



BMM150

BMM150 Magnetometer Module

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

v1.0

2025-07-16

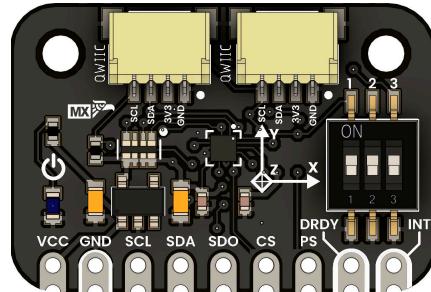
Rev. A

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	I ² C data / SPI MOSI
4	SCL/SCK	I ² C clock / SPI clock
5	CSB	SPI chip select (active low)

COMMUNICATION INTERFACES

INTERFACE	SIGNALS / PINS	TYPICAL USE
Power	VCC, GND	Power supply
I ² C	SDA, SCL	Communication with MCU

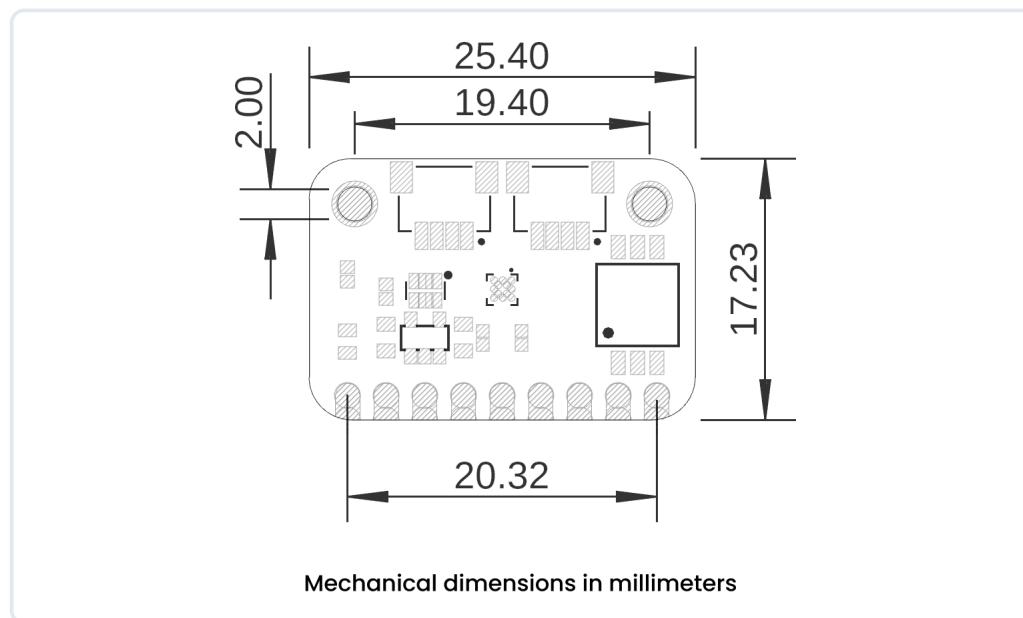
TYPICAL APPLICATIONS

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

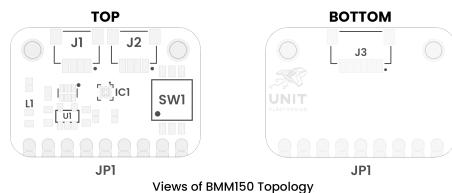
MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

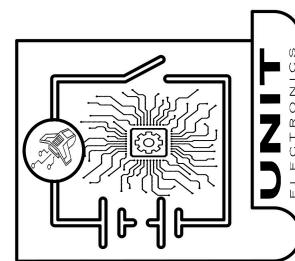
SUPPLEMENTARY TECHNICAL DOCUMENTATION

SYSTEM TOPOLOGY



Connection topology and system integration

CIRCUIT SCHEMATIC



Detailed circuit schematic diagram

View Complete Schematic PDF

USAGE

Compatible with:

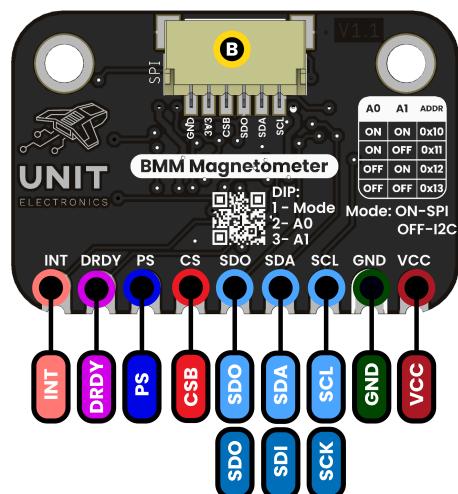
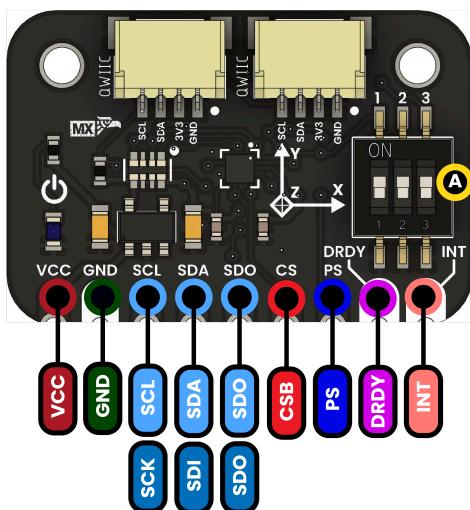
- ESP32
- [UNIT-Electronics-MX Repository](#)
- [Buy from UNIT Electronics](#)

DOWNLOADS

PIN CONFIGURATION & LAYOUT

Detailed pin assignment and connector layout

BMM150 Magnetometer



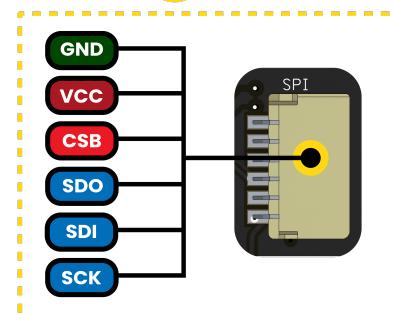
A Dip Switch

DIP:
1 - Mode
2 - A0
3 - A1

Mode:
ON-SPI
OFF-I2C

A0	A1	ADDR
ON	ON	0x10
ON	OFF	0x11
OFF	ON	0x12
OFF	OFF	0x13

B JST



Description:

Supply Voltage

I2C

GND

SPI

Components

Protocol select

Chip select

Interrupt

Data ready

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

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