



AMEOF70-900NZ



Picture coming soon

Open frame

The AMEOF70-NZ is a unique AC/DC converter that has been designed for the coal mining and PV industry. Offering an ultra-wide input voltage range of 85-900VAC which covers common 127/220/380/660VAC in the coal mining industry. This series will offer many benefits to your new system design.

This new series offers great operating temperatures, from -25°C to 70°C and features 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.

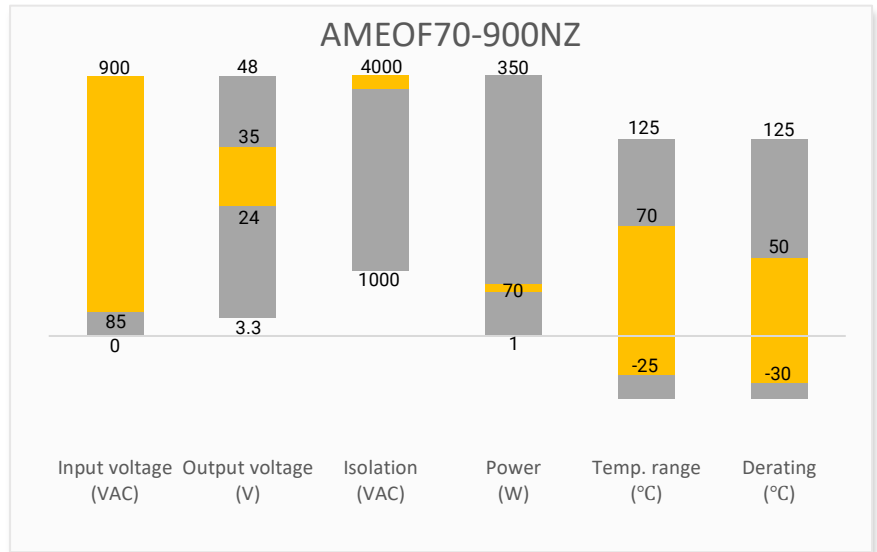
The AMEOF70-900NZ is suitable for PV power conditioners, grid power, instrumentation, industrial controls and coal mining electronic equipment applications.

Features

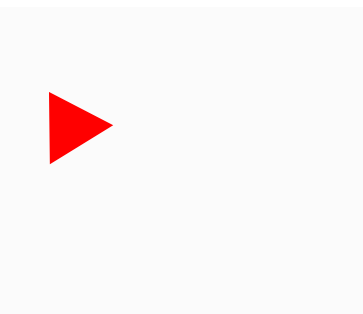


- Wide Input: 85 - 900VAC/120 - 1272VDC
- Operating Temp: -25 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 200mV(p-p) max.
- Output short circuit, over-current, over-voltage protection
- Surge immunity: ±4KV

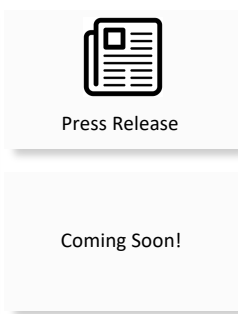
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Renewable Energy



Industrial



Grid Power

Models & Specifications

Single Output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output Wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (μF)	Efficiency @330VAC Typ. (%)
AMEOF70-24S900NZ	85-900/47-63	120-1272	70	24	2.917	800	87
AMEOF70-28S900NZ	85-900/47-63	120-1272	70	28	2.5	800	87
AMEOF70-35S900NZ	85-900/47-63	120-1272	70	35	2	800	87

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Input current	127VAC		1.2	A
	330VAC		0.8	A
	660VAC		0.5	A
Inrush current	330VAC	80		A
	660VAC	140		A
	900VAC	180		A
Fuse			3A/1000VAC	

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	10-100% load	±2		%
Line regulation	Rated load	±0.5		%
Load regulation	10-100% load	±1		%
Ripple & Noise*	24, 48V output	100	200	mV p-p
	35V output		150	mV p-p
Hold up time	Room temperature, 100% load, 330VAC	40		ms
	Room temperature, 100% load, 660VAC	80		ms
Voltage adjustable range			±10	%
Start-up delay time**	85-900VAC, 100% load	2	3	S

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

** Reboot cooldown time >15s.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, leakage current < 3mA		4000	VAC
Resistance (I/O, I/O to GND)	500VDC		50	MΩ

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency		65		KHz
Over Current protection	Hiccup, Auto recovery	≥ 110		% of Iout
Over voltage protection*	24V		35	VDC
	28V		40	VDC

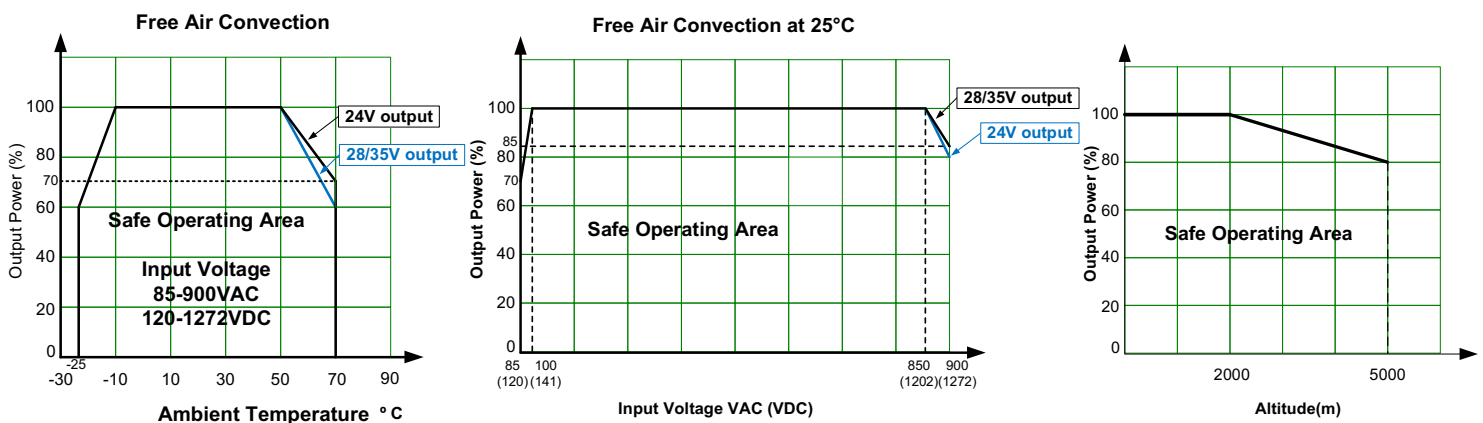
	35V	45	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery		
Operating temperature	See derating graph	-25 to +70	°C
Storage temperature		-40 to +85	°C
Power derating	-25 °C to -10 °C	2.6	% / °C
	50 °C to 70 °C, 28/35V models	2	% / °C
	50 °C to 60 °C, 24V models	1.4	% / °C
	60 °C to 70 °C, 24V models	3	% / °C
	85VAC - 100VAC	2	% / VAC
	850VAC - 900VAC, 24V models	0.4	% / VAC
	850VAC - 900VAC, 28/35V models	0.3	% / VAC
Operating altitude		10	% / 1000m
Operating altitude		5000	m
Temperature coefficient		±0.02	% / °C
Cooling	Free air convection		
Storage humidity	Non-condensing	95	% RH
Weight		340	g
Dimensions (L x W x H)	6.10 x 3.74 x 1.61inch (155.0 x 95.0 x 41.0mm)		
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

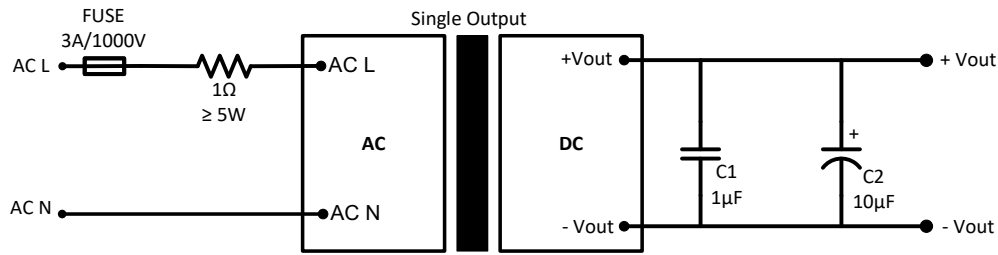
Parameters

Standards	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±4KV, Criteria B
	Surge Immunity	IEC 61000-4-5 L-L ±2KV/L-G ±4KV, Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A

Derating



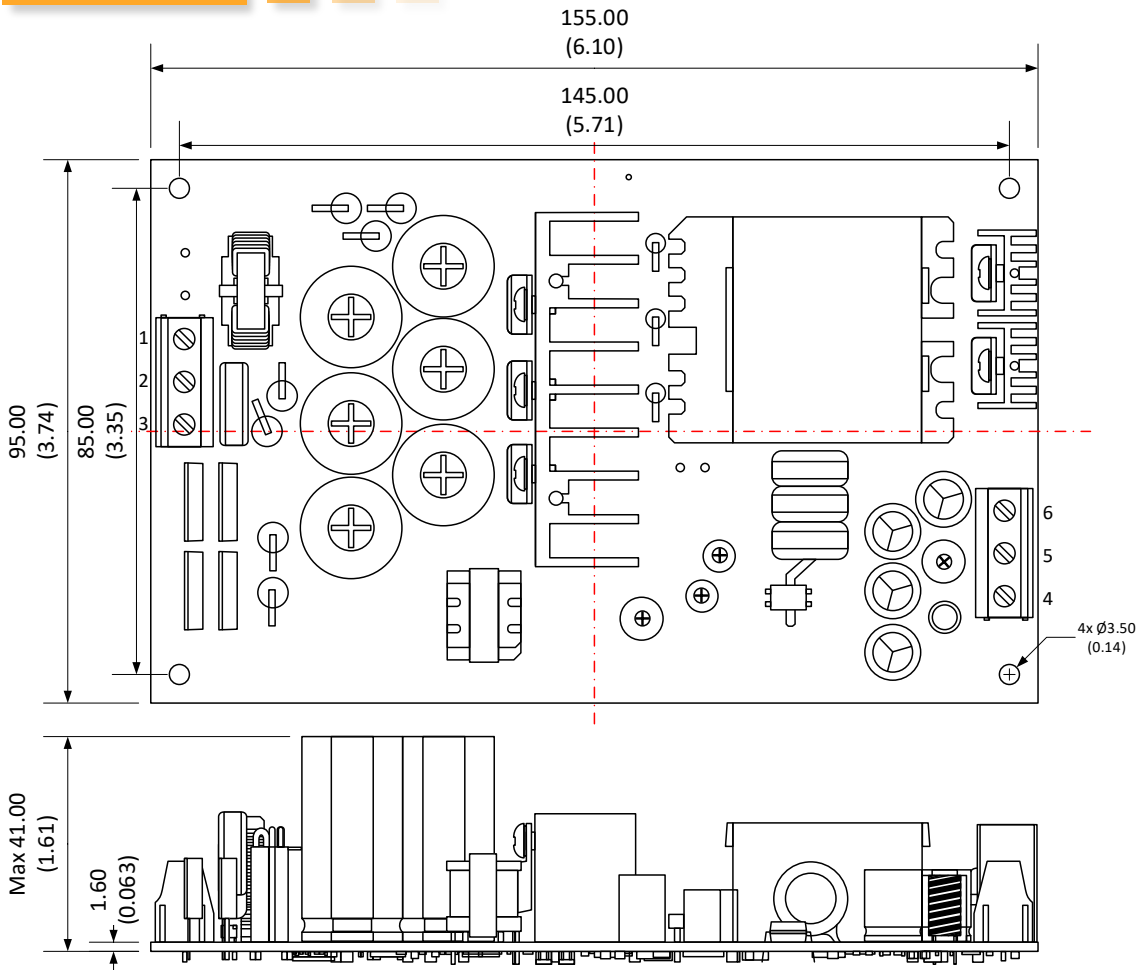
Typical Application Circuit



For filtering components:

Choose capacitors with at least 20% voltage margin. The C2 capacitor is recommended to use electrolytic type with high frequency and low ESR rating. The C1 capacitor is recommended to use ceramic type for filtering high-frequency noise.

Dimensions



Pinout Specifications	
Pin	Function
1	Input (L)
2	NC
3	Input (N)
4	Trim
5	-V Output
6	+V Output

Note:

Unit: mm(inch)

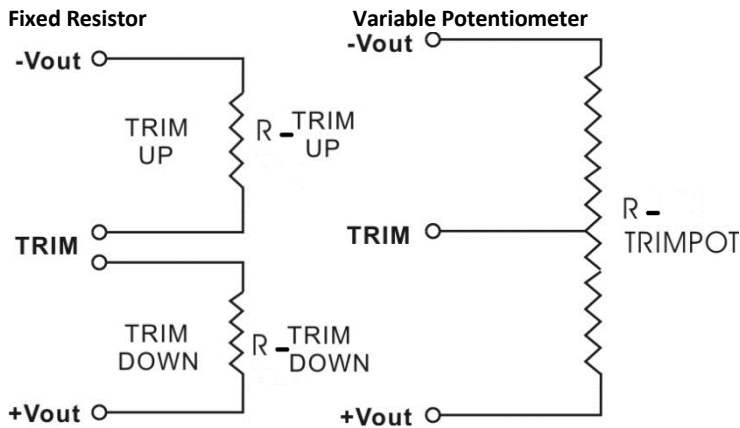
Wire gauge: 24-12AWG

Tightening torque: 0.4N-m

General tolerance: ±1.0(0.04)

The layout of the device is for reference only, please refer to the actual product.

Trim



Vout = 24V

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	23.76	23.52	23.28	23.04	22.8	22.56	22.32	22.08	21.84	21.6
Rt down (KΩ)	629.194	394.928	285.837	222.747	181.628	152.705	131.253	114.708	101.559	90.858
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	24.24	24.48	24.72	24.96	25.2	25.44	25.68	25.92	26.16	26.4
Rt up (KΩ)	501.608	101.758	56.23	38.658	29.342	23.57	19.644	16.799	14.643	12.953

Vout = 28V

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	27.72	27.44	27.16	26.88	26.6	26.32	26.04	25.76	25.48	25.2
Rt down (KΩ)	508.883	345.182	259.611	207.013	171.408	145.706	126.28	111.082	98.866	88.834
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	28.4	28.56	28.84	29.12	29.4	29.68	29.96	30.24	30.52	30.8
Rt up (KΩ)	464	135.765	60.184	38.407	28.063	22.02	18.057	15.259	13.177	11.568

Vout = 35V

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	34.65	34.3	33.95	33.6	33.25	32.9	32.55	32.2	31.85	31.5
Rt down (KΩ)	480.053	333.531	254.102	204.267	170.084	145.181	126.229	111.324	99.294	89.381
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	35.5	35.7	36.05	36.4	36.75	37.1	37.45	37.8	38.15	38.5
Rt up (KΩ)	1456	139.096	53.264	32.649	23.385	18.121	14.726	12.355	10.605	9.261

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.