



VPX 3U PACKAGE **AC-DC CONVERTERS**

HIGH-PERFORMANCE CONVERTERS FOR AEROSPACE &
DEFENSE APPLICATIONS



High-Efficiency, Rugged Power Conversion



Greater Efficiency



Less Weight



Configurable

Up to 1.1kW | 115VAC, 47–800Hz | 24–480VDC | Parallel Scalable

Mission-critical platforms demand compact, efficient, and uncompromisingly reliable power. TT Electronics' VPX 3U converter delivers exactly that – a next-generation, AC-DC solution engineered specifically for harsh Aerospace and Defense environments.

Built with advanced Silicon Carbide (SiC) and GaN technologies, this high-performance platform replaces traditional ATRU architectures with a lighter, smaller, and more efficient design – improving system performance while reducing weight, size, and total cost of ownership.

Whether powering avionics, propulsion, or mission systems, the VPX package provides clean, stable power with exceptional dynamic response and industry-leading power density.



WHY CHOOSE VPX?

High Density, STD Package AC-DC Power Conversion

High Efficiency >96%

Power Density >700 W/lb (1.6 kW/kg)

Compact, Lightweight VPX 3U Form Factor

Parallel Operation Up to 10kW

Excellent Power Quality (PF >0.97, THD <3%)

Fast Transient Response and Low Ripple

Designed for Extreme Environmental Conditions



Configurations



VPX - AX XXXX - XXX - X



MODEL	POWER	CONFIGURATION
	0100	24
	0300	28
	0500	48
	0700	270
	0900	350
	1100	480

QUALIFICATION

- M - MIL-Aero
- A - Commercial-Aero
- N - Naval Application
- T - Ground / Tactical Vehicle

Flexible. Scalable. Mission Ready.

Multiple units can be paralleled to scale output as your system grows – without redesign.

This universal power platform supports:

AC-DC Conversion

Configurable Voltage Outputs

Applications

Battery Chargers

Communication Networks

Data Centers

Electric Actuation Systems

Electric Propulsion Systems

Bus Converter Systems with Protection

Missile Systems

PODS

CONTROLLABLE FEATURES

DC Output Voltage 24 – 480Vdc
Input Current can be limited
Input Under Voltage Protection
Input/Output Over Voltage Protection
Input/Output Over Current Protection
Recovery Time
Load Transient
DC Voltage Rise Time
Inrush Control
Output Faults / Loads Protection
Input / Out Power Control

INPUT CHARACTERISTICS

100-140VLN 3-Phase at 47-800Hz
VITA 46.3
EMI Filter in Accordance with MIL-STD-461

OUTPUT CHARACTERISTICS

DC Output Voltage 24 – 480Vdc
Voltage Ripple < 1%
Rise Time < 20ms
VITA46.3
EMI Filter in Accordance with MIL-STDs

POWER

Efficiency > 96%
Rated Max Power 1.1kW
1.1KW Units Can Be Paralleled to Reach 10kW

PROTECTIONS

Inrush Current Protections/Control
Input Under Voltage Protection
Input/Output Over Voltage Protection
Input/Output Over Current Protection
Thermal Soft Shutdown
Short Circuit Protection

COOLING

Air Cooled

MECHANICAL CHARACTERISTICS

Density > 700W/lbs (1.6kW/kg)

OPERATING TEMPERATURE

-55 to 70°C

STORAGE TEMPERATURE

-55 to 105°C

OPTIONS

Can Be Added Upon Request

INDICATORS

Power Good
Internal / External Fault
DC Power Good

COMMUNICATIONS

IPMI, PMBus, VITA 46.11

EXTERNAL DISCRETE

Enable/Disable DC Output Voltage
Emergency Shutdown

COMPLIANCE

RTCA-DO-160
MIL-STD-704
MIL-STD-461

GET IN TOUCH

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