

## AEH Series



- Output Voltages from 3.3 V to 48 V
- Non-standard Outputs Available
- Universal Input
- Single & Multiple Output Versions
- 0 °C to +60 °C Operating Temperature
- Efficiency up to 80%
- Non-standard Connectors Available

## Specification

## Input

|                       |                                                                              |
|-----------------------|------------------------------------------------------------------------------|
| Input Voltage         | • 90-264 VAC                                                                 |
| Input Frequency       | • 47-63 Hz                                                                   |
| Input Current         | • 1.5/0.7 A for AEH45, at 115/230 VAC<br>1.9/1.5 A for AEH80, at 115/230 VAC |
| Inrush Current        | • 30 A max at 230 VAC, cold start                                            |
| Earth Leakage Current | • <0.5 mA max at 115 VAC/60 Hz<br><0.75 mA max at 230 VAC/50 Hz              |
| Power Factor          | • EN61000-3-2 class A                                                        |

## Output

|                         |                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------|
| Output Voltage          | • See tables, non-standard voltages available - contact sales                             |
| Initial Set Accuracy    | • 5%                                                                                      |
| Start Up Delay          | • 2 s max                                                                                 |
| Hold Up Time            | • 16 ms min                                                                               |
| Line Regulation         | • See tables                                                                              |
| Load Regulation         | • See tables                                                                              |
| Transient Response      | • 4% max deviation, recovery to within 1% in 4 ms for a 50% load change                   |
| Ripple & Noise          | • 2% pk-pk for outputs $\leq 3.3$ V<br>1% pk-pk for all other outputs<br>20 MHz bandwidth |
| Overvoltage Protection  | • 112-132% Vnom, auto reset                                                               |
| Overload Protection     | • Output 1 only 110-150% of nominal                                                       |
| Temperature Coefficient | • $\pm 0.04\%/^{\circ}\text{C}$ max                                                       |

## General

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Efficiency          | • Up to 80%                                                                        |
| Isolation           | • 3000 VAC Input to Output<br>1500 VAC Input to Ground<br>500 VAC Output to Ground |
| Switching Frequency | • 67-83 kHz for AEH45<br>58 kHz typical for AEH80                                  |
| MTBF                | • 100 kHrs per MIL-HDBK-217F at 25 °C GB                                           |

## Environmental

|                       |                                                                                  |
|-----------------------|----------------------------------------------------------------------------------|
| Operating Temperature | • 0 °C to +60 °C, derate linearly from 100% load at +40 °C to 50% load at +60 °C |
| Operating Humidity    | • 5-95% RH, non-condensing                                                       |
| Storage Temperature   | • -40 °C to +85 °C                                                               |
| Vibration             | • 2 g on 3 axes                                                                  |

## EMC &amp; Safety

|                      |                                                                                                                                     |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Emissions            | • EN55022 level B, conducted and radiated                                                                                           |
| Harmonic Currents    | • EN61000-3-2, Class A                                                                                                              |
| Voltage Flicker      | • EN61000-3-3                                                                                                                       |
| ESD Immunity         | • EN61000-4-2, level 2 Perf Criteria A                                                                                              |
| Radiated Immunity    | • EN61000-4-3, level 3 Perf Criteria A                                                                                              |
| EFT/Burst            | • EN61000-4-4, level 2 Perf Criteria A                                                                                              |
| Surge                | • EN61000-4-5, level 3 Perf Criteria A                                                                                              |
| Conducted Immunity   | • EN61000-4-6, level 2 Perf Criteria A                                                                                              |
| Dips & Interruptions | • EN61000-4-11 30% 10 ms,<br>60% 100 ms, 100% 5000 ms<br>Perf Criteria A, B, B                                                      |
| Safety Approvals     | • AEH45: EN62368-1, UL 60950-1,<br>AEH80: EN62368-1, UL62368-1<br>CE Mark, CE & UKCA meets all applicable directives & legislation. |

## Models and Ratings

AEH45 **XP**

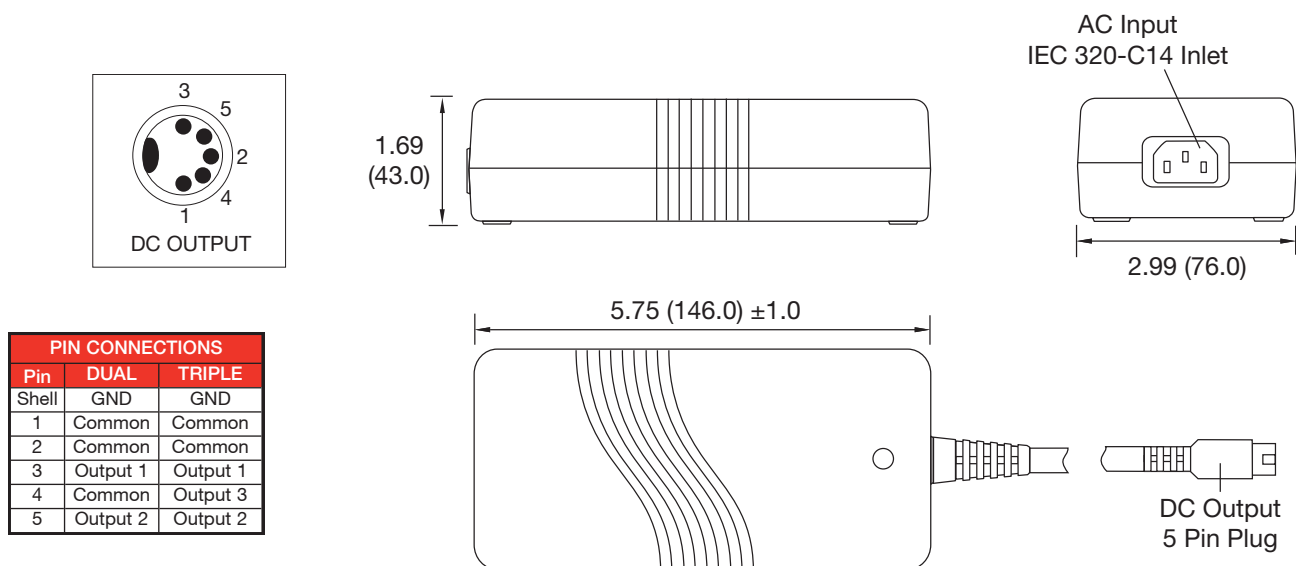
| Output Power Max | Output 1 <sup>(1,2)</sup> |         |       | Output 2 <sup>(1,2)</sup> |         |       | Output 3 <sup>(1,2)</sup> |         |       | Model Number |
|------------------|---------------------------|---------|-------|---------------------------|---------|-------|---------------------------|---------|-------|--------------|
|                  | Voltage Nom.              | Current |       | Voltage Nom.              | Current |       | Voltage Nom.              | Current |       |              |
|                  |                           | Min     | Max   |                           | Min     | Max   |                           | Min     | Max   |              |
| 42 W             | +12.0V                    | 0.5 A   | 3.0 A | -12.0 V                   | 0.2 A   | 1.0 A |                           |         |       | AEH45UM21    |
| 42 W             | +15.0V                    | 0.5 A   | 2.0 A | -15.0 V                   | 0.2 A   | 1.0 A |                           |         |       | AEH45UM22    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A |                           |         |       | AEH45UM23    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +15.0 V                   | 0.2 A   | 1.5 A |                           |         |       | AEH45UM26    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +24.0 V                   | 0.1 A   | 1.0 A |                           |         |       | AEH45UM25    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | -24.0 V                   | 0.1 A   | 1.0 A |                           |         |       | AEH45UM27    |
| 27 W             | +3.3 V                    | 0.5 A   | 5.0 A | +5.0 V                    | 0.1 A   | 2.0 A |                           |         |       | AEH45UM28    |
| 40 W             | +3.3 V                    | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A |                           |         |       | AEH45UM29    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A | -5.0 V                    | 0.0 A   | 0.8 A | AEH45UM33    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A | -12.0 V                   | 0.0 A   | 0.8 A | AEH45UM31    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +15.0 V                   | 0.2 A   | 2.0 A | -15.0 V                   | 0.0 A   | 0.8 A | AEH45UM32    |
| 40 W             | +3.3V                     | 0.5 A   | 5.2 A | +12.0 V                   | 0.2 A   | 2.0 A | -5.0 V                    | 0.0 A   | 0.8 A | AEH45UM34    |
| 42 W             | +3.3V                     | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A | -12.0 V                   | 0.0 A   | 0.8 A | AEH45UM35    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +24.0 V                   | 0.1 A   | 1.0 A | -12.0 V                   | 0.0 A   | 0.8 A | AEH45UM38    |
| 42 W             | +5.0V                     | 0.5 A   | 5.0 A | +24.0 V                   | 0.1 A   | 1.0 A | -24.0 V                   | 0.0 A   | 0.5 A | AEH45UM39    |

## Notes

1. Factory-set non-standard outputs available.

2. Total regulation includes initial set accuracy, line and load regulation and is typically 3% for output 1 and 5% for auxiliaries.

## Mechanical Details



## Notes

1. Dimensions shown in inches (mm).

2. Tolerance 0.02 (0.5) max.

3. Output cable length is 48" (1220 mm) approx.

4. Optional output connectors available, contact sales.

5. Weight 0.9-1.1 lb (400-500 g) approx.

6. For UK mains lead order part: UK-MAINS-IEC.

For European mains lead order part: EU-MAINS-IEC.

7. For mating DIN connector, use standard 5 pin 180° socket.

## Models and Ratings

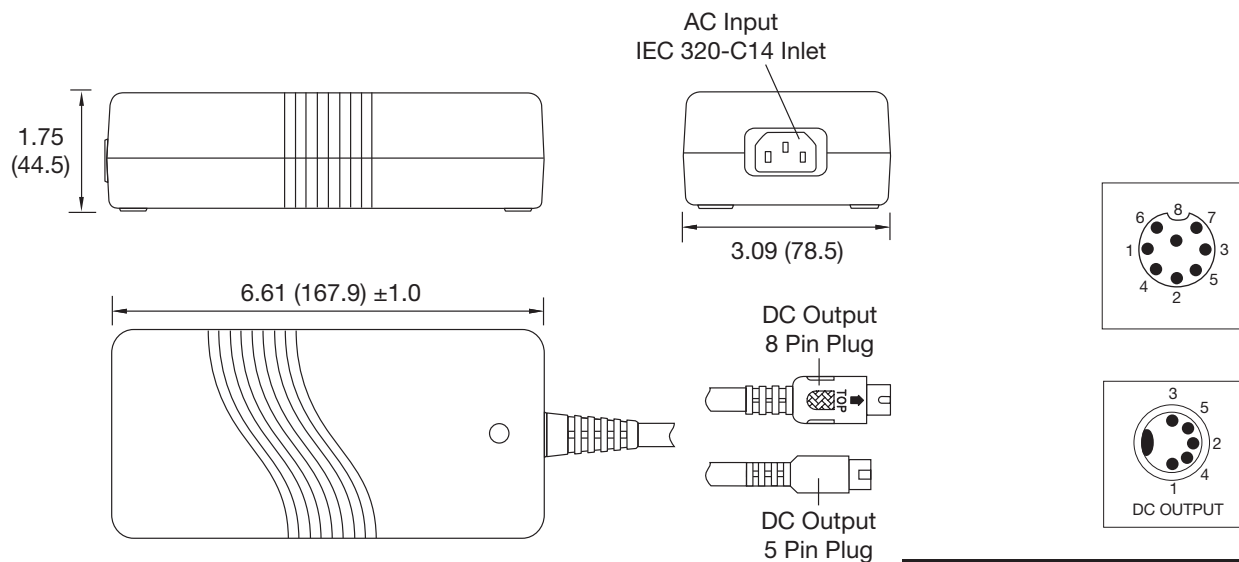
| Output Power Max | Output 1 <sup>(1,2)</sup> |         |        | Output 2 <sup>(1,2)</sup> |         |       | Output 3 <sup>(1,2)</sup> |         |       | Model Number |
|------------------|---------------------------|---------|--------|---------------------------|---------|-------|---------------------------|---------|-------|--------------|
|                  | Voltage Nom.              | Current |        | Voltage Nom.              | Current |       | Voltage Nom.              | Current |       |              |
|                  |                           | Min     | Max    |                           | Min     | Max   |                           | Min     | Max   |              |
| 50 W             | 3.3 V                     | 0.0 A   | 15.1 A |                           |         |       |                           |         |       | AEH80US03    |
| 65 W             | 5.0 V                     | 0.0 A   | 13.0 A |                           |         |       |                           |         |       | AEH80US05    |
| 70 W             | 7.0 V                     | 0.0 A   | 9.9 A  |                           |         |       |                           |         |       | AEH80US07    |
| 75 W             | 10.0 V                    | 0.0 A   | 7.5 A  |                           |         |       |                           |         |       | AEH80US10    |
| 80 W             | 12.0 V                    | 0.0 A   | 6.6 A  |                           |         |       |                           |         |       | AEH80US12    |
| 80 W             | 15.0 V                    | 0.0 A   | 5.3 A  |                           |         |       |                           |         |       | AEH80US15    |
| 80 W             | 18.0 V                    | 0.0 A   | 4.4 A  |                           |         |       |                           |         |       | AEH80US18    |
| 80 W             | 24.0 V                    | 0.0 A   | 3.3 A  |                           |         |       |                           |         |       | AEH80US24    |
| 80 W             | 30.0 V                    | 0.0 A   | 2.6 A  |                           |         |       |                           |         |       | AEH80US30    |
| 80 W             | 36.0 V                    | 0.0 A   | 2.2 A  |                           |         |       |                           |         |       | AEH80US36    |
| 80 W             | 48.0 V                    | 0.0 A   | 1.6 A  |                           |         |       |                           |         |       | AEH80US48    |
| 60 W             | +5.0 V                    | 0.7 A   | 7.0 A  | +12.0 V                   | 0.3 A   | 3.0 A |                           |         |       | AEH80UM23    |
| 60 W             | +5.0 V                    | 1.4 A   | 7.0 A  | +15.0 V                   | 0.6 A   | 3.0 A |                           |         |       | AEH80UM26    |
| 60 W             | +5.0 V                    | 1.4 A   | 7.0 A  | +24.0 V                   | 0.2 A   | 2.0 A |                           |         |       | AEH80UM25    |
| 60 W             | +5.0 V                    | 1.4 A   | 7.0 A  | -24.0 V                   | 0.2 A   | 2.0 A |                           |         |       | AEH80UM29    |
| 38 W             | +3.3 V                    | 1.4 A   | 7.0 A  | +5.0 V                    | 0.6 A   | 3.0 A |                           |         |       | AEH80UM28    |
| 56 W             | +3.3 V                    | 0.7 A   | 7.0 A  | +12.0 V                   | 0.5 A   | 3.0 A |                           |         |       | AEH80UM27    |
| 65 W             | +5.0 V                    | 0.6 A   | 6.0 A  | +12.0 V                   | 0.3 A   | 3.0 A | -5.0 V                    | 0.0 A   | 0.8 A | AEH80UM33    |
| 65 W             | +5.0 V                    | 0.6 A   | 6.0 A  | +12.0 V                   | 0.3 A   | 3.0 A | -12.0 V                   | 0.0 A   | 0.8 A | AEH80UM31    |
| 65 W             | +5.0 V                    | 0.6 A   | 6.0 A  | +15.0 V                   | 0.3 A   | 2.1 A | -15.0 V                   | 0.0 A   | 0.8 A | AEH80UM32    |
| 63 W             | +3.3 V                    | 0.7 A   | 7.0 A  | +12.0 V                   | 0.6 A   | 3.0 A | -5.0 V                    | 0.0 A   | 0.8 A | AEH80UM34    |
| 65 W             | +3.3 V                    | 1.4 A   | 7.0 A  | +12.0 V                   | 0.6 A   | 3.0 A | -12.0 V                   | 0.1 A   | 0.8 A | AEH80UM37    |
| 65 W             | +5.0 V                    | 0.7 A   | 7.0 A  | +24.0 V                   | 0.2 A   | 2.0 A | -24.0 V                   | 0.0 A   | 0.8 A | AEH80UM38    |
| 65 W             | +5.0 V                    | 0.6 A   | 6.0 A  | +24.0 V                   | 0.2 A   | 2.0 A | -12.0 V                   | 0.0 A   | 0.8 A | AEH80UM39    |

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| PIN CONNECTIONS |          |         |          |          |
|-----------------|----------|---------|----------|----------|
| Pin             | SINGLES  |         | DUAL     | TRIPLE   |
|                 | 03, 05 V | 07-48 V |          |          |
| Shell           | GND      | GND     | GND      | GND      |
| 1               | Common   | Common  | Common   | Common   |
| 2               | Common   | Common  | Output 2 | Output 3 |
| 3               | Output   | Output  | Output 1 | Output 1 |
| 4               | Common   | Common  | Output 2 | Output 2 |
| 5               | Output   | Output  | Output 1 | Output 2 |
| 6               | Common   |         | Common   | Common   |
| 7               | Output   |         | Output 1 | Output 1 |
| 8               | Output   |         | Common   | Output 3 |