

200W & 400W NS SERIES

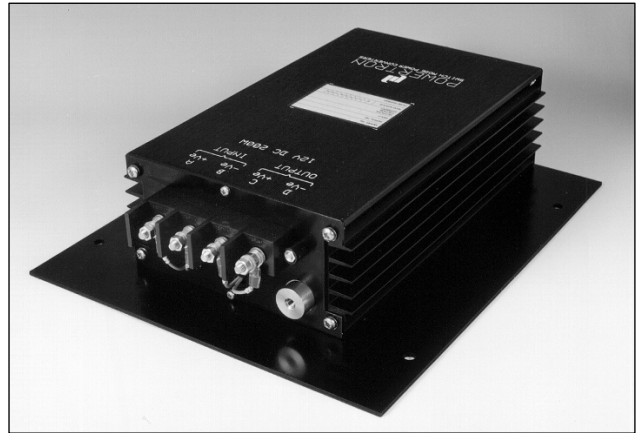
Rail Applications

Summary

The NS series is a range of medium and high power single output converters that comply fully with both the traditional and latest rail specifications and norms for protection and EMC. The rugged construction and mounting arrangement ensures compliance with vibration and shock requirements.

Special features include:

- Wide choice of input and output voltages
- High output current capability
- Fully compliant with rail standards, including EN50121.3.2



Input Specification

The following input voltage versions are available as standard:

- 110V (66.0 - 137.5V) dc (suffix A)
- 72V (43.2 - 90.0V) dc (suffix D)
- 52V (31.2 - 65.0V) dc (suffix C)
- 24V (16.8 - 33.6V) dc (suffix B)

Other ranges are available to order

Input Range	:	60% - 125% of nominal	
Input Ripple	:	To BRB/RIA 13 and EN50155	
Input Protection	:	Reverse polarity protection <i>(some input versions require external fuse or circuit breaker)</i> and transients to BRB/RIA 12, EN50155 (Direct and Indirect)	Surges
Inrush Current	:	6 x nominal current <i>(after 0.1ms)</i>	
Efficiency	:	85% typical	

Output Specification

Maximum Output Power	:	NSL series = 200W NSH series = 400W <i>(except 24V input version, which is 300W without derating)</i>
Output Voltage	:	Fixed output can be specified in the range 5V to 110V
Setting Tolerance	:	$\pm 1.0\%$ at 50% load, 15°C to 25°C
Output Current	:	According to rated power and output voltage
Line Regulation	:	$\pm 0.5\%$
Load Regulation	:	$\pm 0.5\%$
Temperature Coefficient	:	$< 0.02\%$ / °C
Output Ripple	:	$< 1\%$ Pk-Pk of output voltage
Output Noise	:	$< 75\text{mV}$ superimposed (up to 20 MHz)
Response Time	:	0.5ms to within 1% (for a 10% - 100% load change)
Holdup Time	:	10ms at nominal input and maximum load
Primary Power Limit	:	Operates at approximately 110% of rated output power
Thermal Protection	:	Output shuts off when safe operating temperature is exceeded
Isolation	:	Input to Output 1.0kV ac (Tested at 1.4kV dc) Input to Case 1.0kV ac (Tested at 1.4kV dc) Output to Case 1.0kV ac (Tested at 1.4kV dc)

Mechanical Details

Construction	: Fully enclosed in rugged splash-proof case
Mounting	: Flush mounting with four Ø6.5mm fixing holes on base plate (base plate optional).
Fixing Centers	: 226 x 200mm
Dimensions	: Depth = 260mm (300mm with connectors) Width = 160mm (250mm with plate) Height = 75mm (78mm with plate)
Weight	: <4.0kg
Connections	: Connections are made by external M5 studs (input & output) and an M4 earth stud
Cooling	: By convection

Environmental

Operating Temperature	: -25°C to +55°C
Storage Temperature	: -40°C to +80°C
Relative Humidity	: 95% maximum
Vibration	: BRB/RIA 13 - Para 10.5.11, BRB/RIA 20

Applicable Norms

EMC	: BRB/RIA 12, 18; EN50155, EN50121-3-2
Other	: BRB/RIA 13, 18, 20; EN50155

