

240 Watt USB C Power Delivery 3.1 Desktop Adapter

FEATURES

- Class I Design
- Maximum Power Available from USB C Power Delivery 3.1
- High Efficiency Performance
- Class B EMI
- Short Circuit, Over-Voltage, Over-Temperature, & Over-Current Protections
- 5,000 Meters Operating Altitude



APPLICATIONS

- Portable Equipment
- Consumer Electronics

Maximum Power! Phihong's AA240U-59FKEA-R desktop adapter delivers up to the maximum 240W of power available from USB C Power Delivery 3.1 in a splash-proof case measuring just 5.98 inches x 2.98 inches x 1.03 inches. It features an IEC 320 C14 inlet that accepts power cords worldwide and is terminated with a meter long output cable with a USB C plug at the end. The adapter complies class B emissions limits and operates at altitudes up to 5,000 meters, making it the ultimate choice to fast charge portable equipment, ultra-books and other consumer electronics.

Model	Adaptive Output Voltages	Max. Output Current	Output Power	Power Rating	Output Regulation ¹	Ripple & Noise ^{2,3} (P-P)	Average Efficiency ^{3,4,5}	230Vac 10% Load Efficiency ^{3,5}
AA240U-59FKEA-R	5.0V	3.0A	15.0W	240.0W	±5%	≤200mV	≥81.84%	≥72.48%
	9.0V	3.0A	27.0W				≥87.30%	≥77.30%
	15.0V	3.0A	45.0W				≥88.85%	≥78.85%
	20.0V	5.0A	100.0W				≥89.0%	≥79.0%
	28.0V	5.0A	140.0W			≤300mV	≥89.0%	≥79.0%
	36.0V	5.0A	180.0W				≥89.0%	≥79.0%
	48.0V	5.0A	240.0W				≥89.0%	≥79.0%
	PPS 5~21V ⁶	5.0A	105.0W				≥89.0%	≥79.0%
	AVS 15~48V ⁷	5.0A	240.0W				≥89.0%	≥79.0%

Notes	<ol style="list-style-type: none"> 1. All specifications defined are at ambient temperature of 25°C, unless otherwise specified. 2. Measured at 20 MHz and output by-passed at connector with 0.1uF ceramic capacitor & 10uF low ESR electrolytic capacitor. Tested at end of a 100mΩ USB C cable. 3. Tested at end of a 100mΩ USB C cable. 4. Tested at 100%, 75%, 50%, and 25% of rated output current and then arithmetic average of four computed. 5. Efficiency at 115Vac input & 230Vac input measured after 30 minutes burn-in. 6. 20mV/Step, 50mA/Step 7. 100mV/50mA
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Specifications¹

Input

AC Voltage Range	90Vac to 264Vac
Frequency	47 to 63Hz
Input Current	3.5A (rms) max. @ 100Vac & full load
Leakage Current	250 μ A max.
No Load Power Consumption	\leq 0.15W

Output

Turn-on Delay Time	\leq 3Sec. at 100Vac & full load
Hold Up Time	8.3mS at full load (100Vac/60Hz)
Rise Time	\leq 275mS at full load & 100Vac/60Hz (with 5V/9V/15V/20V, CR Mode Test) \leq 700mS at full load & 100Vac/60Hz (with 28V/36V/48V, CR Mode Test)
Transient Load Step Response⁸	Output Voltage within \pm 10%
Surge Load⁹	Adapter shall output at least 43.2V at 100Vac/60Hz

Protections

Over Current	3.9A max. for 5V/9V/15V with auto-recovery 6.5A max. for 20V/28V/36V/48V with auto-recovery
Over Voltage	130% max., auto-recovery
Short Circuit	Output can be shorted without damage. Auto-recovery.
Over Temperature	Auto-recovery. No damage.

Environmental

Operating Temperature	0°C to +35°C
Operating Humidity	20% to 95% relative humidity
Storage Temperature	-40°C to +85°C
Storage Humidity	5% to 95% relative humidity
Operating Altitude	5000 meters

Safety, Emissions & Immunities

Harmonic Current Emission	EN 61000-3-2		
Voltage Fluctuations & Flicker	EN 61000-3-3		
Safety Standards	UL & IEC 62368-1		
Emissions	FCC Part 15 class B and EN 55032 class B conducted & radiated		
Immunities	EN 55035		
	ESD	EN 61000-4-2	<ul style="list-style-type: none"> Contact discharge: \pm4kV Criterion A Air discharge: \pm8kV Criterion A Contact discharge: \pm8kV Criterion C Air Discharge: \pm15kV Criterion C
	Radiated Immunity	EN 61000-4-3	0-1000MHz, 3V/m, 80%AM (1KHz), Criterion A
	Electrical Fast Transient	EN 61000-4-4	1kV, 5/50 Tr/Th ns, 100kHz, Criterion A
	Surge	EN 61000-4-5	Line to Line: 1kV Criterion A Line to PG: 2kV Criterion A
	Conducted Disturbances	EN 61000-4-6	0.15-80MHz, 3V, 80% AM (1KHz), Criterion A
	Magnetic Field Immunity	EN 61000-4-8 (MS)	50 or 60Hz, 1A/m (rms), Criterion A
Voltage Dips & Interruptions	EN 61000-4-11 (DIP)	Criterion B	
Hi-POT Test	Pri. to Sec. 3000Vac \leq 10mA for 1 minute		
Insulation Resistance	Pri. to Sec. > 200M Ω 1000Vdc		

Specifications¹
Mechanicals

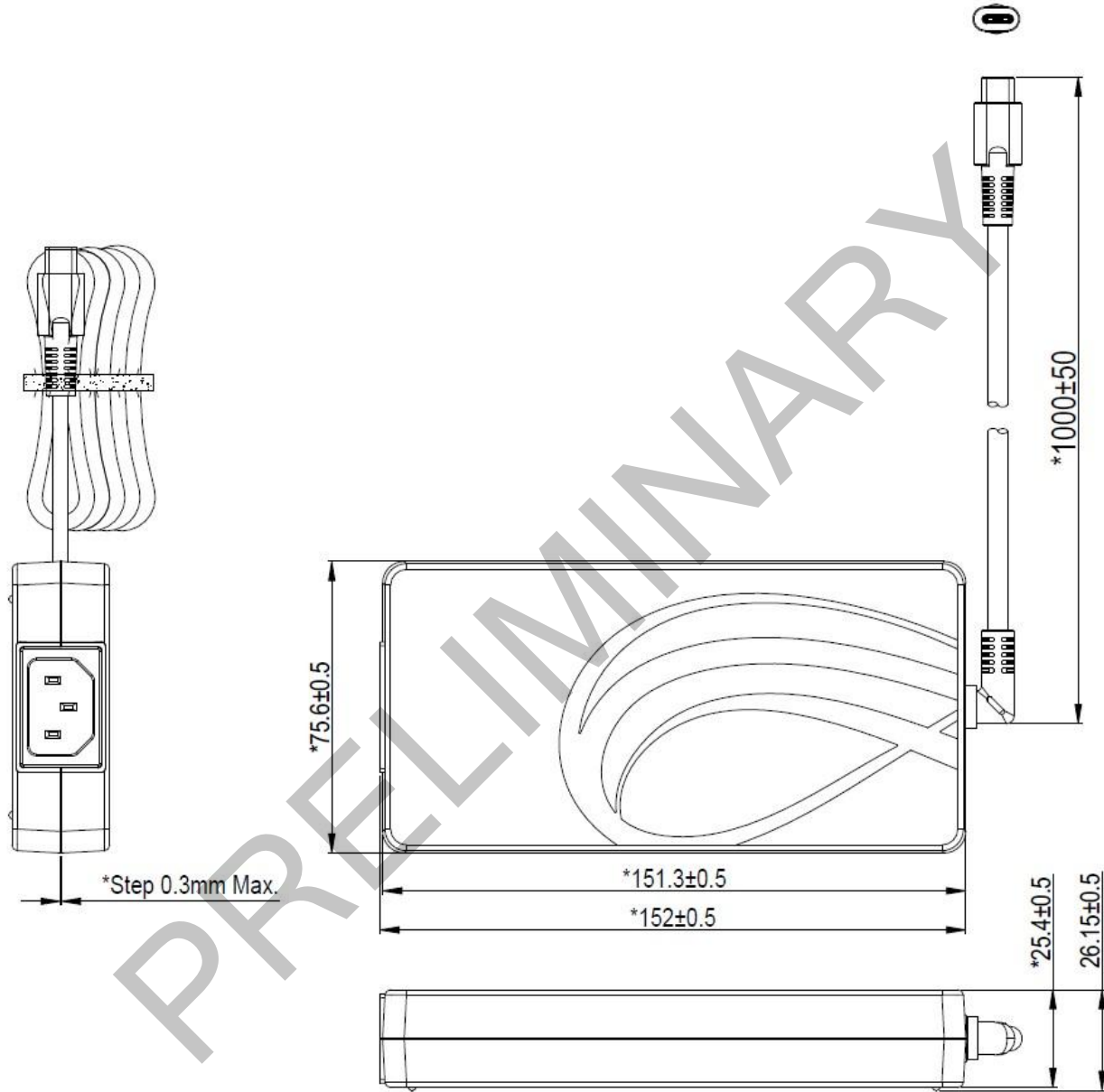
Dimensions (L x W x H)	152mm (5.98in) x 75.6mm (2.98in) x 26.15mm (1.03in)
AC Input	IEC 320 C14 Inlet
DC Output Cable	1,000mm with USB C plug

Notes	<ol style="list-style-type: none"> 1. All specifications defined are at ambient temperature of 25°C, unless otherwise specified. 8. Input = 100Vac/240Vac; Load = 0 – 50% & 50 – 100%, 1kHz, 50% duty; 1A/μs Slew Rate. 9. Peak current equals 150% loc for 1mS @ 5% duty cycle (low current equals 97% loc for 19mS; peak current equals 125% loc for 2mS @ 10% duty cycle; and, peak current equals 110% loc for 10mS @ 50% duty cycle (low current equals 90% loc for 10mS)
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PRELIMINARY

Specifications¹

Mechanical Outline Drawing





Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information

MODEL

AA240U-59FKEA-R

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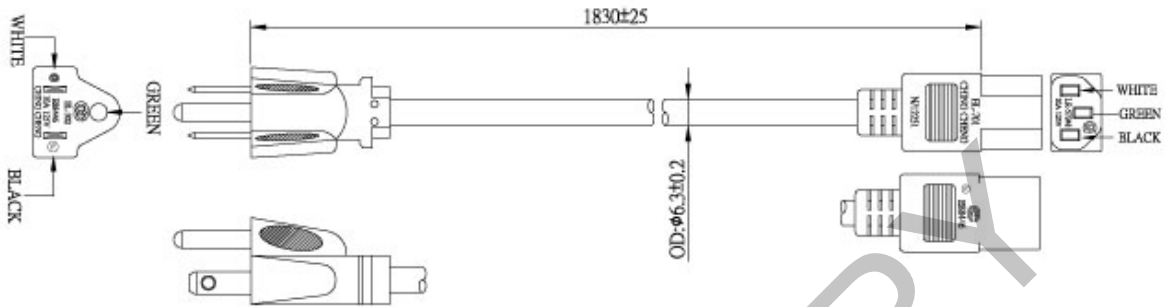
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Sold Separately

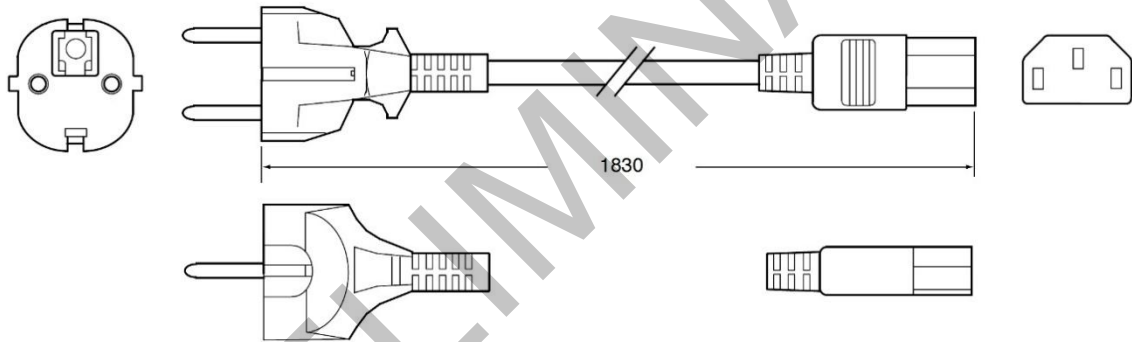
Model		AC30UNA-R	AC30UEU-R	AC30UUK-R
Specifications	Plug Type	North America NEMA 5-15P	Continental Europe CEE 7VIII	United Kingdom BS 1363
	Connector	IEC320 C13	IEC320 C13	IEC320 C13
	Wire Size	18 AWG	0.75mm	1.0mm
	Temperature	60°C	60°C	70 °C
	Amperage Rating	10A	6A	10A
	Voltage Rating	125V	250V	250V
	Cable Length	1830mm	1830mm	2500mm
Safety Approvals		CSA; UL	CEBEC; DEMKO; DVE; FIMKO; GOST; IMQ; KEMA; NEMKO; NF; OVE; SEMKO	BSI; Safety Mark
Photos				

Outline Drawing

AC30UNA-R



AC30UEU-R



AC30UUK-R

