STSW-IMG044

Data brief

Ultra lite driver (ULD) application programming interface (API) for the VL53L4ED Time-of-Flight high accuracy proximity sensor with extended temperature range

Product status link
STSW-IMG044

Features

- The VL53L4ED ULD API is a source code written in C language
- The API provides control over a full range of features
- The API is structured so that it can be easily ported/compiled on any microcontroller platform
- Several example codes are provided that show how to use the API
- The VL53L4ED ULD API user manual (UM3177) is included

Description

The VL53L4ED ULD API is a set of C functions controlling the VL53L4ED device (for example, init and ranging) to enable the development of end-user applications. The VL53L4ED ULD is an optimized driver with only two files required for basic ranging. The API can be compiled on any kind of platform through a well-isolated platform layer (mainly for low-level I²C access). One example code is provided to show how to use the API and perform ranging measurements

The VL53L4ED is specifically designed for high-accuracy, short-range measurements requiring extended temperature capability. It offers an 18° field of view for measurements from 1 mm up to 1300 mm in standard conditions, and up to 1150 mm under its extended temperature. Special settings also provide an accurate distance measurement up to 800 mm under ambient light conditions (5 klx).

This sensor has an effective temperature range of -40°C to 105°C, ensuring reliable measurement, even in extreme temperature conditions. It is the ideal product for industrial devices requiring proximity sensing. Examples include presence detection and system activation applications. The VL53L4ED is a direct derivative of the VL53L4CD with which it is pin-to-pin compatible. Its fully embedded on-chip processing helps to reduce design complexity and BOM cost. This is because less powerful and less expensive microcontrollers can be used.

Revision history

Table 1. **Document revision history**

Date	Version	Changes
20-Dec-2023	1	Initial release

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