

44KS1

DC/AC Inverter – 65 VA

Features

- High Power Density, Low Profile Packaging
- Switching – Low Noise
- ESS Screening (Burn-In) and Temperature Cycling
- Designed and Manufactured Per NAVMAT Guidelines
- EMI Filtering Designed to MIL-STD-461E
- Transient Protection per MIL-STD-704A
- Over-voltage Recovery
- Short Circuit Protection
- Current Limiting



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Description

The North Atlantic Industries 44KS1 Series is a high power density, low profile, DC/AC switch mode sine inverter. The 44KS1 Series is ideally suited for airborne, shipboard, ground mobile and C³I applications. All North Atlantic Industries Power Products are designed and qualified to the most stringent performance and environmental requirements.

Electrical Specifications

DC Input Characteristics:

Input	24 to 32VDC steady state, 17 to 80 VDC transient per MIL-STD-704 A
EMI/RFI Characteristics	MIL-STD-461E – CE101, CE102, CS101, and RS101. RE102 when mounted in a closed metallic system using shielded cable with approximately 60 db attenuation for input and output lines which protrude from the system.
Input Transient Protection	The unit will meet MIL-STD-704A. The Output will maintain regulation for all normal, abnormal and emergency transients per category A limits 1,2 and 5
Inrush Current	Limited to 75 amps
PF (power fail)	Output will be low (conducting) when input is insufficient to produce full power.

AC Output Characteristics:

Output Power	Max. power for operating temperature @ 85°C baseplate, 65 VA
Output Voltage	26-28Vac
Output Frequency	400 Hz +/- 0.25%
Efficiency	73% minimum
Line Regulation	0.4% for line variations from 18 to 36 VDC
Load Regulation	1.0% for load variation from 50 to 100%
Output Waveform	1.5% THD into resistive load
Enable	Float or low enables output ; high disables output

AC Output Characteristics (Continued):

Short Circuit Protection	Protected for continuous short circuit with automatic recovery
Current Limiting	10 Amp peak
OverVoltage Protection	Automatic electronic shutdown if output exceeds 125% \pm 10%
Isolation Voltage	1000VDC input to output. 500 VDC input to case; 500 VDC output to case
Insulation Resistance to Case	50 Meg-ohm at 50 VDC (input and output)

Physical/Environmental Specifications

Temperature Range	Temperature measured at baseplate, conduction-cooled via baseplate only; Operating: -55°C to +85°C; Storage: -55°C to 125°C
Temperature Coefficient	0.02% 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)	200,000 hours, ground benign, at 40°C baseplate
Humidity	100% condensing
Altitude	40,000 feet per MIL-STD-810C, Method 504.1, Category 6 Equipment
Dimensions	Refer to "Mechanical Layout"
Salt & Fog	Per MIL-STD-810C, Method 509.1
Sand/Dust/Fungus	Per MIL-STD-810C
Enclosure	Aluminum housing to aluminum baseplate
Interface	Connections via D-subminiature connector (<i>Mating Connector Not Supplied</i>)
Weight	3.25 lbs max

Table 1. Connector Specifications

Unit Connector	Mating Connector (Not Supplied)
DAMME15PR	DAMM15S

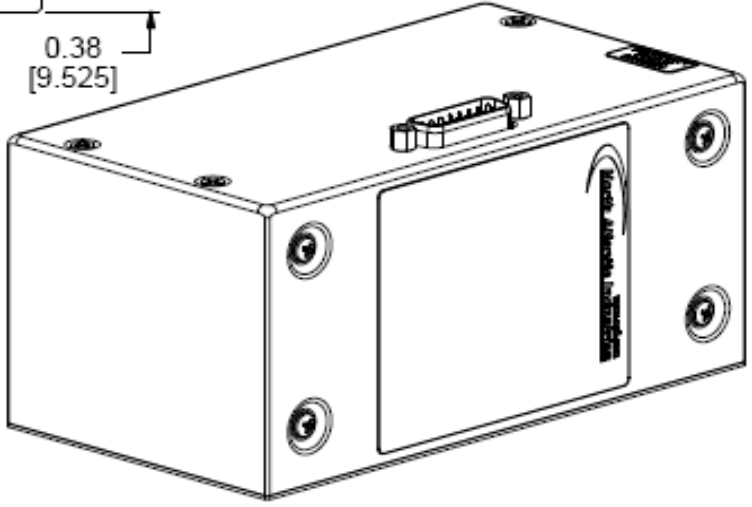
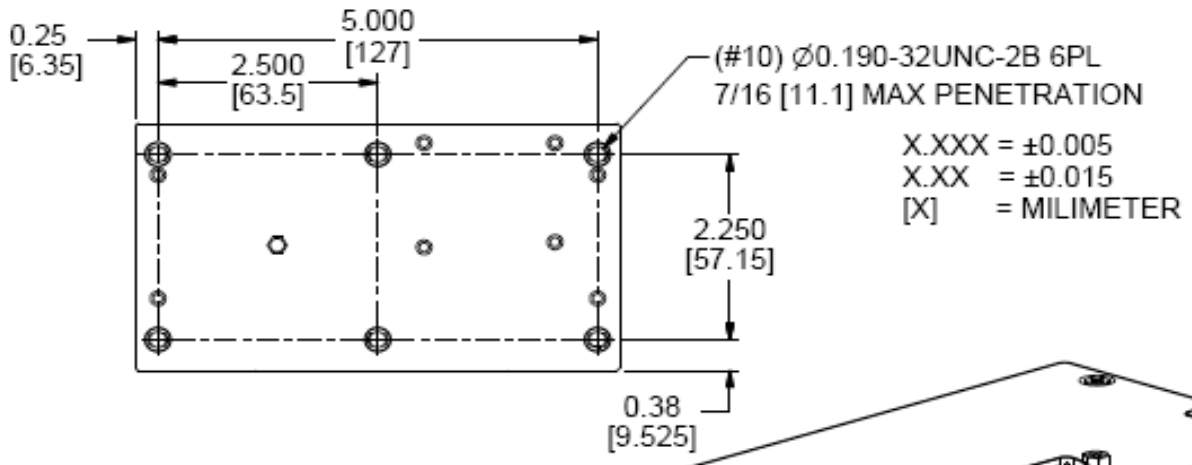
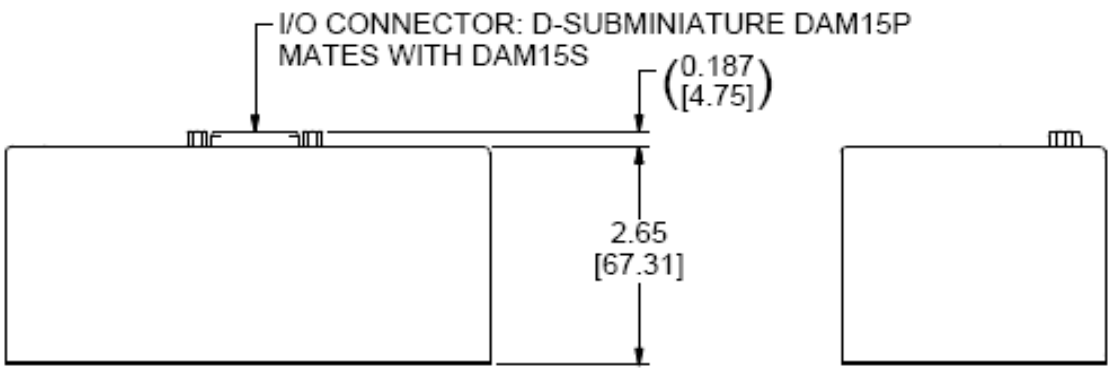
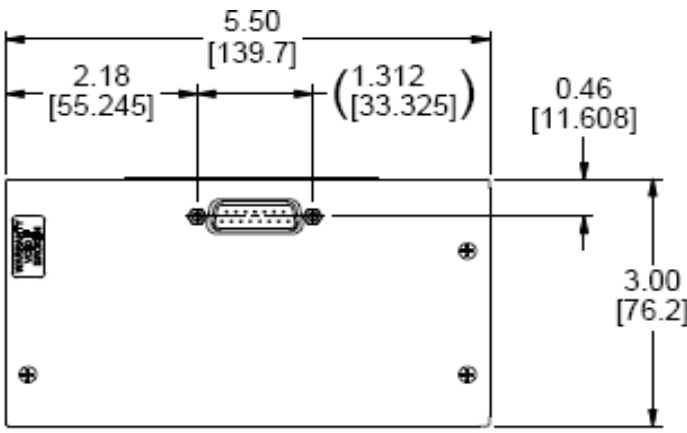
Table 2. Pin Out Designations (J1)

Pin	Signal	Description	Pin	Signal	Description
1	Bit	Programmable Status Signal	9	Enable**	Output Enable
2	PF *	Power Fail	10	OUTPUT	AC Output (Neutral)
3	OUTPUT	AC Output (Neutral)	11	OUTPUT	AC Output (High)
4	OUTPUT	AC Output (High)	12	V _{SB}	5V @ 5 mA Standby
5	Chassis GND	Chassis Ground	13	N/C	Not Connected
6	N/C	Not Connected	14	INPUT (+)	DC Input (High)
7	INPUT (-)	DC Input (Return)	15	INPUT (+)	DC Input (High)
8	INPUT (-)	DC Input (Return)			

* See description under DC Input Characteristics section

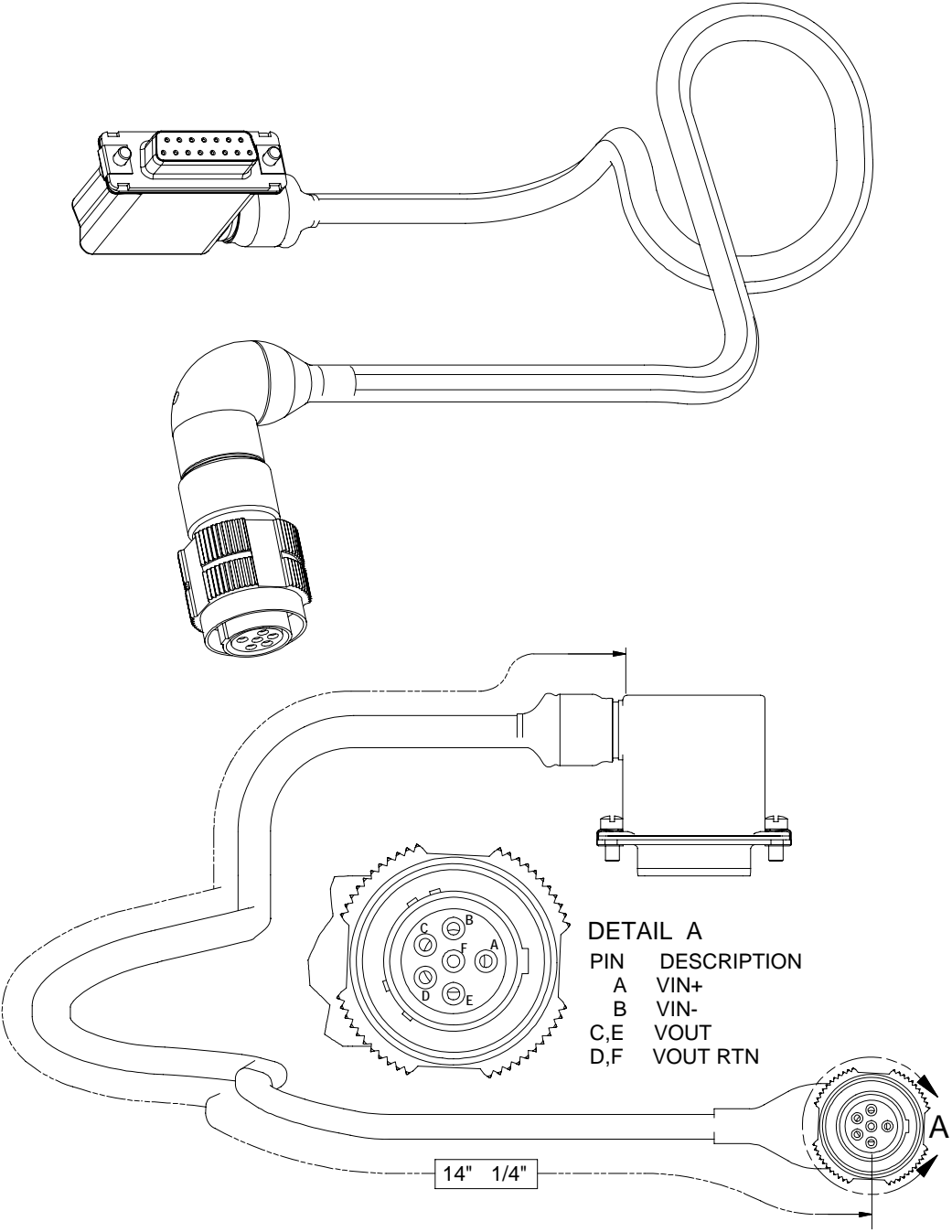
** See description under AC Output Characteristics section

Mechanical Layout



Interface Cable Detail

(Supplied with 44KS1-01 Only)



DETAIL A

PIN	DESCRIPTION
A	VIN+
B	VIN-
C,E	VOUT
D,F	VOUT RTN

14" 1/4"

44KS1B018 CABLE ASSEMBLY

Ordering Information for 44KS1 Series (65 Watt DC/AC Inverter)

44 K S1 - XX

— **CODE** (Used only for specials, refer to “Option Code Table”)

— **OUTPUTS:** S1 = Single

— **WATTAGE:** K = 60 – 75W

— **SERIES:** 44 = DC/AC

Option Code Table

Code	Description
01	Interface Cable supplied with unit (Refer to “Interface Cable Detail”). Enable input, PF signal, BIT signal and standby voltage are not provided. Unit is environmentally sealed.

Consult Factory for Additional Options and/or Special Units

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