

240W External desktop

AC-DC power supplies 

The APM240 series of 240W compact GaN based external desktop adapters deliver outputs ranging from 12V to 54V and adhere to global medical, home healthcare, and ITE safety standards. Additionally, they conform to the latest energy efficiency level VI (level VII ready) standards, featuring high active mode efficiency and extremely low no-load power consumption, improving reliability.

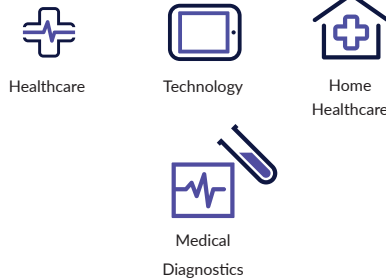
Available in Class I or Class II construction, APM240's gasketed design and reinforced isolation enhance safety in medical devices and home healthcare equipment. Low patient leakage currents, 2 x MOPP isolation, compact design, wide 80-264VAC input for universal use and high efficiency makes the APM240 ideal for a wide range of industrial technology and BF-rated medical applications.



Features

- ▶ Output voltages from 12V to 54VDC
- ▶ Universal, single phase input: 80 to 264VAC
- ▶ GaN based compact design
- ▶ Energy efficiency level VI (level VII ready) and EU2019/1782
- ▶ Medical, home healthcare & ITE safety approvals
- ▶ IP22 ingress protection
- ▶ Low patient leakage current
- ▶ <0.15W standby power
- ▶ Class B conducted & radiated emissions
- ▶ LED power ON status indicator
- ▶ -30°C to +60°C operation
- ▶ 3 year warranty

Applications



Dimensions

168.0 x 73.0 x 31.5mm (6.61" x 2.87" x 1.24")

Documentation

For further information click the link or scan the code

→ xppower.com



Models & ratings

Model number ^(1,2)	Output voltage	Output current	Total regulation	Ripple & noise ⁽⁴⁾	Efficiency ⁽³⁾	Output power
APM240PS12	12.0VDC	18.0A	5%	150mV	92%	216W
APM240PS15	15.0VDC	14.4A		150mV	92%	216W
APM240PS19	19.0VDC	12.63A		200mV	92%	230W
APM240PS24	24.0VDC	10.0A		200mV	93%	240W
APM240PS36	36.0VDC	6.66A		250mV	94%	240W
APM240PS48	48.0VDC	5.00A		300mV	94%	240W
APM240PS54	54.0VDC	4.44A		300mV	94%	240W

Notes:

- Standard APM240 is a class I construction and includes C14 AC inlet. For class I with C6 AC inlet, add suffix 'C6' to the end of the part number e.g. APM240PS24-C6.
- For class II version with C8 AC inlet, add suffix 'C2-8' to the end of the part number e.g. APM240PS24C2-8 or for class II with C18 AC inlet, add suffix 'C2-18' to the end of the part number e.g. APM240PS24C2-18.
- Typical average value measured at 25%, 50%, 75% and 100% at 230VAC.
- Measured with 20MHz bandwidth and 10μF electrolytic in parallel with 0.1μF ceramic capacitor at +25°C

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	80		264	VAC	Derate from 100% load at 100VAC to 90% load at 90VAC and 80% load at 80VAC
Input frequency	47		63	Hz	
Input current			3.5	A	Measured at 100VAC
Inrush current			160	A	230VAC cold start, +25°C
Power factor	0.95				115VAC
Earth leakage current			500	µA	264VAC, 60Hz
No load input power			0.15	W	
Input protection	T6.3A/250V Internal fuse fitted in line and neutral				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	12		54	VDC	See models and ratings table
Minimum load	No minimum load required				
Start up delay			2	s	
Start up rise time			30	ms	
Hold up time	10			ms	Full load and 115/230VAC
Output voltage accuracy			5	%	
Line regulation			±1.0	%	100-264VAC, full load
Load regulation			±5.0	%	0-100% load
Transient response			4	%	Recovery within <1% within 500µs for a 50% step load change at 0.1A/µs
Ripple and noise	See models and ratings table				
Overload protection	120		180	%	Auto recovery
Overvoltage protection	110		150	%	Vnom, auto recovery, 48V & 54V models OVP <60V
Short circuit protection	Trip & restart (hiccup), auto resetting				
Patent leakage current		85	100	µA	At 264VAC, 60Hz, from output to ground
Temperature coefficient			0.05	%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		93		%	See models and ratings table and curves.
Energy efficiency	Level VI (Level VII ready)				
Isolation	4000			VAC	Input to Output, 2 x MOPP, suitable for BF applications
	1500				Input to Ground, 1 x MOPP
Switching frequency	40		60	kHz	PFC
		90			Main converter
Mean time between failure	100			khls	MIL-HDBK-217F at +25°C GB
Weight		650 (1.433)		g (lb)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-30		+60	°C	Derate from 100% load at +40°C to 50% load at +60°C, agency approval to +40°C max.
Cooling	Natural convection				
Operating humidity	10		90	%RH	Non-condensing
Storage temperature	-40		+80	°C	
Operating altitude			5000	m	
Shock	1m drop onto concrete on each of 3 sides, non operating				
Vibration	10		300	Hz	3g, 0.3 decades/min, 30 mins for each 3 axes

EMC: Emissions

Phenomenon	Standard	Test level	Notes & conditions
Emissions	EN55032 / EN55011	Class B	Conducted and radiated
Harmonic currents	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

EMC: Immunity

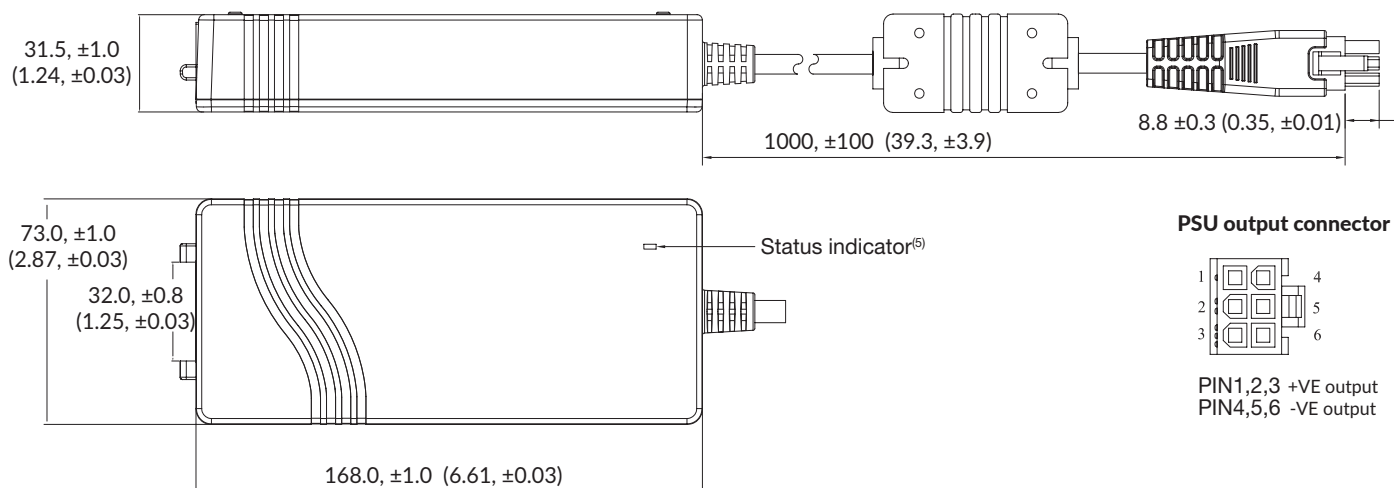
Phenomenon	Standard	Test level	Criteria	Notes & conditions
Medical device EMC	IEC60601-1-2	Ed.4.1 : 2014	as below	
Low voltage PSU EMC	EN55035		as below	
ESD immunity	EN61000-4-2	±8kV contact, ±15kV air	A	
Radiated immunity	EN61000-4-3	10V/m	A	80 to 2700mHz, IEC60601-1-2 Ed. 4.0 at other frequencies
EFT/burst	EN61000-4-4	±2kV	A	
Surge	EN61000-4-5	Installation class 3	A	±1kV line to line, ±2kV line to earth
Conducted	EN61000-4-6	6V	A	
Magnetic fields	EN61000-4-8	30A/m	A	
Dips and interruptions	EN55035 (115VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:30% (80.5VAC), 500ms	A	
		Int:100% (0VAC), 5000ms	B	
	EN55035 (230VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:30% (161VAC), 500ms	A	
		Int:100% (0VAC), 5000ms	B	
	EN60601-1-2 (100VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:100% (0VAC), 20ms	B	
		Dip:30% (70VAC), 500ms	B	
		Int:100% (0VAC), 5000ms	B	
	EN60601-1-2 (240VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:100% (0VAC), 20ms	B	
		Dip:30% (168VAC), 500ms	A	
		Int:100% (0VAC), 5000ms	B	



Safety approvals

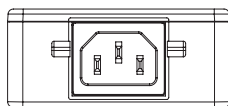
Safety agency	Standard	Notes & conditions
UL	UL62368-1	Information Technology
	ANSI/AAMI ES60601-1	Medical, 2 x MOPP
EN	EN62368-1	Information Technology
	EN60601-1, EN60601-1-11	Medical, 2 x MOPP, Home healthcare
CB	IEC62368-1	Information Technology
	IEC60601-1, IEC60601-1-11	Medical, 2 x MOPP, Home healthcare
CCC	China Compulsory Certification, GB4943, GB17625.1, GB4943.1, GB/T9254	Information Technology
CSA	CAN/CSA C22.2 No. 62368-1-14	Information Technology
	CSA C22.2 No. 60601	Medical, 2 x MOPP
AU/NZ	AS/NZS 62368.1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

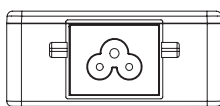


AC inlets

Class I

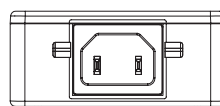


C14

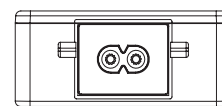


C6

Class II



C18



C8

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Notes:

1. All dimensions shown in mm (inches).
2. Weight: 650g (1.433 lb) approx.
3. Output connector: 6 pin Molex Mini-Fit series with 39-01-2060 housing and 39-00-0077 terminals. Mates with Molex series 5566 headers or equivalent

4. Output lead: UL2464 16AWG, 1000mm.
5. LED is lit green when AC input is applied and DC output is okay.