

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 | | | | | |
| | AVS 15~48V ⁷ | 5.0A | 240.0W | | | | | |

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| Notes | <p>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.</p> <p>3. Tested at end of a 100mΩ USB C cable.</p> <p>4. Tested at 100%, 75%, 50%, and 25% of rated output current and then arithmetic average of four computed.</p> <p>5. Efficiency at 115Vac input & 230Vac input measured after 30 minutes burn-in.</p> <p>6. 20mV/Step, 50mA/Step</p> <p>7. 100mV/50mA</p> |
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Specifications¹

Input

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|----------------------------------|--------------------------------------|
| 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 75mW |

Output

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|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

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|-------------------------|------------------------------------------------------------------------------------------------|
| 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

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|------------------------------|------------------------------|
| 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

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|-------------------------------------------|---------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 | • Contact discharge: \pm 4kV Criterion A • Air discharge: \pm 8kV Criterion A • Contact discharge: \pm 8kV Criterion C • Air Discharge: \pm 15kV 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 | | |

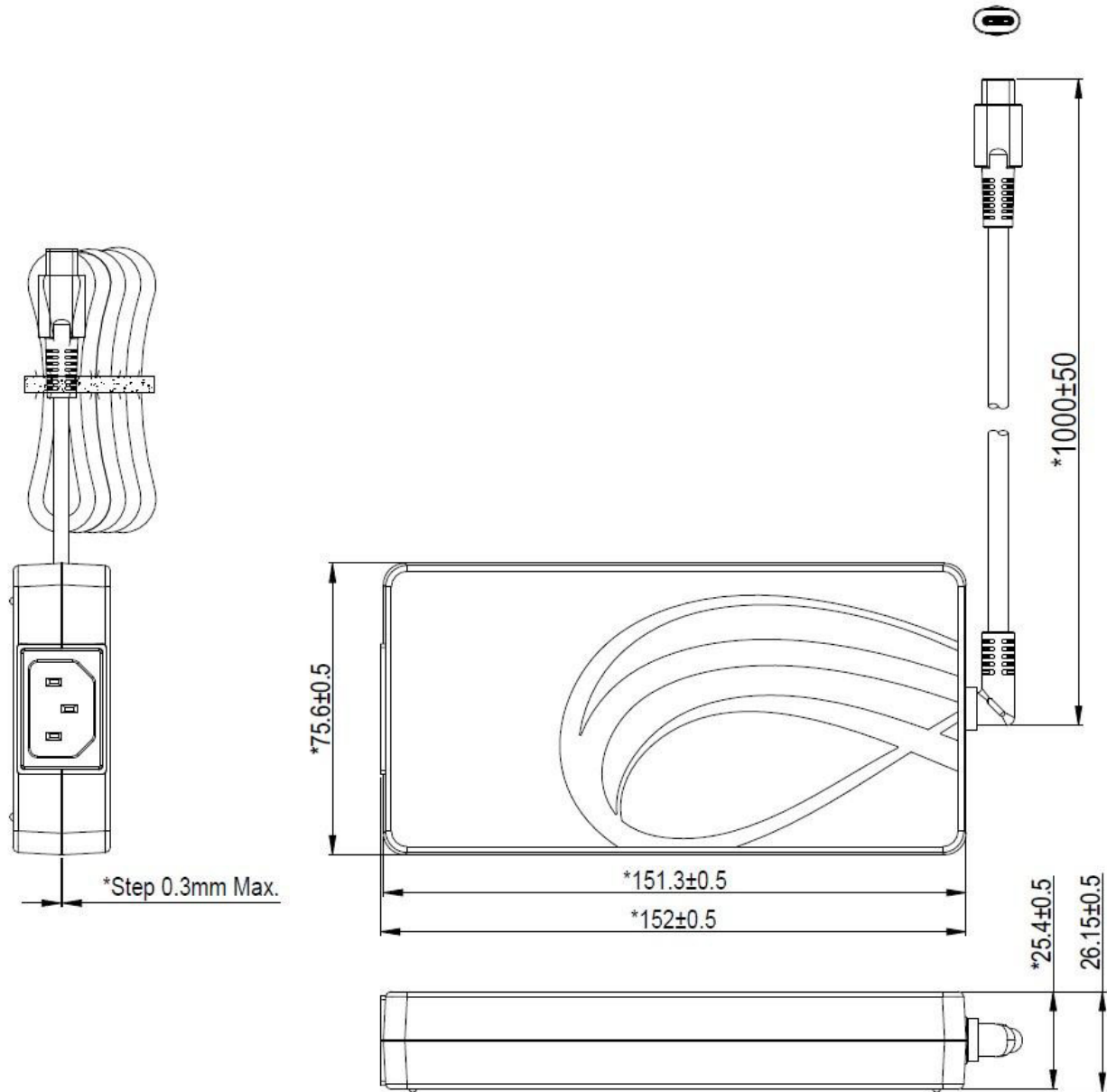
Specifications¹**Mechanicals**

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|-------------------------------|-----------------------------------------------------|
| 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 |

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| Notes | <p>1. All specifications defined are at ambient temperature of 25°C, unless otherwise specified.</p> <p>8. Input = 100Vac/240Vac; Load = 0 – 50% & 50 – 100%, 1kHz, 50% duty; 1A/μs Slew Rate.</p> <p>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)</p> |
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Specifications¹

Mechanical Outline Drawing








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

MODEL
AA240U-59FKEA-R

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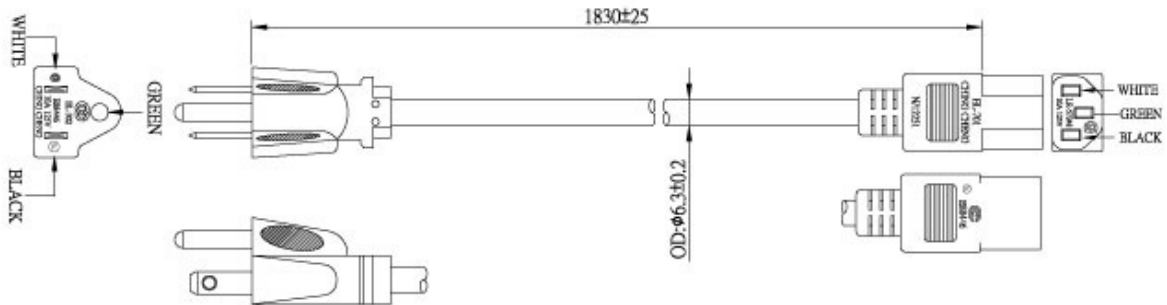
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Sold Separately

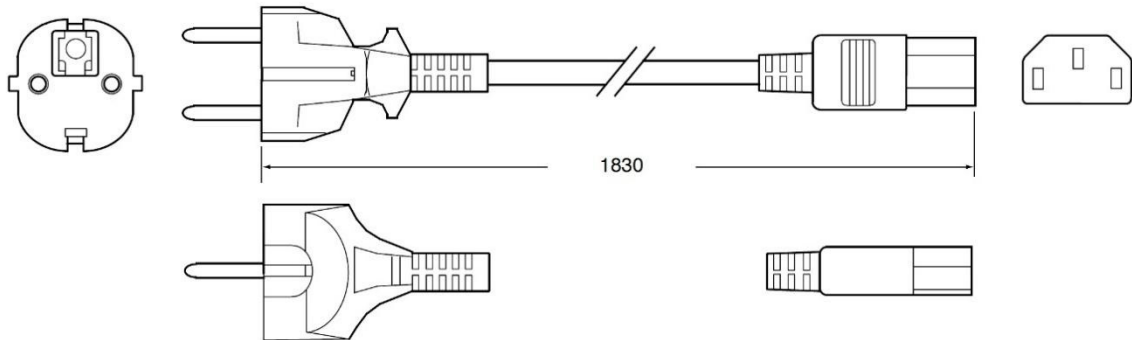
| Model | | AC30UNA-R | AC30UEU-R | AC30UUK-R |
|------------------|-----------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 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

