WISE (Web Inside, Smart Engine)

Ethernet I/O Modules

WISE-7167

8-Channel Power Relay Output PoE Module

Relay Output

Features

- Built-in Web Server for IF-THEN-ELSE rule setting
- Built-in IF-THEN-ELSE rule enigne for logic operation
- No more programming. Just click and get done!
- Support IO, Counter, Timer, Email operations
- Modbus/TCP Protocol for SCADA Software Seamless Integration
- IEEE 802.3af-compliant Power over Ethernet (PoE)
- 10/100 Base-TX Ethernet
- 2-way Isolation/ESD Protection
- DO Type: 8 Power Relay (Form A)

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 effort and cost spent on system development.

WISE-7167 follows IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) specification. It allows receiving power from PoE enabled network by Ethernet pairs (Category 5 Ethernet cable). This feature provides greater flexibility and higher efficiency therefore simplifying systems design, saving space, reducing cables and eliminating the requirement for dedicated electrical outlets. Meanwhile, in case under a non-PoE environment, WISE-7167 will still be able to receive power from auxiliary power sources like AC adapters or battery, etc.

This module WISE-7167 supports Modbus/TCP protocol to make seamless integration with SCADA software available. It features 8-channel power relay outputs. Each power relay supports contact rating as 5 A @ 250 VAC or 5 A @ 30 VDC.

WISE-71xx Series (Web based PoE)

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote diagnosis and Testing Equipment, etc.

I/O Specifications

Relay Output		
Output Channels		8
Output Type		Power Relay, Form A (SPST N.O.)
Operating Voltage Range		250 VAC/30 VDC
Max. Load Current		5.0A/channel at 25 °C
Operate Time		6 ms
Release Time		3 ms
Electrical Life (Resistive Load)	VDE	5A 250 VAC 30,000 ops (10 ops/minute) at 75 °C
		5A 30 VDC 70,000 ops (10 ops/minute) at 75 °C
	UL	5A 250 VAC/30 VDC 6,000 ops.
		3A 250 VAC/30 VDC 100,000 ops.
Mechanical Life		20,000,000 ops. at no load (300 ops./minute)

System Specifications

System	
CPU	16-bit CPU
SRAM	512 KB
Flash Memory	512 KB
EEPROM	16 KB
Dual Watchdog	Yes
Communication	
PoE Ethernet Port	10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X
2-Way Isolation	
Ethernet	1500 VDC
Relay Output	3000 Vrms
LED Indicators	
PoE	PoE On
L1	Run
L2	Link/Act
L3	10/100M
Power Requirements	
IEEE 802.3af	Class 1
Required Supply Voltage	Powered by Power over Ethernet (PoE) or auxiliary power +12 VDC ~ +48 VDC (non-regulated)
LED Indicator	Yes
Power Consumption	0.14 A @ 24 VDC Max.
Mechanical	
Dimensions (W x H x D)	72 mm x 123 mm x 35 mm
Installation	DIN-Rail or Wall mounting
Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +80 °C
Humidity	5 ~ 90% RH, non-condensing

WISE-7167

Software Specifications

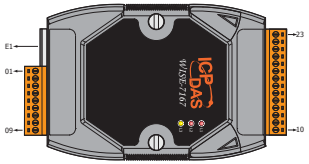
Functions	
Rule Configuration Website	Access Web server on WISE controllers to edit and upload logic rules through web browser.
36 IF-THEN-ELSE Logic Rules	3 IF conditions with AND or OR operators 3 THEN actions and 3 ELSE actions
48 Internal Registers	Hold temporary variables and read/write data via Modbus/TCP address.
12 Timers	Delay / Timing functions.
12 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.
8 P2P remote modules	Set up the connection information for the remote WISE modules.
Modbus/TCP Protocol	Real time control and monitoring I/O channels and system status of controllers via SCADA software.

IF Conditions	
Internal Register	= · > · < · >= · <=(value)
DO Counter	= · > · < · >= · <=(value) · Change
Timer	Timeout · Not Timeout
P2P	DI · AI · DI counter · DO counter · IR
Rule Status	Enable · Disable

THEN / ELSE Actions	
DO Channel	ON · OFF · Pulse Output
Internal Register	Change the value
DO Counter	Reset
Timer	Start · Stop
Email	Send
CGI Commands	
Recipe	Execute
P2P	DO(On/Off) · AO · IR
Rule Status	Enable · Disable

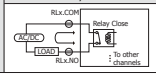
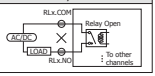
Pin Assignment

Terminal No.	Pin Assignment
E1	RJ-45
01	RL6 NO
02	RL6 COM
03	RL7 NO
04	RL7 COM
05	N/A
06	N/A
07	N/A
08	(R)+Vs
09	(B)GND

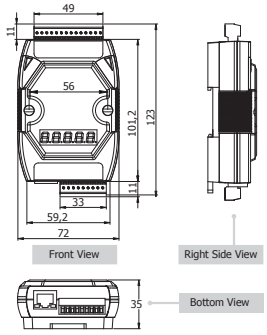


Terminal No.	Pin Assignment
23	RL5 COM
22	RL5 NO
21	RL4 COM
20	RL4 NO
19	RL3 COM
18	RL3 NO
17	RL2 COM
16	RL2 NO
15	RL1 COM
14	RL1 NO
13	RL0 COM
12	RL0 NO
11	N/A
10	N/A

Wire Connection

Digital Output	Readback as 1	Readback as 0
	Relay On	Relay Off
Relay Output		

Dimensions (Unit: mm)



Ordering Information

WISE-7167	8-Channel Power Relay Output PoE Module (RoHS)

Accessories

GPSU06U-6	24V/0.25A, 6 W Power Supply
MDR-20-24	24V/1A, 24 W Power Supply with DIN-Rail Mounting
NS-205 CR	Unmanaged 5-Port Industrial Ethernet Switch (RoHS)
NS-205PSE CR	Unmanaged 5-Port Industrial PoE Ethernet Switch (RoHS)