



## 800W POWERTRON® AT SERIES

### DC/DC CONVERTER FOR RAILWAY APPLICATIONS

#### > Description



The AT series is a highly versatile product range. These high power converters 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
- Various output configurations, single, dual and N+1 operation available
- High output current capability
- Fully compliant with rail standards, including EN50121.3.2

#### > Input Specifications

The following input voltages 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)
36V	(21.0 - 50.4V)	dc	(Suffix F)
24V	(16.8 - 33.6V)	dc	(Suffix B)

**Other ranges are available to order**

Parameter	Detail
Input Ripple	To RIA 13 and EN50155
Input Protection	Reverse polarity protection (some input versions require external fuse or circuit breaker) Surges and transients to RIA12 & EN50155
Inrush Current	Limited to typically 6 x nominal current ( <i>after 0.1ms</i> )
Efficiency	85% typical
Hold up time	10ms to EN50155 Class S2

#### > Output Specifications

Parameter	Detail
Maximum Output Power	Single & equal dual output = 800W N+1 operation = 400W
Output Voltage	Can be specified from 5V to 110V
Setting Tolerance	±1.0% at 50% load, 15°C to 25°C
Minimum Load	Zero
Line Regulation	±0.5%
Load Regulation	±0.5% (1% for N+1 models)
Temperature Coefficient	<0.02% / °C
Output Ripple	<1% Pk-Pk of Output Voltage
Output Noise	<75mV Pk-Pk superimposed (up to 20MHz)
Response Time	0.5ms to within 2% (for a 10% - 100% load change)
Current limit	Operates at approximately 120% of full power
Thermal Protection	Shuts down PSU if safe internal temperature is exceeded. Auto recovery.
Isolation	Input to Output    1.0kV ac (tested at 1.4kVdc) Input to Case    1.0kV ac (tested at 1.4kVdc) Output to Case    1.0kV ac (tested at 1.4kVdc)



> Environmental Details

Parameter	Detail
Operating Temperature	-25°C to +55°C (no derating)
Storage Temperature	-40°C to +80°C
Cooling	Convection
Relative Humidity	95% max.
Shock & Vibration	EN 50155 (EN 61373), RIA 20
Environmental Protection	IP52

> Applicable Norms

Parameter	Detail
EMC	RIA 12, 18; EN50155 (2007), EN50121-3-2 (2006)
Other	RIA 13, 18, 20; EN50155 (2007)

> Mechanical Characteristics

Parameter	Detail
Construction	Fully enclosed in rugged splash-proof case
Dimensions	Length = 335 mm Width = 340 mm Height = 80 mm
Weight	<5.0kg
Connections	Input / output terminals TERMATE MBA5 and M6 earth stud
Fixings	Nine $\varnothing$ 6.5mm fixing holes on base plate.

