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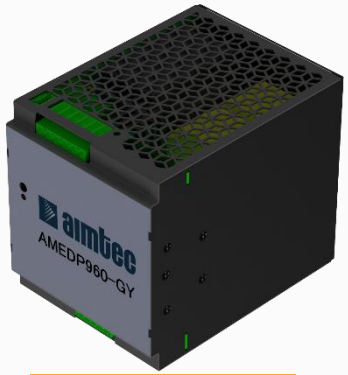
AMEDP960-GY



DIN Rail

The AMEDP960-GY is a high efficiency DIN rail AC/DC converter that features a cost-effective power supply design. Offering a commercial input voltage range of 180-264VAC and an output voltage range from 24-48V, this series will offer many benefits to your new system design. Measuring 124.70 x 110.00 x 150.20mm, ambient air-cooling vents both at the top and bottom of the converter improve its thermal performance. It is also easy to install and remove for maintenance, while efficiently organizing all your electrical cables.

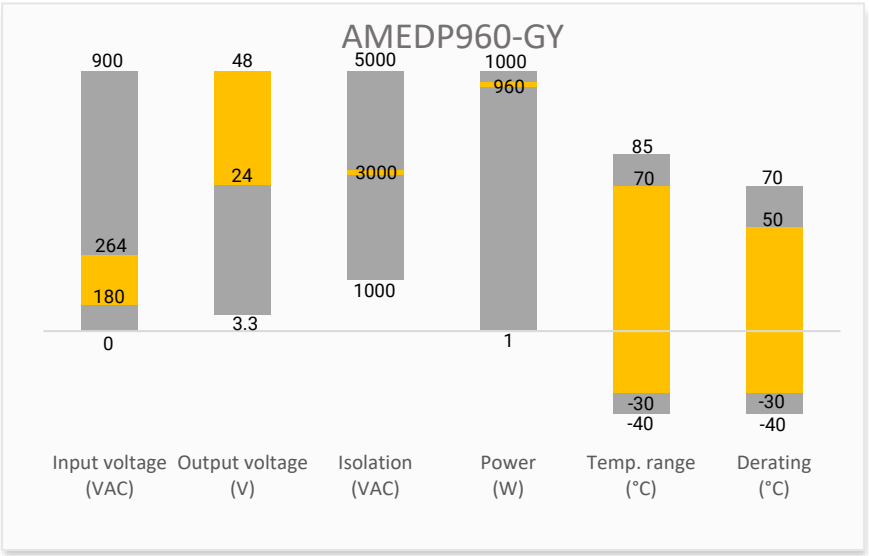
This series offers great operating temperatures, from -30°C to 70°C and features an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of 82,000h, output over-load protection, output short circuit protection, over temperature protection (OTP), and output over-voltage protection (OVP) come standard with the series. A built in DC OK relay contact is also included.

The AMEDP960-GY is suitable for electric distribution boxes, grid power, instrumentation, CNC machines, industrial control panels and building automation applications.

Features

- Ultra-wide Input: 180 - 264VAC/254 - 370VDC
- Operating Temp: -30 °C to +70 °C
- High isolation voltage: 3000VAC
- Low ripple & noise, 250mV(p-p), max.
- Short circuit protection, over-voltage protection, over temperature protection, and overload protection.
- Built-in DC OK relay contact
- High peak power up to 130% for 5s (1248W)
- Parallel function, current sharing up to 3840W 960W * 4 units
- Agency Approvals: UL61010-1, UL61010-2-201

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Models & Specifications

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Efficiency Typ. (%)
AMEDP960-24SGY	180~264/47~63	254~370	960	24	40	93
AMEDP960-48SGY	180~264/47~63	254~370	960	48	20	93

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input Current	230VAC	6		A
Inrush Current	230VAC, cold start	50		A
Leakage Current			5	mA
Power factor	230VAC, at full load	0.95		

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	0 - 100% load	± 1		%
Line regulation	Rated load	± 0.5		%
Load regulation	0 - 100% load	± 1		%
Ripple & Noise*	24 VDC Output		180	mV p-p
	48 VDC Output		250	mV p-p
Start-up time			1000	ms
Rise time			100	ms
Hold up time		14		ms
Voltage adjustable range	24 VDC Output	24 - 28		V
	48 VDC Output	48 - 55		V

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application form for specific details. Measured with a 47µF electrolytic capacitor and a 0.1µF ceramic capacitor.

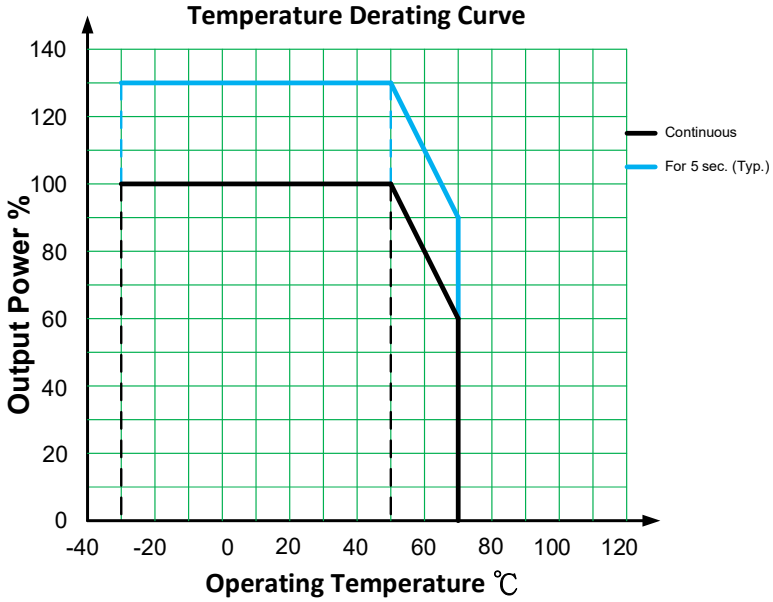
Isolation Specifications

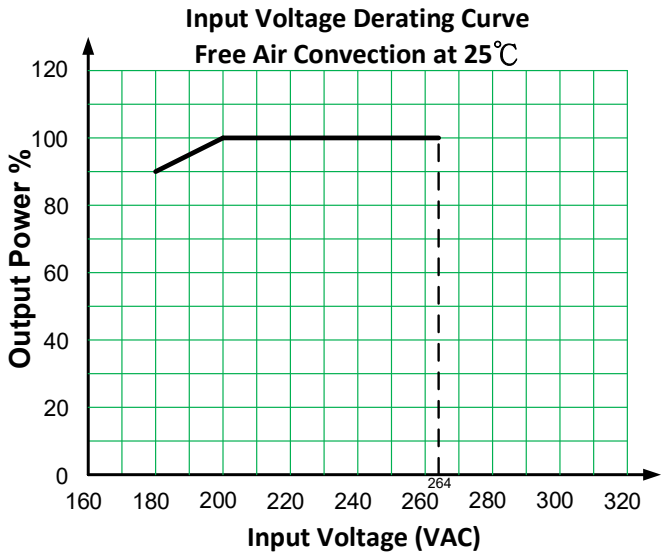
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage		3000		VAC
Tested Input to GND voltage		2000		VAC
Tested Output to GND voltage		500		VAC
Tested Output to DC OK		500		VAC
Insulation resistance	I to O, I/O to PE, 500VDC, 25°C, 70%RH	>100		MΩ

General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Over voltage category	II			
Pollution Degree	2			
Over voltage protection	24 VDC Output, manual-recovery		33	VDC
	48 VDC Output, manual-recovery		65	VDC
Reverse over voltage protection	24 VDC Output, manual-recovery	24.5~25.5		VDC
	48 VDC Output, manual-recovery	48.5~49.5		VDC
Over temperature protection	Shut down output voltage, auto-recovery after temperature goes down			
Overload protection	Works normally within 105 ~ 130% rated output power for more than 5 seconds, output voltage turns off, auto-recovery 130 ~ 150% rated output power, constant current limiting, auto-recovery within 5 seconds, shut down if over 5 seconds			
Short circuit protection	Constant current limiting within 130 ~ 150% rated output power for more than 5 , shut down if over 5 seconds, manual recovery			
Operating temperature	20 ~ 95% RH non-condensing	-30 to +70		°C
Storage temperature	10 ~ 95% RH	-40 to +85		°C
Power derating	+50 °C to 70°C, For 5 sec.	2.0		% / °C
	+50°C to 70°C, Continuous	2.0		% / °C
	180VAC - 200VAC	0.5		% / V
Temperature coefficient	0 ~ 50 °C	± 0.03		% / °C
Cooling	Free air convection			
Case material	Aluminum/steel			
Weight		2470		g
Dimensions (L x W x H)	4.91 x 4.33 x 5.91 inches (124.70 x 110.00 x 150.20 mm)			
MTBF	82K hrs min. (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.				

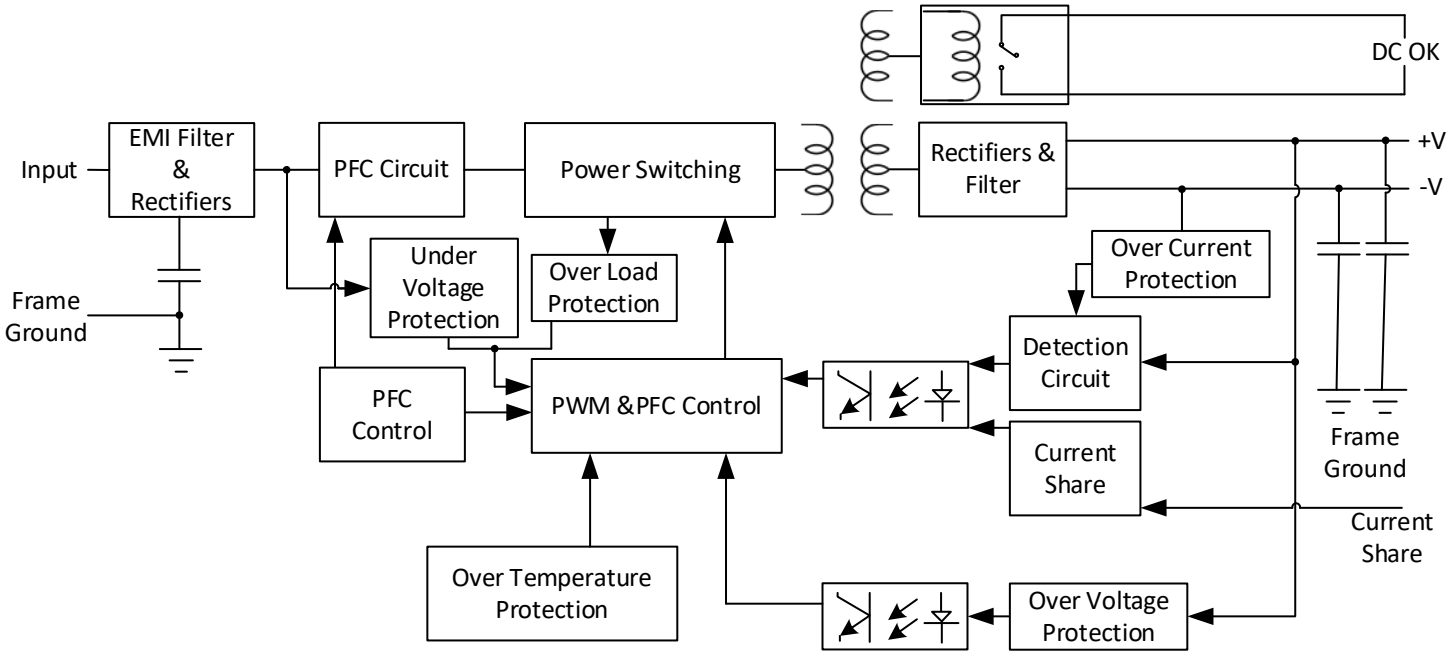
Safety Specifications		
Parameters		
Agency approval	UL61010-1, UL61010-2-201, EN61010-1, BS EN61010-1	
Standards	EMC - Conducted and radiated emission	CISPR32 / EN55032
	Harmonic Current emission	BS EN/EN 61000-3-2
	Voltage Fluctuations & Flicker	BS EN/EN 61000-3-3
	Electrostatic Discharge Immunity	BS EN/EN 61000-4-2
	RF, Electromagnetic Field Immunity	BS EN/EN 61000-4-3
	Electrical Fast Transient/Burst Immunity	BS EN/EN 61000-4-4
	Surge Immunity	BS EN/EN 61000-4-5
	CS, Conducted Disturbance Immunity	BS EN/EN 61000-4-6
	Power Frequency Magnetic Field Immunity	BS EN/EN 61000-4-8
	Voltage dips, Short Interruptions Immunity	BS EN/EN 61000-4-11

Derating





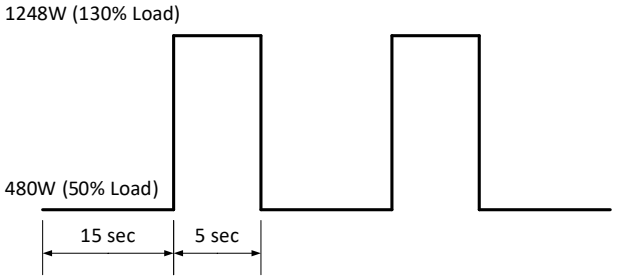
Functional Diagram



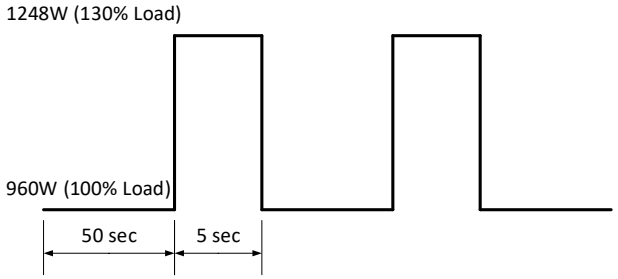
DC OK Relay Contact

Contact Closed	Power Supply Unit turns on / DC OK
Contact Open	Power Supply Unit turns off / DC FAIL
Contact Ratings (maximum)	30 V / 1 A resistive load

Peak Loading



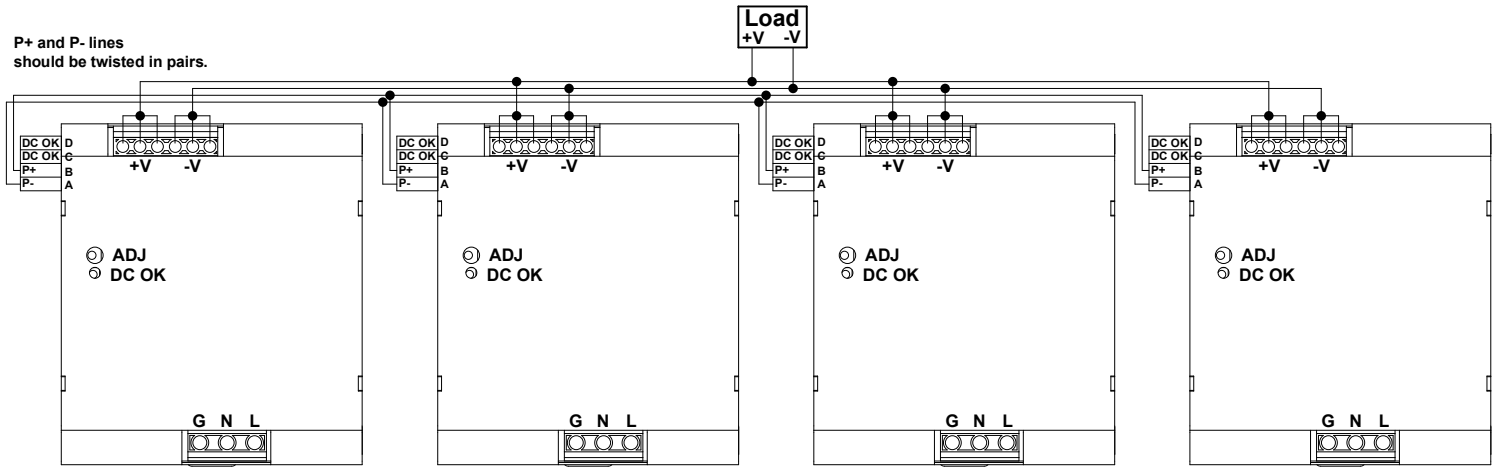
Half Load



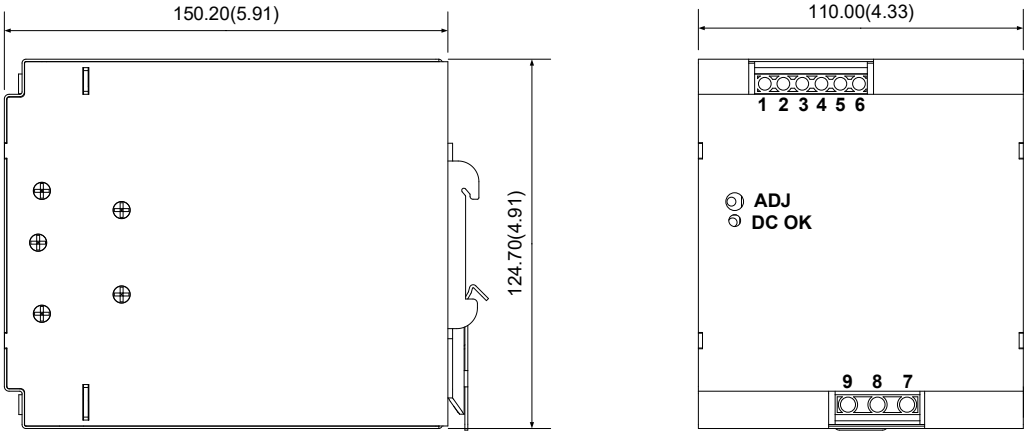
Full Load

Current Sharing

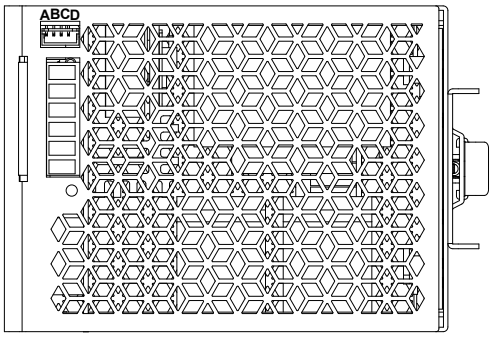
1.Connection method for parallel operation is shown as below drawing (P+, P- should be connected in parallel), the maximum quantity is 4 unit
2.The difference of output voltage should be less than 0.2V for all PSU units in parallel
3.The total output current must not exceed the value calculated of the following equation (output current at parallel operation) = (the rated current per unit) * (number of unit) × 0.9
4.In parallel connection, the minimum output load should be more than 5% of the output load (Min. load >5% rated current per unit X number of unit)
5. In parallel operation, pls using short and large diameter wires to connect the PSUs to the load



Dimensions



Pin Output Specifications	
Pin	Function
1	+V Output
2	+V Output
3	+V Output
4	-V Output
5	-V Output
6	-V Output
7	AC/L
8	AC/N
9	GND ⏚



Unit：mm(inch)
Wire：Input 26-10AWG / 0.128-4mm2
Output 30-10AWG / 0.05-4mm2
DC-OK & Current sharing 26-20AWG / 0.128-0.517mm2
Stripping length：Input 7-8mm, output 7.5-8.5mm
Tightening torque：Input 0.5Nm, output 0.56Nm
Mounting Rail：Standard TS35 DIN Rail in accordance with EN60715

Control Pin: WJ15EDGK-2.54-4P or equivalent			
Pin	Function	Mating Housing	Wire Diameter
A	P- (current share)	WJ15EDGRC-2.54-04P or equivalent (Included in the single package)	0.128~0.517mm^2 (26~20AWG)
B	P+ (current share)		
C	DC OK Relay Contact		
D	DC OK Relay Contact		

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