



**HEXIWEAR**  
enhanced by NXP

## The complete IoT Development Solution

Based on Kinetis® MCUs, Hexiwear is an optimized, powerful and versatile IoT development solution. A small and sleek, low-power device packed with sensors to quantify yourself and the world around you. Wirelessly enabled, it can connect both to devices nearby or to remote cloud servers.

Developed in collaboration with NXP Semiconductors and funded through Kickstarter, Hexiwear is chiefly aimed at developers who need a complete IoT toolkit – low power yet versatile hardware, compatible smartphone and iOS apps, and cloud connectivity.

It can be used to develop and build devices such as cloud-connected edge nodes, wearable devices, or complex controllers for industrial IoT applications.

### IDEAL DEVELOPMENT PLATFORM FOR:

#### Internet of Things

- Smart World
- Home automation
- Smart Industry

#### Wearables

- Smart watch
- Activity tracker
- Fitness tracker

## Overview

Hexiwear is powered by a Kinetis® K64 microcontroller based on the ARM® Cortex®-M4 core. Another Kinetis® wireless MCU, the KW40Z, provides Bluetooth Low Energy connectivity. Hexiwear also integrates a wide variety of sensors, as well as a user interface consisting of a 1.1" 96px x 96px full color OLED display and six capacitive buttons with haptic feedback.

Full hardware specifications are as follows:

- Main MCU: **NXP Kinetis K64x** [ARM® Cortex®-M4, 120 MHz, 1M Flash, 256K SRAM]
- Wireless MCU: **NXP Kinetis KW4x** [ARM® Cortex®-M0+, Bluetooth Low Energy & 802.15.4 radio]
- 6-axis combo Accelerometer and Magnetometer **NXP FXOS8700**
- 3-Axis Gyroscope: **NXP FXAS21002**
- Absolute Pressure sensor **NXP MPL3115**
- Li-Ion/Li-Po Battery Charger **NXP MC34671**
- Optical heart rate sensor **Maxim MAX30101**
- Ambient Light sensor, Humidity and Temperature sensor
- 1.1" full color OLED display
- Haptic feedback engine
- 190 mAh 2C Li-Po battery
- Capacitive touch interface
- RGB LED



With its click board-compatible Docking Station, Hexiwear becomes infinitely expandable. Hundreds of sensors and transceivers are available.

## Expandability

When used together with its own Docking Station, Hexiwear's core functionality can be enhanced with hundreds of additional sensors, actuators and transceivers of all kinds.

The Hexiwear docking station has three sockets for MikroElektronika click boards™ – an add-on board eco-system comprised of hundreds of boards with a standardized form factor.

The Hexiwear docking station also integrates the openSDA adapter (with DAPLink firmware to support both MCUs), which enables virtual Serial, Flash-programming and several industry standard Debug interfaces, a JTAG debug connector for external probes, a micro-SDHC port, some interrupt buttons and an I2S pinout.

## Smartphone apps and cloud connectivity

The Hexiwear smartphone app (available for Android and iOS) also significantly expands the functionality of the platform. It enables users to remotely access the readings from all of Hexiwear's sensors, and log the data into a cloud.

By registering an account in Hexiwear's smartphone app, users automatically gain access to the WolkSense cloud. The cloud platform has multiple functionalities.

- Logging sensor readings
- Setting up alarms for specified sensor high/low values
- Creating graphic reports for further analysis

## Resources

Product page: [www.hexiwear.com](http://www.hexiwear.com)

User guide: [docs.mikroe.com/hexiwear](http://docs.mikroe.com/hexiwear)

NXP Page: [www.NXP.com/NXPDesigns/Hexiwear](http://www.NXP.com/NXPDesigns/Hexiwear)



A fashion-friendly wearable dev kit – wristbands and protective soft covers in different colors for Hexiwear