

180ACMOP_S4 Series

180W - Open Frame Type Switching Power Supply - Universal Input - Isolated & Regulated

AC-DC Converter 180 Watt

- ⊕ Universal input: 90~264VAC
- ⊕ High efficiency: >87% typical
- ⊕ Short circuit protection (SCP)
- ⊕ Over load protection (OLP)
- ⊕ Over voltage protection (OVP)
- ⊕ No load power consumption
- ⊕ Compact, high power density
- ⊕ Medical 60601-1 3rd Edition MOPP and ITE approved
- ⊕ Meet DOE level VI & ErP Tier 1 requirements
- ⊕ UL 60950-1

The 180ACMOP_S4 series is a compact size power converter offered by Gaptec. It features universal input voltage, taking 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.



(pending)

Approval	Model	Power [W]	Output voltage[V]	Load convection [A, max]	15CFM forced air [A, max]	Ripple&Noise [mV, Vp-p]	Output Regulation [%]	Efficiency [@115VAC, %, typ]
UL/CE	180ACMOP_12S4	180	12	10	15	240	±3	>87
UL/CE	180ACMOP_15S4	180	15	8	12	240	±3	>87
UL/CE	180ACMOP_19S4	180	19	6.32	9.48	240	±2	>87
UL/CE	180ACMOP_24S4	180	24	5	7.5	240	±2	>87
UL/CE	180ACMOP_28S4	180	28	4.29	6.43	240	±2	>87
UL/CE	180ACMOP_48S4	180	48	2.5	3.75	240	±2	>87

Input specifications

Input voltage range	90-264 VAC		
Input frequency	47~63Hz		
Power factor	115VAC • 0.95A (max)	230VAC • 0.9A (max)	
Input current	115VAC • 3A (max)	230VAC • 1.5A (max)	
Inrush current (cold start @25°C)	115VAC • 50A (typ)	230VAC • 100A (typ)	
Leakage current	< 100µA/264VAC		
Recommended external fuse	• 2A	• High Breaking capacity	

Protection specifications

Short circuit protection	Protection type: Auto-recovery
Over-voltage protection	Protection type: Latching type. AC Recycle
Over-load protection	Protection type: 110% to 150% maximum rating, Auto-recovery

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output power	with 15CFM forced air cooling			180	W
Output voltage accuracy	Full load		±2		%
Hold-up time	@load 75%, 115VAC		20		ms

Example:

180ACMOP_05S4
180= 180Watt; AC= AC-DC; MOP= series; 5Vout; S= Single Output;
4= 4kVAC

Note:

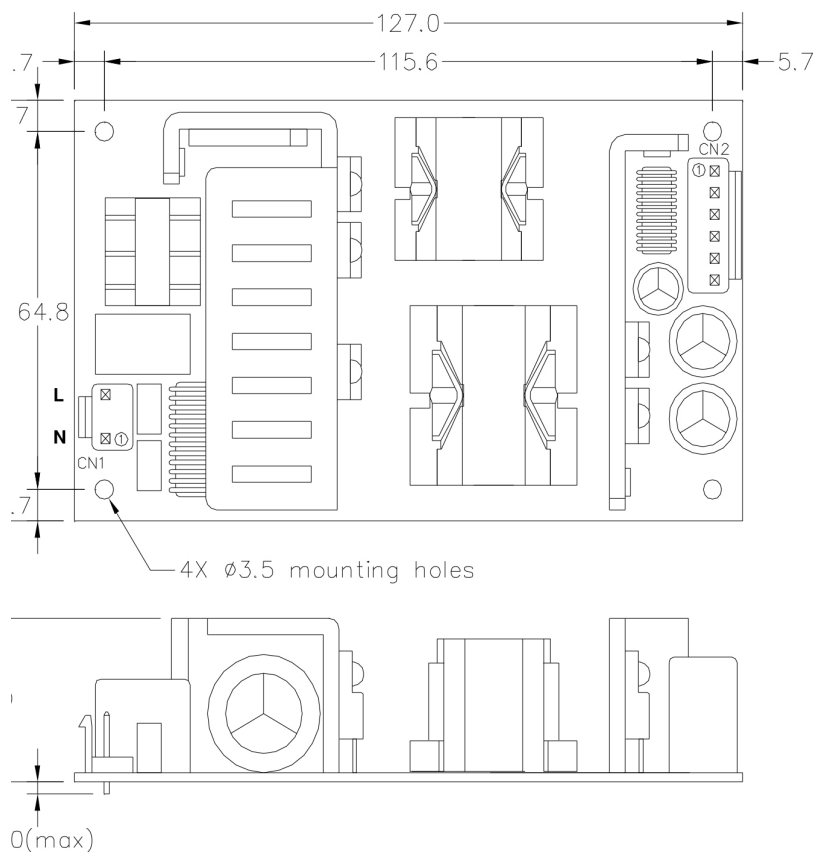
- This product is not designed for use in critical life support systems, equipment used in hazardous environment, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet.
- At 25°C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
- Ripple and noise are measured at oscilloscope 20MHz bandwidth by a 10µF electrolytic capacitor and a 0.1µF ceramic capacitor in parallel at output connector.

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Common specifications			
Operating temperature range	Convection cooling : 0 to +60°C (Derate linearly 2.5% per °C from 41 to 60°C) 15 CFM Forced air : 0 to +60°C (Derate linearly 2.5% per °C from 51 to 60°C)		
Storage temperature range	-40°C ~ +85°C		
Humidity (non-condensing)	95% MAX		
Cooling	Free air convection		
I/O-isolation voltage	4000VAC		
EMC / EMI / Conducted and radiated EMI	EN55011 class B (Radiation Class A for 180ACMOP_S4 series)		
EMC / EMS / ESD	IEC/EN 61000-4-2	Contact ±8KV / Air ±15KV	perf. Criteria B
EMC / EMS / Radiated Immunity	IEC/EN 61000-4-3	3V/m	perf. Criteria A
EMC / EMS / Fast Transient	IEC/EN 61000-4-4	±2kV	perf. Criteria B
EMC / EMS / Surge	IEC/EN 61000-4-5	Line to Line: ±2KV Line to PE: ±4KV	perf. Criteria B
EMC / EMS / Conducted immunity	IEC/EN 61000-4-6	10Vr.m.s	perf. Criteria A
EMC / EMS / PFMF	IEC/EN 61000-4-8	30A/m	perf. Criteria A
EMC / EMS / Dips	IEC/EN 61000-4-11	30% / 500ms	perf. Criteria B
EMC / EMS / Interruption	EN61000-4-11	>95% 5000ms	
EMC standards	EN60601-1-2 FCC Part 18 Class B EN 55011 Class B CE		
Safety standards	60601-1 3 rd Edition CSA-C22.2 No.60601-1 3 rd Edition EN60601-1 3 rd Edition IEC 60601-1 3 rd Edition		
MTBF	100,000 h @25°C		
Package	27 × W76.2 × H30.0 mm		
Weight	350g		

Mechanical dimensions



Matching connectors:

CN1: Input connector
JST B3P-VH-B pitch: 7.92mm or equivalent, mates with JST VHR-3N or equivalent

PIN	Single
1	AC Line
2	AC Neutral

CN2: Output Connector
JST B4P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-4N or equivalent

PIN	Single
1	-Vo
2	-Vo
3	+Vo
4	+Vo