



**FEATURES:**

- 4000VAC I/O isolation
- Medical Switching power modules for PCB mounting
- Operating temperature: -40 to +85°C
- Universal Input: 90-260VAC, 47-440Hz, or 130-370VDC
- Energy star compliant
- RoHS compliant
- Low Ripple and Noise
- CE, cULus approvals



**Models**  
**Single output**

| Model          | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Output Voltage (V) | Output Current max (A) | Efficiency (%) |
|----------------|------------------------|---------------------|--------------------|------------------------|----------------|
| AMEC30-3.3SMAZ | 90-264/47-440          | 130-370             | 3.3                | 6                      | 80             |
| AMEC30-5SMAZ   | 90-264/47-440          | 130-370             | 5                  | 6                      | 83             |
| AMEC30-12SMAZ  | 90-264/47-440          | 130-370             | 12                 | 2.5                    | 85             |
| AMEC30-15SMAZ  | 90-264/47-440          | 130-370             | 15                 | 2                      | 85             |
| AMEC30-24SMAZ  | 90-264/47-440          | 130-370             | 24                 | 1.25                   | 84             |

**Models**  
**Dual output**

| Model         | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Output Voltage (V) | Output Current max (A) | Efficiency (%) |
|---------------|------------------------|---------------------|--------------------|------------------------|----------------|
| AMEC30-5DMAZ  | 90-264/47-440          | 130-370             | ±5                 | ±3                     | 81             |
| AMEC30-12DMAZ | 90-264/47-440          | 130-370             | ±12                | ±1.25                  | 84             |
| AMEC30-15DMAZ | 90-264/47-440          | 130-370             | ±15                | ±1                     | 83             |
| AMEC30-24DMAZ | 90-264/47-440          | 130-370             | ±24                | ±0.625                 | 82             |

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications**

| Parameters          | Conditions                 | Typical | Maximum | Units |
|---------------------|----------------------------|---------|---------|-------|
| Current             | 115 VAC                    |         | 740     | mA    |
|                     | 230 VAC                    |         | 410     |       |
| Inrush current <2ms | 115 VAC                    |         | 25      | A     |
|                     | 230 VAC                    |         | 50      |       |
| Leakage current     |                            |         | 150     | µA    |
| External fuse       | Recommended slow blow type | 3.15    |         | A     |
| Input dissipation   | No load; 115VAC            | <0.5    |         | W     |
|                     | No load; 264VAC            | <0.8    |         |       |
| Start-up time       |                            | 117     |         | ms    |

**Output Specifications**

| Parameters                   | Conditions                                                      | Typical    | Maximum | Units     |
|------------------------------|-----------------------------------------------------------------|------------|---------|-----------|
| Voltage accuracy             |                                                                 | ±2         |         | %         |
| Line regulation              | (LL-HL)                                                         | ±0.5       |         | %         |
| Load regulation              | 0-100% load single                                              | ±1         |         | %         |
|                              | 0-100% load dual                                                | ±2         |         |           |
| Cross regulation             | 25% load - 1 <sup>st</sup> out, 100% load – 2 <sup>nd</sup> out | ±5         |         | %         |
| Maximum Capacitive load      | Depending of the model                                          | 470-23 000 |         | µF        |
| Transient response deviation | 25% load Step                                                   | ±2         |         | % of Vout |
| Ripple & Noise*              | 20MHz bandwidth                                                 | 50         |         | mV p-p    |
| Hold-up time (min)           | 115VAC                                                          | 29         |         | ms        |
| Minimum Load Current         |                                                                 | 0          |         | % of Max  |

\*Ripple & Noise measured with 0.1µF M/C and 1µF E/C

### Isolation Specifications

| Parameters           | Conditions | Typical | Rated | Units |
|----------------------|------------|---------|-------|-------|
| Tested I/O voltage   | 60 sec     |         | 4000  | VAC   |
| Isolation Resistance |            | >1000   |       | MΩ    |

### General Specifications

| Parameters               | Conditions               | Typical                                                                                                                               | Maximum | Units  |
|--------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------|--------|
| Switching frequency      |                          | 47                                                                                                                                    |         | KHz    |
| Over current protection  | Auto recovery            | 110                                                                                                                                   | 140     | %      |
| Over voltage protection  |                          | Zener diode clamp                                                                                                                     | 110     | %      |
| Short circuit protection |                          | Hiccup mode, indefinite                                                                                                               |         |        |
| Short Circuit restart    |                          | Auto recovery                                                                                                                         |         |        |
| Operating temperature    | With derating above 55°C | -40 - +85                                                                                                                             |         | °C     |
| Maximum case temperature |                          |                                                                                                                                       | 100     | °C     |
| Storage temperature      |                          | -40 to +100                                                                                                                           |         | °C     |
| Temperature coefficient  |                          | 0.02                                                                                                                                  |         | % / °C |
| Cooling                  |                          | Free air convection                                                                                                                   |         |        |
| Humidity                 | Non condensing           |                                                                                                                                       | 95      | % RH   |
| Case material            |                          | Metal                                                                                                                                 |         |        |
| Weight                   |                          | 270                                                                                                                                   |         | g      |
| Dimensions (L x H x W)   |                          | 4.92 x 2.56 x 1.38 inch / 125.00 x 65.00 x 35.00 mm                                                                                   |         |        |
| MTBF                     |                          | > 800,000 hrs (MIL-HDBK -217F, t= $+25$ oC)/Full Load<br>> 200,000 hrs (MIL-HDBK -217F, t=at highest operating temperature)/Full Load |         |        |

### Environment Approval

| Test      | Parameters             | Conditions                                               |
|-----------|------------------------|----------------------------------------------------------|
| Shock     | Wave form              | Half sine wave                                           |
|           | Acceleration amplitude | 5gn                                                      |
|           | Bump duration          | 30 ms                                                    |
|           | Converter operation    | Before and after test, body mounted (on chassis)         |
|           | Number of bumps        | 18 (3 in each direction for every axis)                  |
| Vibration | Test mode              | Sweep sine, 10-100Hz, speed 0.05Hz/s                     |
|           | Displacement           | 1 mm                                                     |
|           | Acceleration           | 3g, 3 loops 30min one cycle, 3h total, every axis tested |
|           | Converter operation    | Before and after test, body mounted (on chassis)         |

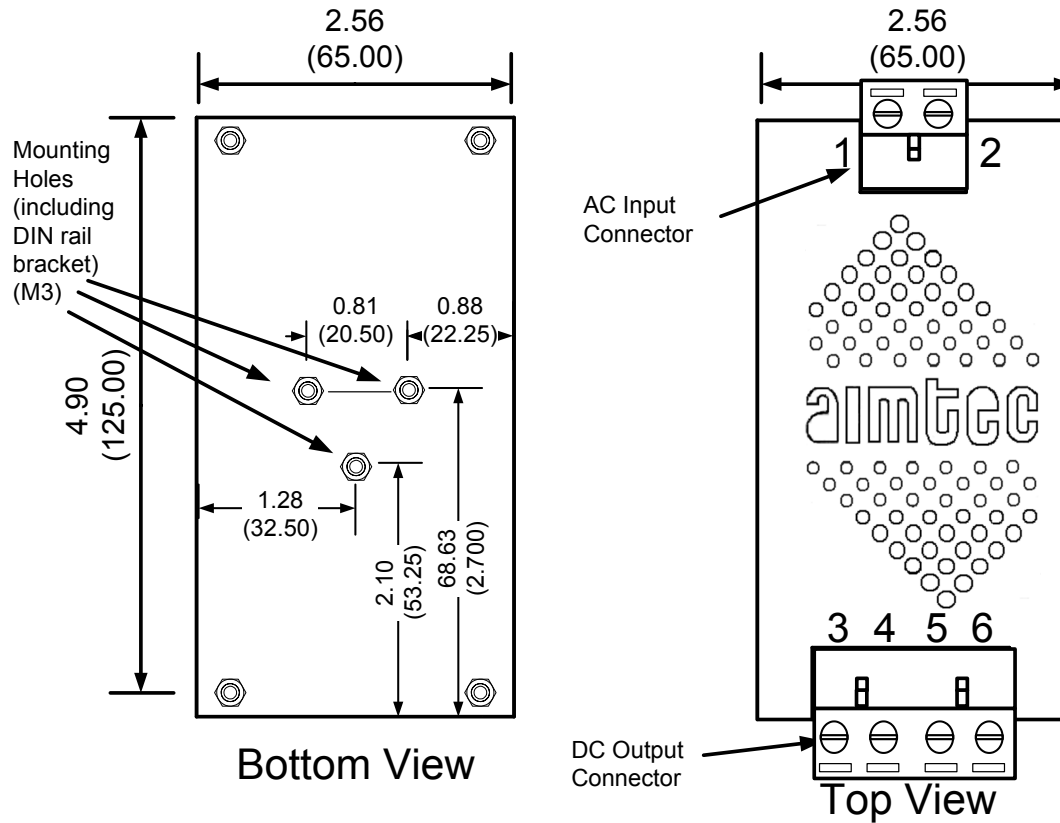
### Safety Specifications

| Parameters                                 |                                          |                                            |
|--------------------------------------------|------------------------------------------|--------------------------------------------|
| Agency approvals                           | cULus, CE, CB Scheme                     |                                            |
| Standards                                  | Medical Electrical Equipment             | IEC/EN/UL 60601-1, CSA-C22.2 No. 601.1-M90 |
|                                            | Information technology Equipment         | EN 60950-1:2006+A11:2009                   |
|                                            | EMI - Conducted and radiated emission    | EN55011, class B                           |
|                                            | Harmonic Current Emissions               | IEC/EN 61000-3-2, (EN60555-2)              |
|                                            | Voltage fluctuations and flicker         | IEC/EN 61000-3-3, (EN60555-3)              |
|                                            | Electrostatic Discharge Immunity         | IEC 61000-4-2 Level 3                      |
|                                            | RF, Electromagnetic Field Immunity       | IEC 61000-4-3 Level 2                      |
|                                            | Electrical Fast Transient/Burst Immunity | IEC 61000-4-4 Level 3                      |
|                                            | Surge Immunity                           | IEC 61000-4-5 Level 2                      |
|                                            | RF, Conducted Disturbance Immunity       | IEC 61000-4-6 Level 2                      |
|                                            | Power frequency Magnetic Field Immunity  | IEC 61000-4-8 Level 2                      |
| Voltage dips, Short Interruptions Immunity | IEC 61000-4-11                           |                                            |

### Pin Out Specifications

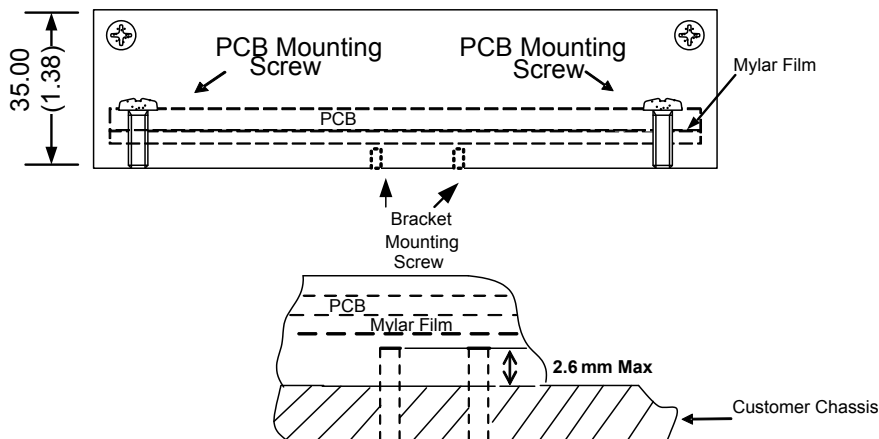
| Pin | Single       | Dual         |
|-----|--------------|--------------|
| 1   | AC Input (L) | AC Input (L) |
| 2   | AC Input (N) | AC Input (N) |
| 3   | +V Output    | +V Output    |
| 4   | -V Output    | Common       |
| 5   | N.C.         | Common       |
| 6   | N.C.         | -V Output    |

### Dimensions

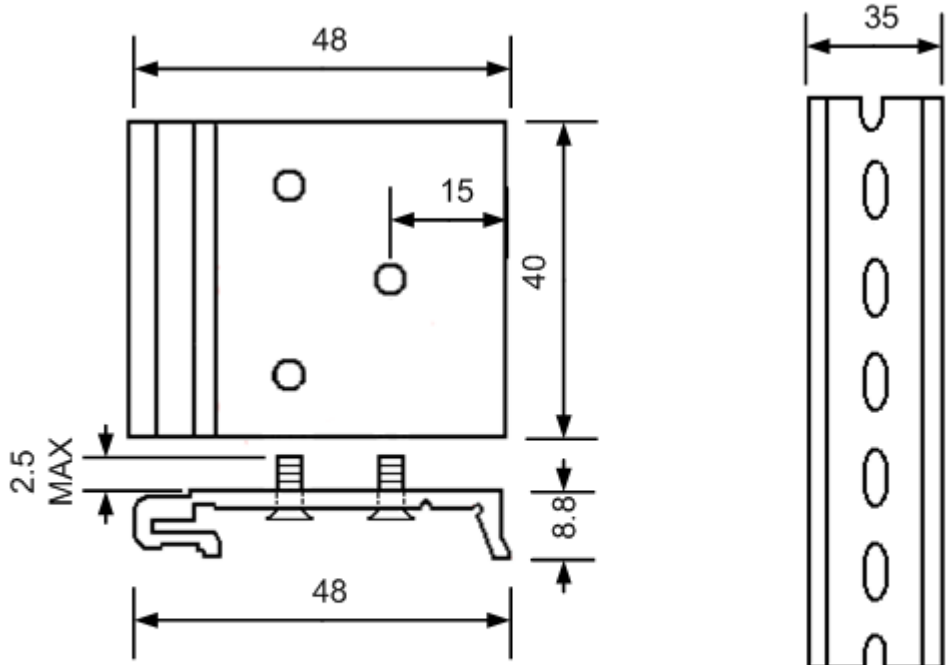


Dimensions: inch (mm)  
Case Tolerance:  $\pm 0.05$  ( $\pm 1.30$ )

### Side View



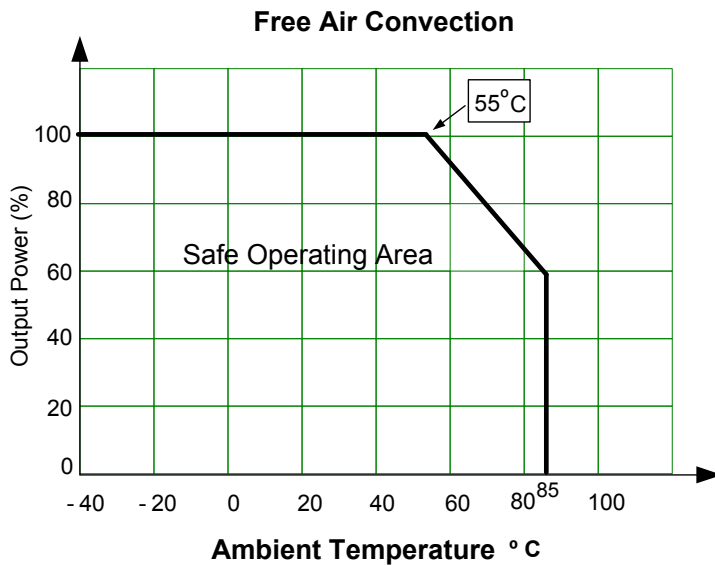
**Optional DIN Rail Bracket**



To order optional DIN rail bracket kit specify part number DRB01 when placing order

Aimtec DRB01 bracket is compatible with standard 35mm DIN rails (TS35/7.5)

**Derating**



**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).