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 +65°C at full Load
- LED Output Indicator (Chassis Version Models)
- Industrial Safety to UL/cUL/IEC/EN 60950-1 and UL508
- Medical Safety Approval to UL/cUL/IEC/EN 60601-1 3rd Edition
- Over Load and Over Temperature Protection
- 3 Year Product Warranty

NEW

c UL us LISTED E331639 45VV IND. CONT. EQ.

c TÜV us UL 60950-1 UL 60601-1

CE CB Scheme RoHS Compliant 3 year warranty

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.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, 115VAC
	VDC	mA	mA(typ.)		µF	%
AJM-24S05	**5**	**3000**	282	169	2200	77
AJM-24S09	**9**	**2666**	424	255	1000	82
AJM-24S12	**12**	**2000**	419	252	1000	83
AJM-24S15	**15**	**1600**	424	255	680	82
AJM-24S24	**24**	**1000**	409	246	470	85
AJM-24D12	**±12**	**±1000**	414	249	470#	84
AJM-24D15	**±15**	**±800**	414	249	330#	84

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	---	---	40	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	0-20 MHz Bandwidth	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 (long term overload condition may cause damage)		105	---	---	%Inom.
Short Circuit Protection	Continous					

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
Protection Class II		According IEC/EN 60536			
Safety Approvals		IEC/EN 60950-1, 60601-1 3rd, 2XMOPP cUL/UL 60950-1, 60601-1 3rd, 2XMOPP, UL 508 listed			

EMC Specifications

Parameter	Standards & Level	Performance
Conducted and radiated EMI	EN55011, EN55022, FCC part 15	Class B
ESD	EN61000-4-2 air ± 8kV , Contact ± 4kV	A
Radiated immunity	EN61000-4-3 10V/m	A
Fast transient	EN61000-4-4 ±2kV	A
Surge	EN61000-4-5 ±1kV	A
Conducted immunity	EN61000-4-6 10Vrms	A
PFMF	EN61000-4-8 30A/M	A
Dips	EN61000-4-11 30% 10ms	A
Interruptions	EN61000-4-11 >95% 5000ms	B

Environmental Specifications

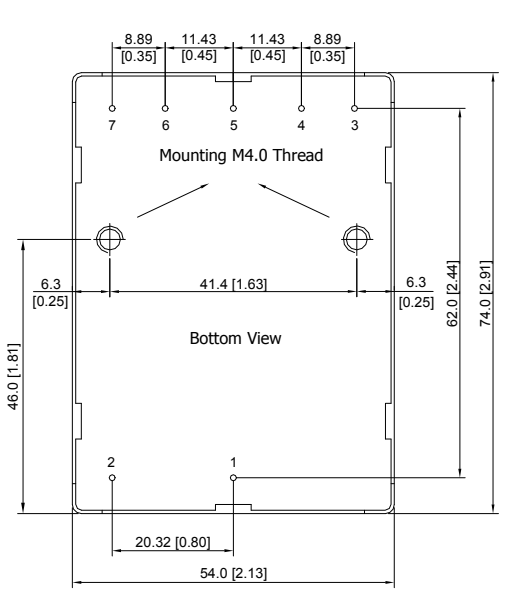
Parameter	Conditions	Min.	Max.
Temperature Range (operational)	Ambient	-40℃	+80℃
Power Derating (5V Output Models)	Above +65℃		0.75W / ℃
Power Derating (Other Models)	Above +65℃		1.2W / ℃
Storage Temperature Range		-40℃	+95℃
Over Temperature Protection	Shutdown at 90℃ (automatic recovery at approx.67℃)		
Humidity (non condensing)		---	95% rel. H
Cooling	Free-Air convection		

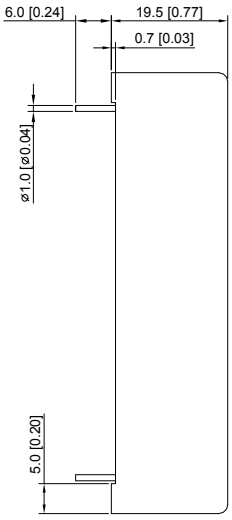
Notes

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. Safety approvals cover frequency 47-63 Hz.
4. We recommend to protect the converter by a slow blow fuse in the input supply line.
5. Other input and output voltage may be available, please contact factory.
6. To order the module with chassis mount package, please add a **suffix C** (e.g. AJM-24S05C).
7. Part number for DIN-Rail mounting bracket: **AC-DIN-01**
8. That "natural convection" is about 20LFM but is not equal to still air (0 LFM).
9. 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

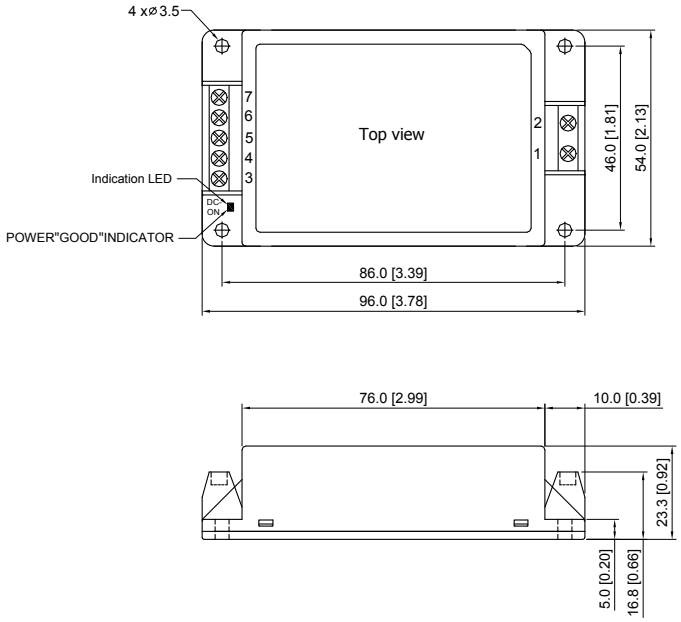
- All dimensions in mm (inches)
- Tolerance: ±0.5 (±0.02)
- Pin diameter ∅ 1.0 ±0.1 (0.04±0.004)

Physical Characteristics

Case Size	:	74.0x54.0x19.5mm (2.91x2.13x0.77 inches)
Case Material	:	Plastic resin (flammability to UL 94V-0 rated)
Pin Material	:	Copper Alloy with Gold Plate Over Nickel Subplate
Weight	:	137g

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

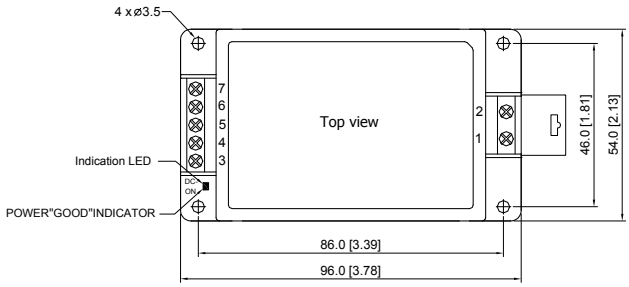
- All dimensions in mm (inches)
- Tolerance: ±0.5 (±0.02)

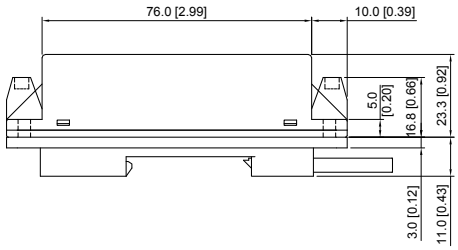
Physical Characteristics

Case Size	:	96.0x54.0x23.3mm (3.78x2.13x0.92 inches)
Case Material	:	Plastic resin (flammability to UL 94V-0 rated)
Weight	:	147g

Package Specifications with DIN Rail Mounting Bracket

Mechanical Dimensions





Physical Characteristics

Case Size	:	96.0x54.0x23.3mm (3.78x2.13x0.92 inches)
Case Material	:	Plastic resin (flammability to UL 94V-0 rated)
Weight	:	201g

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