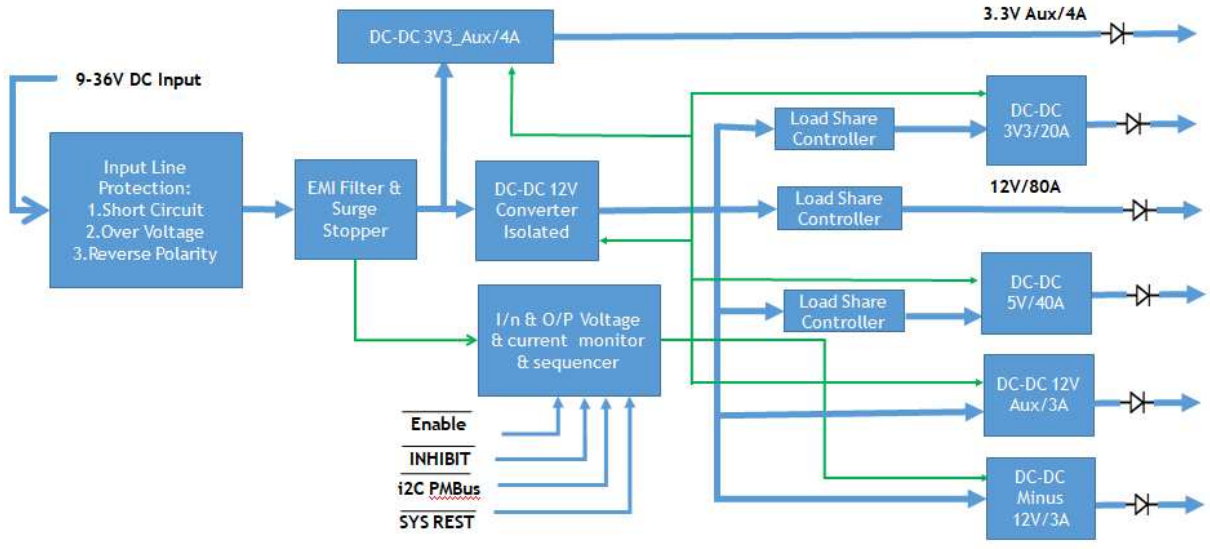
VPX SERIES

3U
Conduction Cooled
Military Power Supply

- Input 28VDC
- Multiple outputs/ configurations up to 1000 watts
- Low Output ripple
- Compliant MIL STD 704F
- Rugged – MIL-STD-810 vibration, shock, humidity
- MIL-STD-461F compilant
- Operating Temperatures
  - Conduction Models: up to +85°C Card Edge Temperature

The VPX ATR Series of high-power, multiple-output power supplies addresses the needs of today's military for plug-in applications. Our multiple output power supplies are proven COTS products for the most demanding military airborne VPX system applications. Operating on 28VDC aircraft power, these units can provide up to 6 outputs, generate up to 1000 watts, and comply with MIL-STD-461F EMI requirements. Features include independently regulated, isolated outputs, with an internal LED status indicator.



Block Diagram

3U
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DATASHEET

VPX SERIES

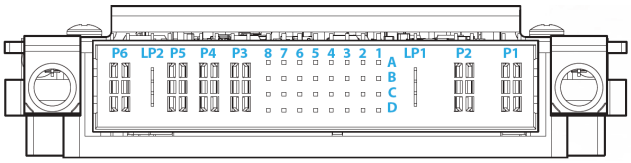
ELECTRICAL INPUT	
Input Voltage Range	Supply: 28 V DC (min: 9 V, Max: 36 V)
Reverse Polarity Protection (DC Inputs)	Yes
Efficiency	Max 85% @ Full Load
Output Voltages	3.3 V DC, 5 V DC, 12 V DC,

ELECTRICAL OUPUT	
Output Currents	+3.3V DC: 40A +5V DC: 40A +12V DC: 80A +3.3V DC (AUX): 4A +12VDC (AUX): 3A -12VDC (AUX): 3 A
Ripple	3.3V DC < 40mV 5V DC < 50 mV 12V DC < 80 mV 12v_Aux < 80 mV -12V DC < 80 mV
Line Regulation	3.3V DC < 1% 5V DC < 1% 12V DC < 1%
Load Regulation	3.3V DC < 1% 5V DC < 1% 12V DC < 1%
Max Total Output Power	**1000W**

MECHANICAL	
Mechanical Dimensions	Standard 3U X160MMx25MM VPX board with VPX power connectors
Cooling	Conduction
Weight	1.95kg
Maximum operating Ambient Temperature	+85 °C on Card Edge +71°C Ambient

COMPLIANCE	
Operating Temperature	-40°C to +71°C With conduction cooling
Storage Temperature	-40°C to +85°C
Altitude	Up to 70,000 feet
Humidity	MIL-STD-810F, Meth 507 (5cycles/48 hrs, 60°C, 95% RH)
Vibration	According to MIL-STD-810F, Meth 514.5 0.04g2/Hz PSD for 60mins / axis.
Shock	MIL-STD-810F, Meth 516.5, Procedure-I Shock pulse: Half sine: 15g Pulse durations: 11ms, Total 18 shocks.
EMI	MIL-STD-461F/G/H; CE101,CE102, CS101,CS109,CS114,CS115,CS116 RE101,RE102 RS101, RS03,RS105
Isolation	Input-Case @ 500 VDC Input-Output@ 500 VDC Output-Case @ 500VDC

Pinouts



Pin Number	PinName	Pin Number	PinName
P1	-DC_IN	B5	GA1*
P2	+DC_IN	C5	SCL
LP1	CHASSIS	D5	SDA
A1	N.C	A6	N.C
B1	N.C	B6	N.C
C1	N.C	C6	-12V_AUX
D1		D6	SYSRESET*
A2	N.C	A7	
B2	FAIL*	B7	
C2	INHIBIT*	C7	
D2	ENABLE*	D7	SiG_RTN
A3	AlertBit	A8	VS1_SENSE
B3	+12V_AUX	B8	VS2_SENSE
C3	N.C	C8	VS3_SENSE
D3	N.C	D8	SENSE_RETURN
A4	+3.3V_AUX	P3	VS3
B4	+3.3V_AUX	P4	POWER_RETURN
C4	+3.3V_AUX	P5	POWER_RETURN
D4	+3.3V_AUX	LP2	VS2
A5	GA0*	P6	VS1

Control Features

ENABLE*	Standard VITA 62 control signal. It is used to turn off all of the output voltages when it is high, including +3.3V_AUX. When it is pulled low to SIGNAL_RETURN, it will turn on all output.
INHIBIT*	Standard VITA 62 control signal. It is used to turn off all the output voltages except +3.3V_AUX. When it is pulled low to SIGNAL_RETURN, VS1, VS2, VS3, +12V_AUX and -12V_AUX will be turned off.
FAIL*	FAIL* signal is used to indicate a failure has occurred. It will be pulled low when any of the outputs are Outside the voltage specification. FAIL* is an active low open-drain signal. It is expected there will be a pull-up resistor on the backplane to 3.3V. A typical resistor value is 4.7kΩ.
SYSRESET*	SYSRESET* signal is an output generated from the module. It is used to indicate that startup has Completed. Stays low for a minimum of 10ms after the outputs are up. SYSRESET* signal is an active low open-drain signal. It is expected there will be a pull-up resistor on the backplane to 3.3V. A typical resistor value is 4.7kΩ.

Control States

ENABLE*	INHIBIT*	+3.3V_AUX	VS1, VS2, VS3, +12V_AUX, -12V_AUX
HIGH	HIGH	OFF	OFF
LOW	HIGH	ON	ON
HIGH	LOW	OFF	OFF
LOW	LOW	ON	OFF

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Ordering Information
Part Number 3020-0063

Specifications subject to change without notice.
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