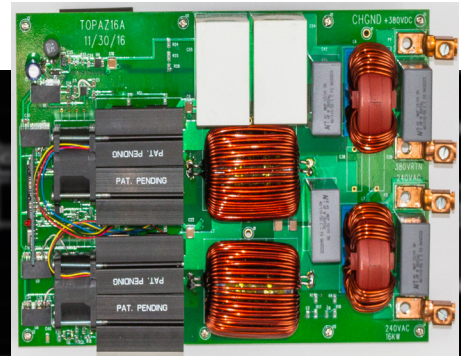




ADVANCE INFORMATION

DA16K 16 kW, 380Vdc Input Voltage 240/120/120Vac Off-grid Inverter



Description

The DA16K is a single phase DC to AC inverter designed for non-grid tied operation. Capable of inverting up to 16kW, it has a high voltage DC input of 320-400Vdc and AC outputs of either 240Vac or two 120Vac or both voltages simultaneously. The true sine wave output frequency can be set to either 50 or 60Hz, or it can be customized. The DA16K is a grid forming inverter and multiple units can be paralleled for higher output power. It is not intended as a grid tied inverter and its output should only be connected directly to the AC distribution panel after the grid connection to the distribution panel has been removed. This makes the inverter ideal for grid replacement planning when coupled with renewable energy sources or DC sources such as battery banks, fuel cells and rectified AC sources.

Using state of the art silicon carbide FETs (SiCFETs), the inverter is highly efficient and runs cooler than MOSFET based inverters. The on-board forced air heatsinks are temperature controlled for infinite variability.

An optional uGrid communications link provides access to the converter and battery BMS data for analysis and presentation.

Features & Benefits

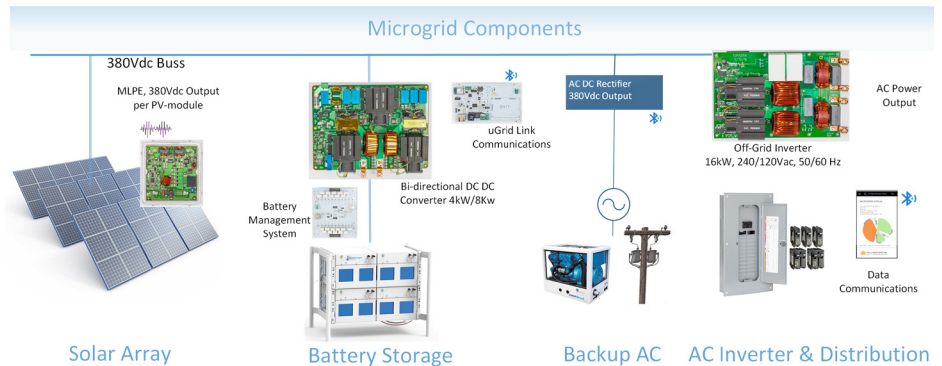
- 380Vdc to 240Vac or two 120Vac outputs
- 16kW continuous output power
- Surge power up to 2X for short durations
- Grid forming architecture
- Can be paralleled for higher output power
- State of the art silicon carbide (SiC) devices for high efficiency
- Built-in protection: undervoltage, overvoltage, over current, over temperature

Applications

- Residential Off-Grid Systems
- Solar + Battery Water Pumping (AC Motors)
- Tiny Homes/Mobile Homes
- Telecom Power
- Energy Arbitrage
- Pico grids, nano grids and microgrids
- Military and Emergency Response

Microgrid Application

- PV Array w/vBoost at 380Vdc (kW to MW)
- HVDC Buss at 380Vdc
- 6kWh/4kW Battery plus converter at 380Vdc, multiple units can be paralleled
- 16 kW, 240Vac AC DC Rectifier with 380Vdc output, multiple units can be paralleled
- 16kW, 120/240Vac, 50/60Hz off-grid inverter, multiple units can be paralleled



Specifications	Minimum	Maximum
Maximum Continuous power		16000W
AC Output Voltage	200Vac	260Vac
AC Split Output Voltage	100Vac	130VAC
Frequency (Factory set 50 or 60 Hz)	48Hz	70Hz
Continuous AC Current		70A
Low Side Maximum Continuous Current		88A
Total Harmonic Distortion		<2.5%
Conversion Efficiency		>96%
Power Factor		>0.99
DC Input Voltage Range	320Vdc	420Vdc
DC Input Current		50A
Charge to Discharge Mode Transition Time		
Switching Frequency (f_{sw})		180kHz
Conversion Efficiency		96-98% Each Way
Data Reported		Voltage, Current
BMS Interface		Serial I/O
Protection	OverVoltage, OverCurrent, OverTemperature, Short Circuit, Fused Hi/Lo	
Compliance (Pending)	UL1741, FCC Part 15 Class B	
Connector Options	MC4, Anderson Power Connectors, Direct Wiring	
Units in parallel on the same HVDC buss	Limited by wire ampacity	
Units in parallel on the same AC output line	up to 5 units, one as master	
Cooling	Temperature controlled forced convection with heatsinks	
Temperature Operating Range	-55 to + 60°C	
Humidity	0 - 100% (Non-condensing)	
Circuit Board Dimensions	20cm X 28cm X 7cm	
Weight	2.5kg	

uGrid Link

The microgrid link is a communications module that provides a data link between the various components in the microgrid using a variety of communications protocols including Bluetooth LE, RS485, SPI, and UART.

