Rev.02.16.07 NFS80 Series

## 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

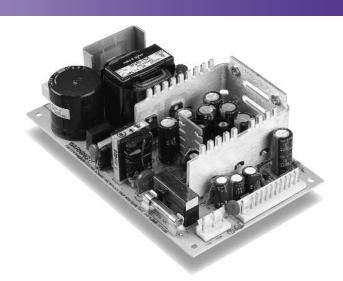
### Safety

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

Licence No. 40014677

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C



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**

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All specifications are typical at nominal input, full load at  $25^{\circ}\text{C}$  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 (11	c)	
Conducted emissions Radiated emissions ESD air ESD contact	EN55022,FCC part 15 EN55022 FCC part 15 EN61000-4-2, level 3 EN61000-4-2, level 4	Level B Level B Perf. criteria 1 Perf. criteria 1

EMC CHARACTERISTICS (1)	1.C)						
Surge Fast transients Radiated immunity Conducted immunity	EN61000-4-5, level 3 EN61000-4-4, level 3 EN61000-4-3, level 3 EN61000-4-6, level 3	Perf. criteria 1 Perf. criteria 1 Perf. criteria 1 Perf. criteria 1					
GENERAL SPECIFICATION	S						
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.					

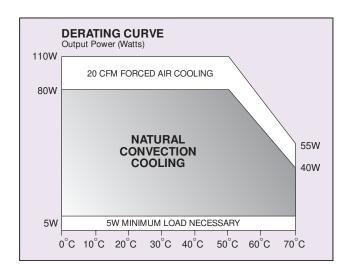
## **Specifications Contd.**

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OUTPUT VOLTAGE	OUTPUT CURRENTS		DIDDLE	TOTAL	MACDEL MUNADED	
	MAX (1)	PEAK (2)	FAN (3)	RIPPLE (4)	REGULATION (5)	MODEL NUMBER (12,13,E)
+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 (6)	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 (6)	2.5 A	6 A	3 A	150 mV	±3.0%	

#### Notes

- 1 Natural convection cooling.
- 2 Peak output current lasting less than 60 seconds with duty cycle ≤10%. During peak loading, outputs may exceed total regulation limits.
- 3 Forced air cooling, 20 CFM @ 1 atmosphere.
- 4 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
- 6 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.
- 7 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.
- 8 Caution: Allow a minimum of 1 second after disconnecting the power when making thermal measurements.
- **9** Three orthogonal axes, random vibration, 10 minute test for each axis.
- 10 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 11 For EMI compliance unit may need to be mounted on a metal chassis.
- 12 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.
- 13 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.



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