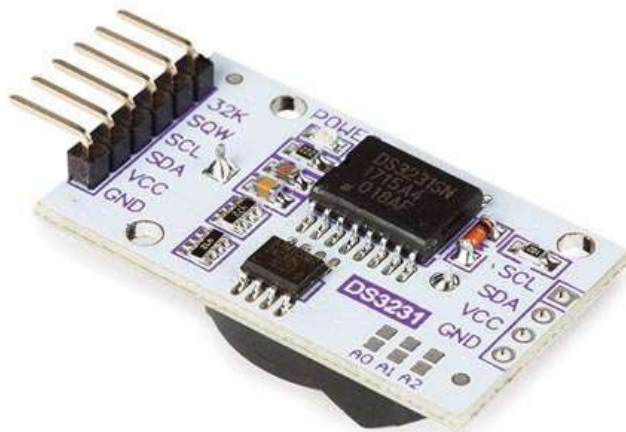


EN RTC DS3231 MODULE

WPM352



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 from 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 unauthorised 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 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 – 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, 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 Whadda RTC DS3231 module is a real-time clock that enables accurate timekeeping with minimum fuss. It uses a DS3231 IC, an extremely accurate RTC chip with a built-in 32 kHz crystal oscillator. The chip also features a basic temperature sensor and alarm clock capability. The RTC module uses a standard I²C interface and can easily be interfaced with various developments boards (such as an Arduino® compatible board).

Specifications

Supply voltage: 3,3 – 5 V DC

RTC IC: DS3231

RTC accuracy: ± 2 ppm (from 0 °C to +40 °C)

Temperature sensor accuracy: ± 3 °C

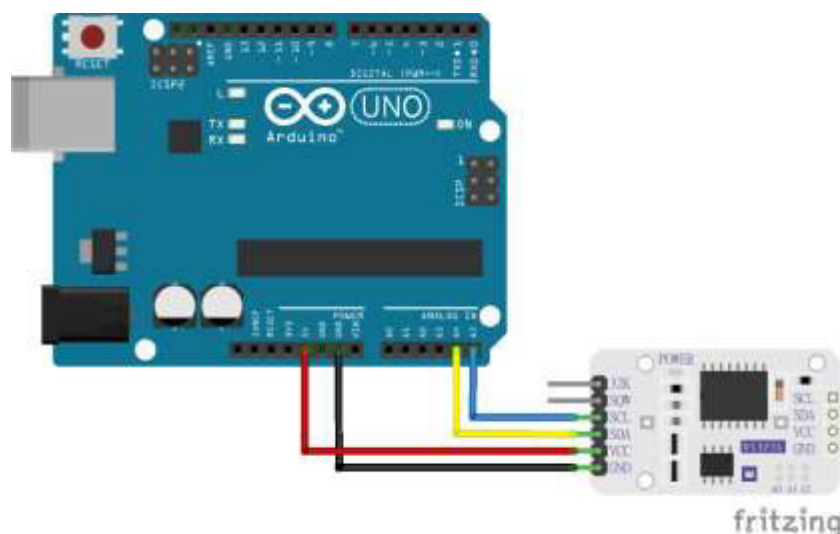
Maximum I²C bus frequency: 400 kHz

Backup battery: CR2032

Dimensions (W x L x H): 43,2 x 22,4 x 14,7 mm

Wiring description

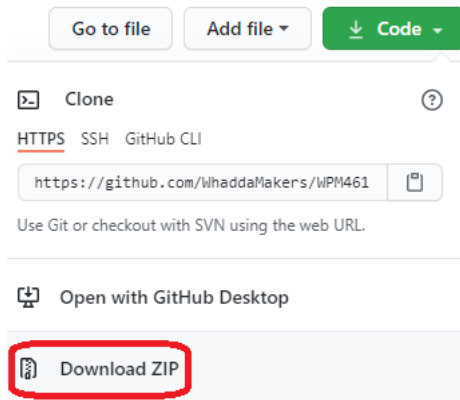
Pin	Name	Arduino® connection
	GND	Ground
	VCC	Supply voltage (3,3 – 5 V DC)
	SDA	I ² C Data line
	SCL	I ² C Clock line
	SQW	Active-Low Interrupt or Square-Wave Output
	32K	32kHz Output



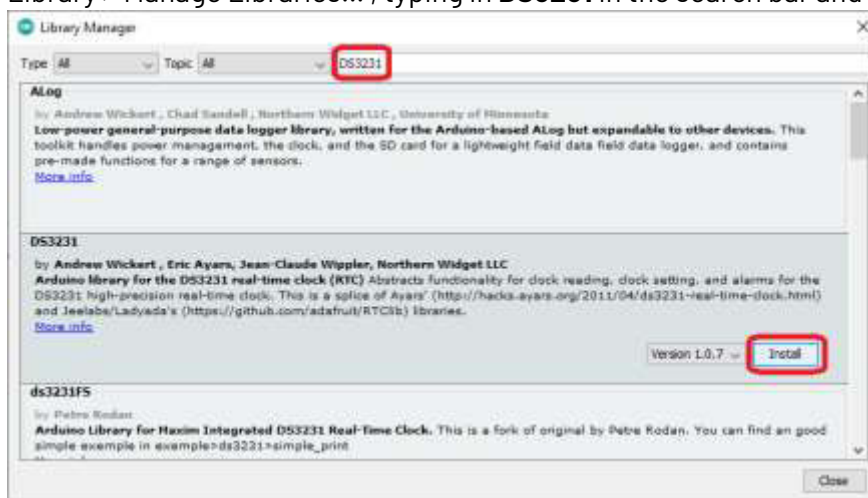
Example program





You can download the example Arduino® program by going to the official Whadda github page:
github.com/WhaddaMakers/RTC-DS3231-module

1. Click the “**Download ZIP**” link in the “**Code**” menu:



2. Unzip the downloaded file, and browse to the **set_time** folder. Open the example Arduino® sketch (**set_time.ino**) located in the folder.
3. Use the **Arduino Library manager** to install the **DS3231 library**, by going to Sketch > Include Library > Manage Libraries..., typing in **DS3231** in the search bar and clicking “**Install**”:



4. Connect your Arduino compatible board, make sure the correct Board and connection port are set in the tools menu, and hit Upload 
5. Open the serial monitor by clicking the serial monitor button , make sure the baudrate is set at **9600 baud**
6. Follow the on-screen instructions to program the current time into the RTC module
7. Now open the **display_time** example, and hit Upload 
8. Open the serial monitor by clicking the serial monitor button , make sure the baudrate is set at **9600 baud**. The current time and temperature will be printed out in the serial monitor.



whadda.com



Modifications and typographical errors reserved - © Velleman Group nv. WPM352
Velleman Group NV, Legen Heirweg 33 - 9890 Gavere.