

# WISE-4051

## 8-ch Digital Input IoT Wireless I/O Module with RS-485 Port



### Main Features

- 8-ch digital input with 1-port RS-485 for Modbus devices
- 2.4GHz Wi-Fi reducing the wiring cost during big data acquisition
- Easily extend the existing network by adding APs, and share existing Ethernet software
- Configured by mobile devices directly without installing any software or Apps
- Zero data loss using the log function with RTC time stamp
- Data can be automatically pushed to Dropbox or computer
- Supports RESTful web API in JSON format for IoT integration

**PRELIMINARY**



### 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 published to the cloud with security at anytime and 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-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 by internet media types like 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

### Digital Input

- **Channels** 8
- **Logic Level**
  - Dry Contact 0: Open
  - 1: Close to DCOM
  - Wet Contact 0: 0 ~ 3 V<sub>DC</sub>
  - 1: 10 ~ 30 V<sub>DC</sub> (3 mA min.)
- **Isolation** 3,000 V<sub>rms</sub>
- **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, (bps) 38400, 57600, 115200
- **Protection** 15 kV ESD
- **Protocol** Modbus/RTU (Total 32 address by max. 8 instructions)

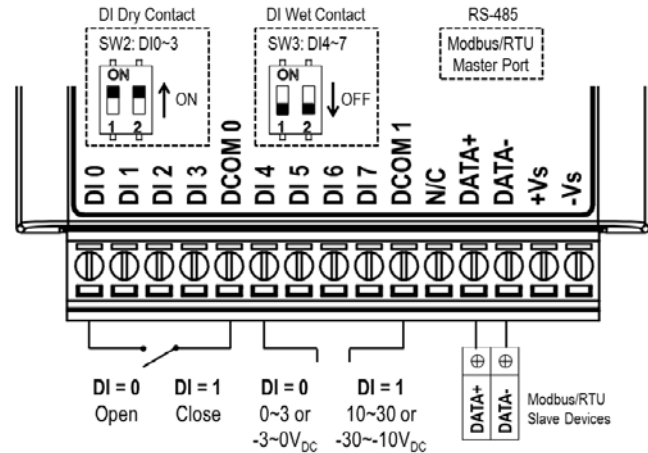
### General

- **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 V<sub>DC</sub>
- **Power Consumption** 2.2 W @ 24 V<sub>DC</sub>
- **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** 20 ~ 95% RH (non-condensing)
- **Storage Humidity** 0 ~ 95% RH (non-condensing)

## Pin Assignment



## Ordering Information

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

### Selection Table

Model Name	Universal Input	Digital Input	Digital Output	Relay Output	RS-485
WISE-4012	4		2		
WISE-4050		4	4		
WISE-4051		8			1
WISE-4060		4		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

