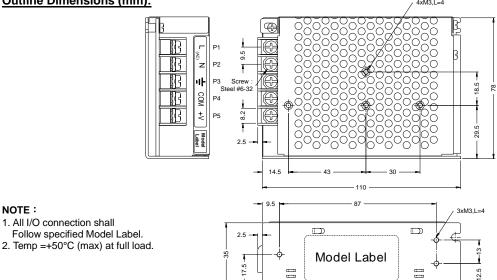
<sup>1</sup> Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted-pair wire termination with a 0.1uF & 47uF parallel capacitors.

<sup>&</sup>lt;sup>2</sup> The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.



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## **Outline Dimensions (mm):**



## **Connections:**

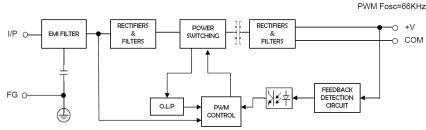
NOTE:

AC Input Connector	
	Assignment
P1	AC/L
P2	AC/N
D2	EC

1. All I/O connection shall

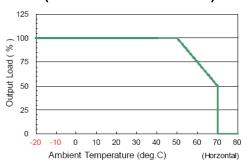


### **Block Diagram:**

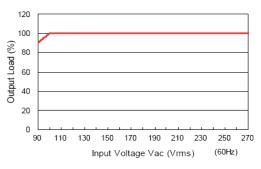


## **Derating Curve:**

## **■Output Derating VS Ambient Temperature**: (HORIZONTAL MOUNTING)



# **■Output Derating VS Input Voltage**:



RoHS Compliance: As of manufacturing date February 2016, all standard products meet the requirements of 2015/863/EU, known as the RoHS 3 initiative.

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<sup>\*</sup> Upon printing, this document is considered "uncontrolled". Please contact Triad Magnetics' website for the most current version.

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