

# MicroZed™ Industrial IoT Starter Kit

The Avnet MicroZed™ Industrial IoT Starter Kit supports designers' edge-to-cloud development of Internet-connected solutions and includes all the necessary building blocks for developing a production-ready, IoT-enabled, industrial processing system. The platform is based on Avnet's MicroZed system-on-module (SoM) with Zynq®-7000 All Programmable SoC from Xilinx and pluggable sensor solutions from Maxim Integrated and ST Microelectronics. The kit integrates the IBM Watson IoT agent on top of a custom-configured, certified image of the Wind River® Pulsar™ Linux operating system. The provided out-of-box example design uses a standard MQTT messaging protocol to communicate with Watson IoT, which enables registered, secure connection to additional cloud services and applications, including the IBM Bluemix® portfolio. Bluemix provides a rich palette of composable services to rapidly enhance IoT solutions with cognitive capabilities.

## FEATURES

### Cloud enabled

- Supports IBM Watson Services
- Watson IoT ready

### Production ready, MicroZed 7010 SOM

- Based on Xilinx Zynq-7000 SoC
  - Dual ARM® Cortex™-A9 processing system
  - FPGA logic

### Expandable development platform

- R3 Arduino-compatible shield expansion slot
- Two 2x6 peripheral module expansion slots
- Additional user header providing access to SPI, I2C, UART, and GPIO on MicroZed

### Linux enabled

- Runs Wind River Pulsar Linux
- Eases application development
- Certified binary image

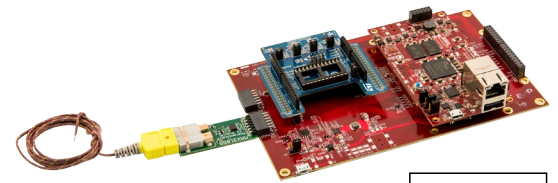
### Connectivity

- 10/100/1000 Ethernet Port
- Optional WILINK8 WiFi/BLE add-on

### Pluggable sensor options

- ST Microelectronics motion MEMS and environmental sensor shield
  - Connects to shield site
  - Six I2C based sensor solutions
    - 3-axis accelerometer + 3-axis gyroscope
    - 3-axis magnetometer
    - Humidity and temperature
    - Pressure
- Maxim Integrated thermocouple-to-digital peripheral module
  - Connects to 2x6 peripheral module
  - SPI-based interface
  - Able to measure temperatures from -270°C to +1800°C
  - Includes K-type thermocouple

To purchase this kit, visit [www.microzed.org](http://www.microzed.org)



## KIT INCLUDES

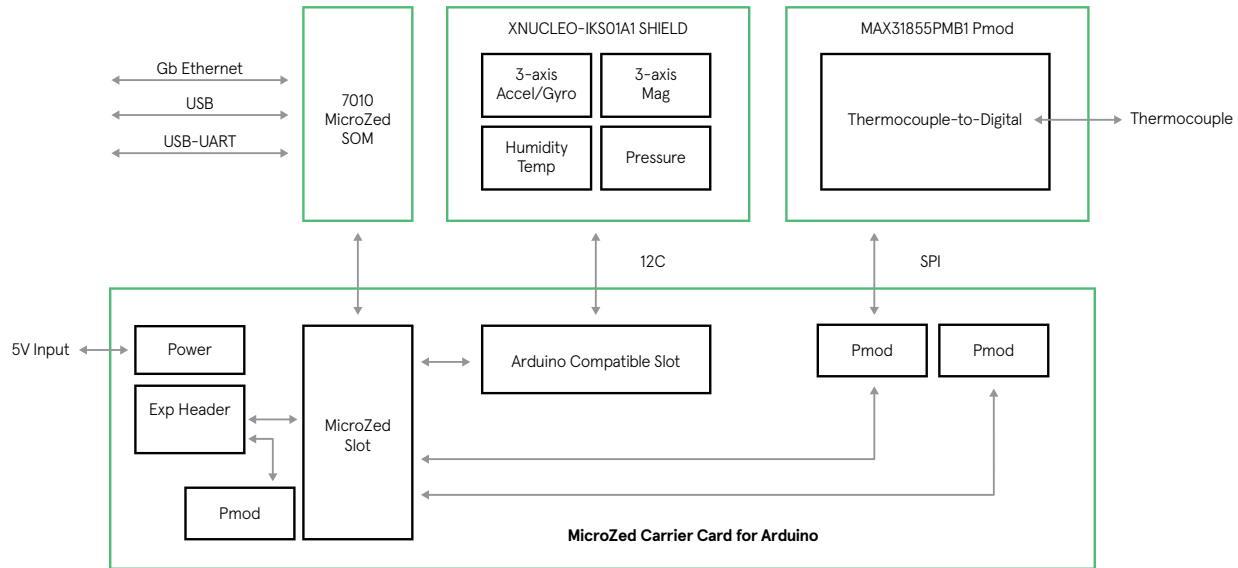
- MicroZed 7010 SOM<sup>1</sup>
- MicroZed Carrier Card for Arduino™
- uSD card pre-loaded with Wind River Pulsar Linux and IIoT example
- ST Microelectronics sensor shield
- Maxim Integrated thermocouple sensor peripheral module
- Ethernet cable
- (2) Micro USB cables
- AC power adapter
- IBM Bluemix Services free trial offer
- Quick start card

## TARGET APPLICATIONS

- Factory Automation
- Building Automation
- Smart City
- Smart Agriculture
- Test and Measurement

1. The AES-Z7MB-IIOT-UP-G kit does not include the MicroZed 7010 SOM and is intended for developers that already have a MicroZed SOM or want to target the larger 7020 version.  
2. Although not required for development, a JTAG programming cable is recommended for enhanced debugging and Zynq programming. See related parts for ordering information.

## BLOCK DIAGRAM



## FEATURED MANUFACTURERS



## PARTS

Part Number	Description	Pricing
AES-Z7MB-IIOT-SK-G	MicroZed IloT Starter Kit	See online catalog*
AES-Z7MB-IIOT-UP-G	MicroZed IloT Upgrade Kit	

## RELATED PARTS

Part Number	Description	Pricing
210-299P-KIT	JTAG Programming/Download Cable (HS3)	See online catalog*
AES-Z7MB-7Z010-SOM-G	MicroZed 7010 SOM	
AES-Z7MB-7Z020-SOM-G	MicroZed 7020 SOM	
AES-Z7MB-7Z010-SOM-I-G	MicroZed 7010 SOM - Ind. Temp	
AES-Z7MB-7Z020-SOM-I-G	MicroZed 7020 SOM - Ind. Temp	
AES-PMOD-WILINK8-G	WiLink™ 8 Wi-Fi and BT/BLE Pmod Adaptor	
WL1837MODCOM8I	WiLink™ 8 Dual Band 2.4 and 5 GHz Wi-Fi® + Bluetooth® COM8 Evaluation Module	

Countries Available for Purchase: Americas, EMEA, Asia, Japan

\*VISIT ONLINE CATALOG: [WWW.AVNET.COM](http://WWW.AVNET.COM)

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