



WISE-7151

16-channel Isolation Digital Input PoE Module

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
- 2-way Isolation/ESD Protection
- DI Type: 16 Wet Contact (Sink, Source)











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-7151 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-7151 will still be able to receive power from auxiliary power sources like AC adapters or battery, etc.

This module WISE-7151 supports Modbus/TCP protocol to make seamless integration with SCADA software available. It features 16-channel isolated wet contact digital inputs. Each digital input channel supports counter input

Applications -

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

☑ I/O Specifications.

Digital Input		
Input Char	nels	16
Input Type		Wet Contact (Sink, Source)
On Voltage	Level	+10 V _{DC} ~ +50 V _{DC}
Off Voltage	e Level	+4 Voc Max.
Input Impe	edance	10 kΩ
	Max. Count	65535 (16 bits)
Counters	Max. Input Frequency	50 Hz
	Min. Pulse Width	10 ms
Overvoltage Protection		+70 V∞

System			
SRAM	System		
Flash Memory 512 KB EFPROM 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 Voc 1/O DI 3750 Vrm LED Indicators PoE PoE On L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc Max. Mechanical Dimensions (W x H x D) Installation DIN-Rail or Wall mounting Environment Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	CPU		80186 CPU (80 MHz)
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 Voc I/O DI 3750 V _{ms} LED Indicators PoE PoE On L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc Max. Mechanical Dimensions (W x H x D) Installation DIN-Rail or Wall mounting Environment Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	SRAM		512 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 Voc 1/0 DI 3750 Vms LED Indicators PoE PoE On L1 Run L1 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc 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	Flash Me	mory	512 KB
Documentation	EEPROM		16 KB
PoE Ethernet Port 10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X 2-Way Isolation Ethernet 1500 Voc I/O DI 3750 V _{ms} LED Indicators PoE Po E On L1 Run L2 L3 10/100M Power Requirements IEEE 802.3af Class 1 Required Supply Voltage Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc Max. Mechanical Dimensions (W x H x D) Joinensions (W x H x D) 72 mm x 123 mm x 35 mm Installation DIN-Rail or Wall mounting Environment -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	Dual Wat	chdog	Yes
2-Way Isolation Ethernet	Communica	ition	
Ethernet	PoE Ethe	rnet Port	
1/O DI 3750 Vms LED Indicators POE PoE PoE On L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Required Supply Voltage Required Supply Voltage (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 V∞ 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	2-Way Isola	ation	
LED Indicators PoE PoE On L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc 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	Ethernet		1500 Vpc
PoE PoE PoE On L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Required Supply Voltage Required Supply Voltage LED Indicator Yes Power Consumption 0.12 A @ 24 V∞ Max. Mechanical Dimensions (W x H x D) Installation DIN-Rail or Wall mounting Environment Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	I/O	DI	3750 V _{rms}
L1 Run L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Required Supply Voltage auxiliary power +12 Vcc ~ +48 Vcc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Vcc 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 Storage Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	LED Indicators		
L2 Link/Act L3 10/100M Power Requirements IEEE 802.3af Class 1 Required Supply Voltage (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Vsc 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	PoE		PoE On
L3 10/100M Power Requirements IEEE 802.3af Class 1 Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc 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	L1		Run
Power Requirements IEEE 802.3af Class 1 Required Supply Voltage LED Indicator Yes Power Consumption 0.12 A @ 24 V _{IC} Max. Mechanical Dimensions (W x H x D) Installation DIN-Rail or Wall mounting Environment Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	L2		Link/Act
IEEE 802.3af Class 1 Required Supply Voltage Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc Max. Mechanical Dimensions (W x H x D) Jimensions (W x H x D) 72 mm x 123 mm x 35 mm Installation DIN-Rail or Wall mounting Environment Operating Temperature Storage Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	L3		10/100M
Powered by Power over Ethernet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes Power Consumption 0.12 A @ 24 Voc 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	Power Requ	uirements	
Required Supply Voltage auxiliary power +12 Voc ~ +48 Voc (non-regulated) LED Indicator Yes No. 24 Voc 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	IEEE 802	.3af	Class 1
Power Consumption 0.12 A @ 24 V₀c 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	Required Supply Voltage		auxiliary power +12 Vpc ~ +48 Vpc
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	LED Indicator		Yes
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	Power Co	nsumption	0.12 A @ 24 Vpc Max.
	Mechanical		
Environment Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	Dimensions (W x H x D)		72 mm x 123 mm x 35 mm
Operating Temperature -25 °C ~ +75 °C Storage Temperature -30 °C ~ +80 °C	Installation		DIN-Rail or Wall mounting
Storage Temperature -30 °C ~ +80 °C	Environment		
and the second s	Operating Temperature		-25 °C ~ +75 °C
Humidity 5 ~ 90% RH, non-condensing	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
Internal Register	= ` > ` < ` >= ` <=(value)
DI Counter	= ` > ` < ` >= ` <=(value) ` Change
Timer	Timeout · Not Timeout



THEN / ELSE Actions		
Internal Register	Change the value	
DI Counter	Reset	
Timer	Start · Stop	
Email	Send	

Pin Assignment _____

Terminal No.	Pin Assignment
E1	RJ-45
01	IN13
02	IN14
03	IN15
04	IN.COM2
05	N/A
06	N/A
07	N/A
08	(R)+Vs
09	(B)GND

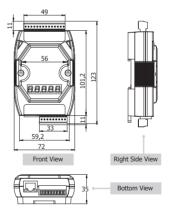


Terminal No.	Pin Assignment
23	IN12
22	IN11
21	IN10
20	IN9
19	IN8
18	IN.COM1
17	IN7
16	IN6
15	IN5
14	IN4
13	IN3
12	IN2
11	IN1
10	IN0

■ Wire Connection _____

Digital Input	Readback as 0	Readback as 1
	+10 ~ +50 Vpc	OPEN or <4 Voc
Sink	Dix 10K	Dix 10K To other pl.com To other channels
	+10 ~ +50 V _{DC}	OPEN or <4 Voc
Source	DIX 10K	Dix 10K To other DI.COM To other

☑ Dimensions (Unit: mm) _____



Ordering Information ___

WISE-7151 16-channel Isolation Digital Input 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)