

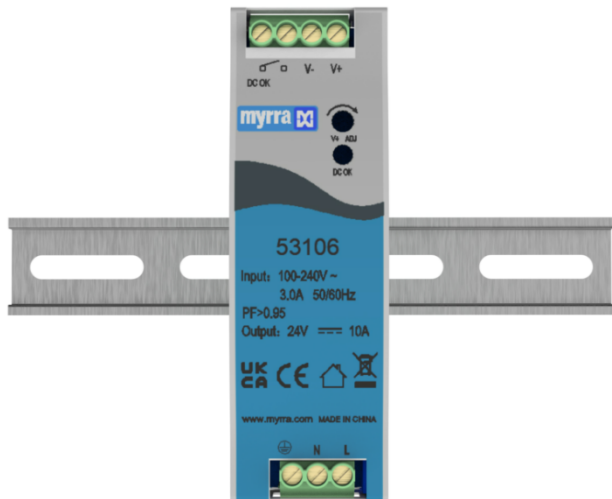
AC/DC POWER SUPPLY-240W

DIN RAIL MOUNTING TYPE



Power Supplies

531xx SERIES



MAIN FEATURES:

- 240W Small Compact Size
- Built-in Active PFC Function:>0.95
- Built-in DC OK relay contact
- Regulated Output Range: 12VDC-48VDC
- Input Range: 85VAC – 265VAC/47 – 63Hz or 120VDC – 375VDC
- Very Low Standby Power Consumption $\leq 0.2W$
- 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 EN61000-3-3
- 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
53103	240	12	20	11.40 ~ 13.80	-25°C ~ +70°C	>91%@230VAC	85 ~ 265VAC (120-375VDC)
53104	240	15	16	14.25 ~ 18.50	-25°C ~ +70°C	>91%@230VAC	
53105	240	18	13.3	17.50 ~ 20.50	-25°C ~ +70°C	>91%@230VAC	
53106	240	24	10	22.80 ~ 28.80	-25°C ~ +70°C	>92%@230VAC	
53107	240	36	6.7	34.20 ~ 39.60	-25°C ~ +70°C	>92%@230VAC	
53108	240	48	5.0	43.20 ~ 52.80	-25°C ~ +70°C	>92%@230VAC	

NOTE : Other output voltage are available upon request.

Please refer to MYRRA's website and catalogue for MYRRA SMPS application notes.

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Model : 240 Watt		Specifications
AC Input Characteristics	Rated Input Voltage	100~240 VAC or 140VDC-340VDC
	Input Voltage Range	85~265VAC or 120VDC-375VDC
	AC Input Frequency Range	47Hz~63Hz
	Rated AC Input Frequency	50/60Hz
	Input Current	3A Max.
	Input Inrush Current	65A Max @265VAC input, cold start, full load
	Standby Power	0.2W 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/265VAC
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~240VAC, DC output with full load
	Turn On Delay	3S max @ 85VAC~265VAC input and DC output with full load
	Rise Time	50ms max @ 85VAC~265VAC input and DC output with full load
	Overshoot	The output voltage shall not exceed +10% rated output voltage @ Power on and 85VAC~265VAC input, and DC with full load
	Undershoot	The output voltage shall not exceed -10% rated output voltage @ Power off and 85VAC~265VAC 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 apprxo.+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	Production type: shut down O/P voltage and re-power on to recover.
	DC OK Relay Contact Rantings	60Vdc/0.3A,30Vdc/1A,30Vac/0.5A resistive load
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

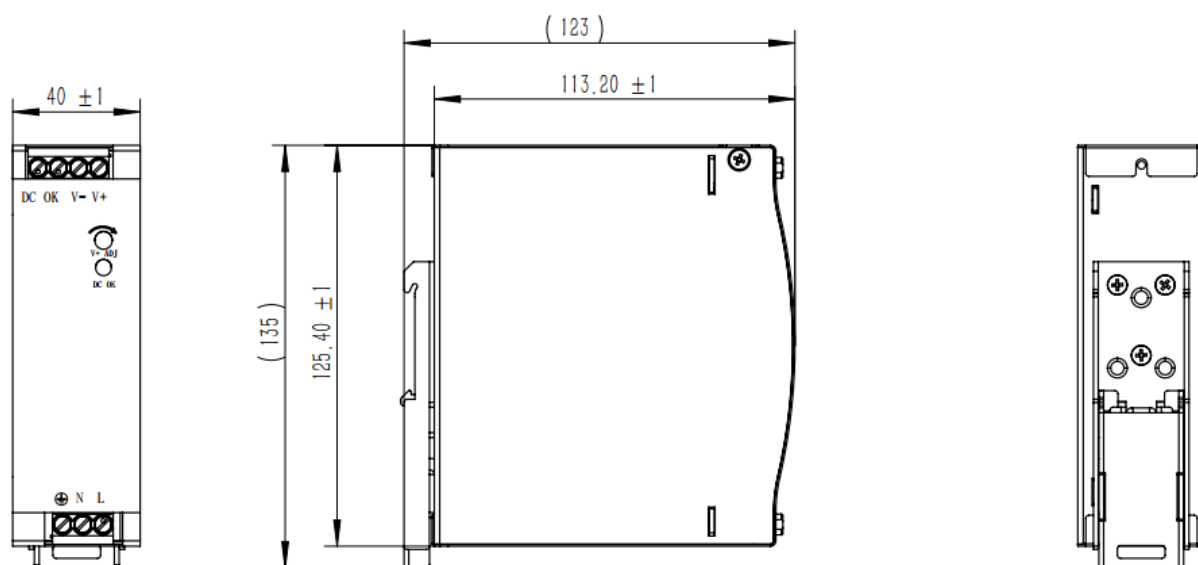
Safety & EMC Requirements	Harmonic Current Distance	Meets EN/IEC61000-3-2:2019, Class C
	Voltage Fluctuation and Flicker	Meets EN61000-3-3:2013
	Electrostatic Discharge	Meets EN61000-4-2 : 2009, Contact Discharge $\pm 6\text{KV}$, Air Discharges $\pm 8\text{KV}$
	RF Field Strength Susceptibility	Meets 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)125.2*(W)113.5*(H)40mm ($\pm 1\text{mm}$) (see appearance drawing)
	Net Weight	Approximately 480 grams per product unit
Guarantee	This product is in accordance with the European RoHS & REACH directives	

The diagram illustrates the functional blocks of a power supply system. The input (I/P) and ground (FG) are connected to the EMI Filter & Rectifiers. The output of this stage goes to the PFC Circuit, which is controlled by the PFC Control block. The PFC Circuit's output is connected to the Power Switching stage, which is controlled by the PWM & PFC Control block. The Power Switching stage's output goes to the Rectifiers & Filter stage. The Rectifiers & Filter stage's output is connected to the +V and -V output terminals. The +V and -V output terminals are also connected to the Detection Circuit, which includes an O.C.P. (Over Current Protection) block. The Detection Circuit is also connected to the FG terminal. The Detection Circuit's output is connected to the O.V.P. (Over Voltage Protection) block. The O.V.P. block is connected to the FG terminal. The O.V.P. block's output is connected to the O.L.P. (Over Load Protection) block, which is connected to the FG terminal. The O.L.P. block's output is connected to the U.V.P. (Under Voltage Protection) block, which is connected to the FG terminal. The U.V.P. block's output is connected to the PFC Control block. The PFC Control block is also connected to the FG terminal. The FG terminal is connected to the ground symbol.

The graph shows the load percentage as a function of input voltage for a 100W module. The x-axis represents input voltage in both AC (Vac) and DC (Vdc) terms. The y-axis represents the load percentage. A solid line indicates the load percentage, which starts at 75% for 85V and increases to 100% at 100V, remaining constant thereafter. A dashed line indicates a constant load of 75% from 85V to 100V.

Input Voltage (Vac/Vdc)	Load (%)
85 (Vac)	75
100 (Vac)	100
180 (Vac)	100
240 (Vac)	100
265 (Vac)	100
120 (Vdc)	75
140 (Vdc)	100
255 (Vdc)	100
340 (Vdc)	100
375 (Vdc)	100

DIMENSIONS



INSTALLATION INSTRUCTION



Admissible Din-Rail: TS35/7.5 or TS35/15, For reference only, not included with unit.