WISE-7517M-10

WISE I/O Module with 10/20-channels AI and 2-port Ethernet Switch

IoTstar Supported

Features

■ No more programming, Web pages provided for system and logic rule setting.

■ IF-THEN-ELSE logic rules execution ability.

■ Built-in I/O
   AI: 10/20 Channels

■ Support I/O Monitoring/Control, Counter, Schedule, Timer, Email sending and CGI Command sending operations.

■ Modbus TCP Protocol for SCADA System Integration.

■ IEEE 802.3af-compliant Power over Ethernet (PoE).

■ 2-port Ethernet Switch for Daisy-Chain Topology.

■ MQTT Protocol for IT & IoT (Internet of Things) System Integration.

■ Support connection with IoTstar Cloud Management Software

CE   UKCA   FC   RoHS   PoE

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. By integrating with IF-THEN-ELSE rule engine, WISE-7517M-10 provides more powerful functions such as I/O Monitoring/Control, Counter, Timer, Schedule, E-mail sending, CGI Command sending and Modbus TCP and MQTT protocol, and allows users to implement control logic on controllers just a few clicks away; no programming is required. WISE-7517M-10 also can connect with ICP DAS IoTstar cloud management software for the services such as Remote Access and Sensor Data Collection.

WISE-7517M-10 is a module with 10-channel differential or 20-channel single-ended analog inputs. It follows IEEE 802.3af-compliant Power over Ethernet (PoE) specification, and has a built-in two-port Ethernet switch to implement daisy-chain topology.

I/O Specifications

Analog Input		
Channels		10 differential or 20 single-ended (Note1), software selectable
Type		+/-150 mV, +/-500 mV, +/-1 V, +/-5 V, +/-10 V +/-20 mA ,0 ~ 20 mA, 4 ~ 20 mA (Jumper Selectable)
Resolution		16-bit
Sampling Rate		10 Samples/Second (Total)
Accuracy		+/-0.1%
Overvoltage Protection	Differential	240 Vrms
	Single-ended	150 Vrms
Common Voltage Protection		±200 VDC
Overcurrent Protection		50 mA at 110 VDC (max.)
Virtual Channel to Channel Isolation		Yes, 400 VDC
Open Wire Detection for 4 ~ 20 mA		Yes
Input Impedance	Voltage	2 MΩ (Differential), 1 MΩ (Single-ended)
	Current	125 Ω

Note1: Differential mode can be used for voltage input and current input.
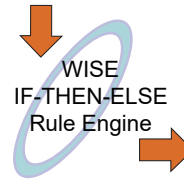Single-Ended mode can be used for voltage input only.

System Specifications

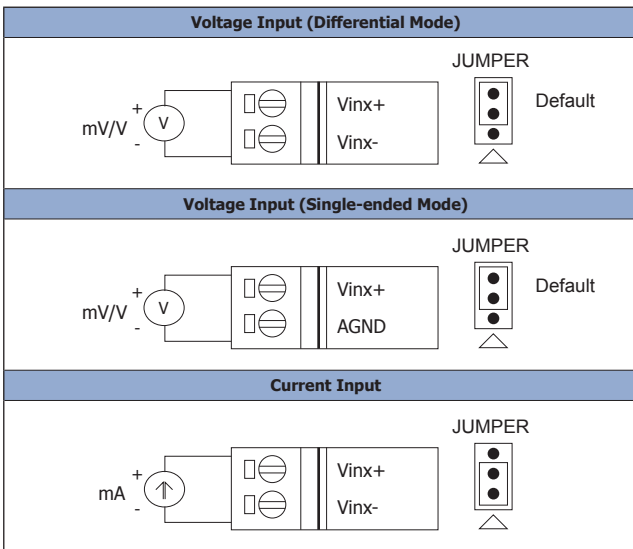| Communication	
Ethernet Port	2 x RJ-45, 10/100 Base-TX, Swtich Ports
PoE	Yes
Protocol	Modbus TCP, MQTT
LED Indicators	
for System Running	Yes
for Ethernet Link/Act	Yes
for I/O Channel Status	Yes
for PoE Power	Yes
2-Way Isolation	
I/O	2500 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal and ±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±2 kV for Power Line
Surge (IEC 61000-4-5)	±2 kV for Power Line
Power	
Reverse Polarity Protection	Yes
Powered from Terminal Block	12 to 48 VDC
Powered from PoE	Yes, IEEE 802.3af, Class1
Consumption	3.7 W (Max.)
Mechanical	
Dimensions (L x W x H)	120mm x 97mm x 42mm
Installation	Wall mounting
Environment	
Operating Temperature	-25 °C to +75 °C
Storage Temperature	-30 °C to +80 °C
Humidity	10 to 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.
72 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
24 Timers	Delay / Timing functions.
24 Schedules	Setup prescheduled routine tasks.
24 Emails	Send Email messages to pre-set Email receivers.
24 CGI Commands	Send pre-set CGI commands.
24 Recipes	Set up THEN/ELSE action groups.
8 P2P remote modules	Set up the connection information for the remote WISE modules.
Integration with SCADA/IT/IoT Systems	Support Modbus TCP and MQTT protocols for the integration with SCADA/IT/IoT systems. Support connection with ICP DAS IoTstar Cloud Management Software.

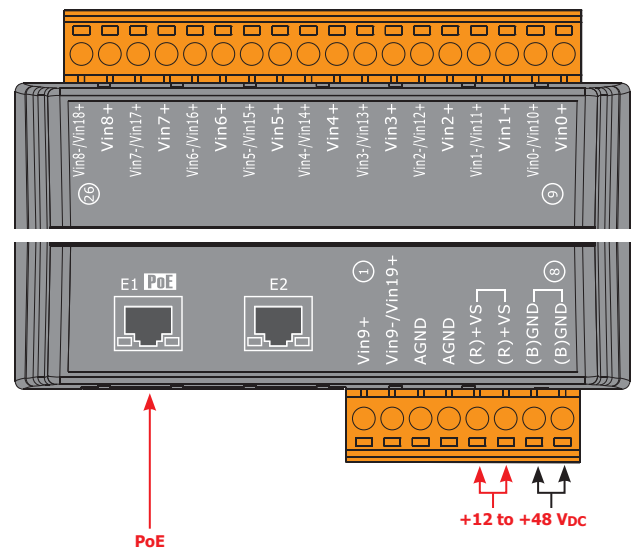| IF Conditions	
AI Channel	=, >, <, >=, <= (value)
Internal Register	
Timer	Timeout, Not Timeout
Schedule	In Range, Out of Range
P2P	DI, AI, DI counter, DO counter, IR
Rule Status	Enable, Disable

WISE IF-THEN-ELSE Rule Engine

THEN / ELSE Actions	
Internal Register	Change the value
Timer	Start, Reset
Schedule	Enable, Disable
Email	Send
MQTT message	
CGI Command	
Recipe	Execute
P2P	DO(On/Off), AO, IR
Rule Status	Enable, Disable

Wire Connections

Voltage Input (Differential Mode)

mV/V V Vinx+ Vinx- JUMPER Default

Voltage Input (Single-ended Mode)

mV/V V Vinx+ AGND JUMPER Default

Current Input

mA Vinx+ Vinx- JUMPER

Pin Assignments

Vin8-/Vin18+ Vin8+ Vin7-/Vin17+ Vin7+ Vin6-/Vin16+ Vin6+ Vin5-/Vin15+ Vin5+ Vin4-/Vin14+ Vin4+ Vin3-/Vin13+ Vin3+ Vin2-/Vin12+ Vin2+ Vin1-/Vin11+ Vin1+ Vin0-/Vin10+ Vin0+

26 ... 9

E1 PoE E2 Vin9+ Vin9-/Vin19+ AGND AGND (R)+VS (R)+VS (B)GND (B)GND

1 ... 8

PoE

+12 to +48 V$_{DC}$

Ordering Information

WISE-7517M-10 CR	WISE I/O Module with 10/20 Channels AI and 2-port Ethernet Switch. (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)