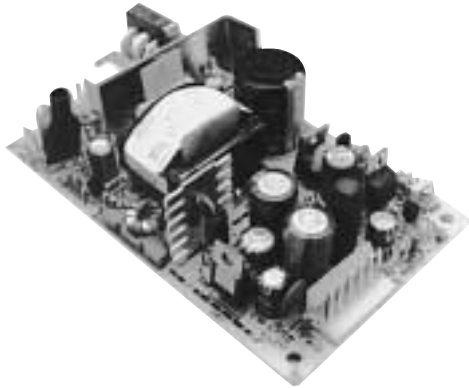


## NFN25 SERIES

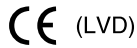
Dual and triple output



- 85VAC to 264VAC universal input range
- 120VDC to 370VDC input voltage range
- Fixed frequency operation
- Overvoltage protection (+5V output)
- Meets EN55022 limit B and FCC part 15 limit B line conducted noise
- VDE, UL and CSA approved

The NFN25 Series of universal input, 25 Watt switching power supplies are mechanically equivalent to the industry standard NFS40, but are optimised for operation at lower output power levels. The NFN25 Series uses an advanced, fixed frequency design which further reduces the line-conducted noise below EN55022 and FCC limit B and specifies a much lower leakage current. The supplies deliver 25W continuous, 35W peak and regulate to zero load. NFN25 Series power supplies are particularly suitable for telecoms applications such as modems, PABX's and networking systems.

[ 2 YEAR WARRANTY ]



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

OUTPUT SPECIFICATIONS		
Output power	Continuous Peak (60s)	25W 35W
Line regulation LL to HL, FL	Main output (Output 1) Output 2 Output 3	±0.2%, max. ±1%, max. ±0.2%, max.
Total regulation (See Note 4)	Main output (Output 1) Auxilliary output Auxilliary output	±2.0%, max. see table see table
Overshoot/undershoot	At turn-on	0%
Transient response	+5V (1.5 to 3A step)	±120mV max. dev. 500µs recovery
Temperature coefficient	All outputs	±0.02%/°C, max.
Overvoltage protection	+5V output	6.25V ±0.75V
Output power limit	Primary power limited	60W Pin limit, max. 35W Pin limit, min.
Short circuit protection		Continuous
INPUT SPECIFICATIONS		
Input voltage range		85 to 264VAC 120 to 370VDC
Input frequency range		47 to 440Hz
Input surge current	110VAC, cold start 230VAC, cold start	15A max. 32A max.
Safety ground leakage current	132VAC, 60Hz 264VAC, 50Hz	155µA, max. 261µA, max.

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS CON'T		
Conducted emissions	EN55022, level B	
Radiated emissions	EN55022, level B	
ESD air	EN61000-4-2, level 3	Perf. criteria 1
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 1
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 2
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 1
GENERAL SPECIFICATIONS		
Hold-up time	110VAC input 230VAC input	16ms 80ms
Efficiency	25W output	70% typical
Isolation voltage	Input/output Input/chassis	3000VAC 1500VAC
Switching frequency	Fixed, 45kHz ±5kHz	
Approvals and standards	IEC950, IEC1010, EN60950 UL1950, VDE0805, BAPT CSA C22.2 No. 950	
Weight	280g (9.6oz)	
MTBF	MIL-HDBK-217E, 25°C	170,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	0°C to 50°C ambient, convection cooled 50°C to +70°C ambient convection cooled Peak (0°C to +50°C, max. 60 seconds) Non-operating	25W max.  Derate to 50% load 35W -40°C to +85°C
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 30,000 feet max.
Vibration	Random vibration Three orthogonal axes 10 min. test per axis	2.4G rms approx. 5Hz to 500Hz

Data Sheet © Artesyn Technologies® 2000  
The information and specifications contained in this data sheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

# 25 Watt AC/DC universal input switch mode power supplies


OUTPUT VOLTAGE	OUTPUT CURRENTS			RIPPLE (3)	TOTAL REGULATION (4)	MODEL NUMBER
	MIN	MAX (1)	PEAK (2)			
+5.1V (A)	0A	2.0A	5.0A	50mV	±2.0%	NFN25-7608
+12.0V (B)	0A	1.5A	3.0A	120mV	±5.0%	
-12.0V	0A	0.2A	1.0A	120mV	±5.0%	
+5.1V	0A	3.0A	5.0A	50mV	±2.0%	NFN25-7628 <sup>(5)</sup>
+12.0V	0A	0.2A	1.0A	120mV	±2.0%	
-12.0V	0A	0.2A	1.0A	120mV	±2.0%	
+5.1V (A)	0A	2.0A	5.0A	50mV	±2.0%	NFN25-7629
+12.0V (B)	0A	1.5A	3.0A	120mV	±5.0%	

## Notes


- Natural convection cooling.
- Peak output current lasting less than 60 seconds with duty cycle less than 5%. During peak loading, outputs may go outside of total regulation limits. Total peak power output is 35 Watts.
- Figure is peak-to-peak. Output noise measurements are made across a 50MHz bandwidth using a 12" twisted pair, terminated with a 47µF cap.
- 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,  $0.5 \leq I(A)/I(B) \leq 3$  to maintain stated regulation. This does not apply to the NFN25-7628.
- The NFN25-7628 has separately regulated +12V and -12V outputs. The loading condition in note 4 does not apply.
- Derate linearly from 25 Watts at 50°C to 12.5 Watts at 70°C.
- Derating curve is application specific for ambient temperatures > 50°C, for optimum reliability no part of the heatsink should exceed 120°C and no semiconductor case temperature should exceed 125°C.
- Caution: Allow a minimum of 1 second after disconnecting the power before making thermal measurements.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.

PIN CONNECTIONS			
J1	-7608	-7628	-7629
Pin 1	AC Live	AC Live	AC Live
Pin 2	AC Neutral	AC Neutral	AC Neutral
J2			
Pin 1	+12V	+12V	+12V
Pin 2	+5.1V	+5.1V	+5.1V
Pin 3	+5.1V	+5.1V	+5.1V
Pin 4	Return	Return	Return
Pin 5	Return	Return	Return
Pin 6	-12V	-12V	N/C
P1			
Pin 1	Safety Earth Ground		

## International Safety Standard Approvals

 VDE0805/EN60950/IEC950/IEC1010  
File No. 10401-3336-10674 Licence No. 2559, 1651

 UL1950 File No. E136005

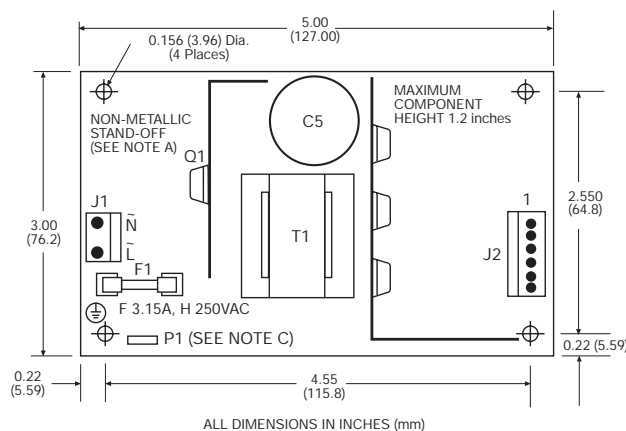
 CSA 22.2 No. 950 File No. LR41062C/LR50913/LR101320

## AC mating connector

Molex 09-50-3031 or equiv. with Molex 08-50-0105 crimp terminals or equiv.

## DC mating connector

Molex 09-91-0600 or equiv. with Molex 08-50-0164 crimp terminals or equiv.



## Mechanical notes

- The ground pad of the mounting hole near P1 allows system grounding through a metal stand-off.
- To improve conducted noise, the ground pad of the mounting hole near the output connector should be connected with the ground pad of the mounting hole near J3. Use metal stand-offs attached to a common metal chassis. This connection also significantly attenuates common mode noise.
- A standard L-bracket and cover is available for mounting which contains all screws, connectors and necessary mounting hardware. Details are on page CHECK. Order part number 'NFS40 COVER KIT'.

