

## FEATURES



- Universal input Voltage : 90 - 264VAC, 50/60Hz
- DoE Level VI efficiency
- Over voltage, Over current, Short circuit protection
- Fully enclosed plastic case
- 2 pole USA plug
- Small wall-mounted type

MA024-HA series is a small wall-mounted type adapter. This series features universal input voltage, low power consumption, high efficiency, high reliability, and safer isolation, meets IEC/EN61000-4, CISPR22/EN55032 and UL60950. The entire series supplies different models with output voltages range between 5V and 24V that can satisfy the demands for the various types of consumer electronic devices, telecommunication devices, office and civil applications devices.

## Electric Specifications

Model	MA02405HA	MA02409HA	MA02412HA	MA02415HA	MA02418HA	MA02424HA	
Output	DC Voltage	5V	9V	12V	15V	18V	24V
	Rated current	4.0A	2.5A	2.0A	1.60A	1.33A	1.0A
	Current range	0-4.0A	0-2.5A	0-2.0A	0-1.60A	0-1.33A	0-1.0A
	Rated power	20W	22.5W	24W	24W	24W	24W
	Voltage Accuracy	±5%	±5%	±5%	±5%	±5%	±5%
	Line Regulation	±1%	±1%	±1%	±1%	±1%	±1%
	Load Regulation	±5%	±5%	±5%	±5%	±5%	±5%
	Ripple & Noise*	120mVp-p max	120mVp-p max	120mVp-p max	150mVp-p max	180mVp-p max	240mVp-p max
	Start-up time	3s@100-240VAC, full load					
	Hold-up time	10ms@115VAC, full load, 20ms@230VAC, full load					
	Rise time	30ms max					
	Overshoot/ Undershoot	±10%					
	Transient response	Output voltage range ±5%, load 25%-50%, 50%-75%, slope: 0.5A/us, frequency: 50Hz-10KHz					
	Input	Input voltage	90 - 264VAC				
Input frequency		47 - 63Hz					
Efficiency(Typ.)		83.08%	85.96%	86.20%	86.20%	86.20%	86.20%
Input current		0.6A Max@100VAC, full load					
Inrush current		Cold start: 40A/115VAC, 80A/230VAC					
No load power		<0.1W					
Protections	Leakage current	0.25mA Max@240VAC					
	Over voltage	Rated output voltage 110%-150%					
	Over current	Rated output current 110%-200%, self-recovery					
Note	Short circuit	Hiccup, Continuous, self-recovery					
	* Ripple and noise are measured by 20MHz bandwidth; at full load, 100-240VAC input, output terminated with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor.						

### General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output, Test 1 minute, leakage current<5mA	3000	--	--	VAC
Insulation Resistance	Input-output, add 500Vdc test voltage	100	--	--	MΩ
Operating Temperature		-10	--	40	°C
Storage Temperature		-25	--	70	
Operating Humidity		--	--	90	%RH
Storage Humidity		--	--	95	
Altitude		--	--	2000	m
Lifetime	25°C	2			years
MTBF	MIL-HDBK-217F (25°C)	50000	--	--	hours

### Physical Specifications

Casing Material	PC,120°C 94V-0
Color	Black/White(Other color can be designed by customization)
Dimension	(L)88.50mm*(W)43.50mm*(H)31.50mm
Weight	115g(Typ.)
Cooling Method	Free air convection

### EMC Specifications

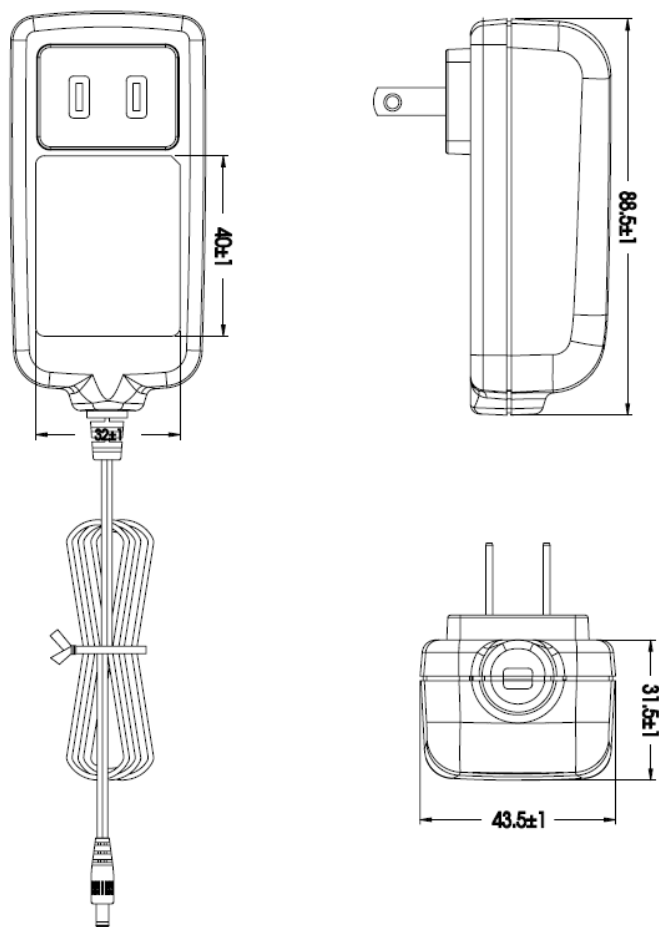
EMI	RE	EN55032, CLASS B	
	CE	EN55032, CLASS B	
EMS	ESD(MAX)	IEC/EN61000-4-2 Contact ±8KV/Air ±15KV	perf. Criteria B
	RS	IEC61000-4-3 3V/m	perf. Criteria A
	CS	IEC61000-4-6 3Vrms	perf. Criteria A
	Surge(MAX)	IEC/EN61000-4-5 ±6KV/ ±6KV	perf. Criteria B

Note: standard ESD contact ±4KV/Air ±8KV, Surge ±1KV/ ±1KV.

### Safety Standards

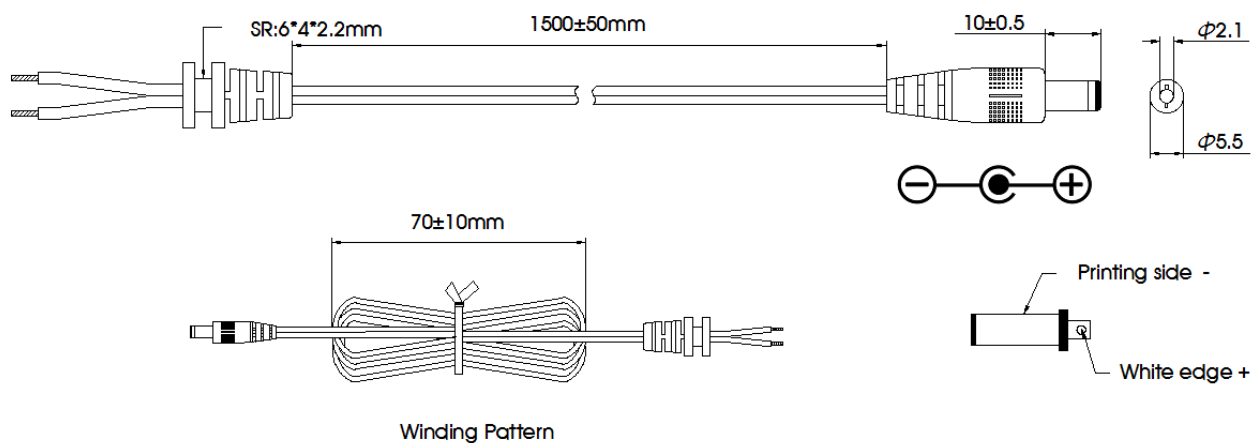
Application fields	Standard	Status	Note
IT	UL60950	Approved	
AV	ETL1310	Meet	
Lighting	ETL1310	Meet	

Mechanical Drawing



Remark:  
No display tolerance:  $\pm 0.12$   
Unit: mm

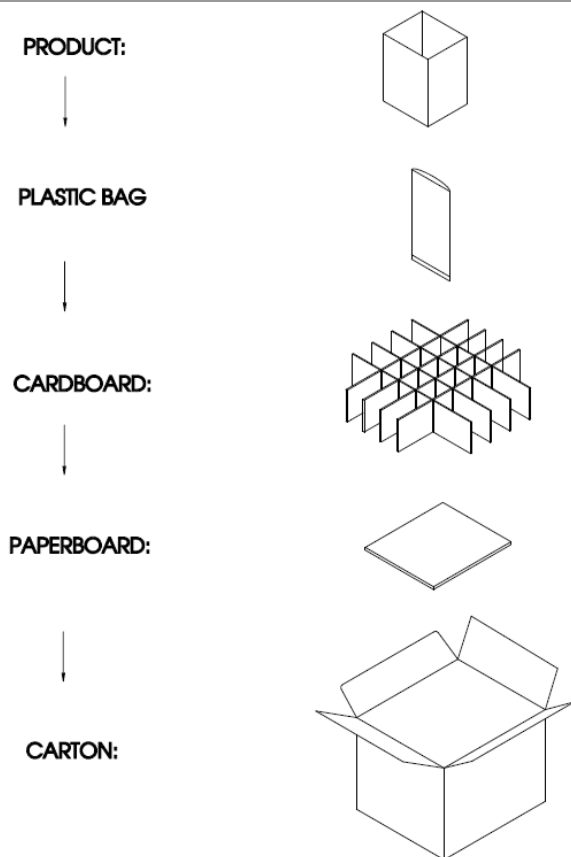
DC Wire Drawing



NO.	ITEM	Q' TY	DESCRIPTION
01	CABLE	1PCS	5V/9V UL2468 18AWG/2C 80°C/300V L=1500mm 12V/15V UL2468 20AWG/2C 80°C/300V L=1500mm 18V/24V UL2468 22AWG/2C 80°C/300V L=1500mm
02	PLUG	1PCS	DC PLUG:5.5*2.1*10

Note:  
1.Compliance with RoHS  
2.No display tolerance:  $\pm 0.12$   
3.Unit: mm

Package Drawing



Note:

- 1.Storage condition:  
Temperature: -25℃~+70℃  
Relative humidity: 30%~80%RH.
2. Storage period: 6 months.
3. Antistatic: no requirement.

Note:

1. Products are related to laws and regulations: see "Features" , "EMC" and "Safety standards".
2. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
3. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet ;
4. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25 ℃ , humidity<75% with nominal input voltage and rated output load;
5. All index testing methods in this datasheet are based on our Company's corporate standards;
6. We can provide product customization service; Please contact our technicians directly for specific information;

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