**NOYITO NOPSS0578**

# NOYITO Proto Screw Shield Assembled Terminal Point Prototype Expansion Board User Manual

Model: NOPSS0578

## 1. Introduction

The NOYITO Proto Screw Shield is an assembled terminal point prototype expansion board designed to simplify connections for Arduino projects. It provides convenient screw terminals for Arduino I/O pins, allowing for secure and reliable wiring without soldering directly to the Arduino board. This shield also features a prototyping area for custom circuit building and can be used as an extension plate.

## 2. Product Features

- **Assembled Design:** Ready for immediate use with pre-soldered components.
- **Screw Terminals:** Provides secure screw terminals for Arduino I/O pins, facilitating easy and reliable wire connections.
- **Prototyping Area:** Includes a dedicated area for soldering custom components, functioning as a prototype extension plate.
- **Double-Sided PCB:** Features a double-sided PCB design with via connections, allowing components to be soldered on the front side.
- **SMT Solder Points:** IO pins have SMT solder points on the back for flexible wire connections.
- **Reset Button:** Integrated reset button for convenience.
- **Color:** Red PCB for easy identification.

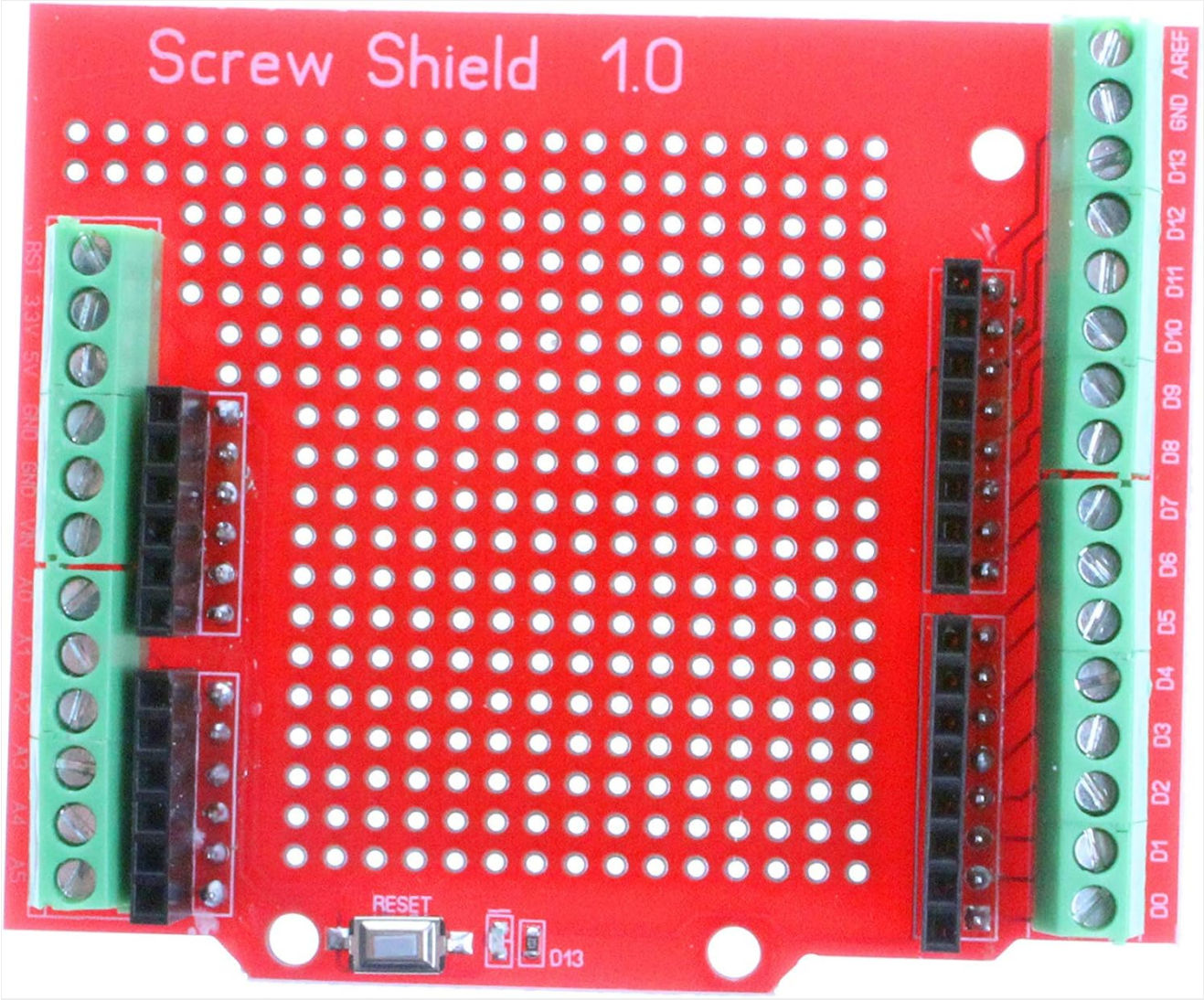


*Figure 1: Top-down view of the NOYITO Proto Screw Shield, showing the screw terminals, prototyping area, and reset button.*

## 3. Setup Instructions

1. **Prepare Arduino Board:** Ensure your Arduino board (e.g., Uno) is powered off before attaching the shield.
2. **Align Pins:** Carefully align the male header pins on the underside of the Proto Screw Shield with the female header sockets on your Arduino board.
3. **Attach Shield:** Gently press the Proto Screw Shield onto the Arduino board until it is firmly seated. Ensure all pins are correctly inserted and no pins are bent.
4. **Power On:** Once the shield is securely attached, you can power on your Arduino board.

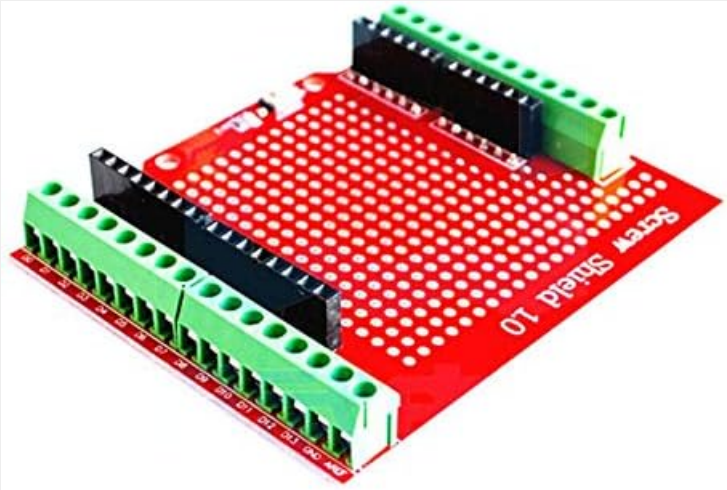


*Figure 2: Angled view illustrating how the Proto Screw Shield connects to an Arduino board via header pins.*

## 4. Operating Instructions

### 4.1 Using Screw Terminals

The Proto Screw Shield provides screw terminals for easy connection to the Arduino's digital and analog I/O pins, as well as power pins (5V, 3.3V, GND, VIN, RST, AREF). Each terminal is clearly labeled.

1. **Identify Pin:** Locate the desired digital (D0-D13) or analog (A0-A5) pin on the screw terminal block.
2. **Loosen Screw:** Use a small screwdriver to loosen the screw for the corresponding terminal.
3. **Insert Wire:** Insert the stripped end of your wire into the opening next to the loosened screw.
4. **Tighten Screw:** Tighten the screw to secure the wire firmly in place. Ensure the wire is making good contact and is not easily pulled out.

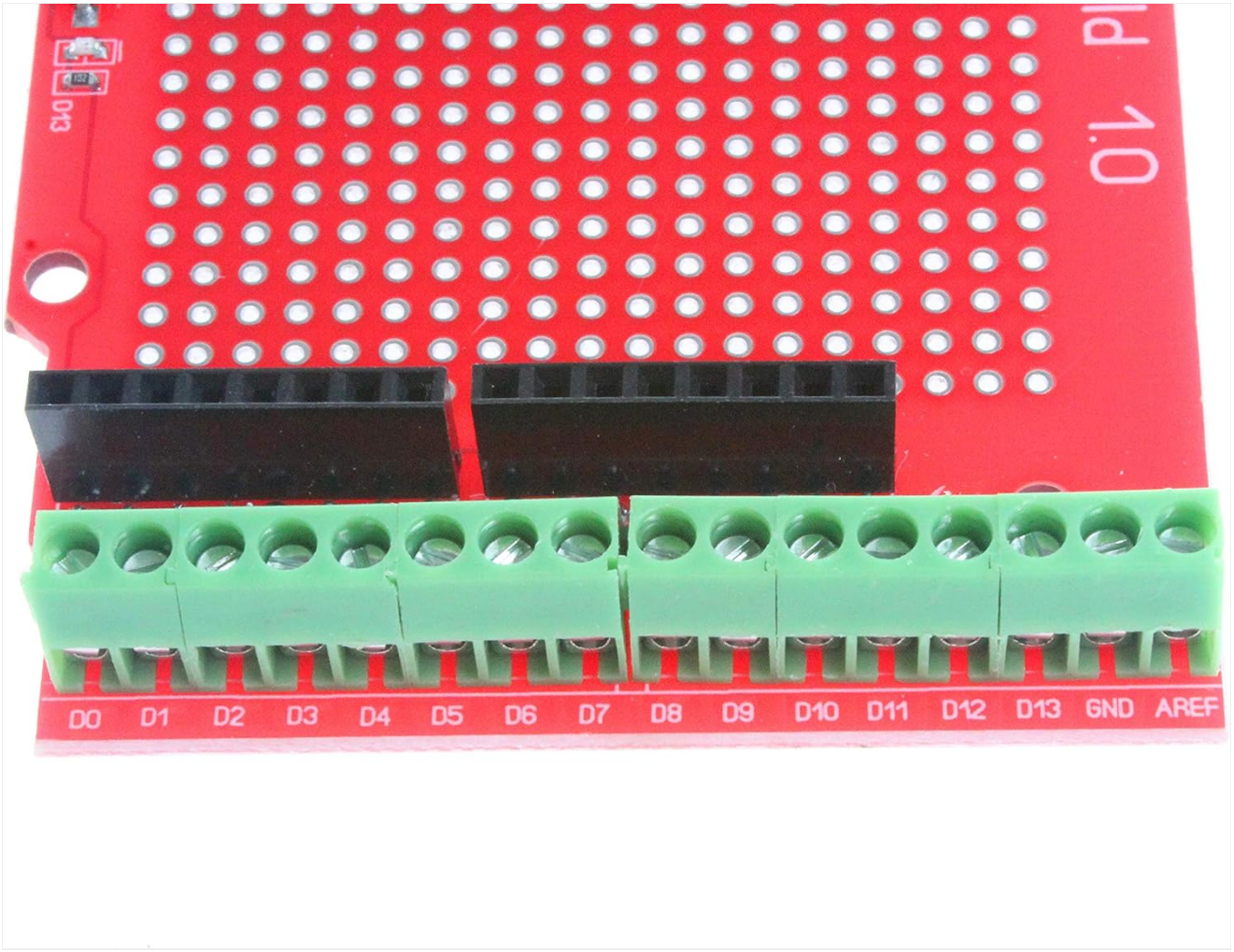


*Figure 3: Detailed view of the digital I/O screw terminals (D0-D13, GND, AREF).*

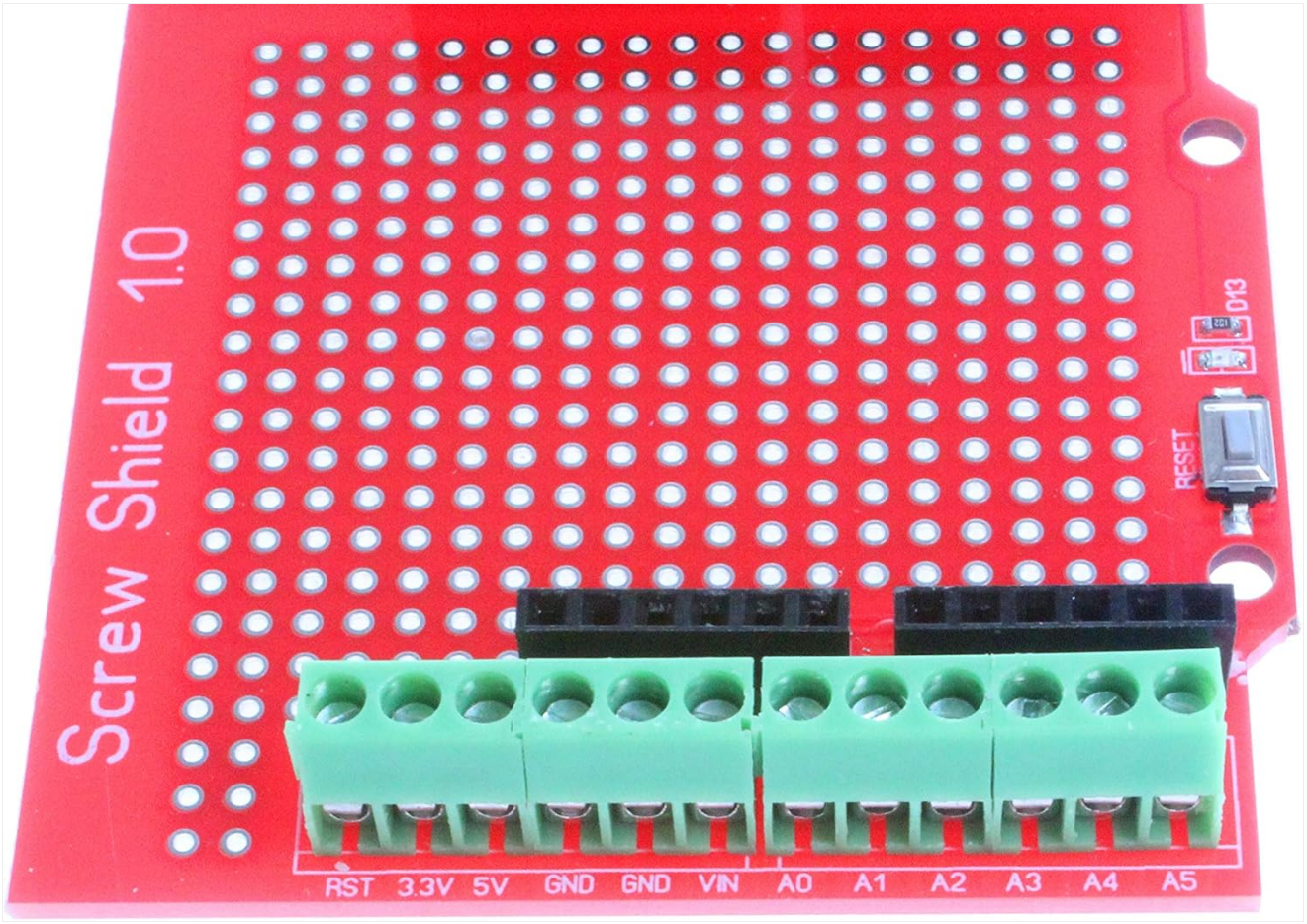


*Figure 4: Detailed view of the analog I/O (A0-A5) and power (RST, 3.3V, 5V, GND, VIN) screw terminals.*

### 4.2 Using the Prototyping Area

The central area of the shield is a prototyping board (perfboard) where you can solder additional components to create custom circuits. This area is ideal for adding sensors, modules, or other electronic parts that are not directly compatible with the Arduino's standard headers.

- **Component Placement:** Place your components into the desired holes on the prototyping area.
- **Soldering:** Solder the component leads to the copper pads on the board.
- **Connections:** Use jumper wires or solder traces to connect your custom circuit to the Arduino I/O pins via the screw terminals or directly to the SMT solder points on the back of the board.

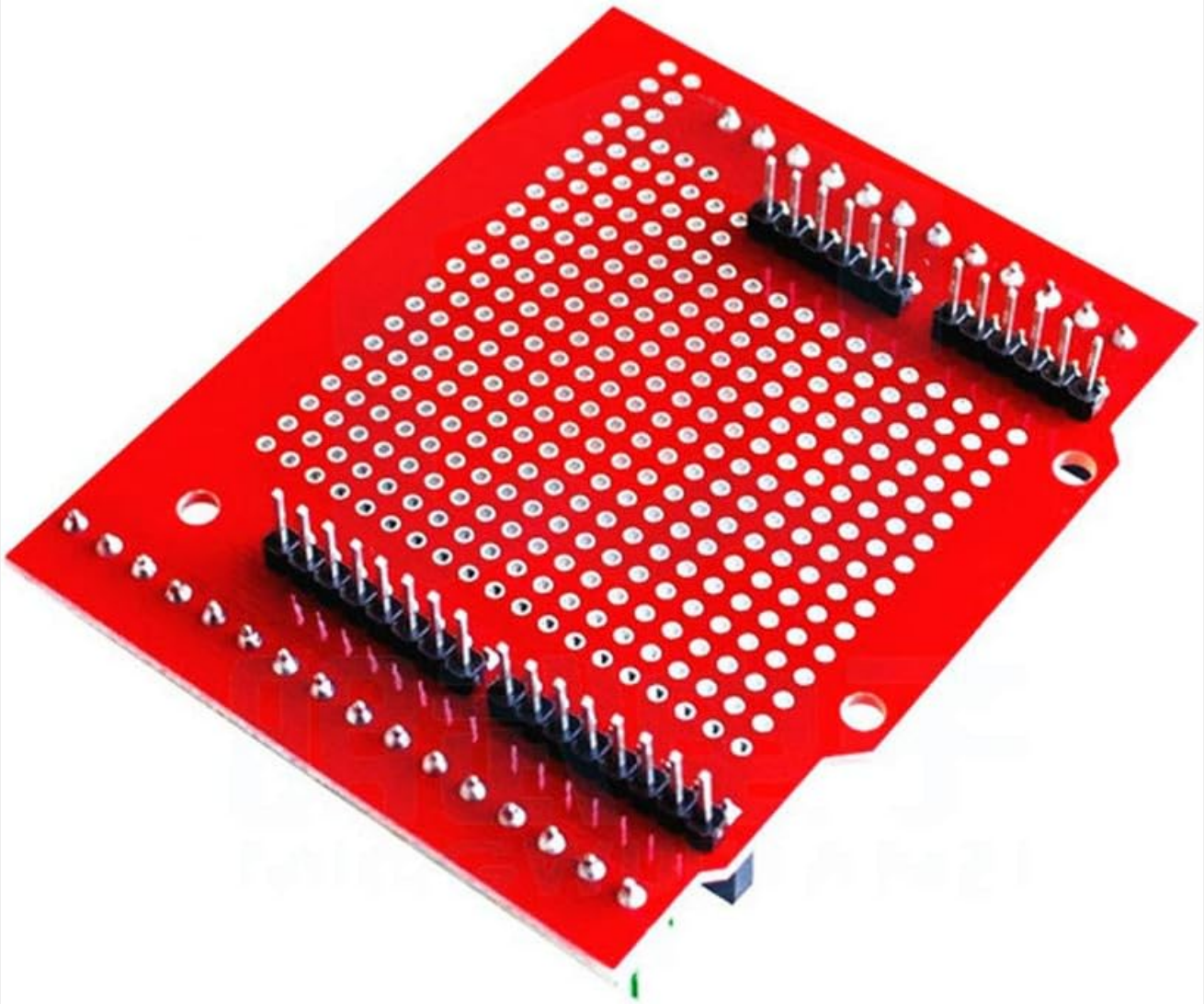

*Figure 5: Bottom view of the Proto Screw Shield, highlighting the SMT solder points for flexible wiring.*

### 4.3 Reset Button

A dedicated reset button is provided on the shield, mirroring the functionality of the Arduino's onboard reset button. Press this button to restart your Arduino program.

## 5. Maintenance

- **Cleaning:** Keep the board clean and free from dust and debris. Use a soft, dry brush or compressed air for cleaning. Avoid using liquids.
- **Storage:** Store the shield in a dry, anti-static environment when not in use to prevent damage from static discharge or moisture.

- **Connection Check:** Periodically check screw terminal connections to ensure wires remain secure, especially in projects subject to vibration.

## 6. Troubleshooting

- **No Power/Functionality:**
  - Ensure the shield is correctly seated on the Arduino board and all pins are making proper contact.
  - Verify the Arduino board itself is powered and functioning correctly.
- **Loose Wire Connections:**
  - If a component is not responding, check the screw terminal connection for that wire. Loosen and re-tighten the screw to ensure a firm connection.
  - Ensure the wire is stripped to an appropriate length to make good contact without exposing excess bare wire that could cause shorts.
- **Short Pins (Potential Issue):**
  - Some users have reported that certain pins (e.g., serial pins) might be shorted or not fully passed through on some shield designs. While this specific model aims for full connectivity, if you experience unexpected behavior with specific pins, carefully inspect the shield's underside and your Arduino's pinout.
  - Ensure no solder bridges or stray wire strands are causing unintended connections on the prototyping area or SMT points.
- **Component Malfunction on Prototyping Area:**
  - Double-check your soldering for cold joints or bridges.
  - Verify component orientation (e.g., diodes, ICs) and correct wiring to the Arduino pins.

## 7. Specifications

| Feature | Detail |
| --- | --- |
| **Brand** | NOYITO |
| **Model Number** | NOPSS0578 |
| **Compatible Devices** | Arduino Boards |
| **Specific Uses** | Electronic Projects, Prototyping |
| **Connector Type** | Pin Header, Screw Terminal |
| **Color** | Red |
| **Item Dimensions (L x W x H)** | 2.87 x 2.44 x 0.79 inches (approx. 7.29 x 6.20 x 2.01 cm) |
| **Item Weight** | 29 Grams |
| **Number of Ports** | 1 (referring to the shield as a single unit) |
| **UPC** | 680613660961 |

## 8. Warranty Information

This NOYITO Proto Screw Shield is covered by the manufacturer's one-year after-sale warranty. Please retain your proof of purchase for any warranty claims. The warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, modification, or unauthorized repair.

## 9. Support

For technical assistance, troubleshooting, or further inquiries regarding your NOYITO Proto Screw Shield, please refer to the official NOYITO website or contact their customer support channels. When contacting support, please have your product model number (NOPSS0578) and purchase details ready.
For additional resources and community support related to Arduino and prototyping, consider visiting online forums and documentation platforms dedicated to electronics enthusiasts.