

TDK RoboKit1 â€“ A TDK SmartRoboticsâ„¢ Solution

Description

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TDK RoboKit1
A TDK SmartRoboticsâ„¢ Solution



The **TDK_RoboKit1** combines sensors, processors and actuators on a single PCB making it an ideal robotics platform f quick prototyping and development. The TDK_RoboKit1 is an open-source board with ROS drivers and algorithms for a multitude of users.

The **RoboKit1** provides out of the box integrated software solutions such as obstacle detection, floor type detection, clif detection, and dynamic heading detection. In addition, TDK RoboKit1 enabled machine learning keyword spotting for applications wanting to integrate voice commands (currently requires Raspberry Pi add-on).

Hardware Features:

- ICM-42688-P 6-Axis IMU
- ICS-43434 Digital 125 Microphone (x4)
- ICP-10111 Barometric Pressure Sensor
- CH-101/201 ToF Modules (x9)
- (Connected via flex cable)
- IIM-46230 Industrial IMU Module
- (Connected via flex cable)
- HVC4223F Embedded Motor Controller
- AK09918C AKM Magnetometer
- Temperature Sensor

Software Features:

- Obstacle detection for any color objects in all lighting conditions
- Floor type and cliff detection using ultrasonic sensors
- RoboVac algorithm using IMU data for heading computation
- Robot Motor Control APIs
- "Hi TDK" key word spotting with noise filter and noise cancellation
- ROS1 and ROS2 drivers for all on-board sensors
- BLE enabled Windows and Android Apps for sensors and algorithms evaluation and data collection

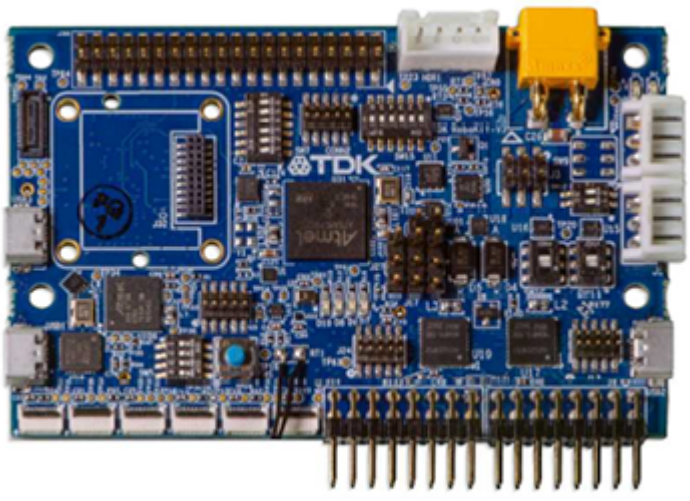
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The **TDK_RoboKit1** contains the **TDK_RoboKit-DK** as well as a 3D printed shell with sockets created for the ToF, the I
46230 Industrial IMU module, a chassis with metal plates, stand-offs, wheels and motors, an on/off switch and an ESP3
BLD module for Bluetooth conductivity.

Download Product Brief

Part Numbers:

TDK_RoboKit1-DK	TDK_RoboKit1
Included is the TDK RoboKit1 Development Board (as seen below) as well as the Ultrasonic ToF modules and all the available ROS drivers and algorithms.	Complete TDK_RoboKit1-DK SKU as well as a 3D printe shell with sockets created for the ToF Sensors, the IIM-46230 Industrial IMU Module, a chassis with metal plate standoffs, wheels and motors, an on/off switch, and an ESP32 BLD module for Bluetooth connectivity.



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time to market. CDI will leverage its product knowledge, technical expertise, and evaluation tools to find the right solution

Category

1. Ewave
2. Sensors and Wireless
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