



## Features

- Built-in Web Server for IF-THEN-ELSE rule setting
- Built-in IF-THEN-ELSE rule engine 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
- AI Type: 8 Differential (mV, V, mA)
- DO Type: 4 Open Collector Outputs
- Over Voltage Protection is up to 240 Vrms
- 2-way Isolation/ESD Protection



## 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-7117 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-7117 will still be able to receive power from auxiliary power sources like AC adapters or battery, etc.

This multi-function WISE-7117 module supports Modbus/TCP protocol to make seamless integration with SCADA software available. It features 16-bit, 8-channel differential analog inputs and 4-channel digital outputs. Each analog channel is allowed to configure an individual range and has 240Vrms high over voltage protection. Jumper selectable for voltage or current input.

## Applications

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

## I/O Specifications

Analog Input					
Input Channels	8 (Differential)				
Input Type (jumper selectable)	+/-150 mV, +/-500 mV, +/-1V, +/-5V, +/-10V				
Resolution	16-bit				
Sampling Rate	10 Sample/Sec. (Total)				
Accuracy	+/-0.1%				
Zero Drift	+/-20 $\mu$ V/°C				
Span Drift	+/-25 ppm/°C				
Overvoltage Protection	240 Vrms				
Input Impedance	<table border="1"> <tr> <td>Voltage</td><td>2 M<math>\Omega</math></td></tr> <tr> <td>Current</td><td>125 M<math>\Omega</math></td></tr> </table>	Voltage	2 M $\Omega$	Current	125 M $\Omega$
Voltage	2 M $\Omega$				
Current	125 M $\Omega$				
Common Mode Rejection	86 dB Min.				
Normal Mode Rejection	100 dB				
Individual Channel Configuration	Yes				
Digital Output					
Output Channels	4				
Output Type	Isolated Open Collector (Sink)				
Max. Load Current	700 mA/Channel				
Load Voltage	+5 V <sub>DC</sub> ~ +50 V <sub>DC</sub>				
Overvoltage Protection	60 V <sub>DC</sub>				
Overload Protection	1.4 A				
Short-circuit Protection	Yes				

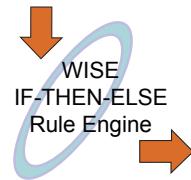
## System Specifications

System	
CPU	16-bit CPU
SRAM	512KB
Flash Memory	512KB
EEPROM	16KB
Watchdog	Yes
Communication	
PoE Ethernet Port	10/100 Base-TX and automatic MDI/MDI-X
2-Way Isolation	
I/O	2500 V <sub>DC</sub>
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)	+/-4 kV for Power
LED Indicators	
PoE Power	PoE On
L1	System Running
L2	Ethernet Link/Act
L3	Ethernet 10/100 M Speed
Power Requirements	
Reverse Polarity Protection	Yes
Powered from Terminal Block	Yes, 12 ~ 48 V <sub>DC</sub>
Powered from PoE	Yes, IEEE 802.3af, Class1
Consumption	3.1 W
Mechanical	
Dimensions (W x L 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	10 ~ 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.
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.

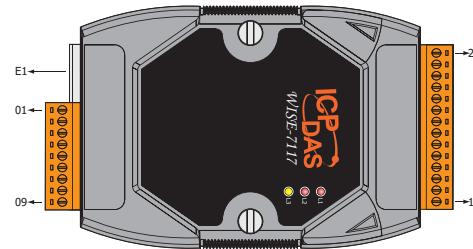
IF Conditions	
AI Channel	=, >, <, >=, <= (value)
Internal Register	=, >, <, >=, <= (value)
DO Counter	=, >, <, >=, <= (value), Change
Timer	Timeout, Not Timeout
P2P	DI, AI, DI counter, DO counter, IR
Rule Status	Enable, Disable



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

## Pin Assignments

Terminal No.	Pin Assignment
E1	RJ-45
01	Vin7+
02	Vin7-
03	DO0
04	DO1
05	DO2
06	DO3
07	ISO.GND
08	(R)+Vs
09	(B)GND

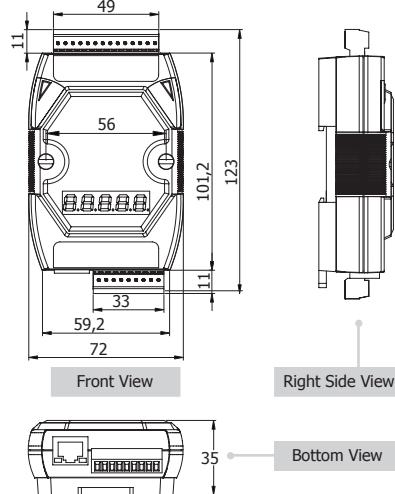


Terminal No.	Pin Assignment
23	Vin6-
22	Vin6+
21	Vin5-
20	Vin5+
19	Vin4-
18	Vin4+
17	Vin3-
16	Vin3+
15	Vin2-
14	Vin2+
13	Vin1-
12	Vin1+
11	Vin0-
10	Vin0+

## Wire Connections

Voltage Input	
	JUMPER Default
Current Input	
	JUMPER
Digital Output	
ON State Readback as 1	
OFF State Readback as 0	

## Dimensions (Unit:mm)



## Ordering Information

WISE-7117	8-channel Analog Input with High Voltage Protection and 4-channel Isolated Output PoE Module (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)