WISE-4000 Series

IoT Wireless I/O Module

Main Features

- 2.4 GHz IEEE 802.11b/g/n WLAN
- Supports both wireless client and server modes that can be accessed directly without AP or router
- Supports mobile device web configuration with HTML5 without the platform limitation
- Supports file-based cloud storage (preliminary) and local logging with RTC time stamp
- Supports RESTful web API in JSON format for IoT integration
- Supported Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, HTTP
- Supports 10~30VDC power with reverse protection
- Supports 3000 Vrms isolation protection with dual watchdog timer for system and communication

Introduction

The WISE-4000 series provide a cost-effective wireless solution for cloud applications. By supporting direct cloud access, new web services and datalogs, the WISE-4000 series can seamlessly connect to the cloud for a wireless solution.

Specifications

Universal Input

- **Channel** WISE-4012: 4
- **Resolution** 16-bit
- **Sampling Rate** 10/100 Hz (Total)
- **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 to GND
- **Input Impedance** > 10MΩ (Voltage)
  100Ω (Current)
- **Over Voltage Protection** ±35 V_{DC}
- **Burn-out Detection** Yes (4~20 mA only)
- **Supports Data Scaling and Averaging**

Digital Input

- **Channels** WISE-4050: 4
  WISE-4060: 4
- **Logic level** Dry Contact 0: Open
  1: Close to DI COM
  Wet Contact 0: 0 ~ 3 V_{DC} (0.8 mA max.)
  1: 10 ~ 30 V_{DC} (3 mA min.)
- **Isolation** 3,000 V_{rms}
- **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**

Digital Output

- **Channels** WISE-4012: 2
  WISE-4050: 4
  (Open collector to 30 V, 500 mA max. for resistance load)
- **Isolation** 3,000 V_{rms}
- **Supports 1 kHz Pules Output**
- **Supports High-to-Low and Low-to-High Delay Output**

Relay Output

- **Channels** WISE-4060: 4 (Form A)
- **Contact Rating** 250 V_{AC} @ 5 A
  (Resistive Load) 30 V_{DC} @ 3A
- **Isolation (b/w coil & contacts)** 3,000 V_{rms}
- **Relay On Time** 10 ms
- **Relay Off Time** 5 ms
- **Insulation Resistance** 1 GΩ min. @ 500 V_{DC}
- **Maximum Switching** 60 operations/minute
- **Supports Pulse Output**
- **Supports High-to-Low and Low-to-High Delay Output**

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)

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_{DC}
- **Power Consumption** WISE-4012: 2.0 W @ 24 V_{DC}
  WISE-4050: 2.2 W @ 24 V_{DC}
  WISE-4060: 2.5 W @ 24 V_{DC}
- **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**

Ordering Information

- **WISE-4012** (Preliminary Specification) 4-ch Universal Input and 2-ch Digital Output IoT Wireless I/O Module
- **WISE-4050** 4-ch Digital Input and 4-ch Digital Output IoT Wireless I/O Module
- **WISE-4060** 4-ch Digital Input and 4-ch Relay Output IoT Wireless I/O Module

Selection Table

Model Name	Universal Input	Digital Input	Digital Output	Relay Output
WISE-4012	4		2	
WISE-4050		4	4	
WISE-4060		4		4