DYNAMIC SOLUTIONS

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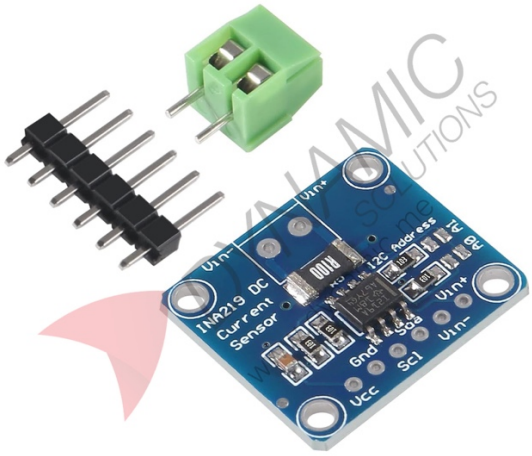
INA219 DC Current Measurement Sensor Module



Features:

The INA219 DC Current Measurement Sensor Module is designed to measure high side current and voltage up to 3.2A with 0.8mA resolution at voltages up to 26V DC. It communicates via I2C, making integration with microcontrollers simple and efficient. The module operates from a 3V to 5V supply and is logic compatible with both 3.3V and 5V systems. It uses a 0.1 ohm 1 percent 2W current sense resistor, resulting in a maximum voltage drop of 0.32V at full rated current. The I2C default address is 0x40 and can be changed to 0x41, 0x44 or 0x45 by bridging solder pads A0 and A1, allowing multiple modules on the same bus. The board includes a 6 pin header and 2 pin screw terminal block for flexible wiring and supports accurate DC current and voltage monitoring in battery systems, power supplies, solar systems and embedded applications.

Specifications	
Product Name	INA219 DC Current Measurement Sensor Module
Measurement Type	High Side Current and Voltage
Maximum Current	3.2A
Current Resolution	0.8mA
Maximum Load Voltage	26V DC
Logic Supply Voltage	3V to 5V
Interface	I2C
Default I2C Address	0x40
Selectable I2C Addresses	0x40, 0x41, 0x44, 0x45
Shunt Resistor	0.1 Ohm, 1 percent, 2W
Voltage Drop at 3.2A	0.32V
Header Type	6 Pin Male Header
Power Connection	2 Pin Screw Terminal
Operating Principle	High Side Current Sensing
Usage	Battery monitoring, power management, DC load measurement

Pinouts:

Pin Name	Type	Description
VCC	Power	3V to 5V supply for INA219 IC, connect to 3.3V or 5V from MCU
GND	Power	Ground, connect to MCU ground and common load ground if measuring voltage
SCL	I2C Clock	Connect to MCU I2C SCL line
SDA	I2C Data	Connect to MCU I2C SDA line
VIN-	Input	Alternate Vin minus connection instead of screw terminal
VIN+	Input	Alternate Vin plus connection instead of screw terminal

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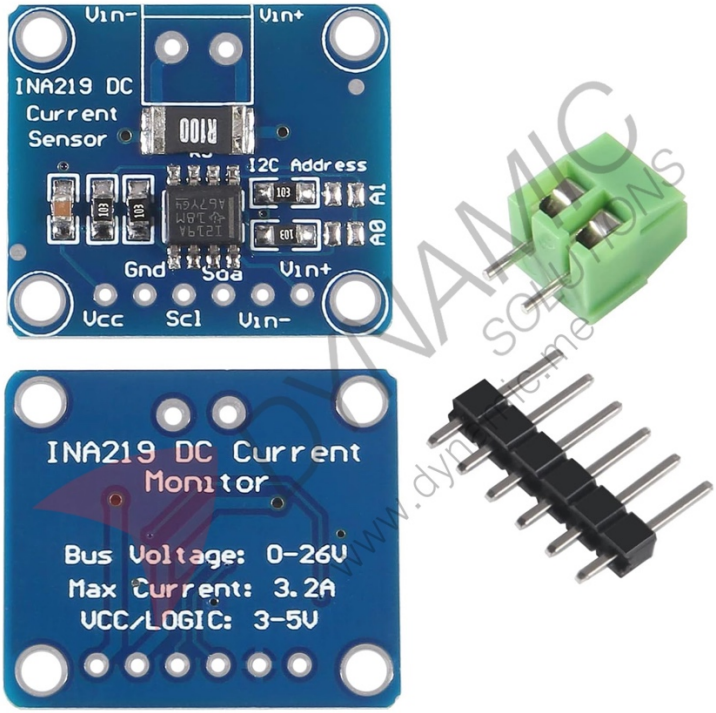
VIN-	Screw Terminal	Connect to positive terminal of the load
VIN+	Screw Terminal	Connect to positive terminal of the load power supply



Product Pictures: