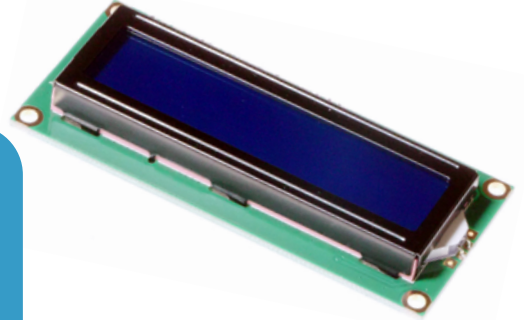


LCD (LC Display)



Goal: Use of the LC Displays
Contents: Function and use of the LCD
Circuit set-up
Programming

Function

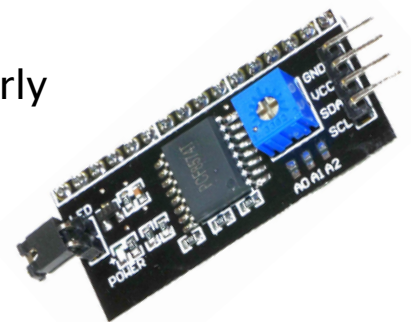
LCDs (Liquid Crystal Display) are based on liquid crystals arranged in segments, which become transparent if electrical voltage is applied.

Different types of displays are available. The version based on the HD44780 chip set of Hitachi is very common.

Not suitable for beginners, these displays can be controlled in 4-bit or 8-bit mode, i.e. 4 or 8 data lines are used.

Fortunately, with a suitable controller and a special protocol (I2C), the display can also be controlled clearly more comfortably with 2 lines.

For the use of the Micro Bit, there is a library to help beginners programming the display.

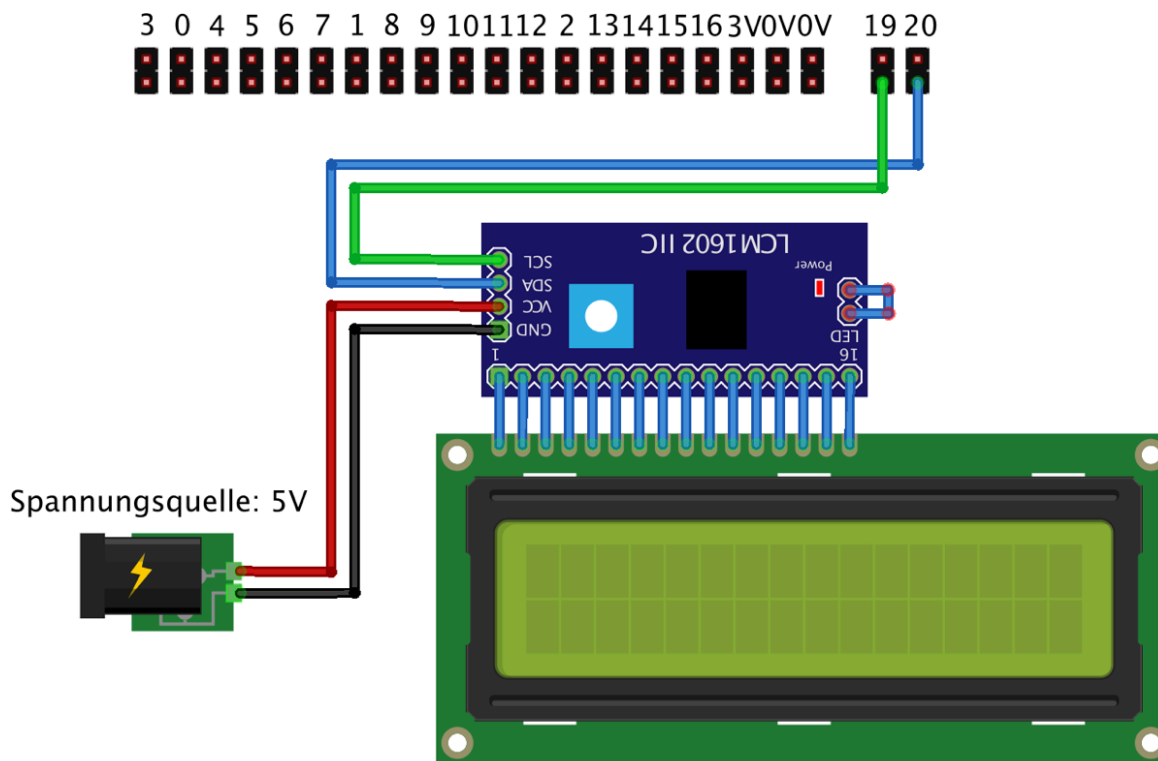


Possible application

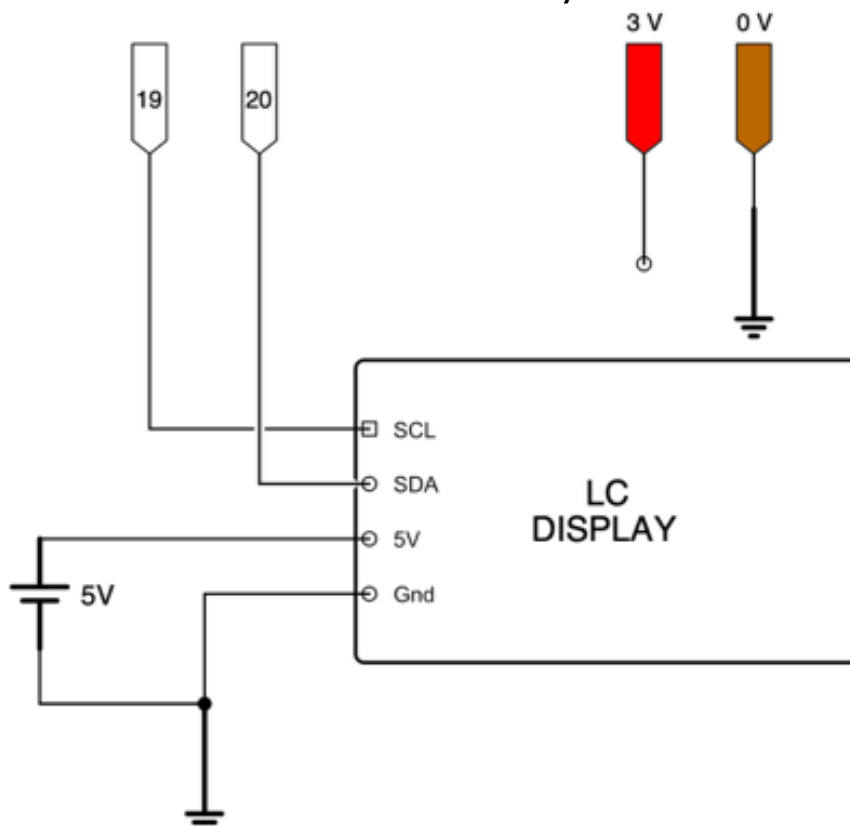
Thanks to their easy control and low price, LC displays are used in many digital thermometers, wristwatches, car dashboard indicators, displays of printers, routers and measuring equipment, etc.

Among electrical engineers and hobby electricians, a combination of microcontrollers and LC displays is a popular choice for numerous projects.

Circuit set-up



- Connect the SCL pin of the display to pin 19 and the SDA pin of the display to pin 20 of the Micro Bit.
[Green cable - Pin19 | Blue cable - Pin 20]
- Afterwards, Gnd and Vcc are connected to the external voltage source (5V). Attention: Do not connect directly to the Micro Bit!



Program code

beim Start

LCD initialize with Address 39

turn on backlight

show string "Microbit" at x 0 y 0

pausiere (ms) 1000

show string "creative making" at x 0 y 1

pausiere (ms) 1000

clear LCD

dauerhaft

show string "Los geht's" at x 0 y 0

Information on block code

In the beginning, the address of the display must be provided.
(Specified in decimal notation)

beim Start

LCD initialize with Address 39

Activation of backlight

turn on backlight

show string "Microbit" at x 0 y 0

Text -> Line 1

pausiere (ms) 1000

show string "creative making" at x 0 y 1

Text -> Line 2

pausiere (ms) 1000

clear LCD

clear Display

dauerhaft

show string "Los geht's" at x 0 y 0

Text -> Line 1