



**THE DATASHEET OF  
NFS80-7606J**



## NFS80 Series Quad output

**Total Power:** 80 - 110W  
**Input Voltage:** 90 - 264VAC  
120 - 370VDC  
**# of Outputs:** Quad

### Special Features

- 7.0 x 4.25 x 1.8 inch package
- Overvoltage and short circuit protection
- 80 W with free air convection
- Adjustable outputs
- Isolated output
- Floating fourth output
- EN55022, EN55011 conducted emissions level B
- UL, VDE and CSA safety approvals
- Available RoHS compliant
- 2 year warranty

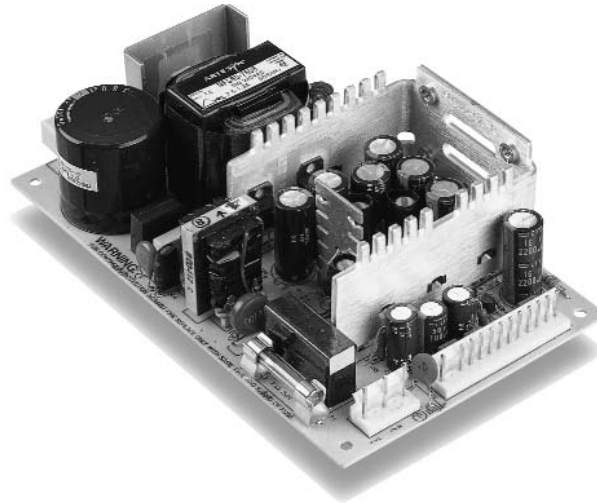
### Safety

VDE0805/EN60950/  
IEC950/IEC1010  
File No. 10401-3336-0213

Licence No. 40014677

UL1950 File No. E136005

CSA C22.2 No. 950  
File No. LR41062C



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The NFS80 series is a 80 W universal input ac-dc power supply on a 7 x 4.25 inch card. The NFS80 series has two quad output models with a very high peak capability on the auxiliary outputs for drive and motor applications. The NFS80 provides 80 W of output power with free air convection cooling which can be boosted to 110 W with 20 CFM of forced air. Standard features include overvoltage and short-circuit protection. The series, with full international safety approval and the CE mark, meets conducted emissions EN55022 level B. The NFS80 series is designed for use in low power data networking, computer, telecom and industrial applications such as servers, PABX's, storage devices, vending machines and printers.



# Specifications

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

## OUTPUT SPECIFICATIONS

Output voltage adjustability	+5 V output on multi's Vout on singles	±3.0%
Line regulation LL to HL, FL	Main output Auxiliary outputs	±0.1% max. ±0.1% max.
Total regulation	(See Note 5)	See table
Overshoot/undershoot	At turn-on	0%
Transient response	+5 V (1 A to 12 A)	±150 mV peak 1 ms recovery
Temperature coefficient	All outputs	±0.02%/°C
Overvoltage protection	+5 V output	140% Vout max.
Minimum output current See derating curve	Main output Auxiliary output	1 A 0 A
Output power limit	Primary power limit	160 W Pin max. 110 W Pout min.
Short circuit protection	Yes with auto recovery	

## INPUT SPECIFICATIONS

Input voltage range	Universal input	90-264 Vac 120-370 Vdc
Input frequency range	47-440 Hz	
Input surge current	115 Vac, cold start 230 Vac, cold start	19 A 38 A
Safety ground leakage current	110 Vac, 60 Hz 230 Vac, 50 Hz	0.2 mA 0.4 mA

## EMC CHARACTERISTICS <sup>(11,9)</sup>

Conducted emissions	EN55022,FCC part 15	Level B
Radiated emissions	EN55022 FCC part 15	Level B
ESD air	EN61000-4-2, level 3	Perf. criteria 1
ESD contact	EN61000-4-2, level 4	Perf. criteria 1

## EMC CHARACTERISTICS <sup>(11,9)</sup>

Surge	EN61000-4-5, level 3	Perf. criteria 1
Fast transients	EN61000-4-4, level 3	Perf. criteria 1
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 1
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 1

## GENERAL SPECIFICATIONS

Hold-up time	110 Vac, @ 80 W 110 Vac, @ 110 W 230 Vac, @ 80 W 230 Vac, @ 110 W	35 ms 17 ms 140 ms 100 ms
Efficiency	70% typical	
Isolation voltage	Input/output Input/chassis	3000 Vac 1500 Vac
Switching frequency	20-70 kHz	
Approvals and standards (See Note 10)	VDE0805, EN60950, IEC950 IEC1010, UL1950 CSA C22.2 No. 950	
Weight	600 g (21.18 oz)	
MTBF (See Note 7)	MIL-HDBK-217E @ 25 °C	250,000 hours

## ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating, see curve Non-operating 50 °C to +70 °C natural convection 50 °C to +70 °C 20 CFM forced air cooling	0 °C to +70 °C -40 °C to +85 °C Derate 2 W/°C Derate 2.75 W/°C
Relative humidity	5% to 95% RH	
Altitude	Operating Non-operating	10,000 feet max. 30,000 feet max.
Vibration (See Note 9)	5-500 Hz	2.4 G rms approx.

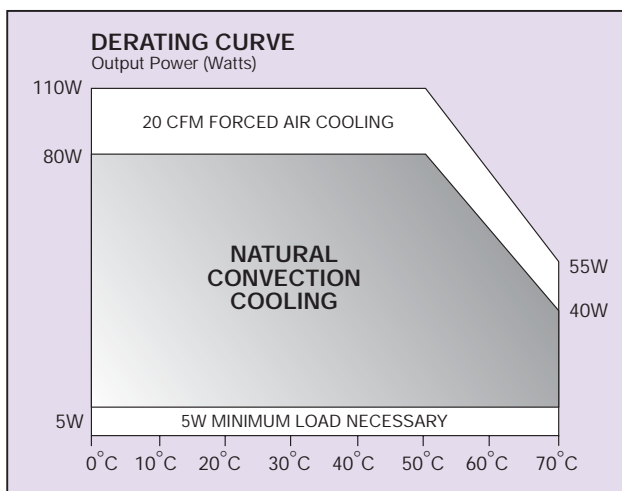
## Specifications Contd.

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OUTPUT VOLTAGE	OUTPUT CURRENTS			RIPPLE <sup>(4)</sup>	TOTAL REGULATION <sup>(5)</sup>	MODEL NUMBER <sup>(12,13,E)</sup>
	MAX <sup>(1)</sup>	PEAK <sup>(2)</sup>	FAN <sup>(3)</sup>			
+5 V (I <sub>A</sub> )	8 A	20 A	15 A	50 mV	±2.0%	NFS80-7602J
+24 V (I <sub>B</sub> )	2 A	3 A	2.5 A	240 mV	+10.0/-5.0%	
+12 V	2.5 A	6 A	3 A	120 mV	±3.0%	
±12 V <sup>(6)</sup>	2.5 A	6 A	3 A	120 mV	±3.0%	
+5 V (I <sub>A</sub> )	8 A	20 A	15 A	50 mV	±2.0%	NFS80-7606J
+24 V (I <sub>B</sub> )	2 A	3 A	2.5 A	240 mV	+10.0/-5.0%	
+15 V	2.5 A	6 A	3 A	150 mV	±3.0%	
±15 V <sup>(6)</sup>	2.5 A	6 A	3 A	150 mV	±3.0%	

### Notes

- Natural convection cooling.
- Peak output current lasting less than 60 seconds with duty cycle ≤ 10%. During peak loading, outputs may exceed total regulation limits.
- Forced air cooling, 20 CFM @ 1 atmosphere.
- 50 MHz bandwidth, peak-to-peak, measured differentially.
- Total regulation is defined as the static output regulation at 25 °C, including initial tolerance, line voltage within stated limits, load currents within stated limits, and output voltages adjusted to their factory settings. Also, for stated regulation on the +24 V output, I<sub>A</sub> / I<sub>B</sub> ≤ 5.
- Pins 10 and 11 are a floating output, which can be referenced as either positive or negative. Pin 10 is positive with respect to pin 11. Either pin 10 or 11 must be connected to return (pins 4-7) for proper operation.
- 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, 10 minute test for each axis.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- For EMI compliance unit may need to be mounted on a metal chassis.
- The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 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.



### Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 760 930 4600  
Facsimile: +1 760 930 0698

### Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

### Asia (HK)

16th - 17th Floors, Lu Plaza  
2 Wing Yip Street, Kwun Tong  
Kowloon, Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

[www.powerconversion.com](http://www.powerconversion.com)

[technicalsupport@powerconversion.com](mailto:technicalsupport@powerconversion.com)

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