

## 24 Watt

- Energy Efficiency Level VI
- European CoC Tier 2
- Medical and ITE Approvals
- Interchangeable Mains Connectors
- Optional White Versions
- Output Voltages from 9 V to 48 V
- Class II Construction
- 3 Years Warranty



The ACM24 series of wall plug adaptors comply with the latest energy efficiency level VI standards with high active mode efficiency and extremely low no load power consumption. Available with a standard jack plug connector these adaptors suit a wide variety of cost sensitive industrial and medical applications while maintaining industry leading performance.

### Dimensions:

#### ACM (body only):

3.46 x 1.18 x 2.24" (88.0 x 30.0 x 57.0 mm)

## Models & Ratings

| Output Power | Output Voltage | Output Current | Total Regulation <sup>(3)</sup> | Efficiency <sup>(4)</sup> | Model Number <sup>(1,2,5)</sup> |
|--------------|----------------|----------------|---------------------------------|---------------------------|---------------------------------|
| 24 W         | 9.0 V          | 2330 mA        | 5%                              | 86.5%                     | ACM24US09                       |
|              | 12.0 V         | 2000 mA        | 5%                              | 88.0%                     | ACM24US12                       |
|              | 15.0 V         | 1600 mA        | 5%                              | 87.7%                     | ACM24US15                       |
|              | 18.0 V         | 1330 mA        | 5%                              | 88.4%                     | ACM24US18                       |
|              | 24.0 V         | 1000 mA        | 5%                              | 88.4%                     | ACM24US24                       |
|              | 48.0 V         | 500 mA         | 5%                              | 88.0%                     | ACM24US48                       |

### Notes

1. Model number is for body only. AC input plugs must be ordered separately, see AC input plug section.
2. Other output voltages available, contact sales for details.
3. Total regulation includes initial set accuracy, line and load regulation.
4. Typical average value measured at 25%, 50%, 75% and 100% at 230 VAC.
5. For white case version add suffix '-W' e.g. ACM24US12-W. MOQ applies, contact sales for details.

## Input

| Characteristic      | Minimum               | Typical | Maximum | Units | Notes & Conditions           |
|---------------------|-----------------------|---------|---------|-------|------------------------------|
| Input Voltage       | 90                    |         | 264     | VAC   |                              |
| Input Frequency     | 47                    |         | 63      | Hz    |                              |
| Input Current       |                       |         | 0.5     | A     | 230 VAC                      |
| Inrush Current      |                       |         | 70      | A     | 240 VAC, cold start at 25 °C |
| Power Factor        |                       |         |         |       | EN61000-3-2, class A         |
| No Load Input Power |                       |         | 75      | mW    |                              |
| Input Protection    | Internal fuse in line |         |         |       |                              |

## Output

| Characteristic           | Minimum | Typical | Maximum | Units       | Notes & Conditions                                                                              |
|--------------------------|---------|---------|---------|-------------|-------------------------------------------------------------------------------------------------|
| Output Voltage           | 9       |         | 48      | V           | See Models and Ratings table                                                                    |
| Minimum Load             | 0       |         |         | A           | No minimum load required                                                                        |
| Start Up Delay           |         |         | 4       | s           |                                                                                                 |
| Start Up Rise Time       |         | 30      |         | ms          |                                                                                                 |
| Hold Up Time             | 10      |         |         | ms          | Full load and 100 VAC                                                                           |
| Total Regulation         |         |         | 5       | %           | See Models and Ratings table                                                                    |
| Transient Response       |         |         | 4       | % deviation | Recovery within <1% within 500 µs for a 60% step load change at 0.15 A/µs                       |
| Ripple & Noise           |         |         | 150     | mV pk-pk    | Measured with 20 MHz bandwidth and 10 µF electrolytic in parallel with 0.1 µF ceramic capacitor |
| Short Circuit Protection |         |         |         |             | Continuous, trip and restart (hiccup mode) with auto recovery                                   |
| Temperature Coefficient  |         |         | 0.05    | %/°C        |                                                                                                 |

## General

| Characteristic            | Minimum | Typical    | Maximum | Units  | Notes & Conditions                                                                        |
|---------------------------|---------|------------|---------|--------|-------------------------------------------------------------------------------------------|
| Efficiency                |         | 87         |         | %      | Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 115 VAC input |
| Energy Efficiency         |         |            |         |        | Level VI                                                                                  |
| Isolation                 | 4000    |            |         | VAC    | Input to Output, 2 x MOPP                                                                 |
| Leakage Current           |         | 30         | 100     | µA     | At 264 VAC, 60 Hz, from output to ground                                                  |
| Switching Frequency       | 24      |            | 70      | kHz    | Variable                                                                                  |
| Mean Time Between Failure | 250     |            |         | kHrs   | MIL-HDBK-217F at 25 °C GB                                                                 |
| Weight                    |         | 0.35 (160) |         | lb (g) | Body only                                                                                 |

## Environmental

| Characteristic        | Minimum | Typical | Maximum | Units | Notes & Conditions                                      |
|-----------------------|---------|---------|---------|-------|---------------------------------------------------------|
| Operating Temperature | 0       |         | +60     | °C    | Derate from 100% load at 40 °C to 50% load at 60 °C     |
| Storage Temperature   | -20     |         | +85     | °C    |                                                         |
| Operating Humidity    | 5       |         | 90      | %     | RH, non-condensing                                      |
| Operating Altitude    |         |         | 5000    | m     |                                                         |
| Cooling               |         |         |         |       | Natural convection                                      |
| Shock                 |         |         |         |       | 1 m drop onto concrete on each of 6 axes, non operating |
| Vibration             | 10      |         | 300     | Hz    | 2 g, 0.3 decades/min, 15 mins for each of 3 axes        |

## EMC: Emissions

| Phenomenon       | Standard    | Test Level | Notes & Conditions |
|------------------|-------------|------------|--------------------|
| Conducted        | EN55032     | Level B    |                    |
| Radiated         | EN55032     | Level B    |                    |
| Harmonic Current | EN61000-3-2 | Class A    |                    |
| Voltage Flicker  | EN61000-3-3 |            |                    |

## EMC: Immunity

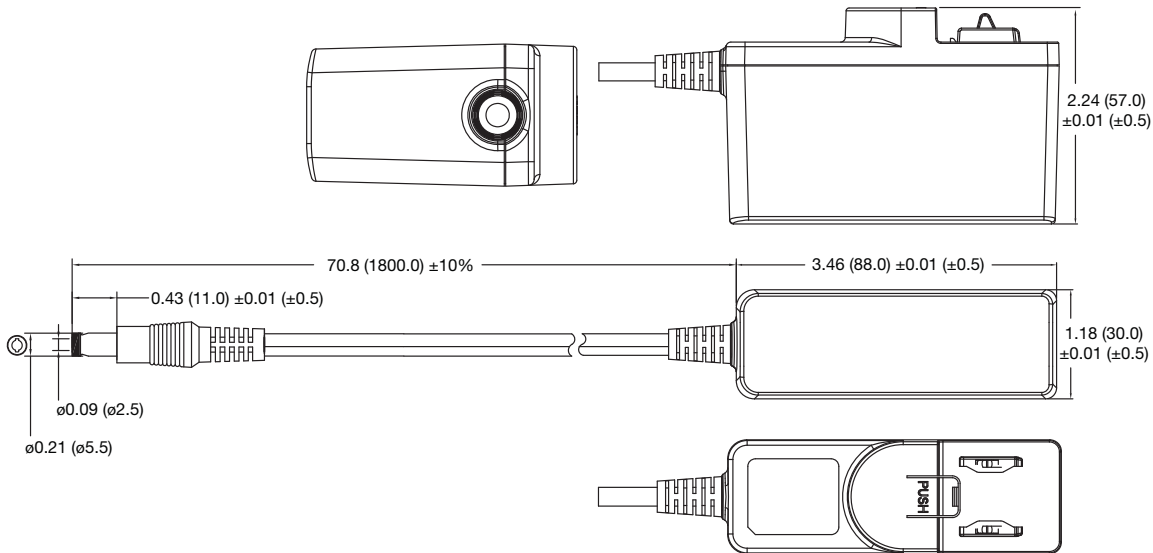
| Phenomenon             | Standard     | Test Level                | Criteria | Notes & Conditions |
|------------------------|--------------|---------------------------|----------|--------------------|
| Medical Device EMC     | IEC60601-1-2 | Ed.4.0 : 2014             | as below |                    |
| Low Voltage PSU EMC    | EN61204-3    | High severity level       | as below |                    |
| ESD Immunity           | EN61000-4-2  | ±8 kV contact, ±15 kV air | A        |                    |
| Radiated Immunity      | EN61000-4-3  | 10 V/m                    | A        |                    |
| EFT/Burst              | EN61000-4-4  | Level 3                   | A        |                    |
| Surge                  | EN61000-4-5  | Level 3                   | A        |                    |
| Conducted Immunity     | EN61000-4-6  | 6 V                       | A        |                    |
| Magnetic Fields        | EN61000-4-8  | 30 A/m                    | A        |                    |
| Dips and Interruptions | EN61000-4-11 | Dip: 100% 10 ms           | B        |                    |
|                        |              | Dip: 70% 500 ms           | B        |                    |
|                        |              | Int: 100% 5000 ms         | B        |                    |
|                        | EN60601-1-2  | Dip: 30% 25 AC Cycles     | A        |                    |
|                        |              | Int: 100% 0.5 AC Cycle    | B        | At 8 angles        |
|                        |              | Int: 100% 1 AC Cycle      | B        |                    |
|                        |              | Int.: >95% 5000 ms        | B        |                    |

## Safety Approvals

| Safety Agency | Safety Standard                        | Notes & Conditions     |
|---------------|----------------------------------------|------------------------|
| UL            | UL60950-1, UL62368-1                   | Information Technology |
| TUV           | EN60950-1, EN62368-1                   |                        |
| CB            | IEC60950-1, IEC62368-1                 |                        |
| CE            | LVD                                    |                        |
| CCC           | China Compulsory Certification, GB4943 |                        |
| AU/NZ         | AU/NZ 60950.1                          |                        |
| UL            | ANSI/AAMI ES 60601-1                   | Medical, 2 x MOPP      |
| CSA           | CSA C22.2 No. 60601                    |                        |
| TUV           | EN60601-1                              |                        |
| CB            | IEC60601-1                             |                        |

### Mechanical Details

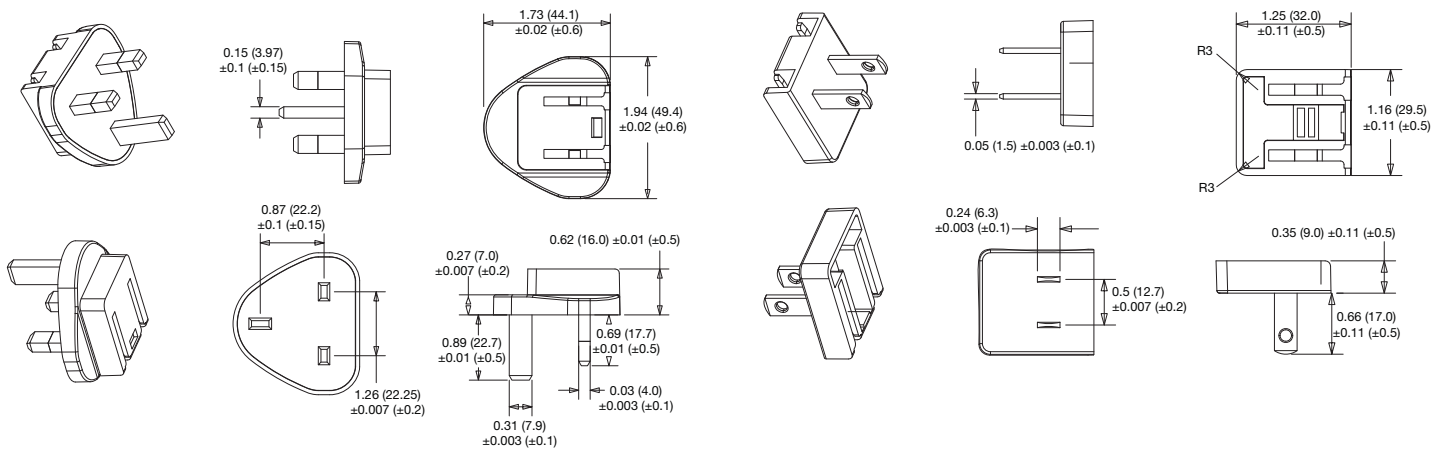
#### ACM24USXX



#### AC Input Plugs

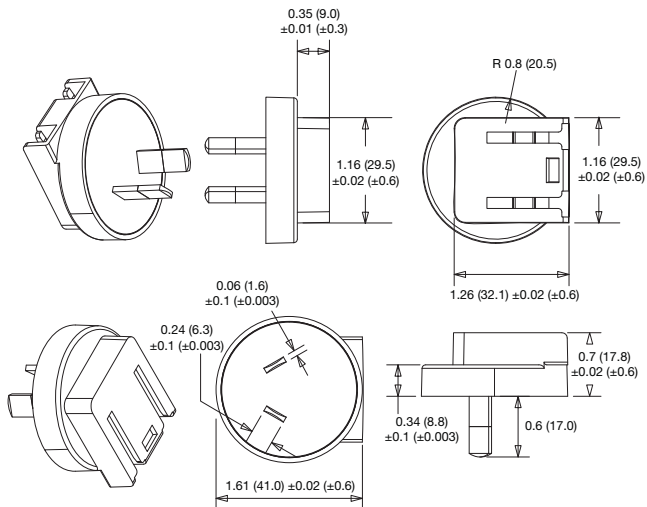
**Black UK Plug: ACM PLUG UK**  
**White UK Plug: ACM PLUG UK W**

**Black USA Plug: ACM PLUG US**  
**White USA Plug: ACM PLUG US W**

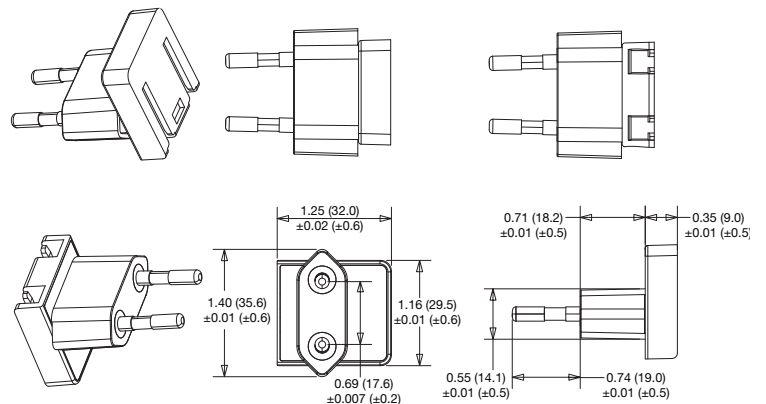


### AC Input Plugs

**Black Australian Plug: ACM PLUG AU**  
**White Australian Plug: ACM PLUG AU W**



**Black European Plug: ACM PLUG EU**  
**White European Plug: ACM PLUG EU W**



**Black China Plug: ACM PLUG CN**  
**White China Plug: ACM PLUG CN W**

