


# WISE-5800

User-defined I/O & Data Logger Module
for Modbus RTU or DCON Devices

## Features

- Built-in Web Server for IF-THEN-ELSE rule setting
- Built-in IF-THEN-ELSE rule engine for logic operation
- No more programming. Click and get done!
- Support I/O, Counter, Timer, Email, Recipe operations
- Data logger and data files send back function supported
- Modbus TCP/RTU Protocol for SCADA Software Seamless Integration
- Support XW-Board
- Support I-7000 Remote I/O Modules(Up to 16)
- Support Modbus RTU Slave Devices(Up to 10)
- SNTP Time Synchronization Supported

## Introduction

WISE (Web Inside, Smart Engine) is a product series developed by ICP DAS that functions as control units for use in remote logic control and monitoring in various industrial applications. WISE offers a user-friendly and intuitive web site interface that allows users to implement IF-THEN-ELSE control logic on controllers just a few clicks away; no programming is required. With its powerful and easy-to-use features, it will minimize the learning curve, shorten time to market and dramatically reduce the labor and cost spent on system development.

WISE-5800 supports an I/O expansion bus to implement various I/O functions such as D/I, D/O, A/D and D/A according to the XW-Board. In addition, WISE-5800 also support ICP DAS I-7000/M-7000 remote I/O modules and Modbus RTU slave devices. Based on the variety I/O module of I-7000/M-7000 and the connection ability with Modbus RTU slave devices, WISE-5800 can provide user more flexibility in application field.

WISE-5800 supports Modbus TCP/RTU protocol to make seamless integration with SCADA software available. It include all advantages which WISE series controllers can provide. In addition, WISE-5800 provide data logger function with microSD card, it can record I/O channel value by event trigger or regular time period. The data files can be sent back by Email or FTP. All setting can be completed through browser.

## Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment, etc.

## System Specifications

| | |
|---|---|
| **System** | |
| CPU | 16-bit CPU |
| SRAM | 768KB |
| Flash Memory | 512KB |
| EEPROM | 16 KB |
| NVRAM | 31 Bytes |
| microSD Expansion | Support 1G/2G/4G/8G/16G/32G microSD card |
| RTC (Real Time Clock) | Provide second, minute, hour, date of week, month and year |
| Watchdog | Yes |
| **Communication** | |
| Ethernet | RJ-45 x 1, 10/100 Base-TX (Auto-negotiating, Auto MDI/MDI-X) |
| COM 1 | RS-232 (TxD, RxD, RTS, CTS, GND), non-isolated, Speed: 115200 bps max. |
| COM 2 | RS-485 (D2+, D2-), self-tuner ASIC inside, non-isolated, Speed: 115200 bps max. |
| **LED Indicators** | |
| System LED | L1 (Flash Red: System is in normal status);<br>L2 (Green: The microSD card is in normal status and the connection to WISE is OK (for firmware v2.5.5 or later version only)) |
| Ethernet Link LED | Yes (Green: Ethernet link detected, Flashing Green: Ethernet packet received) |
| **Hardware Expansion** | |
| I/O Expansion Bus | Yes |
| **Power Requirements** | |
| Protection | Power Reverse Polarity Protection |
| Frame Ground | Yes (for ESD Protection) |
| Input Range | 12 to 48 $V_{DC}$ |
| Redundant Power Input | Yes |
| Power Consumption | 2.0 W |
| **Mechanical** | |
| Dimensions (W x H x D) | 91 mm x 132 mm x 52 mm |
| Installation | DIN-Rail |
| **Environmental** | |
| Operating Temperature | -25 °C to +75 °C |
| Storage Temperature | -30 °C to +80 °C |
| Humidity | 10 to 90% RH, non-condensing |







LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

## Software Specifications

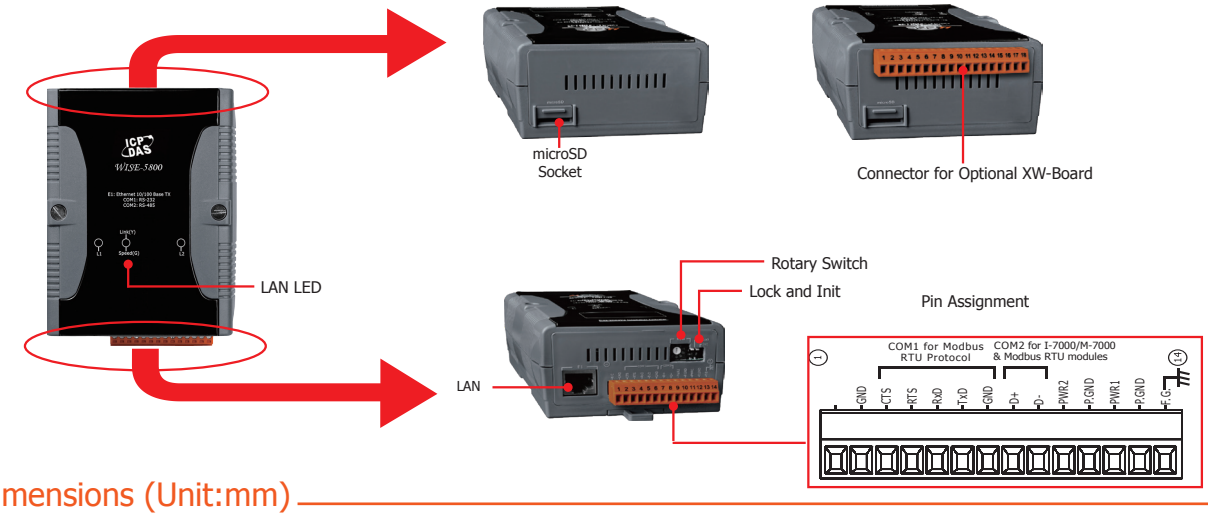
| Functions | |
|---|---|
| Rule Configuration Website | Access Web server on WISE controllers to edit and upload logic rules through web browser. |
| 36 IF-THEN-ELSE Logic Rules | 3 IF conditions with AND or OR operators<br>3 THEN actions and 3 ELSE actions |
| 48 Internal Registers | Hold temporary variables and read/write data via Modbus/TCP address. |
| 12 Timers | Delay / Timing functions. |
| 12 Schedules | Setup prescheduled routine tasks. |
| 12 Emails | Send Email messages to pre-set Email receivers. |
| 12 CGI Commands | Send pre-set CGI commands. |
| 12 Recipes | Set up THEN/ELSE action groups. |
| Data Logger | Set up the Data Logger configuration, include the data record format, and data file sending operation. |
| Modbus TCP/RTU Protocol | Real time control and monitoring I/O channels and system status of controllers via SCADA software. |

| IF Conditions | |
|---|---|
| DI Channel | ON, OFF, ON to OFF, OFF to ON, Change |
| AI Channel | =, >, <, >=, <= (value) |
| Internal Register | |
| DI Counter | =, >, <, >=, <= (value), Change |
| Timer | Timeout, Not Timeout |
| Schedule | In Range, Out of Range |
| Rule Status | Enable, Disable |

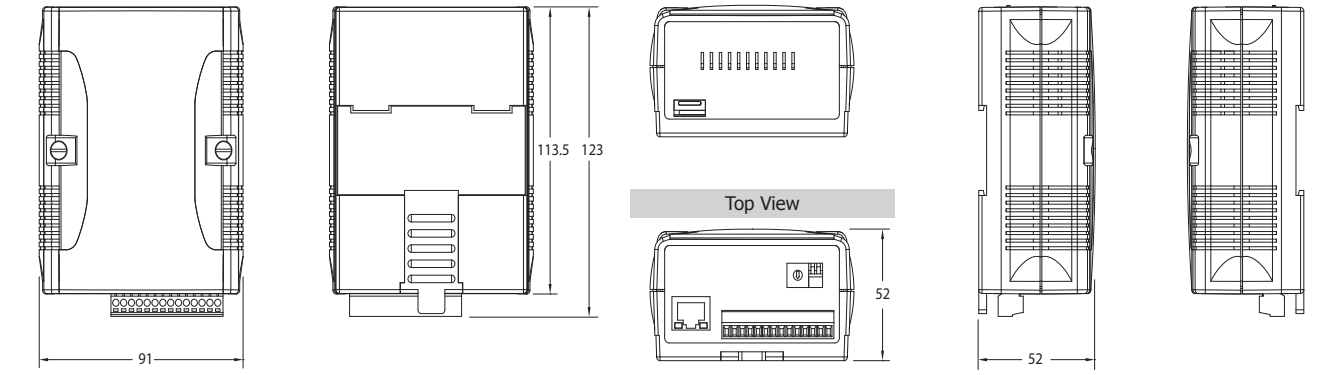
WISE
IF-THEN-ELSE
Rule Engine

| THEN / ELSE Actions | |
|---|---|
| DO Channel | ON, OFF, Pulse Output( apply to XW-Board only) |
| AO Channel | Change the value |
| Internal Register | |
| DI Counter | Reset |
| Timer | Start, Reset |
| Schedule | Enable, Disable |
| Email | Send |
| CGI Commands | |
| Recipe | Execute |
| Data Logger | Start, Stop, One-Time Log |
| Rule Status | Enable, Disable |

## Appearance




## Dimensions (Unit:mm)




Front View | Rear View | Top View | Bottom View | Left Side View | Right Side View

## Ordering Information

| | |
|---|---|
| **WISE-5800 CR** | User-defined I/O & Data Logger Module for Modbus RTU or DCON Devices |

## Accessories

| | |
|---|---|
| **NS-205 CR** | Unmanaged 5-Port Industrial Ethernet Switch (RoHS) |
| **MDR-20-24 CR** | 24V/1A, 24 W Power Supply with DIN-Rail Mounting (RoHS) |
| **DIN-KA52F CR** | 24V/1.04A, 25 W Power Supply with DIN-Rail Mounting (RoHS) |
| **3LMSD-4000 CR** | 4 GB microSD card (RoHS) |


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000