



Powerful Sensing Solutions for a Better Life

AHRS440

MEMS-BASED AHRS SYSTEM

The MEMSIC AHRS440 is a compact standalone attitude and heading reference system that provides roll, pitch and yaw measurement data in both static and dynamic environments. The AHRS440 can accept external GPS aiding inputs for optimized performance, and is available in standard and high range sensor configurations.



Platform Stabilization



UAV Flight Control

The AHRS440 combines highly reliable MEMS sensors (gyros and accelerometers) with low noise magnetometers to provide accurate attitude and heading in a small and rugged environmentally-sealed enclosure. The AHRS440 provides consistent performance in challenging operating environments and is user-configurable for a wide variety of applications.

Applications

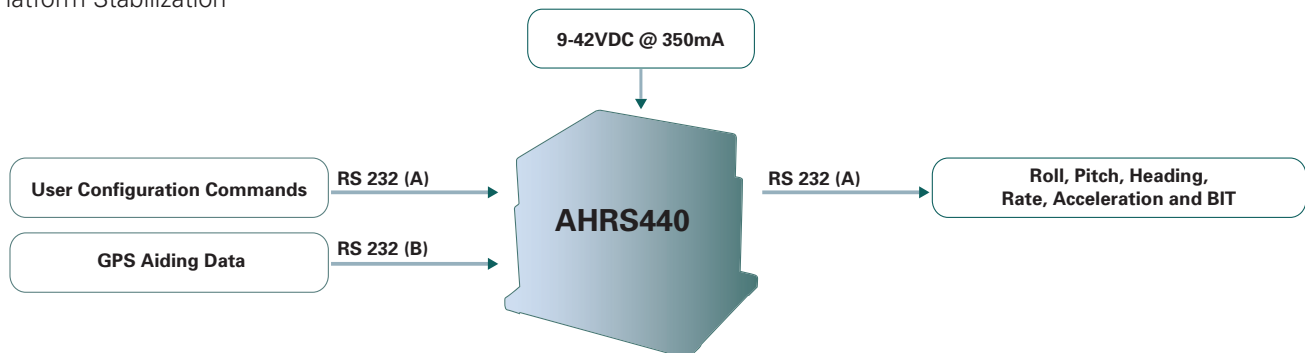
- Unmanned Vehicle Control
- Land Vehicle Guidance
- Avionics Systems
- Platform Stabilization

Features

- Roll, Pitch, Heading and 9DOF Inertial Outputs
- Accuracy < 0.2 deg
- Output Data Rate > 100 Hz
- High-Range Sensor Options (400 deg/sec and 10g)
- GPS Aiding Input
- Low Power < 3W
- High Reliability, MTBF > 25,000 hours
- Analog Output Option
- Rugged Sealed Enclosure

Certifications

- DO-160D Environments



Performance

AHRS440

| Heading | |
|---------------------------------|-------|
| Range (°) | ± 180 |
| Accuracy ^{1, 2, 3} (°) | < 1.0 |
| Resolution (°) | < 0.1 |

| Attitude | |
|---------------------------------|-------------|
| Range: Roll, Pitch (°) | ± 180, ± 90 |
| Accuracy ^{1, 2, 3} (°) | < 0.2 |
| Resolution (°) | < 0.02 |

| Angular Rate | |
|---|--------------------------------|
| Range: Roll, Pitch, Yaw (°/sec) | ± 200 (± 400 option available) |
| Bias Stability In-Run ^{2, 4} (°/hr) | < 10 |
| Bias Stability Over Temp ² (°/sec) | < 0.02 |
| Resolution (°/sec) | < 0.02 |
| Angle Random Walk (°/√hr) | < 4.5 |
| Bandwidth (Hz) | 25 |

| Acceleration | |
|--|-----------------------------|
| Input Range: X/Y/Z (g) | ± 4 (± 10 option available) |
| Bias Stability In-Run ^{2, 4} (mg) | < 1 |
| Bias Stability Over Temp ² (mg) | < 4 |
| Resolution (mg) | < 0.5 |
| Velocity Random Walk (m/s/√hr) | < 1.0 |
| Bandwidth (Hz) | 25 |

Specifications

| Environment | |
|--------------------------------|----------------|
| Operating Temperature (°C) | -40 to +71 |
| Non-Operating Temperature (°C) | -55 to +85 |
| Enclosure | IP66 Compliant |

| Electrical | |
|-----------------------|---------|
| Input Voltage (VDC) | 9 to 42 |
| Power Consumption (W) | < 3 |
| Digital Interface | RS-232 |

| Physical | |
|--------------|-------------------------|
| Size (in) | 3 x 3.75 x 3 |
| (cm) | 7.62 x 9.53 x 7.62 |
| Weight (lbs) | < 1.3 |
| (kg) | < 0.58 |
| Connector | DB15, D-sub 15-pin Male |

Ordering Information

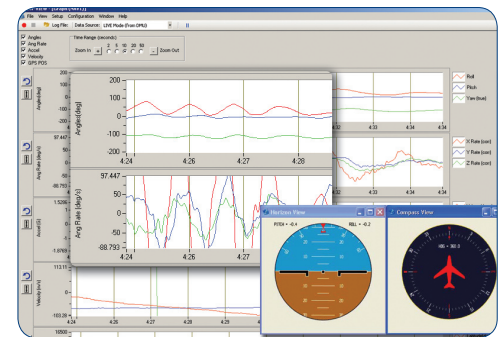
| Model | Description |
|---------------|--|
| AHRS440CA-200 | Attitude & Heading Reference System (Standard) |
| AHRS440CA-400 | Attitude & Heading Reference System (High Range) |

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 With valid GPS-Aiding input data ² 1-sigma value ³ During steady level flight. ⁴ Constant temperature, Allan Variance Curve.

Analog Output Option

MEMSIC offers the NAV-DAC440 analog interface adapter for customers wishing to use the AHRS440 in analog data acquisition systems. The NAV-DAC440 converts the AHRS440 serial digital data to 9-channel BNC analog outputs.

NAV-VIEW 2.0 Configuration & Display Software



NAV-VIEW 2.0 provides an easy to use graphical interface to display, record and analyze all of the AHRS440 measurement parameters.

Other Components

Each AHRS440 is shipped with an interface cable, MEMSIC's User's Manual and NAV-VIEW 2.0 configuration and display software.

Support

For more detailed technical information please refer to the 440-Series User's Manual available online at: www.memsic.com/Support



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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