WISE-4470-S250

3G IoT Wireless Senosr Node with 6-ch DI, 2-ch DO, and 1-port RS-485

NEW

CE

Features

- Application-ready I/O combination with internal antenna
- Wide coverage of 3G frequency bands from 800 to 2100MHz
- Supports multiple cellular technologies including GSM, GPRS & HSPA
- Fast and easy deployment to reduce operation cost
- Data logger function with RTC reducing data lost
- Data can be automatically pushed to cloud service
- Supports RESTful web API in JSON format for IoT integration

Introduction

The WISE-4470 series is a 3G cellular-based IoT device, and features a built-in antenna that provides flexible installation. As well as various I/O types, the WISE-4470 series provides data logger and direct cloud connectivity functions. The data can be published to the cloud by MQTT or RESTful web service with security socket.

Features

Data Logger

The WISE-4470 can log up to 10,000 samples of data with time stamp. The I/O data can be logged periodically, and also when the I/O status changes. Once the memory is full, users can choose to overwrite the old data to ring log or just stop the log function.

Cloud Storage

Data logger can push the data to file-based cloud services using pre-configured criteria. With RESTful API, the data can also been pushed to a private cloud server in the format of JSON. Users can setup their private cloud server using the provided RESTful API and their own platform.


RESTful Web Service and MQTT with Security Socket

WISE-4470 series supports IoT communication protocol, RESTful web service and MQTT. Data can be pushed automatically from the WISE-4470 when the I/O status is changed. The I/O status can be retrieved by internet media types like JSON. The WISE-4470 also supports HTTPS which has security that can be used in a Wide Area Network (WAN).

MQTT Protocol with Security Socket

WISE-4470 series leverages MQTT - a publish/subscribe messaging protocol for constrained IoT devices in low-bandwidth, high-latency, or unreliable networks - to communicate directly with the cloud without a gateway or converter. With this device-to-cloud architecture, lite payload, and low bandwidth, the WISE-4470 is the ideal solution for high-volume data collection applications because it can simplify the communication and hardware complexity of IoT systems.
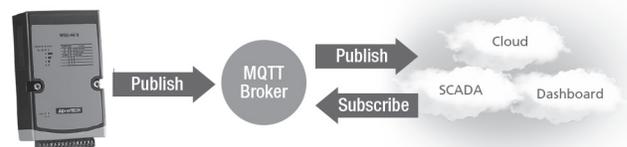
Azure IoT Hub Support

To provide complete IoT sensing solution, the WISE-4470 series goes beyond providing a wireless communication interface for sensors - it also provides cloud connectivity for additional user applications. With support HTTPS and integrat APIs for Azure IoT Hub, the WISE-4470 series can automatically push data to the cloud without any IoT gateway needed.

ADVANTECH | **Wireless IoT Sensing Devices**

Specifications

Wireless Communication

- **3GPP Standards** GSM/GPRS/HSPA
- **Frequency Band**
  GSM/GPRS/EDGE: 850, 900, 1800, 1900MHz
  UMTS/HSPA: 900, 2100MHz
- **SIM Card Type** Micro SIM (3FF)
- **Antenna Type** Internal

General

- **Power Input** 10~50V_{DC} external power
- **Configuration Interface** Micro-B USB
- **Connector** Plug-in screw terminal block (I/O and power)
- **LED Indicator** Status, Error, Tx, Rx, Signal Level
- **Mounting** DIN 35 rail, wall, pole, and stack
- **Dimension (W x H x D)** 70 x 112 x 38 mm

Digital Input

- **Channels** 6 (Dry Contact)
- **Supports 3 kHz frequency input or 32-bit counter input**

Digital Output

- **Channels** 2 (Open collector to 30V_{DC}, 100mA$_{max}$)
- **Supports 5 kHz pulse output**

Serial Port

- **Port Number** 1
- **Type** RS-485
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even
- **Baud Rate (bps)** 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
- **Protocol** Modbus/RTU
  (Total 32 addresses by 8 max. instructions)

Environment

- **Operating Temperature** -25 ~ 70°C (-13~158°F)
- **Storage Temperature** -40 ~ 85°C (-40~185°F)
- **Operating Humidity** 20 ~ 95% RH (non-condensing)
- **Storage Humidity** 0 ~ 95% RH (non-condensing)

Pin Assignment
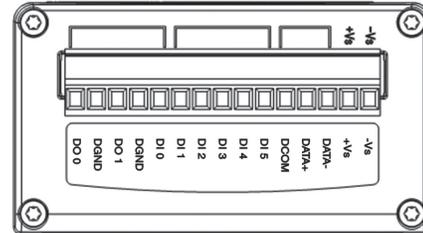
Ordering Information

- **WISE-4470-S250CA** 3G IoT WSN with 6DI, 2DO, RS-485 - HSPA+900/2100

Selection Table

Model Name	IP-rated	Analog Input	Digital Input	Digital Output	RS-485	RS-232/RS-485
WISE-4470-S250	No		6	2	1	
WISE-4470-S214	No	4	4			
WISE-4470-S472	IP65		1		1	1
WISE-4470-S414	IP65	4				

Accessories

- **PWR-242-AE** DIN-rail Power Supply (2.1A Output Current)
- **PWR-243-AE** Panel Mount Power Supply (3A Output Current)
- **PWR-244-AE** Panel Mount Power Supply (4.2A Output Current)

Dimensions

Unit: mm

Front View

Side View

Mounting Kit