## **Fiche technique**



WISE (Web Inside, Smart Engine)



#### 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 fave wilcies away: no programming is required. With its powerful and assyn-to use fautors, it will imminize the staming orces, short their to market and dramatically reduce the effort and cost spent on system development.

WISE-71182 follows IEEE 802.3af-compilant (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 declacate electrical outles. Meannible, in case under a non-PoE environment, WIS-7182 will still be able to reserve power from availary power sources like A classers or battery etc.

This multi-function module WISE-71182 supports Modbus/TCP protocol to make seamless integration with SCADA software available. It features 16-bit, 10-channel differential analog inputs and 6-channel digital ouputs. Each analog channel is allowed to configure an individual range and has 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	10 (Differential)
	+/-15 mV, +/-50 mV, +/-100 mV, +/-500 mV,
	+/-1 V, +/-2.5 V
Input Type	+/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA (Requires
mput type	Optional External 125 Ω Resistor)
	Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution	16-bit
Sampling Rate	10 Samples/Sec. (Total)
Accuracy	+/-0.1% or better
Bandwidth	15.7 Hz
Zero Drift	+/-0.5 uV/°C
Span Drift	+/-25 ppm/°C
Input Impedance	>300 kΩ
Common Mode Rejection	150 dB Min.
Normal Mode Rejection	100 dB
Overvoltage Protection	240 Vrms
Open Thermocouple Detection	Yes
Individual Channel Configuration	Yes
ESD Protection	+/-4 kV (Contact for each channel)
ESD Protection	+/-8 kV air for random point
EFT Protection	+/-4 kV for Power
Digital Output	
Output Channels	6 (Sink)
Output Type	Isolated Open Collector
Max. Load Current	700 mA/Channel
Load Voltage	5 Vpc ~ 50 Vpc

#### System Specifications \_

System           CPU         16-bit CPU           SRAM         512 K8           Flash Memory         512 K8           EERPROM         16 K8           Daal Watchdog         Yes           Communication         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolation         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolation         1500 Voc           A1 and DO         2500 Vom           LED Indicators         PoE           PoE         De           1.1         Run           1.2         Link/Act           1.3         10/100M           Power Requirements         Foreored by Power ouer Ethernet (PoE) or (non-regulated)           LED Indicator         Yes           Power Consumption         0.12 A @ 24 Voc Max.           Machanical         Dimensions (W x H x)D, 72 mm x 123 mm x 35 mm           Dimensions (W x H x)D, 72 mm x 123 mm x 35 mm         Installation           Instrained         JDI-Rail or Wall mounting           Environment         -05 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C           Humidity         S ~ 90% RH, non-condensing			
SRAM         512 K8           Flash Memory         512 K8           EERROM         16 K B           Dual Watchdog         Yes           Communication         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolation         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolation         1500 Vac           A1 and DO         2500 Ven           LED Indicators         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         102 Class 1           Feedured Supply Voltage         Yes           Power Consumption         0.12 A @ 24 Vac Max.           Mechanical         DIN-Rail or Wall mounting           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	/		
Flash Memory         512 K8           EEPROM         16 K8           Dual Watchdog         Yes           Communication         Indicatory and automatic MDI/MDI-X           PoE Ethernet Port         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolation         Ethernet           Ethernet         1500 Vcc           Al and DO         2500 Vcm           EED Indicators         PoE           PoE         PoE Con           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         EEE 802.3af           IEEE 802.3af         Cass 1           Power Consumption         0.12 A @ 24 Vic Max.           Mechanical         D17. mm x 123 mm x 35 mm           Installation         D1N-Rail or Wall mounting           Environent         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	CPU	16-bit CPU	
EEPROM         16 k B           Dual Watchdog         Yes           Communication         Yes           PoE         10/100 Base-TX (With Link, Activity LED Indicatory and automatic MDI/MDI-X           2-Way Isolation         10/100 Base-TX (With Link, Activity LED Indicatory and automatic MDI/MDI-X           2-Way Isolation         10/100 Base-TX (With Link, Activity LED Indicatory and automatic MDI/MDI-X           2-Way Isolation         1500 Vcc           A1 and DO         2500 Vem           LED Indicators         PoE           PoE         PeE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Class 1           FEED Indicator         Yes           Power Compution         0.12 A @ 24 Vcc Max.           Mechanical         DIV-Rail or Wall mounting           Dimensions (W x H xD)         72 mm x 123 mm x 35 mm           Installation         DIV-Rail or Vall mounting           Environment         - 25 °C ~ +75 °C           Operating Temperature         - 25 °C ~ +80 °C	SRAM	512 KB	
Dual Watchdog         Yes           Communication         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           PoE Ethernet Port         10/100 Base-TX (With Link, Activity LED Indicator) and automatic MDI/MDI-X           Ethernet         1500 Vac.           Al and DO         2500 Vm.           EED Indicators         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         EEE 802.3af           IEEE 802.3af         Class 1           Power Consumption         0.12 A @ 24 Vac Max.           Mechanical         Dimensions (W x H x D)           Dimensions (W X H x D)         72 mm x 123 mm x 35 mm Installation           Installation         DIN-Rail or Wall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	Flash Memory	512 KB	
Joba Mathematics         10/100 Base-TX (With Link, Activity LED Inclustory) and automatic MDI/MDI-X           PoE Ethernet Port         10/100 Base-TX (With Link, Activity LED Inclustory) and automatic MDI/MDI-X           2:Way Isolation         1500 Vsc:           At and DO         2500 Vm.           LED Inclustors         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Class 1           IEED Indicator         Powered by Power over Ethernet (PoE) or auxiliary power +12 Vsc ~ +48 Vsc (nor-regulated)           (nor-regulated)         0.12 A @ 24 Vsc Max.           Mechanical         Dimensions (W x H x D)           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	EEPROM	16 KB	
PoE Ethernet Port         10/100 Base-7X (With Link, Activity LED Indicator) and automatic MDI/MDI-X           2-Way Isolaton         Indicator) and automatic MDI/MDI-X           Ethernet         1500 Vac           At and DO         2500 Vem           LED Indicators         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Poered by Power over Ethernet (PoE) or auxiliary power +12 Vac ~ +48 Vac (non-regulated)           LED Indicator         Yes           Poweronegulation         0.12 A @ 24 Vac Max.           Mechanical         Dimensions (W × H × D)           Distallation         DIN-Rail or Wall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -25 °C ~ +80 °C	Dual Watchdog	Yes	
Indicatory         Indicatory         automatic MDI/MDI-X           2-Way Isolation         Isolo Voc         Isolo Voc           Ethernet         1500 Voc         Isolo Voc           AI and DO         2500 Vom         Isolo Voc           EtD Indicators         PoE         PoE On         Isolo Voc           L1         Run         Isolo Voc         Isolo Voc           L2         Link/Act         Isolo Voc         Isolo Voc           Poer Requirements         Tester Bo2.3af         Class 1           Power Required Supply Votage         Power of by Power over Ethermet (PoE) or auxiliary power +12 Voc ~ +48 Voc (non-regulated)           Power Consumption         0.12 A @ 24 Voc Max.         Mechanical           Dimensions (W X H × D)         72 mm x 123 mm x 35 mm         Installation           Installation         DIN-Rail or Vall mounting         Environent           Operating Temperature         -25 °C ~ +75 °C         Storage Temperature	Communication		
Ethernet         1500 Vsc.           AI and DO         2500 Vsm.           LED Indicators         2500 Vsm.           POE         PDE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         EEE 802.3af           LEE Board Lander Consumption         Class 1           Power Consumption         0.12 A @ 24 Vsc. wax.           Mechanical         Dimensions (W x H x D)           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	PoE Ethernet Port		
Al and DO         2500 Vm.           LED Indicators         2500 Vm.           PoE         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Interference           IEEE 802.3af         Class 1           Powered by Power over Ethernet (PoE) or auxiliary power +12 Vic ~ +48 Voc (nor-regulated)           IED Indicator         Yes           Power Construction         0.12 A @ 24 Vic Max.           Mechanical         Dimensions (W x H x D)           Dimensions (D x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vial mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	2-Way Isolation		
LED Indicators         PoE           PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         EEE 802.3af           FIEEE 802.3af         Class 1           Powerd Supply Voltage         Powered by Power over Ethernet (PoE) or auxiliary power +12 Vic. ~ +48 Vic. (non-regulated)           Power Consumption         0.12 A @ 24 Vic. Max.           Mechanical         DIM-Rail or Vall mounting           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	Ethernet	1500 Vpc	
PoE         PoE On           L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Itele 802.3af           IEEE 802.3af         Class 1           Power day Power over Ethernet (PoE) or auditary power +12 Vxc ~ +48 Vxc (non-regulated)           LED Indicator         Yes           Power Consumption         0.12 A @ 24 Vxc Max.           Mechanical         Jinnstallator WH x D)           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Val mounting           Environment         - 25 °C ~ +75 °C           Operating Temperature         - 23 °C ~ +80 °C	AI and DO	2500 Vrms	
L1         Run           L2         Link/Act           L3         10/100M           Power Requirements         Class 1           IEEE 802.3af         Class 1           Powered Supply Voltage         Powere dby Power over Ethernet (PoE) or auxiliary power +12 Vsc ~ +48 Vsc. (non-regulated)           LED Indicator         Yes           Power Consumption         0.12 A @ 24 Vsc Max.           Mechanical         D1M-Rail or Wall mounting           Environment         _25 °C ~ +75 °C           Operating Temperature         _23 °C ~ + 80 °C	LED Indicators		
12         Link/Act           L3         10/100M           Power Requirements         TelEE 802.3af           LEE B02.3af         Class 1           Powered by Power over Ethernet (PoE) or auxiliary power +12 Vic ~ +48 Vic. (non-regulated)           Power Consumption         0.12 A @ 24 Vic. Max.           Mcchanical         DIMENSION X H × D)           Dimensions (W X H × D)         72 mm x 123 mm x 35 mm Installation           Dipensions (The Second S	PoE	PoE On	
L3         10/100M           Power Requirements         IEEE 802.3af         Class 1           IEEE 802.3af         Class 1         Powered by Power over Ethernet (PoE) or availary power +12 Vsc ~ +48 Vsc (non-regulated)           LED Indicator         Yes         Power Consumption         0.12 A @ 24 Vsc Max.           Mechanical         John Nail or Val mounting         Pink Rail or Val mounting           Environment         - 25 °C ~ +75 °C         Storage Temperature         -23 °C ~ +80 °C	L1	Run	
LED Indicator         Yes           LED Indicator         Yes           Power Requirements         Powered by Power over Ethernet (PoE) or auxiliary power +12 Vis. ~ +48 Vos. (non-regulated)           LED Indicator         Yes           Power Consumption         0.12 A @ 24 Vos. Max.           Mechanical         Dimensions (W x H x D)           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm Installation           Distribution         DIN-Rail or Wall mounting           Environment         -25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	L2	Link/Act	
IEEE 802.3af         Class 1           Required Supply Votage         Powered by Power over Ethernet (PoE) or aver (non-regulated)           LED Indicator         Yes           Power Consumption         0.12 A @ 24 Voc Max.           Machanical         Dimensions (W x H x D)           Dimensions (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	L3	10/100M	
Powered by Power over Ethemat (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)           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Vval mounting           Environment         - 25 °C ~ +75 °C           Operating Temperature         -30 °C ~ +80 °C	Power Requirements		
Required Supply Voltage         auxiliary pówrer +12 Vic. ~ +48 Vic.           LED Indicator         Yes.           Power Consumption         0.12 A @ 24 Vic. Max.           Michanical         Dimensions (W x H x D)           Dimensions (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	IEEE 802.3af	Class 1	
Power Consumption         0.12 A @ 24 Vc: 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         55 torage Temperature           -30 °C ~ +80 °C         -80 °C         -80 °C	Required Supply Voltage	auxiliary power +12 Vpc ~ +48 Vpc	
Mechanical         72 mm x 123 mm x 35 mm           Dimensions (W x H x D)         72 mm x 123 mm x 35 mm           Installation         DIN-Rail or Wall mounting           Environment         0perating Temperature           Storage Temperature         -30 °C ~ +75 °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         -25 °C ~ 100 °C	Power Consumption	0.12 A @ 24 Voc Max.	
Installation         DIN-Rail or Wall mounting           Environment         Operating Temperature         -25 °C ~ +75 °C           Storage Temperature         -30 °C ~ +80 °C         -30 °C	Mechanical		
Environment         -25 °C ~ +75 °C           Operating Temperature         -25 °C ~ +80 °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		
	Operating Temperature	-25 °C ~ +75 °C	
Humidity 5 ~ 90% RH, non-condensing	Storage Temperature	-30 °C ~ +80 °C	
	Humidity	5 ~ 90% RH, non-condensing	

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### Software Specifications.

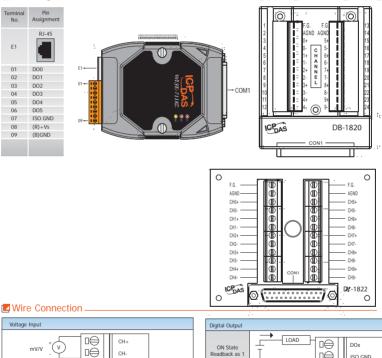
Functions	
Rule Configuration Website	Access Web server on WISE controllers to edit and upload logic rules through web browser.
36 IF-THEN-ELSE Logic Rules	3 IF conditions with AND or OR operators 3 THEN actions and 3 ELSE actions
48 Internal Registers	Hold temporary variables and read/write data via 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.

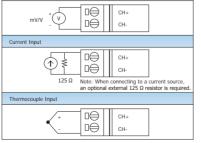
AI Channel	(anti-a)
Internal Register	= ` > ` < ` >= ` <=(value)
DO Counter	= ` > ` < ` >= ` <=(value) ` Change
Timer	Timeout   Not Timeout
P2P	DI  AI  DI counter  DO counter  IR
Rule Status	Enable   Disable

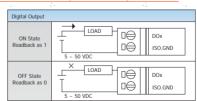


THEN / ELSE Actions		
DO Channel	ON      OFF	
Internal Register	Change the value	
DO Counter	Reset	
Timer	Start - Stop	
Email	Send	
CGI Commands		
Recipe	Execute	
P2P	DO(On/Off) · AO · IR	
Rule Status	Enable - Disable	

## Pin Assignment





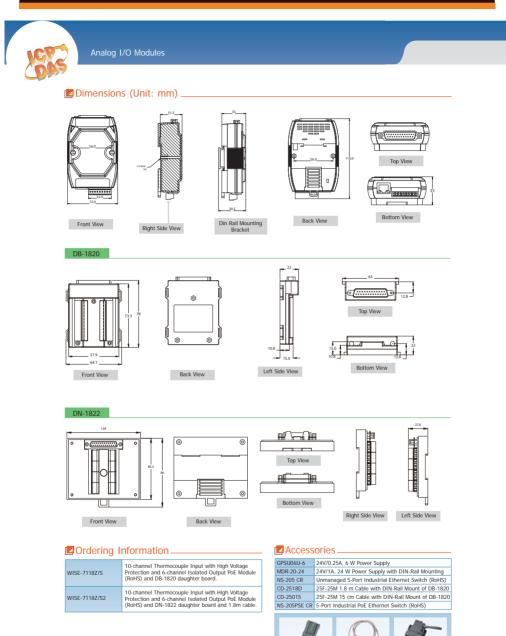


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