



WISE-7126

6-channel Analog Inputs, 2-channel Analog Outputs, 2-channel Digital Inputs And 2-channel Digital Outputs 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: 6 (mV, V, mA)
- AO: 2 (V, mA)
- DO: 2 (Open Collector Output)
- DI: 2 (Dry+Wet)



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-7126 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-7126 will still be able to receive power from auxiliary power sources like AC adapters or battery, etc.

This multi-function module WISE-7126 supports Modbus/TCP protocol to make seamless integration with SCADA software available. It features 6-channel analog inputs, 2-channel analog outputs, 2-channel digital inputs and 2-channel digital outputs. Each analog input channel provides 240 Vrms high over voltage protection.

Applications

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

System Specifications

I/O Specifications

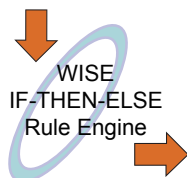
Analog Input		
Input Channels	6 (Differential)	
Input Type (jumper selectable)	+/-500 mV, +/-1 V, +/-5 V, +/-10 V +/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA	
Resolution	16-bit	
Sampling Rate	10 Sample/Sec. (Total)	
Accuracy	+/-0.1%	
Zero Drift	+/-20 µV/°C	
Span Drift	+/-25 ppm/°C	
Overvoltage Protection	240 Vrms	
Input Impedance	Voltage	2 MΩ
	Current	125 Ω
Common Mode Rejection	86 dB Min.	
Normal Mode Rejection	100 dB	
Individual Channel Configuration	Yes	
Analog Output		
Output Channels	2	
Output Type	0~5 V _{DC} , +/- 5 V _{DC} , 0~10 V _{DC} , +/- 10 V _{DC} , 0~20 mA, 4~20 mA (jumper selectable)	
Individual Channel Configuration	Yes	
Resolution	12-bit	
Accuracy	+/- 0.1% of FSR	
Voltage Output Capability	20 mA @ 10 V	
Current Load Resistance	500 Ω	
Open Wire Detection	Yes, for 4 ~ 20mA only	
Digital Input		
Input Type	2	
Dry Contact (Source)	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500M Max.
Wet Contact (Sink/Source)	On Voltage Level	+ 1V _{DC} Max.
	Off Voltage Level	+ 3.5 V _{DC} ~ + 30 V _{DC}
Counters	Channels	2
	Max. Counts	16-bit (65535)
	Max. Input Frequency	50 Hz
	Min. Pulse Width	10 ms
Open Wire Detection	30 V _{DC}	
Digital Output		
Output Channels	2	
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	
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	4.2W
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.

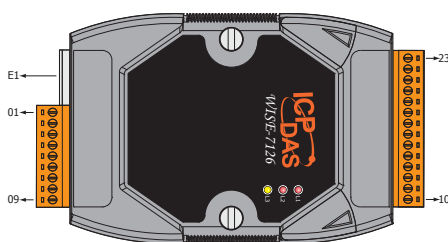
IF Conditions	
DI Channel	ON, OFF, ON to OFF, OFF to ON, Change
AI Channel	=, >, <, >=, <= (value)
Internal Register	
DI Counter	=, >, <, >=, <= (value), Change
DO Counter	
Timer	Timeout, Not Timeout
P2P	DI, AI, DI counter, DO counter, IR
Rule Status	Enable, Disable



THEN / ELSE Actions	
DO Channel	ON, OFF, Pulse Output
AO Channel	Change the value
Internal Register	
DI Counter	Reset
DO Counter	
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	Vout1+
02	AGND
03	DI0
04	DI1
05	DO0
06	DO1
07	ISO.GND
08	+Vs
09	GND

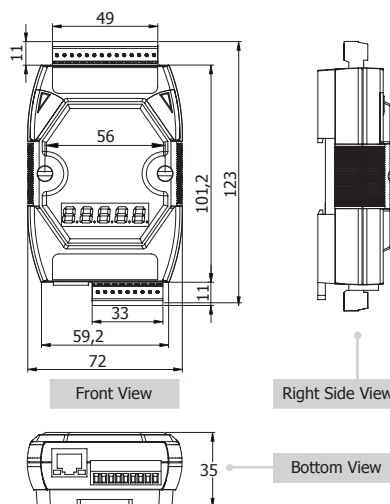


Terminal No.	Pin Assignment
23	AGND
22	Vout0+
21	Vin5-
20	Vin5+
19	Vin4-
18	Vin4+
17	Vin3-
16	Vin3+
15	Vin2-
14	Vin2+
13	Vin1-
12	Vin1+
11	Vin0-
10	Vin0+

Wire Connections

Voltage Input		
	Vin+	Vin-
JUMPER Default		
Current Input		
	Vin+	Vin-
JUMPER		
Voltage Output		
	Vout+	AGND
Default		
Current Output		
	Vout+	AGND
Default		
Digital Input	ON State / Readback as 1	OFF State / Readback as 0
Dry Contact		
Digital Output	ON State / Readback as 1	OFF State / Readback as 0
Open Collector (Sink)		

Dimensions (Unit:mm)



Ordering Information

WISE-7126	6-channel Analog Inputs, 2-channel Analog Outputs, 2-channel Digital Inputs And 2-channel Digital Outputs 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)