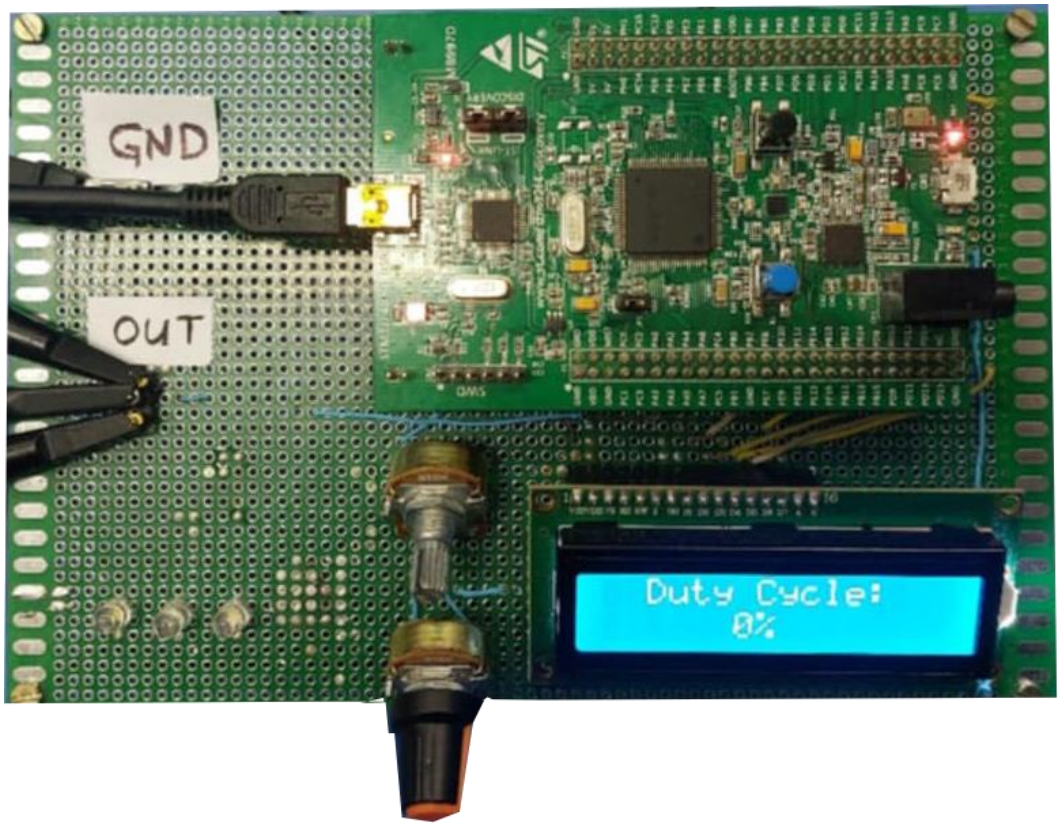
USER MANUAL

Three-Phase PWM Generator

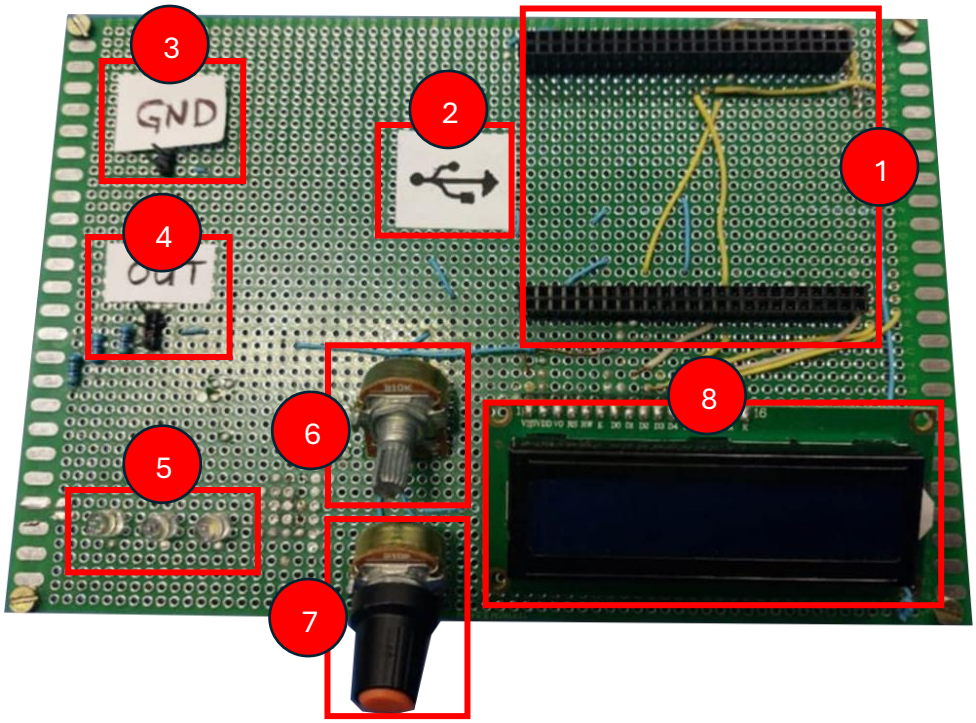
(STM32-Based Control and Interface)



I. Introduction:

Welcome to the **3-Phase PWM Generator with STM32-Based Control and Interface**. This device is designed with a focus on providing a user-friendly experience for generating precise, customizable 3-phase Pulse Width Modulation signals.

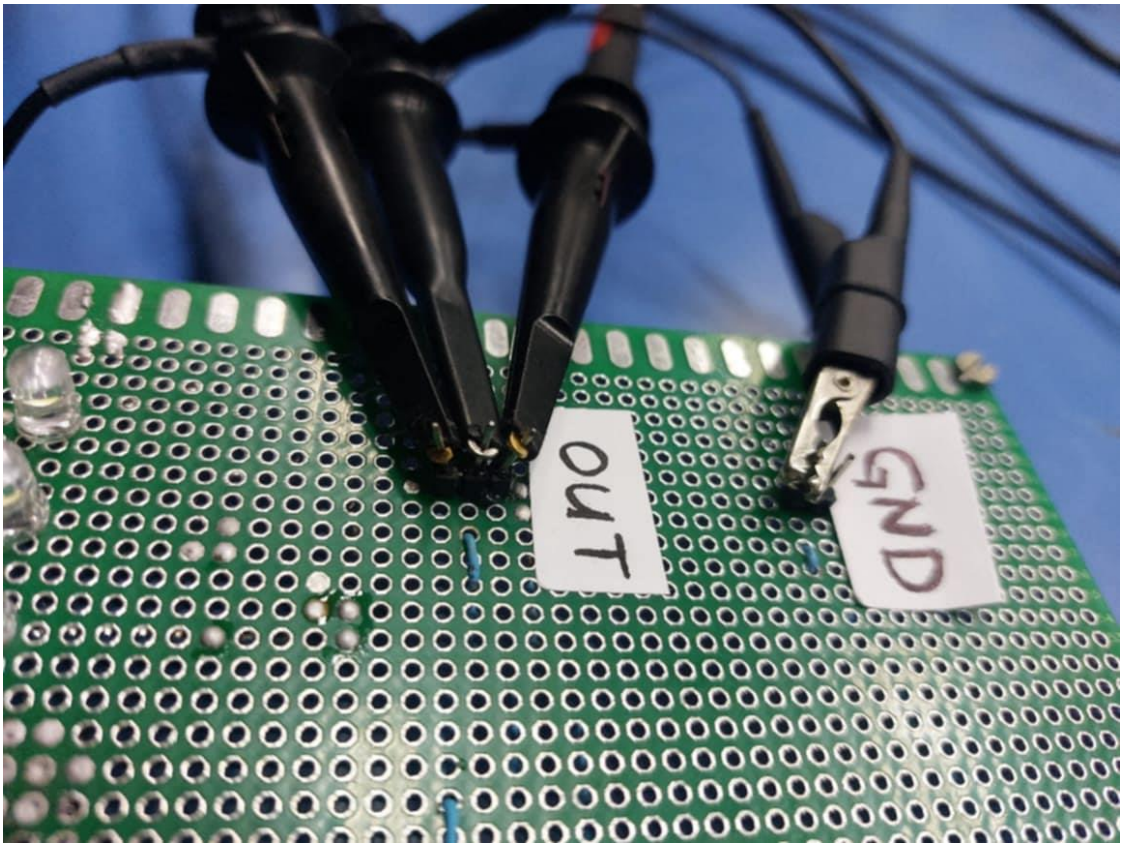
II. Design:



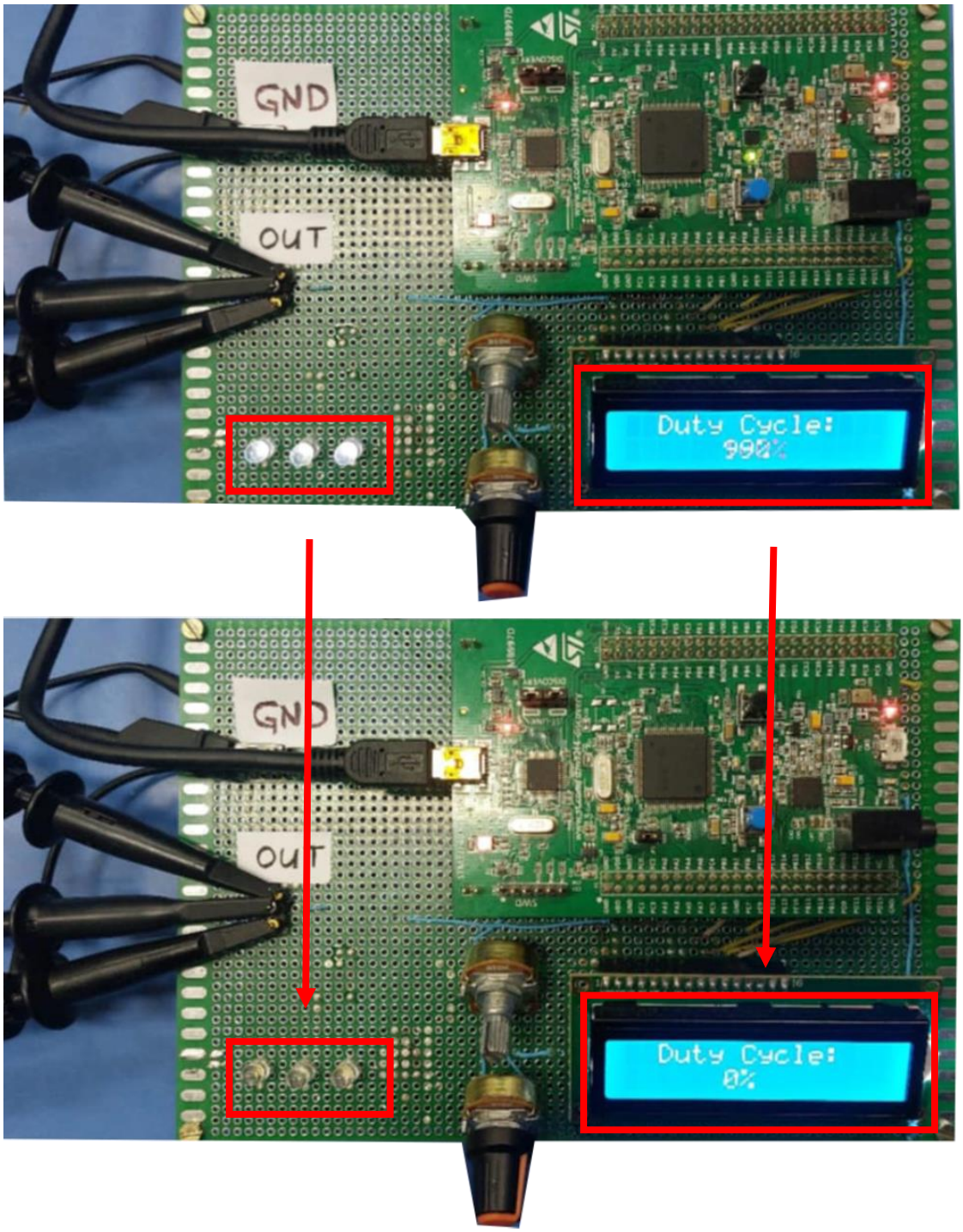
1. STM32 Support
2. Designator for USB Direction
3. Ground pins
4. Output pins
5. Output Status
6. LCD contrast
7. Duty cycle control
8. LCD

III. Features:

- STM32-based 3-phase PWM generation
- Potentiometer for real-time control
- User interface via LCD
- Secure STM32 housing
- Output and ground pins for measurements
- Adjustable duty cycle and frequency
- Compact and portable design



Easy measurements using oscilloscope probes and crocodile clips



System running at 99% duty cycle versus at 0% duty cycle

IV. How to use:

To begin, plug the STM32 board into a computer using the USB cable, ensuring the correct orientation as indicated by the designated reference marker. Once the system has powered on and booted up, it will be ready for use. Turn the Potentiometer to adjust the duty cycle. The generated PWM signals can be accessed through the output pins, where they can be measured or used as required.

V. Future additions / improvements:

- Enclosing the system in a protective case
- Adding proper output female connectors for easy interfacing
- Integrating an on/off switch for convenience
- Including a dedicated power supply for standalone operation
- Adding the ability to select different output signals

VI. Conclusion:

This 3-phase PWM generator is designed to provide a user-friendly and efficient solution for generating precise PWM signals. Future enhancements aim to further improve usability and functionality, making it a comprehensive and versatile device.