

## AEH Series



- Output Voltages from 2.5 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         | • 0.4/0.26 A for AEH15, at 115/230 VAC<br>1.5/0.7 A for AEH45, at 115/230 VAC<br>1.9/1.5 A for AEH80, at 115/230 VAC<br>3.2/1.7 A for AEH130, at 115/230 VAC |
| Inrush Current        | • AEH15, 45 & 80: 30 A max at 230 VAC<br>AEH130: 60 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 (>50 ms AEH130)                                                               |
| 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 (AEH15 Output protected to short circuit)             |
| 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 | • 65-80 kHz for AEH15<br>67-83 kHz for AEH45<br>58 kHz typical for AEH80<br>53-76 kHz for AEH130 |
| 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     | • EN60950-1, UL60950-1,<br>CSA C22.2 No. 950 per cUL, CE Mark                  |

## Models and Ratings

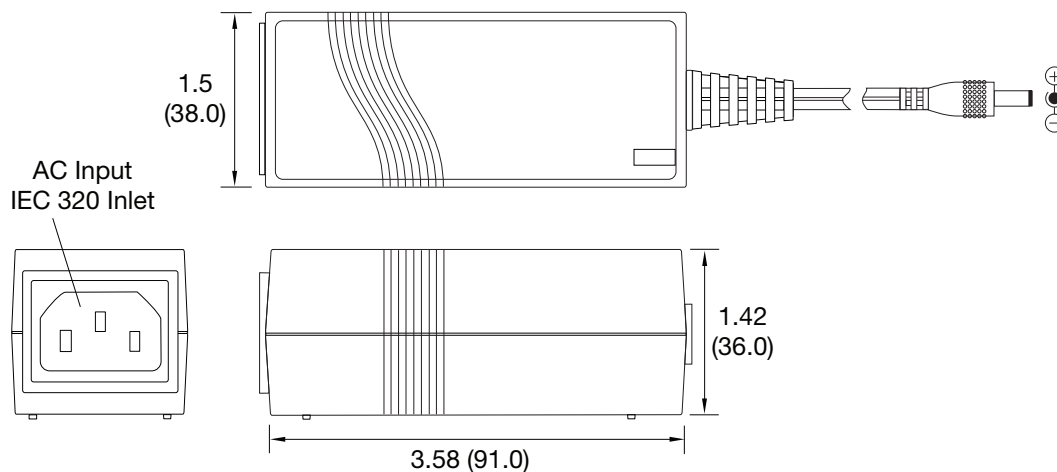
| Output Power | Output Voltage Nominal <sup>(1)</sup> | Output Current |         | Total Regulation <sup>(2)</sup> | Model Number |
|--------------|---------------------------------------|----------------|---------|---------------------------------|--------------|
|              |                                       | Minimum        | Maximum |                                 |              |
| 8.25 W       | 3.3 V                                 | 0.0 A          | 2.50 A  | 7%                              | AEH15US03    |
| 12.00 W      | 5.0 V                                 | 0.0 A          | 2.40 A  | 5%                              | AEH15US05    |
| 12.00 W      | 7.0 V                                 | 0.0 A          | 1.70 A  | 5%                              | AEH15US07    |
| 15.00 W      | 10.0 V                                | 0.0 A          | 1.50 A  | 5%                              | AEH15US10    |
| 15.00 W      | 12.0 V                                | 0.0 A          | 1.25 A  | 5%                              | AEH15US12    |
| 15.00 W      | 15.0 V                                | 0.0 A          | 1.00 A  | 5%                              | AEH15US15    |
| 15.00 W      | 18.0 V                                | 0.0 A          | 0.83 A  | 5%                              | AEH15US18    |
| 15.00 W      | 24.0 V                                | 0.0 A          | 0.62 A  | 5%                              | AEH15US24    |
| 15.00 W      | 30.0 V                                | 0.0 A          | 0.50 A  | 5%                              | AEH15US30    |
| 15.00 W      | 36.0 V                                | 0.0 A          | 0.42 A  | 3%                              | AEH15US36    |
| 15.00 W      | 48.0 V                                | 0.0 A          | 0.31 A  | 3%                              | AEH15US48    |

### Notes

1. Factory-set non-standard outputs available.

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

## Mechanical Details



### Notes

- Dimensions shown in inches (mm).
- Tolerance 0.02 (0.5) max.
- Output connector is 5.5mm outer diameter barrel. Inner diameter is 2.5mm, length is 11 mm, with centre positive (+) and outer shell negative (-).
- Output cable length is 72.0 (1830).
- Optional output connectors available, contact sales office.
- Weight 0.36 lb (165 g) approx.
- For UK mains lead order part: UK-MAINS-IEC.  
For European mains lead order part: EU-MAINS-IEC.

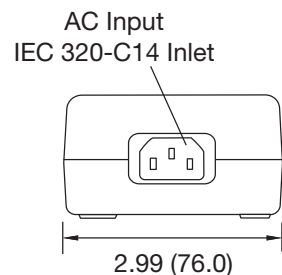
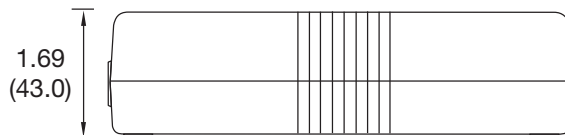
**Models and Ratings**

| 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   |              |
| 20 W             | 2.5 V                     | 0.0 A   | 8.0 A |                           |         |       |                           |         |       | AEH45US02    |
| 26 W             | 3.3 V                     | 0.0 A   | 8.0 A |                           |         |       |                           |         |       | AEH45US03    |
| 40 W             | 5.0 V                     | 0.0 A   | 8.0 A |                           |         |       |                           |         |       | AEH45US05    |
| 42 W             | 7.0 V                     | 0.0 A   | 6.0 A |                           |         |       |                           |         |       | AEH45US07    |
| 45 W             | 10.0 V                    | 0.0 A   | 4.5 A |                           |         |       |                           |         |       | AEH45US10    |
| 44 W             | 12.0 V                    | 0.0 A   | 3.7 A |                           |         |       |                           |         |       | AEH45US12    |
| 44 W             | 15.0 V                    | 0.0 A   | 2.9 A |                           |         |       |                           |         |       | AEH45US15    |
| 44 W             | 18.0 V                    | 0.0 A   | 2.4 A |                           |         |       |                           |         |       | AEH45US18    |
| 48 W             | 24.0 V                    | 0.0 A   | 2.0 A |                           |         |       |                           |         |       | AEH45US24    |
| 50 W             | 30.0 V                    | 0.0 A   | 1.7 A |                           |         |       |                           |         |       | AEH45US30    |
| 50 W             | 36.0 V                    | 0.0 A   | 1.4 A |                           |         |       |                           |         |       | AEH45US36    |
| 50 W             | 48.0 V                    | 0.0 A   | 1.0 A |                           |         |       |                           |         |       | AEH45US48    |
| 42 W             | +12.0 V                   | 0.5 A   | 3.0 A | -12.0 V                   | 0.2 A   | 1.0 A |                           |         |       | AEH45UM21    |
| 42 W             | +15.0 V                   | 0.5 A   | 2.0 A | -15.0 V                   | 0.2 A   | 1.0 A |                           |         |       | AEH45UM22    |
| 42 W             | +5.0 V                    | 0.5 A   | 5.0 A | +12.0 V                   | 0.2 A   | 2.0 A |                           |         |       | AEH45UM23    |
| 42 W             | +5.0 V                    | 0.5 A   | 5.0 A | +15.0 V                   | 0.2 A   | 1.5 A |                           |         |       | AEH45UM26    |
| 42 W             | +5.0 V                    | 0.5 A   | 5.0 A | +24.0 V                   | 0.1 A   | 1.0 A |                           |         |       | AEH45UM25    |
| 42 W             | +5.0 V                    | 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             | +5.0 V                    | 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             | +5.0 V                    | 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             | +5.0 V                    | 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             | +3.3 V                    | 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             | +3.3 V                    | 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             | +5.0 V                    | 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             | +5.0 V                    | 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    |

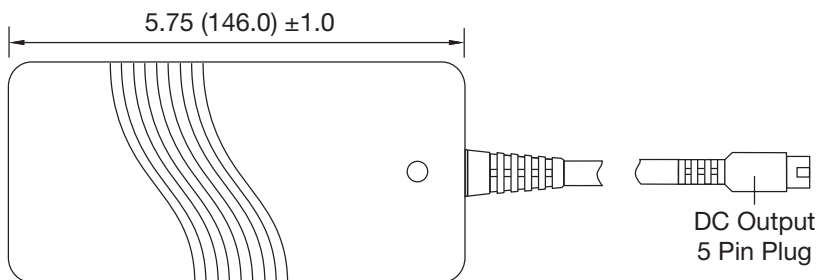
**Notes**

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**



| PIN CONNECTIONS |        |          |          |
|-----------------|--------|----------|----------|
| Pin             | SINGLE | DUAL     | TRIPLE   |
| Shell           | GND    | GND      | GND      |
| 1               | Common | Common   | Common   |
| 2               | Common | Common   | Common   |
| 3               | Output | Output 1 | Output 1 |
| 4               | Common | Common   | Output 3 |
| 5               | Output | Output 2 | Output 2 |



**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    |

**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" (1220mm) 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.

| 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 |

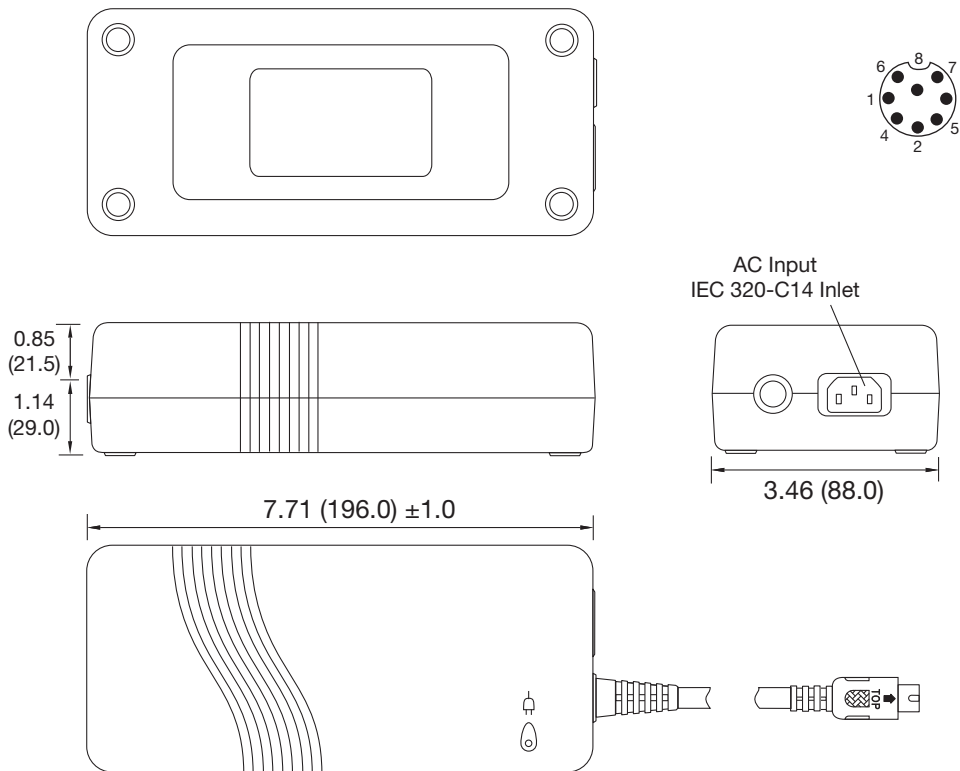
**Models and Ratings**

| Output Power Max | Output 1 <sup>(1,2)</sup> |         |        |                  | Output 2 <sup>(1,2)</sup> |         |       |                  | Model Number |
|------------------|---------------------------|---------|--------|------------------|---------------------------|---------|-------|------------------|--------------|
|                  | Voltage Nom.              | Current |        | Total Regulation | Voltage Nom.              | Current |       | Total Regulation |              |
|                  |                           | Min     | Max    |                  |                           | Min     | Max   |                  |              |
| 90 W             | 3.3 V                     | 0.0 A   | 27.2 A | 7%               |                           |         |       |                  | AEH130PS3V3  |
| 115 W            | 5.0 V                     | 0.0 A   | 23.0 A | 7%               |                           |         |       |                  | AEH130PS05   |
| 130 W            | 7.0 V                     | 0.0 A   | 18.5 A | 7%               |                           |         |       |                  | AEH130PS07   |
| 130 W            | 9.0 V                     | 0.0 A   | 14.4 A | 5%               |                           |         |       |                  | AEH130PS09   |
| 130 W            | 12.0 V                    | 0.0 A   | 10.8 A | 5%               |                           |         |       |                  | AEH130PS12   |
| 130 W            | 15.0 V                    | 0.0 A   | 8.6 A  | 5%               |                           |         |       |                  | AEH130PS15   |
| 130 W            | 18.0 V                    | 0.0 A   | 7.2 A  | 5%               |                           |         |       |                  | AEH130PS18   |
| 130 W            | 24.0 V                    | 0.0 A   | 5.4 A  | 5%               |                           |         |       |                  | AEH130PS24   |
| 130 W            | 28.0 V                    | 0.0 A   | 4.6 A  | 5%               |                           |         |       |                  | AEH130PS28   |
| 130 W            | 36.0 V                    | 0.0 A   | 3.6 A  | 5%               |                           |         |       |                  | AEH130PS36   |
| 130 W            | 48.0 V                    | 0.0 A   | 2.7 A  | 3%               |                           |         |       |                  | AEH130PS48   |
| 130 W            | 54.0 V                    | 0.0 A   | 2.4 A  | 3%               |                           |         |       |                  | AEH130PS54   |
| 90 W             | +3.3V                     | 4.0 A   | 20.0 A | 10%              | +12.0V                    | 0.2 A   | 2.0 A | 5%               | AEH130PD01   |
| 120 W            | +5.0V                     | 4.0 A   | 20.0 A | 7%               | +12.0V                    | 0.2 A   | 2.0 A | 5%               | AEH130PD02   |
| 120 W            | +5.0V                     | 4.0 A   | 20.0 A | 7%               | +15.0V                    | 0.2 A   | 2.0 A | 5%               | AEH130PD03   |
| 120 W            | +5.0V                     | 4.0 A   | 20.0 A | 7%               | +24.0V                    | 0.2 A   | 2.0 A | 5%               | AEH130PD04   |

**Notes**

1. Factory-set non-standard outputs available.
2. Total regulation includes initial set accuracy, line and load regulation.

**Mechanical Details**



| PIN CONNECTIONS |        |          |
|-----------------|--------|----------|
| Pin             | SINGLE | DUAL     |
| Shell           | GND    | GND      |
| 1               | Common | Common   |
| 2               | Common | Output 2 |
| 3               | Output | Output 1 |
| 4               | Common | Output 2 |
| 5               | Output | Output 1 |
| 6               | Common | Common   |
| 7               | Output | Output 1 |
| 8               | Output | Common   |

**Notes**

1. Dimensions shown in inches (mm).
2. Tolerance 0.02 (0.5) max.
3. Output cable length is 48" (1220mm) approx.
4. Optional output connectors available, contact sales.
5. Weight 1.9 lb (860 g) approx.
6. For UK mains lead order part: UK-MAINS-IEC, For European mains lead order part: EU-MAINS-IEC.