Introduction

The WISE-4000 series is an Ethernet-based wireless IoT device, integrated with IoT data acquisition, processing, and publishing functions. As well as various I/O types, the WISE-4000 series provides data pre-scaling, data logic, and data logger functions. These data can be accessed via mobile devices and be securely published to the cloud anytime from anywhere.

Features

- **IEEE 802.11 b/g/n 2.4GHz Wi-Fi with AP Mode**
  The Wi-Fi interface is easily integrated with wired or wireless Ethernet devices, users only need to add a wireless router or AP to extend existing Ethernet network to wireless. The limited AP mode enables the WISE-4000 to be accessed via other Wi-Fi devices directly as an AP.

**HTML5 Web Configuration Interface**

All the configuration interfaces are applied in web service, and the web pages are based on HTML5, so users can configure the WISE-4000 without the limitation of OS/devices. You can use your mobile phone or tablet to directly configure the WISE-4000.

**RESTful Web Service with Security Socket**

As well as supporting Modbus/TCP, the WISE-4000 series also supports IoT communication protocol, RESTful web service. Data can be polled or even be pushed automatically from the WISE-4000 when the I/O status is changed. The I/O status can be retrieved over the web using JSON. The WISE-4000 also supports HTTPS which has security that can be used in a Wide Area Network (WAN).

**Data Storage**

The WISE-4000 can log up to 10,000 samples of data with a 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 like Dropbox using pre-configured criteria. With RESTful API, the data can also be 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.
Specifications

Universal Input
- Channels: 4
- Resolution: 16-bit
- Sampling Rate:
  - Analog Input: 10Hz (Total)
  - Digital Input: 2Hz (Per Channel)
- Accuracy:
  - ±0.1% of FSR (Voltage)
  - ±0.2% of FSR (Current)
- Input Type and Range
  - Analog Input:
    - ±150mV, ±500mV, ±1V, ±5V, ±10V,
    - 0~150mV, 0~500mV, 0~1V, 0~5V, 0~10V,
    - 0~20mA, 4~20mA, ±20mA
  - Digital Input (Dry Contact):
    - 0: Open, 1: Close
- Input Impedance:
  - > 10MΩ (Voltage)
  - 120Ω (External resistor for current)
- Over Voltage Protection: ±35 VDC
- Burn-out Detection: Yes (4~20mA only)
- Supports Data Scaling and Averaging

Digital Output
- Channels: 2
  - (Open collector to 30 V, 400 mA max. for resistance load)
- Isolation: 3,000 Vrms
- Supports 5 kHz Pulse Output
- Supports High-to-Low and Low-to-High Delay Output

General
- WLAN: IEEE 802.11b/g/n 2.4GHz
- Outdoor Range: 110 m with line of sight
- Connectors: Plug-in screw terminal block (I/O and power)
- Watchdog Timer: System (1.6 second) and Communication (programmable)
- Certification: CE, FCC, R&TTE, NCC, SRRC, RoHS, KC
- Dimensions (W x H x D): 80 x 148 x 25 mm
- Enclosure: PC
- Mounting: DIN 35 rail, wall, and stack
- Power Input: 10 ~ 30 VDC
- Power Consumption: 2.5 W @ 24 VDC
- Power Reversal Protection
- Supports User Defined Modbus Address
- Supports Data Log Function: Up to 10000 samples with RTC time stamp
- Supported Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, and HTTP

Ordering Information
- WISE-4012-AE: 4-ch Universal Input and 2-ch Digital Output IoT Wireless I/O Module

Selection Table

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Universal Input</th>
<th>Digital Input</th>
<th>Digital Output</th>
<th>Relay Output</th>
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Accessories
- PWR-242-AE: DIN-rail Power Supply (2.1A Output Current)
- PWR-244-AE: Panel Mount Power Supply (4.2A Output Current)

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

Dimensions
- Unit: mm

Accessories
- DIN-rail Power Supply (2.1A Output Current)
- Panel Mount Power Supply (3A Output Current)
- Panel Mount Power Supply (4.2A Output Current)