

**TERABEE** 

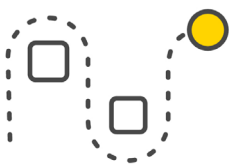
TeraRanger Evo 40m

TeraRanger Evo 40m is a versatile, long-range Time-of-Flight distance sensor. With its 40 meters detection range and an update rate of up to 240Hz, it offers high-performance in a compact and low-cost design. This sensor module is ideally suited to navigation and collision-avoidance for robotics, level sensing applications and a host of other IoT applications.

Key features

- Infrared Time-of-Flight technology
- Up to 40 meters detection range
- Small and lightweight design (from 9 grams)
- USB, I2C and UART clip-on interchangeable interfaces
- Compatible with Arduino, Raspberry Pi, Pixhawk and ROS
- Operates in low light and complete darkness
- Product design optimized for OEM and easy integration

Applications



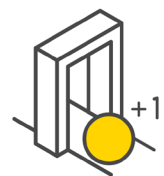
Robot navigation,
anti-collision



Drone obstacle
avoidance



Level monitoring
(silos, containers, etc.)



Presence detection,
object counting

Technical specifications

Product code TR-EVO-40M

Performance

Detection principle	Infrared Time-of-Flight
Range *	0.5 ~ 40 m indoor 0.5 ~ (10 - 40 m) outdoor
Update rate	Up to 240 readings per second
Output resolution	0.5cm below 14m, 2cm from 14m
Accuracy	±4cm in the first 14m, 1.5% above 14m
Field of View	Approx. 2°

Electronics

Supply voltage	5V DC +/-5%
Supply current (min-max)	90mA - 330mA

Communication

Interfaces	USB 2.0 Micro-B UART, +3.3V level, 115200,8,N,1 IC2, +3.3V level, 400kHz
Connectors	Single 9 pin Hirose DF13 Micro USB

Mechanical data

Dimensions	Approx. 29x29x22mm (sensor + backboard)
Weight	9 g (sensor) + 3 g (backboard)
Eye safety	Yes (CE certified)

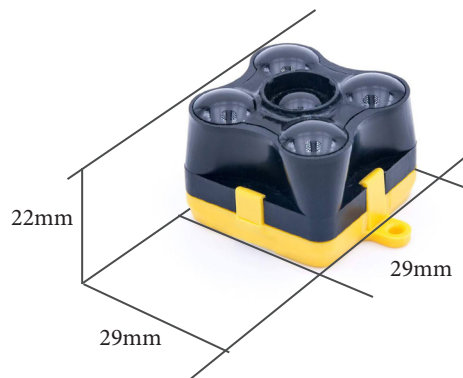
**Specifications are derived from tests in controlled conditions. Bright sunlight, target surface reflectivity and other variables will affect sensor performance. The combination of very bright sunshine and low reflectivity targets (such as grass) can reduce maximum range to 10m or less. For additional information, please find the following [test results report](#).*

Modular Evo Design

The sensor comprises two parts; an opto-electronic sensing device (black module, 9g) and a choice of interface backboard (yellow module, 3g). Simply clip your preferred interface board to the sensor. USB and I2C/UART backboards are available, but custom backboards can also be made to support specific applications. This two-part design alleviates the need to use adapters and converters.

Drivers for ROS (Robot Operating System) and popular drone flight controllers are also in development, or available, adding to the plug and play convenience of our Evo series sensors.

Dimensions



Have any questions? Contact us today!

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Terabee:

[TR-EVO-40M-I2C](#) [TR-EVO-40M-USB](#)