

Elma Datasheet: 064-112 3U/300W power supply for military application

SYSTEM SOLUTIONS

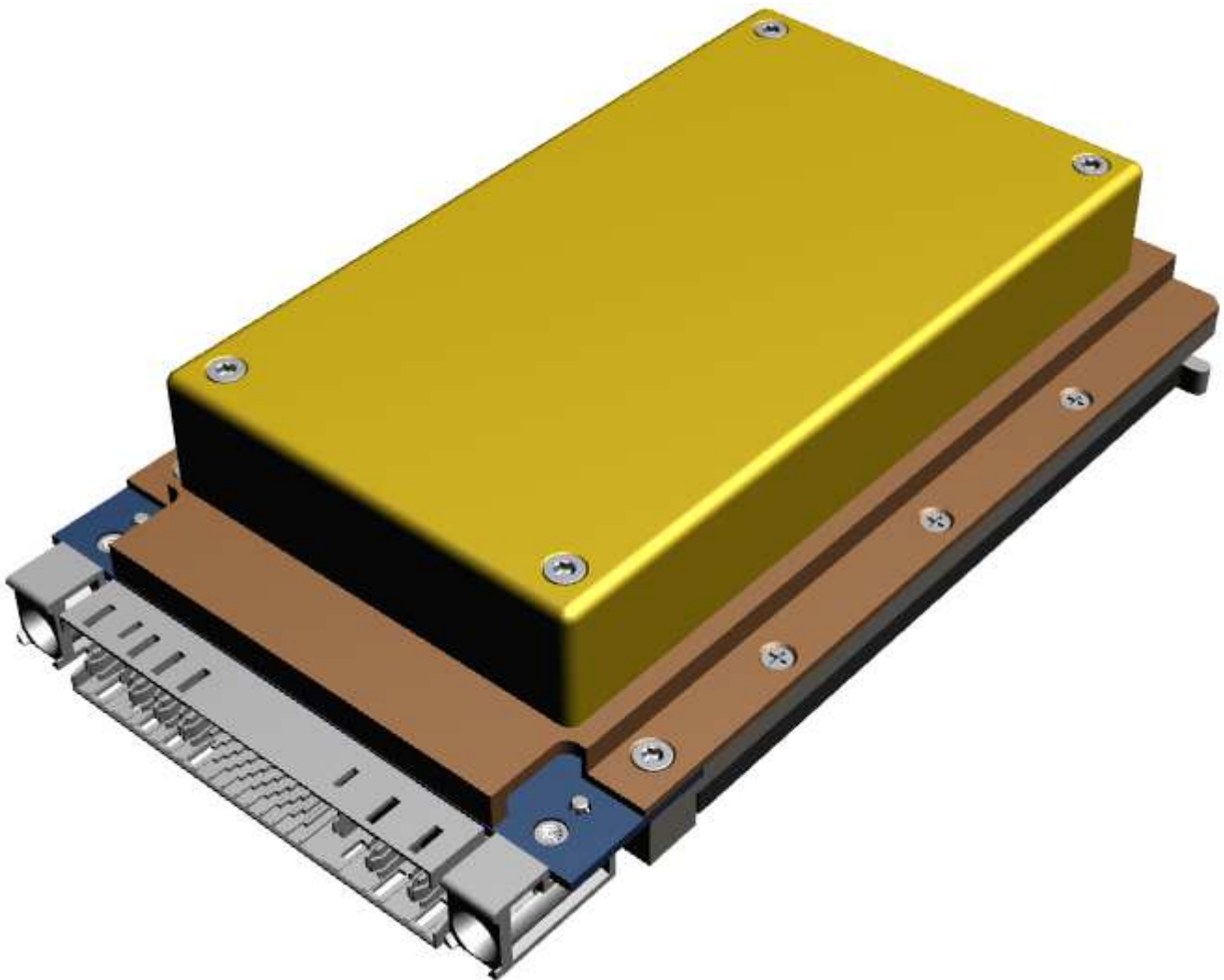
BACKPLANES

ENCLOSURES

ROTARY SWITCHES

CABINETS

3U /300W VPX Power Supply with Hold Up



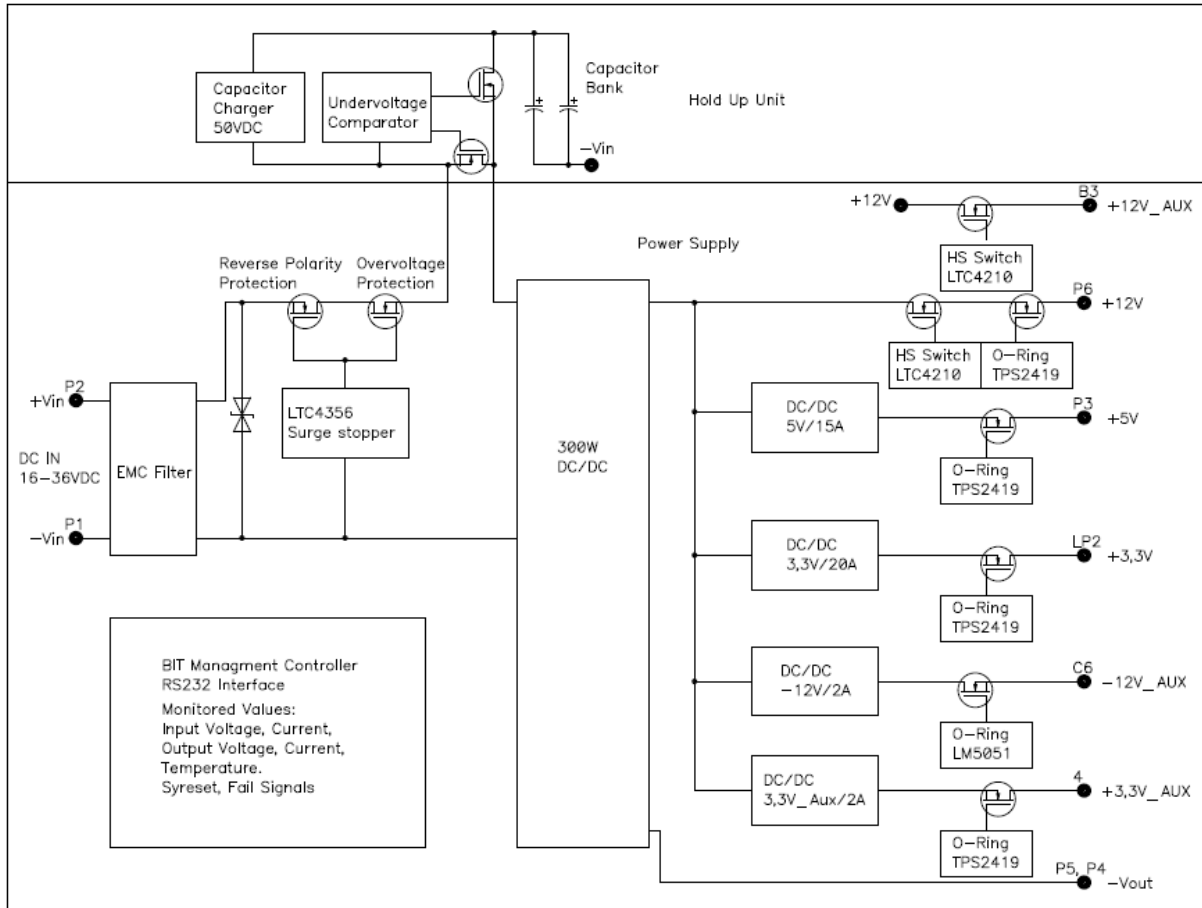


Figure 1 Block diagram

Input Specifications

Input voltage	16-36 VDC
Over voltage / transient protection	according MIL-STD 704A-F/ DO-160 / MIL-STD-1275E
Lightning protection	according DO-160G
Electromagnetic compatibility	according MIL-STD 461F
Reverse voltage protection	max. -60 VDC
Inrush current	max. 6 A
Internal Fuse	25A / 63VDC Time-Lag T Schurter 3413.0332.22

Output Specifications

Maximum provided power	300 W
+12V	25A
+5V	15A
+3,3V	20A
+3,3V_AUX	2A
+12V_AUX	2A
-12V_AUX	2A

Hold Up Specifications

Capacitor Type	2 x Cubic 6800µF/63V
Part Number	A 712120
Stored Energy	16,89Ws (+/-20%)
50ms Hold Up Time maximal for	230W
Charging Time	100ms
Charging Current	4A

Control Signals

EN# Enable	Connecting to GND will cause a switch on of all voltages
INH# Inhibit	Connecting to GND will cause a switch off of all voltages except the 3,3V_AUX
Fail	Fail is an open collector output which indicates if one of outputs is outside the specific range or over temperature fail
SYSRESET	Sysreset is open collector output, which is generated after the voltage start up is ready. Sysreset duration 20ms.

Control Signals

Green LED	LED is ON if all outputs are in the specific range LED is OFF if one of outputs is out of the specific range
RED LED	LED is ON if over temperature event is generated

Parallel and redundancy mode

On the output of the VPX power supply active O-ring diodes are implemented. This allows to operate the power supply in the redundancy mode. For the parallel mode the power supply share the power via passive power sharing.

BIT Management Controller

The BIT management controller monitors all relevant values like input / output voltages, currents, temperature. All monitored values are readable via RS232.

Environmental

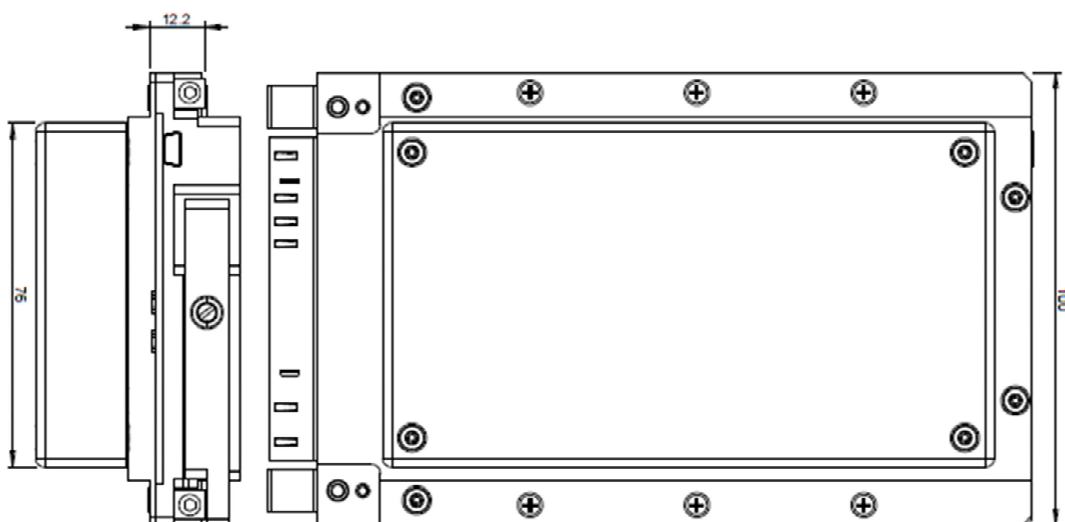
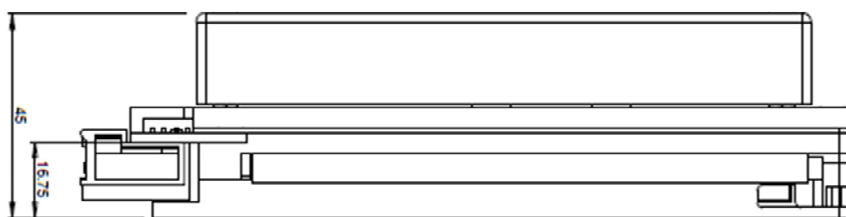
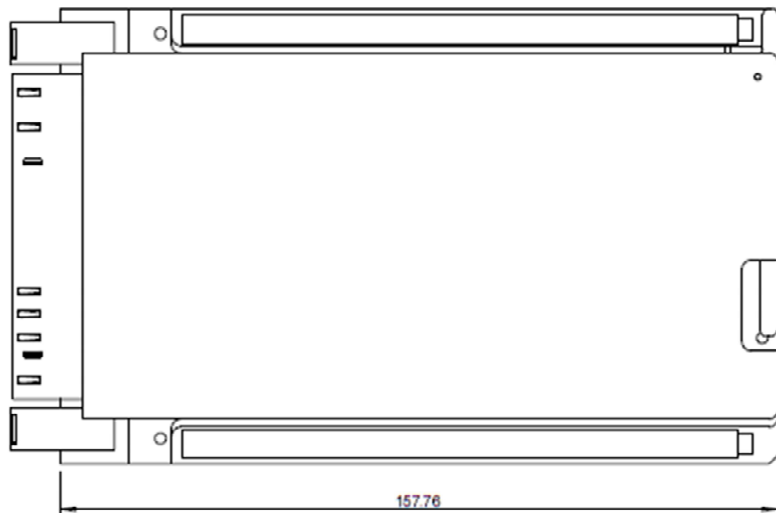
Operating temperature	-40 +85°C
Storage temperature	-55 +85°C
Humidity	95% non condensing
Shock	MIL-STD-810F
Vibration	MIL-STD-810F

Pin assignment of the power connector

Pin #	Name	Pin #	Name
P1	-DC_IN	A5	GA0
P2	+DC_IN	B5	GA1
LP1	CHASSIS	C5	IPMA_CLK
A1	NC	D5	IPMA_SDA
B1	NC	A6	IPMB_CLK
C1	RS232 RXD	B6	IPMB_SDA
D1	RS232 TXD	C6	-12_AUX
A2	VBAT	D6	Sysreset
B2	Fail	A7	NC
C2	Inhibit	B7	NC
D2	Enable	C7	NC
A3	NC	D7	Signal Return
B3	+12V_AUX	A8	+12V Sense
C3	NC	B8	+3,3V Sense
D3	NC	C8	+5V Sense
A4	+3,3V_AUX	D8	Signal Return
B4	+3,3V_AUX	P3	+5V OUT
C4	+3,3V_AUX	P4	Power Return
D4	+3,3V_AUX	P5	Power Return
		LP2	+3,3V Out
		P6	+12V OUT

Mechanical Details

The VPX power supply (without hold-up unit) is designed in 3U/5HP dimensions for conducted cooled chassis. Together with the hold-up unit, the width of the power supply is 45mm (less than 9HP). The power supply is designed with a VITA 62 3U power connector Tyco 6450849-7.





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