

**FEATURES:**



- Accurate Constant Current Output  $\pm 5\%$
- High Efficiency: Up to 88%
- Active Power Factor Correction
- UVLO, Short Circuit Protection
- IP65/IP67 design for indoor/outdoor
- Long Life, High reliability
- Over Temperature Protection
- Open Circuit Protection



**Models**  
**Single output**

| Model          | Max Output Power (W) | Output Voltage Range (V) | Output Current (A) | Input Voltage (VAC/Hz) | Efficiency (%) |
|----------------|----------------------|--------------------------|--------------------|------------------------|----------------|
| AMER120-42250Z | 105                  | 24-42                    | 2.5                | 90-305/47-63           | 88             |
| AMER120-42300Z | 126                  | 24-42                    | 3                  | 90-305/47-63           | 87             |

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity <75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications**

| Parameters          | Conditions          | Typical | Maximum | Units |
|---------------------|---------------------|---------|---------|-------|
| Input Current       | 90 VAC, full load   |         | 1.6     | Arms  |
| Inrush current <2ms | 115 VAC, cold start |         | 40      | A     |
|                     | 305 VAC, cold start |         | 65      |       |
| Leakage current     |                     |         | 0.75    | mA    |
| Input dissipation   | No Load             |         | 1.5     | W     |
|                     | Output Short        |         | 2.5     | W     |
| Power Factor        | 115 VAC, full load  |         | 0.98    |       |
|                     | 277 VAC, full load  |         | 0.92    |       |
| Input Fuse          | 3.15A / 300V        |         |         |       |
| Start-up Time       | 115 VAC, full load  |         | 1.5     | Sec.  |
|                     | 277 VAC, full load  |         | 1.0     | Sec.  |

**Output Specifications**

| Parameters            | Conditions   | Typical | Maximum | Units |
|-----------------------|--|---------|---------|-------|
| Current accuracy      |  | $\pm 5$ |         | %     |
| Line regulation       | LL to HL   | $\pm 3$ |         | %     |
| Load regulation       | Full Output Voltage Range                                    | $\pm 5$ |         | %     |
| Ripple & Noise        |  |         | 8       | %Vo   |
| Output Current Ripple | Full load, 16.7-20ms duration                                |         | 1       | A p-p |
| Current Overshoot     | LL to HL, full load at cold start, % of rated output current |         | 10      | %     |
| Hold-up time (min.)   |  |         | 0.5     | ms    |
| Minimum Load Voltage  | See Models Table Above                                       |         |         |       |

**Isolation Specifications**

| Parameters            | Conditions        | Typical        | Rated | Units |
|-----------------------|-------------------|----------------|-------|-------|
| Tested I/O voltage    | I/P – O/P         |                | 3750  | VAC   |
|                       | I/P – FG          |                | 2000  | VAC   |
|                       | O/P – FG          |                | 500   | VAC   |
| Isolation Resistance  | I/P – O/P, 500Vdc | >100M $\Omega$ |       | VAC   |
| Isolation Capacitance |                   |                | 3800  | pF    |

**General Specifications**

| Parameters          | Conditions | Typical | Maximum | Units |
|---------------------|------------|---------|---------|-------|
| Switching frequency |            |         | 130     | KHz   |

|                             |                                       |            |                        |
|-----------------------------|---------------------------------------|------------|------------------------|
| Over current protection     | Continuous, Hiccup mode               |            |                        |
| Short circuit protection    | Continuous, Hiccup mode               |            |                        |
| Short circuit restart       | Auto Recovery                         |            |                        |
| Open circuit protection     | Continuous, Hiccup mode               |            |                        |
| Over Temperature Protection | Threshold – Shutdown Output           | +100       | °C                     |
|                             | Hysteresis – Auto Recovery            | +85        | °C                     |
| Operating temperature       | Without Derating                      | -40 to +60 | °C                     |
| Maximum case temperature    |                                       | +90        | °C                     |
| Storage temperature         |                                       | -40 to +85 | °C                     |
| Temperature coefficient     |                                       | 0.03       | % / °C                 |
| Cooling                     | Free Air Convection                   |            |                        |
| Humidity                    |                                       | 90         | % RH                   |
| Case material               | Metal (Aluminum)                      |            |                        |
| Potting material            | Polysiloxane                          |            |                        |
| IP Rating                   | IP67                                  |            |                        |
| Weight                      | 850                                   |            | g                      |
| Dimensions (L X W X H)      | 6.93 x 2.70 x 1.65 inches             |            | 176.0 x 68.7 x 42.0 mm |
| MTBF                        | >400,000 hrs (MIL-HDBK-217F at +25°C) |            |                        |

## Safety Specifications

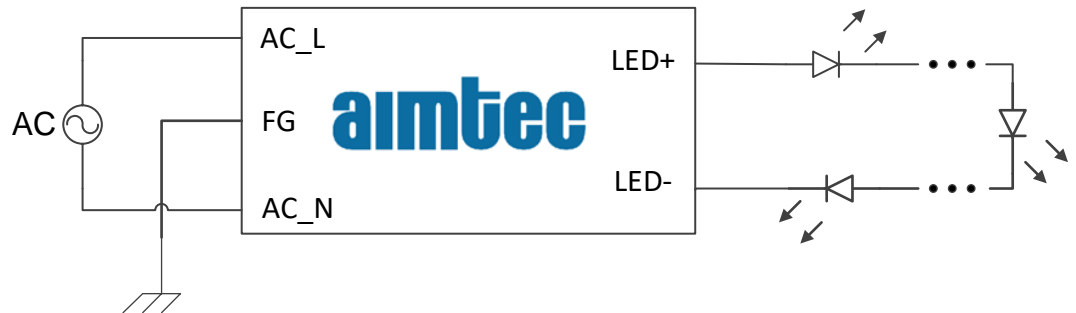
| Parameters |   |  |
|------------|---|--|
| Standards  | Electromagnetic Interference  | EN55015 / FCC Part 15, Class B                           |
|            | Harmonic Current Emissions  | EN61000-3-2, Class B                                     |
|            | Voltage fluctuations and flicker                                    | EN61000-3-3  |
|            | Electrostatic Discharge Immunity                                    | EN61000-4-2, 8kV Air, 4kV Contact, Level 3, Criteria A   |
|            | RF, Electromagnetic Field Immunity                                  | EN61000-4-3, Test-RS Level 3, Criteria A                 |
|            | Electrical Fast Transient / Burst Immunity                          | EN61000-4-4, Burst EFT Level 3, Criteria A               |
|            | Surge Immunity  | EN61000-4-5, Line to Neutral 4kV, Line/Neutral to FG 6kV |
|            | RF, Conducted Disturbance Immunity                                  | EN61000-4-6. Test-CS Level 3, Criteria A                 |
|            | Power frequency Magnetic Field Immunity                             | EN61000-4-8, Test 3A/m, Criteria A                       |
|            | Voltage dips, Short Interruptions Immunity                          | EN61000-4-11, Criteria B                                 |
|            | Electromagnetic Immunity Requirements Applies to Lighting Equipment | EN61547  |

## Pin Definition

| Wire         | Connection |
|--------------|------------|
| Brown        | AC L       |
| Blue         | AC N       |
| Yellow/Green | FG         |
| Red          | +V Output  |
| Black        | -V Output  |

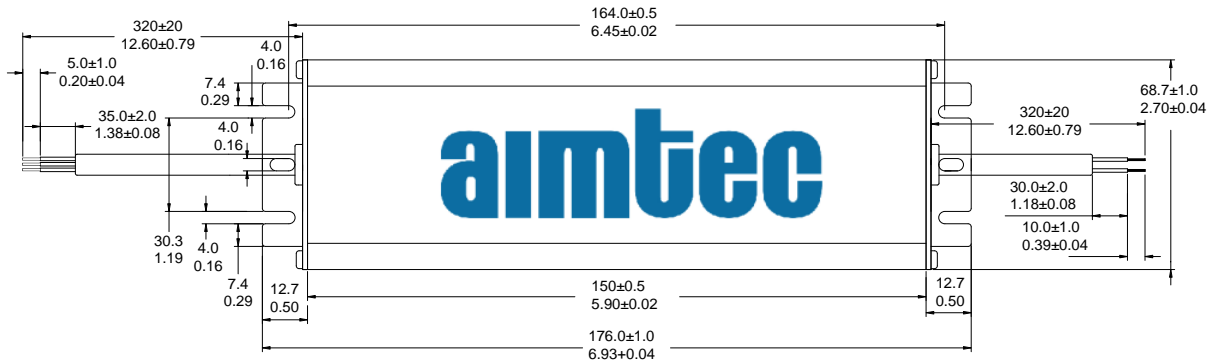
Input wire gauge #18  
Output wire gauge #14

## Application circuit

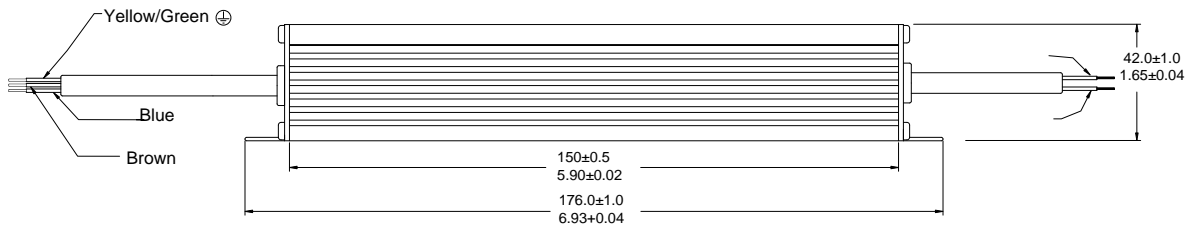


**Dimensions**

**Top View**

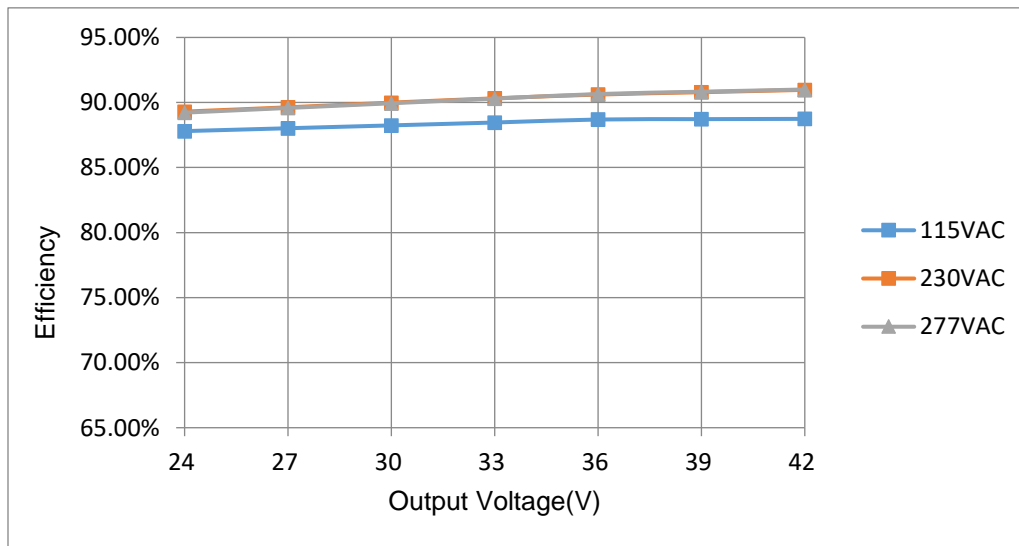


**Side View**

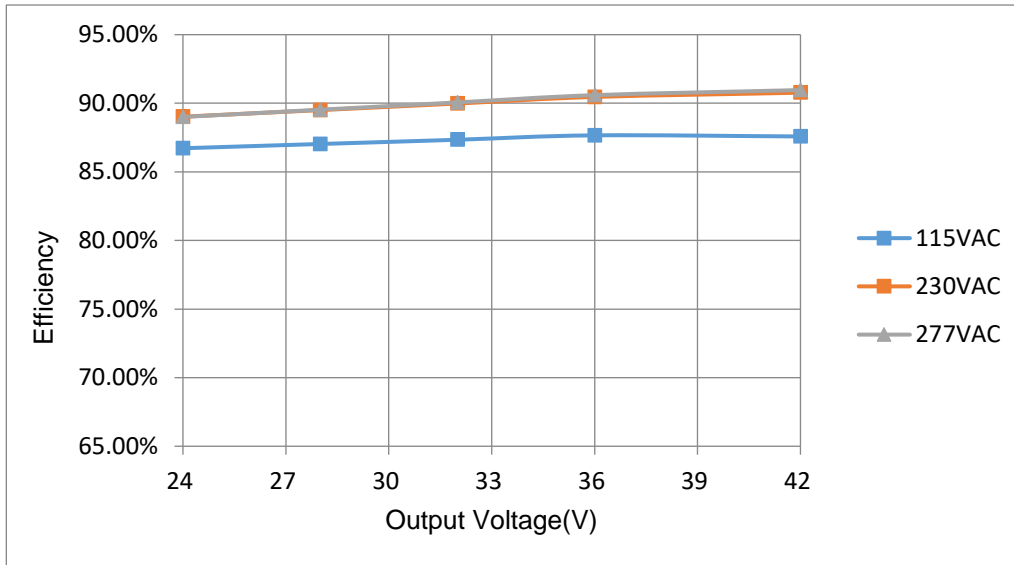


**Efficiency Vs. Input Voltage & Output Voltage (Constant current load)**

AMER120-42250Z

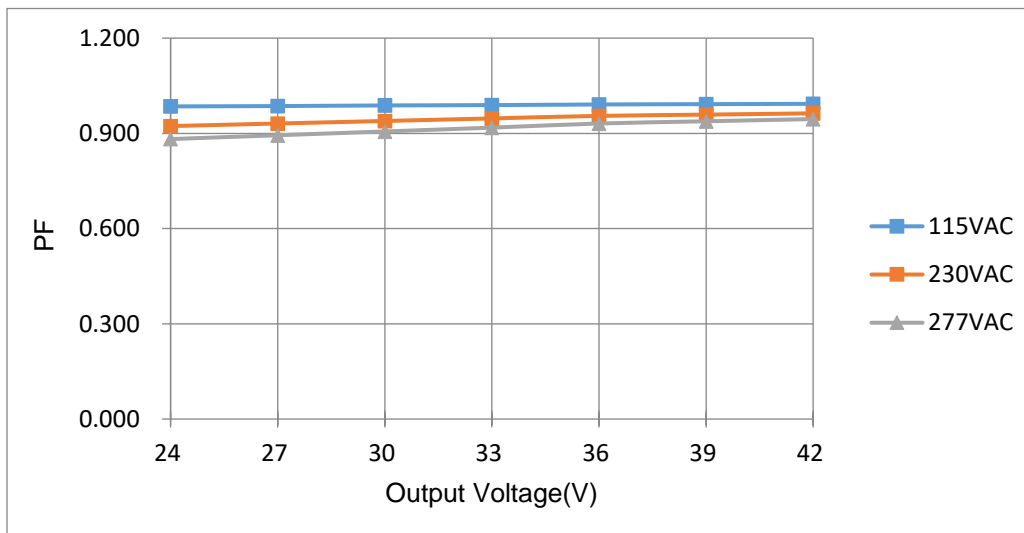


AMER120-42300Z

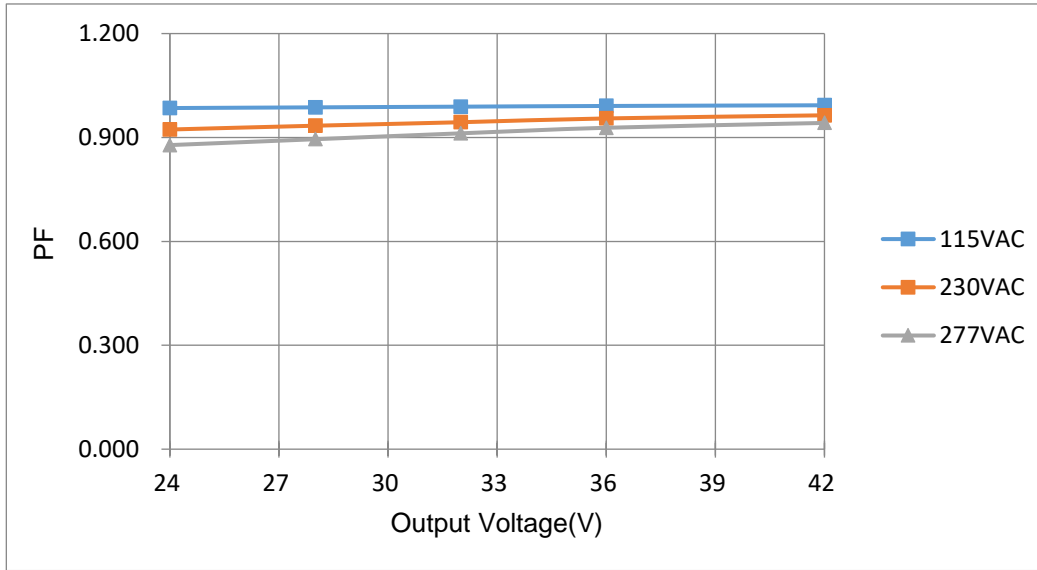


**PF vs. Input Voltage & Output Voltage (constant current mode)**

AMER120-42250Z



AMER120-42300Z



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