TDK Multi-Sensor Solutions
by InvenSense®

⬧**TDK**

SmartBug
Smart Multi-Sensor Wireless Module for IoT Applications

Overview

TDK's SmartBug (MD-42688-P) is a multi-sensor wireless module that leverages TDK MEMS sensors and algorithms for a wide range of IoT applications.

This module combines six sensors, a powerful wireless (BLE) MCU, seven algorithm driven features and a rechargeable battery, all in a small lady-bug enclosure. It also comes with the option of an Add-On board that includes a WiFi module, an SD card slot and an ultrasonic sensor from TDK.
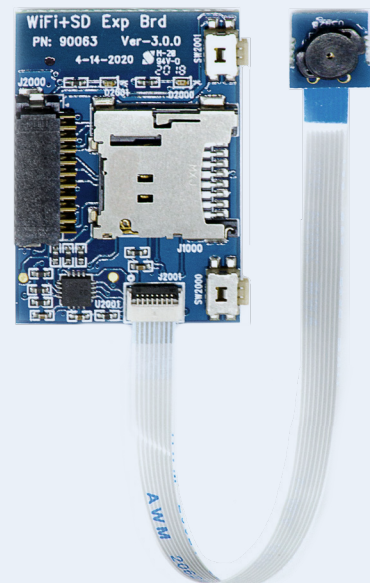

It is the go-to-module for quick and easy access to reliable and smart sensor data. The data from each sensor and algorithm can be accessed "Out-of-Box" without the need for any programming, soldering or extra modifications. This makes it a perfect enabler for IoT product developers, algorithm developers and sensor data enthusiasts to better understand real application signatures, environment variations and multi-sensor/algorithm behaviors.

It includes ICM-42688-P 6-axis IMU, ICP-10100 pressure sensor with humidity sensor, temperature sensor, magnetic sensor and an optional CH-101 ultrasonic sensor from TDK, creating an All-in-one sensor solution. A unique feature of this module is the provision of smart sensor data from IoT sensor algorithms with customized tuning parameters. The algorithms include Door Open/Close Detect, 6 and 9-axis sensor fusion, Asset Monitoring, HVAC Filter Monitoring, Pedometer, Activity classification, Gestures and Air Mouse Monitoring.

The SmartBug data and outputs can be easily visualized, streamed and recorded on a **Windows 10 Application – SmartBug**. This application is available for free to download on the Microsoft Store. The application offers great flexibility to acquire data from BLE, WiFi or USB, depending on the use-case. SD card logging feature in addition allows autonomous logging of data (upto 32GB) without any Windows 10 Application.

Key Features

- *All-In-One Sensor Module including a combination of sensors and algorithms*
- *Out-of-Box Solution*
- *Pre-programmed. No soldering or programming needed.*
- *Dedicated source of raw and intelligent sensor data*
- *Small size lets you stick this module almost anywhere*
- *BLE, USB, WiFi and SD data logging*
- *Reliable and quality data from high-performance sensors and algorithms*
- *Over the Air (OTA) Firmware upgrade*
- *Visualization Software available*
- *Optional Add-On Board adds WiFi, SD card and an ultrasonic range sensor (shown below):*

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