

Toposens Processing Unit DK

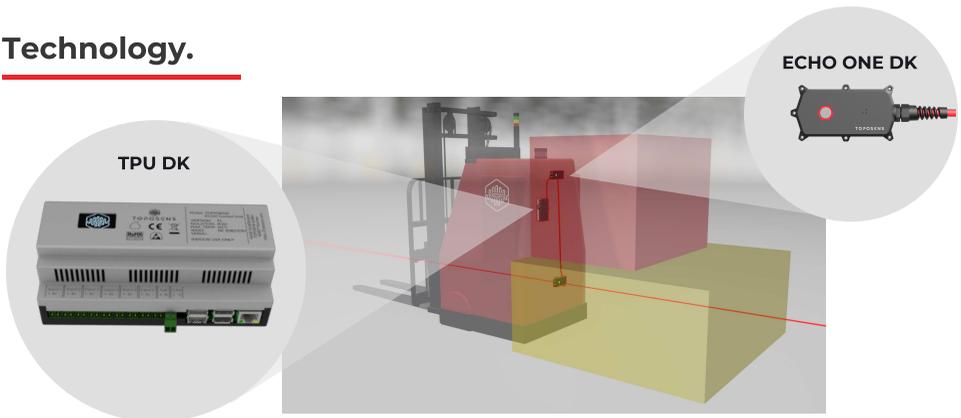
Advanced 3D Collision Avoidance



Introduction.

The Toposens Processing Unit Development Kit (TPU DK) serves the need of easy adoption and integration of the Toposens ultrasonic sensing technology for 3D collision avoidance. It enables customers to use pre-filtered point clouds and make use of the 3D collision avoidance functionality. Along with the next-generation 3D Ultrasonic Echolocation Sensor ECHO ONE DK, the system enables your AGV, robot, or other application to avoid collisions with all kinds of obstacles. By detecting even the most complex objects in 3D space with a small blind zone, customers are able to reduce costly accidents while ensuring highest safety in any environment.

Technology.



GATEWAY

The TPU DK acts as a gateway between Toposens 3D Ultrasonic Sensors and customer applications.



FILTERS

It features a set of sophisticated filters to pre-filter the point cloud obtained by the ECHO ONE DK.



3D COLLISION AVOIDANCE

Obstacle avoidance via configurable warning zones and stop zones in easy-to-use graphical interface (GUI).

Key Benefits.



Advanced 3D Collision Avoidance Functionality



Plug & Play Hardware with Different Interfaces



Easy-to-use Software for Application Setup

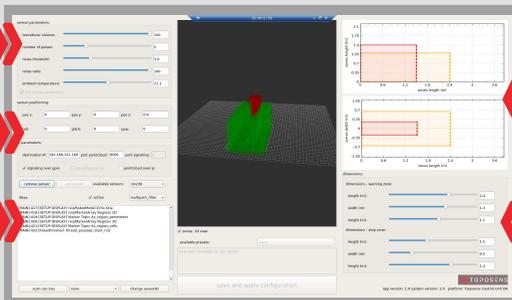


GUI Interface.

Parameter Adjustments

Sensor Vehicle Positioning

IP Configuration



3D Collision Zone Visualization

3D Collision Zone Configuration

For step-by-step operating instructions, please see:
toposens.com/toposens-processing-unit-dk

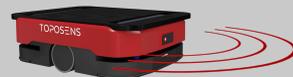
Plug & Play Solution.



ECHO ONE DK



TPU DK



AGV Integration

TPU DK Pre-Configuration:

- Pre-Set Advanced Noise Filters (Filtered 3D Data)
- Pre-Set Sensor Parameters for AGV Use Cases

Optional configuration of warning zone and stop zone, depending on operating mode, see next page.

Integration of Sensor and TPU DK in AGV or AMR for 3D collision avoidance evaluation.

**Next-Level
Robotic Safety**

Above images are not to scale.



Specifications.

MECHANICAL	
Dimensions	160 x 91 x 60 mm
Weight	316 grams
Enclosure Material	ABS
ENVIRONMENTAL	
Ambient temperature range	10 - 50 ° C
Protection	IP20
ELECTRICAL	
Operating Voltage	9 - 30 V
Current Consumption (12 V)	265 mA
CONNECTIVITY	
Ethernet	1 x 10/100/1000 Mbps, RJ45 connector
Digital Inputs (24 V)	6x Dry Contact or Active Mode, Isolated
Relais Outputs	3x NO Contacts, 240 V, 3 A max.

Operating Modes.

3D Collision Avoidance
STAND ALONE

3D Collision Avoidance
SENSOR FUSION

I/O PORTS

In stand alone mode, the sensor system switches output ports when zones are violated.

More modes coming soon.

ETHERNET

In sensor fusion mode, the pre-processed point cloud can be accessed via ethernet.

More modes coming soon.