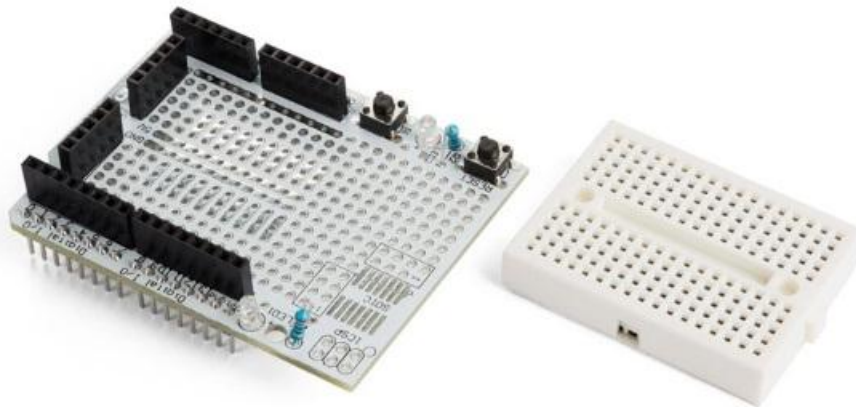# MAKEVMA201

PROTOSHIELD PROTOTYPING BOARD
WITH MINI BREADBOARD FOR ARDUINO® UNO
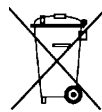
USER MANUAL

USER MANUAL

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.

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

|	
ⓘ	• 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.
	• The dealers cannot 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.   Presenting the MAKEVMA201

The ProtoShield makes it easy for you to design custom circuits. You can solder parts to the prototyping area to create your project, or use it with the small solderless breadboard to test circuit ideas quickly without having to solder. It has extra connections for all of the Arduino® I/O pins, and provides space to mount through-hole and surface mount.

Features

- 1.0 Arduino® pinout
- reset button
- free-to-use button + LED circuit
- ICSP connector location
- 14-pin SMD footprint
- 20-pin through-hole footprint
- 170 holes self-adhesive breadboard included
- compatible with: Leonardo, Uno, Mega, Classic

5.   Pin Layout

A. Nokia® D110 , B. LCM1602.
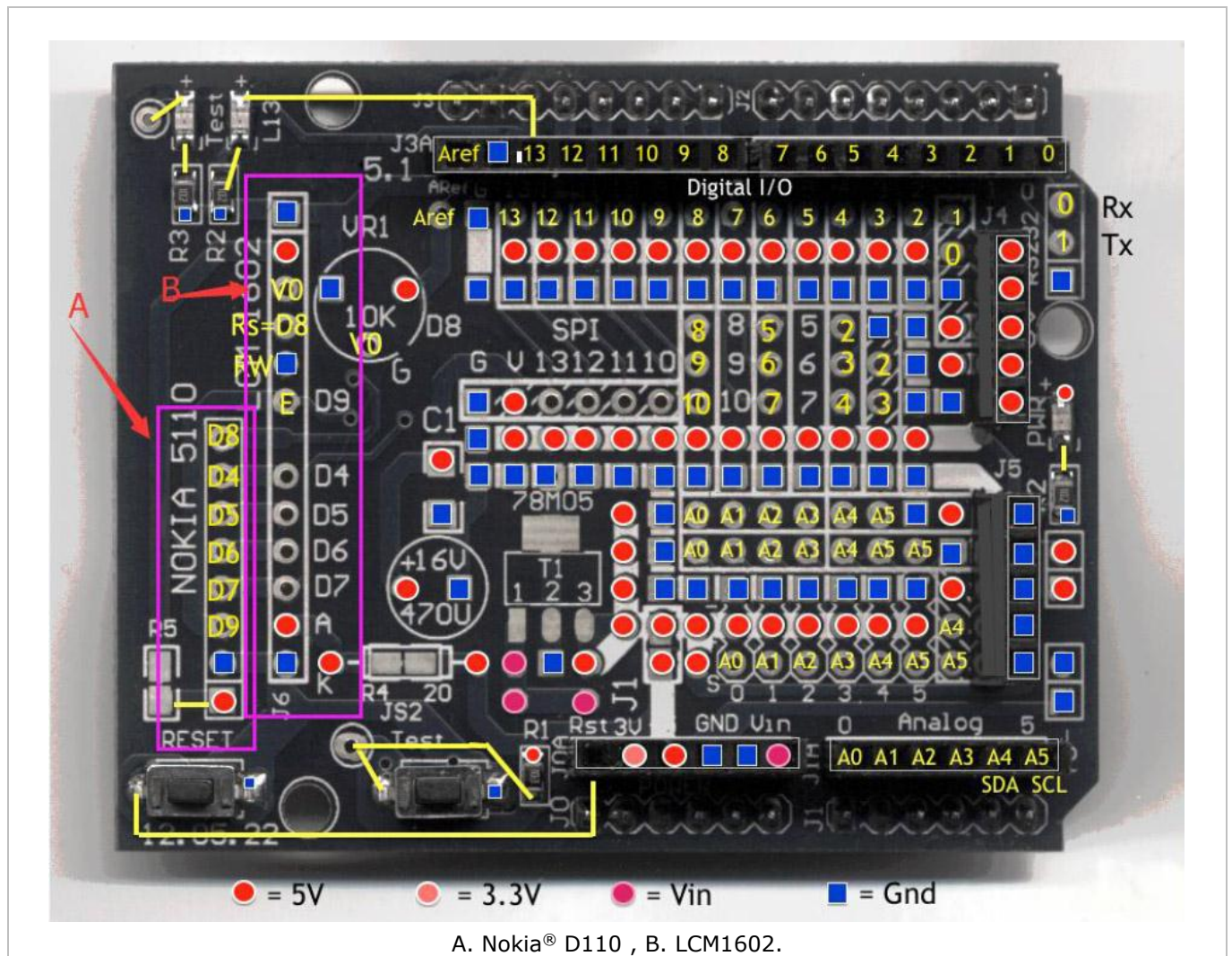
6. Examples

6.1 Nokia® 5110

```
                    Connection.
               SCLK======D8
                DN======D9
                D/C======D5
                RST======D6
                SCE======D7
               GND======Gnd
               Vcc======3.3V
          LED======3.3V (or D4 with 330 Ω resistor)
```

```
              ******code begin******
              #include <LCD5110_Basic.h>
              LCD5110 myGLCD(8,9,5,6,7);
              extern uint8_t SmallFont[];
              void setup()
              {
                 myGLCD.InitLCD();
                 myGLCD.setFont(SmallFont);
              }
              void loop()
              {
                 myGLCD.clrScr();
                 myGLCD.print("Upper case:", LEFT, 0);
                 myGLCD.print("ABCDEFGHIJKLM", CENTER, 16);
                 myGLCD.print("NOPQRSTUVWXYZ", CENTER, 24);
                 myGLCD.print("duinotech.com", CENTER, 40);
                 delay (5000);

                 myGLCD.clrScr();
                 myGLCD.print("Lower case:", LEFT, 0);
                 myGLCD.print("abcdefghijklm", CENTER, 16);
                 myGLCD.print("nopqrstuvwxyz", CENTER, 24);
                 myGLCD.print("geeetech.com", CENTER, 40);
                 delay (5000);

                 myGLCD.clrScr();
                 myGLCD.print("Numbers:", LEFT, 0);
                 myGLCD.print("0123456789", CENTER, 16);
                 myGLCD.print("duinotech.com", CENTER, 40);
                 delay (5000);

                 myGLCD.clrScr();
                 myGLCD.print("Special:", LEFT, 0);
```

```
        myGLCD.print("!\"#$%&'()*+,-.", CENTER, 16);
        myGLCD.print("/:;<=>?@[\\]^_`", CENTER, 24);
        myGLCD.print("{|}~", CENTER, 32);
        myGLCD.print("duinotech.com", CENTER, 40);
        delay (5000);
    }
******code end******
```

6.2   LCM1602

```
                    Connection.
            VSS======Gnd
            VDD======5V
        V0======V0 (needs a resistor)
            R/W======RW
            RS======RS
            E======E (D9)
            D4======D4
            D5======D5
            D6======D6
            D7======D7
            A======A
            K======K
```

```
******code begin*****
#include <LiquidCrystal.h>
// initialize the library with the numbers of the interface pins
LiquidCrystal lcd(8, 9, 4, 5, 6, 7);

void setup() {
    // set up the LCD's number of columns and rows:
    lcd.begin(16, 2);
    // Print a message to the LCD.
    lcd.print("hello, world!");
}

void loop() {
    // set the cursor to column 0, line 1
    // (note: line 1 is the second row, since counting begins with 0):
    lcd.setCursor(0, 1);
    // print the number of seconds since reset:
    lcd.print(millis()/1000);

    }
******code end****
```

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