



65ACMOP_S4 Series

65W - Open Frame Type Switching Power Supply - Universal Input - Isolated & Regulated

AC-DC Converter

65 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 65ACMOP 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]	Ripple&Noise [mV, Vp-p]	O/P Regulation [%]	Efficiency [@115VAC, %, typ]
UL/CE	65ACMOP_05S4	40	5	8	150	±5	85
UL/CE	65ACMOP_12S4	65	12	5.416	240	±3	>87
UL/CE	65ACMOP_15S4	65	15	4.333	300	±3	>87
UL/CE	65ACMOP_19S4	65	19	3.421	300	±3	>87
UL/CE	65ACMOP_20S4	65	20	3.25	300	±3	>87
UL/CE	65ACMOP_24S4	65	24	2.708	300	±3	>87
UL/CE	65ACMOP_28S4	65	28	2.321	300	±3	>87
UL/CE	65ACMOP_48S4	65	48	1.354	300	±3	>87
UL/CE	65ACMOP_56S4	65	56	1.161	300	±3	>87

Input specifications

Input voltage range	90-264 VAC	
Input frequency	47~63Hz	
Input current	115VAC • 1A (max)	230VAC • 0.6A (max)
Inrush current (cold start @25°C)	115VAC • 65A (typ)	230VAC • 130A (typ)
Leakage current	< 189µA/264VAC (touch current)	
Recommended external fuse	• 2A	• High Breaking capacity

Protection specifications

Short circuit protection	Protection type: Auto-recovery
Over-voltage protection	Protection type: Shutdown and latch off, AC recycle
Over-load protection	Protection type: 105% to 170% maximum rating, auto-recovery

Example:

65ACMOP_05S4
65= 65Watt; AC= AC-DC; MOP= series; 5Vout; S= Single Output;
4= 4kVAC

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output power	• 5V • Others			40 65	W W
Output voltage accuracy	Full load		±2		%
Line regulation			1		%
Load regulation	1% to 100% load • 65ACMOP_05S4 • Others		5 3		% %
Hold-up time	@load 75%, 115VAC		10		ms

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

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 100µF electrolytic capacitor and a 0.1µF ceramic capacitor in parallel at output connector.
- DC OUTPUT & FEATURES Operating temperature is 0 to +40°C.
- 20 to 0°C output characteristics Output regulation are ±10%.

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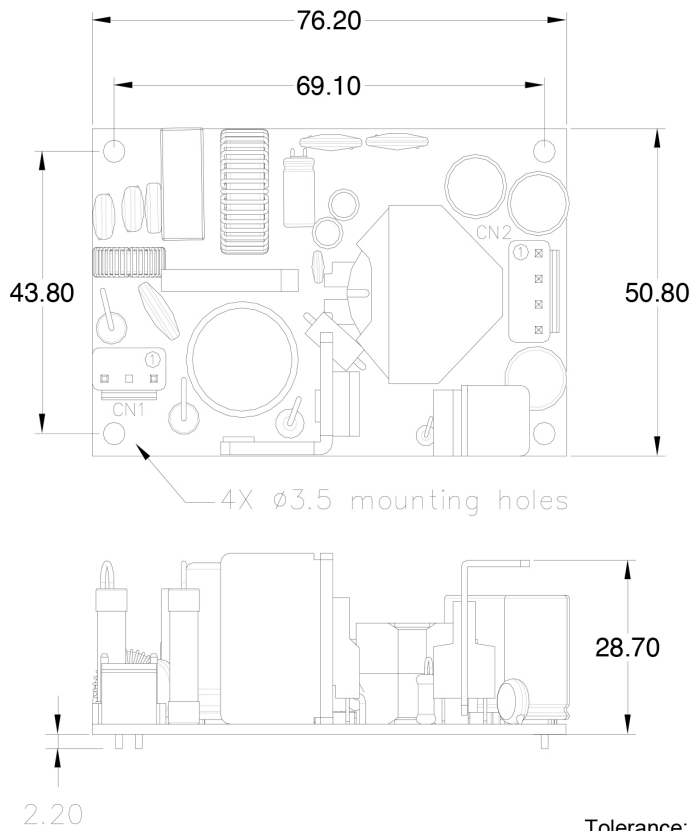
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Common specifications			
Operating temperature range	-20°C ~ +70°C (with derating)		
Power derating temperature range	41°C ~ 70°C: 2.5%/°C		
Storage temperature range	-20°C ~ +85°C		
Humidity (non-condensing)	90% MAX		
Cooling	Free air convection		
Temperature coefficient	±0.05%/°C		
I/O-isolation voltage	4000VAC		
EMC / EMI / Conducted and radiated EMI	EN55011 class B (Radiation Class A for 65ACMOP_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 EN55032 Class B CISPR22 Class B FCC Part 15 Class B CE		
Safety standards	<u>Medical:</u> 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 <u>ITE:</u> UL UL60950-1 CSA-C22.2 NO.950-1 EN60950-1 CB IEC60950-1		
MTBF	100,000 h @25°C		
Package	L76.2 × W50.8 × H28.7 mm		
Weight	120g		

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Mechanical dimensions



Tolerance: $\pm 0.5\text{mm}$
Unit: mm

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