

300VA, Rugged, Compact 3-Phase Railway Quality DC-AC Sine Wave Inverter CTP-300R-F7 Series

- 3-Phase sinusoidal output voltage
- EN50155 input ranges
- For train and mobile applications
- Filtered input/output
- Conduction/convection cooled
- Compact construction
- Full electronic protection
- Rugged, field-proven design



This rugged railway quality DC-AC inverter uses field-proven, microprocessor controlled high frequency PWM technology to generate the required output power with 3-phase sine wave output voltage. It meets the requirements of EN50155 for electronic equipment used on railway rolling stock. The use of high frequency conversion enables a compact construction, low weight and high efficiency. The input and output are filtered for low noise. Cooling is by conduction via baseplate. Additional cooling is achieved by natural convection through the cooling slots. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also provides exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, generous design headroom and the exclusive use of components with established reliability also contribute to high MTBF. The unit is manufactured at our plant under strict quality control. An industrial quality version of this design, the CTP-300-F7, is also 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
Varistors
Reverse polarity protection
Internal safety fuses
Lower voltage than the specified minimum input will not damage the unit

Isolation

1000Vdc input to chassis
1500Vdc input to output
1000Vdc output to chassis
Floating output
Neutral can be grounded if required

Standards

Designed to meet EN60950-1, EN50155, EN45545

Immunity

Meets criteria as requested in EN50155 and EN50121-3-2 according to the following standards:
EN 61000-4-2 (ESD)
EN 61000-4-3 (RF Immunity)
EN 61000-4-4 (Fast Transients)
EN 50155 (Surge)
EN 61000-4-6 (Conducted Immunity)
EN 50155 (Voltage Variations)

EMI

EN50121-3-2

Output Voltage

208Vrms (L-L)/3-phase continuous at 60 or 400Hz or 115Vrms phase-to-neutral voltages can also be used
Consult factory for other voltages, frequencies and options

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line/Load Regulation

± 6% from no load to full load

Load Crest Factor

2 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 airflow

Output Overvoltage Protection

By internal supply voltage limiting

Efficiency

Min. 80% at full load

Operating Temperature Range

-25°C to +50°C for full specification
Extended temperature ranges available

Temperature Drift

0.05% per °C over operating temperature range

Cooling

By conduction via baseplate and by natural convection

Environmental Protection

Basic ruggedizing
Conformal coating
Full ruggedizing available as option

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

Min. 110,000 hours at 45°C
Demonstrated MTBF is significantly higher

Indicators

None

Control Input

None
Remote shutdown or enable as an option

Alarm Output

None

Package/Dimensions (W x H x L)

F7: 254 x 67 x 351mm
(10" x 2.6" x 13.8")
Mounting holes are clear

Weight

Approx. 3.2kg (7 lbs)

Connections

Terminal blocks

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice.

TB pin-out

3-PHASE OUTPUT												DC INPUT					
GND	PH 1	NOT USED	NOT USED	NOT USED	PH 2	NOT USED	NOT USED	NOT USED	PH 3	NOT USED	GND	GND	-	-	+	+	
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6

Enhancements to these general specifications and customizing can be accommodated upon request. Specifications are subject to change.

Designer and manufacturer of quality ac-dc power supplies and battery chargers, converters, inverters, dc-output UPS systems, and complete rack mount systems in 19" or 23" racks. Custom or standard. ABSOPULSE is a BABT-approved Facility.



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