I would really be grateful if you start to build the Optical Tester, that you go to the Photrio thread and say hi. Also please post photos of your completed tester.

Please refer to Photrio for further build help & to let us know you are building the tester
[Build a Optical Shutter Tester Cheap, Easy & it Works | Photrio.com Photography Forums](#)

GitHub repository where all documentation & code can be found. [billbill100 (github.com)](#)

Arduino Optical Shutter Tester Parts V1.0   05/03 2024

Below are links to the parts required to make the Arduino Optical Shutter Tester.

Links are valid now, but of course could become dead in the future.

Links are a guide only. Use a supplier that ships your country.

Ordering from China either from eBay sellers or AliExpress, the parts will be much cheaper.

Note, often if buying from AliExpress, there is a free express shipping option, if buying parts over a set value.
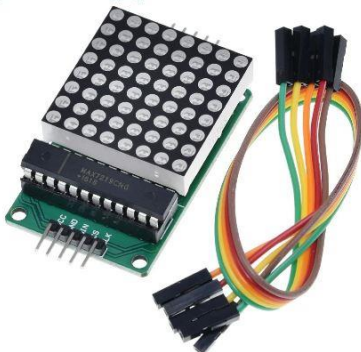
1. Arduino Nano Development Board

These can be purchased with or without the header pins soldered and with different sytly USB connector. Pick the one that suits.

[Mini / Type-C / Micro USB Nano 3.0 With the bootloader compatible controller CH340 USB driver 16Mhz ATMEGA328P for Arduino - AliExpress](#)

2. MAX7219 Dot Matrix Module
This board comes with the Dupont wires to connect to the Arduino Nano, which will be random colours. The LED matrix itself can be purchased with red or green LEDs. (An additional two wires will be required for the button).
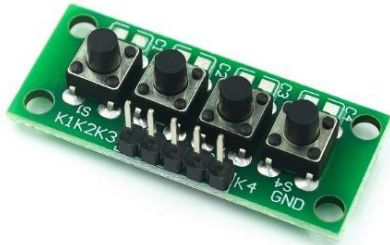

[8x8 8*8 MAX7219 Dot Led Matrix Module MCU LED Display Control Module For Arduino 5V Interface Module Output Input Common Cathode - AliExpress](#)

3. Button Module.

There are all sorts of buttons available, feel free to choose different ones depending on your final design.
Only a single button is required.

Some modules have the header pins soldered, so can easily be connected to the Arduino Nano with Dupont Jumpers (female to female) without the need for soldering.

DIY Kit 1x4 4 Independent Key Button Keypad Keyboard Module Mcu for Arduino Student Class Design Graduation Project Experiment - AliExpress

If mounting in a project box, these buttons are easier to fit and make a nice-looking project.

DaierTek 5PCS 12mm Momentary Push Button Switch On Off Mini Round Switch Waterproof PBS-33B 3A 125V AC with Pre-soldered Wire - AliExpress
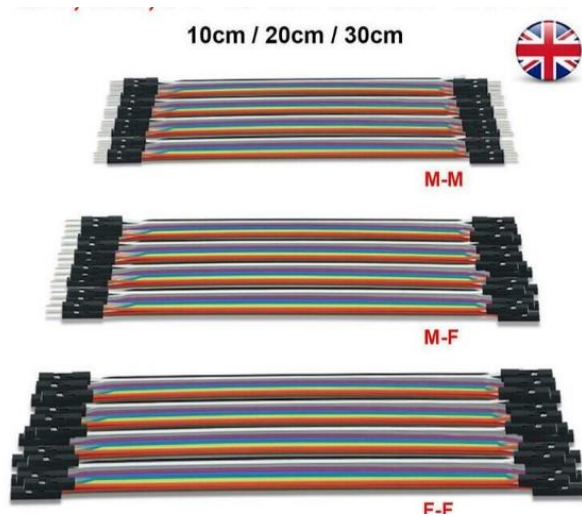

Similar buttons without pre-terminated wires.
6piece Mini 12mm Waterproof Momentary On/off Push Button Round Switch Pbs-33b Kit White Black Red Yellow Blue Green - AliExpress

5. Dupont wires.
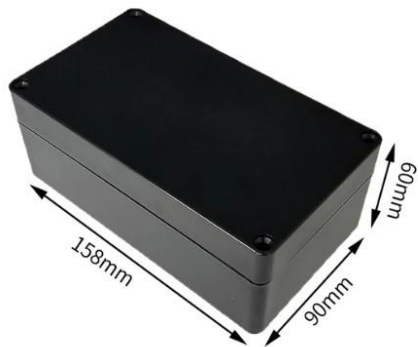Get female to female Dupont Wires if connecting a button module with header pins to the Arduino Nano.

Dupont Line 10cm 20cm Dupont Cables Male To Male Female To Female Male To FeMale Jumper Wire, for Arduino DIY Electronics KIT - AliExpress

10cm / 20cm / 30cm

M-M

M-F

F-F

11. Project Box. (optional)

All shapes and sizes are available, pick one that suits your needs.

[Black Box Outdoor Waterproof Case Plastic Box Electronic Project Case Instrument Waterproof Junction Box Housing - AliExpress](#)

158mm

90mm

60mm

<u>**Additional useful parts**</u>

The design of project box (if used) is up to the imagination of the builder. A square hole could be cut for the matrix & then it hot-glued from the inside, to hold it flush with the surface of the box. Or glued as a complete module on the top, with the wires going though a hole to the inside.

The nano can just be hot-glued in the box, with a suitable hole for the USB lead.

Drill bits, 12mm for the buttons.

[3-12mm Three-point Woodworking Drill Hole Opener Twist Drill Bit Practical Wood Milling Cutter Multifunctional Drilling Tools - AliExpress](#)

Glue Gun.
Cheap glue gun, but surprisingly it works ok.
[20W Hot Melt Glue Gun DIY Mini Household Industrial Guns Heat Temperature Thermo EU Electric Repair Tool Use 7mm Glue Sticks - AliExpress](#)

Soldering Iron Kit.
Cheap soldering iron kit that has everything to get started. Works fine.
[Adjustable Temperature 80W Soldering Iron Internal Heating Type Household Electronic Welding Repair Tool and Tin Wire Bracket - AliExpress](#)

<u>Change Log</u>
V 1.0