

# TeraRanger Tower Evo

by TERABEE 

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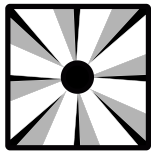


TeraRanger Tower Evo is a solid-state LiDAR system with 4 or 8 detection zones, monitored simultaneously. Benefit from increased robustness, high-speed data acquisition, and lightweight design - all suited to fast-moving robotic applications!

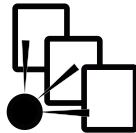
## Key Features:

- 4 or 8 active Time-of-Flight distance sensors
- Increased robustness - zero moving parts
- High-speed distance data acquisition - Variable and fixed sampling rates (up to 600Hz)
- Lightweight and compact design (From 92g)
- Eye-safe in all conditions
- ROS-ready and Pixhawk compatible

## Applications include:



Environment mapping



Multi-object detection



Collision avoidance / Navigation

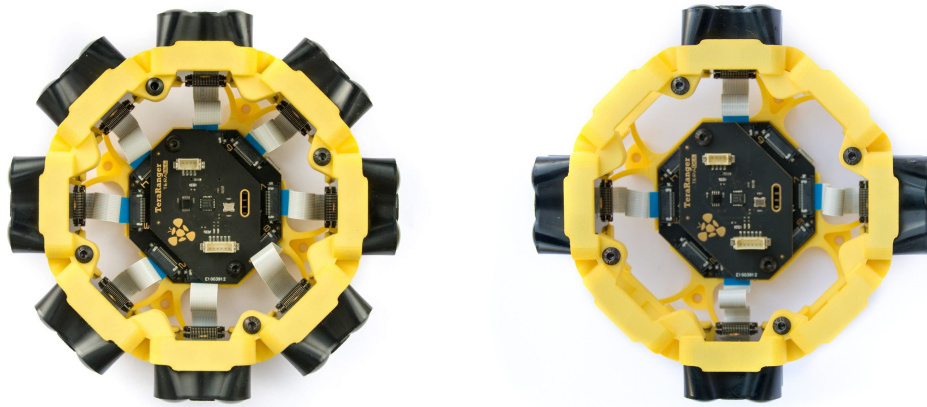
## Technical Specifications:

TeraRanger Tower Evo		
Version:	Tower Evo 600Hz	Tower Evo 60m
Distance sensors used:	TeraRanger Evo 600Hz	TeraRanger Evo 60m
Nr. of sensors:	Sold with 4 or 8 sensors pre-installed. (However, the device can run with any number of sensors, up to 8)	
Principle:	Infrared Time-of-Flight (ToF)	
Range:	*0.75m up to 8m	*0.5m up to 60m
Update Rate:	Fixed at 600Hz per sensor (4 sensors version) Fixed at 320Hz per sensor (8 sensor version)	Up to 240Hz per sensor (4 sensor version) Up to 120Hz per sensor (8 sensor version)
Output Rate:	Variable (given by update rate) or fixed at 50Hz, 100Hz, 250Hz, 500Hz, 600Hz	
Output Resolution:	0.5cm	0.5cm below 14m, 2cm from 14m
Accuracy:	±12cm	±4cm in the first 14m, 1.5% above 14m
Field of View:	Approx. 2° per sensor, 45° between each sensor axis	
Supply voltage:	12V to 24V DC	
Supply current @ 12V (8 sensors Tower mode):	1100mA (max)	
Interfaces:	USB 2.0 Micro-B	
	UART, +3.3V level, 115200,8,N,1	
	WS2812B LED serial control output	
Connectors:	Micro USB	
	6pin Hirose DF13	
	4pin Hirose DF13	
Onboard IMU:	Bosch BNO055	
Weight:	135g (fully assembled with 8 sensors); 92g (fully assembled with 4 sensors)	
Dimensions:	Approx. 120 (D) mm x 42 (H) mm	
Mounting	4 mounting holes for M3 screws	
Eye safety:	Yes (in accordance with IEC62471)	

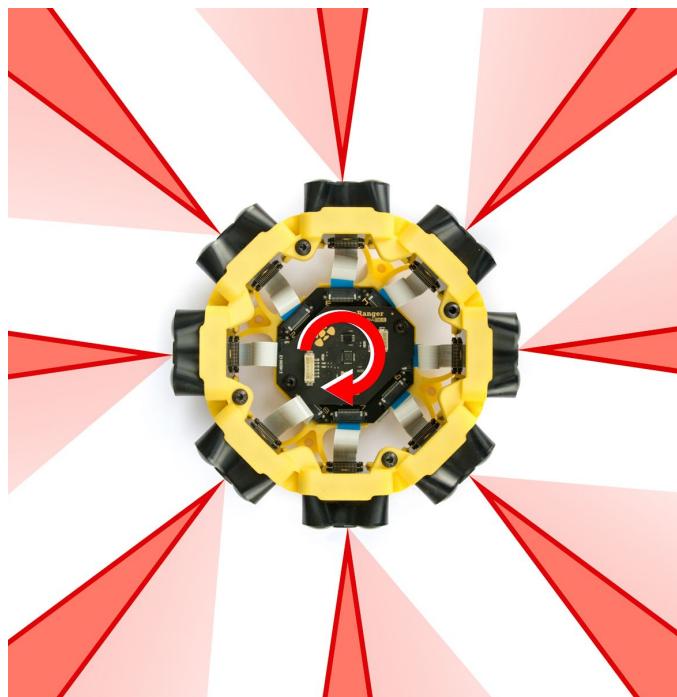
*\*Please note: Product performance, including maximum range, will vary according to operating environment, surface reflectivity, direct sunlight and other variables. Please test in your intended operating environment and conditions.*

## Configurations

TeraRanger Tower Evo comes in 2 configurations; with either 4 or 8 detection zones. Those buying the 4 zone version can add additional sensors, up to a total of 8.



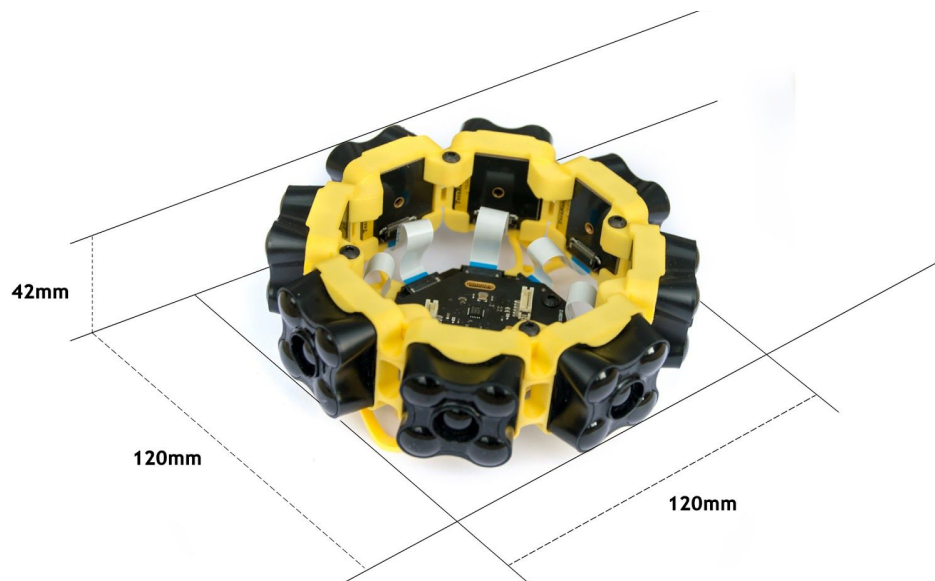
## Simultaneous monitoring of multiple axes



When mounted on a ground or airborne robot, the simultaneous data point acquisition of 4 or 8 axes at high speed, coupled to the natural movement of the robot (both

translations and rotations), ensures the capture of features and data points around the robot, with similar output to the laser scanners typically used in SLAM operations.

## Dimensions



**TeraRanger Tower Evo can be purchased via our online store at:**

<http://www.teraranger.com/product/teraranger-tower-evo/>