## Introduction

Gravity: Linear/Analog Hall Sensor is a high-precision device designed for measuring and monitoring magnetic field strength. Advanced Hall effect circuitry at the core converts magnetic induction strength directly into a voltage output. The sensor responds uniquely to magnetic fields: when the south pole of a magnet faces the sensing surface, the magnetic field strengthens, and the output voltage rises above the midpoint, gradually increasing. When the north pole faces the sensing surface, the output voltage falls below the midpoint, gradually decreasing. High sensitivity makes this sensor ideal for applications that need precise magnetic field detection, such as industrial control, scientific research, security systems, and various electronic devices.
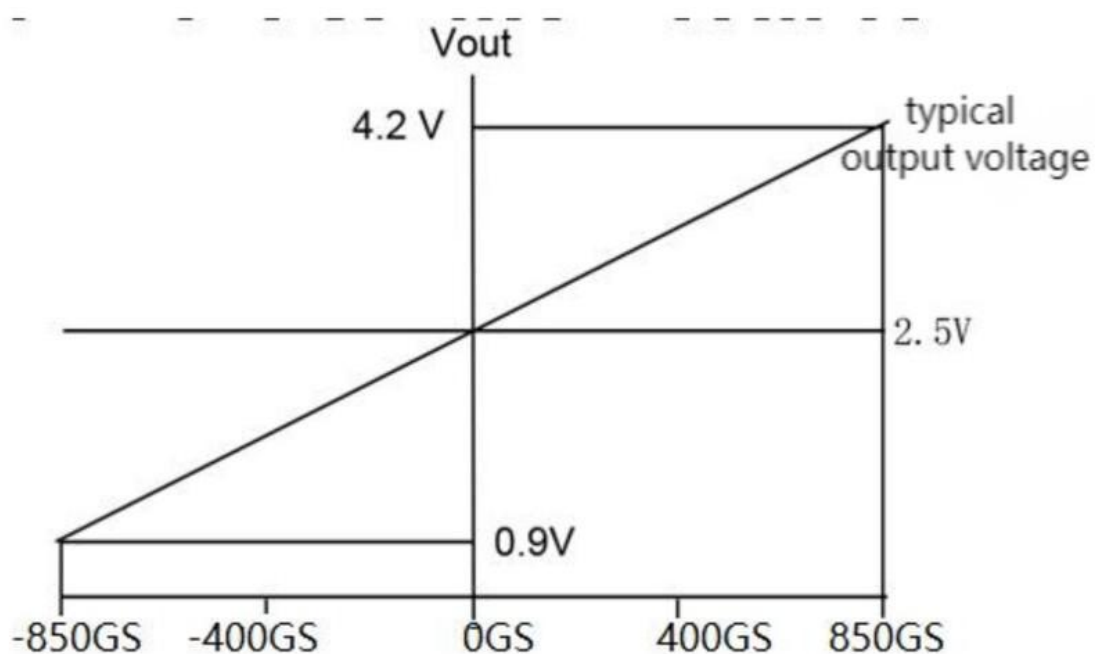
In summary, Gravity: Linear/Analog Hall Sensor is an efficient and accurate tool for detecting magnetic fields. It offers reliable performance and precise measurements, making it an invaluable addition to projects.
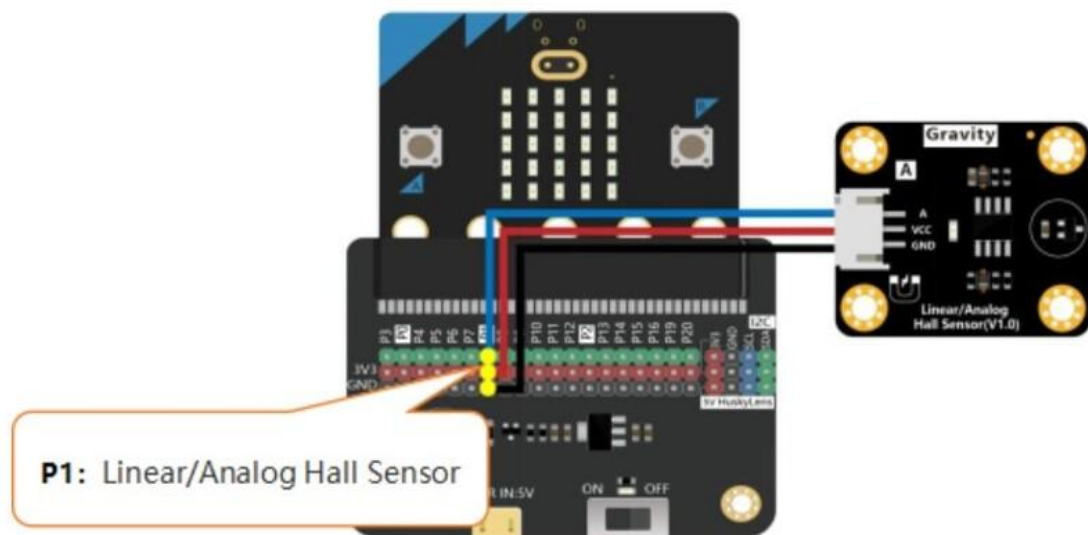
Wiring Diagram of Gravity: Linear/Analog Hall Sensor and micro:bit

	Detected South Pole Magnet	Detected North Pole Magnet
Effect Display		
Serial Output:	790 789 790 790 790 790 790	402 404 412 416 420 424 426

Figure: Magnetic Pole Detection System

Features

Bipolar Sensing: Capable of detecting N (north) and S (south) pole magnetic fields, expanding the range of applications.

Low Noise Output: The integrated circuit features low noise output, ensuring

minimal interference.

Single Current Source Output: Stable output signals are maintained, less susceptible to voltage fluctuations, guaranteeing precise measurement results.

On-board Indicator LED: When a magnetic field is detected, the on-board LED indicator lights up, allowing users to easily monitor the operational status at a glance.

High Compatibility: Easily integrates with various main controllers such as Arduino, micro:bit, and UNIHIKER, providing versatility across different platforms.

Applications

Current Detection

Motor Control

Magnetic Field Detection

Metal Detector

Specification

Operating Voltage: 3.3~5V

Power Supply Current: 4.2-8 mA

Magnetic Field Range: ±1200 GS

Onboard Indicator LED

Detection Distance: ＜1cm (specific detection distance depends on the intensity and direction of the magnetic field)

Data Type: Analog

Interface Type: PH2.0-3P

Dimensions: 27x32mm

Product Weight: 3.5g (total weight including packaging and sensor cable is 12g)

Magnetic Pole Range:

micro:bit and Arduino (S Pole): 520-1023

micro:bit and Arduino (N Pole): 0-500

UNIHIKER (S Pole): 2068-4095

UNIHIKER (N Pole): 0-2028

Documents

Product wiki

Pin Description

Package Contents

micro:bit Usage Tutorial

Arduino Usage Tutorial

UNIHIKER Usage Tutorial

Project Description - Python Code

Schematic Diagram

Dimensional Drawing

Shipping List

Gravity: Linear/Analog Hall Sensor x1

Gravity: Analog Sensor Cable for Arduino - 30cm x1