

AC-DC SWITCHING POWER SUPPLY

ULTRA COMPACT, UP TO 1,000 WATTS

INDUSTRIAL APPLICATIONS

UIA1000 Series



FEATURES

- Ultra Compact: 7.66" x 4.02" x 1.62"
- Enclosed ITE Switching Power Supply
- Remote ON/OFF Function
- Standby 5V at 1A
- High Efficiency up to 93%
- With P.F.C. Function >0.9
- UL/IEC/EN 62368-1 Approved
- RoHS and REACH Compliant
- CE Mark



SELECTION GUIDE Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

Input Voltage Range Vac	Output Voltage Vdc	Output Current at Full Load mA	Ripple & Noise mV	Efficiency (at 230Vac) %	Model Number*	Maximum Capacitor Load µF
90-264	12	66.67	160	89	UIA1000-12S	7,000
90-264	24	41.67	240	92	UIA1000-24S	3,500
90-264	48	20.84	480	93	UIA1000-48S	1,750

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Input Specifications		Output Specifications	
Input voltage, Vac ⁽⁵⁾	90-264	Voltage accuracy, %	±2
Frequency, hZ	50/60	Voltage adj. range, %	±5
Input current, A	< 11 Max. (115 Vac) / < 5.5 Max. (230 Vac)	Line regulation, %	±0.5 115-264 Vac
Inrush current, A	< 70 Max. (115 Vac) / < 105 Max. (230 Vac)	Load regulation, %	±1 Typ. 10-100%
Leakage current, mA	< 0.1 Max.	Minimum load, %	1
Power factor, Vac	PF>0.9	Hold-up time, ms	5 Min. at 115Vac
	Full Load		
	<2ms, Cold Start		
	Input-Output		
	at 230Vac, Full Load		

General Specifications	
Over power protection	Auto recovery
Over voltage protection	Auto recovery
Over temperature protection	Auto recovery
Short circuit protection	Auto recovery
Input-output	4,000Vac or 5,656Vdc
Input-PE	2,000V
Output-PE	1,500V
5V standby	5VSB: 5V at 1A ; Tolerance 10%
DC OK signal (power good)	Turn ON: 3.7~5.7V ; Turn OFF: 0~1V
Remote control	+RC / -RC: Power ON=open ; Power OFF=short

Environmental Specifications	
Operating temperature, °C	With derating -20 Min. 70 Max.
Storage temperature, °C	-35 Min. 85 Max.
Temperature coefficient, %/°C	0~50°C ±0.03
	-30~0°C ±0.06
Altitude during operation, m	5,000
Humidity	95% RH
Atmospheric Pressure, kPa	56 Min. 106 Max.
Vibration	IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)
Shock	IEC60068-2-27

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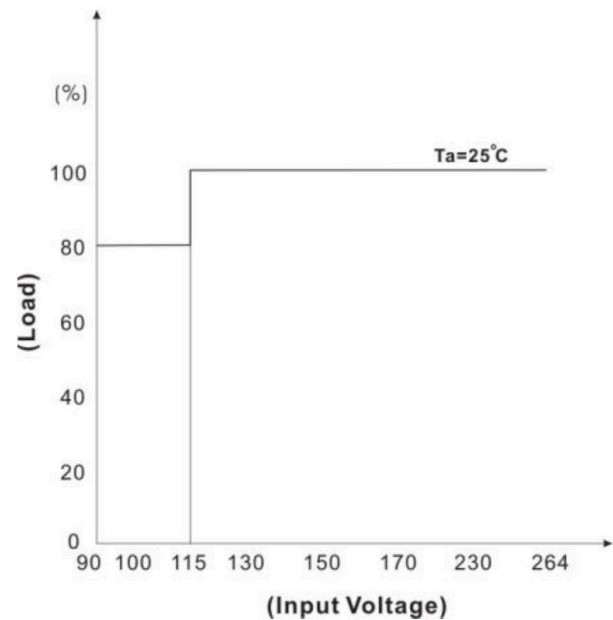
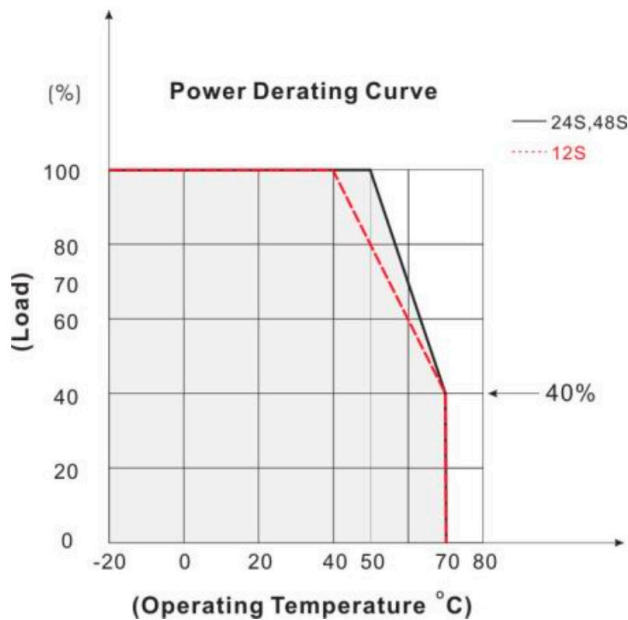
Physical Specifications	
Design meet safety standard	UL / IEC / EN 62368-1
Weight	950g (33.5oz)
Dimensions	7.66" x 4.02" x 1.62" (194.5 x 102.0 x 41.0 mm) Tolerance ±0.5 mm
MTBF	>100,000 h @ 25°C (MIL-HDBK-217F)

EMC Specifications		
Specifications	Conditions	Level
EMI	EN55032 Conducted	Class B
	EN55032 Radiated	Class A
EMS	EN55024	

Note:

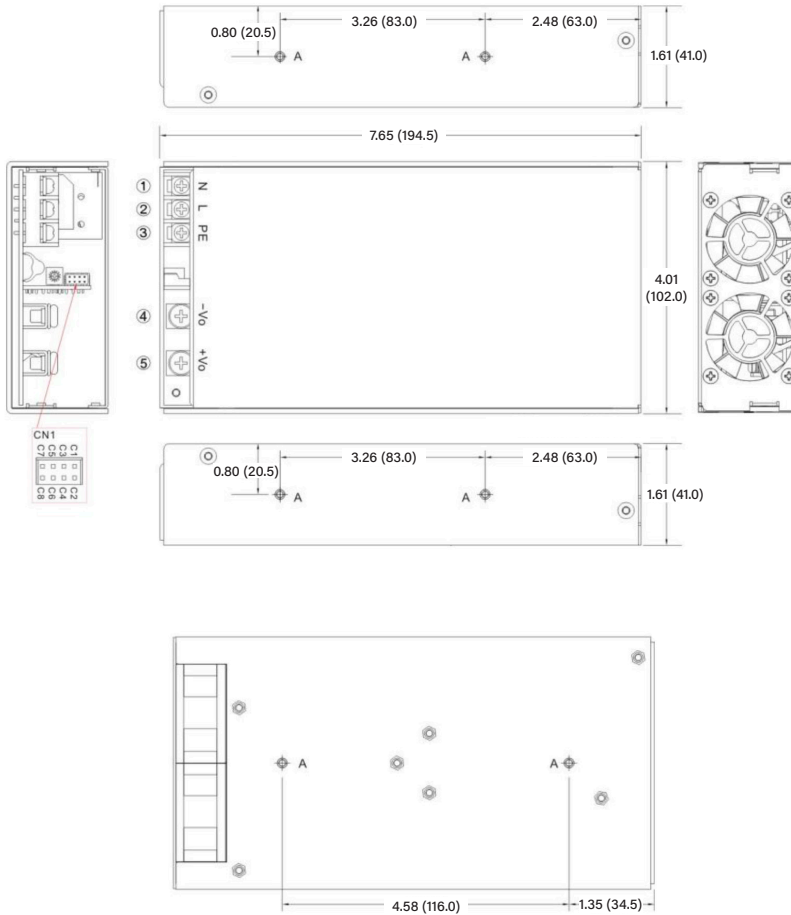
1. Ripple & Noise are measured at 20MHz of bandwidth by using a 6" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
2. Hold-up Time measured at 90% Vout.
3. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Polytron Power Supply.
4. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.
5. Please check the derating curve for more details.
6. For further information, please contact Polytron Devices.

Characteristic Curve



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Mechanical Drawing



PIN CONNECTION

PIN	SINGLE	
1	AC IN (N)	
2	AC IN (L)	DINKLE DT-49-B01W-03
3	PE	
4	-DC OUT	M5 Pan HD screw in 2 positions Torque to 8 lbs-in(90 cNm) max.
5	+DC OUT	

CONNECTOR PIN (CN1)

PIN	SINGLE	CHERNG WEEI		JST	
		MATING HOUSING	TERMINAL	MATING HOUSING	TERMINAL
C1	+S				
C2	-S				
C3	NC				
C4	-5V SB	PHD-H20-2X4P	PHD-T20	PHDR-08VS	SPHD-001T-P0.5
C5	GND / -RC				
C6	+RC				
C7	PG				
C8	+5V SB				

1. All dimensions in inches (mm)

2. Tolerance $\pm 0.5\text{mm}$

3. A=M3x0.5P x 6

4. Torque:3 0.5 Kgf.cm

FUNCTION DESCRIPTION OF CN1

PIN	FUNCTION	DESCRIPTION
C1	+S	Remote sensing (+)
C2	-S	Remote sensing (-)
C3	NC	
C4	-5V SB	This pin connects to the negative terminal(-V)
C5	GND / -RC	This pin connects to the negative terminal(-V). Return for DC-OK signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (GND / -RC), Short: Power OFF, Open: Power ON.
C7	+PG	DC-OK Signal is a DC output. (DC-OK)
C8	+5V SB	Stand by voltage output ground 4.4~5.5V, referenced to pin C4 or C5(GND). The maximum load current is 1A.

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Block Diagram

