



200W & 400W NS SERIES

DC/DC CONVERTER

Description

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 Specifications

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

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

Output Specifications

Product reference	All references
Maximum Output Power	NSL series = 200W NSH series = 400W (except 24V input version, which is 300W without derating)
Output Voltage	Fixed output can be specified in the range 5V to 110V
Setting Tolerance	+1.0% at 50% load, 15°C to 25°C
Output Current	According to rated power and output voltage
Line Regulation	±0.5%
Load Regulation	±0.5%
Temperature Coefficient	<0.02% / °C
Output Ripple	<1% Pk-Pk of output voltage
Output Noise	<75mV 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)



Environmental Details

Product reference	All references
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

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

Mechanical Characteristics

Product reference	All references
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

Technical Drawing

- NOTES**
- All dimensions in mm
 - Specifications subject to change without notification

