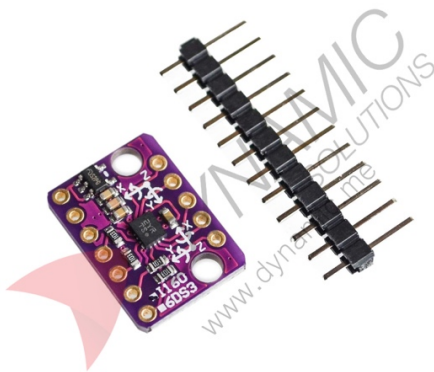


GY-BMI160 6DOF 6-Axis Gyroscope and Accelerometer Sensor Module 3-5V



Features:

The GY-BMI160 is a 6-axis inertial measurement unit breakout, with a 3-axis gyroscope and 3-axis accelerometer sharing a 16 bit AD converter. Five gyroscope ranges (+/-125 to +/-2000 degrees per second) and four accelerometer ranges (+/-2g to +/-16g) are selectable in software. The module runs IIC or SPI, with SPI in 3-wire or 4-wire mode and CS acting as the protocol selection pin, and the IIC address set by SA0/SDO to 0x68 at GND or 0x69 on the default pull-up. The module adds two programmable interrupts, a magnetometer interface and an OIS interface, and takes 3-5V on VIN through an internal low dropout regulator.

Specifications		
Model	GY-BMI160	-
Chip	BMI160	-
Degrees of Freedom	6 (3-axis gyro + 3-axis accel)	-
Gyroscope Range	+/-125, +/-250, +/-500, +/-1000, +/-2000	degrees/s
Accelerometer Range	+/-2, +/-4, +/-8, +/-16	g
ADC Resolution	16	bit
Data Output	16	bit
Communication	IIC / SPI	-
SPI Modes	3-wire and 4-wire	-
IIC Address (SA0 to GND)	0x68	-
IIC Address (SA0 pull-up to VCC)	0x69	-
Module Supply Voltage	3 to 5	V
VIN Pin Supply Range	3.3 to 6	V
3v3 Pin Supply	3.3	V
Pin Spacing	2.54	mm
Module Size	13 x 18 x 2	mm
PCB	Heavy gold, machine soldered	-
Usage	Augmented reality and immersive gaming, 3D scanning and indoor mapping, pedestrian navigation, indoor dead-reckoning and step counting, 6- and 9-axis sensor fusion air mouse applications, optical image stabilization	-

Pinouts:

Name	I/O	Functional Description	IIC	SPI
VIN	Power Supply	Digital I/O supply voltage (3.3V - 6V)	VCC	VCC
3v3	Power Supply	Digital I/O supply voltage (3.3V)	VCC	VCC
GND	Ground	Ground for digital and analog	GND	GND
SDX/ASDx	Digital I/O	Magnetometer interface	-	-
SCX/ASCx	Digital out	Magnetometer interface	-	-
INT1	Digital I/O	Interrupt pin 1	INT1	INT1
INT2	Digital I/O	Interrupt pin 2	INT2	INT2
OCS	Digital I/O	OIS interface	-	-
CS	Digital in	Chip select for SPI mode / protocol selection pin	-	SS
SCL/SCx	Digital in	SCK for SPI serial clock / SCL for I2C serial clock	SCL	SCK
SDA/SDx	Digital I/O	SDA serial data I/O in I2C, MOSI serial data input in SPI 4W, SISO serial data I/O in SPI 3W	SDA	MOSI
SAO/SDO	Digital I/O	Serial data output in SPI (MISO), address select in I2C mode: GND = 0x68, default pull-up to VCC = 0x69	Address select	MISO

Product Pictures:

