



360ACMOP_S4 Series

360W - Open Frame Type Switching Power Supply - Universal Input - Isolated & Regulated

AC-DC Converter

360 Watt

- ⊕ Universal input: 90~264VAC
- ⊕ High efficiency: >91% typical
- ⊕ Short circuit protection (SCP)
- ⊕ Over power protection (OPP)
- ⊕ Over voltage protection (OVP)
- ⊕ High Power density, 360W in 6" x 4" footprint
- ⊕ Meet Medical BF rated
- ⊕ ITE & Medical approvals
- ⊕ Medical applications
- ⊕ protection: Means of patient protection (MOPP)
- ⊕ Altitude at operation: ITE up to 5000m, Medical below 3000m
- ⊕ Main output and Standby output Power ON LED indicators

The 360ACMOP_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.



Approval	Model	Power [W]	Output voltage [V]	Load [A, max]		Ripple&Noise [mV, V1]	Standby supply [V/A, V2]	Fan output [V/A, V3]	Efficiency [230VAC, %, typ]
				convection	18CFM Forced Air				
UL/CE	360ACMOP_12S4	360	12	20.84	30	120	5/0.5	12/0.3	>90
UL/CE	360ACMOP_24S4	360	24	10.42	15	240	5/0.5	12/0.3	>90
UL/CE	360ACMOP_28S4	360	28	8.93	12.86	280	5/0.5	12/0.3	>90
UL/CE	360ACMOP_48S4	360	48	5.21	7.5	300	5/0.5	12/0.3	>90
UL/CE	360ACMOP_56S4	360	56	4.63	6.67	300	5/0.5	12/0.3	>90

Input specifications

Input voltage range	90-264 VAC	
Input frequency	47~63Hz	
Power factor	115VAC • 0.95(max)	230VAC • 0.90 (max)
Input current	115VAC • 5A (max)	230VAC • 2.5A (max)
Inrush current (cold start @25°C)	115VAC • 40A (typ)	230VAC • 80A (typ)
Leakage current	< 100µA/264VAC	

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Convection total power				250	W
18CFM Forced air total power				360	W
Output voltage accuracy	Full load		±2		%
Hold-up time	@full load, 115VAC		10		ms

Protection specifications

Short circuit protection	Protection type: Auto-recovery
Over-voltage protection	Protection type: Latching type, AC recycle
Over-power protection	Protection type: 105% to 150% maximum rating, auto-recovery

Example:

360ACMOP_12S4
360= 360Watt; AC= AC-DC; MOP= series; 12Vout; S= Single Output;
4= 4kVAC

Note:

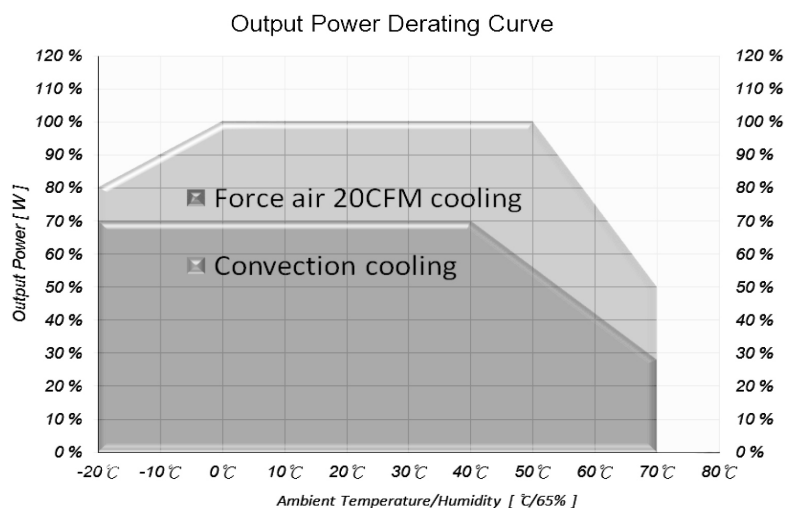
1. This product is not designed for use in critical life support systems, equipment used in hazardous environment, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet.
2. Output connector options:
Z=T (Terminal block type, pitch 8.25mm): Suitable for all voltages
Z=C (Connector type, pitch=3.96mm): Suitable for 24V up
3. All models are equipped with 5Vsb & 12V fan outputs.
4. All models have total power 250W Max. convection or 360W Max. forced air cooling.
5. 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	0°C ~ +70°C (with derating)		
Storage temperature range	-20°C ~ +85°C		
Humidity (non-condensing)	0-90% MAX		
Cooling	Free air convection		
Temperature coefficient	±0.05%/°C		
I/O-isolation voltage	4000VAC		
5Vsb meet ErP	0.5W @No load		
Remote control	(Inhibit) function		
EMC / EMI / Conducted and radiated EMI	EN55011 class B (Radiation Class A for 360ACMOP_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	
Safety standards	UL60601-1 3rd Edition UL/c-UL UL60950-1 EN60601-1 3rd Edition TUV EN60950-1 EN60601-1 3rd Edition CB IEC 60950-1		
EMC standards	EN60601-1-2 EN55024 EN 55011 Class B EN55032 Class B FCC Part 15 Class B FCC Part 18 Class B CE		
MTBF	250,000 h @25°C ambient temperature per Telcordia (Bellcore TR-332).		
Package	L152.4 × W101.6 × H30.0 mm		
Weight	480g		

Typical characteristics



Note:

convection cooling Derate linearly 2.5% per °C from 41 to 70°C

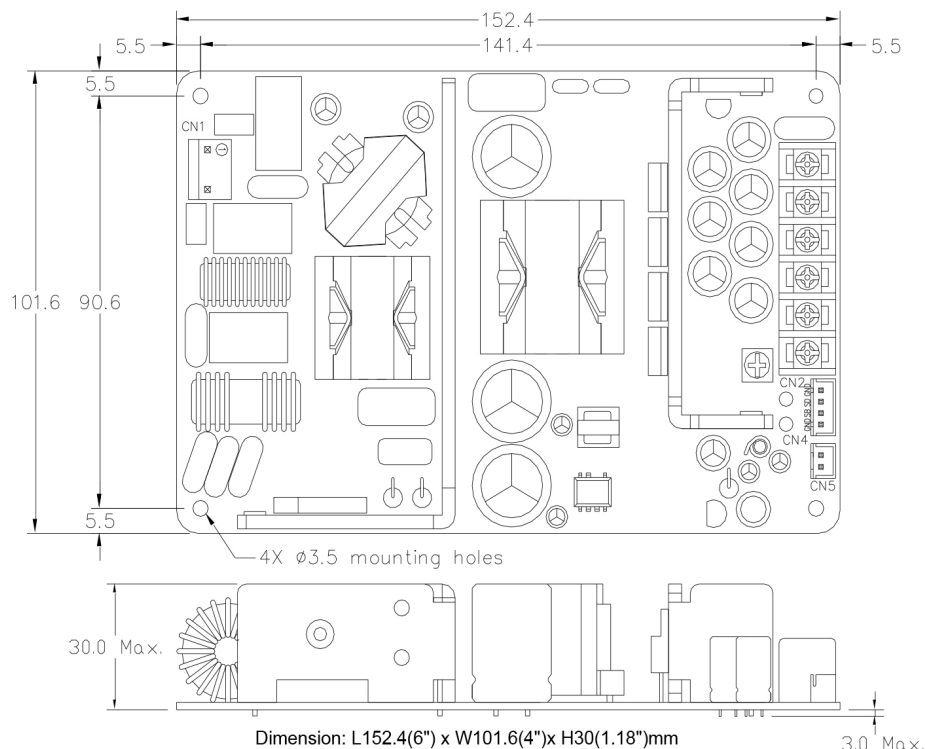
20CFM forced air cooling Derate linearly 2.5% per °C from 51 to 70°C

20CFM forced air cooling Derate linearly 1.0% per °C from 0 to -20°C

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Mechanical dimensions



Mechanical specifications

MATCHING CONNECTORS

CN1: Input Connector

JST B3P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-3N or equivalent

Pin #	Signal
1	AC Neutral
2	AC Line

CN4: Remote Sense Connector

JST B6B-XH-A pitch: 2.5mm or equivalent, mates with JST XHP-4 or equivalent

Pin #	Signal
1	GND
2	+5Vsb
3	SD (INHIBIT)
4	GND

CN5: FAN Output Connector

JST B2B-XH-A pitch: 2.5mm or equivalent, mates with JST XHP-2 or equivalent

Pin #	Signal
1	+12V
2	GND

CN2: Main Output Connector

(T) 6-Pole Terminal block pitch: 8.25mm or equivalent, rate 20A/300V

(C) JST B10P-VH-B pitch: 3.96mm or equivalent, mates with JST VHR-10N or equivalent

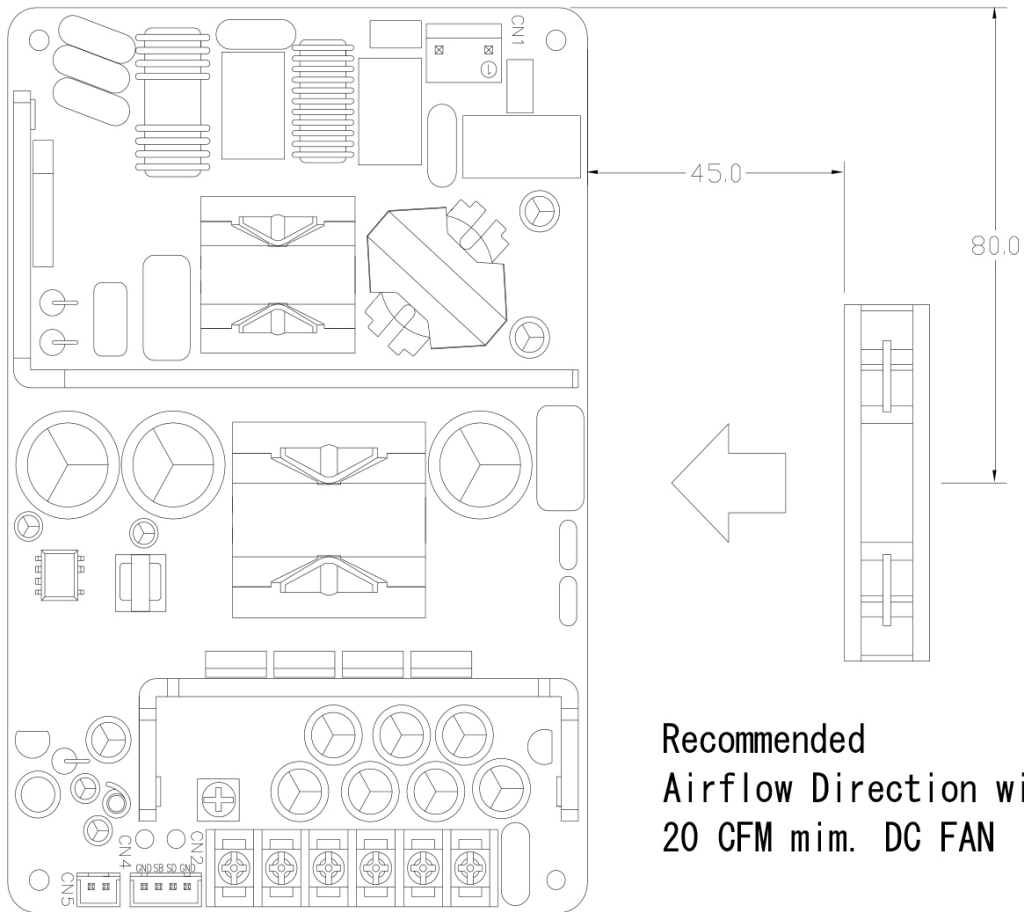
Option : T	
Pin #	Signal
1	GND
2	GND
3	GND
4	+Vo
5	+Vo
6	+Vo

Option : C	
Pin #	Signal
1	GND
2	GND
3	GND
4	GND
5	GND
6	+Vout
7	+Vout
8	+Vout
9	+Vout
10	+Vout

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DC fan recommended direction



Recommended
Airflow Direction with
20 CFM min. DC FAN