

AC/DC INDUSTRIAL POWER SUPPLY-250W



Power Supplies

516xx SERIES



MAIN FEATURES:

- 250W Small Compact Size
- Built-in Active PFC Function:>0.95
- Regulated Output Range: 12VDC-48VDC
- Input Range: 85VAC – 305VAC/47 – 63Hz or 120VDC – 430VDC
- Very Low Standby Power Consumption $\leq 0.3W$
- High Energetic Efficiency: Meets the requirements of Energy Star and the EC Code of Conduct
- Safety : Meets IEC/EN61558-2-16, IEC/EN60335-1, IEC/EN62368-1, UL62368-1, CSA C22.2NO.62368-1-14, CE, UKCA
- EMC: Conducted and Radiated Emission conform to EN55032, FCC Part 15, CLASS B, EN/IEC61000-3-2 CLASS C
- Immunity conforms to EN61000-4-2, EN/IEC61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

DATA SHEET



Part No.	Power Rating Watts	Output Voltage (VDC)	Rated Output Current (A)	Output Voltage Range-ADJ(Vdc)	Ambient Temp. (°C)	Efficiency Typical	Input Range
51603	250	12	20.8	11.40 ~ 13.80	-25°C ~ +70°C	>91%@230VAC	85 ~ 305VAC (120-430VDC)
51604	250	15	16.7	14.25 ~ 18.50	-25°C ~ +70°C	>91%@230VAC	
51605	250	18	13.9	17.50 ~ 20.50	-25°C ~ +70°C	>91%@230VAC	
51606	250	24	10.4	22.80 ~ 28.80	-25°C ~ +70°C	>92%@230VAC	
51607	250	36	6.9	34.20 ~ 39.60	-25°C ~ +70°C	>92%@230VAC	
51608	250	48	5.2	43.20 ~ 52.80	-25°C ~ +70°C	>92%@230VAC	

NOTE : Other output voltage are available upon request.

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Model : 250 Watt		Specifications
AC Input Characteristics	Rated Input Voltage	100~277 VAC or 140VDC-390VDC
	Input Voltage Range	85~305VAC or 120VDC-430VDC
	AC Input Frequency Range	47Hz~63Hz
	Rated AC Input Frequency	50/60Hz
	Input Current	3.0A Max.
	Input Inrush Current	65A Max. @277VAC input, cold start, full load
	Standby Power	0.3W Max. (Meets the Requirements of Energy Star and the EC Code Of Conduct)
	Power Factor	>0.95@230V input at full load
	Leakage Current	<0.75mA/305VAC
DC Output Characteristics	Output Voltage Accuracy	±2% (Output Voltage ADJ Range See table)
	Output Voltage Line Regulation	± 0.5%
	Output Voltage Load Regulation	± 1%
	Ripple & Noise	Max. 180mVp-p@ Rated AC input, at nominal line (The measuring will be terminated with a 47µF AL E-Cap and a 0.1µF Ceramic-Cap. An oscilloscope set at 20MHz bandwidth)
	Dynamic Response	The output voltage shall not exceed ± 10% rated output voltage @ 50% ~ 90 % Load change, 1A/µS, 1KHz 50% duty cycle
	Hold Up Time	5mS min.@ 100 VAC~277VAC, DC output with full load
	Turn On Delay	3S max. @ 85VAC~305VAC input and DC output with full load
	Rise Time	50ms max. @ 85VAC~305VAC input and DC output with full load
	Overshoot	The output voltage shall not exceed +10% rated output voltage @ Power on and 85VAC~305VAC input, and DC with full load
	Undershoot	The output voltage shall not exceed -10% rated output voltage @ Power off and 85VAC~305VAC input and DC output with full load

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	Efficiency	See table (Meets the requirements of Energy Star and the EC Code of Conduct)
Protection Characteristics	Over Current Protection	The power supply shall automatic protection. The power supply shall auto-recovery normal operations after the deformation is removed. No excessive heat, odour, no safety hazard
	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours; The short may be applied before power on, or after power on; The power supply shall resume normal operation after the short is removed, no excessive heat, odour, no safety hazard.
	Over temperature protection	The power supply is built thermal protection function and can be shut down(hiccup mode) when NTC thermistor's body temperature reach approx.110°C@ power supply operating ambient temperature approx.+80°C ±10°C @ at the DC output with full load. The power supply shall auto-recovery normal operation, it is subject to the shut-down is long enough to allow the thermal detection is down to auto reset.
	Over voltage protection	Protection type: shut down O/P voltage and re-power on to recover.
Environmental	Operation Temperature	-25°C~+70°C (Refer to« DERATING GRAPH »)
	Operation Humidity	10~90% RH (No Condensing) @ full load
	Storage Temperature	-40°C~ +85°C (Recommended +5°C~ +35°C)
	Storage Humidity	5%~95% (Recommended <75%RH)
	Cooling Method	Ordinary or thermostat
Safety & EMC Requirement	Dielectric Strength	Input to Output : 3750VAC 5mA, 3 sec. Input to GND: 2000VAC 10mA, 3 sec. Output to GND: 1250VAC 10mA, 3 sec
	Insulation Resistance	100MΩ max @500Vdc
	Radiation	Meets EN55032, FCC part 15 Class B. under 3dB margin
	Conduction	Meets EN55032, FCC part 15 Class B. under 3dB margin
	Harmonic Current Distance	Meets EN/IEC61000-3-2:2019, Class C

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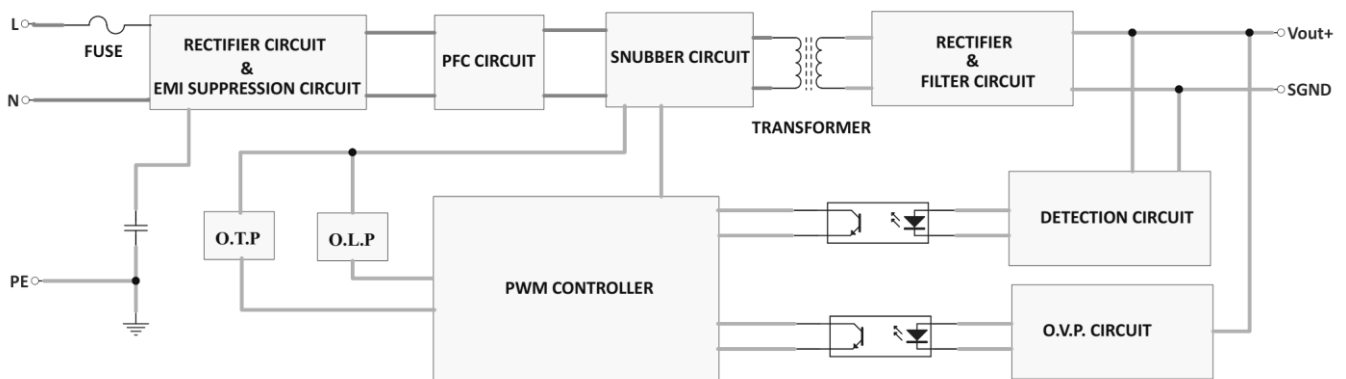
Safety & EMC Requirements	Voltage Fluctuation and Flicker	Meets EN61000-3-3:2013
	Electrostatic Discharge	Meets EN61000-4-2 : 2009, Contact Discharge $\pm 6\text{KV}$, Air Discharges $\pm 8\text{KV}$
	RF Field Strength Susceptibility	Meets EN/IEC61000-4-3:2019, 10V/m
	Electrical Fast Transient	Meets EN61000-4-4:2012, $\pm 4\text{KV}$
	Lightning Surge	Meets EN61000-4-5:2014, $\pm 6\text{KV}$ common mode, $\pm 4\text{KV}$ diff.mode
	Conducted Susceptibility	Meets EN61000-4-6:2014, 10Vr.m.s
	Power Frequency Magnetic Field Susceptibility Test	Meeting EN61000-4-8:2010, 30A/m
	Voltage Dips and interruptions	Meets EN61000-4-11:2004, 0%,70%
	Safety Standards	Meets all requirements of : UL62368-1, CSA C22.2 NO.62368-1-14 IEC/EC62368-1 IEC/EN60335-1 IEC/EN61558-2-16 CE,UKCA
Reliability Requirement	MTBF	>200K Hours @230VAC input at 50deg.C; >450K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2
	Burn-in-Test	The unit shall be burned in 2~5hours under 230VAC input and DC with full load at and ambient temperature of 30~45 degrees C
Mechanical	Physical size	The units dimension is : (L)215*(W)115*(H)30mm ($\pm 1\text{mm}$) (see appearance drawing)
	Net Weight	Approximately 295 grams per product unit
Guarantee	This product is in accordance with the European RoHS & REACH directives	

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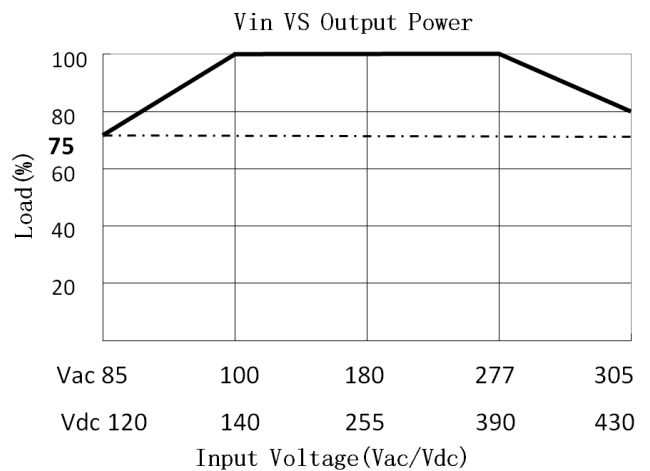
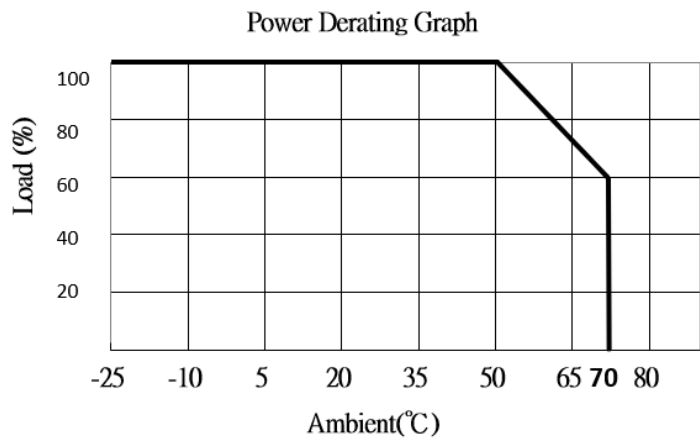


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SCHEMATIC



DERATING GRAPH



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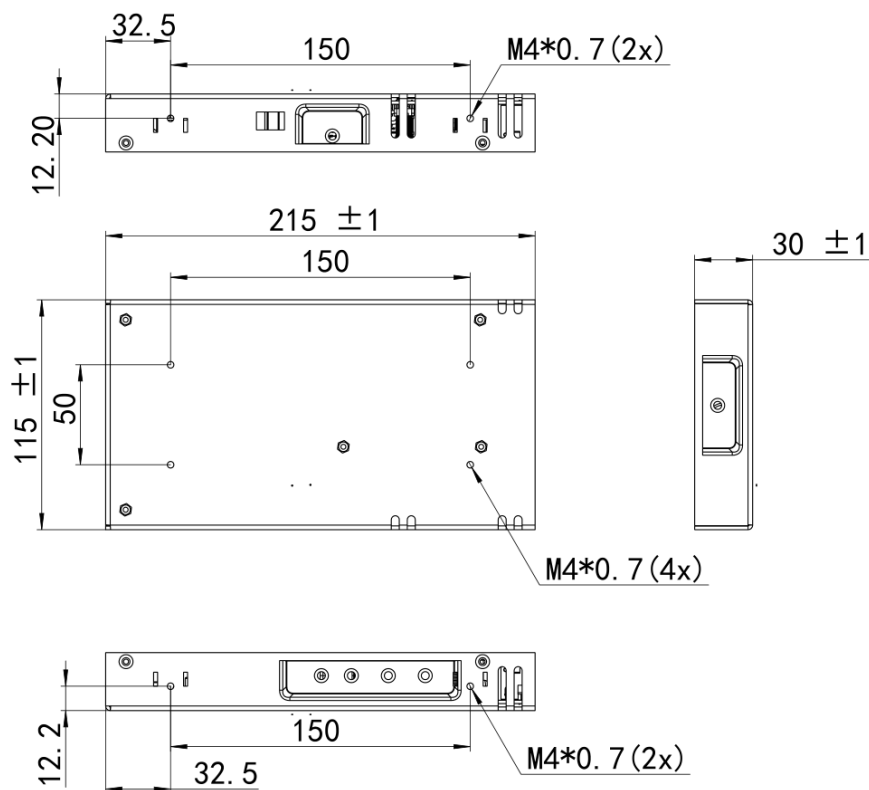
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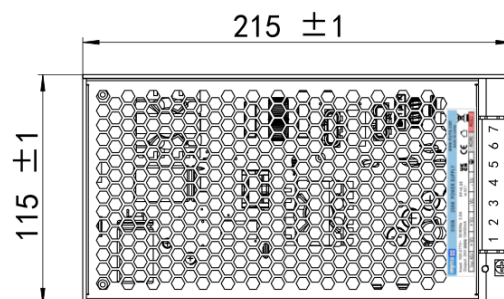


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DIMENSIONS



Terminal Pin NO. Function			
Pin	Function	Pin	Function
1	DC Output +V	5	⊕
2	DC Output +V	6	AC(N)
3	DC Output -V	7	AC(L)
4	DC Output -V		



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