General

SINPRO

EPU16E series

V3.4

15W External Power Supply for General Purpose

The EPU16E series of AC/DC switching mode power supplies provide 15 Watts of continuous output power. All models meet EN 55032, BS EN55032 class B and AS/NZS CISPR 32 class B emission Limits and are designed to comply with cTUVus and CE marking conformity assessment. All units pass burn-in test at full load condition.

APPROVALS:

FEATURES:

* Wide Operating Voltage 90 to 264 VAC,47 to 63 Hz
* A Stand And Mains AC Power Cord
* Optional Output Connector (See Page Appendix)
* Single Output
* Class I System
* CoC v5 (Tier2)
* 1-Year Warranty

APPLICATIONS:

* Ethernet Hub
* Portable Devices
* Charger
* Monitor
* Set-Top Box
* AV Equipment

GENERAL SPECIFICATION:

* **Short Circuit Protection**: Auto Recovery
* **Cooling**: Free Air Convection
* **Protection Classes**: Class I
* **Safety**: IEC 62368-1 Edition 2.0, IEC 62368-1 Edition 3.0, UL 62368-1, CAN/CSA-C22.2 NO. 62368-1, EN 62368-1

Electrical Characteristics:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Input Operate Voltage Range	Detail to See Fig.1	90		264	VAC
Input Frequency	Sine Wave	47		63	Hz
Output Power Range	See Rating Chart			15	W
Low Line Input Current	Full Load, Vin=100VAC		0.4		A
High Line Input Current	Full Load, Vin=240VAC		0.16		A
Low Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=100VAC	35		45	A
High Line Input Inrush Current	Full Load, 25°C, Cool Start, Vin=240VAC	70		90	A
Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.75	mA
Efficiency	Full Load, Vin=230VAC, Detail to See Rating Chart	See Rating Chart			
Line Regulation	Full Load, Vin=100~120VAC	0.5		1	%
Load Regulation	Vin=230VAC, 10~90% Load Change at Condition	3		7	%
Over Load Protection	Nil.But,Output Protected to Short Circuit Conditions				
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
Hold-Up Time	Full Load, Vin=100VAC	See Rating Chart			
Start-up time	Full Load, Vin=100~240VAC			2	s
Temperature Coefficient	Full load, Vin=100~240VAC			±0.04	%/°C
Dielectric Withstanding Voltage (P-S)	Primary to Secondary			4242	VDC
Dielectric Withstanding Voltage (P-G)	Primary to PE			2121	VDC
EMC Emission	Compliance to EN55032 (CISPR32)			B	Class

Environmental:

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	Detail to See Fig.2 (Derate Linearly from 100% Load at 40°C to 50% Load at 70°C)	0		70	°C
Storage Temperature	10 ~ 95% RH	-40		85	°C
Operating Humidity	Non-Condensing	0		95%	RH
Storage Humidity		0		95%	RH
Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
Operating Altitude (Elevation)	All Condition			2000	m
Vibration	10 ~ 500Hz, 10min./1Cycle, 60min. Each Along X, Y, Z Axes			5	G
Surge Voltage	Line-Neutral			1	kV
Surge Voltage	Line-PE & Neutral-PE			2	kV

2024.04

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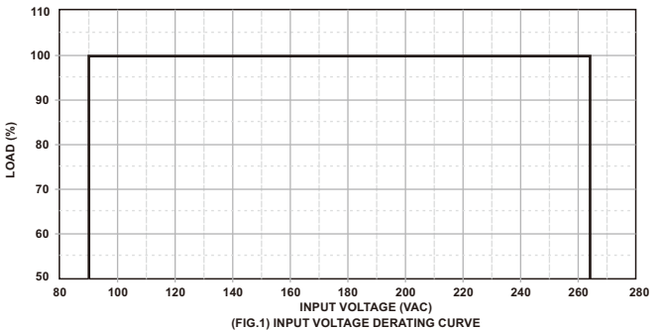
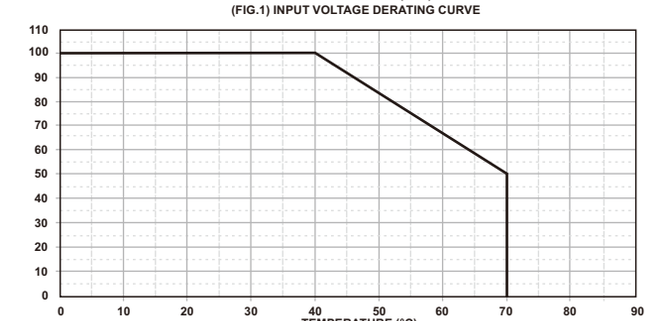
SPECIFICATION NOTE :

1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing ±10% of input voltage from nominal line at rated load.
4. Load regulation is defined by changing ±40% of measured output load from 60% rated load.
5. The ripple is measured from peak to peak with a bandwidth-limit of 20MHz (Measured at the output connector with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor).
6. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
7. Efficiency is measured at rated load, and nominal line.

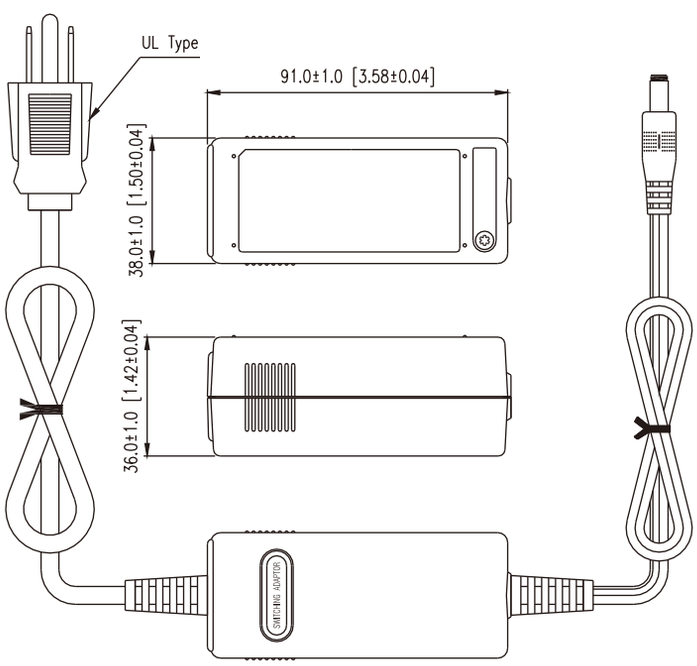


(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

MECHANICAL DIMENSIONS: (UNIT: mm [inch])



OUTPUT CABLE RECOMMEND :

1. Selected output connectors and wire, please refer to Appendix.
2. EPU16E-102~104 are required to use AWG#16/4FT output cable.
3. EPU16E-105~108 are required to use AWG#18/4FT output cable.
4. EPU16E-109~111 are required to use AWG#20/4FT output cable.
5. EPU16E-111 output cable must with core.
6. The regulation and efficiency will be changed by modified output cable.

PACKING :

1. Net weight: 165g approx.
2. Optional output connectors available contact sales for details.

Rating Chart:

MODEL NO.	Setting Voltage Range (Factory setting, can't be adjusted)		Output Current (Based on the output volt.)		Maximum Output Power	Ripple & Noise	Total Regulation	Typ. Efficiency	Typ. No Load Consumption	Hold-Up Time	Protection Mode
	min	max	min	max							
	(VDC)	(VDC)	(A)	(A)	(W)	(mVp-p)	(%)	(%)	(W)	(ms)	
*EPU16E-102	5.0	5.99	2.00	2.50	12	200	±5	80.3	0.075	8	Hiccup
*EPU16E-103	6.5	8.0	1.50	1.84	12	200	±5	83.3	0.075	8	Hiccup
*EPU16E-104	8.0	11.0	1.36	1.87	15	200	±5	84.5	0.075	8	Hiccup
EPU16E-105	11.0	13.0	1.15	1.36	15	200	±5	84.5	0.075	8	Hiccup
*EPU16E-106	13.0	16.0	0.94	1.15	15	200	±5	84.5	0.075	8	Hiccup
*EPU16E-107	16.0	21.0	0.72	0.94	15	200	±5	84.5	0.075	8	Hiccup
EPU16E-108	21.0	27.0	0.55	0.72	15	240	±5	85	0.075	8	Hiccup
*EPU16E-109	27.0	33.0	0.45	0.55	15	320	±5	85	0.075	8	Hiccup
*EPU16E-110	33.0	40.0	0.37	0.45	15	460	±3	85.5	0.075	8	Hiccup
*EPU16E-111	40.0	48.0	0.31	0.37	15	600	±3	86	0.075	8	Hiccup

[*] =MOQ is required. Please contact sales.

PSE: Only for models with output voltage below 15VDC.