

LIDAR height advisor, C0-Sensor

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The ESP32 microcontroller functions as a DIY “GHA 15 height advisor” equipped with altitude callouts. It utilizes a TF03-180 LiDAR Laser Distance Measurement Sensor to determine the height above ground level. The device provides a voice interface to deliver an experience reminiscent of an airliner, announcing altitude values such as “200, 100, 50, 20, 10, 5, retard retard.”

This device employs the Time Of Flight (TOF) method to measure distance, which involves calculating the time delay between the transmission of a Near-Infrared laser signal and its reflection from a target. It features a TTL UART serial interface for seamless communication with the ESP32 microcontroller. Encased in durable aluminum with an IP67 water-resistant rating, the TF03 can detect distances up to 180 meters (600 feet) and is capable of performing more than 100 measurements per second.



There are several additional analog and digital inputs, as well as built-in Bluetooth and WiFi capabilities on board for various yet-to-be-determined tasks. The MQ-7 CO sensor provides an analog reading of the current CO level, and the ESP32 will trigger an alert through the G3x when a customizable threshold is reached.



The ESP32 board with 2 relays for future use cases.

