

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 | | | | | |
| Leakage Current | | 0.25mA Max@240VAC | | | | | |
| Protections | Over Voltage | Rated output voltage 110%-150% | | | | | |
| | Over Current | Rated output current 110%-200%, self-recovery | | | | | |
| | Short Circuit | Hiccup, continuous, self-recovery | | | | | |
| Note | * 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 x (W) 43.50mm x (H)31.50mm |
| Weight | 115g (Typ.) |
| Cooling Method | Free air convection |

EMC Specifications

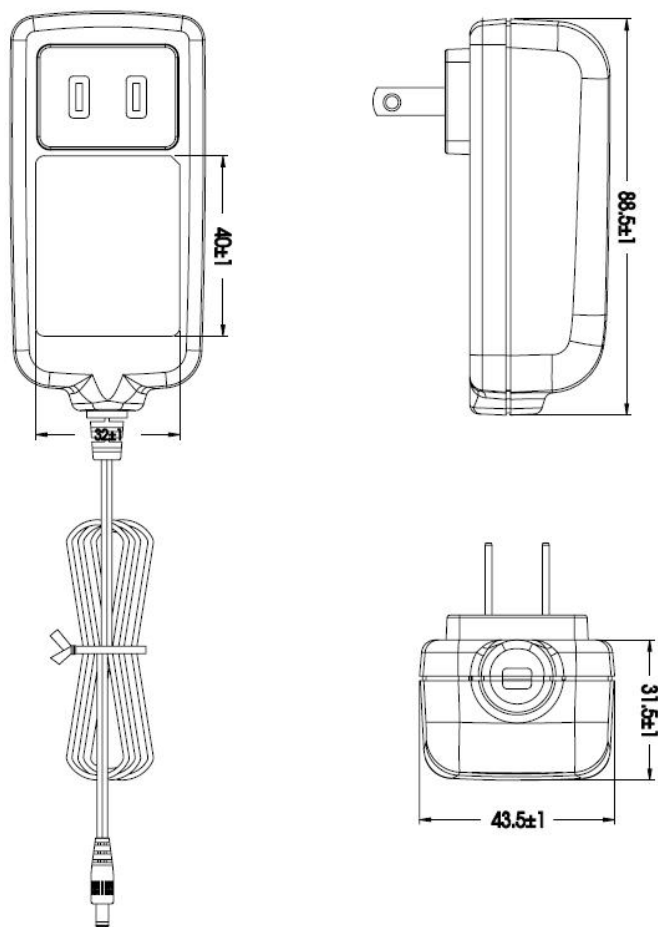
| | | | | |
|-----|------------|------------------|------------------------|------------------|
| EMI | RE | EN55032, CLASS B | | |
| | CE | EN55032, CLASS B | | |
| EMS | ESD(MAX) | IEC/EN61000-4-2 | Contact ±8KV/Air ±15KV | perf. Criteria B |
| | RS | IEC61000-4-3 | 3V/m | perf. Criteria A |
| | CS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

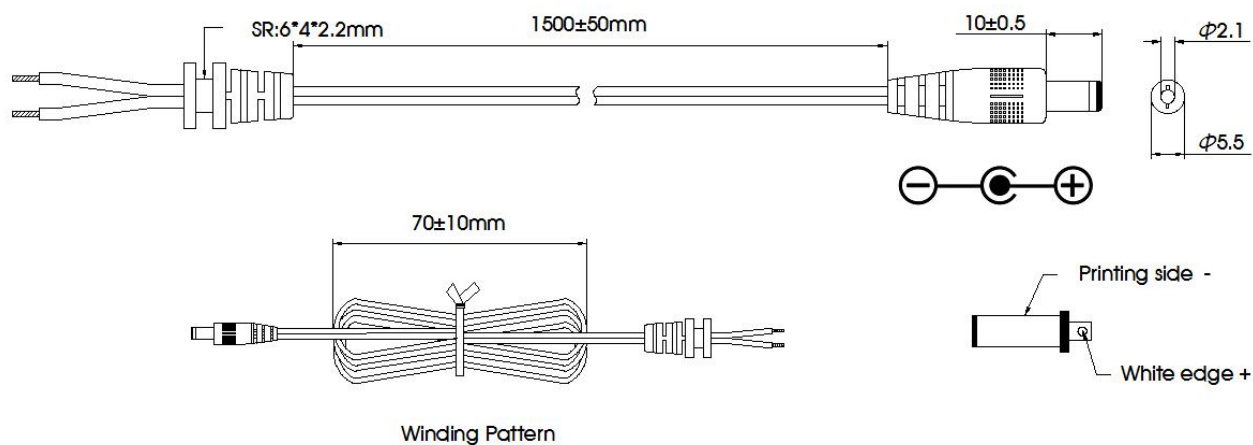
| Application Fields | Standard | Status | Note |
|--------------------|----------|----------|------|
| IT | UL60950 | Approved | |
| AV | ETL1310 | Meet | |
| Lighting | ETL1310 | Meet | |

Mechanical Drawing



Remark:
No display tolerance: ±0.12
Unit: mm

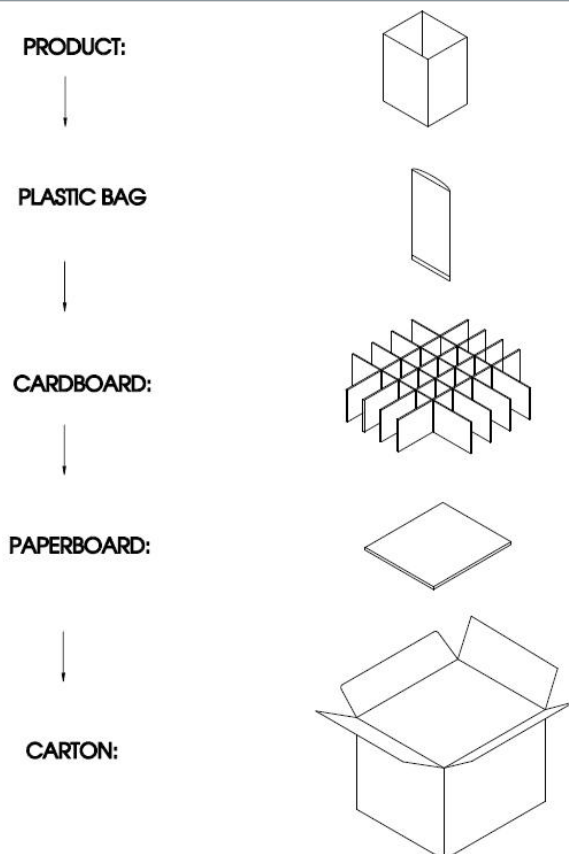
DC Wire Drawing



| 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: ±0.12
3.Unit: mm

Package Drawing



Note:

- 1.Storage condition:
Temperature: -25℃ to +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 corporate standards;
6. We can provide product customization service; Please contact our technicians directly for specific information;

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