



VPX Power 6U / 1300W



3 Power Supply 6U 8HP 1300W, DC/DC, air & conduction cooled

3.1 Key Features

- Compliant to VITA 62 baseline specification
- 1.300 W over all
- up to 100A for 12V
- up to 70A for 5V, (80A)*
- up to 30A for 3.3V, (50A)*
- +12V / -12V AUX 1,25A
- up to 92% efficiency
- -40 to +85°C Operating Temperature
- Voltage sense controlled
- 24V or 48V DC INPUT
- conduction cooled or air cooled

*customized possible

24V air cooled 12V: D575.00502

- 24V DC Input (18V to 36V)
- +12V / -12V AUX 1.25A 87% efficiency
- +3.3V AUX 30A 85% efficiency
- +12V 100A 92% efficiency

24V air cooled 5V: D575.00512

- 24V DC Input (18V to 36V)
- +12V / -12V AUX 1.25A 87% efficiency
- +3.3V AUX 30A 85% efficiency
- + 5V 70A 90% efficiency
- +12V 50A 92% efficiency

- **24V conduction cooled 12V: D575.00501CC**
- **24V conduction cooled 5V: D575.00631**
- **ruggedized version optional on request**
- **parallel and redundancy mode optional on request**
- **All version also available in 48V DC power in**





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All voltage converters are isolated (1500V isolation voltage) and fed from the same 24V main supply (18V – 36V) protected by two (DCin1, DCin2”) 40A fuses.

The “Power LED” is controlled by the “Power Good Signal” of the 12V converter.

The output voltages (+12V, +5V, 3,3V) are sensed for over- and under voltages which are monitored from the control logic in every converter. Any failure on the output voltages are signalled on the front panel by corresponding FAIL LED (OFF). In according to Vita62, the “FAIL-Signal” is connected to the “FAIL Pin” (B2) at the P1 connector. If all voltages are in normal conditions all FAIL LED’s (green) are ON
Figure 4 shows an overview over the front panel elements.

3.1.1 Front panel

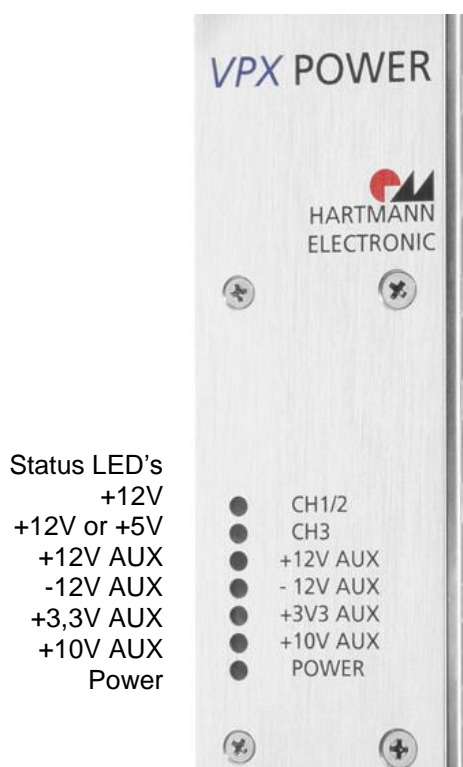


Figure 4 Front panel 6U

3.1.2 LED Status:

Power (LED green ON/OFF)

Indicates input power is present (LED ON)

CH1/2 (LED green ON/OFF)

CH3 (LED green ON/OFF)

+12V AUX (LED green ON/OFF)

Indicates the output power:

-12V AUX (LED green ON/OFF)

Power is present (inside of the specified range) = LED ON

+3,3V AUX (LED green ON/OFF)

Power is not present (not inside of the specified range) = LED OFF

+10V AUX (LED green ON/OFF)



3.1.3 Air cooled version

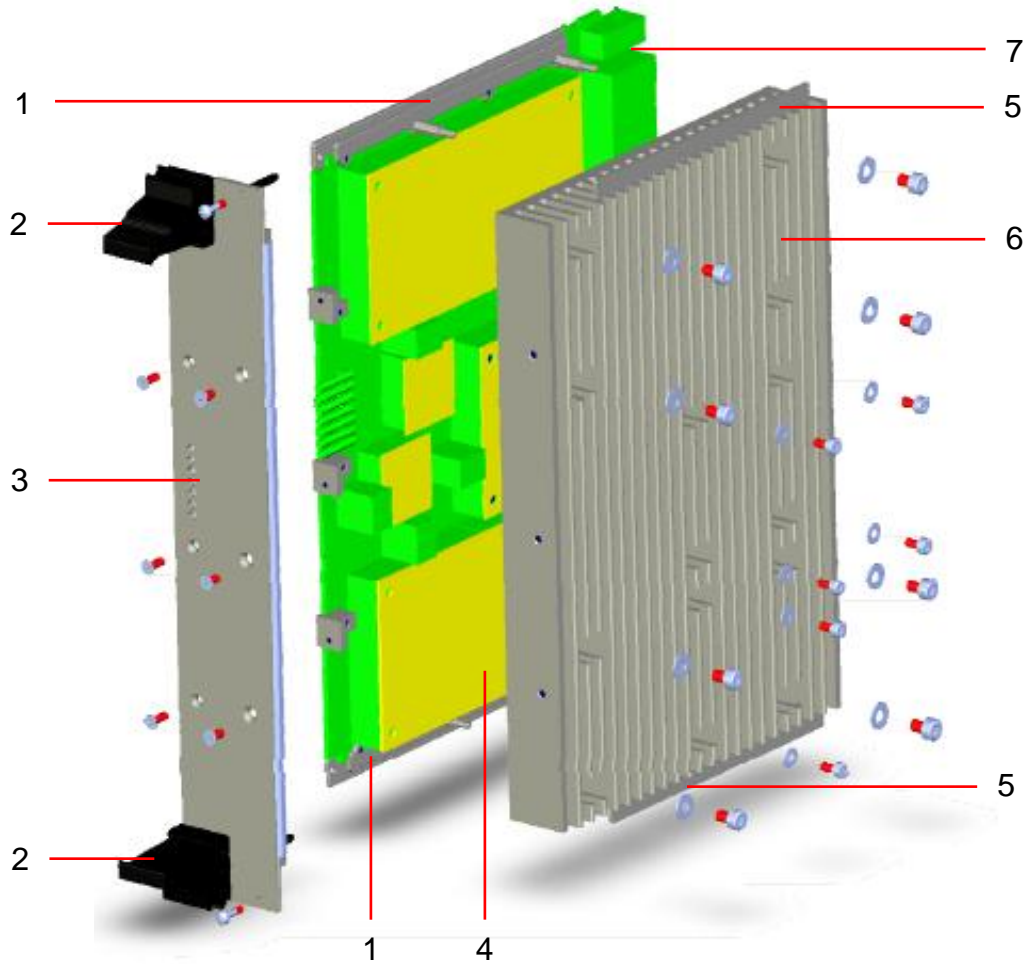


Figure 5 Air cooled version

- | | |
|--------------------------|----------------------|
| 1. Guide rail | 2. Handle |
| 3. Front panel | 4. Converter (1 – 4) |
| 5. Runner | 6. Heat sink |
| 7. Printed circuit board | |



3.1.4 Conduction cooled version

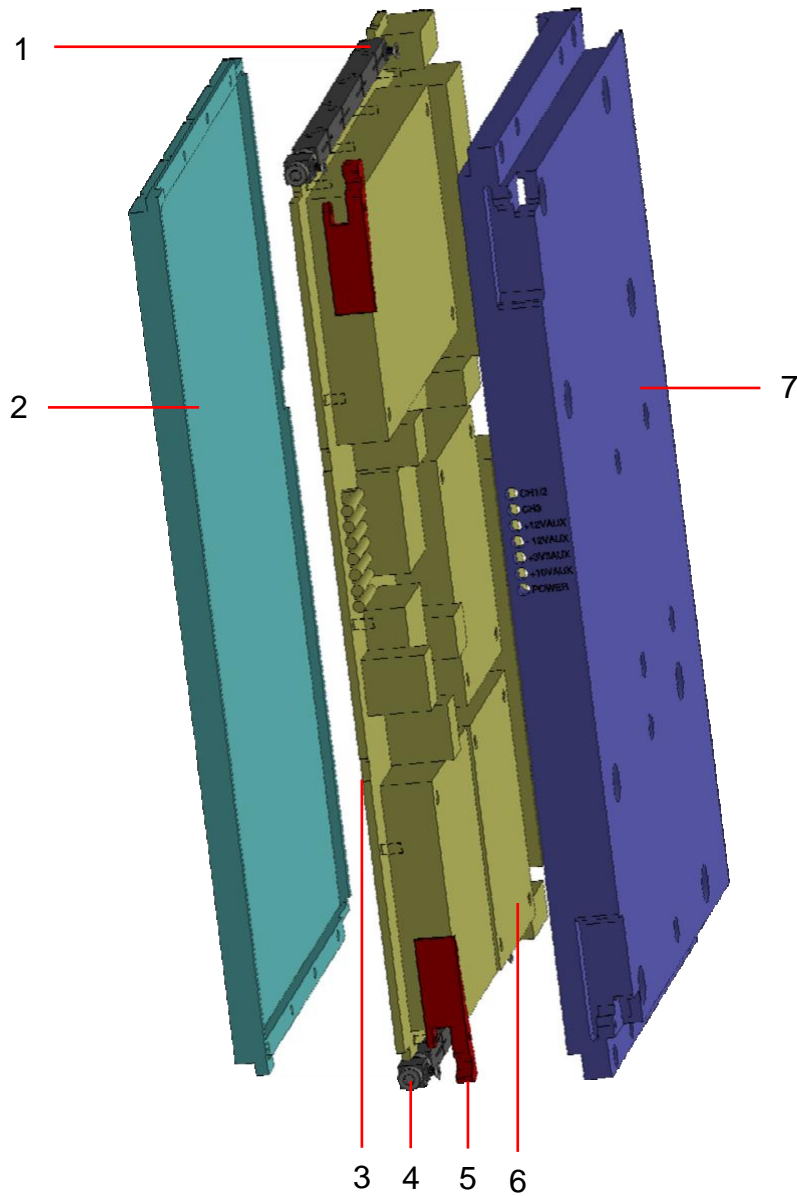


Figure 6 Conduction cooled version

- | | |
|--------------------------|----------------------|
| 1. Upper wedgelock | 2. Bottom cover |
| 3. Printed circuit board | 4. Lower wedgelock |
| 5. Handle | 6. Converter (1 – 4) |
| 7. Top cover | |



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3.1.5 Technical Specification

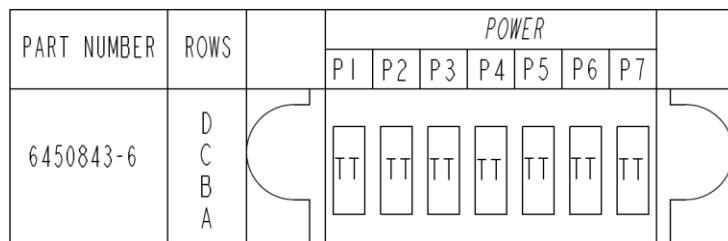
Form Factor	6U
Pitch	8HP
Weight	2,0 kg
Storage Temperature	-55°C to 85°C
Operating Temperature	-40°C to 85°C
Input to Output Insulation	1500V
Main Power	
Maximum Output Power	1300W
Input Voltage 12V / 3,3V AUX / 5V	24Vdc (18Vdc – 36Vdc)
24V air cooled 12V: D575.00501	
Max. Currents 12V / 3,3V AUX	100 A / 30 A
Efficiencies 12V / 3,3	92% / 85%
24V air cooled 5V: D575.00512	
Max. Currents 12V / 3,3V AUX / 5V	50 A / 30 A / 70 A
Efficiencies 12V / 3,3V AUX / 5V	92% / 85% / 90%
Minimum Turn ON Voltage 12V / 3,3V / 5V	16,9V / 16,9V / 19,9V
Minimum Turn OFF Voltage 12V / 3,3V / 5V	16,0V / 16,0V / 18,8V
Hysteresis 12V / 3,3V / 5V	1,1V / 0,9V / 0,9V
Startup Delay Time from application of input voltage 12V / 3,3V / 5V	20ms / 18ms / 18ms
Startup Delay Time from on/off 12V / 3,3V / 5V	3ms / 3ms / 3ms
Fixed Switching Frequencies 12V / 3,3 / 5V	120 kHz / 125 kHz / 130 kHz
Max. Output Ripple and Noise: 12V / 3,3 / 5V (0-20 MHz Bandwidth)	15 mVrms / 4 mVrms / 4 mVrms 65 mVpp / 27 mVrms / 27 mVpp
Line Regulation: 12V / 3V3 / 5V.	40 mV / 2 mV / 4 mV
Load Regulation: 12V / 3V3 / 5V	70 mV / 2 mV / 4 mV
Overvoltage Protection: 12V / 3V3 / 5V	14,4V / 4,1V / 6,1V
Temperature Protection Sensing Point (identical to case)	85°C (Latching)
Maximum Internal Working Temperatures	115°C
Auxiliary +/-12V Power	
Input Voltage	24Vdc (18Vdc – 36Vdc)
Maximum Current	1,25 A
Input Under-Voltage Turn ON 18V / 24V / 36V	16,2V / 17,0V / 17,8V
Input Under-Voltage Turn OFF 18V / 24V / 36V	15,1V / 16,0V / 16,7V
Input Over-Voltage Turn ON 18V / 24V / 36V	37,8V / 40,0V / 41,7V
Input Over-Voltage Turn OFF 18V / 24V / 36V	38,6V / 40,7V / 42,6V
Fixed Switching Frequency	900 kHz
Efficiency	86,5%
Max. Output Ripple and Noise (0-20 MHz Bandwidth)	140 mVpp
Load Transient Recovery Time	100 µs
Over Current Protection	15A
Connector	
Vita 62 Tyco 6450843-6, 6450849-6	



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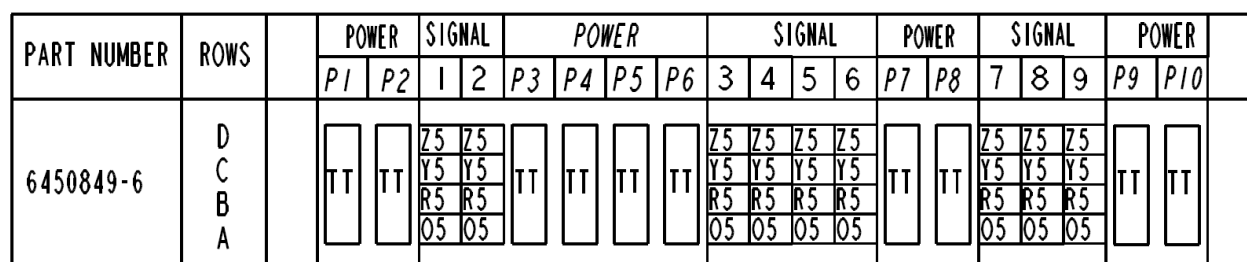


3.1.6 P0 Connector Pin Out



Pin Number	Voltage	Current (A)	Pin Name
P7	+DC_IN_1	40	+DC_In/cCL/L1
P6	+DC_IN_2	40	+DC_IN/L2
P5	-DC_IN	40	-DC_IN/L3
P4	-DC_IN	40	-DC_In/cCN
P3	n/c		POS_FILT_OUT
P2	n/c		NEG_FILT_OUT
P1	CHA_GND	40	CHASSIS

3.1.7 P1 Connector Pin Out



Pin Number	Voltage	Current (A)	Pin Name
P10	PO12	40	PO1
P9	PO13	40	PO2
A9	PO12_SENSE	<1A	PO1_SENSE
B9	PO12_SENSE	<1A	PO2_SENSE
C9	PO3_SENSE	<1A	PO3_SENSE
D9	n/c	<1A	UD0
A8	PO12_GND_SENSE	<1A	PO1_SENSE_RTN
B8	PO12_GND_SENSE	<1A	PO2_SENSE_RTN
C8	PO3_GND_SENSE	<1A	PO3_SENSE_RTN
D8	n/c	<1A	UD1
A7	PO12_SHARE	<1A	PO1_SHARE
B7	PO12_SHARE	<1A	PO2_SHARE
C7	PO3_SHARE	<1A	PO3_SHARE
D7	GND	<1A	SIGNAL_RETURN
P8	GND	40	POWER_RETURN
P7	GND	40	POWER_RETURN



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A6	n/c	<1A	SM2
B6	n/c	<1A	SM3
C6	-12V_AUX	<1.5A	-12V_AUX
D6	n/c	<1A	SYSRESET*
A5	n/c	<1A	GAP*
B5	n/c	<1A	GA4*
C5	n/c	<1A	SM0
D5	n/c	<1A	SM1
A4	n/c	<1A	GA3*
B4	n/c	<1A	GA2*
C4	n/c	<1A	GA1*
D4	n/c	<1A	GA0*
A3	n/c	<1A	UD2
B3	+12V_AUX	<1.5A	+12V_AUX
C3	n/c	<1A	NED
D3	n/c	<1A	NED_RETURN
P6	PO3	40	PO3
P5	PO3	40	PO3
P4	GND	40	POWER_RETURN
P3	GND	40	POWER_RETURN
A2	n/c	<1A	VBAT
B2	PWROK	<1A	FAIL*
C2		<1A	INHIBIT*
D2	PS_ON	<1A	ENABLE*
A1	n/c	<1A	UD3
B1	C	<1A	UD4
C1	C	<1A	UD5
D1	n/c	<1A	UD6
P2	3.3V_AUX		3.3V_AUX
P1			POWER_RETURN