



Powerful Sensing Solutions for a Better Life

NAV-DAC440

ANALOG INTERFACE ADAPTER

The NAV-DAC440 analog interface adapter is an invaluable accessory for customers wishing to use MEMSIC’s 440-Series Inertial products in analog-only applications. The NAV-DAC440 converts the RS-232 serial digital outputs from 440-Series products to analog DC voltages.



440-Series Inertial Systems

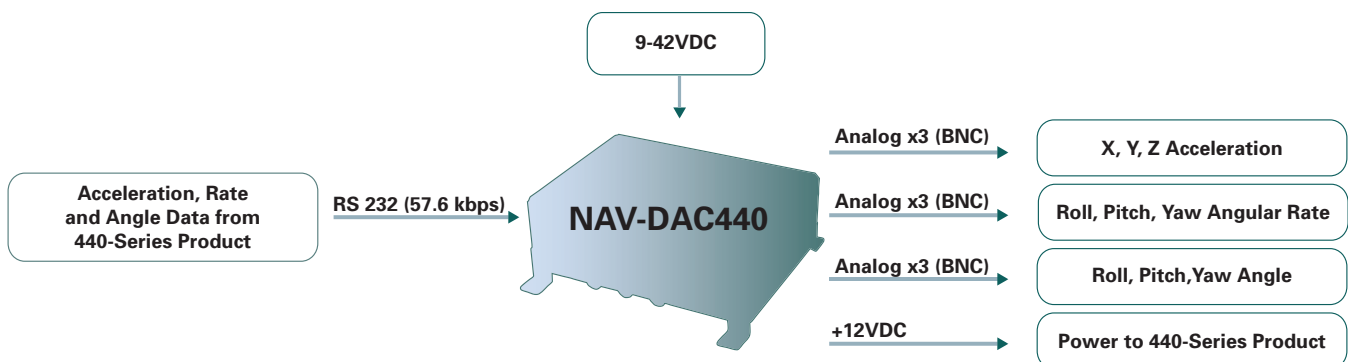
The NAV-DAC440 provides BNC analog outputs for 3-axis angular rate (Roll, Pitch and Yaw), 3-axis linear acceleration (X, Y, Z), and 3-axis angle (Roll, Pitch and Yaw). It is designed for plug and-play operation with MEMSIC’s NAV440, AHRS440, VG440 and IMU440 (baud rate of 57.6 kbps, see 440-Series User’s Manual). The NAV-DAC440 provides power to the 440-Series products.

Features

- Analog Outputs for MEMSIC’s 440-Series Inertial Systems
- 9 Output Channels - Rate (3), Acceleration (3) and Angle (3)
- BNC Outputs for Direct Connection to Analog Data Acquisition Systems
- Simple Interface, Easy to Use

Applications

- Dynamic Motion Testing in Analog Data Acquisition Systems



Performance

NAV-DAC440

Analog Outputs	
No. of Channels	9
Resolution (bits)	16
Latency (msec)	5.16

Angle	
Range: Roll, Pitch, Yaw (deg)	± 180
Sensitivity (mV/deg)	12.5
Bias ¹ (V)	2.500
Error (%)	± 1.5

Angular Rate	
Range: Roll, Pitch, Yaw (deg/sec)	± 200
Sensitivity (mV/deg/sec)	6.25
Bias ¹ (V)	2.500
Error (%)	± 1.5

Acceleration	
Range: X, Y, Z (g)	± 4
Sensitivity (mV/g)	250
Bias ¹ (V)	2.500
Error (%)	± 1.5

Specifications

Input Data Mode	
Baud Rate (Kbps)	57.6

Electrical	
Voltage (VDC)	9 to 42
Current (mA)	< 50
Operating Temp. (°C)	0 to 55

Physical	
Dimensions (in)	3.54 x 5.20 x 1.77
(mm)	90 x 132 x 45
Output Connectors	
Digital	D-Sub 15
Analog	BNC (9 Channels)

Ordering Information

Model	Description
NAV-DAC440	Analog Interface Adapter

This product has been developed exclusively for commercial applications. It has not been tested for, and makes no representation or warranty as to conformance with, any military specifications or its suitability for any military application or end-use. Additionally, any use of this product for nuclear, chemical or biological weapons, or weapons research, or for any use in missiles, rockets, and/or UAV's of 300km or greater range, or any other activity prohibited by the Export Administration Regulations, is expressly prohibited without the written consent and without obtaining appropriate US export license(s) when required by US law. Diversion contrary to U.S. law is prohibited. Specifications are subject to change without notice. Notes: ¹ Bias of 2.5V is nominal, and varies with each 440-Series unit. Place the 440-Series unit onto a flat and stationary surface to measure the actual bias for your unit

Pin Assignments (D-Sub 15 connector)

Pin	Assignment	Function
1	RS_IN_A	RX from 440 Unit
2	RS_OUT_A	TX to 440 Unit
3	POW+	
4	POW_GND	
5	Chassis GND	BNC shell
6	NC	
7	NC	
8	NC	
9	Ground	
10	NC	
11	NC	
12	NC	
13	NC	
14	Reserved	Factory Use Only
15	Reserved	Factory Use Only

Other Components

Each NAV-DAC440 module is shipped with a power and interface cable, and a NAV-DAC440 operation manual.

Support

For more detailed technical information please refer to the NAV-DAC440 operation manual available online at:

www.memsic.com/Support