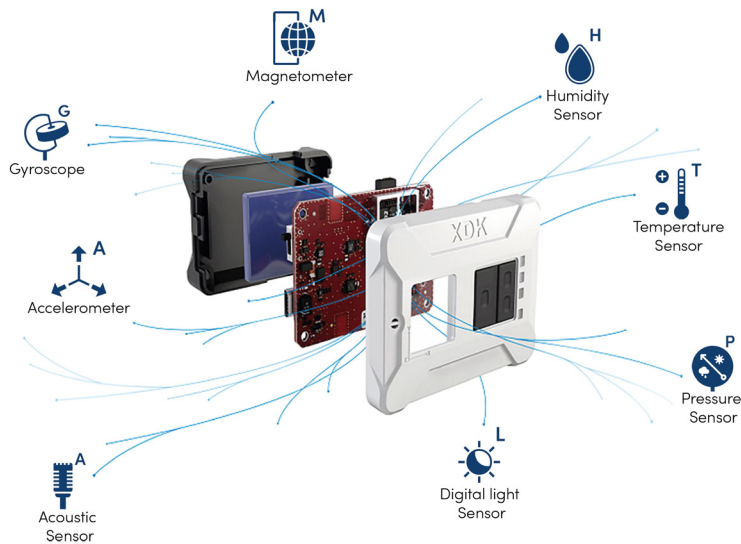


# IIoT Sensor Module with 8 Sensors Bluetooth<sup>®</sup> and Wi-Fi



Actual size: 60 x 40 x 22 mm



- ✓ Enables rapid prototyping and fast transition from prototype to mass production
- ✓ Integrates eight MEMS sensors, Bluetooth, Wi-Fi
- ✓ Software included: XDK Workbench, extensive libraries & modular source code, example firmware for Azure integration

Universal programmable sensor & prototyping platform for any IoT use case you can imagine!

LEGIC XDK110 allows rapid prototyping of securely managed sensor-based applications that support basic to advanced IIoT solutions.

### Powerful IoT prototyping module

All-in-one sensor kit: no need for component selection, hardware assembly, or deployment of a real-time operating system. Kit includes accelerometer, acoustic, light, gyroscopic, humidity, magnetometer, pressure and temperature sensors.

Development environment, algorithm library, example code, secure data protocol and drivers are included. Perfect for short-term proof-of-concept or long-term projects.

### Integration with MS Azure

XDK110 can be securely managed and monitored via the Microsoft Azure cloud platform. Example firmware is included for Azure integration.

### Integration with LEGIC Connect

For applications requiring mobile credentialing, a separate XDK Secure Sensor Evaluation Kit including LEGIC SM-6310 Security Module is available. With it, user interactions with the XDK110 can be securely managed and monitored via the LEGIC Connect end-to-end mobile security platform.

### Off-the-shelf expertise

Need help with your design or mass production? Take advantage of LEGIC's 300+ global Partner Network of Design Houses, System Integrators and OEM Manufacturers.

Our partners are experts in LEGIC technology including end-to-end security, virtual key management and mobile credentialing. They can help you design and bring your IoT sensor solution to production quickly and cost-effectively: [www.legic.com/partners](http://www.legic.com/partners)

## Benefits and features

- All-in-one IoT sensor kit: no need for component selection, hardware assembly, or deployment of a real-time operating system
- Integrated Bluetooth and Wi-Fi
- Algorithm library
- Example code in open source licensing
- Drivers for all system components included
- Secure data protocol
- Built-in lithium ion rechargeable battery
- Functional extendibility via the included mobile credentialing interface extension board
- 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, FCC, IC, IMDA, ACMA, NTC and NBTC certified
- Small form factor: length 60 mm x width 40 mm x height 22 mm; weight 54 g



## Technical data

LEGIC SDK110 IoT Sensor Module	
<b>XDK110 contents</b>	
<ul style="list-style-type: none"> <li>▪ LEGIC XDK110 with 32-Bit microcontroller (ARM Cortex M3), 1 MB Flash, 128 kB RAM, Li-Ion rechargeable 560 mA battery, integrated antennas and extension slot for support of additional functionalities*</li> <li>▪ Breakout-board for easy access to additional MCU functionality</li> <li>▪ Micro USB 2.0 connector cable</li> <li>▪ 10 cm connector cable, mounting plates and screws</li> </ul>	
<b>Software</b>	
Free software download for XDK at <a href="http://www.xdk.io">www.xdk.io</a> <ul style="list-style-type: none"> <li>▪ XDK Workbench integrated development environment for Linux, Mac and Windows</li> <li>▪ Extensive libraries and modular source code to enable developers to fully understand the system</li> <li>▪ Ready-to-use example firmware for MS Azure integration</li> <li>▪ LWM2M communication protocol</li> <li>▪ User Guide</li> </ul>	
<b>User interfaces</b>	
<ul style="list-style-type: none"> <li>▪ Power switch</li> <li>▪ Green system LED to display the state of charging</li> <li>▪ 3 programmable status LEDs (red, orange, yellow)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2 programmable push-buttons</li> <li>▪ Micro SD card slot</li> <li>▪ Interface for J-Link Debug-probe</li> <li>▪ Interface for extension board</li> </ul>
<b>Wireless interfaces</b>	
Bluetooth Wi-Fi	<ul style="list-style-type: none"> <li>▪ V4.0 Bluetooth Low Energy IEEE 802.15.</li> <li>▪ Wireless LAN IEEE 802.11b/g/n SO 14443 A + B</li> </ul>
<b>Measurement ranges</b>	
Accelerometer Gyroscope Magnetic field strength Light sensor Temperature sensor Pressure sensor Humidity sensor	<ul style="list-style-type: none"> <li>▪ ±2 to ±16 g (programmable)</li> <li>▪ ±125 °/s to ±2000 °/s (programmable)</li> <li>▪ ±1300 µT (X,Y-Axis); ±2500 µT (Z-Axis)</li> <li>▪ 0.045 lux to 188,000 lux ; 22-bit</li> <li>▪ -20 °C to 60 °C**</li> <li>▪ 300 to 1100 hPa**</li> <li>▪ 10...90 %rH (non-condensing)**</li> </ul>
<b>Sampling rate</b>	
Accelerometer BMA280 Gyroscope BMG160 Magnetometer BMM150 Hum./Press./Temp. BME280 Inertial Measurement BMI160	<ul style="list-style-type: none"> <li>▪ 2000 Hz</li> <li>▪ 2000 Hz</li> <li>▪ 300 Hz</li> <li>▪ 182 Hz</li> <li>▪ 1600 Hz (Accelerometer)</li> <li>▪ 3200 Hz (Gyroscope)</li> </ul>
<b>Operating conditions***</b>	
Operating voltage Operating current Operating temperature Storage temperature Humidity IP Rating	<ul style="list-style-type: none"> <li>▪ 5.0 V</li> <li>▪ 1.8 µA to 5 mA (sensor and mode dependent)</li> <li>▪ -20 °C to 60 °C, (0 °C to 45 °C for battery charging)</li> <li>▪ -20 °C to 60 °C</li> <li>▪ 10 to 90 %rH (non-condensing)</li> <li>▪ IP 30 (IEC 60529)</li> </ul>

\* Example: LEGIC mobile credentialing extension board

\*\* Limited by XDK operating conditions

\*\*\* Recommended for indoor use only

