



XDK LoRa-Extension

The low power and long range communication technology

Bosch Connected Devices and Solutions is a member of the LoRa Alliance, an open, non-profit association of members, who believe that the Internet of Things era is right now. It is the fastest growing technology alliance worldwide.

LoRa uses license-free sub-gigahertz radio frequency bands like 169 MHz, 433 MHz, 868 MHz (Europe) and 915 MHz (North America). The technology is presented in two parts - LoRa, the physical layer and LoRaWAN (Long Range Wide Area Network), the upper layers.

The XDK LoRa-Extension is a wireless and secure communication solution that allows for penetrating structures such as buildings. You can exchange your data up to a range of 40km. With the brand new XDK LoRa-Extension you can now connect your XDK to a LoRa network. Take advantage of measuring data with 8 different XDK-sensors and connect the data via LoRa to your backend.

XDK BUILT-IN SENSORS



Accelerometer



Acoustic sensor



Digital light sensor



Gyroscope



Humidity sensor



Magnetometer



Pressure sensor



Temperature sensor

APPLICATION ADVANTAGES

- ▶ All-in-one sensor kit: no need for component selection or hardware assembly
- ▶ Small form factor (Length 46mm x Width 40mm x Height 22mm, Weight 33g)
- ▶ Drivers for all system components included
- ▶ Easy integration into preferred backend, e.g. Cayenne, TTN
- ▶ Existing Mita support
- ▶ Existing sample Code in workbench included
- ▶ Public or private LPWANs can be joined or created
- ▶ Saves energy and ensures a long battery lifetime
- ▶ High-level API for the standard user and low-level API for the power user
- ▶ PC and MAC based development tools for Windows, LINUX and MacOS make it an easy to work with tool for any developer
- ▶ CE and LoRaWAN certified | Further on request

INCLUDED IN DELIVERY

XDK LoRa-Extension

- ▶ Device
- ▶ Link Card to quick start guide at XDK.io
- ▶ Safety Disclaimer
- ▶ External Antenna



MAIN COMPONENTS

- ▶ External antenna
- ▶ Microchip module RN2483



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Invented for life

OPERATING CONDITIONS

- ▶ Indoor use
- ▶ IP Rating IP 30
- ▶ Supply Voltage 2,5V DC via XDK extension port
- ▶ Radio Power max. 13 dBm EIRP
- ▶ Frequency Band 868.0-868.6 MHz
- ▶ Physical interface and pin designation: see the XDK110 User Guide

SOFTWARE

Free software download, called XDK Workbench from the website <https://developer.bosch.com/web/xdk/downloads>

- ▶ Integrated development environment supplied with XDK Workbench (Eclipse)
- ▶ Ready to flash LoRa example available in the Workbench, called LoRaThingsNetworkDemo

SW Versions, which are relevant for conformity:

- ▶ BCDS is providing a simplified API for LoRa device communication, called “BCDS_LoRaSimplified”. The user shall apply “BCDS_LoRaSimplified” as programming interface to ensure that module operates in full compliance with the requirements of ETSI EN 300220-1, -2. The interface is provided by BCDS as a shared library “LoRaDrivers” as “libLoRaDrivers_efm32.a” version v.0.3.4 (or later versions) as part of the XDK Workbench 3.5.0 release (or later versions).
- ▶ A second API “BCDS_LoRaDevice API” is delivered in the shared library, which provides access on device hardware level for experienced software engineers .

ATTENTION

Warning: Risk of interference and unlawful use:

- ▶ Before activation of the XDK LoRa-Extension, check the country variant of your XDK LoRa-Extension. E.g. the version with country code “EU” is certified for operation in the EU.
- ▶ Outside the certified country, the use of the XDK LoRa-Extension might be in conflict with legal requirements and frequency band allocations. That may cause harmful interference and risk of legal prosecution. The user must inform himself and ensure that legal requirements are fulfilled before activating the XDK LoRa-Extension.

GET IN CONTACT WITH US!

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