Multi Function I/O

Features

- Built-in Web Server for IF-THEN-ELSE rule setting
- Built-in IF-THEN-ELSE rule enigne 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)

WISE-7126

6-channel Analog Inputs, 2-channel Analog Outputs, 2-channel Digital Inputs And 2-channel Digital Outputs PoE Module

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.

I/O Specifications

Analog Input		
Input Channels		6 (Differential)
Input Type (Jumper selectable)		+/- 500 mV, +/- 1V, +/- 5 V, +/-10 V
		0~20 mA, +/- 20 mA, 4~20mA
Resolution		16-bit
Sampling Rate		10 Samples/Sec.
Accuracy		+/-0.1%
Zero Drift		+/-20 uV/°C
Span Drift		+/-25 ppm/°C
Overvoltage Protection		240 Vrms
Input Impedance		2M 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 Vᴅᴄ, +/- 5 Vᴅᴄ, 0~10 Vᴅᴄ, +/- 10 Vᴅᴄ, 0~20 mA, 4~20 mA (jumper selectable)
Individual Channel Configuration		Yes
Resolution		12-bit
Accuracy		+/- 0.1% of FSR
Voltage Output Capability		10 V@20 mA
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	+ 1Vᴅᴄ Max.
	Off Voltage Level	+ 3.5 Vᴅᴄ ~ + 30 Vᴅᴄ
Counters	Channels	2
	Max. Counts	16-bit (65535)
	Max. Input Frequency	50 Hz
	Min. Pulse Width	10 ms
Overvoltage Protection		30 Vᴅᴄ
Digital Output		
Output Channels		2
Output Type		Isolated Open Collector (Sink)
Max Load Current		700 mA/Channel
Load Voltage		+ 5 Vᴅᴄ ~ + 50Vᴅᴄ
Overvoltage Protection		60 Vᴅᴄ
Overload Protection		1.4 A
Short-circuit Protection		Yes

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote diagnosis and Testing Equipment, etc.

System Specifications

System		
CPU		16-bit CPU
SRAM		512 KB
Flash Memory		512 KB
EEPROM		16 KB
Watchdog		Yes
Communication		
PoE Ethernet Port		10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X
2 Way Isolation		
I/O		2500 Vᴅᴄ
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 10/100M Speed
Power Requirements		
Reserve Polarity Protection		Yes
Powered from terminal block		Yes, 12 ~ 48 Vᴅᴄ
Powered from PoE		Yes, IEEE 802.3af, Class1
Consumption		4.2 W
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		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

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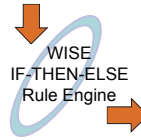
THEN / ELSE Actions	
DO Channel	ON、OFF、Pulse Output
AO Channel	Change the value
Internal Register	
DI Counter	Reset
DO Counter	
Timer	Start、Stop
Email	Send
CGI Commands	
Recipe	Execute
P2P	DO(On/Off)、AO、IR
Rule Status	Enable、Disable

Pin Assignment

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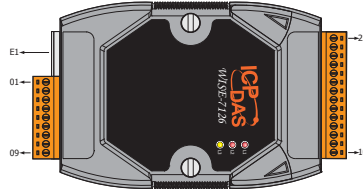
Terminal No.	Pin Assignment
23	AGND
22	Vout0+
21	Vin5-
20	Vin5+
19	Vin4-
18	Vin4+
17	Vin3-
16	Vin3+
15	Vin2-
14	Vin2+
13	Vin1-
12	Vin1+
11	Vin0-
10	Vin0+

Wire Connection

Dimensions (Unit: mm)

Front View

Right Side View

Bottom View
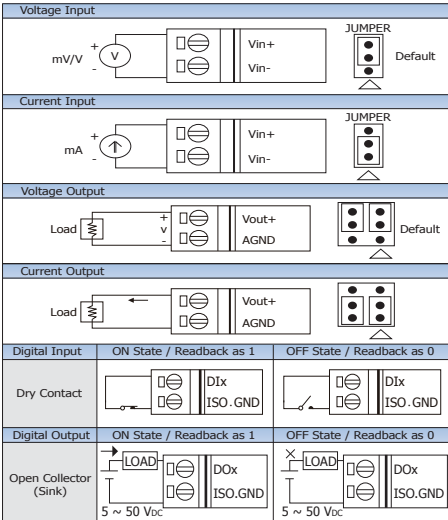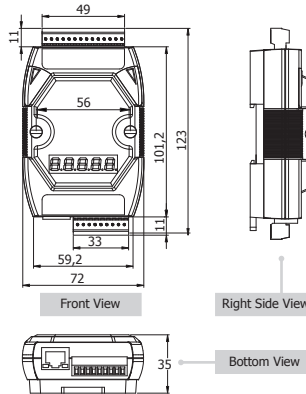
Ordering Information

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