

WHADDA WPSE208 3 Axis Digital Acceleration Sensor Module User Manual

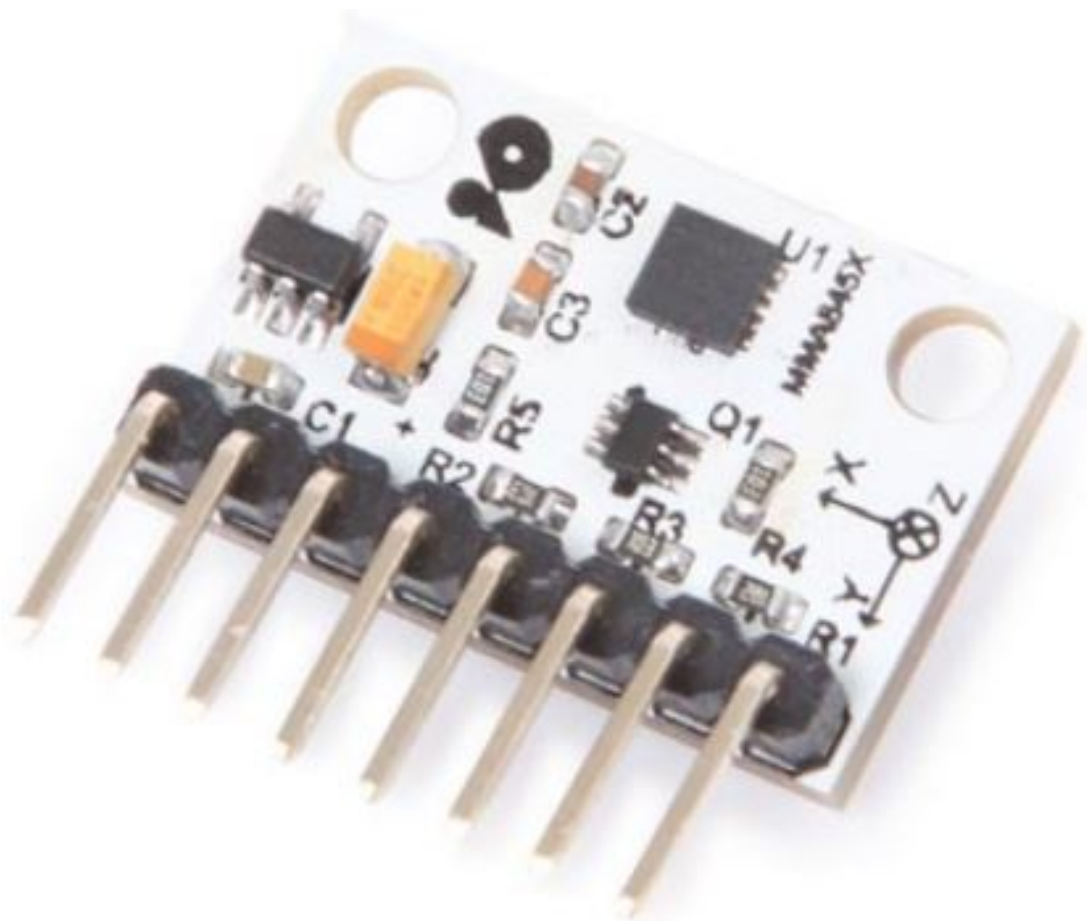
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WHADDA WPSE208 3 Axis Digital Acceleration Sensor Module



Introduction


- To all residents of the European Union
- Important environmental information about this product
- This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.



If in doubt, contact your local waste disposal authorities.

- Thank you for choosing Whadda! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

Safety Instructions

-  Read and understand this manual and all safety signs before using this appliance.



- For indoor use only.
- This device can be used by children aged 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.

General Guidelines

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorized way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Nor Velleman Group nv nor its dealers can be held responsible for any damage (extraordinary, incidental or indirect) – of any nature (financial, physical...) arising from the possession, use or failure of this product.
- Keep this manual for future reference.

What is Arduino®

Arduino® is an open-source prototyping platform based on easy-to-use hardware and software. Arduino® boards are able to read inputs – a light-on sensor, a finger on a button or a Twitter message – and turn it into an output – activating of a motor, turning on an LED, and publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so, you use the Arduino programming language (based on Wiring) and the Arduino® software IDE (based on Processing). Additional shields/modules/components are required for reading a Twitter message or publishing online. Surf to www.arduino.cc for more information.

Product Overview

The MMA8452Q accelerometer module is a smart, low-power, three-axis, capacitive MEMS accelerometer with 12 bits of resolution. It is packed with embedded functions with flexible user-programmable options, configurable to two interrupt pins. Embedded interrupt functions allow for overall power savings relieving the host processor from continuously polling data. It has user-selectable full scales of $\pm 2\text{ g}$ / $\pm 4\text{ g}$ / $\pm 8\text{ g}$ with high-pass filtered data, as well as non-filtered data available in real-time.

Specifications

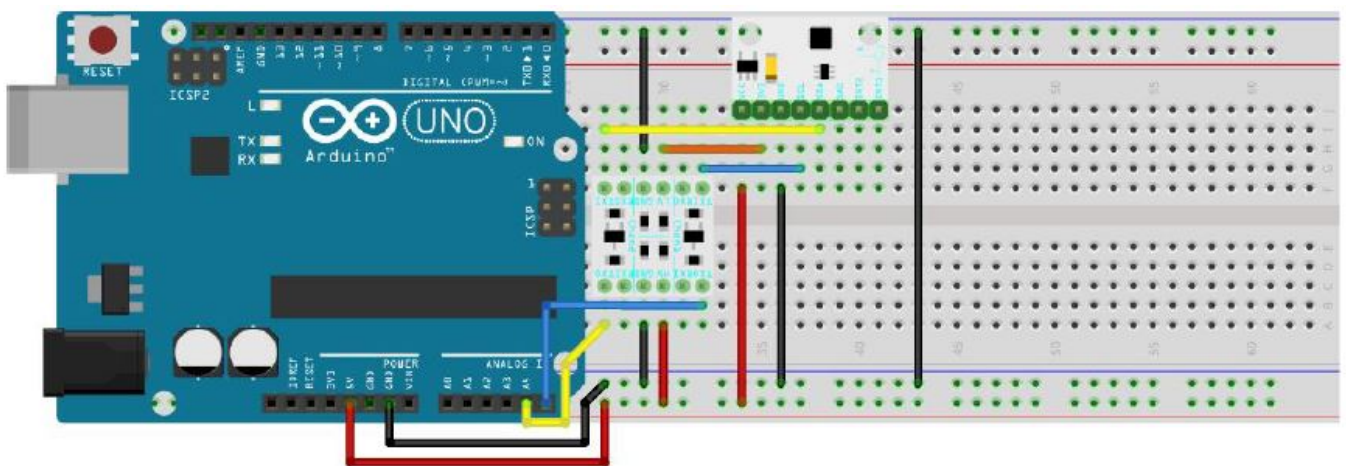
- supply voltage: 1.95-3.6 V
- interface voltage: 1.6-3.6 V
- current consumption: 6-165 μA
- $\pm 2\text{ g}$ / $\pm 4\text{ g}$ / $\pm 8\text{ g}$ dynamically selectable full-scale
- output data rates (ODR): 1.56-800 Hz
- 12-bit and 8-bit digital output
- I²C digital output interface (operates to 2.25 MHz with 4.7 k Ω pullup)
- two programmable interrupt pins for six interrupt sources

- three embedded channels of motion detection
- orientation (portrait/landscape) detection with set hysteresis
- high-pass filter data available in real-time

Pin Layout

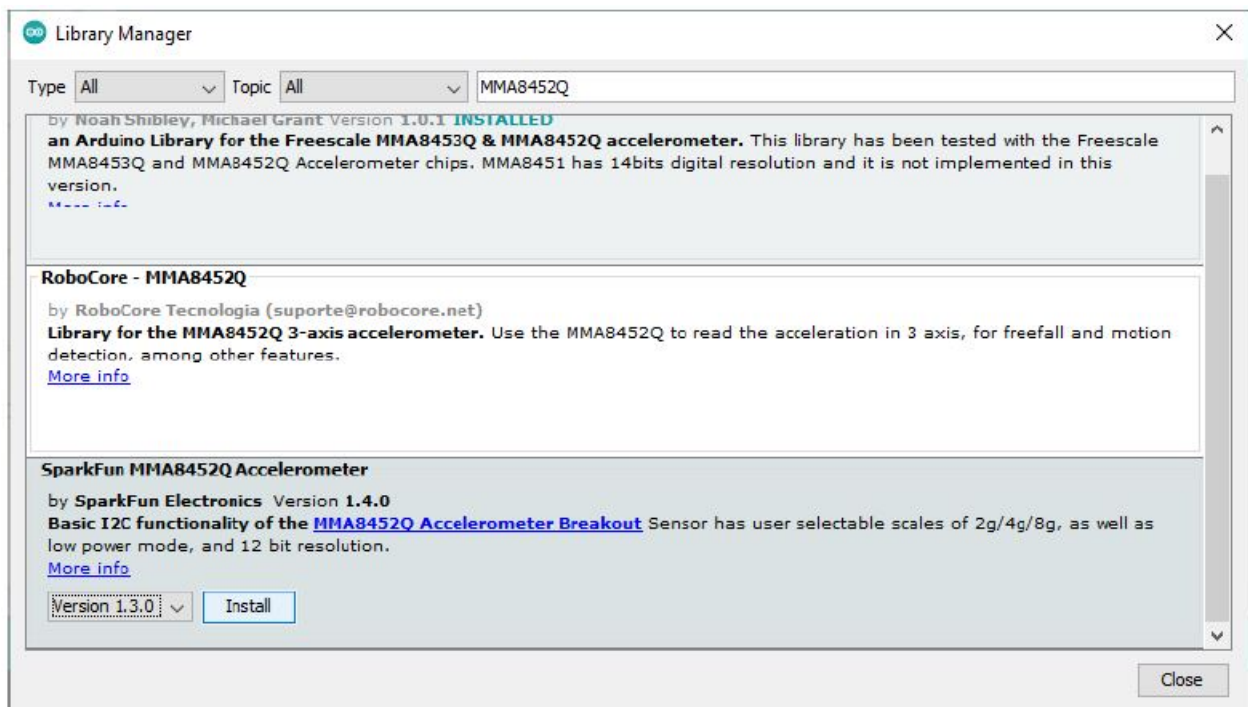
3.3V	Power output – 3.3 V output.
Vcc	Power supply – It should be between 3 and 5 V.
SDA	I ² C data signal – Bi-directional data line. Voltage should not exceed the power supply.
SCL	I ² C clock signal – Master-controlled clock signal. Voltage should not exceed the power supply.
SA0	I ² C address – I2C least significant bit of the device I2C address.
I2	Interrupt 2 – Programmable interrupt. Can indicate data ready, orientation change, tap, and more.
I1	Interrupt 1 – Programmable interrupt. Can indicate data ready, orientation change, tap, and more.
GND	Ground – 0 V/common voltage.

Example





fritzing

Installation



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Documents / Resources

 	<p>WHADDA WPSE208 3 Axis Digital Acceleration Sensor Module [pdf] User Manual WPSE208 3 Axis Digital Acceleration Sensor Module, WPSE208, 3 Axis Digital Acceleration S ensor Module, Digital Acceleration Sensor Module, Acceleration Sensor Module, Sensor Modul e, Module</p>
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References

-  [Whadda - Exciting Electronics](http://whadda.com)