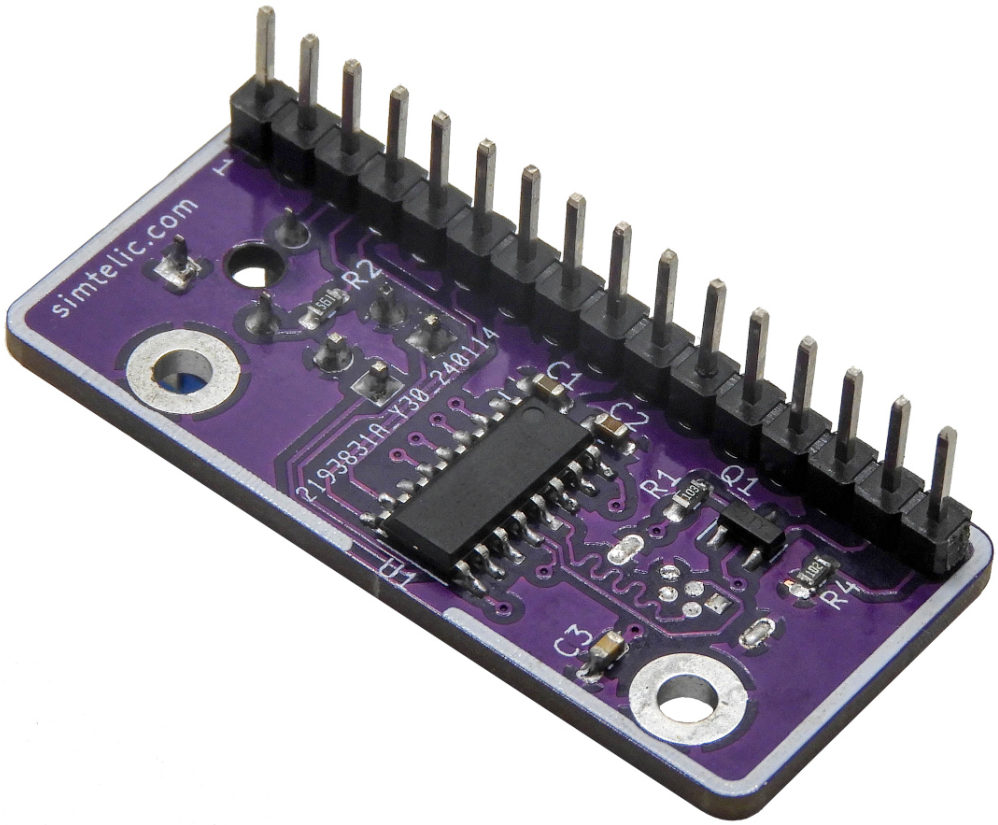
Simtelic



USB to Character LCD Module

Thank you for purchasing this Simtelic module.

Revision: 1.0.0-EN

Web Site: https://simtelic.com

EL0007

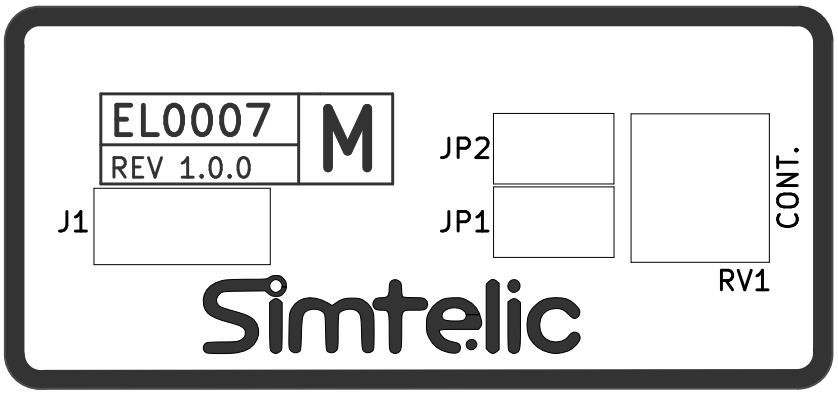
Introduction

This miniature module allows you to seamlessly connect your HD44780-based LCDs (including 16 × 2, 16 × 4, and 20 × 4 configurations) directly to your PC or single-board computer (SBC) through a standard USB port.

- **USB Powered:** Eliminate the need for an external power supply – the module draws power directly from your USB port.
- **Plug-and-Play:** No special drivers required! The module presents itself as a virtual COM port, allowing you to send data to your LCD with familiar software tools.
- **Versatile Display Support:** Works flawlessly with various LCD sizes, including popular 16 × 2, 16 × 4, and 20 × 4 configurations.
- **Enhanced Control:** Take full command of your display with features like cursor control and backlight adjustment.

Identify connectors and adjustments

Top Side



J1 - USB micro connector to connect this module with PC or SBC.

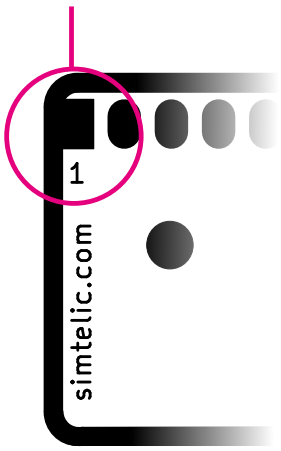
RV1 - LCD contrast adjustment.

JP1 and **JP2** - LCD mode selection.

JP1	JP2	Mode
Open	Open	16 × 2 LCD
Close	Open	16 × 4 LCD
Open	Close	20 × 4 LCD
Close	Close	16 × 2 LCD

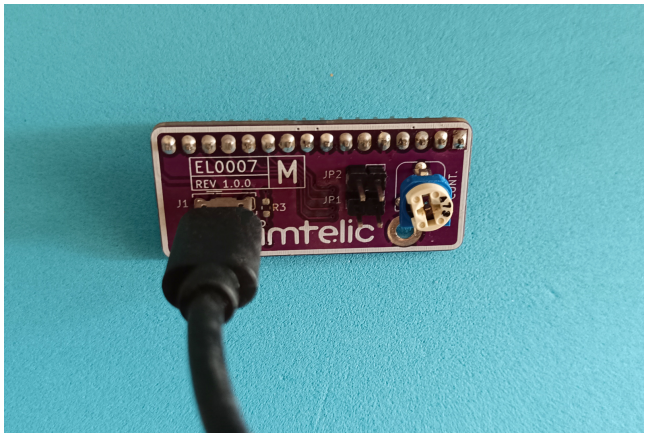
On the bottom side, the only available connector is a 16-pin male pin header. The LCD should be attached to this pin header.

The first pin of the LCD should be connected to this pin



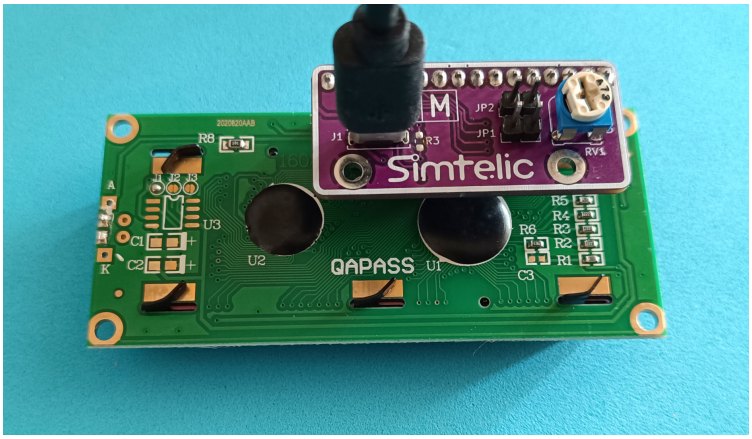
Initial setup and configurations

1. Connect the micro USB cable to the module.



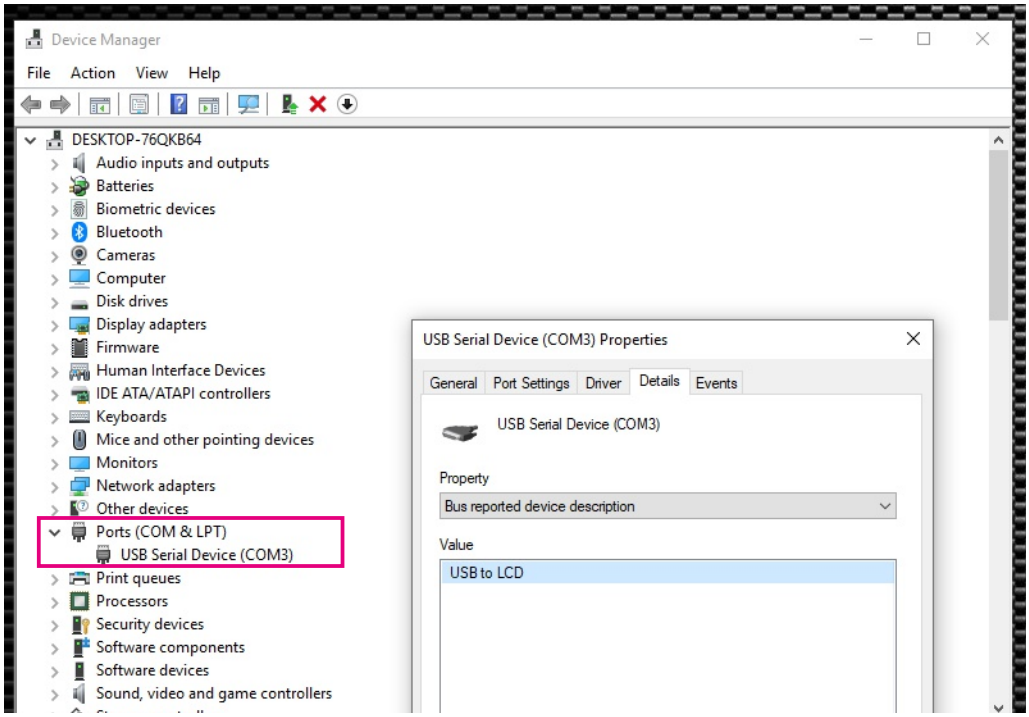
2. Connect the HD44780-based LCD to this module. This module is compatible with 16 × 2 (*1602*), 16 × 4 (*1604*) and 20 × 4 (*2004*) character LCDs. Change the JP1 and JP2 jumpers according to the LCD type (see *page 2*).

Most LCD modules come without connectors. To work with this module, solder the 16-pin, 2.54mm female pin header to the LCD.



3. Connect the USB cable to the computer or SBC. In the default configuration, the LCD's backlight should be on and the display should show blank or white boxes.

4. If you are using *Windows* operating system, check the device manager to identify the COM port associated with this USB LCD module.



In *Linux* and compatible operating systems, the communication interface mapping is `/dev/ttyACMn` (where `n` is a number).

5. To test this module, Simtelic provides a Python test script that can be run on Windows or Linux operating systems. You can get this test script using the git command or as a zip file.

   To get it directly from git, clone the repository at https://github.com/simtelic/el0007-usb-to-lcd using the following command:

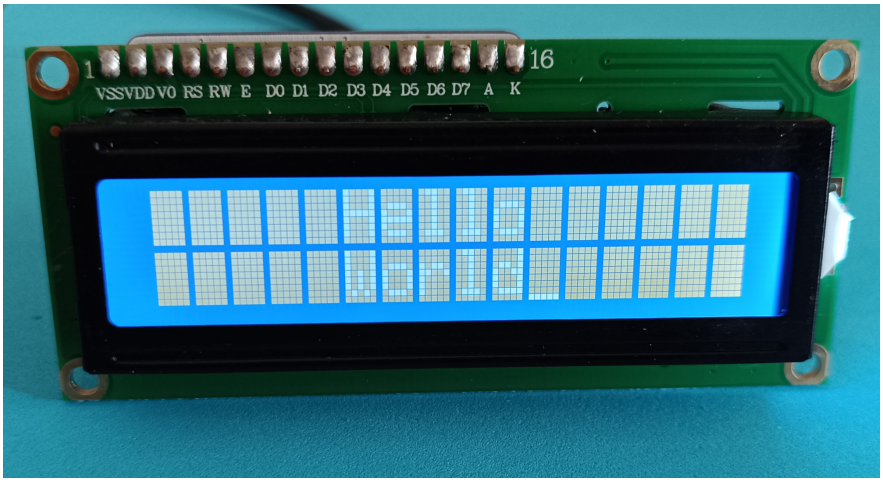
   ```
   git clone https://github.com/simtelic/el0007-usb-to-lcd.git
   ```

   Navigate to https://github.com/simtelic/el0007-usb-to-lcd/archive/refs/heads/main.zip or scan the QR code to download the test script as a zip file.

   After extracting or cloning the test script using one of the above methods, issue the following command to execute the test.

6. While the test is running, adjust the RV1 (*contraction adjustment*) trim-pot until the display shows clear text output on the LCD.

   Contrast is too high. Reduce the contrast adjustment.

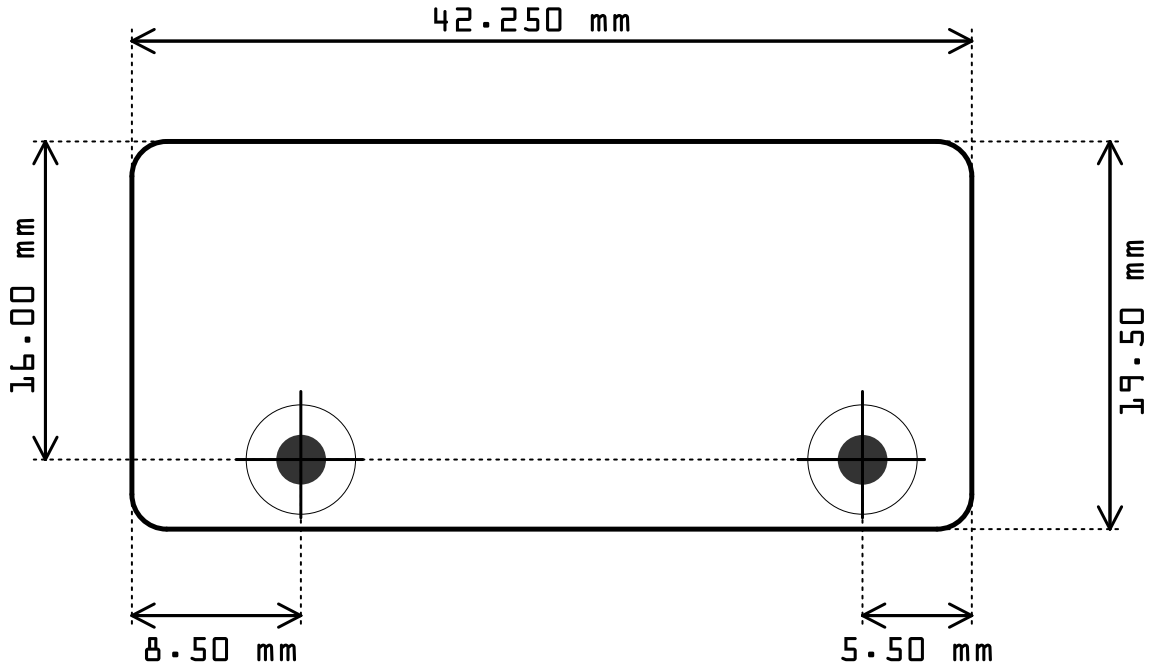


   Contrast is too low. Increase the contrast adjustment.

Correctly adjusted contrast leads to text on a clear background.

Module specification

Dimensions of the module (width × height)..... 42.25mm × 19.5mm
Weight (without LCD and jumpers)..... 5.0g (± 0.2g)
Power consumption (with 16 × 2 Blue LCD)..... < 0.25Wh
Power consumption without LCD..... < 0.25Wh
Working voltage..... 5V DC (USB bus powered)



EL0007

Simtelic (Pvt) Ltd cannot be held responsible in the event of damage or injury resulting from (incorrect) use of this module.

The continuous improvement of its products is the policy of Simtelic (Pvt) Ltd. who reserve the right to improve design without notice.

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