

■ Features

- Single output to 45W
- 100-240Vac Universal input
- Frequency: 50/60Hz
- OVP, OCP, OTP, and short circuit protection
- Efficiency: level VI
- QC3.0: Quick Charge 3rd edition
- PD3.0: Power Delivery 3rd edition
- USB-C output connector
- Flipping A/C input plug US Model only
- Fixed EU, AU, UK Input Plug
- Dimensions: 66x36x32mm Excluding plug



*Product images are for illustrative purposes only and may vary from actual design.

■ Applications

- Personal electronic devices

■ Model List*(See part number scheme for model number details)

Only USB-C Model

Model	Output Voltage	Output Current	Power	Ripple & Noise
W4M045-PD3-X-USBA	3.3-11V	3A	45W	120mVp-p
	5V	3A	45W	120mVp-p
	9V	3A	45W	120mVp-p
	12V	3A	45W	120mVp-p
	15V	2A	45W	120mVp-p
	20V	2.25A	45W	120mVp-p

Only USB-A Model

Model	Output Voltage	Output Current	Power	Ripple & Noise
W4M045-PD3-X-USBA	5V	3A	45W	120mVp-p
	9V	3A	45W	120mVp-p
	12V	3A	45W	120mVp-p
	20V	2.25A	45W	120mVp-p

USB-A + USB-C Model

Model	Output Voltage	Output Current	Power	Ripple & Noise
W4M045-PD3-X-USBA	5V	3A	45W	120mVp-p

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (test under the condition of rated input and rated output)

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■ **Technical Data**

Input voltage range	90-264Vac
Frequency range	47-63Hz
Input AC Current	1.5Amax. @ 100-240Vac input & Full load
Inrush Current (cold start)	Peak inrush current shall be limited to 100A for a cold start at 240Vac at 25!C ambient and full load.
Averaged Efficiency	5V 3A: 76.41% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load) 9V 3A:80.82% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load) 12V 3A:82.98% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load) 15V 2A: 84.65% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load) 20V 1.5A:84.65% min. @115V/230Vac input (@25%, 50%, 75% and 100% of max load)
Energy Consumption	Input Voltage115Vac 60Hz/230Vac 50Hz , Energy Consumption!0.3W
Protection	The supply shall be subjected to the following tests while under maximum rated load. No component damage is permitted. Brownout: 100 Vac 50 Hz to 0 Vac @ 50 Hz in 1 volt decrements in 30s. Brownout recovery: 0 vac 50 Hz to 100 Vac @ 50 Hz in 1 volt increments in 30s. After completion of the test, power will be reapplied within the rated line voltage ranges and normal operation is expected.
Line Regulation	±3%
Load Regulation	±5%
Turn - on Delay Time	3S max. @ 100-240Vac input & Full load
Hold-up Time	10mS min. @ Full load &115Vac/60Hz input turn off at worst case 20mS min. @ Full load &230Vac/50Hz input turn off at worst case
Rise Time	30mS max. @ Rated load
Fall Time	30mS max. @ Full load
Output Overshoot / Undershoot	10% max. When the power is on or off, when it is the full input voltage and full load
Dynamic load change response	The output voltage shall stay within +/-5% of the nominal output voltage while the output load is stepped from 10% to 100% of the rated load. The nominal voltage must be recover in 10ms after overshoot.
Dynamic Response	The power supply output voltage shall not undershoot or overshoot beyond the specified limits +/-5% after applying load changes from 25% to 75% load and back to 25% load with a 40A/msec ramp rate on the output. The load change will be applied with a 50% duty cycle.
Over Current Protection	The output shall hiccup when the currents applied to the output rail exceed ~115-120%, and shall self-recover when the fault condition is removed
Short Circuit Protection	The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed
Over Voltage Protection	The output shall hiccup when the voltage applied to the output rail exceed ~115-120%, and shall self-recover when the fault condition is removed
Operating Temperature	-10°C to +35°C

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■ Technical Data(cont.)

Operating Humidity	35%RH to 85%RH
Storage Temperature	-20°C to +80°C
Storage Humidity	5%RH to 95%RH
Vibration	10 to 300Hz sweep at a constant acceleration of 1.0G(Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z
Drop in	Height: 1m; the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility. Apply one times on all surfaces, total 6 times. The electric performance and Hi-Pot test must be OK after the drop tests.
Burn-in	The power supply shall be burn-in for 4 Hours under normal input and 100% rated load at 40°C ± 5°C
MTBF Qualification	The MTBF shall be at least 50,000hours at 25°C , Full load and nominal input condition
E-cap Lifetime	<p>The life estimation of capacitor must be over 3 years at 25°, 80% load @ 115Vac/60Hz and 230Vac/50Hz Input.</p> <p>*Standard: Life Time=$L_r \cdot 2^{(T_o - T_x)/10} \cdot 2^{(\Delta T_o - \Delta T)/5}$</p> <p>$(\Delta T_o - \Delta T)/5 = 1 - [I_a / (I_s \cdot T_f \cdot F_f)]^2$</p> <p>Note-3 CE Capacitor Life time ΔT_o: Self Heat Coefficient (85°C =10, 106°C = 5)</p> <p>Lr: Capacitor Life Spec Ia: Measured Ripple Current T o: Capacitor Temp Spec Is: Ripple Current spec Tx: Capacitor case Temp Ff: Frequency Factor</p>

■ Safety Standards

EMI Standards	EN55035, EN55032
EMS Standards	<p>EN 61000-4-2,electrostatic discharge(ESD) requirement, Air discharge: ±8KV; Contact discharge:±4KV, Test Criteria A</p> <p>EN 61000-4-3, radiated electromagnetic field susceptibility(rs), 3V/m (r.m.s) 80-1000MHz,80%AM(1KHz) sine-wave, Test Criteria A</p> <p>EN 61000-4-4,electric fast transients(burst) immunity requirement, Coupling AC-input 0.5KV Test Criteria A; Coupling AC-Input 1 KV Test Criteria B</p> <p>EN 61000-4-5,surge capability requirement, Common mode ±2KV, Differential mode ±1KV, Test Criteria A</p> <p>EN 61000-4-6, Induced radio frequency fields conducted disturbances immunity requirement, 3V 0.15-80MHz, 80% AM(1KHz), Test Criteria A</p>
Assessment criteria	<p>Acceptance criteria A: Agreed operational behavior within the specified limits</p> <p>Acceptance criteria B: Time limited functional diminishment or malfunction during the tests is permitted. The function is self-reactivated by the unit following completion of the tests.</p> <p>Acceptance criteria C: Malfunction is permitted .The function can be reactivated either by reconnection to the mains or by operator intervention.</p>
Dielectric Strength(Hi-pot)	<p>Primary to Secondary: 3000Vac / 10mAMax / 60 second</p> <p>Primary to Secondary: 3300Vac / 5mAMax /3S</p>
Leakage Current	0.25mAMax. at 264Vac / 60Hz

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■ Safety Standards(cont.)

Insulation Resistance

100M# min. at primary to secondary add 500Vdc test voltage

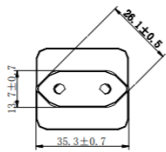
Regulatory Standards

CE Europe EN62368-1

Disclaimer:

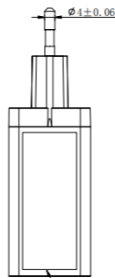
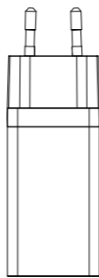
Autec Power Systems' (Autec) Power Supplies are Hi-Pot tested during the manufacturing process. Autec assumes no responsibility for secondary Hi-Pot testing at customer location or designated production line(s). Should customer require further Hi-Pot testing, at their own production line, following assembly of the Power Supply into the customer's assembled fixture, Autec requests advance notice. This request must be communicated to Autec in a timely manner and is recommended to be requested at time of issuing each purchase order.

■ Mechanical Diagram

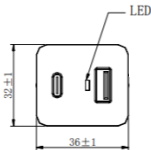


EU AC Plug Shown

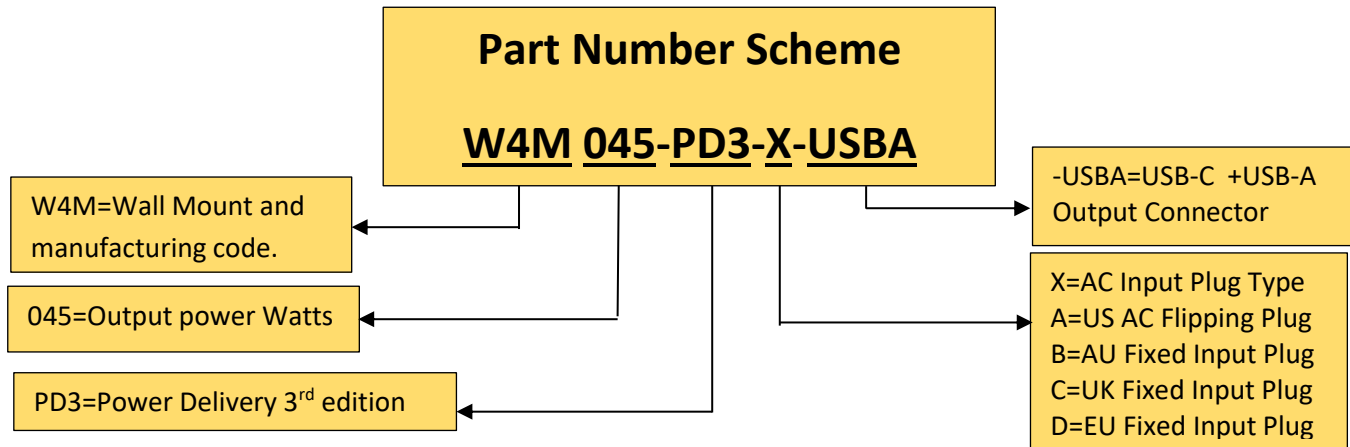
For all other designs contact Autec Sales!



The nameplate is laser engraved,
but the frame can't laser!



Unit:mm
Other Tolerance: ± 0.5



***Product images are for illustrative purposes only and may vary from actual design.**

***Specifications are subject to change without notice. Autec is not responsible for issues arising from errors or omissions.**