



## Multi Function I/O

### 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 effort 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 and Testing Equipment, etc.

### I/O Specifications

Analog Input	
Input Channels	6 (Differential)
Input Type	+/- 500 mV, +/- 1V, +/- 5 V, +/-10 V + 0 mA ~ + 20 mA, +/- 20 mA, 4-20mA (jumper selectable)
Resolution	Normal Mode 16-bit Fast Mode 12-bit
Sampling Rate	Normal Mode 10 Samples/Sec. Fast Mode 60 Samples/Sec. (Total)
Accuracy	Normal Mode +/-0.1% Fast Mode +/-0.5% or better
Bandwidth	Normal Mode 15.7 Hz Fast Mode 78.7 Hz
Zero Drift	+/-20 uV/°C
Span Drift	+/-25 ppm/°C
Input Impedance	Voltage Input: 2M Ω, Current Input: 125 Ω
Common Mode Rejection	86 dB Min.
Normal Mode Rejection	100 dB
Open Wire for Current Output	4 ~ 20mA
Overvoltage Protection	240 V <sub>rms</sub>
ESD Protection	+/-4 kV (Contact for each channel) +/-8 kV air for random point
EFT Protection	+/-4 kV for Power
Analog Output	
Output Channels	2
Output Type	+ 0 V <sub>DC</sub> ~ + 5 V <sub>DC</sub> , +/- 5 V <sub>DC</sub> , + 0 V <sub>DC</sub> ~ + 10 V <sub>DC</sub> , +/- 10 V <sub>DC</sub> , + 0 mA ~ + 20 mA, + 4 mA ~ + 20 mA (jumper selectable)
Resolution	12-bit
Accuracy	+/- 0.1% of FSR
Voltage Output Capability	10 V@20 mA
Current Load Resistance	500 Ohms
Power-Up and SafeValue	Yes
Open Wire for Current Output	4 ~ 20mA
Digital Output	
Output Channels	2 (Sink)
Output Type	Isolated Open Collector
Max Load Current	700 mA/Channel
Load Voltage	+ 5 V <sub>DC</sub> ~ + 50V <sub>DC</sub>
External Power Reversed Protection and Short Circuit Protection	Yes
Over-Temperature Protection	Yes, 150 °C
Current limited Protection	1.1 A

Digital Input		
Input Type		2 (Dry+Wet)
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 <sub>DC</sub> Max.
	Off Voltage Level	+ 3.5 V <sub>DC</sub> ~ + 30 V <sub>DC</sub>
Counters	Channels	2
	Max. Counts	16-bit (65535)
	Max. Input Frequency	50 Hz
	Min. Pulse Width	10 ms

### System Specifications

System	
CPU	80186 CPU (80 MHz)
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 V <sub>DC</sub>
AI, AO, DI and DO	2500 V <sub>rms</sub>
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 V <sub>DC</sub> ~ +48 V <sub>DC</sub> (non-regulated)
LED Indicator	Yes
Power Consumption	0.12 A @ 24 V <sub>DC</sub> 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

## Software Specifications

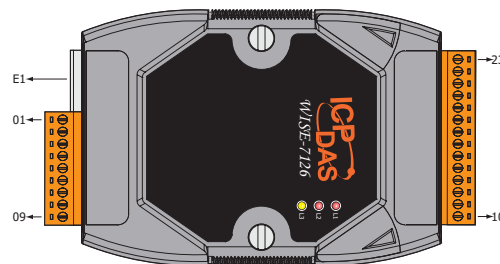
Functions	
36 IF-THEN-ELSE Logic Rules	3 IF conditions with AND or OR operators 3 THEN actions 3 ELSE actions
48 Internal Registers	Hold temporary variables and read/write data via Modbus/TCP address.
12 Timers	Delay / Timing functions.
12 Emails	Send Email messages to pre-set Email receivers.
Rule Configuration Website	Access Web server on WISE controllers to edit and upload logic rules through web browser.
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	= > < >= <= (value)
DI Counter	= > < >= <= (value) · Change
DO Counter	= > < >= <= (value) · Change
Timer	Timeout · Not Timeout

THEN / ELSE Actions	
DO Channel	ON · OFF · Pulse Output
AO Channel	Change the value
Internal Register	Change the value
DI Counter	Reset
DO Counter	Reset
Timer	Start · Stop
Email	Send

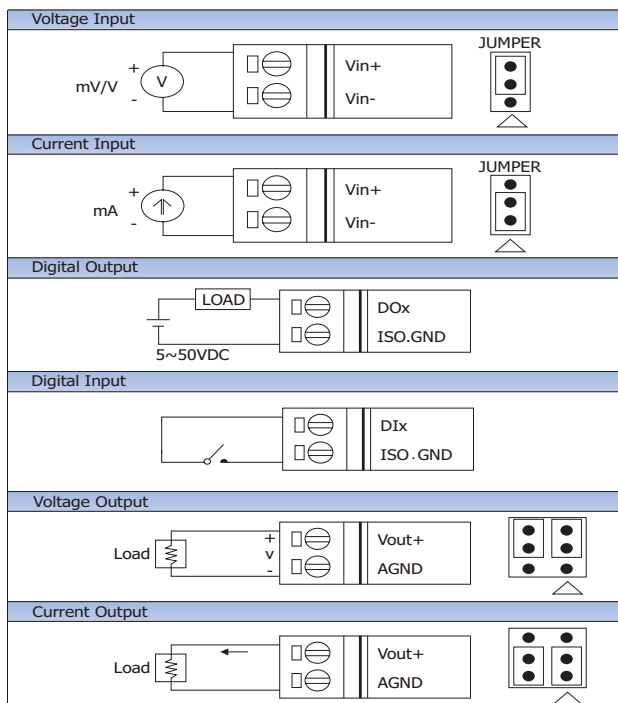
## Pin Assignment

Terminal No.	Pin Assignment
E1	RJ-45
01	Vout1+
02	AGND
03	DO0
04	DO1
05	DI0
06	DI1
07	ISO.GND
08	+VS
09	GND

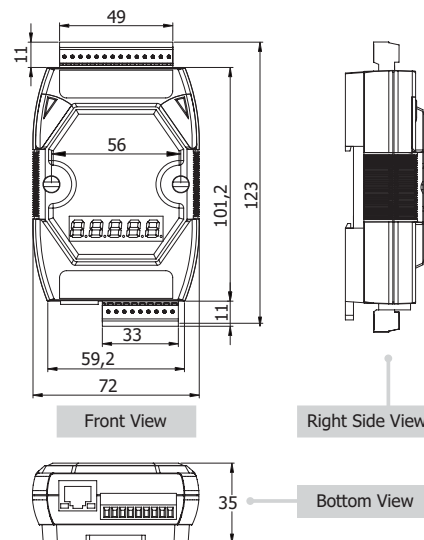


Terminal No.	Pin Assignment
23	AGND
22	Vout0+
21	Vin5-
20	Vin5+
19	Vin4-
18	Vin4+
17	Vin3-
16	Vin3+
15	Vin2-
14	Vin2+
13	Vin1-
12	Vin1+
11	Vin0-
10	Vin0+

## Wire Connection



## Dimensions (Unit: mm)



## Ordering Information

Art. No. 123965 WISE-7126 6-channel Analog Inputs, 2-channel Analog Outputs, 2-channel Digital Inputs And 2-channel Digital Outputs PoE Module (RoHS)

## Accessories

Art. No. 119340	GPSU06U-6	24V/0.25A, 6 W Power Supply
Art. No. 119341	MDR-20-24	24V/1A, 24 W Power Supply with DIN-Rail Mounting
Art. No. 117857	NS-205 CR	Unmanaged 5-Port Industrial Ethernet Switch (RoHS)
Art. No. 120923	NS-205PSE CR	Unmanaged 5-Port Industrial PoE Ethernet Switch (RoHS)