

1000VA Low-profile Sine Wave Inverter with Encapsulated Internal Modules - Railway Applications

RSI 1KP-FT Series

- Field-proven rugged design
- Fully encapsulated internal modules
- Low profile, compact size
- Sinusoidal wave shape
- Full electronic protection



This rugged DC/AC inverter uses field proven, microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. It is a mature design with a track record in numerous applications. The DC/DC input stage boosts the input voltage to a higher DC voltage, which feeds the DC/AC inverter to generate the required AC output. The high frequency conversion enables a compact construction, low weight and high efficiency. The unit has full electronic protection. The input and output are filtered for low noise. It is built with internal power modules that are entirely potted with a thermally conductive MIL-grade silicon rubber compound to ensure immunity to high levels of shock, vibration and humidity. Cooling is via baseplate to a cold plate surface and by additional natural convection. The use of components with established reliability results in high MTBF. The unit meets the requirements of EN 50155 for electronic equipment used on railway rolling stock. It is manufactured at our plant under strict quality control. Customized versions are available.

SPECIFICATIONS

Input Voltage

24Vdc (17 – 34V)
 36Vdc (25 – 51V)
 48Vdc (33 – 67V)
 72Vdc (50 – 101V)
 96Vdc (67 – 135V)
 110Vdc (77 – 154V)
 Consult factory for other input voltages and ranges

Input Protection

Inrush current limiting
 Varistor
 Reverse polarity protection
 Internal safety fuse
 Lower voltage than the specified minimum input will not damage the unit

Isolation

1500Vdc input to chassis
 3000Vdc input to output

Standards

Designed to meet
 C22.2 No. 107.1 - 01, UL 458,
 EN60950 and EN50155

Immunity

Meets criteria of EN50155 and EN50121-3-2 including
 EN 61000-4-2 (ESD)
 EN61000-4-3 (RF Immunity)
 EN61000-4-4 (Fast transients)
 EN50155 (Surge)
 EN61000-4-6 (Conducted Imm.)
 EN50155 (Voltage Variations)

EMI

EN55022 Class A or B according to requirements and
 EN50121-3-2 conducted and radiated

Output Voltage

115Vac @ 60Hz or
 400Hz/8.7A rms continuous;
 or 230Vac @ 50Hz/4.3A rms continuous.
 Output neutral is connected to the chassis internally.
 Isolated floating output optional
 Consult factory for other output requirements

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line Regulation

Maximum 0.5%

Load Regulation

Maximum $\pm 6\%$ from no load to full load.
 A $\pm 2\%$ load regulation option is available.

Load Crest Factor

Maximum 2.5 at 90% load

Output Noise

High frequency ripple is less than 500mVrms (20MHz BW)

Output Overload Protection

Current limiting with short circuit protection
 Thermal shutdown with automatic recovery in case of insufficient cooling

Output Overvoltage Protection

140Vac (for 115Vac output) or
 280Vac (for 230Vac output) by internal supply voltage limiting

Efficiency

Typically 80% at full load
 Dependent on input/output combination

Operating Temperature

-25 to +55°C cold-plate
 Temperature for full specification

Temperature Drift

0.05% per °C over operating temperature range

Cooling

Conduction via base plate to customer cold plate

Environmental Protection

Fully encapsulated internal modules

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

150,000 hours at 45 °C
 Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None
 Optional remote shut down

Alarm Output

None on standard version
 Optional output Fail Alarm (Form C)

Dimensions

F 31: 483 x 68 x 356 mm
 19" x 2.7" x 14" including terminals and mounting flanges

Weight

12.5 kg (28 lb)

Connections

Input: terminal block or threaded studs
 Output: compression-type terminal block

RoHS Compliance

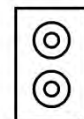
Fully compliant

Warranty

Two years subject to application within good engineering practice

Terminal Block Pin Out

GND ⊥	-	+	GND ⊥	N ~	PH ~
VDC INPUT			VAC OUTPUT		



Studs for $\leq 36V$ input

Please note that ABSOPULSE inverters are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are subject to change.

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility

