

WISE-7117

8-channel Analog Input with High Voltage Protection and 4-channel Isolated Output PoE Module

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 ouputs. 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
		+/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA
Resolution		16-bit
Sampling Rate		10 Sample/Sec. (Total)
Accuracy		+/-0.1%
Zero Drift		+/-20 μV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Input Impedance	Voltage	2 MΩ
	Current	125 MΩ
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_{DC} ~ +50 V_{DC}
Overvoltage Protection		60 V_{DC}
Overload Protection		1.4 A
Short-circuit Protection		Yes

System Specifications

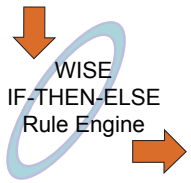
System	
CPU	16-bit CPU
SRAM	512KB
Flash Memory	512KB
EEPROM	16KB
Watchdog	Yes
Communication	
PoE Ethernet Port	10/100 Base-TX and automatic MDI/MDI-X
2-Way Isolation	
I/O	2500 V_{DC}
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each terminal and ±8 kV Air for random point
EFT (IEC 61000-4-4)	±4 kV for Power Line
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_{DC}
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

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 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.

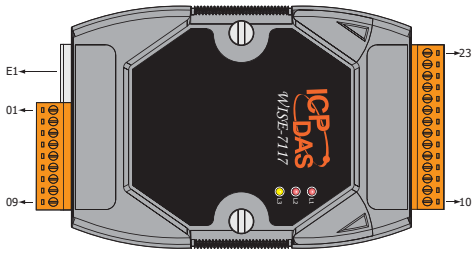
IF Conditions	
AI Channel	=, >, <, >=, <= (value)
Internal Register	
DO Counter	=, >, <, >=, <= (value), Change
Timer	Timeout, Not Timeout
P2P	DI, AI, DI counter, DO counter, IR
Rule Status	Enable, Disable



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

Pin Assignments

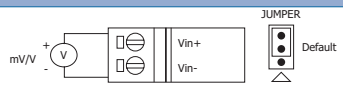
Terminal No.	Pin Assignment
E1	RJ-45
01	Vin7+
02	Vin7-
03	DO0
04	DO1
05	DO2
06	DO3
07	ISO.GND
08	(R)+Vs
09	(B)GND



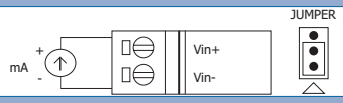
Terminal No.	Pin Assignment
23	Vin6-
22	Vin6+
21	Vin5-
20	Vin5+
19	Vin4-
18	Vin4+
17	Vin3-
16	Vin3+
15	Vin2-
14	Vin2+
13	Vin1-
12	Vin1+
11	Vin0-
10	Vin0+

Wire Connections

Voltage Input

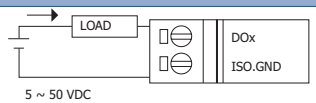


Current Input

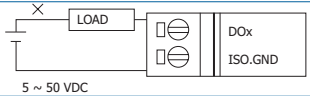


Digital Output

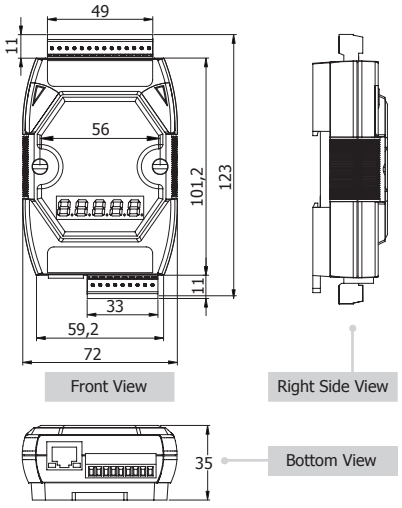
ON State Readback as 1



OFF State Readback as 0



Dimensions (Unit:mm)



Ordering Information

WISE-7117 CR	8-channel Analog Input with High Voltage Protection and 4-channel Isolated 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)

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