

65W CONVECTION COOLED

AC-DC POWER SUPPLIES

The AKM65 series of desktop adaptors comply with medical, home-healthcare and IT approvals along 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.



Features

- IP22 ingress protection
- IEC/EN60601-1-11 for home healthcare applications
- Energy efficiency level VI & EU2019/1782
- Medical (2 x MOPP) and ITE approvals
- Class I & class II versions
- Input voltage range 80 to 264VAC
- Output voltages from 12V to 48V
- 0°C to +60°C operating temperature
- 3 years warranty

Applications



Healthcare



Industrial Electronics



Medical Diagnostic



Technology

Dimensions

4.92" x 2.45" x 1.34" (125.0 x 62.3 x 34.0mm)

Models & Ratings

| Model Number ⁽³⁾⁽⁴⁾ | Output Power | Output Voltage | Output Current | Total Regulation ⁽¹⁾ | Efficiency ⁽²⁾ |
|--------------------------------|--------------|----------------|----------------|---------------------------------|---------------------------|
| AKM65US12 | 65W | 12.0V | 5.42A | 5% | 90.1% |
| AKM65US15 | | 15.0V | 4.30A | 5% | 90.9% |
| AKM65US18 | | 18.0V | 3.60A | 5% | 90.7% |
| AKM65US24 | | 24.0V | 2.70A | 5% | 90.5% |
| AKM65US48 | | 48.0V | 1.35A | 5% | 89.6% |

Notes:

1. Total regulation includes initial set accuracy, line and load regulation.
2. Typical average value measured at 25%, 50%, 75% and 100% at 230VAC.
3. For white case version add suffix '-W' e.g. AKM65US12-W. MOQ applies, contact sales for details.
4. Model number shown in the table is for Class I version. For Class II version add suffix C2, e.g. AKM65US24C2.

Input

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---------------------|--|---------|---------|-------|----------------------------|
| Input Voltage | 80 | | 264 | VAC | |
| Input Frequency | 47 | | 63 | Hz | |
| Input Current | | | 2.0 | A | 90VAC |
| Inrush Current | | | 100 | A | 230VAC, cold start at 25°C |
| No Load Input Power | | | 150 | mW | |
| Input Protection | Internal fuse in both line and neutral | | | | |

Output

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|--------------------------|---|---------|---------|-------------|--|
| Output Voltage | 12 | | 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 100VAC |
| Total Regulation | | | 5 | % | See Models and Ratings table |
| Transient Response | | | 4 | % deviation | Recovery within <1% within 500µs for a 60% step load change at 0.15A/µs |
| Ripple and Noise | | | 200 | mV pk-pk | Measured with 20MHz bandwidth and 10µF electrolytic in parallel with 0.1µF 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 115VAC input |
| Energy Efficiency | | | | | Level VI |
| Isolation: Input to Output | 4000 | | | VAC | Input to output, 2 x MOPP |
| Input to Ground | 1500 | | | | Class I version only |
| Output to Ground | | | | | Negative output is connected to ground at class I version. |
| Leakage Current | | | 100 | µA | 264VAC, 60Hz |
| 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 |
| Storage Temperature | -20 | | +70 | °C | |
| Cooling | Natural convection | | | | |
| Operating Humidity | 5 | | 90 | % | RH, non-condensing |
| Operating Altitude | | | 5000 | m | |
| Shock | 1m drop onto concrete on each of 6 axes, non operating | | | | |
| Vibration | 2g, 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

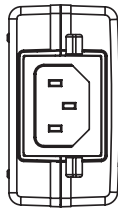
| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|------------------------|--------------|----------------------------|----------|--------------------|
| Medical Device EMC | IEC60601-1-2 | Ed.4.0 : 2014 | as below | |
| Low Voltage PSU EMC | EN61204-3 | High severity level | as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

Safety Approvals

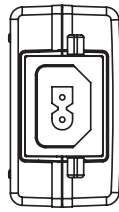
| Certification | Safety Standard | Notes & Conditions |
|---------------|---|------------------------|
| UL | UL 62368-1 & CAN/CSA C22.2 No. 62368-1-14 | Information Technology |
| | ANSI/AAMI ES 60601-1 | Medical, 2 x MOPP |
| EN | EN62368-1 | Information Technology |
| | EN60601-1 (Class I & II versions), EN60601-1-11 (Class II version) | Medical, 2 x MOPP |
| CB | IEC60950-1:2005 Ed 2 / IEC62368-1 | Information Technology |
| | IEC60601-1 (Class I & II versions), IEC60601-1-11 (Class II version) | Medical, 2 x MOPP |
| CCC | China Compulsory Certification, GB4943, GB17625.1, GB4943.1, GB/T9254 | Information Technology |
| CSA | CSA C22.2 No. 60601 | Medical, 2 x MOPP |
| AU/NZ | AU/NZ 60950.1 | Information Technology |
| CE | Meets all applicable directives | |
| UKCA | Meets all applicable legislation | |

Mechanical Details

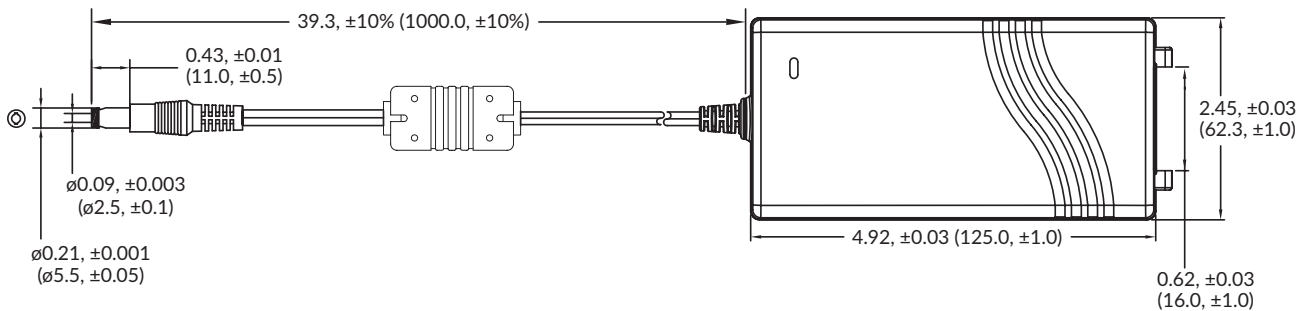
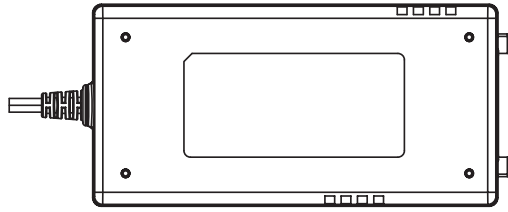
AKM65USXX



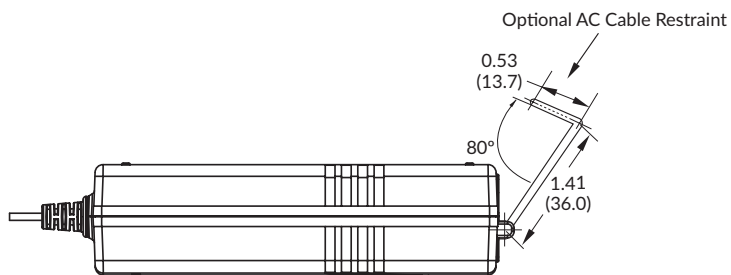
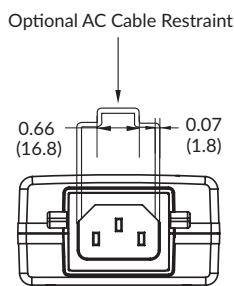
Class I inlet
IEC320-C14



Class II inlet
polarised IEC320-C8



AKM65USXX with Optional AC Cable Restraint



Notes:

For optional AC cable restraint, order additional part AFM45-60 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

Mouser Electronics

Authorized Distributor

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[AKM65US24](#) [AKM65US18](#) [AKM65US48](#)