



[ 2 YEAR WARRANTY ]  
CE (LVD)

## NAN55 SERIES

Single, dual and triple output

- 5.0 x 3.0 x 1.2 inch package (1U applications)
- Industry standard package
- Overvoltage and short circuit protection
- 45W with free air convection
- 55 Watts with 5CFM
- EN55022, EN55011 conducted emissions level B
- UL, VDE and CSA safety approvals

The NAN55 series is a 55W universal input AC/DC power supply on a 5 x 3 inch card with a maximum component height of 1.2 inches for use in 1U applications. The NAN55 series is available in four standard models, in the traditional 40W standard footprint, but with increased load capability on the main 5V output. This ensures suitability for logic and processor applications that have larger load requirements than existing 40W designs due to increased functionality. The NAN55 provides 45W of output power with free air convection cooling which can be boosted to 55W with 5CFM of 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 NAN55 series is designed for use in low power data networking and computer applications such as hubs, routers, POS terminals, internet servers and cable modems.

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

OUTPUT SPECIFICATIONS		
Output Power	Natural convection 5CFM forced air	45W max. 55W max.
Rise time	At turn-on	1.0s max.
Total regulation	See Note 5	See table
Overshoot/undershoot	At turn-on, min. load	5%
Transient response	Single: +5V (7.5 to 10A step) Multi: +5V (3.5 to 6.6A step) Multi: +12V (0.75 to 1.5A step) Triple: -12V (0.10 to 0.20A step)	5.0% max. dev.; 1ms recovery
Temperature coefficient		±0.02%/°C
Overvoltage protection	Single output Dual and triple output	5.6 to 6.9V 5.5 to 7.0V
Short circuit protection		Yes, with auto-restart
Minimum output current	Models: 7605 and 7628 Models: 7629 and 7608	1A (See Note 5)
INPUT SPECIFICATIONS		
Input voltage range	Universal input	90 to 264VAC 100 to 370VDC
Input frequency range		47Hz to 440Hz
Input surge current	120VAC, cold start 230VAC, cold start	20A 40A
Safety ground leakage current	132VAC, 60Hz 240VAC, 50Hz	0.2mA 0.4mA
Input current	120VAC 230VAC	1.4A rms max. 0.8A rms max.
Input fuse		250VAC H 3A

EMC CHARACTERISTICS		
Conducted emissions	EN55022, FCC part 15	Level B
Radiated emissions	EN55022, FCC part 15	Level A
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	120VAC, 60Hz	12ms @ 55W
Efficiency	120VAC	70% min. @ 45W
Isolation voltage	Input/output Input/chassis	3000VAC 1500VAC
Switching frequency		25kHz min.
Approvals and standards (See Note 9)		EN60950, VDE0805, UL1950 CSA C22.2 No. 950
Weight		200g (7.06oz)
MTBF (See Note 2)	MIL-HDBK-217F	150,000 Hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance (See Notes 7, 8)	Operating ambient Non-operating 0°C to 50°C ambient, convection cooled 50°C to 70°C, ambient conv. cooled Peak (0°C to 50°C) max. 60s	0°C to +50°C -40°C to +85°C 45W Derate linearly to 50% load at 70°C 55W
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non operating	10,000 feet max. 30,000 feet max.
Vibration	Three orthogonal axes, random vibration, 10 minute test for each axis	2.4G rms approx. 5Hz to 500Hz
Shock	MIL-STD-810E	516.4 Part IV

# 45 to 55 Watt AC/DC universal input switch mode power supplies

OUTPUT VOLTAGE <sup>(5)</sup>	OUTPUT CURRENT			RIPPLE <sup>(4)</sup>	TOTAL REGULATION <sup>(5)</sup>	MODEL NUMBER <sup>(10)</sup>
	MIN	MAX <sup>(1)</sup>	FAN <sup>(3)</sup>			
+ 5.2V (I <sub>A</sub> )	0A	6.5A	7.2A	50mV	±2.0%	NAN55-7608
+12.1V (I <sub>B</sub> )	0A	1.2A	1.5A	120mV	±5.0%	
-12V (I <sub>C</sub> )	0A	0.1A	0.2A	120mV	±5.0%	
+ 5.2V (I <sub>A</sub> )	1.0A	7.0A	8.0A	50mV	±2.0%	NAN55-7628
+12V (I <sub>B</sub> )	0A	0.35A	0.5A	120mV	±5.0%	
-12V (I <sub>C</sub> )	0A	0.35A	0.5A	120mV	±5.0%	
+5.2V (I <sub>A</sub> )	0A	6.5A	7.2A	50mV	±2.0%	NAN55-7629
+12.1V (I <sub>B</sub> )	0A	1.1A	1.1A	120mV	±5.0%	
+5V	1.0A	9.0A	11.0A	50mV	±3.0%	NAN55-7605

**Notes**

- Natural convection cooling (45W maximum).
- A 5 Watt minimum load is recommended to achieve design MTBF. See derating curve.
- Forced air, 5CFM at 1 atmosphere, 55W maximum for all models.
- Figure is peak-to-peak. Output noise measurements are made across a 50MHz bandwidth using a 12 inch twisted pair, terminated with a 47µF capacitor.
- For NAN55-7608 and NAN55-7629, to maintain stated regulation on +5.2V, +12.1V then:  
 $0.25 \leq I_A / I_B \leq 25$ . Also to maintain stated regulation on -12V of NAN55-7608 then:  
 $I(A) \geq 0.5A$   
 For NAN55-7628, to maintain stated regulation on the ±12V then:  
 $I(A) \geq 1.0A$
- Output voltages are not adjustable.
- For optimum reliability, no part of the heatsink should exceed 120°C, and no semiconductor case temperature should exceed 135°C.
- Caution: allow a minimum of 1 second after disconnecting line power when 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.
- 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.

**Mechanical notes**

- A non-metallic stand-off is required in one hole as specified in the mechanical drawing to meet safety requirements.
- Maximum component height is 1.2 inches (30.48mm).
- A standard L-bracket and cover is available for mounting, which contains all screws, connectors and necessary mounting hardware. Details are on page 72. Order part number 'NAL40 COVER KIT'.

INPUT		OUTPUT PIN CONNECTIONS			
PIN CONNECTIONS		J2	SINGLE	DUAL	TRIPLE
<b>J1</b>		P1	+Vout	V(B)	V(B)
Pin 1	AC Line	P2	+Vout	V(A)	V(A)
Pin 2	No Connection	P3	+Vout	V(A)	V(A)
Pin 3	AC Neutral	P4	Return	Return	Return
<b>P1</b>		P5	Return	Return	Return
Pin 1	Safety Ground	P6	Return	Return	V(C)

**AC (J1) connector**

Molex 26-60-4030 or equivalent. Recommend Molex 09-50-3031 mating connector with appropriate crimp terminals.

**DC (J2) connector**

Molex 26-60-4060 or equivalent. Recommend Molex 09-50-3061 mating connector with appropriate crimp terminals.

**International Safety Standard Approvals**

EN60950/EN41003 File No. 10401-3336-1100/A1C Licence No. 98705

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C

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