velleman ARDUINO Compatible RFID Read and Write Module User Manual

Contents

Vellerman® ARDUINO Compatible RFID Read and Write Module User Manual

VMA405

1. 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 Velleman®! 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.

2. Safety Instructions

- 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.

- Indoor use only.
- Keep away from rain, moisture, splashing and dripping liquids.

3. General Guidelines

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- Familiarise yourself with the functions of the device before actually using it.
- 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.
- Due to constant product improvements, the actual product appearance might differ from the shown images.

- Product images are for illustrative purposes only.
- Do not switch the device on immediately after it has been exposed to changes in temperature. Protect the device against damage by leaving it switched off until it has reached room temperature.
- Keep this manual for future reference.

4. What is Arduino®

Arduino® is an open-source prototyping platform based in 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).

Surf to **www.arduino.cc** and **www.arduino.org** for more information.

5. Overview

VMA405

This RFID module allows to both read and write RFID cards.

Arduino®		VMA405
+3.3 V	▶	VCC
9	▶	RST
GND	▶	GND
12	▶	MISO
11	▶	MOSI
13	▶	SCK
10	▶	NSS (= SDA)
	▶	IRQ (not used)

operating voltage	3.3 VDC
working current	13-26 mA
sleep current	< 80 uA
peak current	< 30 mA
working frequency	13.56 MHz
interface/protocol	SPI
controller chip	MFRC522
data transmission speed	max. 10 Mbit/s
dimensions	66 x 40 x 7 mm
includes	2 tags (1 card, 1 fob)
optional cards/tags	VMA417/VMA418

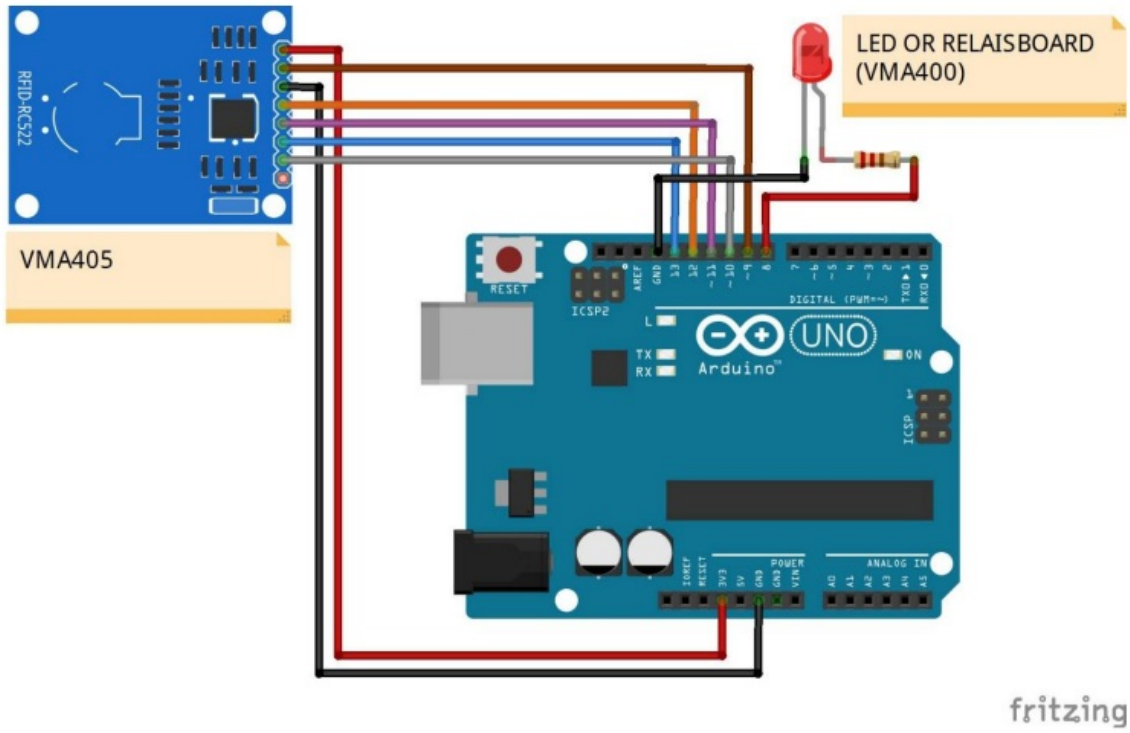
6. Use

1. Connect your controller board (VMA100, VMA101…) to your computer using a USB cable.
2. Start the Arduino® IDE and load the “VMA405_MFRC522_test” sketch from the VMA405 product page on **www.velleman.eu**.
3. In your Arduino® IDE, select Sketch → Include Library → Add .zip Library.
4. Now, select the RFID.zip file from the directory where you previously stored it. The RFID library will be added

to your local library.

If the Arduino® IDE gives you a message that the RFID already exists, then go to C:\Users\You\Documents\Arduino\libraries and delete the RFID folder. Now, try and load the new RFID library.

5. Compile and load the “VMA405_MFRC522_test” sketch into your board. Switch off your controller board.
6. Connect the VMA405 to your controller board as pictured below.



WARNING

The VCC of your VMA405 must be connected to 3.3 V on your controller board.
Do not connect to 5 V as your VMA405 will be destroyed!

7. The example drawing shows an LED. You can also use a buzzer (VMA319), a relay module (VMA400 or VMA406)… In the example drawing, only pin 8 controls the LED. Pin 7 can be used to control a relay when a valid card is applied.
8. Check all connections and switch on your controller. Your VMA405 can now be tested.
9. In your Arduino® IDE, start the serial monitor (Ctrl + Shift + M).
10. Bring the card or tag in front of the VMA405. The card code will appear on the serial monitor, together with a “Not Allowed” message.
11. Copy this code, check line 31 in the sketch and replace this card code by the one you copied. * This integer should be the code of your card/tag. */ int cards [][5] = {{117,222,140,171,140}};
12. Recompile the sketch and load it into your controller. Now, your card will be recognized.

7. More Information

Please go to the VMA405 product page on **www.velleman.eu** for more information.

Use this device with original accessories only. Velleman nv cannot be held responsible in the event of damage or injury resulting from (incorrect) use of this device. For more info concerning this product and the latest version of this manual, please visit our website www.velleman.eu. The information in this manual is subject to change without prior notice.

Documents / Resources

	velleman ARDUINO Compatible RFID Read and Write Module [pdf] User Manual velleman, VMA405, ARDUINO, RFID Module

References

- Arduino - Home
- Arduino - Home
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- Arduino - Home
- Velleman â€“ Wholesaler and developer of electronics
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