

### 45 Watt

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



The AKM45 series of desktop 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:

**AKM:**  
4.82 x 2.02 x 1.24" (122.4 x 51.4 x 31.5 mm)

### Models & Ratings

| Output Power | Output Voltage | Output Current | Total Regulation <sup>(1)</sup> | Efficiency <sup>(2)</sup> | Model Number <sup>(3,4)</sup> |
|--------------|----------------|----------------|---------------------------------|---------------------------|-------------------------------|
| 48 W         | 9.0V           | 4.50 A         | 5%                              | 89.8%                     | AKM45US09                     |
|              | 12.0V          | 4.00 A         | 5%                              | 90.5%                     | AKM45US12                     |
|              | 15.0V          | 3.20 A         | 5%                              | 90.5%                     | AKM45US15                     |
|              | 18.0V          | 2.66 A         | 5%                              | 90.6%                     | AKM45US18                     |
|              | 24.0V          | 2.00 A         | 5%                              | 90.2%                     | AKM45US24                     |
|              | 48.0V          | 1.00 A         | 5%                              | 91.2%                     | AKM45US48                     |

### Notes

1. Total regulation includes initial set accuracy, line and load regulation.

2. Typical average value measured at 25%, 50%, 75% and 100% at 230 VAC.

3. For white case version add suffix '-W' e.g. AKM45US12-W. MOQ applies, contact sales for details.

4. For optional Class II version add suffix C2, e.g. AKM45US24C2.

### Input

| Characteristic      | Minimum                                | Typical | Maximum | Units | Notes & Conditions           |
|---------------------|--|---------|---------|-------|------------------------------|
| Input Voltage       | 90                                     |         | 264     | VAC   |                              |
| Input Frequency     | 47                                     |         | 63      | Hz    |                              |
| Input Current       |  |         | 1.3     | A     | 90 VAC                       |
| Inrush Current      |  |         | 100     | A     | 230 VAC, cold start at 25 °C |
| No Load Input Power |  |         | 75      | mW    |                              |
| Input Protection    | Internal fuse in both line and neutral |         |         |       |                              |

### 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      | 55      | 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           |         |         | 200     | mV pk-pk    | Measured with 20 MHz bandwidth and 10 µF electrolytic in parallel with 0.1 µF ceramic capacitor |
| Overload Protection      | 130     |         | 160     | %           |   |
| 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                |         | 89         |         | %      | 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           |         |            | 100     | µA     | 264 VAC, 60 Hz  |
| Switching Frequency       | 24      |            | 70      | kHz    | Variable  |
| Mean Time Between Failure | 250     |            |         | kHrs   | MIL-HDBK-217F at 25 °C GB   |
| Weight                    |         | 0.75 (340) |         | lb (g) |   |

### 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. Agency approval to 40 °C max. |
| Storage Temperature   | -25     |         | +70     | °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    |                    |
| Voltage Flicker | EN61000-3-3 |            |                    |

### EMC: Immunity

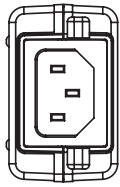
| Phenomenon             | Standard     | Test Level                | Criteria | Notes & Conditions |
|------------------------|--------------|---------------------------|----------|--------------------|
| Medical Device EMC     | IEC60601-1-2 | Ed.4.0 : 2014             | as below |                    |
| 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  | Installation Class 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 | Int: 100% 10 ms           | A        |                    |
|                        |              | Dip: 30% 500 ms           | A        |                    |
|                        |              | Int: 100% 5000 ms         | B        |                    |
|                        | EN60601-1-2  | Dip: 30% 25 AC Cycles     | A        |                    |
|                        |              | Int: 100% 0.5 AC Cycle    | A        | At 8 angles        |
|                        |              | Int: 100% 1 AC Cycle      | B        |                    |
|                        |              | Int.: >95% 5000 ms        | B        |                    |

### Safety Approvals

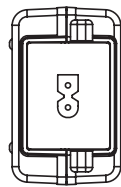
| Safety Agency | Safety Standard      | Notes & Conditions     |
|---------------|----------------------|------------------------|
| UL            | UL60950-1            | Information Technology |
| TUV           | EN60950-1            |                        |
| CB            | IEC60950-1           |                        |
| CE            | LVD                  |                        |
| UL            | ANSI/AAMI ES 60601-1 | Medical, 2 x MOPP      |
| CSA           | CSA C22.2 No. 60601  |                        |
| TUV           | EN60601-1            |                        |
| CB            | IEC60601-1           |                        |

### Mechanical Details

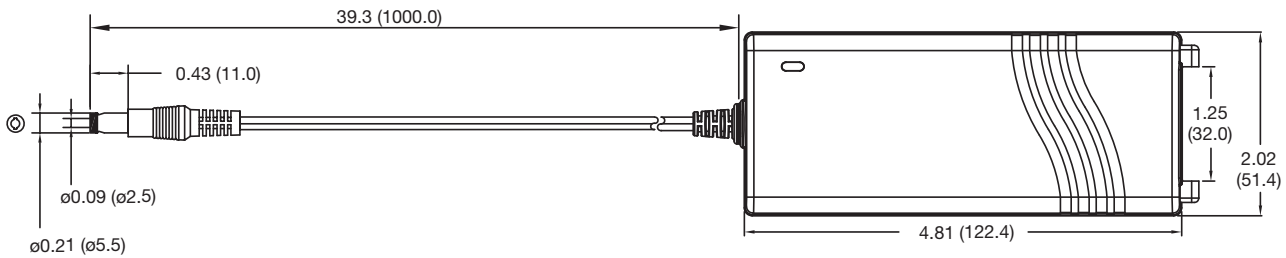
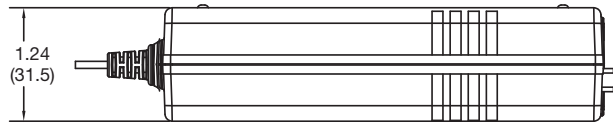
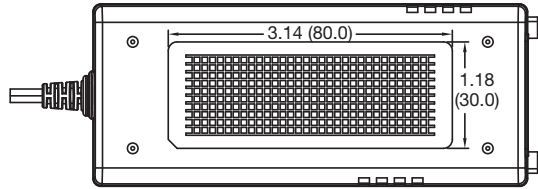
#### AKM45USXX



Standard Class I  
inlet IEC320-C14

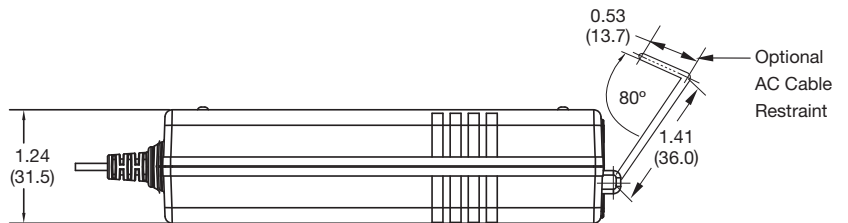
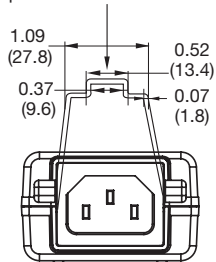


Standard Class II inlet  
polarised IEC320-C8



#### AKM45USXX with Optional AC Cable Restraint

Optional AC Cable Restraint



### Notes

For optional AC cable restraint, order additional part AFM45-65 AC Clip.  
 For correct restraint, AC mains lead must be Interpower Corporation, part number 70006020300.  
 AC cable restraint is not suitable for use on Class II version.  
 Output plug:  $\varnothing 5.5 \times \varnothing 2.5 \times 11.0$ mm, centre positive