

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
- **4** 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 specif	fications
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	Тур	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

180ACMOP 05S4

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

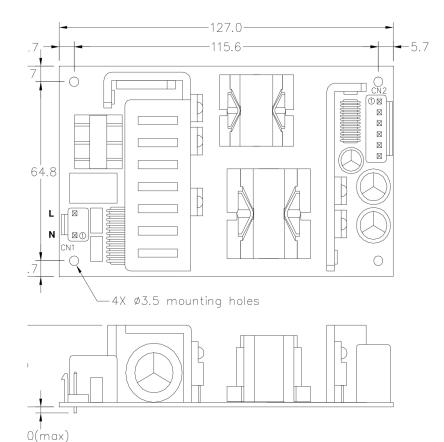
- 1. This product is not designed for use in critical life support systems, equipment used in hazardous environment, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet.
- 2. At 25°C including initial tolerance,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

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Operating temperature range Convection cooling : 0 to +60°C (Derate linearly 2.5% per °C from \$1 to 60°C) Storage temperature range 40°C - 485°C Humidity (non-condensing) 95% MAX Cooling Free air convection I/O-isolation voltage 4000 VAC EMC / EMI / Conducted and radiated EMI EN55011 class B (Radiation Class A for 180ACMOP_\$4 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 61000-4-4 ±2kV perf. Criteria B EMC / EMS / Conducted immunity IEC/EN 61000-4-5 Line to Line: ±2KV Line to PE: ±4KV perf. Criteria A EMC / EMS / PMF IEC/EN 61000-4-8 30A/m perf. Criteria A EMC / EMS / Dips IEC/EN 61000-4-1 30% / 500ms perf. Criteria A EMC / EMS / Interruption EM6 (500-4-1) 30% / 500ms perf. Criteria B EMC / EMS / Interruption EM6 (500-4-1) 30% / 500ms perf. Criteria B EMC / EMS / Interruption EM6 (500-4-	Common specifications						
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_54 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 Standards EN6000-1-2 FCC Part 18 Class B CE EN6000-1-2 FCC Part 18 Class B CE CC Part 18 Class B CE Safety standards 60601-1 3 rd Edition IEC 60601-1 3 rd Edition IEC 60601-1 3 rd Edition Edition MTBF 100,000 h @25°C 27 × W76.2 × H30.0 mm							
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Package 27 × W76.2 × H30.0 mm	Safety standards	CSA-C22.2 No.60601-1 3 rd Edition EN60601-1 3 rd Edition					
	MTBF	100,000 h @25°C					
Weight 350g	Package	27 × W76.2 × H30.0 m	nm				
	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

<u>CN2: Output Connector</u> 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