FEATURES

- Fully encapsulated Plastic Case
- 3 Mounting Versions:
  - PCB Mounting with Solder Pins
  - Chassis Mounting with Screw Terminals
  - DIN-Rail Mounting
- Package Dimension 74x54x19.5 mm (PCB Version)
- Universal Input 85-264VAC, 47-440 Hz
- Protection Class II
- Extended Operating Temp.Range -40°C to +60°C at full Load
- LED Output Indicator (Chassis Version Models)
- Eco Design, compliant to Energy Star specification and ErP Directive 2009/125/EC
- Industrial Safety to UL/IEC/EN 90650-1 and UL508
- Medical Safety Approval to UL/IEC/EN 60601-1 3rd Edition
- Over Load and Over Temperature Protection
- 3 Year Product Warranty

NEW

PRODUCT OVERVIEW

The new MINMAX AJM-24 series is a range of fully encapsulated AC/DC power modules. These high performance products feature an extended operating temperature range of -40°C to +80°C. Universal input voltage 85-264VAC and UL/IEC/EN safety approvals including medical safety and UL508 listing qualify these power supplies modules for applications in products with worldwide markets. The modules comply with the latest European ErP Directive and meet Energy Star requirements. EMI-filter meets EN55022, class B and FCC,part15, class B.

The AJM-24 series power modules provide an economical solution for many space critical applications in commercial, medical and industrial electronic equipment.

Model Selection Guide

Model Number PCB Mounting (For model with Chassis Mounting, add suffix **C**)	Output Voltage	Output Current	Input Current		Max. capacitive Load	Efficiency (typ.)
			115VAC, 60Hz	230VAC, 50Hz		
		Max.	@Max. Load			@Max. Load
	VDC	mA	mA(typ.)		µF	%
AJM-24S05	**5**	**3000**	286	172	2200	76
AJM-24S09	**9**	**2666**	424	255	1000	82
AJM-24S12	**12**	**2000**	424	255	1000	82
AJM-24S15	**15**	**1600**	424	255	680	82
AJM-24S24	**24**	**1000**	424	255	470	82
AJM-24D12	**±12**	**±1000**	424	255	470#	82
AJM-24D15	**±15**	**±800**	424	255	330#	82

For each output

Input Specifications

Parameter	Model	Min.	Typ.	Max.	Unit
AC Voltage Input Range	All Models	85	---	264	VAC
Input Frequency Range		47	---	440	Hz
DC Voltage Input Range		120	---	370	VDC
No-Load Power Consumption		---	---	0.3	W
Inrush Current (Cold Start at 25°C)	115VAC	---	---	20	A
	230VAC	---	---	35	A

Output Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		---	±2.0	---	%
Line Regulation		---	±0.5	---	%
Load Regulation	Single Output Model	---	±0.5	---	%
	Dual Output Models	---	±2.5	---	%
Min.Load	No minimum Load Requirement				
Ripple & Noise (20MHz)	5.0VDC Output Models	---	1.5	1.8	%V_{PP} of Vo
	Other Output Models	---	1.0	1.3	%V_{PP} of Vo
Over Voltage Protection	Zener diode clamp		120		% of Vo
Temperature Coefficient		---	±0.02	---	%/℃
Overshoot		---	---	5	%
Current Limitation	85VAC, Hiccup Mode, auto-recovery	105	---	---	%Inom.
Short Circuit Protection	Continous (long term overload condition may cause damage)				

General Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
I/O Isolation Voltage (reinforced)		4000	---	---	VACrms
Leakage Current		---	80	---	μA
I/O Isolation Resistance	500 VDC	1000	---	---	MΩ
Switching Frequency		---	132	---	KHz
Hold-up Time	115VAC, 60Hz	---	20	---	ms
	230VAC, 50Hz	---	80	---	ms
MTBF (calculated)	MIL-HDBK-217F@25℃, Ground Benign	400,000	---	---	Hours
EMC Emission	Conducted and radiated	EN 55011 class B, EN 55022 class B, FCC part 15 class B			

EMC Immunity according EN61000-6-1	Standard	Specification Requirement	Performance Criteria
	EN61000-4-2	Air ±8KV Cont. ±4KV	B
	EN61000-4-3	80~1000MHz, 10V/m 80% AM, 1KHz modulation	A
	EN61000-4-4	AC port ±2KV DC, SL, TL ±2KV not less than 1 min.	B
	EN61000-4-5	1.2/50μS(8/20μS) AC dif. ±2KV DC ±1KV	B
	EN61000-4-6	0.15~80MHz, 10Vrms (functional earth ports included) 80% AM, 1KHz modulation	B
	EN61000-4-8	50Hz/60Hz, 30A/m	A
	EN61000-4-11	30%, 10ms	B
		60%, 100ms, 95%, 5000ms	C
Protection Class II		According IEC/EN 60536	
Safety (Approvals pending)		IEC/EN 60950-1, 60601-1 3rd, 2XMOPP cUL/UL 60950-1, 60601-1 3rd, 2XMOPP, UL 508 listed	

Input Fuse

All Models	
External Fuse (Recommended)	2A Slow – Blow Type

Environmental Specifications

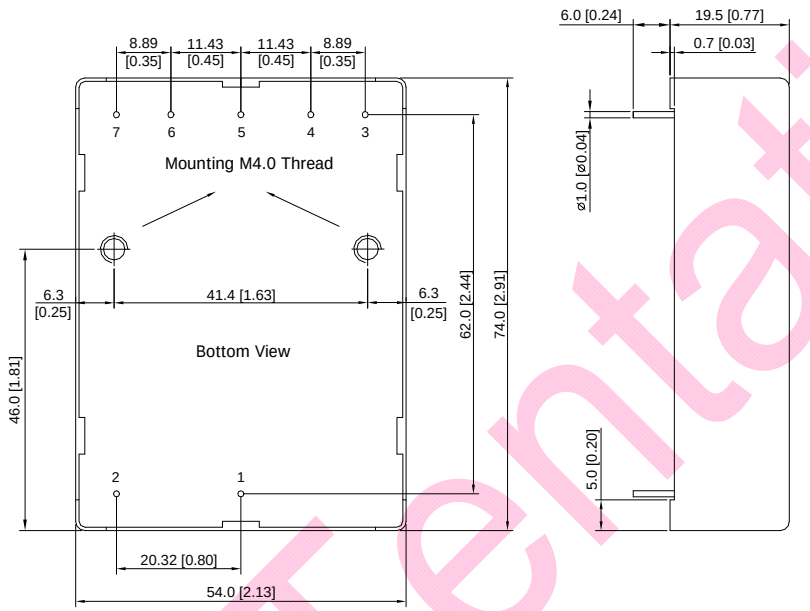
Parameter	Conditions		
Temperature Range (operational)	Ambient	-40℃	+80℃
Power Derating (5V Output Models)	Above +60℃		0.6W / ℃
Power Derating (Other Models)	Above +60℃		0.9W / ℃
Storage Temperature Range		-40℃	+95℃
Over Temperature Protection	Shutdown at 90℃ (automatic recovery at approx.67℃)		
Humidity (non condensing)		---	95% rel. H
Cooling	Free-Air convection		

Notes

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. Specifications typical at Ta=+25°C, resistive load, 115VAC, 60Hz input voltage, after warm-up time rated output current unless otherwise noted.
3. Ripple & Noise measurement bandwidth is 0~20 MHz.
4. Safety approvals cover frequency 47-63 Hz.
5. All AC/DC modules should be externally fused at the front end for protection.
6. Other input and output voltage may be available, please contact factory.
7. To order the module with chassis mount package, please add a **suffix C** (e.g. AJM-24S05C).
8. Part number for DIN-Rail mounting bracket: **AC-DIN-01**
9. That "natural convection" is about 20LFM but is not equal to still air (0 LFM).
10. Specifications are subject to change without notice.

Package Specifications PCB Mounting

Mechanical Dimensions



Pin Connections

Pin	Single Output	Dual Output
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	No Pin	No Pin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout
7	No Pin	No Pin

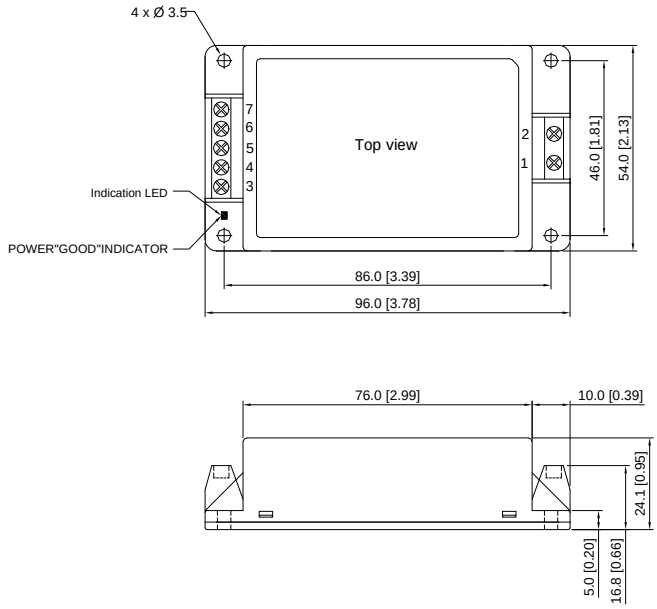
- All dimensions in mm (inches)
- Tolerance: ±0.5 (±0.02)
- Pin diameter ∅ 1.0 ±0.1 (0.04±0.004)

Physical Characteristics

Case Size	:	74.0x54.0x19.5mm (2.91x2.13x0.77 inches)
Case Material	:	Plastic resin + Fiberglass (flammability to UL 94V-0 rated)
Pin Material	:	Copper Alloy with Gold Plate Over Nickel Subplate
Weight	:	TBD

Package Specifications Chassis Mounting (order code suffix C)

Mechanical Dimensions



Connections

Pin	Single Output	Dual Output
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	NC	NC
4	-Vout	-Vout
5	NC	Common
6	+Vout	+Vout
7	NC	NC

NC: No Connection

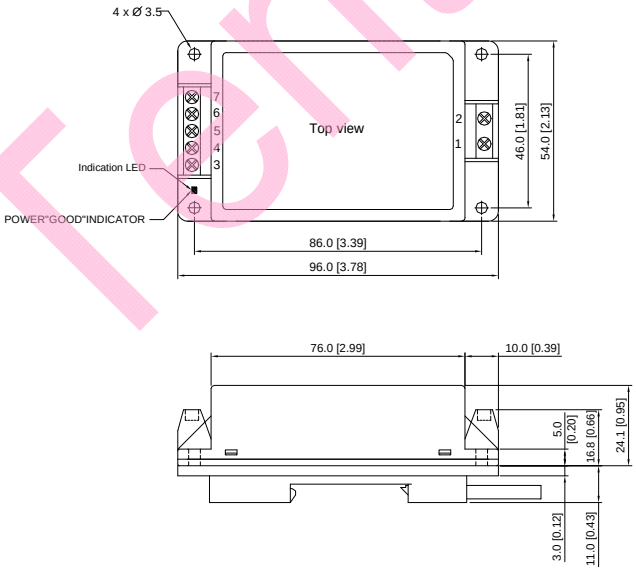
- All dimensions in mm (inches)
- Tolerance: ±0.5 (±0.02)

Physical Characteristics

Case Size	:	96.0x54.0x24.1mm (3.78x2.13x0.95 inches)
Case Material	:	Plastic resin + Fiberglass (flammability to UL 94V-0 rated)
Weight	:	TBD

Package Specifications with DIN Rail Mounting Bracket

Mechanical Dimensions



Physical Characteristics

Case Size	:	96.0x54.0x24.1mm (3.78x2.13x0.95 inches)
Case Material	:	Plastic resin + Fiberglass (flammability to UL 94V-0 rated)
Weight	:	TBD

DIN-Rail Mounting Bracket (Order code for Kit : AC-DIN-01)