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AMED15-NZ



DIN Rail

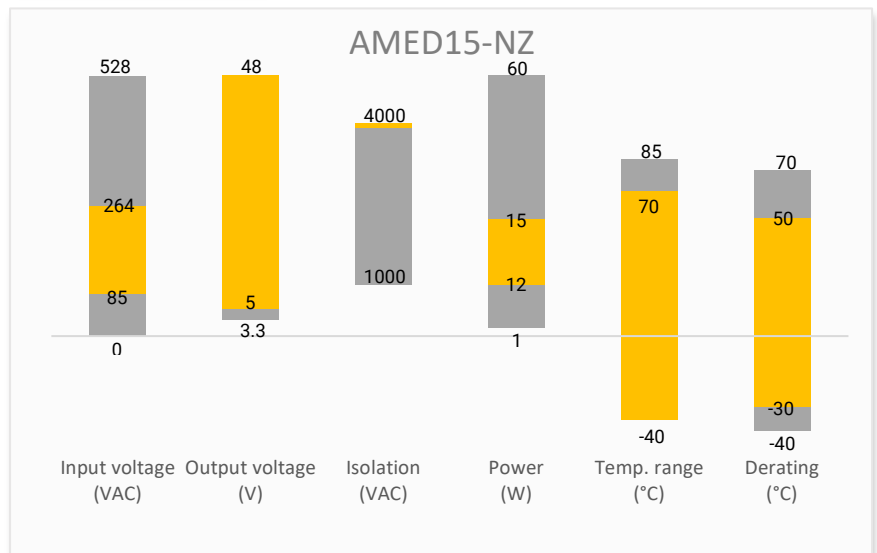
The AMED15-NZ is a whole new DIN rail bracket AC-DC converter series featuring a cost effective, energy efficient solution. The products offer a high level of stability and immunity to noise, compliant with international IEC/EN/UL62368 and EN61558 standards. These lightweight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and numerous applications for harsh environments.

This new series offers great operating temperatures, from -40°C to 70°C and an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

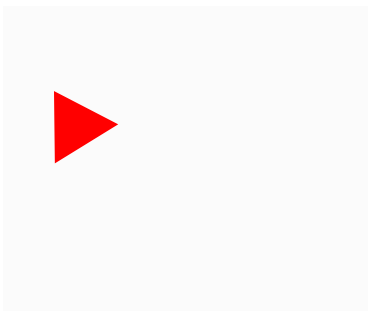
Features

- Universal Input: 85 - 264VAC/120 - 370VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 240mV(p-p), max.
- Output short circuit, over-current, over-voltage protection
- Overvoltage category III (OVC III)

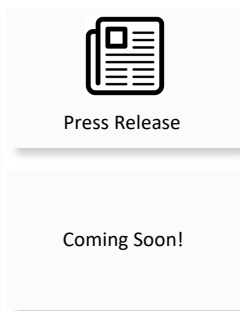
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

| Single Output | | | | | | | |
|---------------|------------------------|---------------------|------------------------|--------------------|-------------------------|------------------------------------|------------------------------|
| Model | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Max Output wattage (W) | Output Voltage (V) | Output Current max (mA) | Maximum capacitive load (μ F) | Efficiency @ 230VAC Typ. (%) |
| AMED15-5SNZ | 85~264/47~63 | 120~370 | 12 | 5 | 2400 | 2000 | 80 |
| AMED15-12SNZ | 85~264/47~63 | 120~370 | 15 | 12 | 1250 | 1500 | 85 |
| AMED15-15SNZ | 85~264/47~63 | 120~370 | 15 | 15 | 1000 | 1100 | 85.5 |
| AMED15-24SNZ | 85~264/47~63 | 120~370 | 15.2 | 24 | 630 | 700 | 86 |
| AMED15-48SNZ | 85~264/47~63 | 120~370 | 15.4 | 48 | 320 | 300 | 87 |

| Input Specifications | | | | |
|----------------------|------------|---------|---------|--------|
| Parameters | Conditions | Typical | Maximum | Units |
| Input Current | 115VAC | | 500 | mA |
| | 230VAC | | 250 | mA |
| Inrush Current | 115VAC | 15 | | A |
| | 230VAC | 25 | | A |
| Leakage Current | 240VAC | 0.5 | | mA RMS |

| Output Specifications | | | | |
|---------------------------|--------------------------------|-------------|---------|--------|
| Parameters | Conditions | Typical | Maximum | Units |
| Voltage accuracy | 0 - 100% load, 5 VDC Output | ± 2 | | % |
| | 0 - 100% load, Others | ± 1 | | % |
| Line regulation | Rated load | ± 0.5 | | % |
| Load regulation | 0 - 100% load, 230VAC | ± 1 | | % |
| Ripple & Noise* | 20MHz bandwidth, 5 VDC Output | | 80 | mV p-p |
| | 20MHz bandwidth, 12 VDC Output | | 120 | mV p-p |
| | 20MHz bandwidth, 15 VDC Output | | 120 | mV p-p |
| | 20MHz bandwidth, 24 VDC Output | | 150 | mV p-p |
| | 20MHz bandwidth, 48 VDC Output | | 240 | mV p-p |
| Hold up time | 115VAC | 12 | | ms |
| | 230VAC | 30 | | ms |
| Start up time | | | 2 | S |
| No load power consumption | 230VAC | | 0.3 | W |
| Voltage adjustable range | 5 VDC Output | 4.5 - 5.5 | | V |
| | 12 VDC Output | 10.8 - 13.8 | | V |
| | 15 VDC Output | 13.5 - 18.0 | | V |
| | 24 VDC Output | 21.6 - 29.0 | | V |
| | 48 VDC Output | 43.2 - 55.2 | | V |

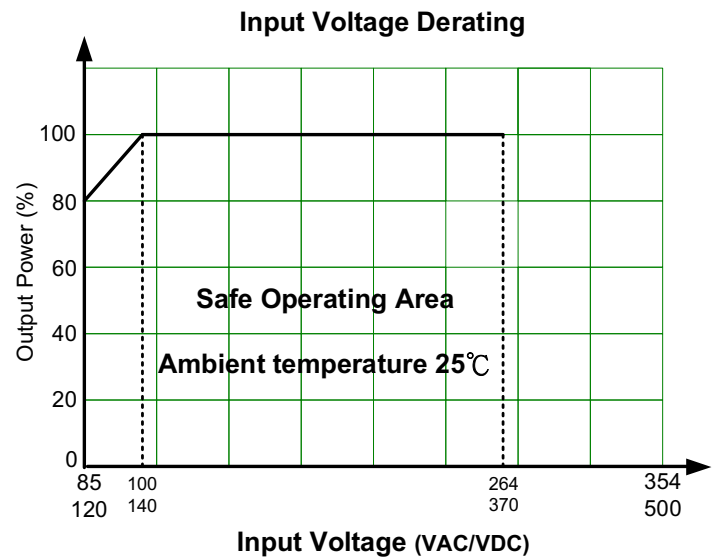
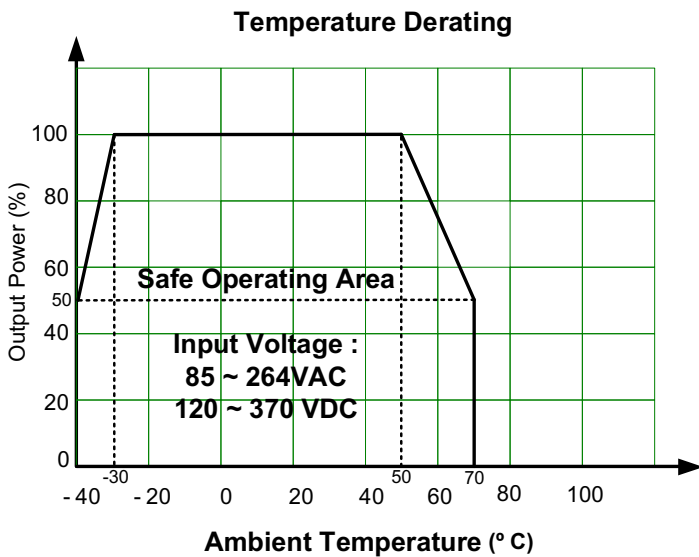
* Ripple and Noise are measured at 20MHz bandwidth with a 47 μ F electrolytic capacitor and a 0.1 μ F ceramic capacitor terminated on a 12" twisted pair wire. Please refer to the application not for specific details. Measured.

| Isolation Specifications | | | | |
|--------------------------|-------------------------------|---------|---------|-------|
| Parameters | Conditions | Typical | Maximum | Units |
| Tested I/O voltage | 60 sec, Leakage current < 5mA | 4000 | | VAC |

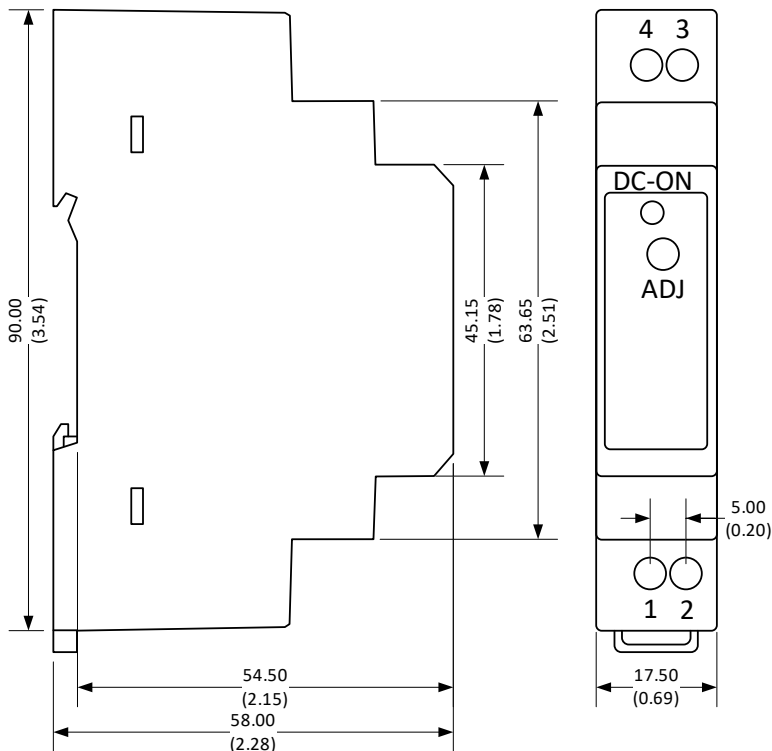
| General Specifications | | | | |
|---|---|---|---------|-----------|
| Parameters | Conditions | Typical | Maximum | Units |
| Overvoltage category | OVC III | | | |
| Over Current protection | Constant voltage mode, Self- recovery | ≥ 110 | | % of Iout |
| | Constant current mode, Vout < 50% rated voltage | Hiccup or current limiting, Self-recovery | | |
| | Constant current mode, Vout ≥ 50% rated voltage | Current limiting, Self-recovery | | |
| Over voltage protection | Hiccup, 5 VDC Output | ≤ 6.75 | | VDC |
| | Hiccup, 12 VDC Output | ≤ 16.2 | | VDC |
| | Hiccup, 15 VDC Output | ≤ 22.5 | | VDC |
| | Hiccup, 24 VDC Output | ≤ 36 | | VDC |
| | Hiccup, 48 VDC Output | ≤ 64.8 | | VDC |
| Short circuit protection | Hiccup, Continuous, Self-recovery | | | |
| Switching Frequency | | 65 | | KHz |
| Operating temperature | | -40 to +70 | | °C |
| Storage temperature | | -40 to +85 | | °C |
| Operating altitude | | | 2000 | m |
| Power derating | -40 °C to -30 °C | 5.0 | | % / °C |
| | 50 °C to 70 °C | 2.5 | | % / °C |
| | 85 to 100 VAC | 1.34 | | % / VAC |
| Temperature coefficient | | ± 0.02 | | % / °C |
| Protection Class | Class II | | | |
| Cooling | Free air convection | | | |
| Storage Humidity | | | 95 | % RH |
| Case material | Heat resistant black Plastic (flammability to UL 94V-0) | | | |
| Weight | | 60 | | g |
| Dimensions (L x W x H) | 3.54 x 0.69 x 2.28 inches (90.00 x 17.50 x 58.00 mm) | | | |
| MTBF | > 300 000 hrs (MIL-HDBK -217F, t=+25°C) | | | |
| 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. | | | | |

| Safety Specifications | | |
|-----------------------|--|---|
| Parameters | | |
| Standards | Designed to meet UL/IEC/EN 62368-1, IEC/EN61558-1, IEC/EN61010-1, IEC60335-1 | |
| | EMC - Conducted and radiated emission | CISPR32 / EN55032, Class B |
| | Harmonic current | IEC 61000-3-2 Class A |
| | Electrostatic Discharge Immunity | IEC 61000-4-2 Contact ±4KV, Air ±8KV, Criteria A |
| | RF, Electromagnetic Field Immunity | IEC 61000-4-3 10V/m, Criteria A |
| | Electrical Fast Transient/Burst Immunity | IEC 61000-4-4 ±2KV, Criteria A |
| | Surge Immunity | IEC 61000-4-5 L-L ±1KV, Criteria A |
| | CS, Conducted Disturbance Immunity | IEC 61000-4-6 10V r.m.s, Criteria A |
| | Voltage dips, Short Interruptions Immunity | IEC 61000-4-11 100% dip 1 cycle, 30% dip 25cycles, 100% interruption 250 cycles, Criteria B |

Derating



Dimensions



| Pin Output Specifications | |
|---------------------------|--------------------|
| Pin | Function |
| 1 | Input (N) |
| 2 | Input (L) |
| 3 | -V Output |
| 4 | +V Output |
| ADJ | Voltage adjustment |

Note:
Unit: mm (inch)
General tolerance : ± 1.0 (0.04)
Wire gauge : 24 - 12AWG
Tightening torque : 0.4N·m Max.
Mounting rail : TS35,
Rail must be connected to safety ground

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 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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.

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