



WISE-7555M

WISE I/O Module with 8-channels DI, 8-channels DO and 2-port Ethernet Switch

Features

- Runs on browsers, no extra software tool is required.
- No more programming, Web pages provided for control logic editing.
- IF-THEN-ELSE logic rules execution ability.
- Built-in I/O
DI: 8 Channels; DO: 8 Channels
- Support I/O Monitoring/Control, Counter, Timer, Email sending and CGI Command sending operations.
- Modbus TCP Protocol for SCADA System Integration.
- IEEE 802.3af-compliant Power over Ethernet (PoE).
- 2-port Ethernet Switch for Daisy-Chain Topology.
- Support Schedule operation
- MQTT Protocol for IT & IoT (Internet of Things) System Integration.



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 controller 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-7555M provides 8 Dry/wet contact digital input channels and 8 source-type digital output channels. It features optical isolation for 2500 VDC of transient overvoltage protection but doesn't provide channel-to-channel isolation. It can safely be used in applications where hazardous voltages are present. WISE-7555M follows IEEE 802.3af-compliant Power over Ethernet (PoE) specification. It allows receiving power from PoE enabled network by Ethernet pairs. In addition to this, WISE-7555M also has a built-in two-port Ethernet switch to implement daisy-chain topology. The cabling is much easier and total costs of cable and switch are significantly reduced.

By integrating with IF-THEN-ELSE rule engine, WISE-7555M provides powerful functions such as I/O Monitoring/Control, Counter, Timer, Schedule, E-mail sending & CGI Command sending for use in various industrial applications. WISE-7555M also supports Modbus TCP and MQTT protocols to make seamless integration with SCADA, IT and IoT (Internet of Things) system.

I/O Specifications

Digital Input/Counter		
Channels		8
Contact		Dry +Wet
Sink/Source (NPN/PNP)		Dry: Source Wet: Sink/Source
Wet Contact	On Voltage Level	+10 Vdc to +50 Vdc
	Off Voltage Level	+4 Vdc Max.
Dry Contact	On Voltage Level	Close to GND
	Off Voltage Level	Open
Input Impedance		10 kΩ
Counters	Max. Count	16-bit (65535)
	Max. Input Frequency	50 Hz
	Min. Pulse Width	10 ms
Overvoltage Protection		+70 Vdc
Effective Distance		500 M Max.
Digital Output		
Channels		8
Type		Isolated Open Collector
Sink/Source (NPN/PNP)		Source
Max. Load Current		650 mA/channel at 25°C
Load Voltage		+10 Vdc to +40 Vdc
Overvoltage Protection		47 Vdc
Overload Protection		-
Short-circuit Protection		Yes

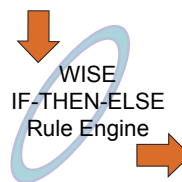
System Specifications

Communication	
Ethernet Port	2 x RJ-45, 10/100 Base-TX, Switch Ports
PoE	Yes
Protocol	Modbus TCP, MQTT
LED Indicators	
for System Running	Yes
for Ethernet Link/Act	Yes
for I/O Channel Status	Yes
for PoE Power	Yes
2-Way Isolation	
I/O	2500 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal and ±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±2 kV for Power Line
Surge (IEC 61000-4-5)	±2 kV for Power Line
Power	
Reverse Polarity Protection	Yes
Powered from Terminal Block	12 to 48 Vdc
Powered from PoE	Yes, IEEE 802.3af, Class1
Consumption	3.7 W (Max.)
Mechanical	
Dimensions (L x W x H)	120mm x 97mm x 42mm
Installation	Wall mounting
Environment	
Operating Temperature	-25 °C to +75 °C
Storage Temperature	-30 °C to +80 °C
Humidity	10 to 90% RH, non-condensing

Software Specifications

Functions	
Rule Configuration Website	Access Web server on WISE controllers to edit and upload logic rules through web browser.
72 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/written via Modbus command.
24 Timers	Delay / Timing functions.
24 Schedules	Setup prescheduled routine tasks.
24 Emails	Send Email messages to pre-set Email receivers.
24 CGI Commands	Send pre-set CGI commands.
24 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.
MQTT Protocol	Real time message publish/subscribe mechanism for I/O channels and system status via IT/IoT software.

IF Conditions	
DI Channel	ON, OFF, ON to OFF, OFF to ON, Change
Internal Register	=, >, <, >=, <= (value)
DI Counter	=, >, <, >=, <= (value), Change
DO Counter	=, >, <, >=, <= (value), Change
Timer	Timeout, Not Timeout
Schedule	In Range, Out of Range
P2P	DI, AI, DI counter, DO counter, IR
Rule Status	Enable, Disable

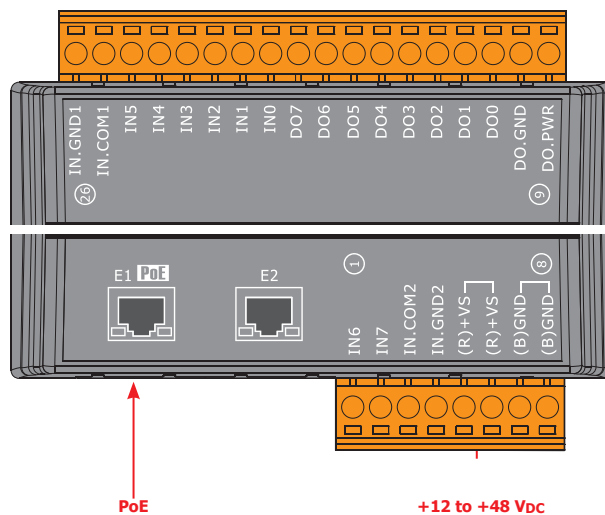


THEN / ELSE Actions	
DO Channel	ON, OFF, Pulse Output
Internal Register	Change the value
DI Counter	Reset
DO Counter	Reset
Timer	Start, Reset
Schedule	Enable, Disable
Email	
MQTT message	Send
CGI Command	
Recipe	Execute
P2P	DO(On/Off), AO, IR
Rule Status	Enable, Disable

Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Wet Contact (Sink)	+10 ~ +50 Vdc 	OPEN or <4 Vdc
Wet Contact (Source)	+10 ~ +50 Vdc 	OPEN or <4 Vdc

Pin Assignments



Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Dry Contact		

Digital Output	ON State Readback as 1	OFF State Readback as 0
Source		

Ordering Information

WISE-7555M CR	WISE I/O Module with 8-channels DI, 8-channels DO and 2-port Ethernet Switch. (RoHS)
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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)