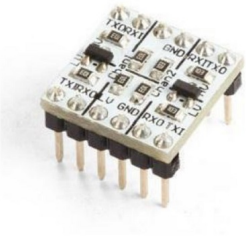

velleman VMA410 Arduino 3.3V or 5V TTL Logic Level Converter Module User Manual

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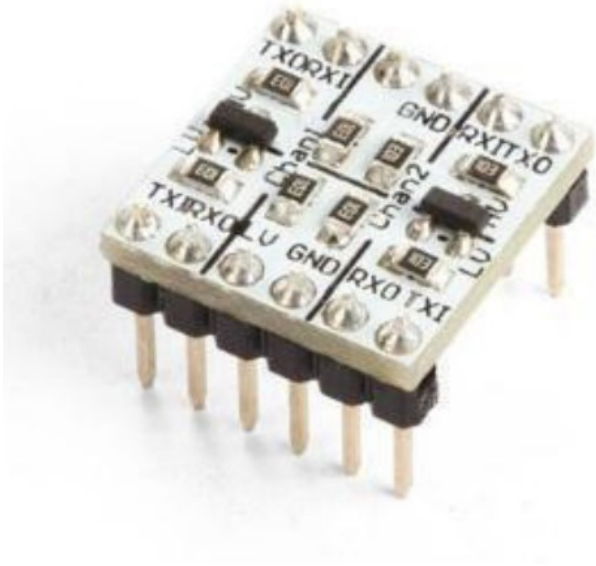


1. Introduction

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®

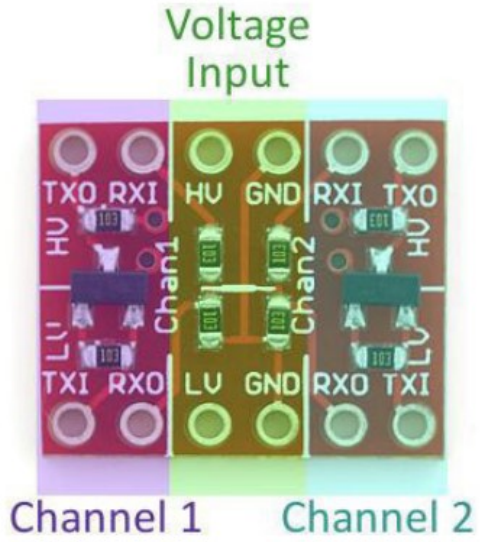
Arduino® is an open-source prototyping platform based in easy-to-use hardware and software. Arduino® boards are able to read inputs – light-on sensor, a finger on a button or a Twitter message – and turn it into an output – activating of a motor, turning on an LED, publishing something online. You can 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

This module allows to use 3.3 V sensors on a 5 V microcontroller.

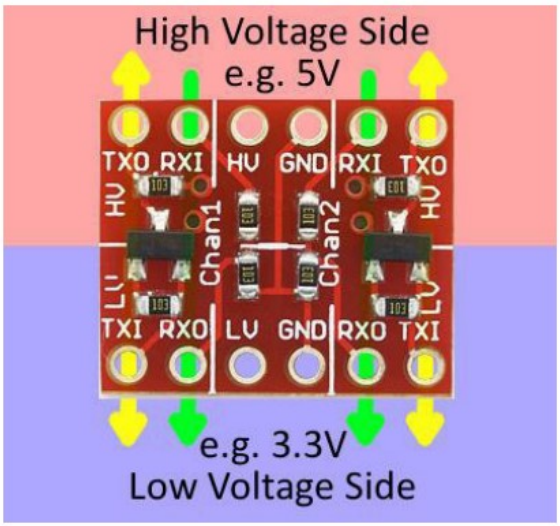
low side (3.3 V)……..2 inputs and 2 outputs
high side (5 V)……2 inputs and 2 outputs
other connections……V low (3.3 V), V high (5 V) , pass-through GND
dimensions……..15 x 16 x 15 mm

The VMA410 LLC is very easy-to-use. The twelve pins – six on each side – can be divided into groups of three



The middle section of the board serves the high and low voltages. Supplying voltage to all four of these pins is required.
Example: To convert 3.3 V into 5 V, run the 5 V into the HV side and 3.3 V into the LV side. Also, make sure each is grounded.
The outer pins serve as inputs and outputs for channels 1 and 2. Each channel has one voltage divider and one MOSFET shifter.

RXI	High-voltage input to voltage divider from the high-voltage device. The signal will be shifted down and sent to the low-voltage device on the RXO pin.
RXO	Low-voltage input from voltage divider to the low-voltage device. The signal will be shifted down from t he RXI input.
TXI	Low-voltage input/output of the MOSFET circuit. This pin interacts with the TXO on the high side. Bi-di rectional, but the only shifter that will shift from low to high.
TXO	High-voltage input/output of the MOSFET circuit. This pin interacts with the TXI on the low side. Bi-dir ectional, but the only shifter that will shift from low to high.



To send a signal from the low-voltage side to the high-voltage side (e.g. from 3.3 V to 5 V), the signal must be input at TXI. It will pass through the converter and come out as a higher voltage on the TXO (transmit output) pin. On the other hand, a signal that strictly travels from high to low-voltage should pass from RXI to RXO.
Sending a signal from the high side to the low side is less restricted. We can use either the bi-directional channel or the voltage divider, but we may need to leave the bi-directional channel for converting from low-to- high.
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.

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Velleman® Service and Quality Warranty

Since its foundation in 1972, Velleman® acquired extensive experience in the electronics world and currently distributes its products in over 85 countries.
All our products fulfil strict quality requirements and legal stipulations in the EU. In order to ensure the quality, our products regularly go through an extra quality check, both by an internal quality department and by specialized external organisations. If, all precautionary measures notwithstanding, problems should occur, please make appeal to our warranty (see guarantee conditions).

General Warranty Conditions Concerning Consumer Products (for EU):

- All consumer products are subject to a 24-month warranty on production flaws and defective material as from the original date of
- Velleman® can decide to replace an article with an equivalent article, or to refund the retail value totally or partially when the complaint is valid and a free repair or replacement of the article is impossible, or if the expenses are out of

You will be delivered a replacing article or a refund at the value of 100% of the purchase price in case of a flaw occurred in the first year after the date of purchase and delivery, or a replacing article at 50% of the purchase price or a refund at the value of 50% of the retail value in case of a flaw occurred in the second year after the date of purchase and delivery.

Not covered by warranty:

- all direct or indirect damage caused after delivery to the article (e.g. by oxidation, shocks, falls, dust, dirt, ..), and by the article, as well as its contents (e.g. data loss), compensation for loss of profits;
- consumable goods, parts or accessories that are subject to an aging process during normal use, such as batteries (rechargeable, non-rechargeable, built-in or replaceable), lamps, rubber parts, drive belts… (unlimited list);
- flaws resulting from fire, water damage, lightning, accident, natural disaster, …;
- flaws caused deliberately, negligently or resulting from improper handling, negligent maintenance, abusive use or use contrary to the manufacturer’s instructions;

- damage caused by a commercial, professional or collective use of the article (the warranty validity will be reduced to six (6) months when the article is used professionally);
- damage resulting from an inappropriate packing and shipping of the article;
- all damage caused by modification, repair or alteration performed by a third party without written permission by Velleman®.
- Articles to be repaired must be delivered to your Velleman® dealer, solidly packed (preferably in the original packaging), and be completed with the original receipt of purchase and a clear flaw
- Hint: In order to save on cost and time, please reread the manual and check if the flaw is caused by obvious

causes prior to presenting the article for repair. Note that returning a non-defective article can also involve handling

- Repairs occurring after warranty expiration are subject to shipping
- The above conditions are without prejudice to all commercial

The above enumeration is subject to modification according to the article (see article's manual).

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References

- Arduino - Home
- Arduino - Home
- Arduino - Home
- Arduino - Home
- Velleman â€“ Wholesaler and developer of electronics
- cdn.sparkfun.com/assets/0/5/2/7/0/52264af7757b7f61608b456b.png
- cdn.sparkfun.com/assets/a/b/a/e/3/5226422c757b7f7d568b456a.png

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