

300 Watts

- Energy Efficiency Level VI
- European CoC Tier 2
- High Power Density
- Single Outputs from 19V to 48V
- <0.15W Standby Power
- China Compulsory Certification (CCC) Qualified
- -10 °C to 60 °C Operation
- Low Cost



Dimensions:

VES300:

7.77 x 3.5 x 1.53" (197.4 x 88.9 x 39.0 mm)

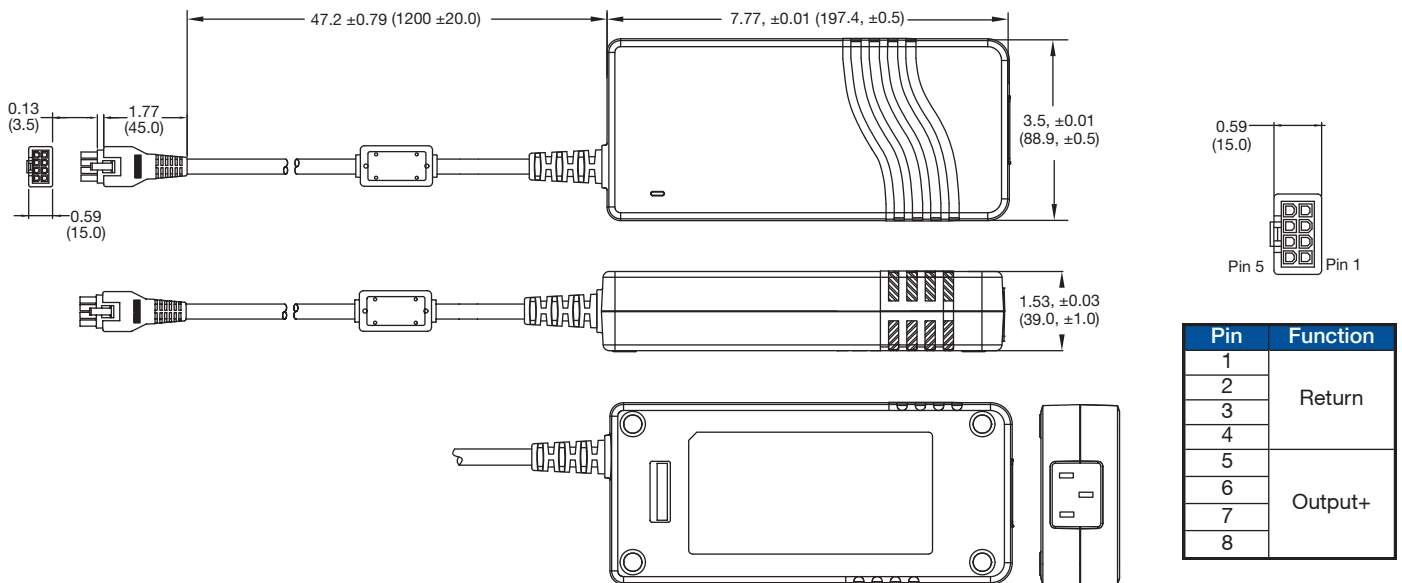
Models & Ratings

| Output Power | Output Voltage | Output Current | Total Regulation | Efficiency ⁽¹⁾ | Model Number |
|--------------|----------------|----------------|------------------|---------------------------|--------------|
| 300W | 19.0V | 15.79A | ±5% | 92% | VES300PS19 |
| | 24.0V | 12.50A | | 92% | VES300PS24 |
| | 48.0V | 6.25A | | 91% | VES300PS48 |

Notes

1. Typical average of efficiencies measured at 25%, 50%, 75% and 100% load and 230 VAC input.

Mechanical Details



Notes

1. All dimensions shown in inches (mm). Tolerance is 0.02 (0.5) maximum, except output cable length.
2. Output connector: molex Mini Fit JR, 8 way, mates with molex series #5569 plugs.
3. Weight: 2.95 lbs (1340 g) approx.
4. Output lead gauge is 16 AWG.
5. For European mains lead, order part EU-MAINS-IEC, For UK mains lead order part UK-MAINS-IEC, For US mains lead order part US-MAINS-IEC

Input

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|-----------------------|-------------------------------------|---------|---------|-------|---|
| Input Voltage | 90 | | 264 | VAC | Derate linearly from 100% load at 100VAC to 88% load at 90VAC |
| Input Frequency | 47 | | 63 | Hz | |
| Input Current | | 2.9/1.5 | | A | Measured at 115/230 VAC |
| Inrush Current | | | 120 | A | 230 VAC, cold start at 25 °C |
| Power Factor | | | | | EN61000-3-2 Class A |
| Earth Leakage Current | | | 1 | mA | 264 VAC, 60 Hz |
| No Load Input Power | | | 0.15 | W | |
| Input Protection | T6.3A/250 VAC internal fuse in line | | | | |

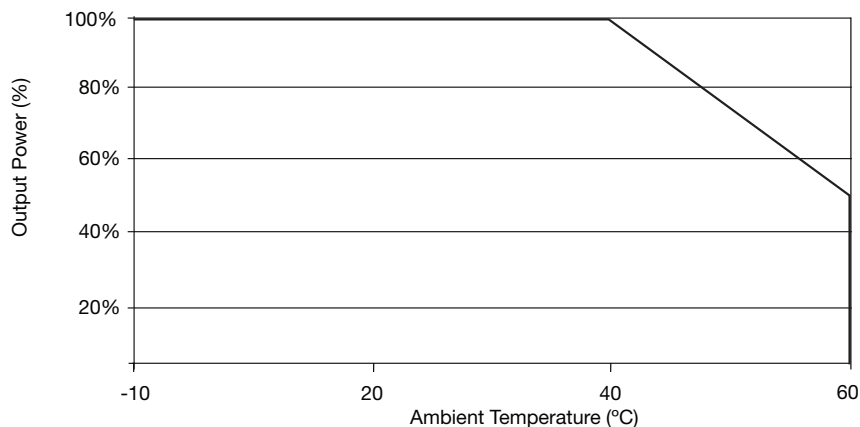
Output

| Characteristic | Min. | Typ. | Max. | Units | Notes & Conditions |
|--------------------------|---|------|---------|----------|--|
| Output Voltage | 19 | | 48 | VDC | See Models and Ratings table |
| Initial Set Accuracy | | | ±2 | % | At 50% load |
| Minimum Load | | | | | No minimum load required |
| Start Up Delay | | | 3 | s | |
| Start Up Rise Time | | | 50 | ms | |
| Hold Up Time | 10 | | | ms | Full load and 115 VAC |
| Line Regulation | | | ±0.5 | % | |
| Total Regulation | | | ±5 | % | |
| Transient Response | | | 5 | % | Maximum deviation, recovering to less than 1% within 500 µs for 50% to 100% step load change |
| Ripple and Noise | | | 260/380 | mV pk-pk | 19-24V / 48V. Measured with 20 MHz Bandwidth and 10 µF electrolytic in parallel with 0.1 µF ceramic capacitor. |
| Overshoot | | | 10 | % | At turn on / turn off |
| Overload Protection | 110 | | 160 | % | |
| Overvoltage Protection | | | 180 | % | Recycle mains to reset |
| Short Circuit Protection | Trip and restart (hiccup), auto resetting | | | | |
| Temperature Coefficient | | 0.04 | | %/°C | |

Environmental

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|-----------------------|--|---------|---------|-------|---|
| Operating Temperature | -10 | | +60 | °C | Derate from 100% load at 40 °C to 50% load at 60 °C |
| Cooling | Natural convection | | | | |
| Operating Humidity | 10 | | 90 | %RH | Non-condensing |
| Storage Temperature | -20 | | +95 | °C | |
| Operating Altitude | | | 5000 | m | |
| Shock | IEC68-2-27, 30 g, 30 ms half sine, 3 times in each of 6 axes | | | | |
| Vibration | IEC68-2-6, 10-300 Hz, 2 g 15 mins/sweep, 60 mins for each of 3 axes, non operating | | | | |

Derating Curve

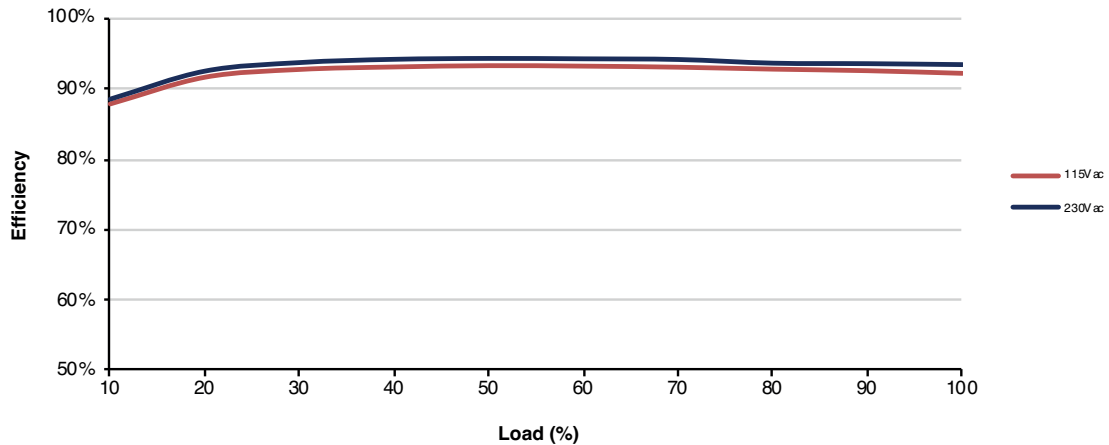


General

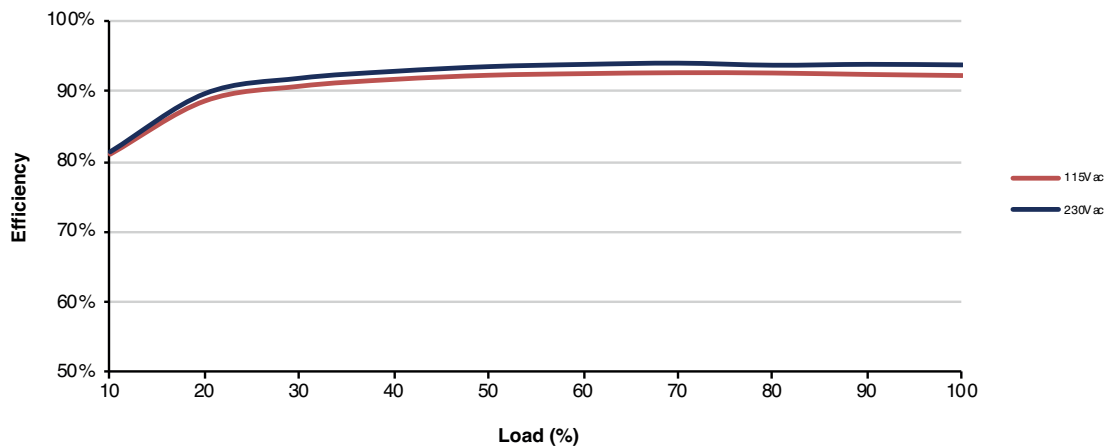
| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---|---------|-------------|---------|-------------------|---|
| Efficiency | | 91 | | % | See Models and Ratings table and curves DoE Level VI, CoC Tier 2, MEPS |
| Isolation: Input to Output Input to Ground Output to Ground | 3000 | | | VAC | |
| | 1500 | | | VAC | |
| | | | | VDC | Output return is connected to input ground |
| Switching Frequency | 25 | | 60 | kHz | Variable. Main converter |
| | | 80 | | | Variable. PFC stage |
| Power Density | | 7.1 | | W/in ³ | |
| Mean Time Between Failure | 100 | | | kHrs | MIL-HDBK-217F at 25 °C GB |
| Weight | | 2.95 (1340) | | lb (g) | |

Efficiency Curves

VES300PS12



VES300PS24



EMC: Emissions

| Phenomenon | Standard | Test Level | Notes & Conditions |
|------------------|-------------|------------|----------------------|
| Emissions | EN55032 | Class B | Conducted & Radiated |
| | FCC Part 15 | | |
| Harmonic Current | EN61000-3-2 | Class A | |
| Voltage Flicker | EN61000-3-3 | | |

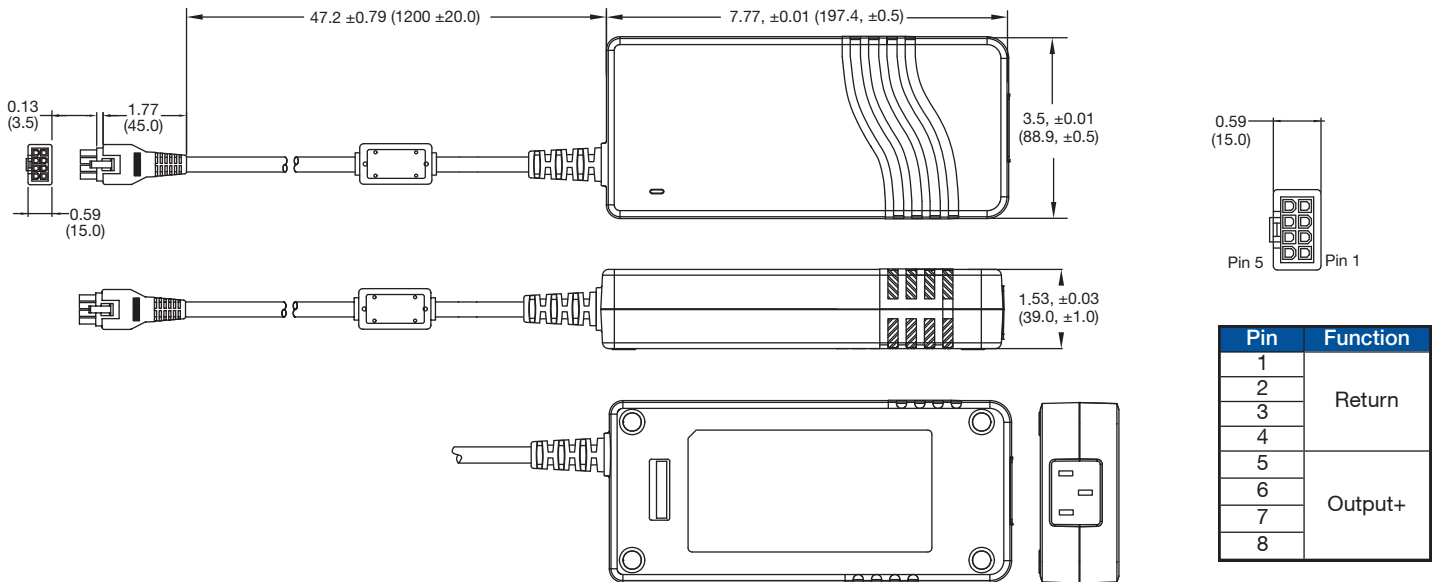
EMC: Immunity

| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|------------------------|--------------|--------------------------|----------|--------------------|
| ESD | EN61000-4-2 | ±8 kV Air, ±6 kV contact | A | |
| Radiated | EN61000-4-3 | 3 V/m | A | |
| EFT/Burst | EN61000-4-4 | 2kV | A | |
| Surge | EN61000-4-5 | Installation Class 3 | A | |
| Conducted | EN61000-4-6 | 3 V | A | |
| Magnetic Fields | EN61000-4-8 | 3 A/m | A | |
| Dips and Interruptions | EN61000-4-11 | Dip: 30% 500 ms | A/B | High Line/Low Line |
| | | Dip: 100% 5000 ms | B | |
| | | Int: 100% 10 ms | A | |

Safety Approvals

| Safety Agency | Safety Standard | Notes & Conditions |
|---------------|--|------------------------------|
| UL | UL62368-1 | Approved for 0-40°C ambient. |
| TUV | EN62368-1 | |
| CB | IEC62368-1 | |
| CCC | China Compulsory Certification, GB4943 | |
| AU/NZ | AU/NZ 62368-1 | |
| CE | Meets all applicable directives | |
| UKCA | Meets all applicable legislation | |

Mechanical Details



Notes

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