



150ACMEA_4 Series

150W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

AC-DC Converter 150 Watt

- ⊕ Switching power module for PCB mountable
- ⊕ 4000VAC Input to Output
- ⊕ 2MOPP Isolation
- ⊕ Cooling by free air convection
- ⊕ High efficiency up to 93.5%
- ⊕ With P.F.C. function >0.9
- ⊕ <0.5W no load input power
- ⊕ Protections: Over Load; Over Voltage; Over Temperature;
- ⊕ EMI for both Class I (with PE) and Class II (without PE)
- ⊕ Suitable for BF application with appropriate system consideration
- ⊕ UL/IEC/EN 60601 3.1 Edition & UL/IEC/EN 60950 AM2 Safety Approvals
- ⊕ SCP: Short circuit protection

The 150ACMEA_4_4 series is a compact size power converter offered by GAPTEC. It features universal input voltage, taking both DC and AC input voltage, low power consumption, high efficiency, high reliability, safer isolation. It offers good EMC performance, meets IEC/EN61000-4, CISPR22/EN55022, UL60950 and EN60950 standards, and is widely used in medical instrumentation and critical applications in commercial and industrial electronic equipment.



Common specifications	
Short circuit protection	• Nominal: Continuous, Auto recovery • instantaneous high current: Latch
Operating temperature range	-30°C ~ +70°C (with derating)
Storage temperature range	-30°C ~ +85°C
Humidity	95% RH
Altitude during operation	5000m
Atmospheric pressure	56kPa to 106kPa
Safety standards	IEC60950, EN60950, UL60950
Safety approvals	UL / IEC / EN 60601 3.1rd Edition (2 x MOPP), UL / IEC / EN 60950 AM2, UL / IEC / EN 62368
Case material	UL94V-0
MTBF (MIL-HDBK-217F, Notice 1)	>250,000 h @ 25°C
Shock	IEC60068-2-27
Vibration	IEC60068-2-6 (10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes.)
Dimension	109.0 x 58.5 x 35.0 mm / Tolerance ±0.5 mm Height Tolerance 1 mm
Cooling	Free air convection
Weight	365g

Output specifications						
Item	Test conditions	Min	Typ	Max	Units	
Output voltage accuracy	Full load		±2		%	
Line regulation			±1		%	
Load regulation	10% to 100% load		±1		%	
Ripple & noise*	1% of Vout					
Minimum load	0%					
Max. capacitive load	12V			6000	μF	
	24V			2000	μF	
	48V			330	μF	
Efficiency (230VAC)	12V			93	%	
	24V			93.5	%	
	48V			93.5	%	
Hold-up time	115VAC		10		ms	

* Measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

EMC specifications	
EMC / EMI / Conducted and radiated EMI*	EN55011 Conducted Class B
EMC / Radiated EMI	EN55011 Class I class B / Class II class A
EMC / EMS	EN60601-1-2 4th edition

Example:

150ACMEA_05S4

150 = 150Watt; AC = AC-DC; M = Medical; EA = series; 12 = 12Vout;
S = Single output; 4 = 4kVAC

Note:

- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
- Hold-up Time measured at 90% Vout.
- Please check the derating curve for more details.
- After 30 minutes of burn-in
- Please secure the power supply unit to your metal case by using the four screw holes in the corners for either Class I or Class II equipment
- CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.

Isolation	
Input-Output	4000VAC or 5656VDC
Input-PE	2000VAC or 2828VDC
Output-PE	1500VAC or 2121VDC

Input specifications	
Input voltage range	90-264 VAC (see derating curve)
Input frequency	47~63Hz
Input current	• 115VAC 2.5A (max) • 230VAC 1.25A (max)
Inrush current (<2ms)	• 115VAC 45A (typ) • 230VAC 90A (typ)
Leakage current	< 0.1mA/264VAC (touch current)
Power factor	PF>0.9 at full load

Protection specifications	
Over-voltage protection	Auto recovery
Over-power protection	Auto recovery, hiccup mode
Over-temperature protection	Auto recovery

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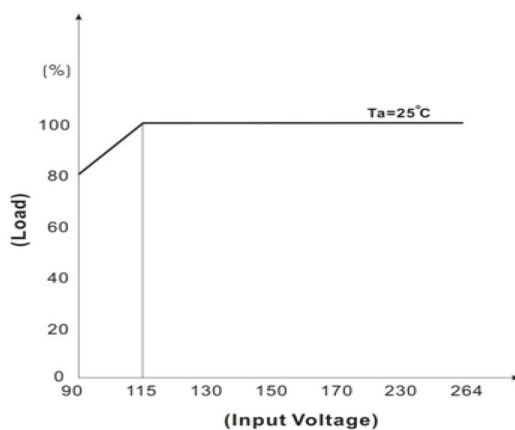
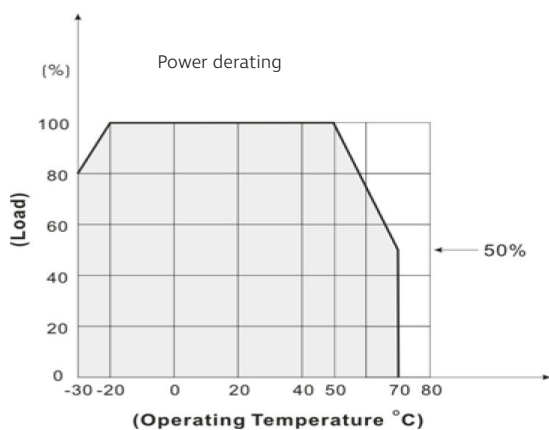
Product Selection Guide

Approval	Model	Power [W]	Output voltage [V]	Output current [A, max]	Capacitive Load [μ F, max]	Efficiency* [@230VAC, %, typ]
UL	150ACMEA_12S4	150	12	12.5	6000	93
UL	150ACMEA_24S4	150	24	6.25	2000	93.5
UL	150ACMEA_48S4	150	48	3.125	330	93.5

* After 30 minutes of burn-in

Typical characteristics

Derating graphs



Block diagram

