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SiC-Based Sine Wave Inverters Deliver 1 kVA In 400-in.³ Package

[ABSOPULSE Electronics](#)' CTP 1000-F7W is a 1-kVA addition to its line of compact, low-profile dc-ac inverters with three-phase pure sine output voltage. The use of the latest silicon carbide semiconductor technology contributes to 90% conversion efficiency at full load, ensuring high power density and significantly smaller size than earlier three-phase 1-kVA inverters. The inverters are typically used for testing three-phase equipment in engineering labs, powering motor-driven systems and other industrial equipment (see the figure).

The inverters provide three-phase outputs of 208 Vrms continuous (line-to-line) at 60 or 400 Hz, or 380 Vrms or 400 Vrms continuous at 50 or 60 Hz. They operate from dc inputs of 48 V, 96 V, 110 V, 125 V or custom dc input voltages. The input and output are filtered for low noise. The input meets EN55022 Class A with wide margins; Class B is available on request. Custom electrical configurations, remote shutdown or enable and other options are also available.

High quality built-in fans and additional conduction via the baseplate provide sufficient cooling to ensure 1000-VA continuous output power over a 0°C to +50°C operating temperature range without derating. Wider temperature ranges are available on request. The compact, ruggedly constructed inverters measure 280 x 67 x 356 mm. The printed circuit boards are conformal coated for immunity to humidity and airborne contaminants. Heavy ruggedizing ensures that the units can withstand high levels of shock and vibration (IEC 61373 Cat 1 A&B).

Electronic protection includes 2250-Vdc input-to-output isolation, inrush current limiting, reverse polarity protection, and output current limiting with short-circuit protection. The three phase inverters meet the requirements of C22.2 No. 107.1-01, UL 458, EN/UL60950-1 and equivalent industrial standards. Contact the company for price and availability.



Figure. The CTP 1000-F7W 1-kVA sine wave inverters uses silicon carbide semiconductors to achieve 90% conversion efficiency at full load in a significantly smaller package size than earlier three-phase 1-kVA inverters. Units measure 11 x 2.6 x 14 in.