**Introduction**

The WISE-4051 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-4051 provides data pre-scaling, data logic, and data logger functions. 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.

**Modbus/RTU to Web Service or Modbus/TCP**

The RS-485 port of the WISE-4051 supports Modbus, which can be used to poll the data from Modbus/RTU devices, like ADAM-4000, or ADAM-5000/485. Then you can access the data by Modbus or REST from the WISE-4051. The data can also be logged.

**RESTful Web Service with Security Socket**

As well as supporting Modbus/TCP, the WISE-4051 series also supports IoT communication protocol, RESTful web service. Data can be polled or even be pushed automatically from the WISE-4051 when the I/O status is changed. The I/O status can be retrieved over the web using JSON. The WISE-4051 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

**Digital Input**
- **Channels**: 8
- **Logic Level**:
  - Dry Contact: 0: Open
  - Close to DCOM
  - Wet Contact: 0: 0 ~ 3 VDC
  - 1: 10 ~ 30 VDC (3 mA min.)
- **Isolation**: 3,000 Vrms
- **Supports 3 kHz Counter Input (32-bit + 1-bit overflow)**
- **Keep/Discard Counter Value when Power-off**
- **Supports 3 kHz Frequency Input**
- **Supports Inverted DI Status**

**Serial Port**
- **Port Number**: 1
- **Type**: RS-485
- **Serial Signal**:
  - DATA+, DATA-
- **Data Bits**: 7, 8
- **Stop Bits**: 1, 2
- **Parity**: None, Odd, Even
- **Baud Rate**: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
- **Protection**: 15 kV ESD
- **Protocol**: Modbus/RTU (Total 32 address by max. 8 instructions)

**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
- **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**: 2.2 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
- **Supports RESTful Web API in JSON format**
- **Supports Web Server in HTML5 with JavaScript & CSS3**
- **Supports System Configuration Backup and User Access Control**

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

**Ordering Information**
- **WISE-4051-AE**: 8-ch Digital Input IoT Wireless I/O Module with RS-485 Port

**Selection Table**

<table>
<thead>
<tr>
<th>Model</th>
<th>Universal Input</th>
<th>Digital Input</th>
<th>Digital Output</th>
<th>Relay Output</th>
<th>RS-485</th>
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**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