WISE-4470-S250

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

NEW

Features

- Application-ready I/O combination with internal antenna
- Wide 3G coverage from 800 to 2100 MHz
- Supports multiple cellular technologies including GSM, GPRS, and HSPA
- Fast and easy deployment reduces operating cost
- Data logger with RTC minimizes data loss
- Data can be automatically pushed to a cloud service
- Supports RESTful web API in JSON format for IoT integration

CE

Introduction

The WISE-4470 series is a 3G cellular-based IoT device featuring a built-in antenna for flexible installation. In addition to offering various I/O types, the WISE-4470 series provides a data logger and direct cloud connectivity. Data can be published to the cloud via MQTT or RESTful web service with secure socket.

Features

Data Logger

The WISE-4470 can log up to 10,000 samples of data with time stamping. I/O data can be logged periodically or in the event of an I/O status change. Once memory is full, users can choose to either overwrite old data with circular logging or simply disable the log function.

Cloud Storage

The data logger can push data to file-based cloud services according to pre-configured criteria. With the RESTful API, data can also been pushed to a private cloud server in JSON format. In addition to customizing their own platform, users can set up their private cloud server using the provided RESTful API.
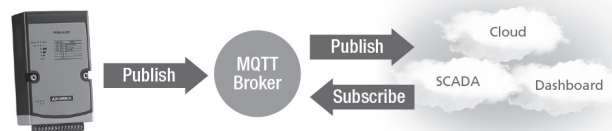

RESTful Web Service and MQTT with Security Socket

The WISE-4470 series supports IoT communication protocols, RESTful web service, and MQTT. Data can be pushed automatically from the WISE-4470 when the I/O status changes. The I/O status can be retrieved via media types such as JSON format. The WISE-4470 also supports HTTPS, which offers security for use in a wide area network (WAN).

MQTT Protocol with Security Socket

The WISE-4470 series leverages MQTT—a publish/subscribe messaging protocol for constrained IoT devices in low-bandwidth, high-latency, or unreliable networks—to enable direct communication with the cloud without needing a gateway or protocol 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 a complete IoT sensing solution, the WISE-4470 series goes beyond being a wireless communication interface for sensors—it also provides cloud connectivity for additional user applications. With support for HTTPS and integrated APIs for Azure IoT Hub, the WISE-4470 series can automatically push data to the cloud without requiring an IoT gateway.

ADVANTECH | **Wireless IoT Sensing Devices**

All product specifications are subject to change without notice.   Last updated: 18-Sep-2018

Specifications

Wireless Communication

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

General

- **Power Input**   10~50 V_{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$_{max}$)
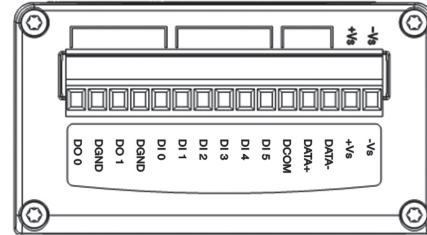- **Supports 5 kHz pulse output**

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