

# 1000VA, Industrial Quality AC-AC Frequency Converter

## PFC Universal AC input, Split-Phase AC-Output

### FCP 1K-F7W Series



- Sinusoidal output voltage
- PFC input with universal range
- Rugged, industrial quality
- Filtered input
- Cooling by high quality built-in fans
- Full electronic protection
- Field-proven design topology
- Split-phase AC-output stage for various configurations

This rugged, AC-AC frequency converter uses field proven FCP1000 microprocessor-controlled high frequency PWM technology to generate the required output power with pure sine wave output voltage. The AC/DC input stage boosts the input voltage to a higher DC bus voltage, which feeds the DC/AC inverter to generate the required AC output. The use of high frequency conversion enables a compact construction, low weight and high efficiency. Cooling is by high quality built-in fans and by additional conduction via the baseplate. The fans draw air into the unit. 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, 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

95-264Vac (Universal) 47... 63Hz  
400Hz on request  
Power Factor is better than 0.97 at full load for the entire input range.  
Meets EN61000-3-2

##### Input Protection

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

##### Isolation

2250Vdc input to chassis  
3000Vdc input to output  
8mm spacing  
2250Vdc output to chassis  
Floating output

##### Standards

Designed to meet  
C22.2 No. 107.1 - 01,  
UL 458 and EN60950-1

##### EMI

EN 55032 Class A with margins

##### Switching Frequency

80kHz  $\pm$ 5kHz PFC input section

##### Hold Up Time

Min. 5ms at any input for 5% drop in the output voltage

##### Output Voltage

Dual output rail can be configured as follows:  
2x115Vac split phase /4.3Arms, each, 60Hz  
115V/8Arms/400Hz single  
230Vac/4.3A or /50Hz single  
400Vac/2.5Arms/50Hz single  
Output is floating, either terminal can be grounded  
Other outputs are available on request.

##### Output Wave Form

Sinusoidal

##### Total Harmonic Distortion

Less than 5% at full load

##### Line/Load Regulation

$\pm$  5% 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

By internal supply voltage limiting

##### Efficiency

Typically 80% at full load

##### Operating Temperature Range

0° C to +50° C for full specification  
Extended temperature ranges available

##### Temperature Drift

0.05% per ° C over operating temperature range

##### Cooling

By high quality built-in fans and by additional conduction via the baseplate

##### Environmental Protection

Basic ruggedizing  
Conformal coating  
Full ruggedizing available as an option

##### Shock/Vibration

IEC 61373 Cat 1 A&B

##### Humidity

5 - 95% non-condensing

##### MTBF

120,000 hours at 45°C  
Fans excluded  
Demonstrated MTBF is significantly higher

##### Indicators

None

##### Control Input

None

##### Alarm Output

None  
Option: output fail alarm (Form C)

##### Package/Dimensions (W x H x L)

F7W: 280 x 67 x 356mm  
(11" x 2.6" x 14")  
Mounting holes are clear

##### Weight

4 kg; 9 lbs

##### 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

##### TB Pin-out

GND		AC OUTPUT						ALARM		GND	
NOT USED	L1	N1	L2	N2	NOT USED	NOT USED	FAIL OPEN	COM	FAIL CLOSE	+	
1	2	3	4	5	6	7	8	9	10	11	
GND		AC/DC INPUT									
+	-	N	N	N	N	N	N				
1	2	3	4	5	6	7	8				

Please note that ABSOPULSE power supplies 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 ac-dc power supplies and battery chargers, converters, inverters, dc-output UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility.



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