



SmartRobotics™

PRIMARY APPLICATIONS



Robotic Vacuum Cleaners

Consumer or enterprise-based cleaning robots that incorporate multiple TDK sensor technologies



Autonomous Mobile Robots

Typically used for surveillance or reconnaissance, AMRs incorporate autonomy with multiple sensor integration.



Drones

Whether consumer, agricultural, or enterprise, drone applications require all the essential sensor technology found at TDK

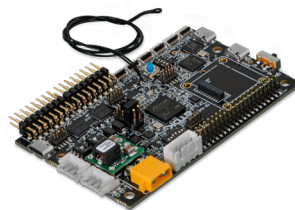


Service Robots

A modern-day twist on the service industry, robots are now being used for everything from janitors to restaurant servers and food delivery.

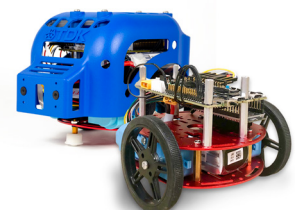
FEATURED PRODUCTS

TDK_RoboKit1-DK Development Kit



TDK_RoboKit1-DK is a comprehensive TDK showcase of different sensor technologies wrapped in a robust, open source, ROS compliant Software library, making it the perfect robotic development platform.

TDK_RoboKit1 Full Robotic Package



The TDK_RoboKit1 Full Robotic Package includes everything found on the TDK_RoboKit1-DK as well as a 3D printed shell with ToF sockets, TDK's Industrial grade IMU module (IIM-42630), chassis with metal plates, standoffs, wheels and motors, and an ESP32 BLE module.

PRODUCT CATEGORIES

Comprehensive Sensor Enablement

Multiple TDK sensors provided on a single platform

- ICM-42688-P 6-Axis IMU
- ICP-10111 Barometric Pressure Sensor
- ICS-43434 Digital I²S MEMS Microphone
- CH101/201 Ultrasonic Time Of Flight
- B57861S0103A039 Temperature sensor
- AK09918C AKM Magnetometer
- HVC4223F-D2 Embedded Motor Controller
- IIM-42630 Industrial Module (on Full robotic kit only)

Software Algorithms

Drivers and Algorithms available to support any robotic needs

- Cliff Detection
- Floor Type Detection
- Obstacle Avoidance
- Voice Audio Commands
- Motor Control APIs
- Sensor Fusion

ROS1 & 2 Compliance & Open Sourced

Compliant with all the necessary robotic community standards

- Ros 1/2 driver compatible
- Windows App for Dev Kit data collection
- Android App for Full Robotic kit BLE data collection
- MicroROS (COMING SOON!)

“Out Of The Box” Experience

Supports any stage of robotic development from concept to production

- Full Robotic package provides everything needed to build a fully functional robotic reference design
- Development Kit can be used for initial sensor evaluation, algorithm development, or software creation

ADDITIONAL DETAILS



Robotics Business Review Innovation Award

Winner: Technology, Services, & Research: Product Introduction Category

“In January 2022, TDK Corporation subsidiary InvenSense announced the TDK RoboKit1, a development platform and reference design for robotics systems. The TDK RoboKit1 board, powered by an ARM Cortex-M7 processor, incorporates a number of sensors, including a 6-axis IMU, a barometric pressure sensor, a magnetometer, digital I²S microphones, a temperature sensor, and ultrasonic Time-of-Flight (ToF) sensors. Also included with the TDK RoboKit1 are software libraries, as well as ROS 1- and ROS 2-compliant drivers.”

— The Robot Report



Scan Here for additional materials and information.