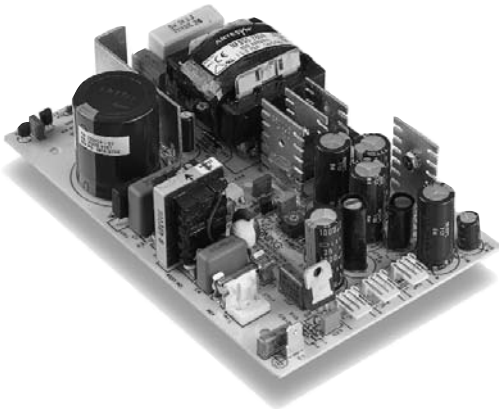


NFS50-7608

Triple output



[2 YEAR WARRANTY]



- **6.3 x 3.94 x 1.5 inch package (1U applications)**
- **Oversvoltage and short circuit protection**
- **50W with free air convection cooling**
- **Regulation to no load**
- **Isolated output option**
- **EN55022, EN55011 conducted emissions level A**
- **UL, VDE and CSA safety approvals**
- **NFS50 Medical IEC601 approved**

The NFS50-7608 is a 50W universal input AC/DC power supply on a 6.3 x 3.94 inch card with a maximum component height of 1.5 inches for use in 1U applications. The NFS50-7608 series can regulate on the auxiliary outputs down to no load making it suitable for applications that require a heavy logic load on the main 5V output and low nominal loads with high peak capability for drives, relays or switches on the auxiliary outputs. The NFS50-7608 provides 50W of output power with free air convection cooling which can be boosted to 60W with 20CFM of air. Standard features include oversvoltage and short circuit protection. The series, with full international safety approval and the CE mark, meets conducted emissions EN55022 level A. The NFS50-7608 series is designed for use in low power data networking, computer, telecom and industrial applications such as POS terminals, servers, PABX's, industrial PC's and process automation.

SPECIFICATION All specifications are typical at nominal input, full load at 25°C unless otherwise stated

| OUTPUT SPECIFICATIONS | | |
|-------------------------------|---|---|
| Voltage adjustability | +5V output +12V tracks the 5V output | ±3% |
| Line regulation | LL to HL at max. load | ±0.3% |
| Total regulation | Main output (output 1) All other outputs (See Notes 5, 6) | ±2.5% ±5.0% |
| Overshoot/undershoot | At turn-on | 0% |
| Transient response | 5V (2.5A to 5A) | 500mV max. dev. 500µs recovery to 0.5% |
| | 12V (1A to 2A) | 300mV max. dev. 500µs recovery to 0.5% |
| Temperature coefficient | All outputs | ±0.03%/°C, max. |
| Oversvoltage protection | +5V output | 6.25V ±0.65V |
| Output power limit | Primary power limited | 90W Pin max. 60W Pout min. |
| Short circuit protection | | Yes, with auto-restart |
| INPUT SPECIFICATIONS | | |
| Input voltage range | Universal input | 85 to 264VAC 120 to 370VDC |
| Input frequency range | | 47 to 440Hz |
| Input surge current | 110VAC, cold start 230VAC, cold start | 10A, max. 20A max. |
| Safety ground leakage current | 132VAC, 60Hz 264VAC, 50Hz | 0.2mA, max. 0.4mA, max. |
| EMC CHARACTERISTICS | | |
| Conducted emissions | EN55022, FCC part 15 | Level A |
| Radiated emissions | EN55022, FCC part 15 | Level A |
| ESD air | EN61000-4-2, level 3 | Perf. criteria 1 |

| EMC CHARACTERISTICS | | |
|------------------------------|--|--|
| ESD contact | EN61000-4-2, level 4 | Perf. criteria 1 |
| Surge | EN61000-4-5, level 3 | Perf. criteria 1 |
| Fast transients | EN61000-4-4, level 3 | Perf. criteria 2 |
| Radiated immunity | EN61000-4-3, level 3 | Perf. criteria 2 |
| Conducted immunity | EN61000-4-6, level 3 | Perf. criteria 2 |
| GENERAL SPECIFICATIONS | | |
| Hold-up time | 110VAC, 50W output power 230VAC, 50W output power | 16ms 100ms |
| Efficiency | | 70%, typ. |
| Isolation voltage | Input/output Input/chassis | 3000VAC 1500VAC |
| Switching frequency | Variable | 25kHz to 250kHz |
| Approvals and standards | | VDE0805, EN60950, IEC950 IEC1010, CSA C22.2 No. 950 |
| Weight | | 400g (14oz) |
| MTBF (See Note 7) | MIL-HDBK-217E, 25°C | 160,000 hours |
| ENVIRONMENTAL SPECIFICATIONS | | |
| Thermal performance | Operating range (See derating curve) | 0°C to +70°C |
| | Non-operating | -40°C to +85°C |
| | 0°C to 50°C ambient temp., Convection cooled | 50W |
| | 0°C to 50°C ambient, Forced air @ 20 CFM | 60W |
| | 50°C to 70°C ambient | Derate linearly to 50% load |
| | Peak (30 seconds) | 60W |
| Relative humidity | Non-condensing | 5% to 95% RH |
| Altitude | Operating | 10,000 feet max. |
| | Non-operating | 30,000 feet max. |
| Vibration (See Note 9) | 5Hz to 500Hz | 2.4G rms (approx) |

50 to 60 Watt AC/DC universal input switch mode power supplies

| OUTPUT VOLTAGE | OUTPUT CURRENTS | | | RIPPLE (4) | TOTAL REGULATION(5,6) | MODEL NUMBER (12) |
|-----------------------------|-----------------|----------|---------|------------|-----------------------|-------------------|
| | MAX(1) | PEAK (2) | FAN (3) | | | |
| +5.1V (I ₁) (6) | 5.0A | 7.0A | 7.0A | 50mV | ±2.5% | NFS50-7608 |
| +12.0V (I ₂) | 2.0A | 5.0A | 2.5A | 120mV | ±5.0% | |
| -12.0V | 0.5A | 1.0A | 0.7A | 120mV | ±5.0% | |

Notes

- Convection cooled, maximum 50W output power.
- Peak outputs lasting less than 30 seconds with duty factor less than 10%. During peak loading output may go outside total regulation limits. Maximum output during peak loading is 60 Watts.
- Forced air, 20 CFM at 1 atmosphere.
- Figure is peak-to-peak. Output noise measurements are across a 50MHz bandwidth made using a 12" twisted pair, terminated with a 47µF capacitor.
- Total regulation is defined as the static output regulation at 25°C, including initial tolerance, line voltage within stated limits and output voltages adjusted to their factory settings. Also, for stated I(2) regulation: I(1)/I(2)≤5.
- A minimum load of 0.5 Amps is required on the +5.1V output to obtain full current from the -12V output.
- Derating curve is application specific for ambient temperatures > 50°C, for optimum reliability no part of the heatsink should exceed 110°C and no semiconductor case temperature should exceed 115°C.
- Caution: Allow a minimum of 1 second after disconnecting the power when making thermal measurements.
- Three orthogonal axes, random vibration, ten minute test for each axis.
- A 5 Watt minimum load is recommended to achieve design MTBF.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

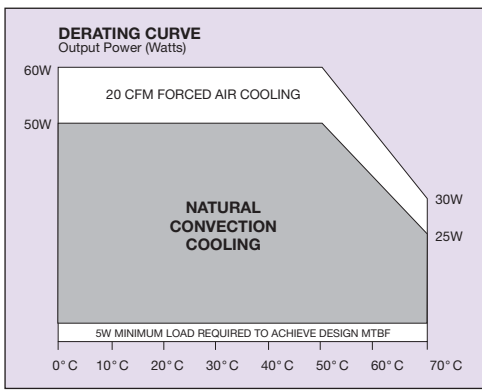
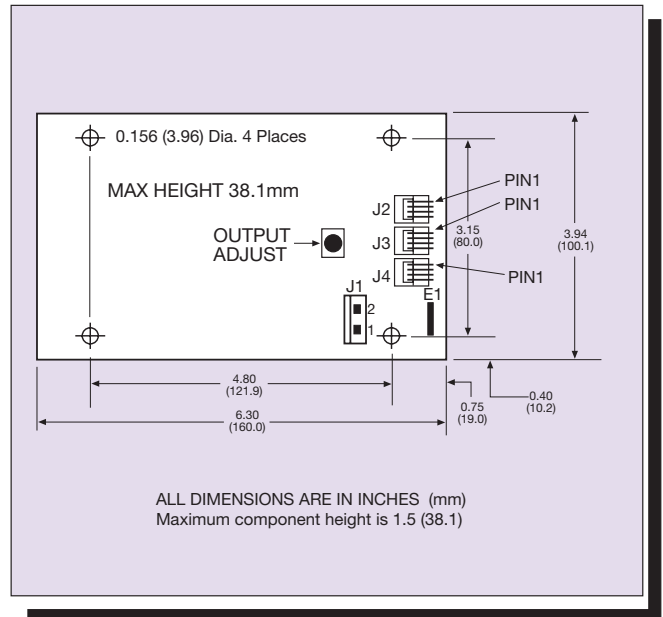
AC mating connector

Molex 09-50-3031 or equivalent with Molex 08-50-0105 or equivalent crimp terminal.

DC mating connector

Molex 22-01-1043 or equivalent with Molex 08-50-0031 or equivalent crimp terminal.

| PIN CONNECTIONS | |
|-------------------|-------------------|
| J1 | NFS50-7608 |
| Pin 1 | AC Line |
| Pin 2 | AC Neutral |
| J2, J3, J4 | |
| Pin 1 | -12V |
| Pin 2 | +12V |
| Pin 3 | Return |
| Pin 4 | +5.1V |
| E1 | |
| Pin 1 | Ground |



International Safety Standard Approvals

VDE0805/EN60950/IEC950/IEC1010
File No. 10401-3336-1036 Licence No 1485 and 1650

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C