



- TAIWAN EXCELLENCE 2016**
- Features**
- Runs on browsers, no extra software tool is required
  - No more programming, Web pages provided for control logic editing
  - IF-THEN-ELSE logic rules execution ability
  - Support XV-board
  - Support DCON or Modbus RTU Slave devices (Up to 32)
  - Support Modbus TCP Slave devices (Up to 16)
  - SSL/TLS Email sending function supported
  - Timer and Schedule functions supported
  - Data logger and data files send back function supported
  - Active I/O sending function for real-time data transfer
  - CGI Command sending and receiving function supported for IP Camera and Network device
  - Support Modbus TCP/RTU, SNMP, FTP and MQTT protocols
  - WISE-5231M-3GWA support 3G Wireless data communication and SMS message sending/receiving
- CE    FC    RoHS

**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 labor and cost spent on system development.

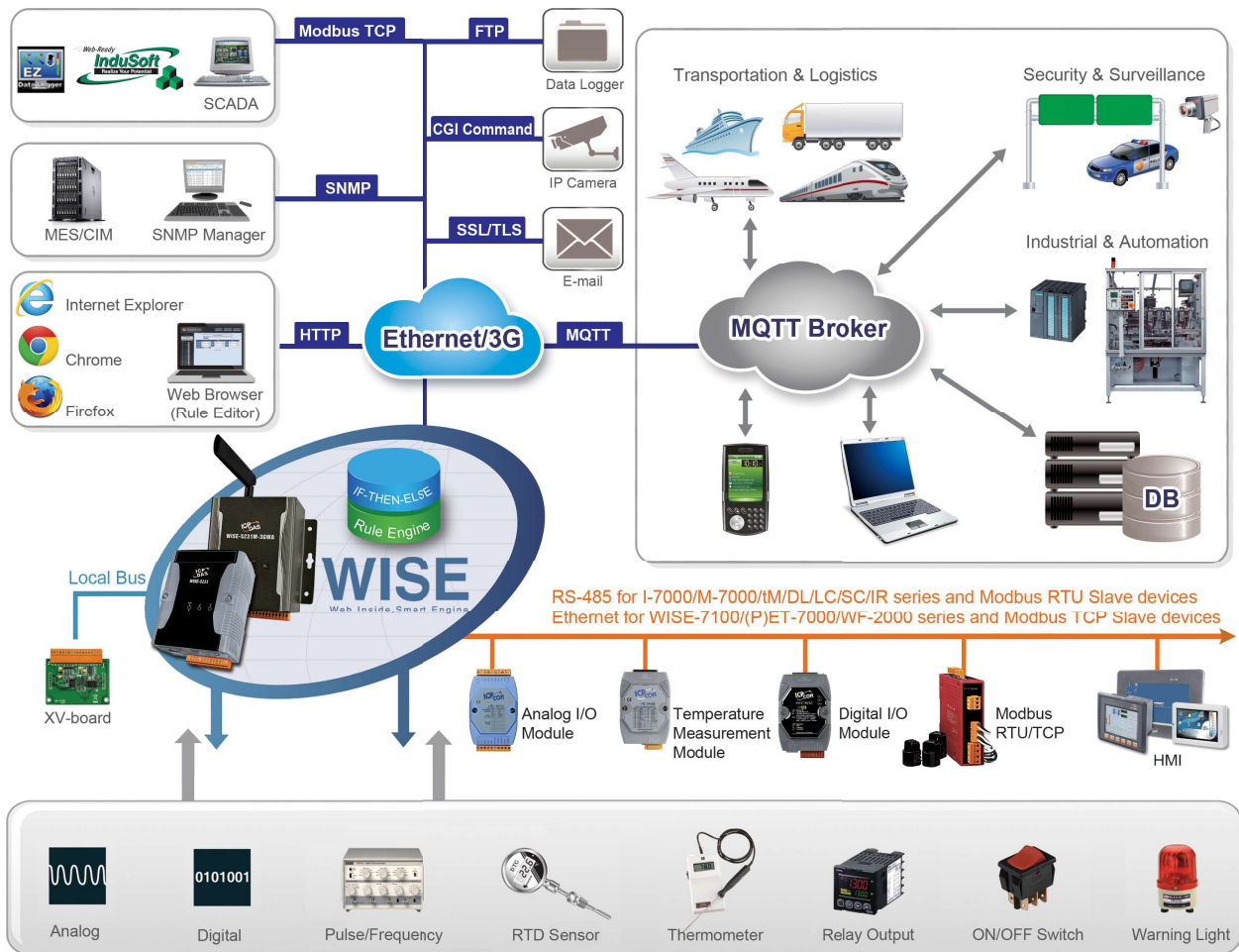
WISE-5231 provides more supports in I/O functions. It allows connections to XV-board; supports DCON I/O modules, Modbus RTU Slave modules and Modbus TCP Slave modules together. The wide range of selection options enables flexibility in I/O module integration to meet the requirements from various applications. WISE-5231 provides Data Logger function to record the I/O channel data by periodic cycle or event trigger. And it allows to send the data files by FTP to the control center. In addition to the CGI command sending function, WISE-5231 now supports the CGI command receiving function that allows the devices (such as IP camera) connected to the network to trigger the operation of IF-THEN-ELSE logic rule of WISE-5231. The well thought-out CGI command functions make WISE-5231 being able to interact with the devices flexibly in the network environment. WISE-5231 also supports SNMP, SNMP Trap, MQTT and DDNS protocols and services. The flexible integration ability with the SCADA and IT software or devices and the reliable ability of real-time I/O logic control and data logger make WISE-5231 the most cost-effective I/O controller in the IoT (Internet of Things) Age.

**Hardware Specifications**

Model	WISE-5231	WISE-5231M-3GWA
<b>System</b>		
CPU	32-bit ARM CPU	
Software	Built-in WISE Firmware	
microSD Expansion	Built-in one 4 GB microSD card (support up to 32 GB microSDHC card)	
<b>Communication</b>		
Ethernet	RJ-45 x 1, 10/100/1000 Base-TX (Auto-negotiating, Auto MDI/MDI-X)	
COM 2	RS-232 (Tx/D, Rx/D, GND), non-isolated, Speed: 115200 bps max.	
COM 3/COM 4	RS-485 (Data+, Data-), Speed: 115200 bps max. COM 4 provides 2500 VDC isolation	
<b>LED Indicators</b>		
Indicators	Power LED (Red), System LED (Red, Green)	
<b>I/O Module Support</b>		
Local I/O Module	Yes, one XV-board	
Remote I/O Module	COM3 can connect to Max.16 DCON or Modbus RTU Slave modules; COM4 can connect to Max.16 DCON or Modbus RTU Slave modules; LAN interface can connect to Max. 16 Modbus TCP Slave modules.	
<b>Power Requirements</b>		
Input Range	12 to 48 VDC	
Power Consumption	4.8 W	6.5W
<b>Mechanical</b>		
Dimensions/Installation	91 mm x 132 mm x 52 mm (W x L x H) / DIN-Rail Installation	117 mm x 126 mm x 58 mm (W x L x H) / Wall Mounting Installation
<b>Environmental</b>		
Temperature	Operating Temperature: -25 °C to +75 °C; Storage Temperature: -30 °C to +80 °C	
Humidity	10 to 90% RH, Non-condensing	
<b>GSM System</b>		
Frequency Band	-	GSM : 850/900/1800/1900 MHz
GPRS Connectivity	-	GPRS class 12/10; GPRS station class B
Data Transmission	-	Downlink transfer: Max. 85.6 kbps; Uplink transfer: Max 42.8k bps
<b>3G System</b>		
Frequency Band	-	WCDMA 850/900/1900/2100 MHz
Data Transmission	-	WCDMA / HSPA+: Download: Max. 14.4Mbps; Upload: Max 5.76Mbps

## System Architecture

### WISE-52xx System Architecture



### WISE-5231 : A perfect concentrator of sensor and I/O modules in the IoT age

Industry 4.0 is based on Internet of Things (IoT) that incorporates the technological concept of communicating and exchanging information between all facilities which brought manufacturing industry to a new era. The WISE-5231 Intelligent IoT Controller developed by ICP DAS is a perfect start point to facilitate the vision of the Smart Factory.

WISE-5231 provides powerful and flexible integration with the I/O modules and sensors at the field side, and also supports various IoT protocols for seamless integration with the SCADA/MIS/MES/IT/Network Management systems to transfer the real-time I/O information from the front-end modules (or sensors) to the back-end management systems. It also features reliable real-time I/O logic control and data logger functions. All of these features make WISE-5231 a perfect concentrator of sensor and I/O modules in the IoT age.

- Support Modbus TCP/RTU Protocol
- Support SNMP (Simple Network Management Protocol)
- Support MQTT (MQ Telemetry Transport) for message publish/subscribe mechanism
- Support FTP Server/Client for the maintenance of data logger files
- Support SSL/TLS authentication Email sending for alarm notification
- Support full CGI command operations - CGI command sending and CGI command receiving
- Support DDNS (Dynamic DNS)
- Support 3G Wireless data communication, and SMS message sending/receiving (WISE-5231M-3GWA only)