

1000VA, Single Phase to 3-Phase AC-AC Frequency Converter

Rugged Industrial Quality

FTP 1K-F7W Series



- 3-Phase sinewave output voltage
- Filtered input/output
- Cooling by internal fans
- Full electronic protection
- Field-proven design topology

This rugged, 3-phase output AC-AC frequency converter uses field-proven microprocessor controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. The frequency converter is built on a single PCB. The standard 3-phase outputs are 208Vrms, 380Vrms or 400Vrms (L-L). Phase-to-neutral voltages can also be used: 115Vrms, 220Vrms or 240Vrms. All output neutrals are internally connected to chassis (GND) in "Y" configuration. The input stage performs the AC to DC voltage conversion to an internal DC Bus voltage. The output module utilizes this DC voltage for the 3-phase AC voltage conversion. High frequency conversion enables compact construction, low weight and high efficiency. The input and output are filtered for low noise. High quality built-in fans provide sufficient airflow for operation within the specified temperature range without de-rating. The fans draw air into the unit, and exhaust at the terminal side of the unit. All heat generating components are installed on aluminum heatsink blocks which are thermally connected to the base plate. This also ensures exceptional mechanical ruggedness. Conformal coating provides protection against humidity and airborne contaminants. Full electronic protection, low component count, large design headroom, and the exclusive use of components with established reliability contribute to a high MTBF. The unit is manufactured at our plant under strict quality control.

SPECIFICATIONS

Input Voltage

115 or 230Vac $\pm 15\%$
47 ... 410Hz are standard
Factory set for required input
95-264Vac universal input is available on request

Input Protection

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

Isolation

2250Vdc Input to chassis
3000Vdc Input to output
2250Vdc output to chassis
Output neutral is connected to the chassis internally

Standards

Designed to meet
C22.2 No. 107.1 - 01,
UL 458 and EN 62368-1

EMI

EN 55032 Class A with margins

Output Voltage

208Vrms (L-L)/3-phase continuous at 60 or 400Hz or
380Vrms or 400Vrms (L-L)/ 3-phase continuous at 50 or 60Hz.
All neutrals are internally connected to chassis (GND) in "Y" configuration (Phase-to-neutral voltages can also be used: 115Vrms, 220Vrms or 240Vrms)
Consult factory for other voltages, frequencies and options

Output Wave Form

Sinusoidal

Total Harmonic Distortion

Less than 5% at full load

Line/Load Regulation

$\pm 6\%$ 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 cooling

Output Overvoltage Protection

Output voltage is limited by internal supply voltage

Efficiency

Depends on input and output voltage combination.
Typically, 80% at full load

Operating Temperature Range

0°C to +50°C base plate temperature range for full specification without derating. Extended temperature ranges available

Temperature Drift

0.05% per °C over operating temperature range

Cooling

High quality built-in fans draw air into the unit

Environmental Protection

Basic ruggedizing
Conformal coating

Shock/Vibration

IEC 61373 Cat 1 A&B

Humidity

5 - 95% non-condensing

MTBF

Min. 95,000 hours at 45°C
Demonstrated MTBF is significantly higher
Fans excluded

Indicators

None

Control Input

None
Remote shutdown as option

Alarm Output

None
Option: output fail alarm (Form C)

Package/Dimensions (W x H x D)

E7W:
280 x 73 x 350.5 mm
11" x 2.875" x 13.8"
Includes baseplate, excludes terminals

Weight

4 kg (9 lb.)

Connections

Input: 6-pole terminal block, 3/8" spacing
Output: 12-pole terminal block, 3/8" spacing

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures and shipping cost excluded

TB Pinout

| VAC (L-N): 3 PH. OUTPUT | | | | | | | | | | | |
|-------------------------|-----|----|----------|----------|-----|----|----------|----------|-----|----|-----|
| GND | PH1 | N1 | NOT USED | NOT USED | PH2 | N2 | NOT USED | NOT USED | PH3 | N3 | GND |
| ⊕ | ~ | ~ | | | ~ | ~ | | | ~ | ~ | ⊕ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| VAC INPUT | | | | | |
|-----------|-----|---|---|----|----|
| GND | GND | N | N | PH | PH |
| ⊕ | ⊕ | ~ | ~ | + | + |
| 1 | 2 | 3 | 4 | 5 | 6 |

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change

OEM of industrial and railway quality DC-DC converters, AC-DC power supplies and battery chargers, DC-AC sine-wave inverters, phase and frequency converters, DC-output UPS systems and complete power systems in 19" and 23" racks since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.



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