

Elma User Manuals: 065-862 3U/300W power supply for military application

SYSTEM SOLUTIONS

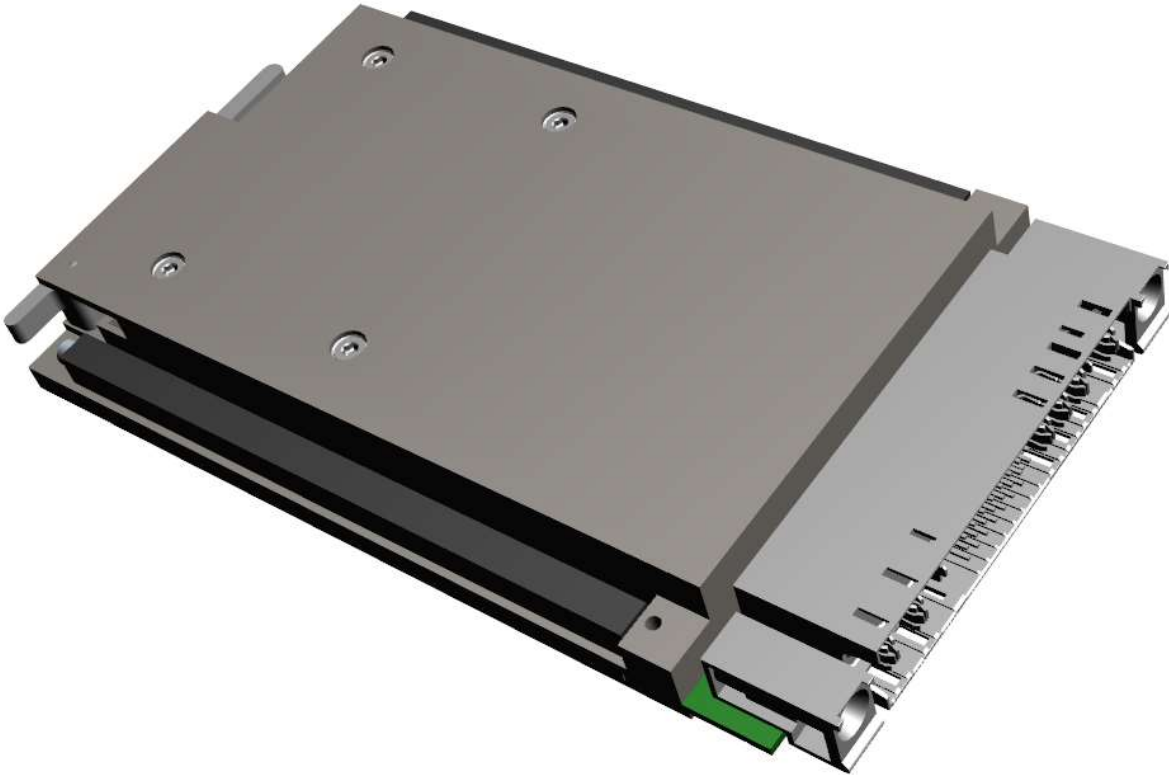
BACKPLANES

ENCLOSURES

ROTARY SWITCHES

CABINETS

3U /300W VPX power supply



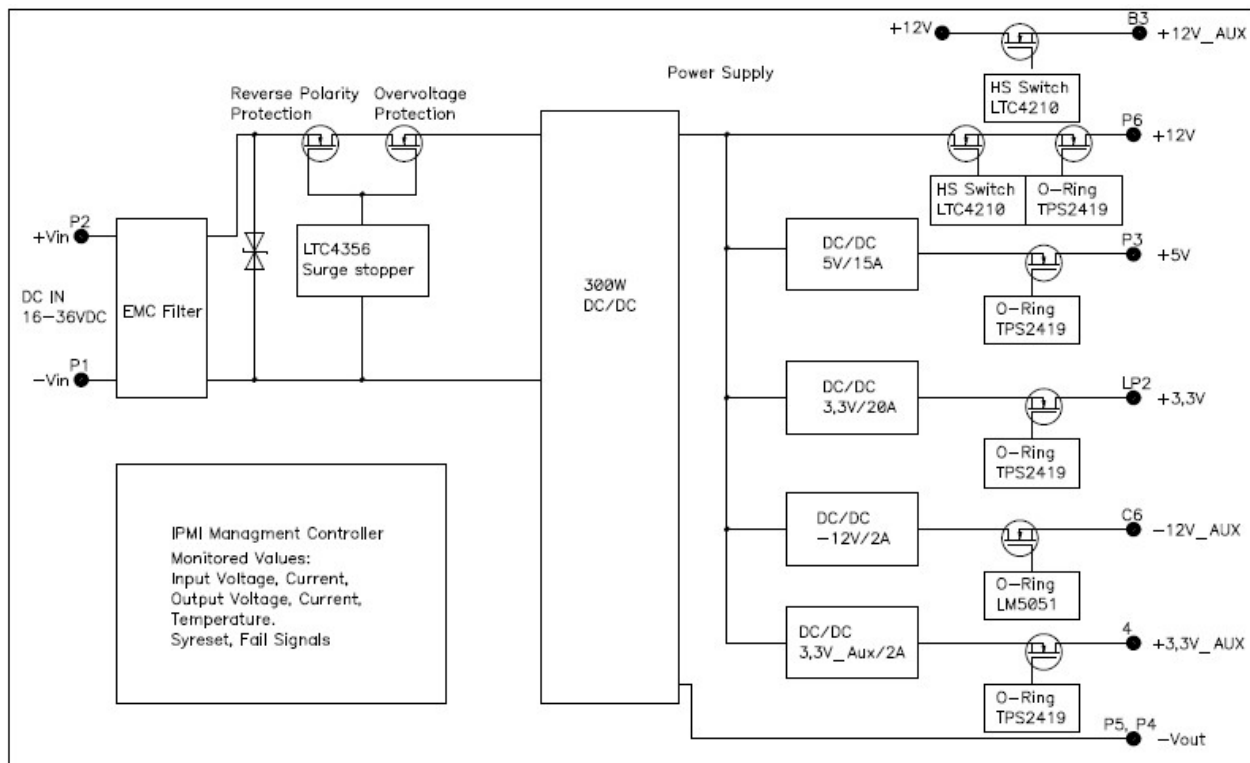


Figure 1 Blockdiagram

Input Specifications

Input voltage range	18 - 70VDC
Turn On Voltage	18VDC
Turn Off Voltage	15,6VDC
Over voltage / transient protection	according MIL-STD 704A-F/ DO-160 / MIL-STD-1275E 100V / 50ms 80V / 100ms Overvoltage above 75VDC for more than 300ms will cause a shut off of the power supply
Lightning protection	according DO-160 Level 4
Electromagnetic compatibility	according MIL-STD 461F
Reverse voltage protection	max. -60 VDC
Inrush current	max. 6 A
Efficiency	86% - 89% depends on load configuration
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	1A

Output Ripple, Line Load Regulation

Output Voltage	Ripple
+12V	25mVpp
+5V	25mVpp
+3,3V	27mVpp
Line – Load Regulation	18-36V / Iout min – Iout max
+12V	0,2%
+5V	0,35%
+3,3V	0,45%

Environmental

Operating temperature	-40 +85°C
Storage temperature	-55 +85°C
Humidity	95% non condensing
Shock	MIL-STD-810F
Vibration	MIL-STD-810F
Weight	585g

Control Signals

EN# Enable	Connecting to GND will cause a switch on of all voltages. Sink current 3mA.
INH# Inhibit	Connecting to GND will cause a switch off of all voltages except the 3,3V_AUX. Sink current 1mA.
Fail	Fail is an open collector output which indicates if one of outputs is outside the specific range or over temperature
SYSRESET	Sysreset is open collector output which is generated after the voltage start up is ready

Optical 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 or output voltages are out of specific range

IPMI Management Controller

The IPMI management controller monitors all relevant values like input / output voltages, currents, temperatur. All monitored values are readable via IPMI bus on the backplane and RS232 interface on the front panel for diagnostic. IPMI controller can be configured via USB interface on the front panel.

BIT Management Controller

The alternative to IPMI controller the BIT management controller monitors all relevant values like input / output voltages, currents, temperature. All monitored values are readable via USB serial connector on the front panel for diagnostic or on the power connector on the backplane via RS232 interface.

Hold Up Time application

For application with Hold Up time requirements, an external Hold Up Module with a capacity of 200W@50ms could be mounted on the power supply. Please contact the ELMA DE factory.

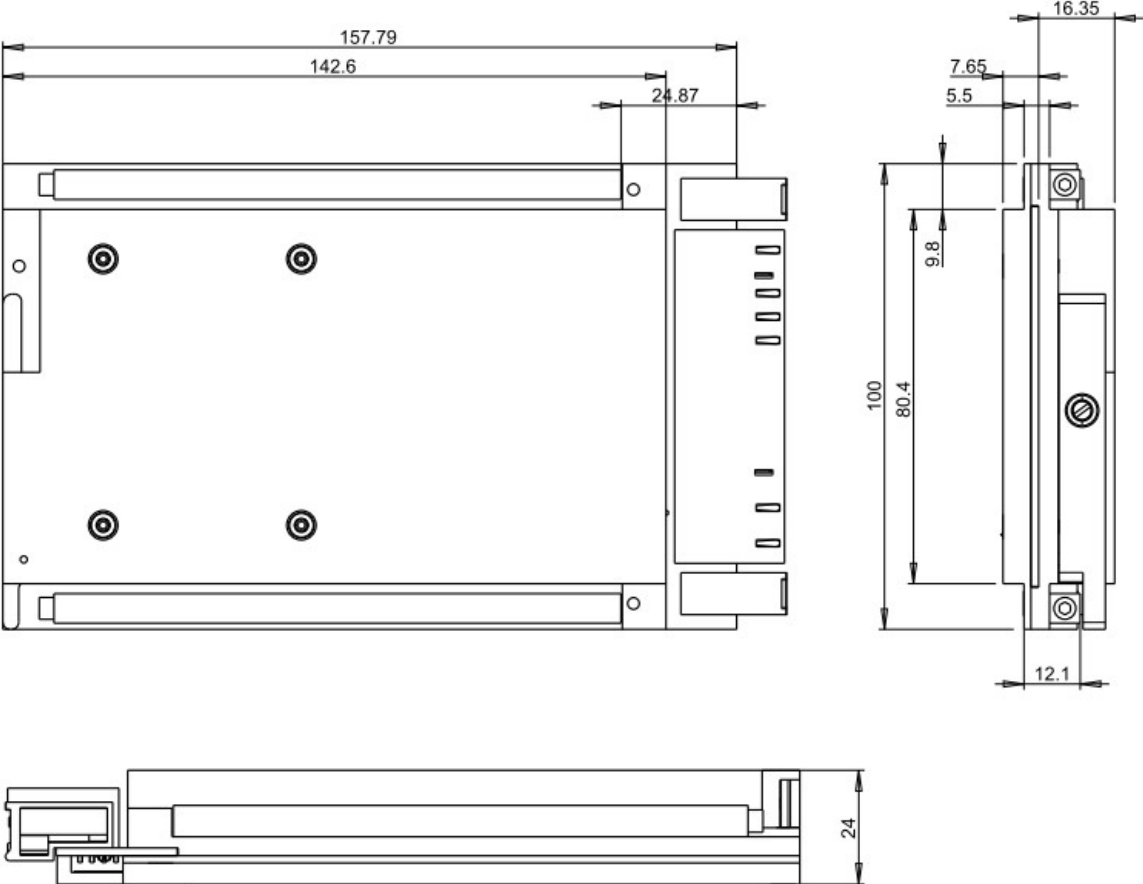
Pin assignment of the power connector

Pin #	Name	Pin #	Name
P1	-DC_IN	A5	GA0
P2	+DC_IN	B5	GA1
LP1	CHASSIS	C5	IPMA_CLK
A1	RS232 RXD*	D5	IPMA_SDA
B1	RS232 TXD*	A6	IPMB_CLK
C1	NC	B6	IPMB_SDA
D1	NC	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

Note * Option to access the BIT Controller via the serial RS232 interface.

Mechanical Details

The VPX power supply is designed in 3U/5HP dimensions for conducted cooled chassis. The power supply is designed with a VITA 62 3U power connector Tyco 6450849-7.



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