BMM150

BMM150 Magnetometer Module

v1.0

2025-07-17
Rev. A

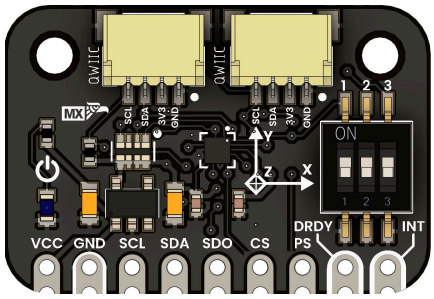
Compact 3-axis digital magnetometer for orientation sensing and navigation applications

PRODUCT OVERVIEW

The BMM150 is a compact, ultra-low-power 3-axis digital magnetometer designed for accurate orientation sensing, electronic compass applications, and inertial navigation. Its versatile I²C and SPI interfaces ensure easy integration with popular platforms such as Arduino, ESP32, and Raspberry Pi. Based on Bosch Sensortec's advanced technology, the BMM150 provides high precision and low power consumption, making it ideal for wearable devices, drones, and robotics.

PRODUCT VIEWS

TOP VIEW



Component placement and connectors

KEY TECHNICAL SPECIFICATIONS

POWER SUPPLY

Operating Voltage:	**1.8V to 3.6V**
Typical Current Consumption:	**170 µA during normal mode**
Standby Current:	**Below 1 µA to minimize battery drain and enhance energy efficiency**

CONNECTIVITY

Interfaces:	**I²C and SPI (hardware selectable)**
Connector:	**Qwiic + Pin Headers**

PIN CONFIGURATION

PIN	NAME	DESCRIPTION
1	VCC	3.3V supply input
2	GND	Ground
3	SDA/MOSI	I²C data / SPI MOSI
4	SCL/SCK	I²C clock / SPI clock
5	CSB	SPI chip select (active low)

COMMUNICATION INTERFACES

INTERFACE	SIGNALS / PINS	TYPICAL USE
Power	VCC, GND	Power supply
I²C	SDA, SCL	Communication with MCU

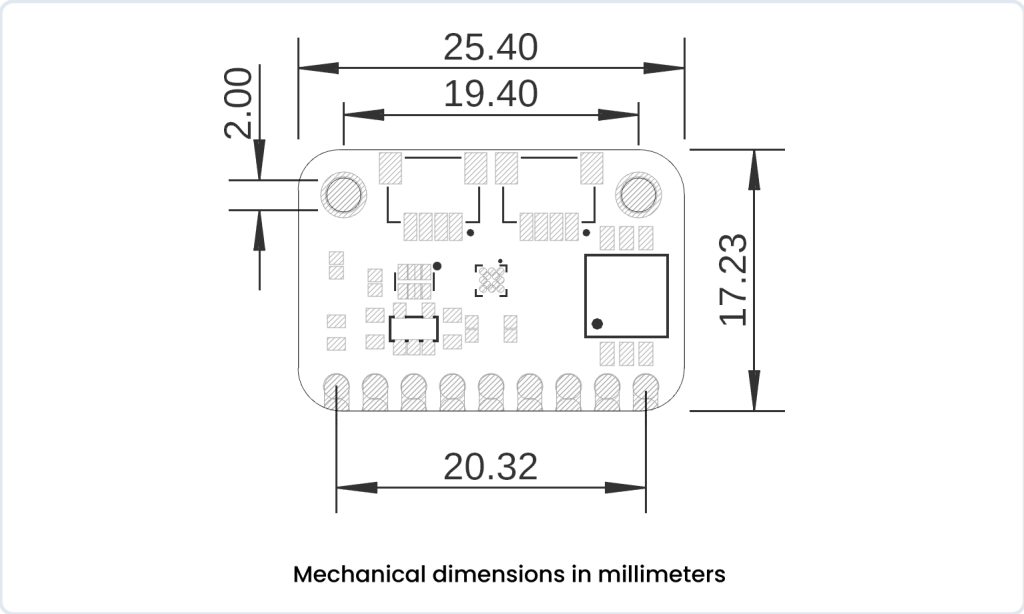
TYPICAL APPLICATIONS

- Electronic compass
- Augmented reality (AR) and virtual reality (VR)
- Robotics and drones (UAV)
- Navigation systems (GNSS enhancement)
- Wearable tracking devices

VISUAL DOCUMENTATION

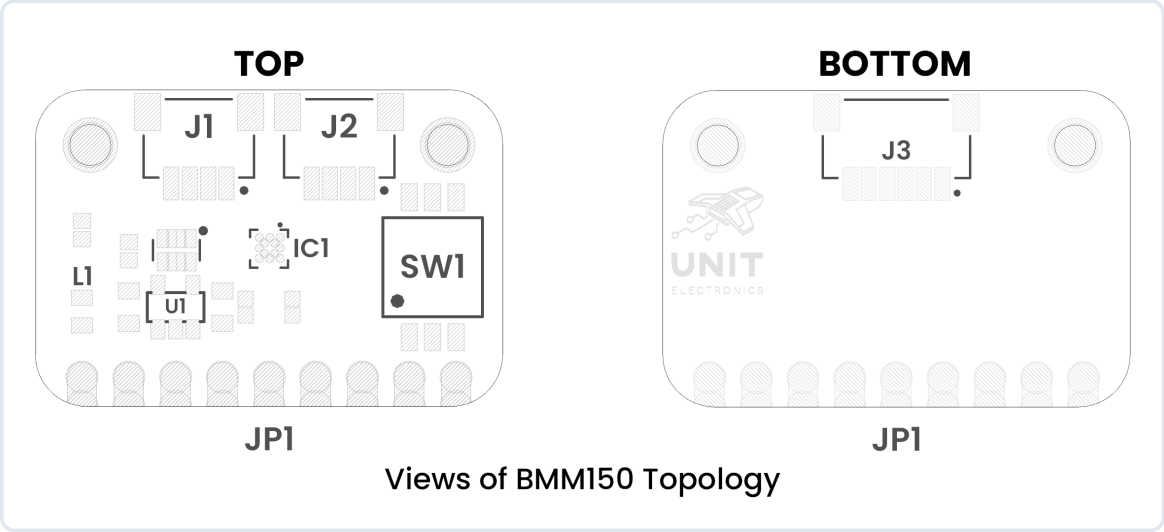
PRIMARY TECHNICAL DOCUMENTATION

MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

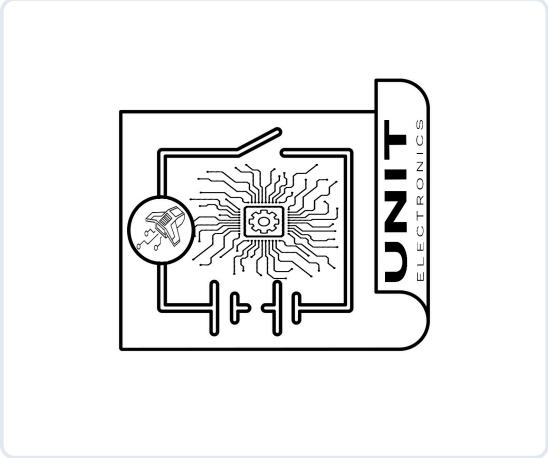
SYSTEM TOPOLOGY



Connection topology and system integration diagram

Click image to open in full size

CIRCUIT SCHEMATIC



Schematic preview

📄 View Complete Schematic PDF

USAGE

Compatible with:

- ESP32
- UNIT-Electronics-MX Repository
- Buy from UNIT Electronics

DOWNLOADS

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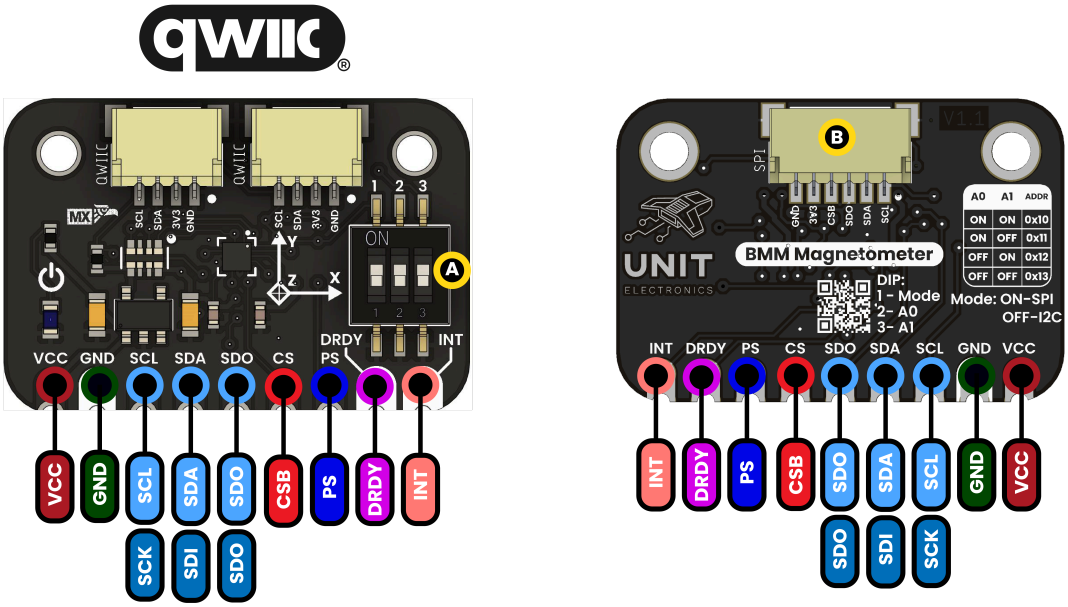
PIN CONFIGURATION & LAYOUT

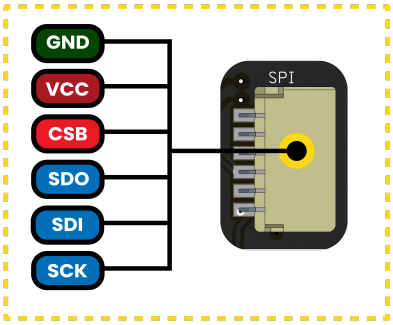
Detailed pin assignment and connector layout

BMM150 Magnetometer



A Dip Switch

B JST



Description:

- Supply Voltage
- GND
- Components
- I2C
- SPI
- Protocol select
- Chip select
- Interrupt
- Data ready

Complete pin configuration diagram showing all connectors, pin assignments, and electrical connections for proper integration

BMM150 v1.0
Professional Technical Datasheet

Date: 2025-07-17
For commercial distribution