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An ISO 9001 Certified Company

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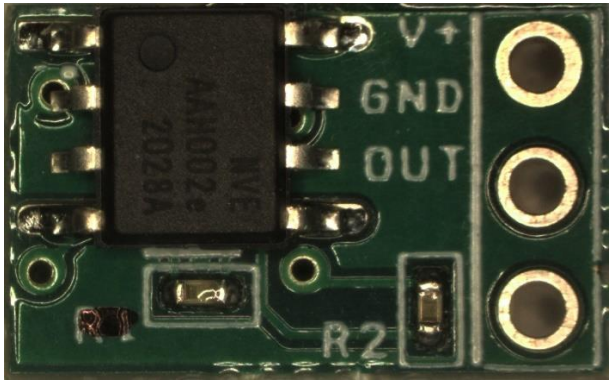
Manual No.: SB-00-144

NVE CORPORATION

AAH002-02E PCBA

Ultrahigh Sensitivity Analog Sensor



SB-00-144

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Overview

This printed circuit board assembly allows you to easily test the remarkable sensitivity of NVE's AAH002-02E GMR Magnetometer with up to 6 Volts per Oersted sensitivity. Key AAH002-02E PCBA features include:

- Omnipolar Wheatstone bridge analog output
- High Sensitivity: 375 mV/V/Oe typical
- Simple three-wire interface
- 2.7 to 12V supply voltage

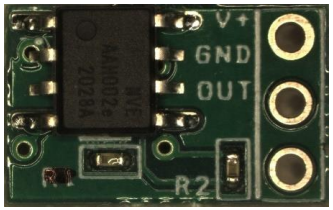
Quick Start

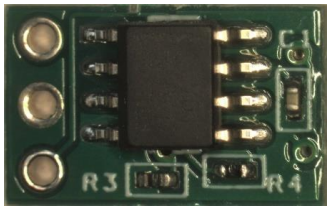
⇨ Connect V+ and GND to a DC power supply or battery.
⇨ Connect the "Out" and "GND" to a meter.
⇨ Observe the sensor output by detecting earth magnetic field, current carrying wires, tiny magnets, and other sources of magnetic field.

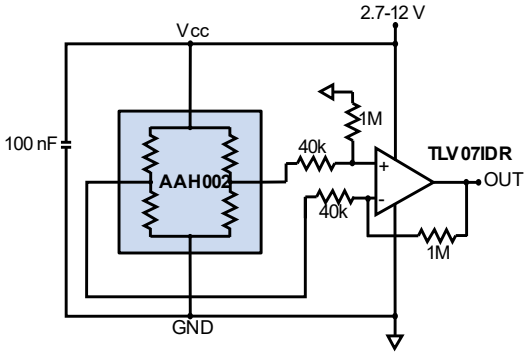
AAH002-02E PCBA Circuit and Description

The AAH002-02E PCBA consists of a fully assembled 12.5 x 7.8 mm printed circuit board with:

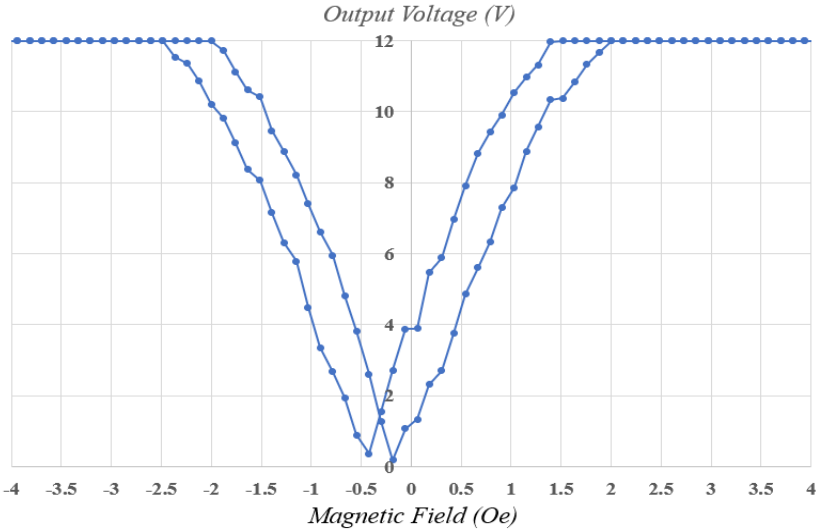
- AAH002-02E sensor
- Differential amplifier circuit with a gain of 25
- Vcc, GND, and OUT plated thru-holes for connecting wires or indicators like LEDs







Typical Sensor Output



Magnetic Fields of Common Objects

The table below lists some common magnetic field sources and typical detection distances with the AAH002-02E PCBA.

Magnetic Field Source	Magnetic field at 10 mm distance	Typical AAH002-02E PCBA detection distance
1 amp current	0.2 Oersted	10 mm
20 amp current	4 Oersted	200 mm
Earth magnetic field	0.5 Oersted	Yes
1 mm NdFeB magnet	1.5 Oersted	20 mm
25 mm NdFeB magnet	2140 Oersted	Over 500 mm

For more information about AAH002-02E and other sensors, check out our website and free web calculators:

https://www.nve.com/analogSensors
https://www.nve.com/spec/calculators#tabs-Axial-Disc-Magnet-Field