

DC POWER SWITCH / HOLD UP UNIT

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FEATURES

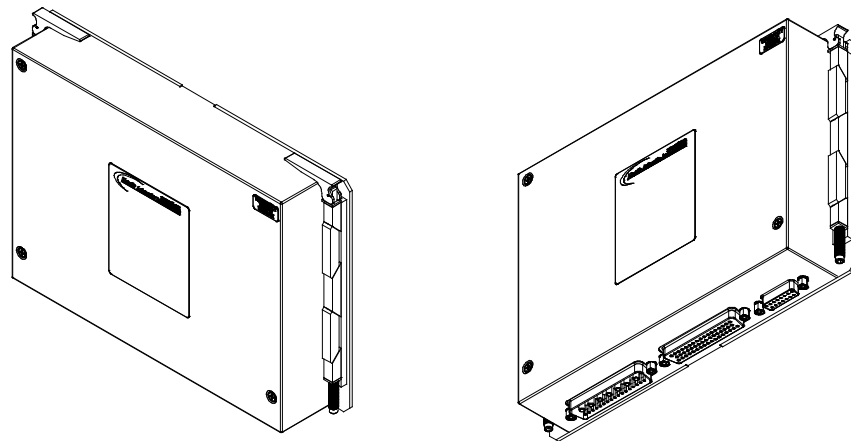
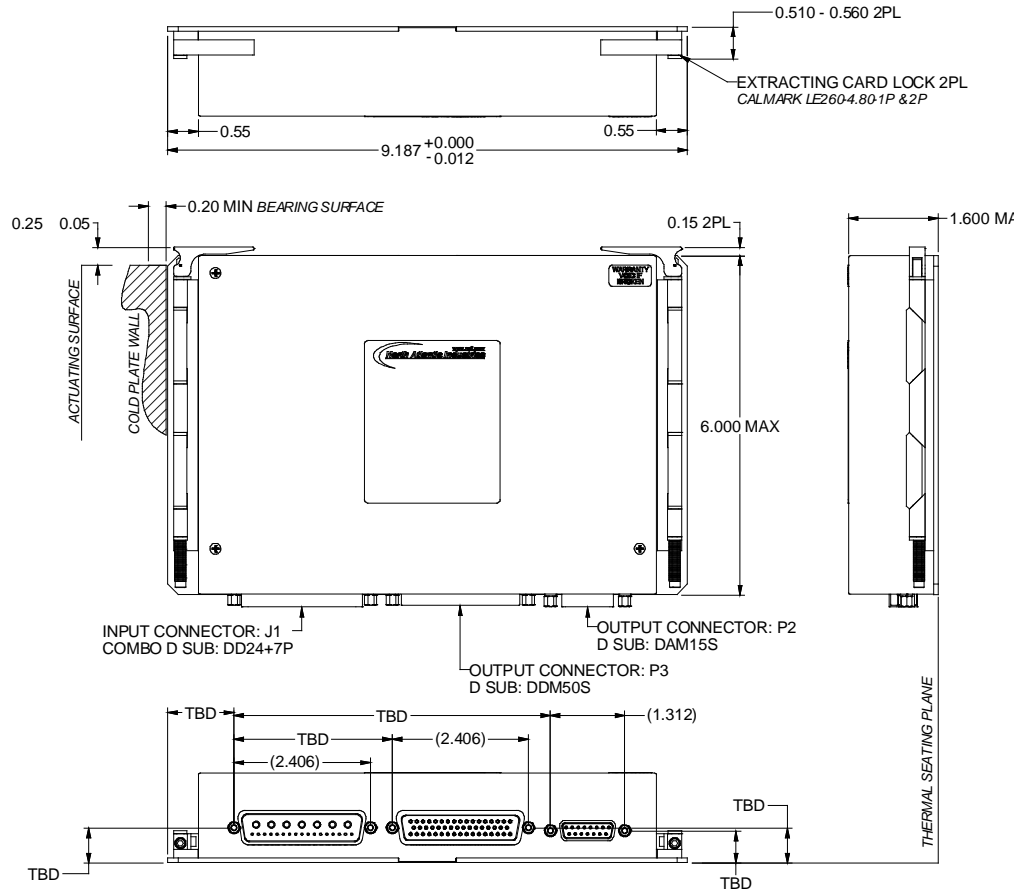
- High Power Density, Low Profile Packaging
- Switching Power Supply – Low Noise
- 100% ESS Screened
- Designed and Manufactured Per NAVMAT Guidelines
- Transient Protection per MIL-STD-704
- 6U Outline

DESCRIPTION

NAI's 44RS1 is a high power density, low profile, 28V IN DC switch power switch / holdup assembly. The 44RS1 allows the system to automatically switch to 28 VDC Secondary Power whenever 28 VDC Primary Power fails. Upon return of the primary power, the 44RS1 allows the system to use the primary instead of secondary power.

Specifications	
Input	
Primary Input Voltage	+28Vdc nominal
Primary Input Range	+20 to 36vdc
Secondary Input Voltage	Secondary power input per MIL-STD-704A, Emergency Power. Secondary input accepts a minimum of 21.6 amps @ 16Vdc and current draw less than 50 micro amps from the 28 VDC Secondary Power when primary power is available
Input Transient Protection	Per Mil-Std 704A
Reverse Polarity Protection	Unit will not be damaged when subjected to reversed polarity on the input lines
Output	
Main DC Output Power	Provides +28vdc @ 12.5amps to downstream DC/DC converters
Auxiliary DC Output Power	Provides filtered, +28vdc @ 6amps to system discretes
Holdup Time	300 watts of primary power for 50milliseconds (per Mil-Std 704A, Category B power interruption)
Holdup Cap Replenishment Time	Less than 20 seconds
Protection	
Overload Protection	Continuous short circuit protection with auto recovery
Under / Over Voltage Protection	Will not be damaged by voltages below the minimum or up to 125% of the emergency steady state limit stated in Mil-Std 704A. Will return to normal when voltage returns to normal limits
Signal and Control Features	
Common Power Enable	Allows for operation of multiple DC/DC converters from a single external power enable signal
System Power Enable	Allows for system over-ride of external power enable. Becomes effective at 1 second after power supply turn on is initiated
Overtemp Restart Control	After automatic shutdown for overtemp condition, the power switch will allow for re-enable of all DC/DC converters after the external power enable signal is toggled
Power Source Indication	An open collector output, capable of sinking up to 50 mA at 28 VDC, is required to indicate when operating from secondary power source. 0 = Output will be Open when Unit is using Secondary power. 1 = Output will be Low when Unit is using Primary power
Hold Up Function BIT	Open collector capable of sinking 50 milliamps at +28vdc as required to indicate that the holdup capability is properly functional
Environmental / Physical	
Temperature Range	Operating: -55°C to +85°C at 100% load (Temperature measured at baseplate; conduction via baseplate only); Storage: -55°C to +125°C
Temperature Coefficient	0.01% per °C
Shock	30 G's each axis, per MIL-STD-810C, Method 516.2, Procedure 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)	100,000 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-5400
Salt & Fog	Per MIL-STD-810C, Method 509.1
Sand/Dust/Fungus	Per MIL-STD-810C
Dimensions	See outline diagram next page
Weight	3.5 lbs max
Interface	Via three Sub D style connectors (refer to outline diagram next page)

OUTLINE DIAGRAM



44RS1B000
HOLDUP MODULE 6/14/06