55U91-01

- 28 Vin DC/DC Converter
- 500 Watts
- Up to 9 Outputs

Features

- High Power Density, Low Profile Packaging
- Wedgelock Design
- Designed with component derating Per (NAVSO P3641)
- EMI Filtering Designed to MIL-STD-461E
- Remote Sensing
- Transient Protection per MIL-STD-704
- ANSI/VITA Signaling
- Current Share

Contents

Description

NAI's 55U91-01 is a high power density, low profile, 28VIN DC/DC switch mode converter. This converter provides power up to 500 Watts with up to 9 outputs and addresses the power supply needs for **VME and cPCI systems**. The 55U91-01 is ideally suited for airborne, shipboard, ground mobile and C^3I applications.

Electrical Specifications

DC Input Characteristics:

Input	16 to 36 VDC; 80 VDC maximum with no damage
EMI/RFI Characteristics	Designed to meet the requirements of MIL-STD-461E
Input Transient Protection	Per MIL-STD-704 A through D and MIL-STD-461E, CS106

DC Output Characteristics:

Output Power	500 Watts
Output Voltage	Outputs +3.3, +5,+/-12, +28Vdc
Efficiency	73% Typical
Line Regulation	Within 0.1% for low to high line changes at constant load
Load Regulation	0.1% for 0 to 100% of rated load at nominal input line
PARD (Noise and Ripple)	50 mV p-p maximum (20 MHz bandwidth)
Load Transient Recovery	Output voltage returns to regulation limits within 0.5 msec (typical), half to full load
Load Transient Under/Overshoot	0.35 Volt maximum from nominal output voltage set point for 3.3 V and 5.0 V outputs, all other outputs are 5%.
Short Circuit Protection	Continuous Short circuit protection, with automatic recovery
Current Share *Optional*	Allows for increased system wattage or redundancy, by connecting 2 or more units

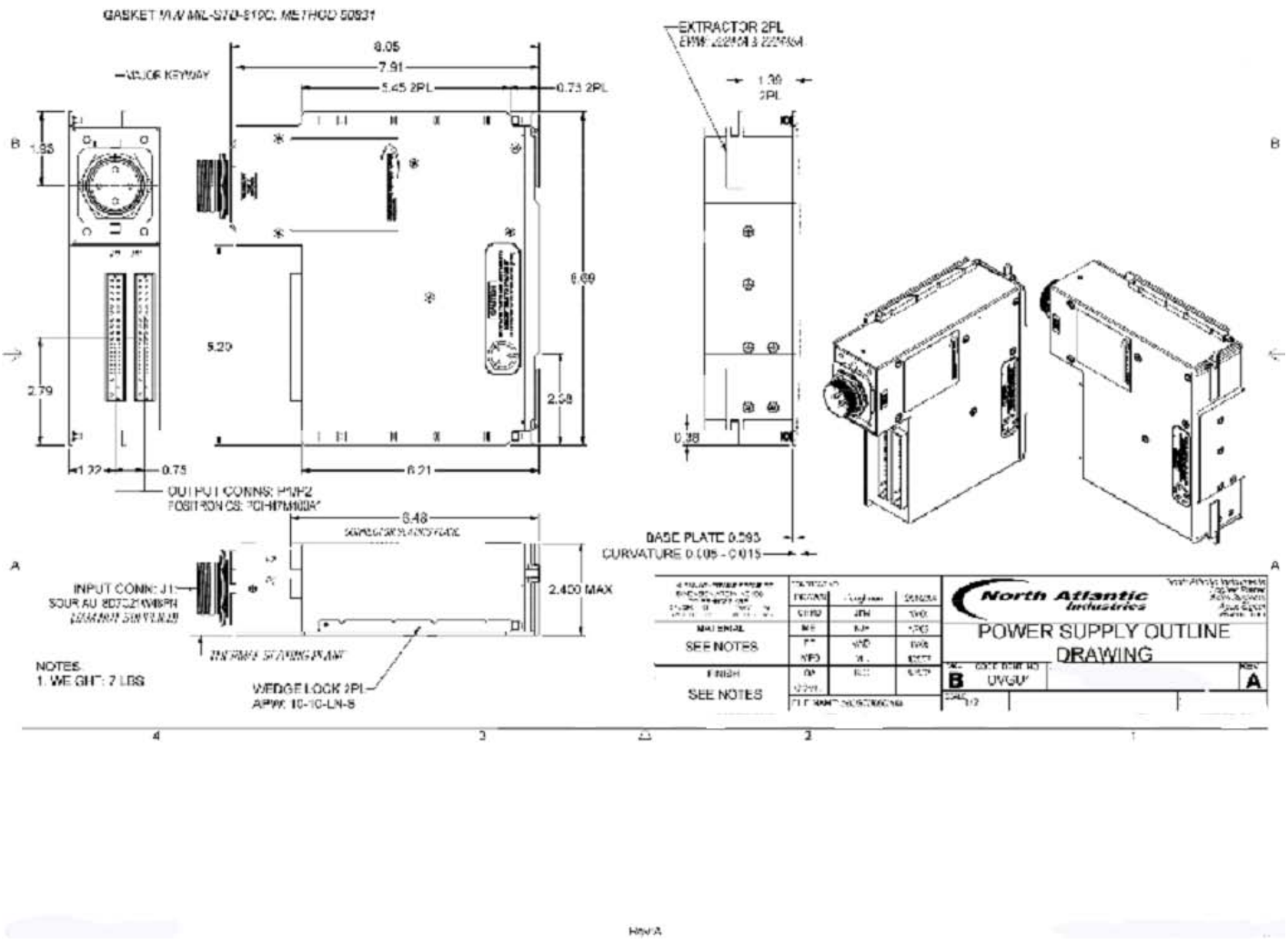
Signal Types (see ordering information section and Table # 4 to choose signal option sets):

Enable (standard on all versions)	V_{IL} = 1V max, V_{IH} =3V min. Input has 1K Pull-down resistor. Floating or Low enables the switched outputs. High will disable the switched outputs.
DC Good (see option sets, table 4)	Open collector output capable of sinking 50 mA. Output will be low (conducting) when outputs are within 5% of nominal value
Power Fail Warning (PFW) (see option sets, table 4)	Open collector output capable of sinking 50 mA. Output will be low (conducting) when input is insufficient to produce full power
Over Current (OC) (see option sets, table 4)	Open collector output capable of sinking 50 mA. Output will be low (conducting) when outputs are not in over-current limit.
AC Fail (ANSI/VITA) Option Set 3, table 4	Signal from power supply indicating status of input
Sys Reset (ANSI/VITA) Option Set 3, table 4	Signal from power supply indicating reset (such as a power up) in progress
Reset (ANSI/VITA) Option Set 3, table 4	Input to power supply via switch; resets system without power off applied
Share OK Option Set 4, table 4	Signal from power supply which gives status during current share operation
Current Limiting	120% ±10% typical
OverVoltage Protection	Automatic electronic shutdown if voltage exceeds 125% ±10%
Remote Error Sensing	Compensates for up to 0.5-volt drop on +5v & 3.3v output leads
Remote Turn On/Off	TTL logic 1 inhibits (turns off) the output; a floating input acts as a logic 0 (output on)
Isolation Voltage	500 VDC input to output and input to case; 100 VDC output to case.
Insulation Resistance	50 Megohm at 50 VDC

Physical/Environmental Specifications

Temperature Range	Operating: -55°C to +85°C at 100% load (Temperature measured at thermal seating plane; conduction via thermal seating plane); Storage: -55°C to +125°C
Temperature Coefficient	0.01% per °C
Shock	30 G's each axis, MIL-STD-810C, Method 516.2, Proc. 1. Hammer shock per MIL-S-901C
Acceleration	6 G's per MIL-STD-810C, Method 513.2, Procedure 11, and 14 G's per Procedure 1
Vibration	Per MIL-STD-810C, Method 514.2, Procedure 1A
Reliability (MTBF)	500,000 hours, ground benign, at 50°C baseplate
Humidity	95% at 71°C per MIL-STD-810C, Method 507.1 (non-condensing)
Altitude	50,000 feet per MIL-STD-810C, Method 504.1, Category 6 Equipment
Dimensions	See Mechanical Outline
Salt & Fog	Per MIL-STD-810C, Method 509.1
Sand/Dust/Fungus	Per MIL-STD-810C
Enclosure	Aluminum housing to aluminum baseplate
Finish	Chemfilm
Interface	Connections per Table 2
Weight	8 pounds max

Mechanical Layout



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