

◆ Features

- * Selected AC input voltage by a switch
- * Withstand 300Vac surge voltage for 5 seconds
- * Full Protections: Short-circuit/ Over-voltage / Over-current/ Over temperature
- * Built-in smart FSC (fan speed control) and fan ON/OFF is controlled by output loading
- * LED indicator for normal output voltage operating.
- * 1U low profile
- * IEC/EN 62368-1 design compliance
- * Up to 5000 meters operating altitude (note#4)
- * High efficiency and high reliability



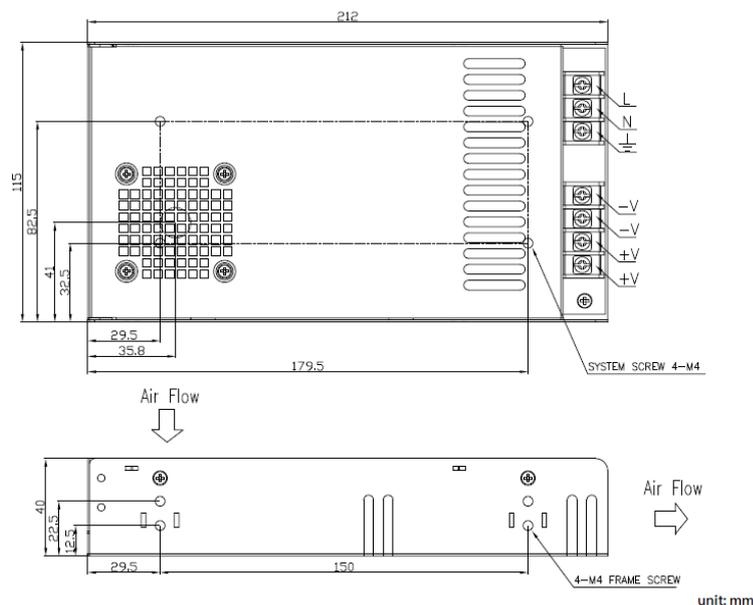
◆ Safety Certification



◆ Description

This is an AC to DC switching mode power supply which can provide 350 watts continuous power and forced cooling by a smart FSC circuit. It complies with world-wide Safety and EMC regulations (refer to details below). This PSU is high c/p (capability/price) value for various industrial applications.

◆ Mechanical Specification



unit: mm

| Model P/N | HA-1351-24NL | HA-1351-12NL |
|---------------------------------------|---|--------------|
| Output Specification | | |
| ● Rated power | 350W | |
| ● Rated voltage | 24V | 12V |
| ● Rated current | 14.6A | 29.2A |
| ● Ripple & Noise (max.) (note#2) | 150mV | |
| ● Line & load regulation | ±1% | |
| ● Hold-up time (typ.) | 16ms | |
| ● Timing: AC ON delay / rising (max.) | 2 sec / 30ms | |
| Input Specification | | |
| ● Rated voltage range | 100V~120VAC / 200~240VAC, by select switch | |
| ● Operated voltage range (note#5) | 90V~132VAC / 180~264VAC, 300Vac for 5 sec | |
| ● Current range (max.) | 6.8A/100Vac; 3.4A/200Vac | |
| ● Inrush current (typ.) | 50A/115Vac; 100A/230Vac (cold start) | |
| ● Frequency range | 50-60Hz | |
| ● Leakage current (max.) | 0.75mA | |
| ● Efficiency (typ.) | 87% | 83% |
| Protection Function | | |
| ● Over voltage (max.) | 140% of rated voltage, hiccup mode protection until fault is removed | |
| ● Over current (max.) | 130% of rated current, hiccup mode protection until fault is removed | |
| ● Short circuit at O/P | No damage, hiccup mode protection until fault is removed | |
| ● Over temperature | No damage, hiccup mode protection until temperature is back to normal | |
| Others | | |
| ● Fan ON/OFF (typ.) | Fan ON @ output current >2A; Fan OFF @ output current <1A | |
| ● MTBF (min.) (note#3) | 700K hours @ rated load | |
| Environment | | |
| ● Temperature (note#5) | (operating) -20~70°C /(storage) -40~85°C | |
| ● Humidity | (operating) 10~90% RH non-condensing / (storage) 5~95% RH | |
| ● Altitude (max.) (note#4) | 5000 meters | |
| Mechanical | | |
| ● Dimension | 212(L)*115(W)*40mm(H) | |
| ● Vibration | 10~500 Hz, 6G 15min./1cycle, 90min per axis in all axes (X, Y, Z) | |
| ● Weight (typ.) | 860g | |

Safety

| | |
|-------------------------------|---|
| ● Standard | IEC/EN 60950-1, K60950-1, IEC/EN 62368-1, CNS14336-1 |
| ● Withstand voltage | Input-Output: 4242VDC / Input-FG: 2150VDC / Output-FG: 700VDC |
| ● Isolation resistance (min.) | Input-Output: 100Mohm @ 500VDC, 25°C, 70%RH |

EMC

| | |
|----------------|---|
| ● EN55032 | Conducted EMI: class A / Radiated EMI: class A |
| ● FCC | Conducted EMI: class A / Radiated EMI: class A |
| ● EN61000-3-2 | Harmonic distortion: Not applicable |
| ● EN61000-4-2 | ESD: ±8KV contact discharge / ±15KV contact discharge |
| ● EN61000-4-3 | Radiated RF immunity: 3V/m |
| ● EN61000-4-4 | EFT: ±1KV (AC port) |
| ● EN61000-4-5 | Surge: ±2KV DM / ±4KV CM |
| ● EN61000-4-6 | Conducted RF immunity: 3V/m |
| ● EN61000-4-8 | Magnetic field immunity: 1A/m |
| ● EN61000-4-11 | Voltage dip immunity |

Note

#1: All specification defined at 230Vac/50Hz, rated power and 25°C ambient temperature if no mentioned specially.

#2: Ripple noise is measured by a 30cm length, twisted wires with 0.47uF MLCC+22uF low ESR capacitor.

#3: Calculated by Telcordia SR332 at 25°C ambient temperature.

#4: When operating altitude is higher than 2000m, the environment temperature derating factor is 0.5°C/100m.

#5: De-rating curve of AC input voltage and ambient temperature:

