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IIoT

Product Brochure

Vol. IIoT 1.07.03

IoTstar



IIoT host

Automation T

Machine Automation



Motionnet Solutions



ET-M8194H Motion Card

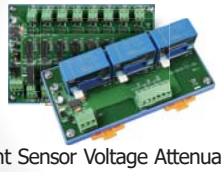
Energy Solutions



PMC



PM-3133/PM-3133-MTCP



Current Sensor Voltage Attenuator



PM-3112/PM-3114



PM-4324

IoT Solutions





UA-5200





WISE-7500



WISE-7000



DL Series



MiniOS7



Linux





ISaGRAF/Win-GRAF



HMIWorks



RTU Center



NAPOPC



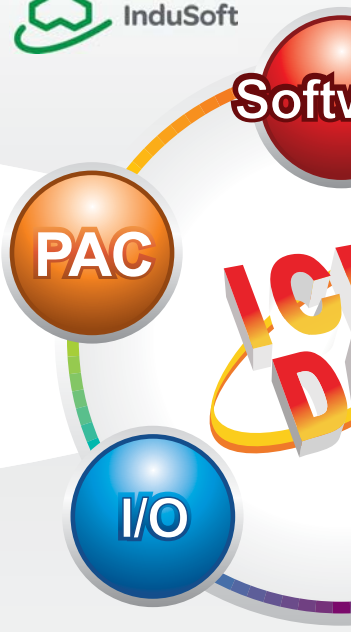














Multi-Port Serial Card



PDS/DS/tDS



Switch

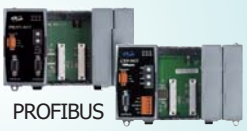
EXPANSION



RU-87Pn ET-87Pn



iDCS-8830



PROFIBUS CAN



I-8K/I-87K



X-board



XW-board XV-board



RS-485/RS-422/ RS-232

Total Solutions



WISE-5800



MQ-7200



PIR/RPIR Series



iCAM series

M2M



SMS series
(GT-500 series)



RTU series
(GT-540/G-4500)



GRP series
(GRP-500 series)



G-4500 series



GTM-20x series



RMV series
(M2M-700 series)

Building Automation



HMI & ViewPAC
(SV-2201-CE7/VP-25W1/VP-4131)



Tiny I/O Series



IR-310-RM



IR-210/IR-712A



LC series



TouchPAD

Windows XP Embedded
Windows CE

UniDAQ

VxComm Driver/Utility

Visual Studio.NET

WISE

VCEP

eLogger

EzDataLogger

SMS_DB

ware

P

AS

PC Card









PCI-104

PCI-104

ISA PCI LOCAL BUS

PCI EXPRESS

Communication



Gateway



Converter



RF



GSM/GPRS



ZigBee



Wi-Fi

WIRED



Ethernet



CAN



PROFIBUS
PROFINET



USB



EtherCAT



BACnet



EtherNet/IP



HART



WISE

WIRELESS



3G/4G



ZigBee
(ZT Series)



IR



Wi-Fi

ICP DAS

ICP DAS was established in 1993 and is strongly focused on innovation and the enhancement of industrial automation technology. ICP DAS continuously endeavors to develop a comprehensive selection of products ranging from remote I/O controllers, distributed I/O modules, I/O data acquisition boards, programmable automation controllers, industrial communication modules, web-related products, motion control systems, SCADA/HMI software to automation solutions for applications critical to energy management, motion automation, smart factories, intelligent buildings, and smart cities. Our ambition is to provide a wide range of high-quality products and versatile applications, together with prompt and efficient service, that can be implemented to assist in the continued success of our clients worldwide.



Taiwan Headquarters & 1st Factory (Hsinchu)

Our Intelligent Solutions and Comprehensive Service, Your Key to Success.

The inevitable trend toward the implementation of the Internet of Things (IoT) and Industry 4.0 currently leads global cooperation and technology development, and the future demands and business opportunities in this area are potentially unlimited. We believe that one of the key success factors in the advancement of the automation industry is intelligence. Now, however, the evolution of the industry has entered into a phase of intelligent automation, ranging from a single domain with a limited scale to encompassing multiple domains on a significantly expanded scale. Consequently, ICP DAS has transformed itself from simply a hardware provider to a provider of total automation solutions and service integration. As a result, our role in this industry has also been constantly evolving.

When looking back on our past development, we have come to realize that ICP DAS has already been intrinsically involved in the world of IoT and Industry 4.0.The integrated solutions provided by ICP DAS are a combination of both tangible products and intangible services which cover a variety of integrated application services and industry-oriented fields, including:

- ▶ M2M /IOT
- ▶ Machine Automation
- ▶ Panel Solutions
- ▶ Energy Management
- ▶ Building Automation
- ▶ SCADA, InduSoft Solutions

In addition to our close cooperation with worldwide distributors, ICP DAS has forged strong partnerships with those clients who have domain knowledge. We integrate the expertise of our clients with our ability for customization to offer products and services in line with needs. ICP DAS helps our customers to achieve success and that is both our goal and our passion.

At ICP DAS, we are committed to leveraging our considerable experience, our highly professional R&D capabilities, and our innovative products, as well as our dedication to service, in order to work together with you to seize the unquestionable future business opportunities that will arise from the increasing adoption of both IoT and Industry 4.0.



Taiwan 2nd Factory (Hsinchu)



China Training Center (Wuhan)

IIoT

	IIoT Overview	P 6
1	IoTstar: IIoT Cloud Management Software	P 7
2	UA-5200 IIoT Communication Server	P 10
3	WISE Series (IIoT host for I/O modules and sensors)	P 12
4	IIoT and smart phone Integration Solution	P 19
5	iCAM Series	P 23
6	MQTT I/O Module	P 25
7	CL Series: Smart Environmental Monitoring	P 26
8	DL Series: Smart Environmental Monitoring	P 29
9	PIR/RPIR Series: Motion Detector	P 34
10	Bluetooth LE Gauge Master for Mitutoyo Gauges	P 36
11	Stack Light Monitoring Module	P 37
12	Accelerometer Data Logger Module	P 39

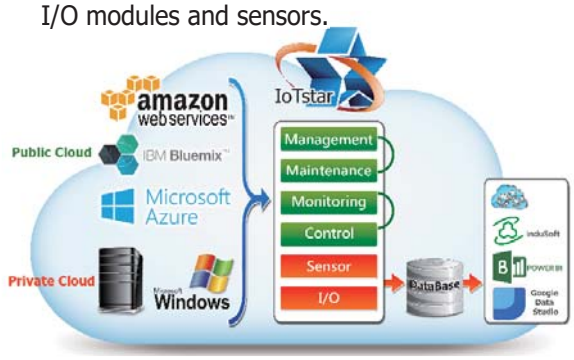


IIoT Overview

Industrial Internet of Things (IIoT) is the new cloud trend, and the IoT technology which makes all the devices communicated with each other is the first jigsaw puzzle of the entire cloud vision. To meet the demand for industry, ICP DAS offers software, controllers, I/O modules and sensors. Our goal is to take the data to the cloud and make the whole system very easy to monitor, manage and maintain.

1 IoTstar

The IoT cloud management software to monitor, manage and maintain the controllers, I/O modules and sensors.



2 UA-5200 series

The communication severs which support OPC UA, Modbus and MQTT protocol.



3 WISE series

Controllers and I/O modules for IIoT.



4 iCAM series

The network cameras co-work with WISE to implement new surveillance solution.



5 MQ-7200M series

The I/O modules which support MQTT protocol.



6 Sensors

Various sensors with communication interface to measure temperature, humidity, dew point, CH4 methane, CO, CO2, PM2.5, etc.



1. IoTstar: IIoT Cloud Management Software

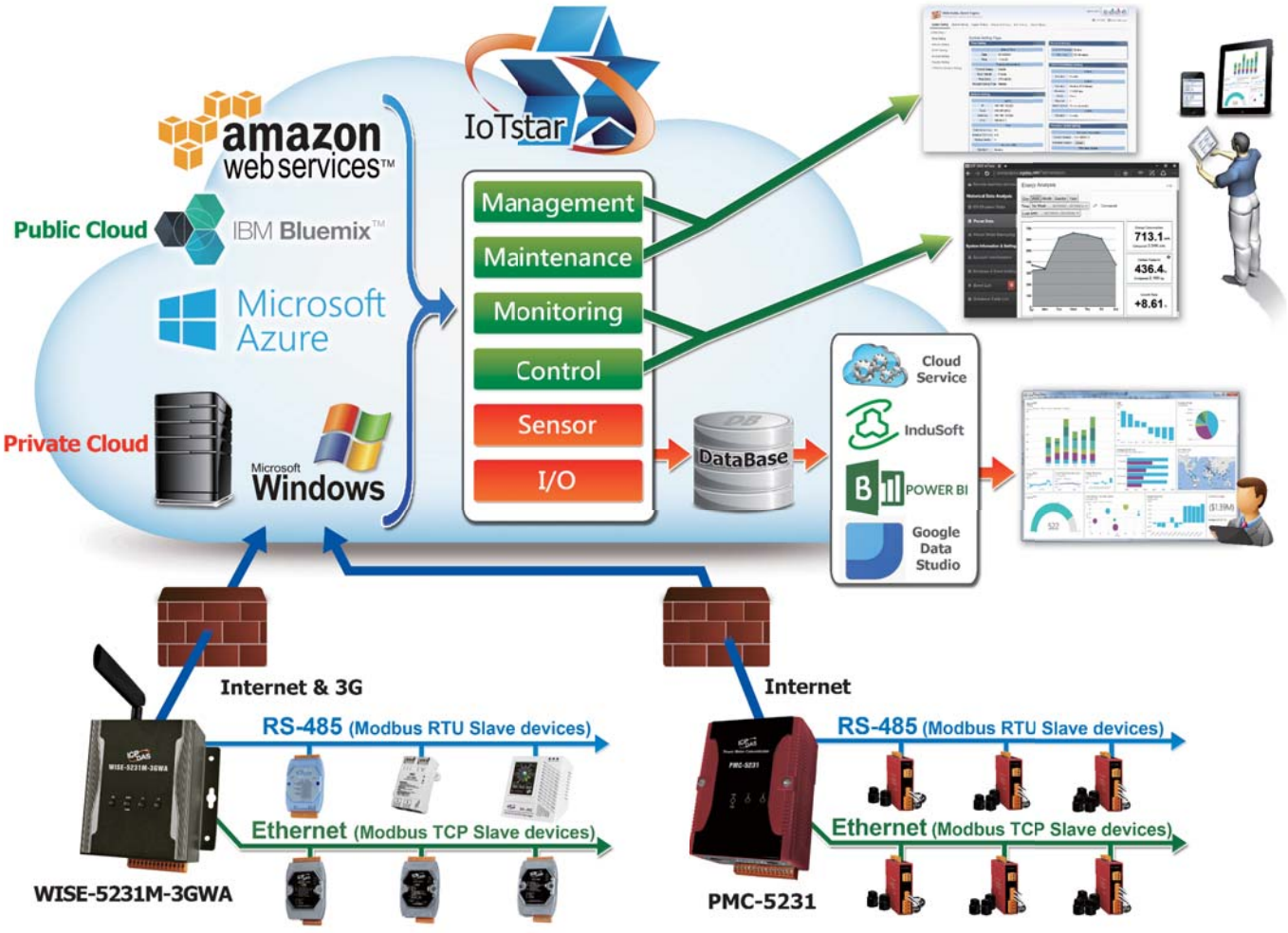


http://iotstar.icpdas.com

IoTstar is a software developed by ICP DAS for use in remote management of the IIoT concentrators on a private or public cloud platform such as: Microsoft Azure, IBM Bluemix or Amazon AWS, etc.. With the help of the IoTstar and the IIoT concentrators, data of I/O modules or sensors can be quickly and easily collected and imported to the database on the cloud platform; and users can analysis and generate report by using the tools provide by the cloud platforms.

Features:

1. Based on Public Cloud: Microsoft Azure, IBM Bluemix, Amazon AWS
2. Based on Private Cloud: Microsoft Windows 7/8/10
3. Remote Management and Maintenance
4. Remote Monitoring and Control
5. Cloud Big Data
6. Data Analysis and Report by Public Tools



Based on Public Cloud

Can be installed on Microsoft Azure, IBM Bluemix or Amazon AWS to implement the public IoT cloud solution.



Based on Private Cloud

Support Windows system (Windows 7/8/10, Windows Server) to implement the private IoT cloud solution.



Remote Management and Maintenance

Enables the remote management and firmware update on the controllers via user-friendly and intuitive Web page interface.



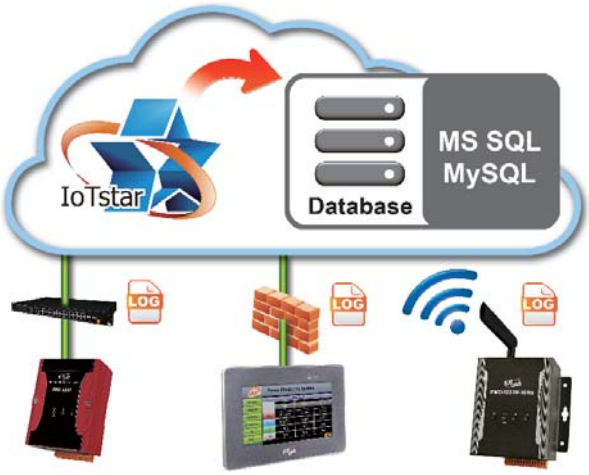
Remote Monitoring and Control

User can retrieve and review the data of the sensors directly by the built-in Web page interface.



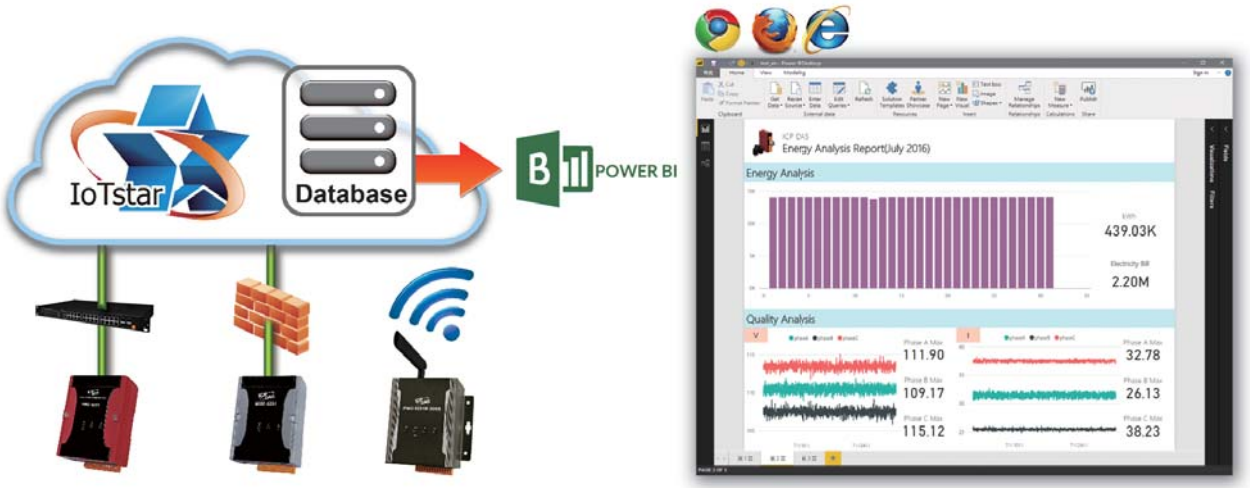
Cloud Big Data

Receive the data log file of the sensors from the remote IIoT concentrators and import the content of the data log file into the Database (MySQL or MS SQL).



Analysis and Report by Public Tools

By Database interface, it is easy to integrate with SCADA, Microsoft Power BI, Google Data Studio or Cloud Service to retrieve the data of the Sensors directly from the Database for future data analysis.



▲ Analysis and Report by Microsoft Power BI



▲ Analysis and Report by Google Data Studio

Products support IoTstar:





WISE-5231 series:
IIoT controller for I/O modules and sensors



WISE-5231M-3GWA
IIoT 3G controller for I/O modules and sensors



PMC-5231 series:
IIoT concentrator for power meters



PMD series:
IIoT concentrator with touch panel display for power meters

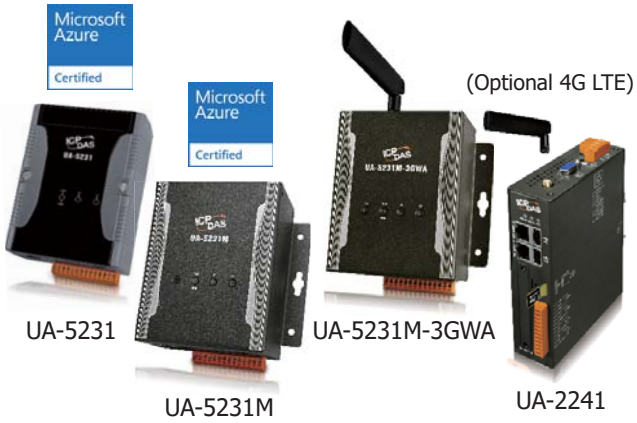
2. UA-5200 IIoT Communication Server

UA-5231

IIoT Communication Server, with 1 Ethernet port (RoHS)

UA-5231M
UA-5231M-3GWA/4GE
UA-2241

IIoT Communication Server (Metal) (RoHS)



Features:

- OPC UA Server
- MQTT Broker Inside
- ARM CPU, 1.0 GHz
- Linux kernel 3.2.14 OS
- Support Redundancy (OPC UA) and PID
- 10/100/1000 Mbit/s Ethernet Port
- 4 Serial Ports (RS-232/RS-485)
- Operating Temperature: -25 ~ +75°C

Introduction:

The UA-5200/2241 series is an IIoT communication server. It has built-in OPC UA server, MQTT broker and client driver to meet the need to connect to the MES, ERP, SCADA and cloud service. And with the Ethernet, RS-232, RS-485 interfaces and Modbus TCP/RTU/ASCII protocol, the UA-5200/2241 series can access regular remote I/O modules or controllers that already widely used in the factory. With the UA-5200/2241 series, it becomes very easy to make things used in the factory connect to MES, ERP, SCADA and cloud.

Functions:

Web-based UI

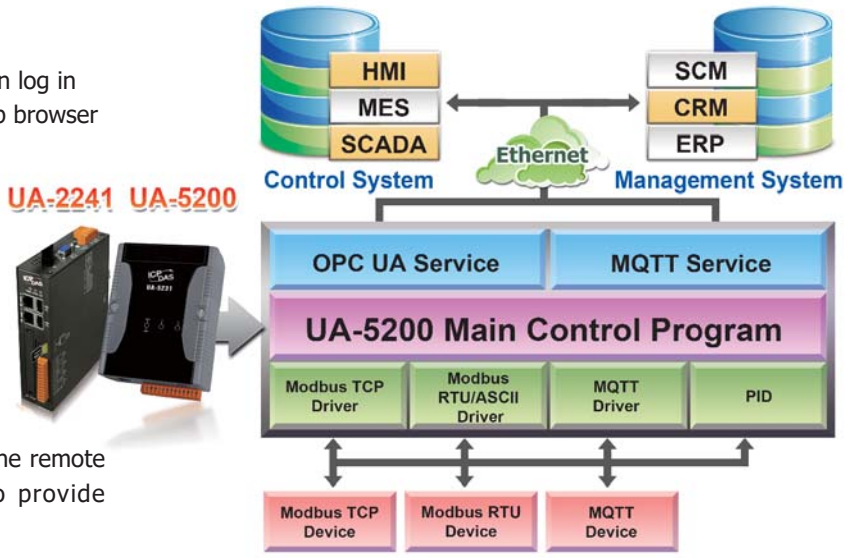
With the Web-based User Interface, users can log in and configure the controller via a regular web browser that only need a mobile device or computer with web browsing capabilities.

OPC UA Server: IEC 62541 Standard

The OPC UA Server certified by the OPC Foundation can assist the integration for the local-end devices, actively upload data to the application system.

PID Logic Operation

The PID function can dynamically combine the remote I/O devices for the PID logic control to provide temperature control and case field solutions.



Support Modbus TCP/RTU/ASCII Master

Through the controller's RS-485, RS-232 and Ethernet ports can connect to the Modbus TCP/RTU/ASCII Slave devices. Build systems with scalability and flexibility to meet the diverse application needs and expansion at any time.

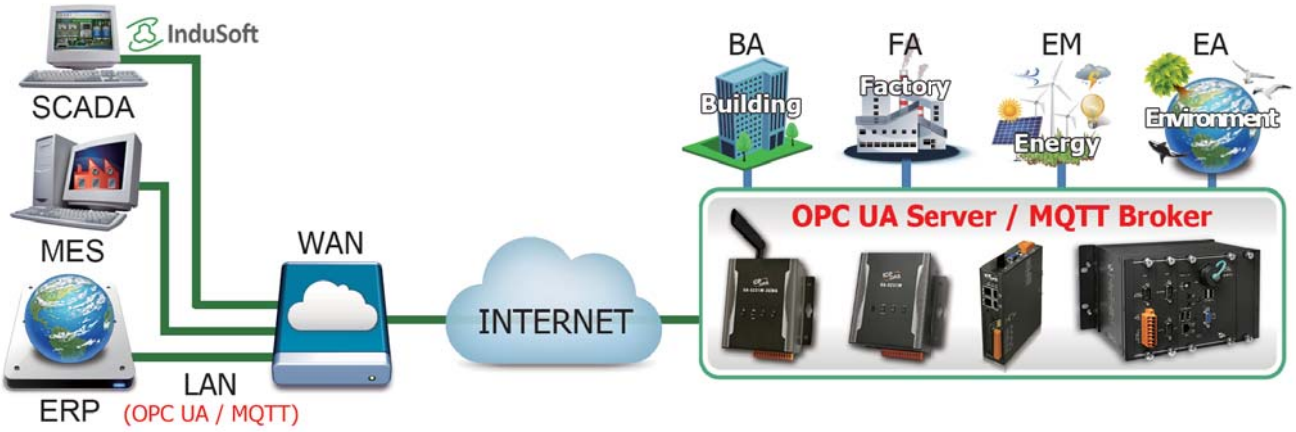
MQTT Broker Inside

Compliance with MQTT v3.1.1 protocol. Support MQTT message distribution management. Users do not need to build Broker system when using MQTT communications.

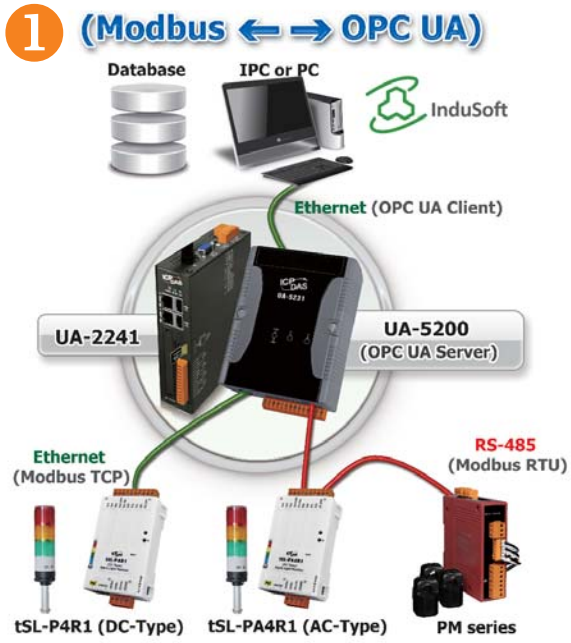
Support MQTT Protocol

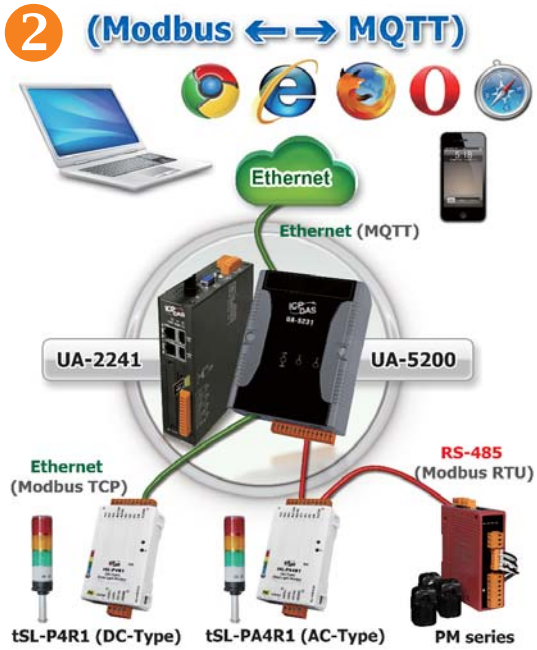
Support MQTT to allow the IoT devices communicating with the OPC UA system and the UA-5200/2241 conducting the data acquisition and management; and also can convert and publish the devices' data under the UA-5200/2241 to the IoT system.

System Integration Main Architecture:



Solutions:







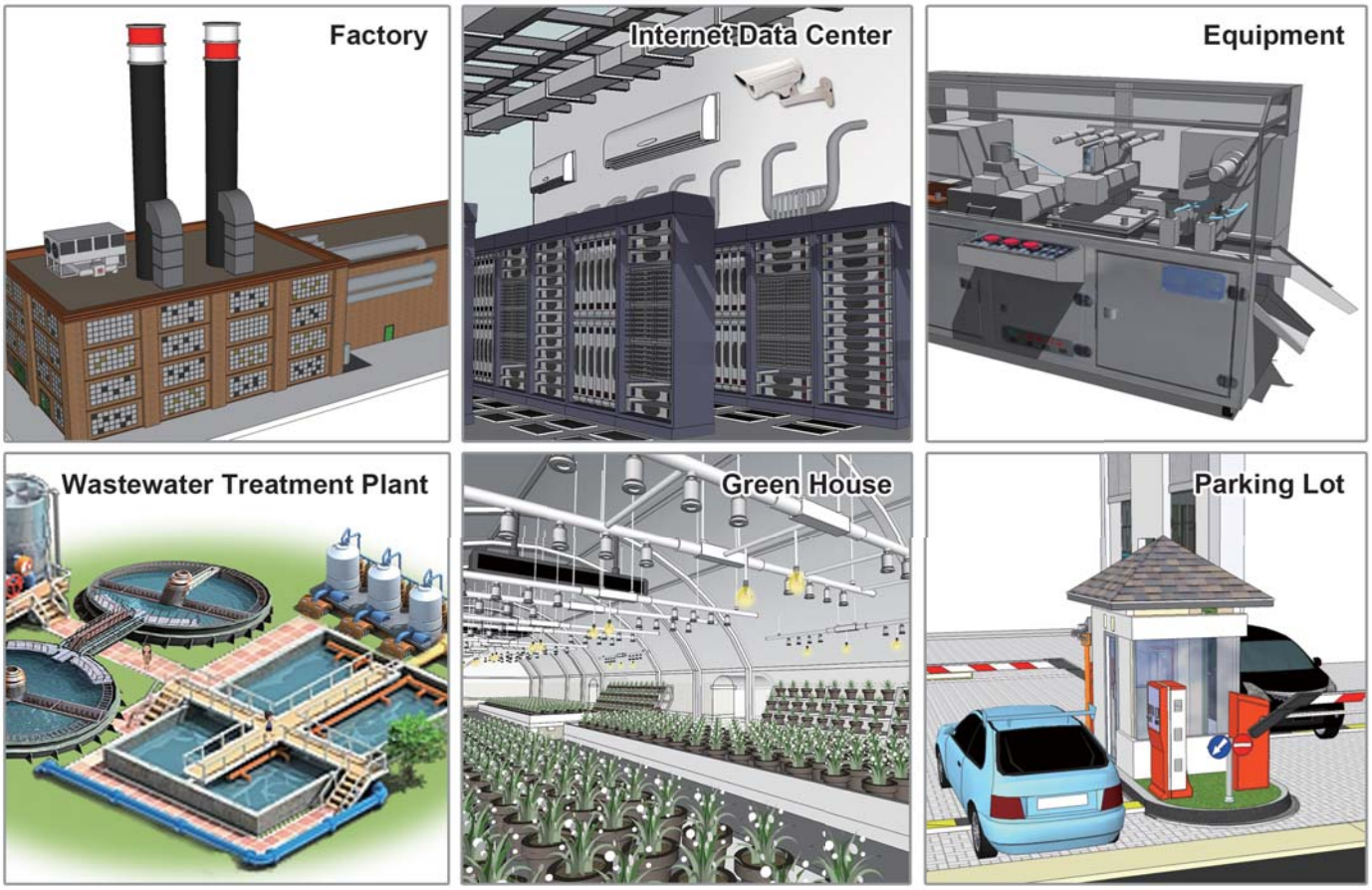


3. WISE Series

IIoT host for I/O modules and sensors

The trend of "Industry 4.0" has brought numerous upgrade requirements in industries. For a smart factory, each process or equipment is required to operate independently and is able to communicate with each other. ICP DAS has developed a series of WISE controllers and I/O modules, which allows to getting down to the smart front-end. With the built-in intelligent logic engine and a wide range of I/O modules, it can perform monitoring of the on-site sensors and devices in real time; and then it can connect with the network system seamlessly via the MQTT communication protocol. By using WISE series of controllers and I/O modules, the users can design a variety of combinations to meet the requirements from all applications; and achieve the Internet of things vision with ease.

ICP DAS WISE Product Line & Traditional Ethernet I/O Module Comparison	
ICP DAS WISE Product Line	**Traditional Ethernet I/O**
Built-in logic engine, can proceed complex operations	Just simple input, output operations
Supports MQTT for IoT system	Does not support MQTT
Provides management software on the cloud	N/A
Microsoft Azure certified (WISE-5231, WISE-5231M-3GWA)	N/A



WISE family

Product Series		WISE-2241 Series (IIoT host)	WISE-5231 Series (IIoT host)	WISE-5800(-MTCP) WISE-5801(-MTCP)
Pictures		NEW (Optional 4G LTE) 		
Hardware	CPU	32 bit (1 GHz)		16 bit (80 MHz)
	Ethernet Interface	2×10/100/1000 Base-TX	1×10/100/1000 Base-TX	1×10/100 Base-TX
	MicroSD Interface	Yes (Max. 32 GB microSD)		Yes (Max. 4 GB microSD)
	I/O Channel Operation	XV-board, RS-485, Ethernet		XW-board, RS-485 (WISE-580x), Ethernet (WISE-580x-MTCP)
Software Function	IF-THEN-ELSE Logic Rule	Yes		Yes
	Schedule	Yes (Calendar and Weekly repeat mode)		Yes (Calendar mode)
	Data Logger	Yes (Multiple sets)		Yes (One set)
	Connect with SCADA	Modbus TCP/RTU, SSL Email, FTP Client/ Server, CGI sending/receiving, **MQTT, SNMP**		Modbus TCP/RTU, non-SSL Email, FTP Client, CGI sending
	SMS & Wireless Communication	4G System : WISE-5231M-4GE/WISE-2241M-4GE 3G System : WISE-5231M-3GWA		2G SMS for WISE-5801(-MTCP)
	Support IoTstar	Yes	Yes	-

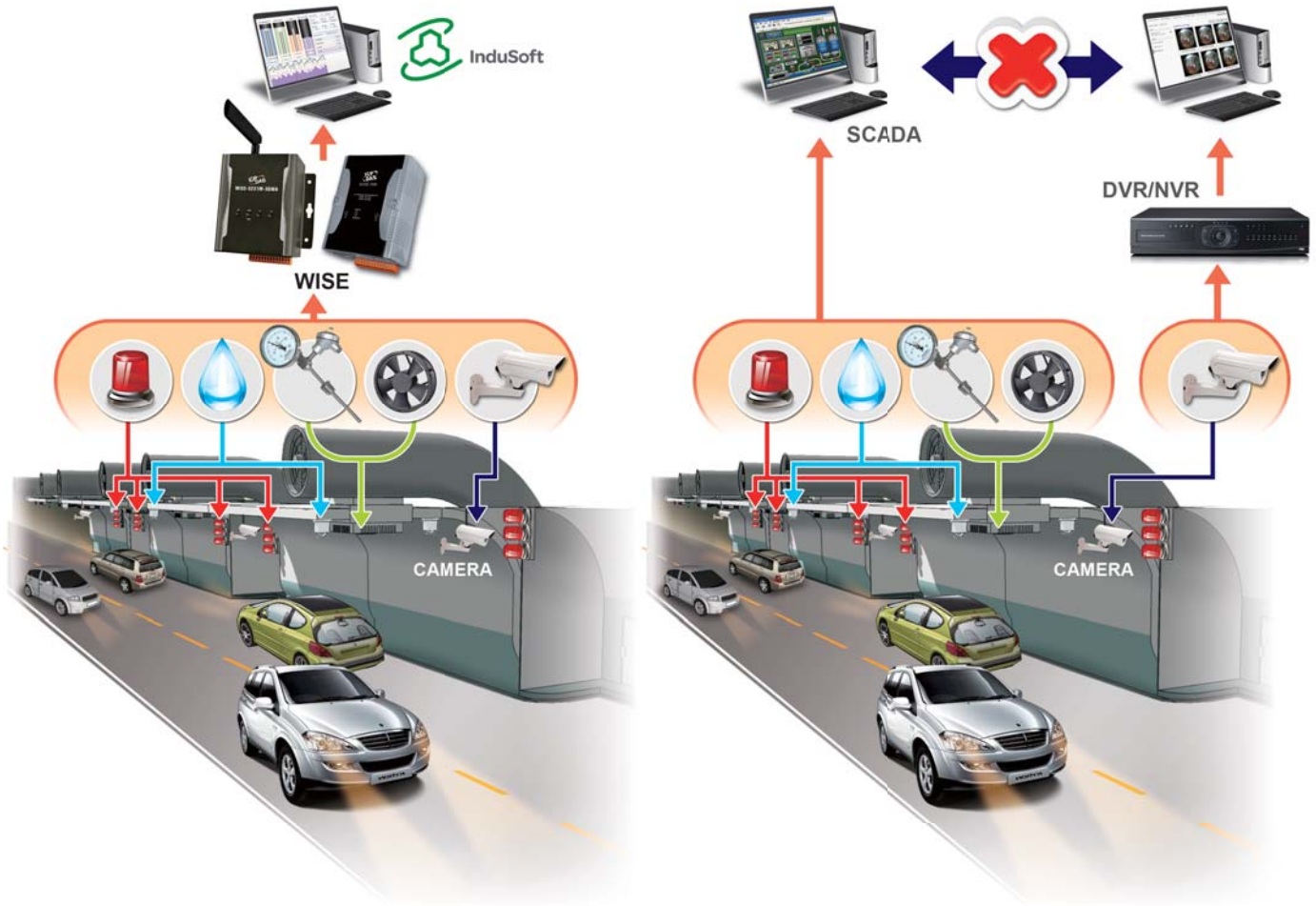
Product Series		WISE-75XXM Series	WISE-71XX Series
Pictures		NEW 	
Hardware	CPU	32 bit (400 MHz)	16 bit (80 MHz)
	Ethernet Interface	10/100 Base-TX, 2-port Ethernet Switch Support Daisy-Chain Connection	10/100 Base-TX
	I/O Channel Operation	Yes	Yes
Software Function	IF-THEN-ELSE Logic Rule	Yes	Yes
	Schedule	Yes	-
	Data Logger	-	-
	Connect with SCADA	Modbus TCP, non-SSL Email, CGI sending, **MQTT**	Modbus TCP, non-SSL Email, CGI sending
	Support IoTstar	-	-

WISE Surveillance Solution

A general surveillance system on current market usually features separated systems: the camera DVR/NVR as a system, and the I/O monitoring as another system; each system operates independently. For now the DVR/NVR system of the camera usually records video for 24H/7Day without interruption, it requires huge storage space and sufficient network bandwidth; therefore the system implementation fee is usually high. In addition, when playback a certain video, it does not allow to search the suspicious activities of related I/O (temperature, doors and windows switch, water level, etc.) at the same time.

ICP DAS WISE surveillance solution integrates logic control, I/O, camera and data log in one single WISE controller. WISE allows two-way interactions between the I/O and the camera; it enables to record a piece of video or to take images when there is an event triggered by either I/O condition or ROI (Region of Interest) by camera. In this way, the storage size can be reduced significantly and the connection between I/O event and Video/Image can be built for easy query.

ICP DAS WISE Surveillance Solution	Regular Surveillance Solution
1. One WISE controller to integrate camera and I/O	1. Two independent systems: SCADA & DVR/NVR
2. Records key video and image, only needs a few storage memory.	2. Record video 24H/7Days, needs huge storage memory.
3. Two-way interaction between I/O and Video/Image	3. I/O and Video/Image are independent
4. Can work stand along or be integrated into a SCADA system	4. Needs a host PC to run the SCADA
5. One stop shopping/service for ● Controller: WISE Series ● I/O Modules: Various options for RS-485, Ethernet interfaces ● Camera: Bullet, Fisheye, Dual Lens ● SCADA: InduSoft	5. Buy from different venders for SCADA, I/O Modules, DVR/NVR



WISE Introduction

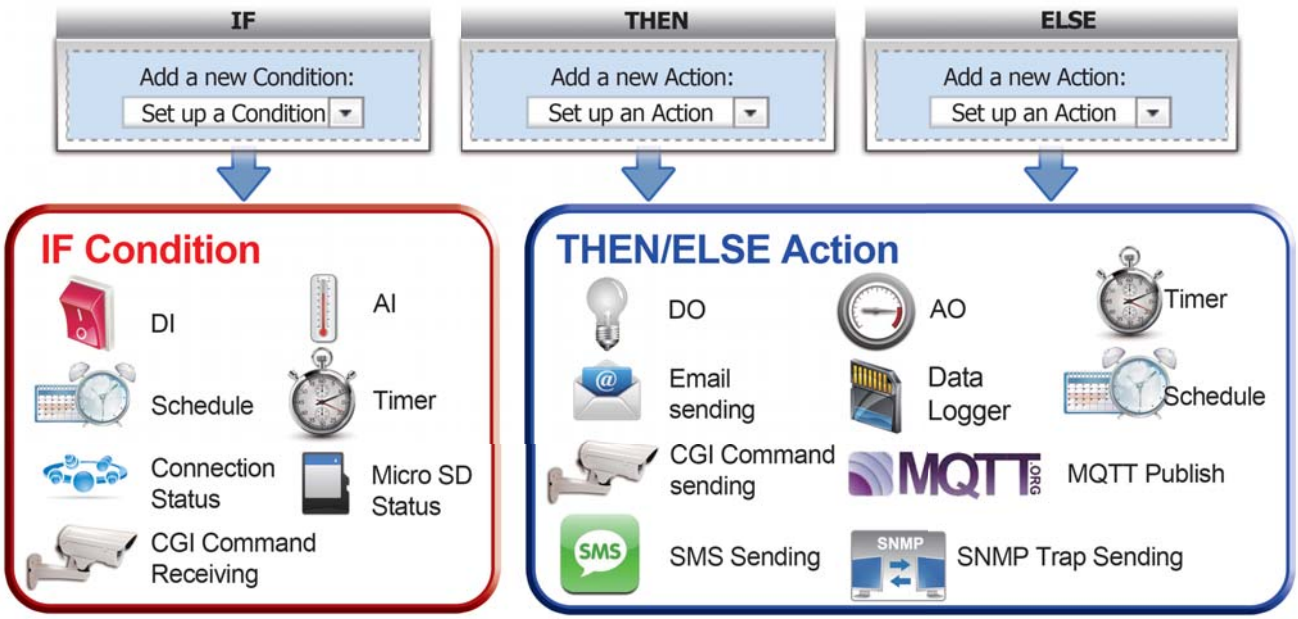
WISE (Web Inside, Smart Engine) is a product series developed by ICP DAS that functions as control units for use in remote logic control and monitoring in various industrial applications. WISE offers a user-friendly and intuitive web site interface that allows users to implement IF-THEN-ELSE control 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 System Architecture



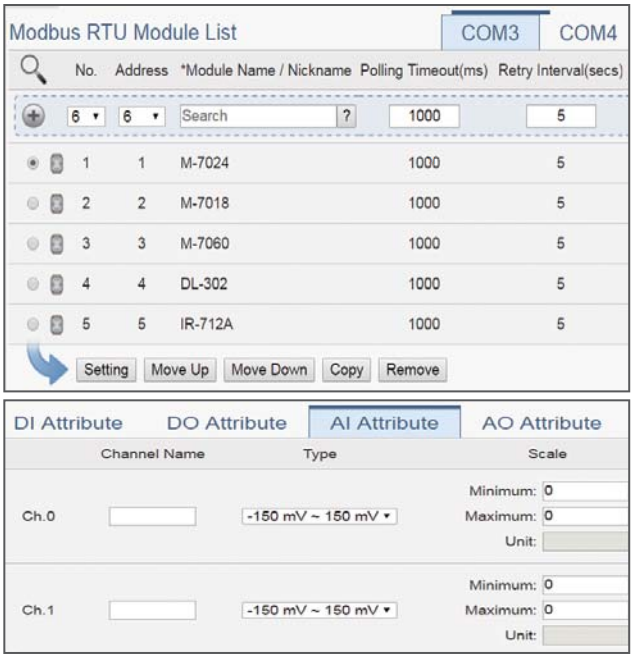
IF-THEN-ELSE logic rules execution ability

WISE controller features an IF-THEN-ELSE logic rule engine; it offers IF-THEN-ELSE rules for users to set up the logic content. After completing rule edition and downloading rules to the WISE, the rule engine will loop execute the rules in accordance with the execution order under specific conditions.

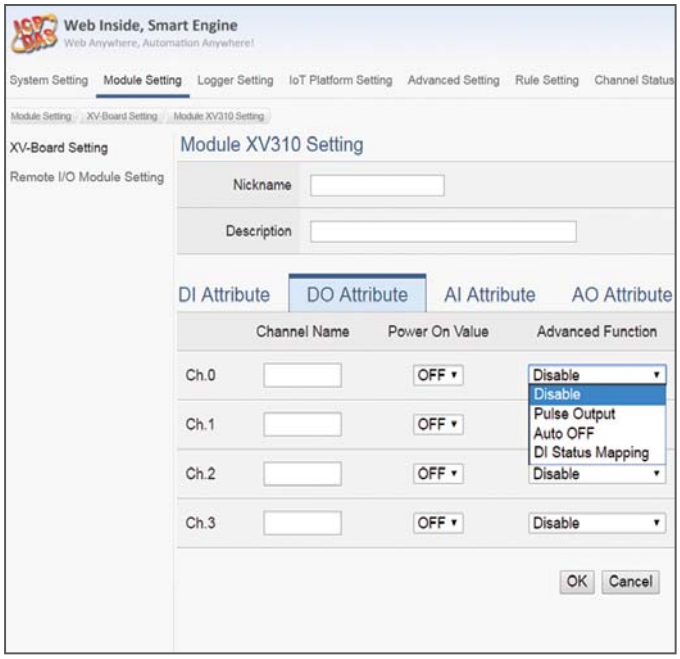


Offer various options for I/O channel settings

WISE offers various options for I/O channel settings; for example: noise filter for DI signals, Deadband setting for AI signals, linear scale setting, temperature degree in Celsius or Fahrenheit setting, power on value setting for DO channel, pulse output setting and DI/DO counter setting, etc.



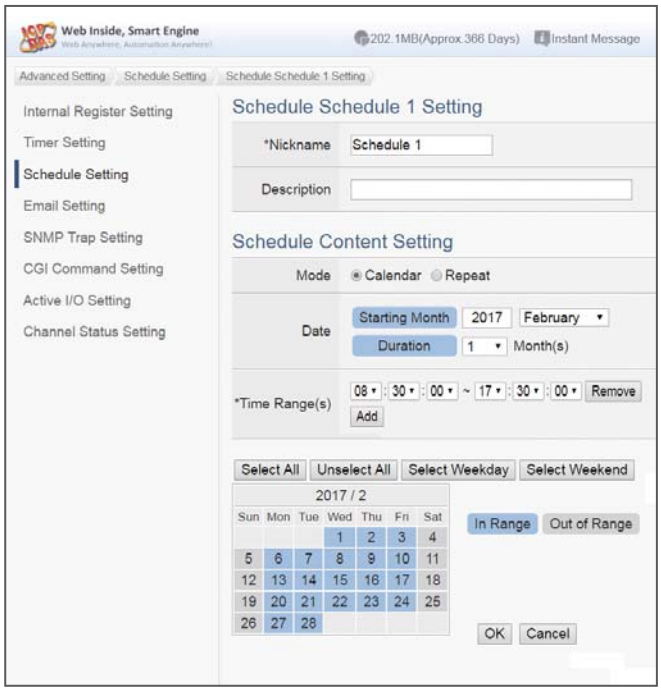
▲ AI Channel Setting Page

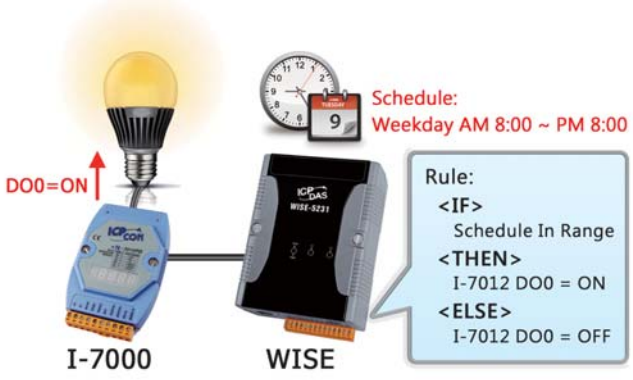


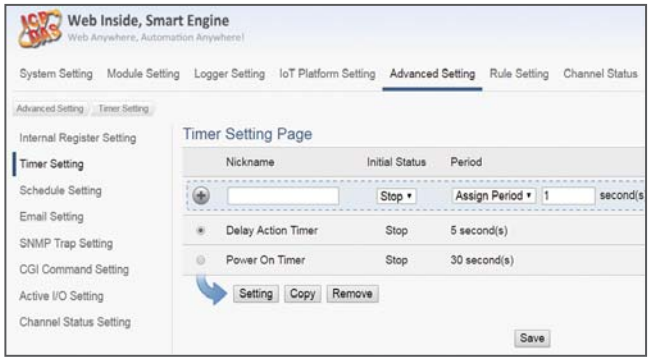
▲ DO Channel Setting Page

Provide Timer and Schedule operation

WISE features Timer and Schedule functions: It allows user to schedule specific date or time for control logic execution, or perform specific tasks such as time delay. With calendar user interface provided, Schedule setting can be more efficient and flexible.





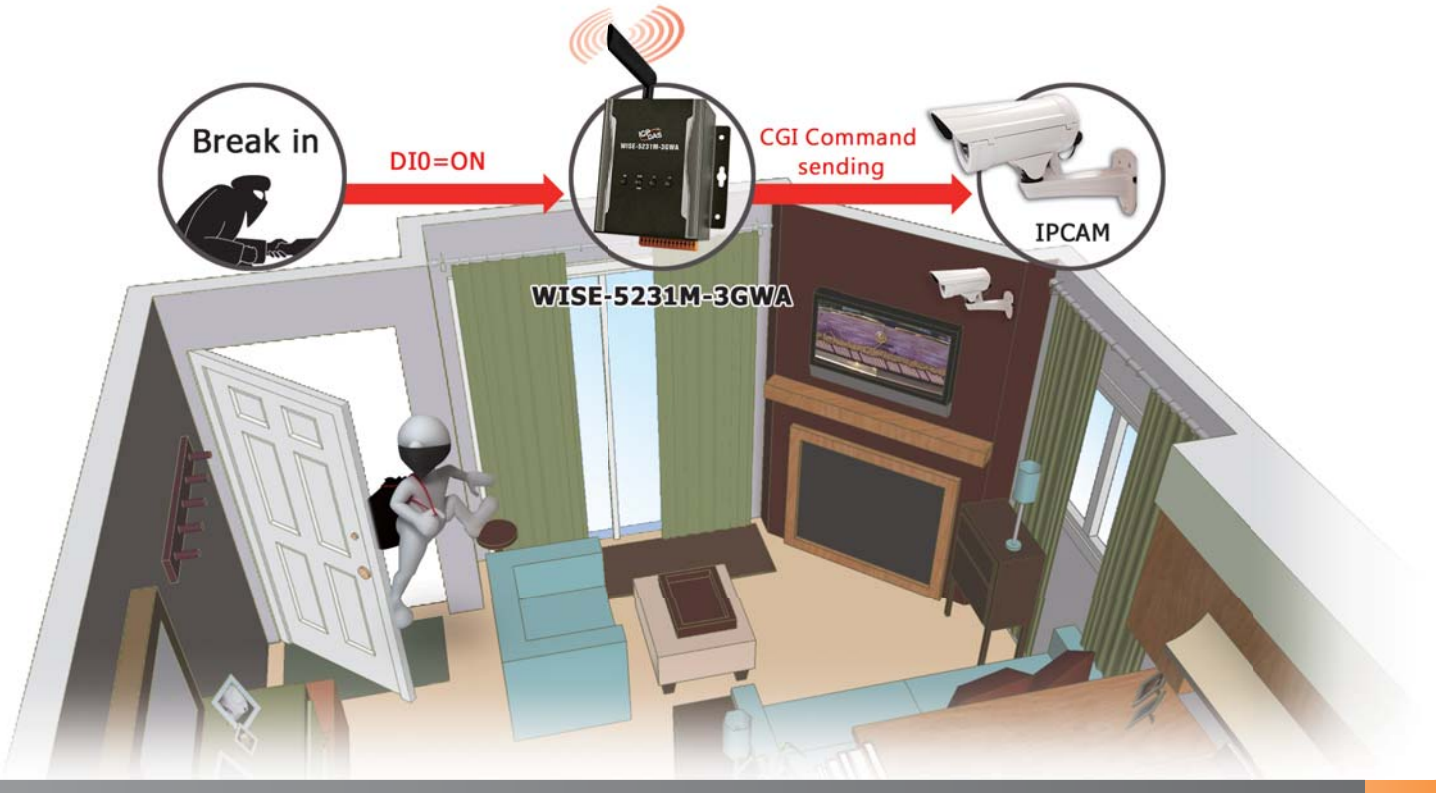


▲ Schedule Function

Well-thought-out CGI command operation with IP Camera

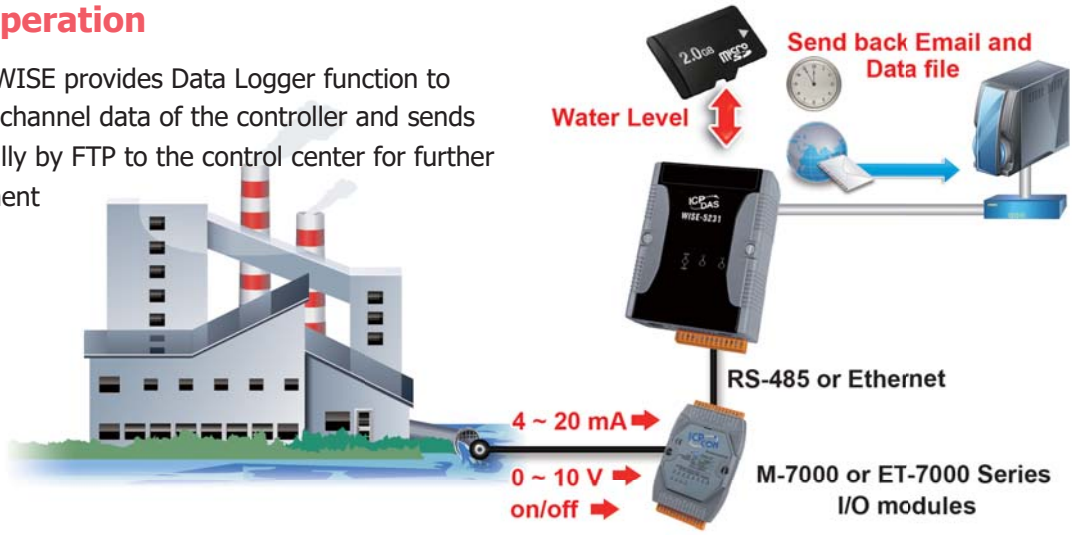
WISE supports full CGI command operations - CGI command sending and CGI command receiving. The CGI command sending action can be added to the logic edition as part of logic control in response to specific events. The CGI command receiving function enables WISE to receive the CGI commands from others network devices. The content of CGI command received can be used in IF condition statements to trigger the THEN/ELSE actions.



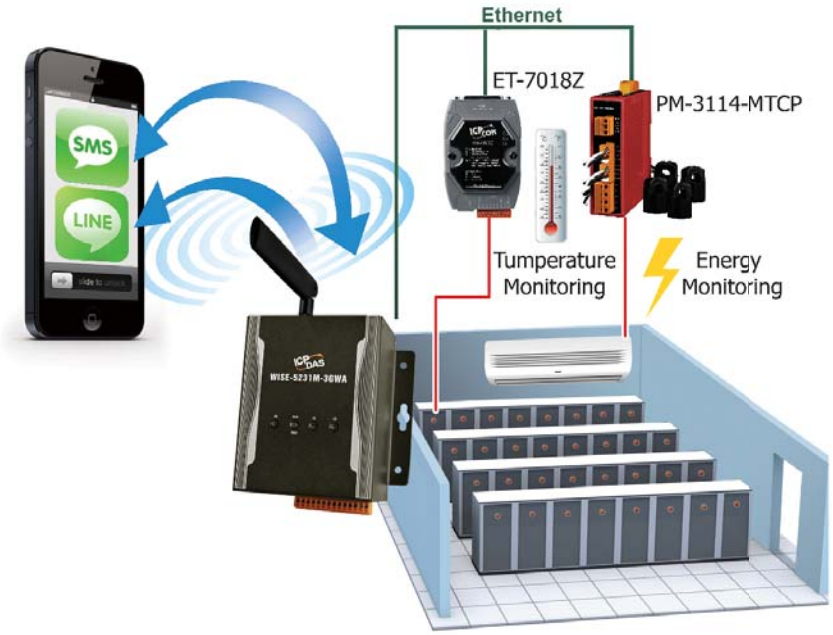


Data Logger operation

With the microSD card, WISE provides Data Logger function to real-time record the I/O channel data of the controller and sends the data files automatically by FTP to the control center for further administration management or data analysis.

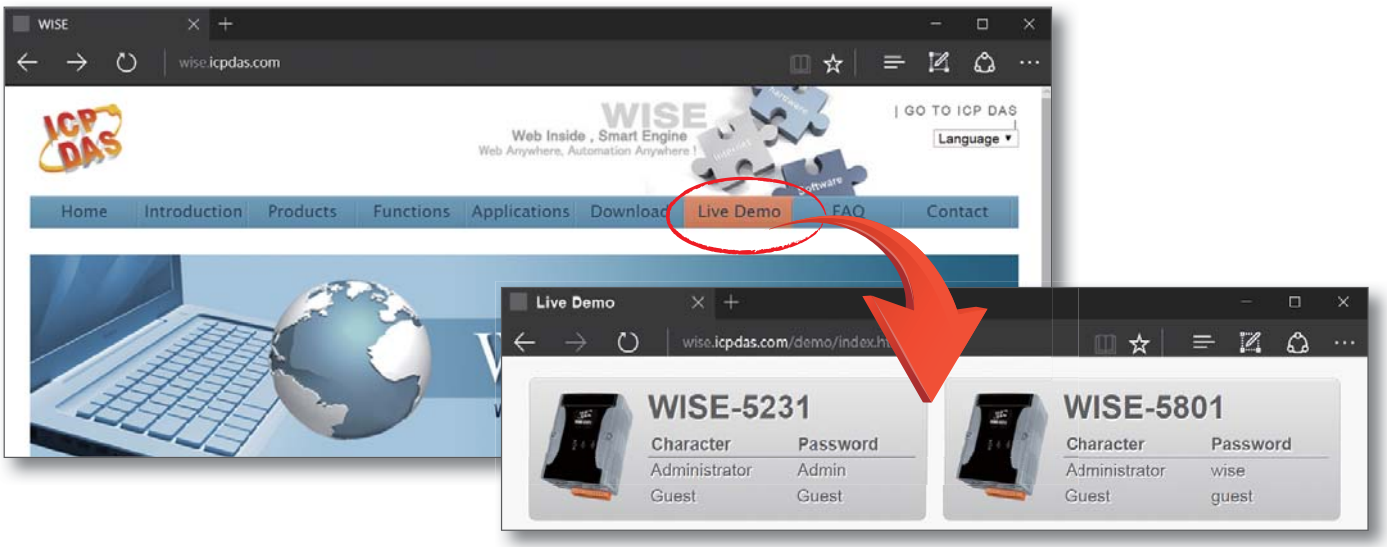


Message Notifying to cellphone via LINE or SMS (WISE-5231M-3GWA only)



WISE-5231 series support LINE notification. It can send messages and images to the LINE app. The time and condition to send can be defined in the IF-Then-Else rules. In addition to the Ethernet interface, WISE-5231M-3GWA provides 3G wireless communication interface. It can send the real-time I/O channel data, data logger files and Email alarm message back to the control center by 3G wireless network. WISE-5231M-3GWA also supports SMS message sending and SMS command receiving function. The SMS command receiving function just allows predefined specific phone numbers to perform tasks such as changing I/O values , executing specific logic rules, etc.

WISE Live Demo *http://wise.icpdas.com*



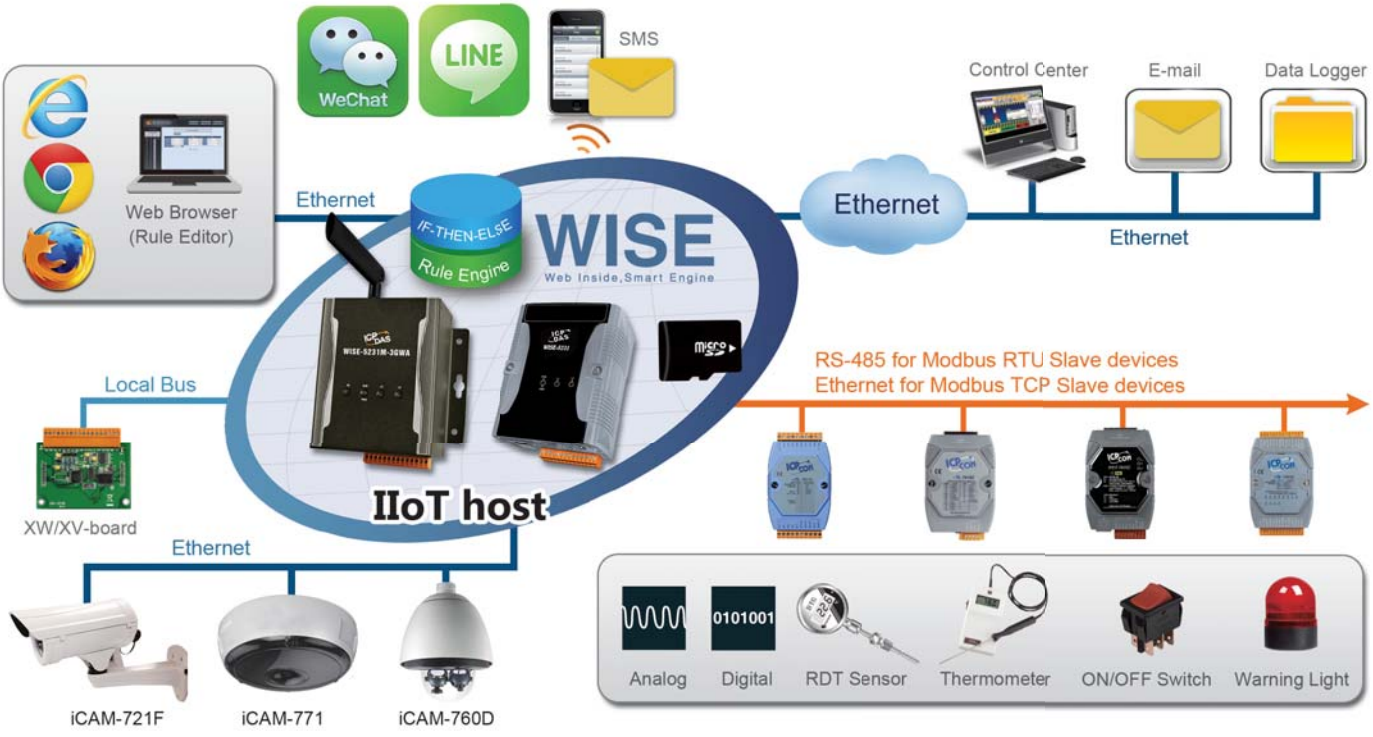
4. IIoT and smart phone Integration Solution

WISE + I/O & Sensor + Camera + LINE

The WISE-5231 series is the IIoT host designed by ICP DAS for industrial IoT. In addition to the simple, easy-to-use, flexible and full-featured features of the past, the new features were introduced in January 2018. The I/O data and pictures taken by the camera can be instantly pushed to the LINE contacts and chat rooms on the smart phone.







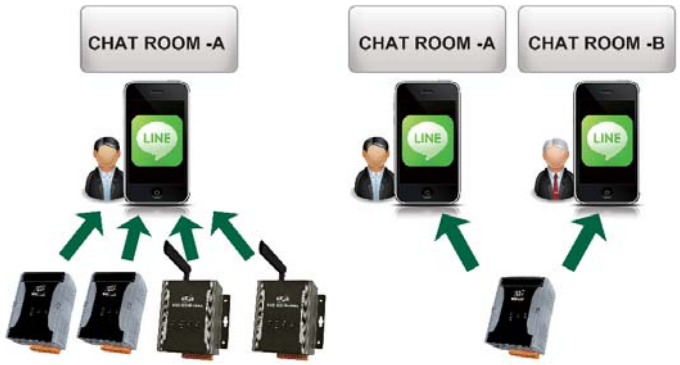
WISE message notification to smart phone



SMS: Sends alert messages and receives commands

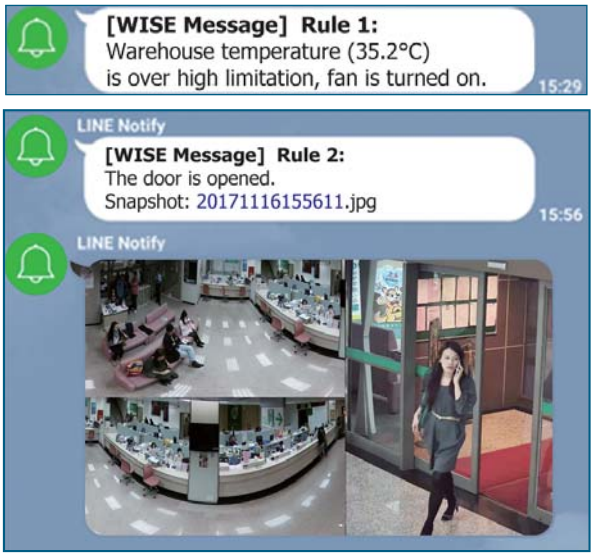
- The same SMS can be sent to multiple phone numbers
- The same SMS can include multiple data
- Phone number must be authorized to send SMS commands

LINE: Sends alert messages and picture



- Object: Contact, Chat Room
- Content: text, picture
  - Text: 1000 / hour
  - Picture (1024 x 1024, < 1 MB): 50 / hour
- When:
  - Triggered by WISE If-Then-Else rules
  - Triggered by camera motion detection





Ordering Information:

WISE-5231	IIoT host, support for LINE notification, with Ethernet
WISE-5231M-3GWA	IIoT host, support for LINE notification, with Ethernet and 3G (WCDMA)
WISE-5231M-4GE	IIoT host, support for LINE notification, with Ethernet and 4G (FDD LTE)
WISE-5231M-4GC	IIoT host, support for LINE notification, with Ethernet and 4G (FDD, TDD LTE)
WISE-2241	IIoT host, support for LINE notification, with Ethernet and optional 4G (FDD LTE)

More:

WISE introduction and live demo: ***http://wise.icpdas.com***
RS-485 remote I/O module: M-7000 series

Selection Guide:

ICP DAS provides various WISE controllers for users to choose from to meet their demands for use in various industrial applications:



WISE-71xx Intelligent I/O Modules

Model Name		WISE-7102	WISE-7105	WISE-7115	WISE-7117	WISE-7118Z	WISE-7119	WISE-7126
Pictures								
Model Name		**WISE-7502M**	**WISE-7504M**	**WISE-7515M**	**WISE-7517M**	**WISE-7518ZM**	**WISE-7519ZM**	**WISE-7526M**
Pictures								
Ethernet Port		10/100 Base-TX with PoE (Power over Ethernet)						
Local I/O Function	DI	6	-	-	-	-	-	2
	DO	3	4	-	4	6	4	2
	AI	3	8	7	8	10	8	6
	AO	-	-	-	-	-	-	2
Over Voltage Protection		240 Vrms	110 VDC/VAC	-	240 Vrms	240 Vrms	240 Vrms	240 Vrms
Note		-	Support Thermistor	Support RTD	-	Support Thermocouple Input		-

Model Name		WISE-7142	WISE-7144	WISE-7151	WISE-7152	WISE-7153	WISE-7160	WISE-7167
Pictures								
Model Name		**WISE-7542M**	**WISE-7544M**	**WISE-7551M**	**WISE-7552M**	**WISE-7553M**	**WISE-7560M**	**WISE-7567M**
Pictures								
Ethernet Port		10/100 Base-TX with PoE (Power over Ethernet)						
Local I/O Function	DI	-	8	16	8	16	6	-
	DO	16 (Sink Type)	8 (Sink Type)	-	8 (Source Type)	-	6 (Power Relay)	8 (Power Relay)
Note		-	WISE-7153's DI channel is for Dry Contact (Source). Other's DI channel is for Wet Contact (Sink, Source).					-

I/O Expansion for WISE-580x

☑ I/O Expansion Boards (XV-board) for WISE-5200

DIO Board

Model Name	Series	DI			DO		
		Channels	Sink/Source	Contact	Channels	Type	Sink/Source
XV107	XV	8	Source	Wet	8	Open Collector	Sink/Source
XV107A		8	Sink		8	Open Emitter	Source
XV110		16	Sink/Source	Wet + Dry	-	-	-
XV111		0	-	-	16	Open Collector	Sink
XV111A		0	-	-	16	Open Emitter	Source
XV116		5	Sink/Source	Wet	6	Power Relay, Form A	-

Multifunctional Board

Model Name	Series	AI		AO		DI		DO	
		Channels	Type	Channels	Type	Channels	Type	Channels	Type
XV306	XV	4	Voltage/Current	-	-	4	Wet	4	Relay, FormA, 6A
XV307		-	-	2	Voltage/Current	4	Wet	4	Relay, FormA, 6A
XV308		8	Voltage/Current	-	-	DI+DO=8	Dry, Source	DI+DO=8	Open Collector, Sink
XV310		4	Voltage/Current	2	Voltage/Current	4	Dry, Source	4	Open Collector, Sink

☑ I/O Expansion Boards (XW-board) for WISE-58xx(-MTCP)

DI, DO Expansion

Model Name	DI	DO	Isolation
XW107	8	8	-
XW107i			3750 Vrms
XW110i	16	-	3750 Vrms

AI, AO, DI, DO Expansion

Model Name	AI (12-bit)		AO (12-bit)		DI	DO	Isolation
	Channels	Range	Channels	Range			
XW304	6	±5 V	1	±5 V	4	4	-
XW310	4	±10 V	2	±10 V	3	3	
XW310C	4	0 ~ 20 mA	2	0 ~ 20 mA	3	3	

☑ I-7000 Remote I/O Module

AI/AO Module

Model Name		AI	AO	DI	DO
Voltage/Current	**I-7012**	1	-	1	2
	I-7017	8	-	-	-
Thermocouple	**I-7011**	1	-	1	2
	I-7018	8	-	-	-
	I-7019	8	-	-	-
RTD	**I-7013**	1	-	-	-
	I-7015	6	-	-	-
	I-7033	3	-	-	-
Thermistor	**I-7005**	8	-	-	6
Transmitter	**I-7014**	1	-	1	2
Analog Output	**I-7021**	-	1	-	-
	I-7022	-	2	-	-
	I-7024	-	4	-	-
	I-7024R	-	4	5	-

Others

Model Name		DI Counter	DO
Counter/Frequency	**I-7080**	2	2
Model Name		**DI**	**PWM Output**
PWM	**I-7088**	8	8

DI/DO Module

Model Name		DI	DO
Digital Input	**I-7041**	14	-
	I-7051	16	-
	I-7052	8	-
	I-7053	16	-
	I-7058	8	-
	I-7059	8	-
Digital Output	**I-7042**	-	13
	I-7043	-	16
	I-7045	-	16
Digital Input & Output	**I-7044**	4	8
	I-7050	7	8
	I-7055	8	8
Relay Output	**I-7060**	4	4
	I-7061	-	12
	I-7063	8	3
	I-7065	4	5
	I-7066	-	7
	I-7067	-	7

5. iCAM Series

Bullet Network Camera



iCAM-721F



Introduction:

iCAM-721F is a professional bullet camera offering 1080p Full HD resolution with superb image quality up to 30 fps. Featuring 3-Megapixel resolution and high-performance H.264/MPEG-4/MJPEG compression technology, the iCAM-721F offers extra-smooth video and wide coverage.

iCAM-721F employs many advanced features to allow users to fully utilize the high definition video. Focus on a region of interest (ROI) in the camera view to enhance image quality. It also saves the cost of network and backend storage without network bandwidth of video streaming.

Aimed at outdoor surveillance, iCAM-721F is furnished with an Fixed-iris lens, a removable IR-cut filter, 15-meter IR illuminators, Wide Dynamic Range (WDR), and multi-functional environment profile image settings for superior image quality around the clock. Moreover, the IP67-rated housing protects against rain and dust and ensures functional operation in all types of weather conditions.

With other advanced features such as Motion detection, 802.3af compliant PoE, ONVIF Compliant for interoperability, built-in MicroSD/MicroSDHC/MicroSDXC card slot for storage, two-way audio, and digital input / output for alarm, the iCAM-721F is an all-in-one bullet network camera for detailed surveillance in outdoor environments.



IR Fisheye Network Camera



iCAM-771



360° Panoramic View



180° Panoramic View

Introduction:

iCAM-771 is the Fish-eye IR Network Camera, featuring a detailed 5-Megapixel resolution sensor with clear image quality. Equipped with a fish-eye lens for 360°/180° panoramic view without blind spots, certified ImmerVision Enables 2.0, the cameras are able to provide coverage of wide, open areas, such as airports, shopping malls, factories, parking lots, retail stores, offices and more.



Dual Lens Panoramic Dome Network Camera

iCAM-760D



iCAM-760D
with outdoor 6" dome housing

Features:

- 2 × 5 Megapixel Progressive CMOS Sensor
- Smooth 15 fps @ High 7.3 Megapixels Resolution (3840 × 1920)
- H.264/MJPEG Dual Codec
- 1.05 mm non-liner Fisheye Lens + 6/8/12/16 mm Fixed-focal Lens
- Removable IR Cut, Day & Night Function for Both Sensors
- eWDR Image Enhancement for Extreme Lighting Condition (too Bright/Dark)
- Various Display Modes Selectable for Different Applications
- ePTZ, Auto Pan, Auto Patrol Function on Fisheye Lens
- Two-way Audio
- Built-in MicroSD/MicroSDHC/MicroSDXC Card Slot for On Board Storage
- Weather-proof IP66-rated Outdoor Housing
- Built-in 802.3af Compliant PoE
- ONVIF 2.2 Compliant for interoperability

Introduction:

Panorama and detail, iCAM-760D dual lens camera provides a professional single camera solution. Integrated with Dual 5-Megapixel sensors, one equipped with f 1.05mm non-linear fisheye lens offers 180/360 degree de-warped image (single or multiple), for the other sensor, lens is 6, 8, 12, 16mm optional. Dual sensors gimbals work independently and can be configured to almost any direction, and de-warping algorithms are 180/360 degree selectable depends on fisheye lens configuration. Wide Dynamic Range and IR cut removable are available for both sensors. iCAM-760D offers a professional and efficient solution for commercial, industrial, and public areas.



360° Panoramic View** + **Fixed-focal View



180° Panoramic View** + **Fixed-focal View



180° Triple View** + **Fixed-focal View



Quad View** + **Fixed-focal View



6. MQTT I/O Module

MQ-7200M is an I/O module designed for Internet of Things. It support MQTT V3.1 client. Through the MQTT broker (can be installed on private cloud or public cloud), it can flexibly exchange data between I/O modules and other MQTT clients.

Compared to request/response type of Ethernet I/O modules, MQTT I/O modules bring two obvious benefits:

1. Reduce the Ethernet communication packets

The behavior of most request/response type of Ethernet I/O modules is: the master polls every modules periodically no matter the data is changed or not. MQTT I/O modules can be configured to publish data to the broker periodically or an event happens. Thus the Ethernet communication packets can be obviously reduced.

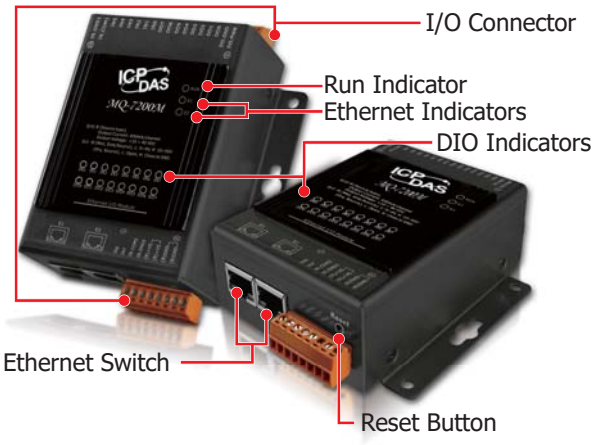
2. Simplify the network configuration

MQTT I/O modules can be configured as dynamic IP address. Only the MQTT broker needs a domain name or a static IP address. Thus the networking configuration for each MQTT I/O module can be the same. Thus the configuring work becomes simplified.

Features:

- Support MQTT V3.1 Client Point
- Built-in Web Server for Configuration
- 2-port Ethernet Switch for Daisy-chain Topology
- LAN Bypass to Prevent Communication Lost While Power Lost
- Build-in LED indicators for I/O

Appearance:



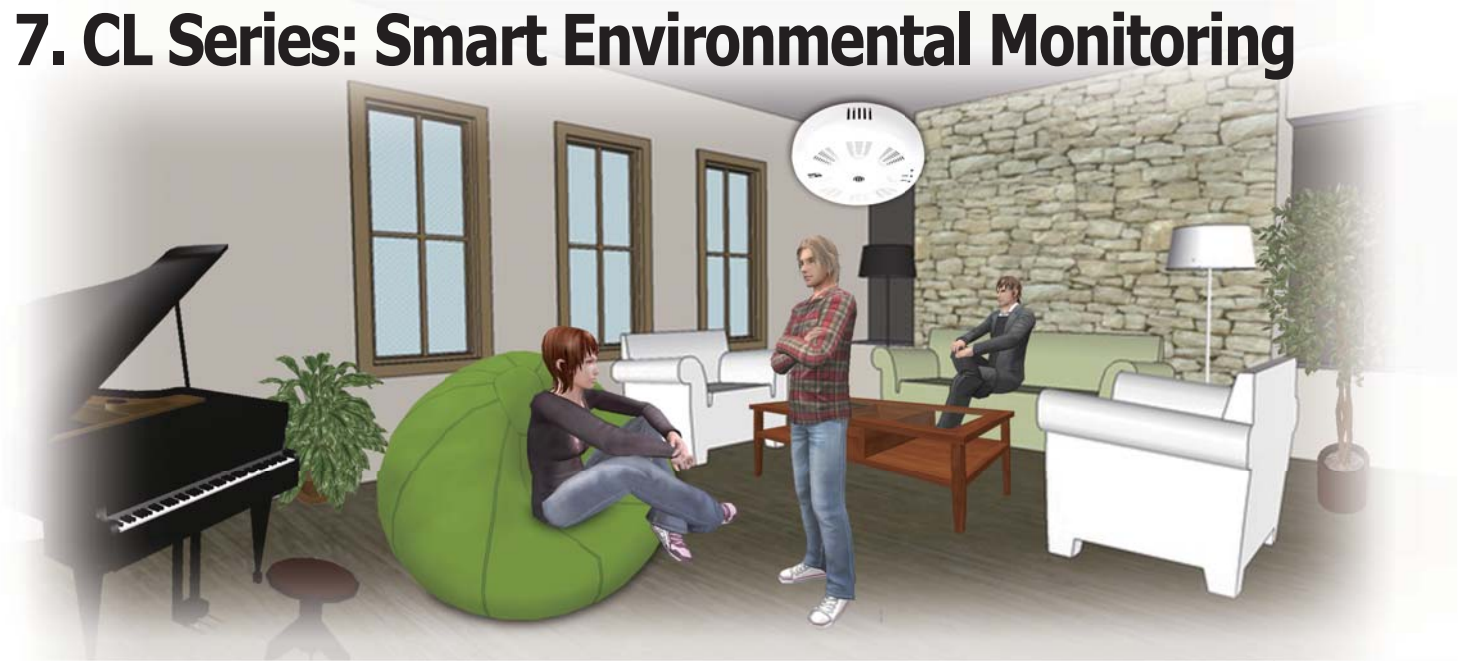
Applications:



Selection Guide:

Module Name	DI			DO			
	Channel	Type	Sink/Source	Channel	Type	Sink/Source	Max. Load
MQ-7244M	8	Wet	Sink/Source	8	Open Collector	Sink	300 mA/Channel
MQ-7251M	16	Wet	Sink/Source	-	-	-	-
MQ-7252M	8	Wet	Sink/Source	8	Open Collector	Source	650 mA/Channel
MQ-7253M	16	Dry	Source	-	-	-	-
MQ-7255M	8	Dry, Wet	Source	8	Open Collector	Source	650 mA/Channel
MQ-7258M	16	AC	Sink/Source	-	-	-	-

7. CL Series: Smart Environmental Monitoring



Fine particulate matter (PM2.5), gas (CH4), HCHO, and CO affect human's health and safety. Monitoring the concentration of CH4, PM2.5 and CO can let people stay away from danger, enjoy a healthy life, reduce medical costs. CO2 is a reference for indoor air quality, the high concentrations of CO2 increase possibility to harm people's health. According to the report, controlling the concentration of CO2 in air conditioning equipment can save up to 50% of energy. The **CL-200 series** can detect CH4, HCHO, PM2.5, CO, CO2, Temperature, Humidity and Dew Point information. The Sensing Solutions suitable for the villa, public area, commercial space, green building, smart buildings, etc. A free Utility is included to allow configuration and display of data in a powerful chart format that can be exported to Excel. The CL series can be connected via various communication interfaces, meaning that the device can be easily integrated into existing HMI or SCADA systems, and easily maintain in a distributed control system.

- Transportation of Food or Pharmaceuticals
- Food and Beverage Industry (HACCP)
- Blood Stations and Pharmacies
- Building and Energy Management
- Warehouse Management
- Museums, Archives and Galleries

Selection Guide:

<table>
<tr><th rowspan="2">Model</th><th colspan="7">Sensor</th><th rowspan="2">Interface</th></tr>
<tr><th>HCHO</th><th>CH4</th><th>PM2.5</th><th>CO</th><th>CO2</th><th>Temperature</th><th>Humidity</th></tr>
<tr><td>CL-211</td><td rowspan="12">-</td><td rowspan="12">-</td><td rowspan="12">Yes</td><td>Yes</td><td>-</td><td rowspan="12">Yes</td><td rowspan="12">Yes</td><td rowspan="3">RS-485</td></tr>
<tr><td>CL-212</td><td>-</td><td rowspan="2">Yes</td></tr>
<tr><td>CL-213</td><td>Yes</td></tr>
<tr><td>CL-211-E</td><td>Yes</td><td>-</td><td rowspan="3">Ethernet, PoE</td></tr>
<tr><td>CL-212-E</td><td>-</td><td rowspan="2">Yes</td></tr>
<tr><td>CL-213-E</td><td>Yes</td></tr>
<tr><td>CL-211-BLE</td><td>Yes</td><td>-</td><td rowspan="3">Ethernet
+
Bluetooth</td></tr>
<tr><td>CL-212-BLE</td><td>-</td><td rowspan="2">Yes</td></tr>
<tr><td>CL-213-BLE</td><td>Yes</td></tr>
<tr><td>CL-211-WF</td><td>Yes</td><td>-</td><td rowspan="3">Ethernet
+
Wi-Fi</td></tr>
<tr><td>CL-212-WF</td><td>-</td><td rowspan="2">Yes</td></tr>
<tr><td>CL-213-WF</td><td>Yes</td></tr>
<tr><td>CL-207-WF</td><td>Yes</td><td>-</td><td>-</td><td>-</td><td>-</td><td>Yes</td><td>Yes</td><td></td></tr>
<tr><td>CL-209-ZB</td><td>-</td><td>Yes</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>CAN + ZigBee</td></tr>
</table>

CL Series: Industrial Environmental Sensor

CL-207/211/212/213

CL-209

CH4 Methane Gas Detector

HCHO
PM2.5
CO/CO2
Temperature
Humidity
Dew Point



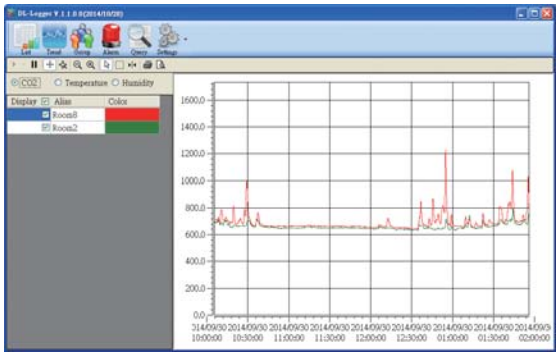


The **CL-200 series** can be used to record HCHO, CH4, PM2.5, CO, CO2, Temperature, Humidity and Dew Point information, including date and time stamps, and can store up to 450,000 downloadable records. Real-time data can be accessed from the free Utility from anywhere and anytime using the free Windows software.

The CH4 methane (the main element of natural gas, different from the liquid petroleum gas) gas detector provides an early residential warning of the presence of explosive methane and is factory calibrated to sound an alarm that meets UL1484 standard.

Formaldehyde (HCHO) is one of the volatile organic compounds (VOCs) that widely used in household materials, be a binder precursor, which associated with many health risk factors. At concentrations above 0.1 ppm in air formaldehyde can irritate the eyes, resulting in watery eyes. The HCHO detector also provides an instantaneously warning of toxic formaldehyde.

Free and Power Utility Software

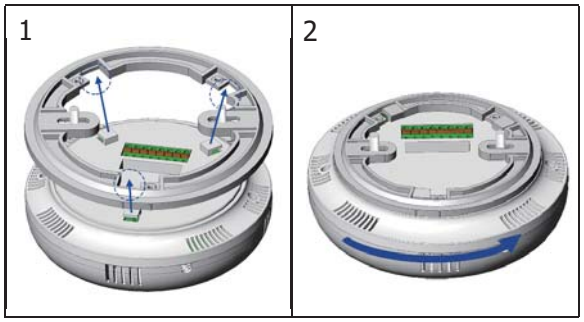


Models	CL-211	CL-212	CL-213	CL-207-WF	CL-209-ZB
Sensor Type	PM2.5/CO	PM2.5/CO2	PM2.5/CO/CO2	HCHO	CH4 (Gas)
	Temperature / Relative Humidity / Dew Point				-
PM2.5	Range: 0 ~ 400 µg/m3; Resolution: 1µg/m3; Response Time: <= 1 min.			-	-
CO	0 ~ 1000 ppm	-	0 ~ 1000 ppm	-	-
CO2	-	0 to 9999 ppm (NDIR)		-	-
HCHO	-			0 ~ 5 ppm	-
CH4	-				500 ~ 7000 PPM
Temperature	Range: -10 ~ 50°C / Accuracy: ±0.6°C / Resolution: 0.1°C				-
Humidity	Range: 0 ~ 100% RH / Accuracy: ±5% RH / Resolution: 0.1% RH				-
Dew Point	Range: Calculated using temperature and relative humidity / Resolution: 0.1°C				-
Data Logger	Up to 450,000 records				-
Communication	RS-485 (DCON and Modbus RTU)			Ethernet + Wi-Fi	CAN + ZigBee
Advantage	Support HCHO, CH4, PM2.5, CO, CO2, Temperature & Humidity Alarm Functions				

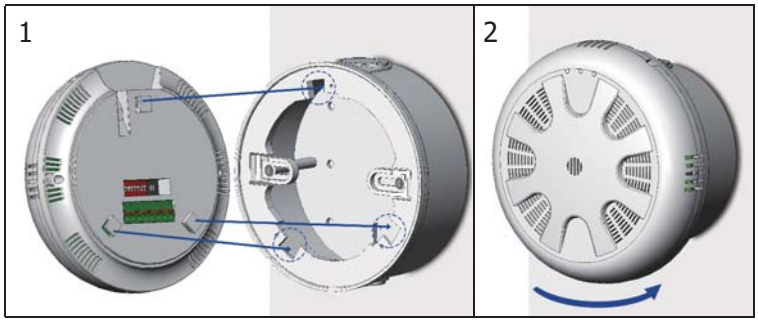
Installation: CL-207/211/212/213:



Ceiling Mounting



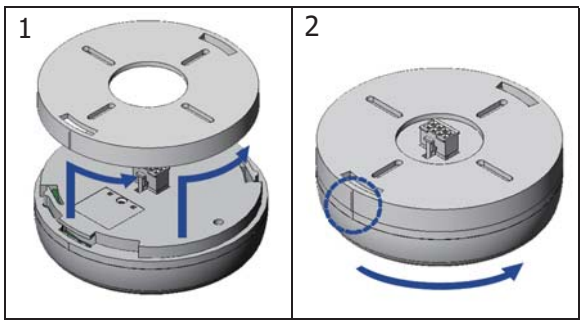
Wall Mounting (+ External Wall Box EWB-C150)



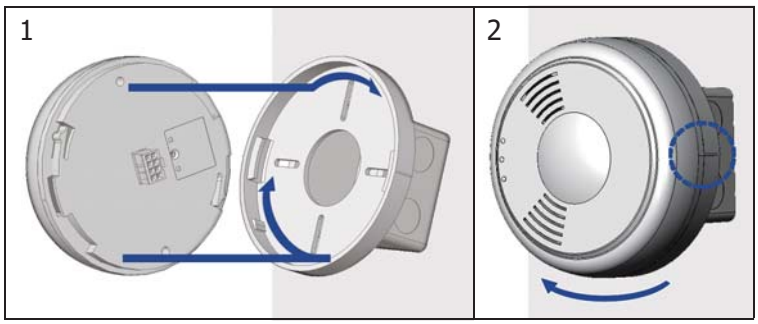
Installation: CL-209:



Ceiling Mounting



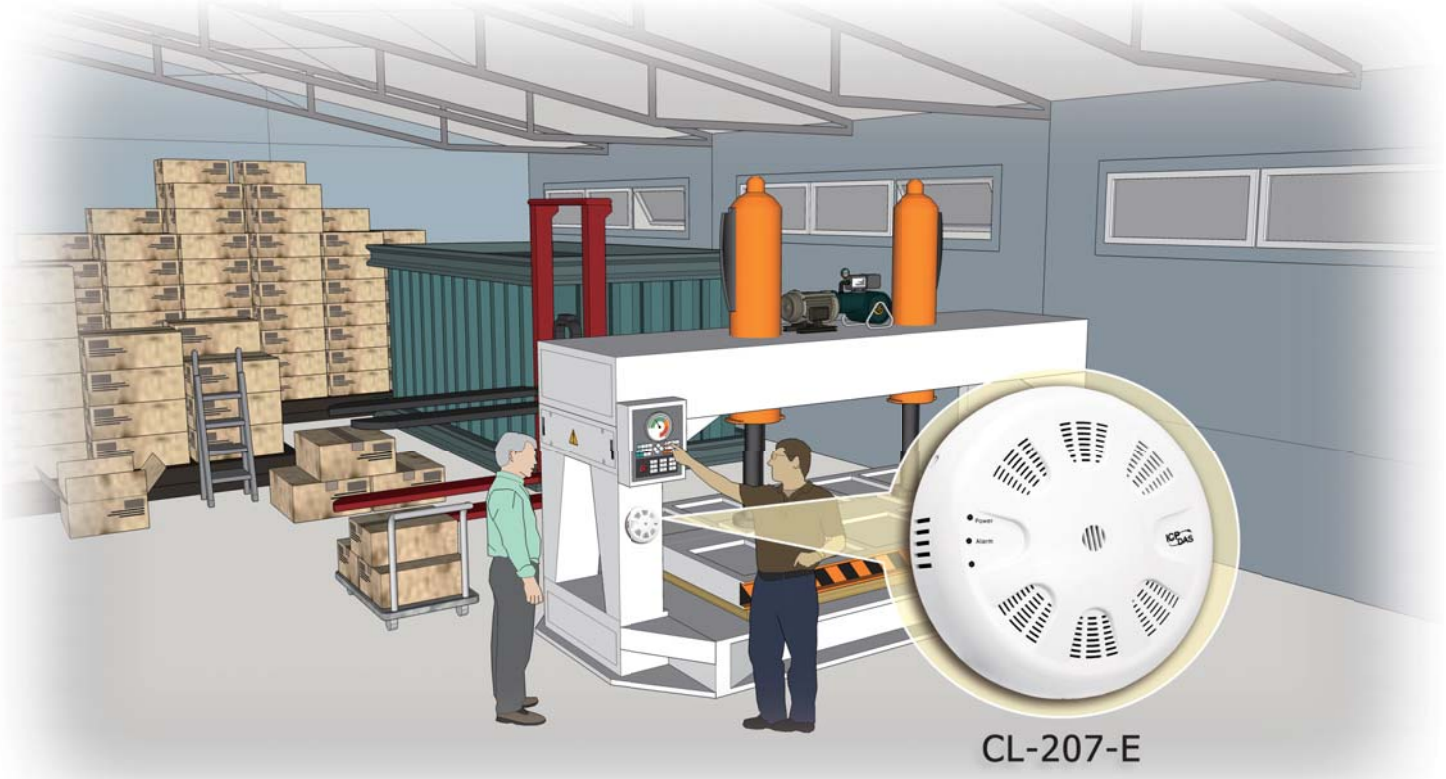
Wall Mounting (+ 86 Cartridge)



Applications:

HCHO (Formaldehyde) Detector Automatic Solution

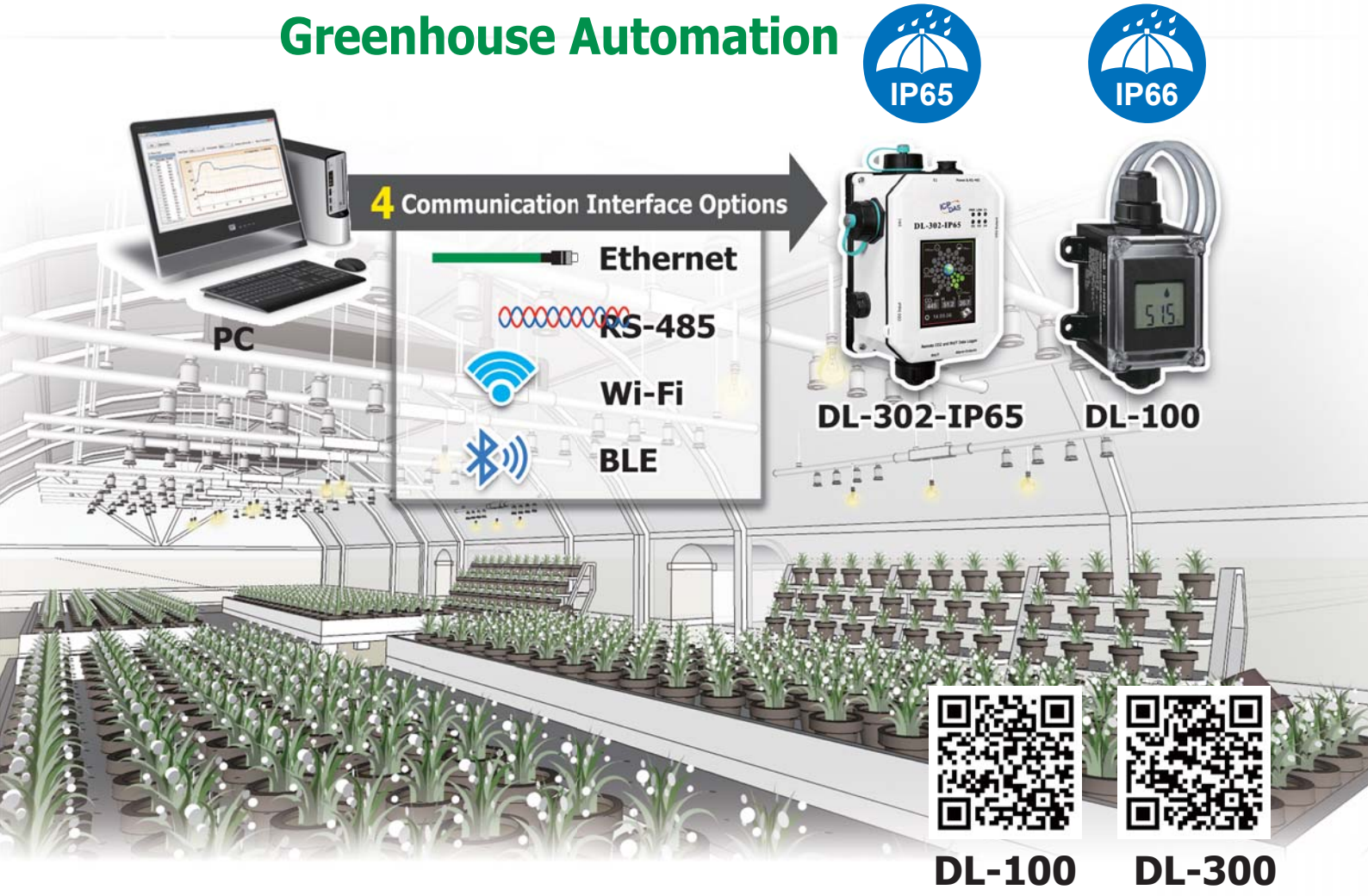
The **HCHO** detector provides an instantaneously warning of toxic formaldehyde, which can be found in a plywood factory, furniture factory and new interior remodelling house commonly.



8. DL Series: Smart Environmental Monitoring

CO / CO2 / HCHO / Temperature / Humidity / Dew Point

Greenhouse Automation



The **DL series** of Data Logger devices provide RS-485, Ethernet/PoE, USB, WiFi and BLE communication interface for smart environmental monitoring. The DL-300 series can be used to record CO, CO2, HCHO, Temperature, Humidity and Dew Point information, including date and time stamps, and are able to store up to 450,000 downloadable records. Real-time data can be accessed from the DL-300 Data Logger from anywhere and at any time using the free Windows software, the iOS App or the Android App, as long as they are connected to the same local network as the Data Logger. The DL-100 series is a temperature and humidity data logger module. It contains an RS-485, Ethernet/PoE or USB communication interface and an LCD display to show a variety of temperature, humidity and module ID data. The data storage memory can store up to 4088 temperature and humidity records.

A free Utility is included to allow configuration and display of data in a powerful chart format that can export to Excel. The Sensing Solutions suitable for the villa, public area, commercial space, green building, smart buildings, etc.

The IP65 version of DL series is designed for industrial applications in harsh environments that provides IP65 grade protection approval . The rugged RJ-45 ensures tight, robust connections, and guarantees reliable operation, even for applications that are subject to high vibration and shock.

Selection Guide:

DL-10/DL-100 Series (Temperature/Humidity)						
Model	**Accuracy**	**2DO**	**Interface**	**Protocol**	**IP66**	**Color**
DL-10	Standard Version (3% RH)	-	RS-485	Modbus RTU	No	White Cover
DL-100T485	Standard Version (3% RH)	-	RS-485	DCON	Yes	Black Cover
DL-100T485-W						White Cover
DL-100TM485				Modbus RTU		Black Cover
DL-100TM485-W						White Cover
DL-100T485P	P Version (1.8% RH)	-		DCON		Black Cover
DL-100T485P-W						White Cover
DL-100TM485P				Modbus RTU		Black Cover
DL-100TM485P-W						White Cover
DL-100-E	Standard Version (3% RH)	-	Ethernet/PoE	Modbus TCP, MQTT		Black Cover
DL-100-E-W						White Cover
DL-101-E		Yes				Black Cover
DL-101-E-W						White Cover
DL-100-USB	Standard Version (3% RH)	-	USB	Modbus RTU		Black Cover
DL-100-USB-W						White Cover
DL-100TMZT	Standard Version (3% RH)	-	ZigBee	Modbus RTU		Black Cover

DL-300 Series (CO/CO2/HCHO/Temperature/Humidity)							
Model	**Sensor**					**Interface**	**IP65**
	CO	CO2	HCHO	Temperature	Humidity		
DL-301	Yes	-	-	Yes	Yes	RS-485 × 1 Ethernet/PoE × 1	No
DL-302	-	Yes	-				
DL-303	Yes						
DL-307	-	-	Yes				
DL-301-BLE	Yes	-	-			RS-485 × 1 Ethernet/PoE × 1 BLE × 1	
DL-302-BLE	-	Yes	-				
DL-303-BLE	Yes		-				
DL-307-BLE	-	-	Yes				
DL-301-WF	Yes	-	-			RS-485 × 1 Ethernet/PoE × 1 WiFi × 1	
DL-302-WF	-	Yes	-				
DL-303-WF	Yes		-				
DL-307-WF	-	-	Yes				
DL-301-IP65	Yes	-	-			RS-485 × 1 Ethernet/PoE × 1	Yes
DL-302-IP65	-	Yes	-				
DL-303-IP65	Yes		-				
DL-307-IP65	-	-	Yes				
DL-301-BLE-IP65	Yes	-	-			RS-485 × 1 Ethernet/PoE × 1 BLE × 1	
DL-302-BLE-IP65	-	Yes	-				
DL-303-BLE-IP65	Yes		-				
DL-307-BLE-IP65	-	-	Yes				
DL-301-WF-IP65	Yes	-	-			RS-485 × 1 Ethernet/PoE × 1 WiFi × 1	
DL-302-WF-IP65	-	Yes	-				
DL-303-WF-IP65	Yes		-				
DL-307-WF-IP65	-	-	Yes				

DL Series: Industrial Data Logger

DL-100

IP66



Temperature
Humidity

DL-10



DL-300



CO / CO2
HCHO
Temperature
Humidity

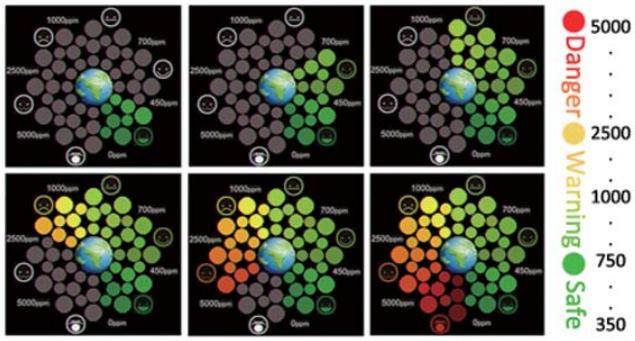
DL-302-IP65

IP65

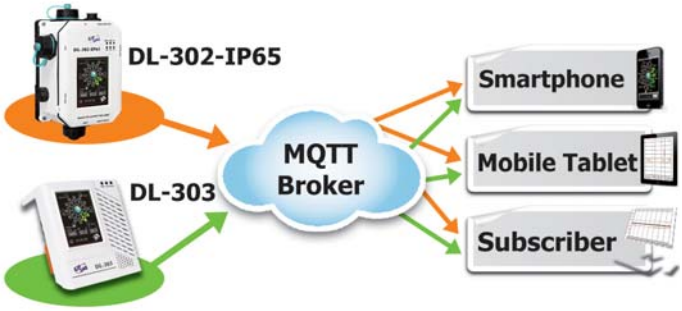


DL Series supports for popular industrial protocols such as DCON, Modbus RTU, and Modbus TCP, as well as the emerging machine-to-machine (M2M) / IoT (Internet of Things) connectivity protocol – MQTT. The DL-300 Data Logger can connect by communication interfaces including RS-485, Ethernet and PoE, meaning that the device can integrate easily into existing HMI or SCADA systems, and easy to maintain in a distributed control system.

Large 2.8" LCD Touch Screen, with clear Color Chart to indicate the CO/CO2 Level



Supports the MQTT Protocol for IoT Applications



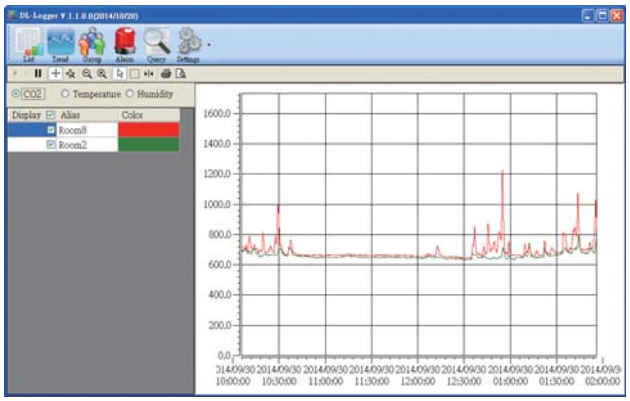
Display Messages in Multiple Languages

The display-message-on-screen function supports multiple language character sets based on UTF-8 encoding. Either pre-configured messages or dynamic messages can be remotely displayed using Modbus commands, or a dynamic message can be sent via the web-based interface.



Free and Power DL300 Utility Software

The DL300 Utility can be used to configure the modules, monitor real-time data, group DL-300 modules so that the status of distribution groups can be viewed and managed. The utility also allows the log data to be downloaded and exported to a .CSV file that can then be imported into any industry-standard software or spread sheet for a nalysis.



Multi-platform Remote Access Software

Real-time data from the DL-300 Data Logger can be accessed from anywhere and at any time using the DL300 Utility, the iOS or Android App, or via a regular web browser, as long as they are connected to the same local network as the Data Logger.



Models	DL-10	DL-100	DL-301	DL-302	DL-303	DL-307
Sensor Type	-	-	**CO**	**CO2**	**CO / CO2**	**HCHO**
	Temperature / Relative Humidity		**Temperature / Relative Humidity**			
CO	-	-	0 ~ 1000 ppm	-	0 ~ 1000 ppm	-
CO2	-	-	-	0 to 9999 ppm (NDIR)		-
HCHO	-	-	-	-		0 ~ 5 ppm
Temperature Range/Accuracy	R: -20°C ~ +60°C A: ±0.4°C	R: -20°C ~ +60°C A: max. ±0.3°C	Range: 0°C ~ 50°C (IP65 version support -20°C ~ 50°C) Accuracy: ±0.6°C / Resolution: 0.1°C			
Humidity Range/Accuracy	R: 10 ~ 95% RH A: ±3% RH	R: 0 ~ 100% RH A: max. ±1.8% RH	Range: 0 ~ 100% RH Accuracy: ±5% RH / Resolution: 0.1% RH			
Dew Point	-	Range: Calculated using temperature and relative humidity / Resolution: 0.1°C				
Data Logger	-	4088 Records	450,000 Records			
Communication	Modbus RTU	RS-485 / ZigBee / Ethernet / PoE / USB DCON or Modbus RTU	RS-485 / Ethernet / PoE / BLE / WiFi DCON, Modbus RTU, Modbus TCP and MQTT			
Display	-	Monochrome LCD	2.8" TFT Color LCD Touch Screen (Resolution 240 × 320 × 16)			
Advantage	Tiny	Tiny, Waterproof Level IP66	Support MQTT, Mobile APP, Alarm Functions			
IP65 Version	No	Yes	Yes, for IP65 version only			

Appearance:

DL-100T485 Series



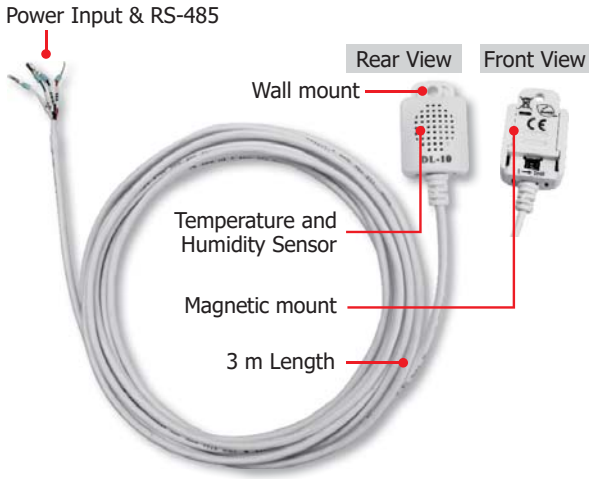
DL-100-E



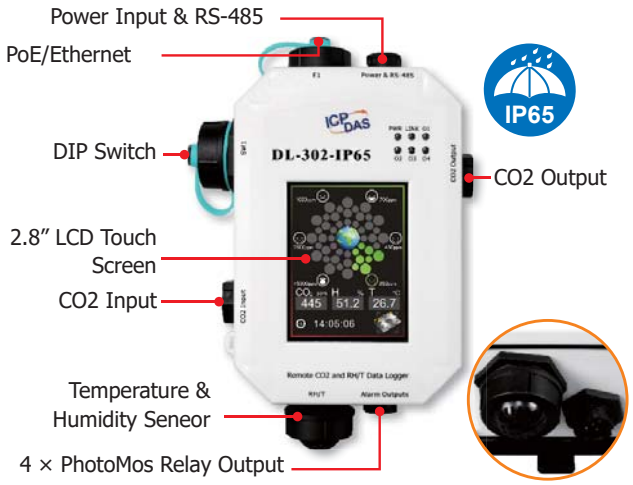
DL-101-E



DL-10



DL-302-IP65



HCHO (Formaldehyde) Detector Automatic Solution

The DL-307 is a 1-ch HCHO detector with data logger that provides an instantaneously warning of toxic formaldehyde, which can be found in a plywood factory, furniture factory and new interior remodelling house commonly. Real-time data can be accessed from the DL-307 from anywhere and at any time using the free Windows software, the iOS App or the Android App.



Mushroom Farm

Mushroom growth yield requires long time to monitor the environment of CO2 concentration, temperature and humidity values, and its growth environment is high humidity condition. The general equipment cannot work in such environment, but the DL-302-IP65 can be used to record CO2, temperature, humidity and dew point information with date and time stamps in the operating temperature from -20˚C to +50˚C, and are able to store up to 450,000 downloadable records . The WISE-5231-3GWA features timer and schedule functions. It allows user to schedule specific date or time for control logic execution, or perform specific tasks such as time delay. With calendar user interface provided, schedule setting can be more efficient and flexible. This does not require programming, only some simple settings will be able to achieve the farm production control and quality control, production resume ... and so on.



9. PIR/RPIR Series: Motion Detector



PIR series, the Passive Infrared series, provides human motion detection and temperature measurement; and **RPIR series** provides human motion detection, human presence detection, temperature and humidity and other environmental measurements. For the indoor human body sensing, anti-theft security, home quality of life, green energy and environmental protection and energy efficiency enhancement are very helpful. A free Utility is included to allow configuration and display of data in a powerful chart format that can be exported to Excel. The screw-free quick-connect connector, DIP switch and rotary switch make it easy to install, repair and maintain the product. White minimalist exterior design, easy to match with interior decoration. Considering the fireproof requirements, the casing is made of UL94-V2 rated material.

Selection Guide:

Model	Motion Sensor	T&R Sensor	Protocol	Interface	Dimensions
PIR-130-AC	PIR	Temperature	DCON/Modbus RTU	RS-485	Ø 121 mm × 52 mm
PIR-130-DC					
RAD-130-AC	Microwave		DCON/Modbus RTU	RS-485	
RAD-130-DC					
PIR-130-ZT	PIR		DCON/Modbus RTU	ZigBee	
PIR-230-E		Temperature + Humidity	Modbus TCP, MQTT	Ethernet, PoE	Ø 150 mm × 53 mm
PIR-230-BLE			Modbus RTU	Bluetooth	
PIR-230-WF			Modbus TCP	Wi-Fi	
RPIR-230-E	Microwave + PIR		Modbus TCP, MQTT	Ethernet, PoE	
RPIR-230-BLE			Modbus RTU	Bluetooth	
RPIR-230-WF			Modbus TCP	Wi-Fi	

PIR-230/RPIR-230 Series

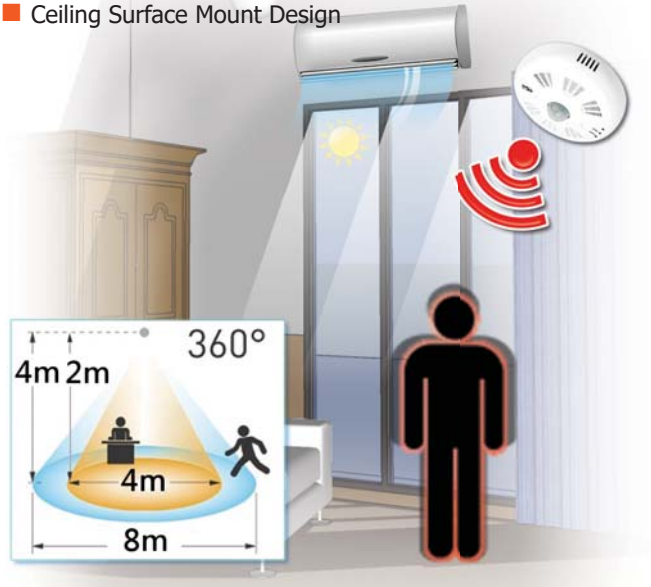
Microwave Motion Sensor
PIR Motion Sensor
Temperature/Humidity Sensor



The **PIR series** can detect infrared waves generated by human within a range of approximately 8 meters in diameter with a 360° coverage area for indoor motion detection, and can be configured to auto-switch on a light if the motion is detected. It also has a temperature sensor for measuring room temperature or can be set up to activate a fire alarm. The **RPIR series** added the microwave detection technology is especially suitable for BA applications. There are RS-485/ZigBee/Ethernet/ Bluetooth/Wi-Fi models can be selected. Different models support DCON, Modbus RTU/TCP or MQTT protocol, and can integrate HMI/SCADA/central control system.

Features:

- Time-Delay / Lux. / Sensitivity Adjustable
- Photo Sensor Inside for Smart Switch-on Control
- LED Indicator for PIR/Temperater Sensor
- The Temperature Sensor for Measuring Room Temperature or Fire Alarm
- Relay Output Can be Used to Control the Light Via the PIR/Temperature Sensor
- Up to 1500 W Incandescent and 300 W Fluorescent (T8) Loading Capability
- Multiple Communication Interfaces and Protocols
- Ceiling Surface Mount Design



Models	PIR-230-E	PIR-230-BLE	PIR-230-WF	RPIR-230-E	RPIR-230-BLE	RPIR-230-WF
Sensor Type	**PIR Motion Sensor Temperature / Humidity**			**Microwave/PIR Motion Sensor Temperature / Humidity**		
Passive Infrared (PIR) Motion Sensor / Microwave Motion Sensor						
Time-delay	Hardware: 8-step Switch-selectable (sec) Software: 16-step (sec)			Hardware: 8-step Switch-selectable (sec) Software: 0 ~ 65535 (sec)		
LUX Control	Hardware: 2 mode (Dawn and dust) / Software: 5-step					
Detection Range	4 meters max.			PIR : 4 meters; Microwave: 2 meters		
Detection Field of View	PIR: 360º; Diameter 8 meters Max.			PIR: 360º; Diameter 8 meters Max.		
	Microwave: -			Microwave: -360º; Diameter 4 meters Max.		
Temperature Sensor						
Range	-40°C ~ +125°C					
Fire Alarm	65°C (Programmable)					
Measurement	Resolution: 0.1°C / Accuracy: ±0.6°C					
Relative Humidity Measurement						
Range	0 ~ 100% RH					
Measurement	Resolution: 0.1% RH / Accuracy: ±5% RH					
I/O Channel						
AC Digital Input	-			2		
Relay Output	1			1		
Communication						
Protocol	DCON, Modbus RTU, Modbus TCP, MQTT					
Wired Interface	Yes, RS-485 × 1 and Ethernet/PoE X1					
Wireless Interface	-	Bluetooth	Wi-Fi	-	Bluetooth	Wi-Fi

10. Bluetooth LE Gauge Master for Mitutoyo Gauges



GAM-100

Features:

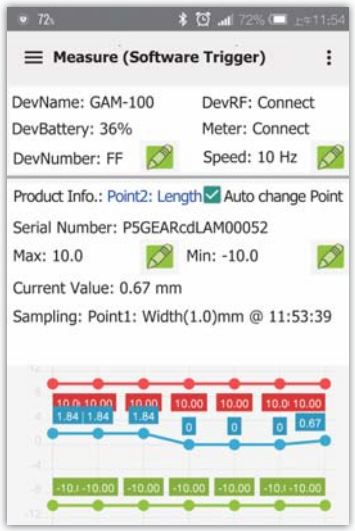
- Frequency: ISM 2.4 GHz
- Standard: Bluetooth 4.0
- Wireless transmission range up to 20 meters (Line of Sigh)
- Fully compliant with the Mitutoyo ID-S1012MX/NTD-10-6" PMX
- LED indicators for Battery / RF link / Charge LEDs
- Support different transmission rate: 1/2/5/10 Hz
- Support Trigger button and 3.5 mm foot switch connector to log data
- Power by micro USB chargeable Li-ion battery
- Battery Usage Life: 100HR

Introduction:

The GAM-100 is a Bluetooth Low Energy (Bluetooth LE/Bluetooth 4.0) gauge master for Mitutoyo gauges, with SPC output. A smart phone or tablet can use Bluetooth to get Mitutoyo gauge date through the gauge master. With the built-in micro USB chargeable Li-ion battery, the gauge master can work for 100 hours. To get and log the data, an Android APP is designed for a mobile device. The data can be kept in the local memory storage or uploaded to the remote MySQL server.

Android APP:

- Provide device search function
- Display meter data in real-time graphics
- Battery remaining capacity display
- Support trigger mode configuration
- Upload data to remote MySQL server
- Provide recording file(*.csv)





Applications:



11. Stack Light Monitoring Module



tSL-P4R1
(DC TYPE)



tSL-PA4R1
(AC TYPE)

Features:

- Able to detect the status of each color segment: ON, OFF, or Flashing
- 4-channel DC/AC digital input and 1-channel alarm relay output
- Status monitoring for user-defined combinations of multiple color segments
- Reports the duration of the previous status
- Supports Modbus RTU, Modbus TCP and MQTT protocols
- Includes RS-485/Ethernet communication interfaces
- Includes redundant power inputs: PoE (IEEE 802.3af, Class 1) and DC input
- Web-based configuration interface and firmware update via Ethernet
- Relay output for alarm devices
- Provides WiFi telemetry for SL-P6R1-WF and SL-PA6R1-WF
- Wide operating temperature range: -25 to +75°C

Introduction:

The main purpose of managing machine status is to reduce the amount of downtime and to reduce production costs. The easiest way to achieve this is by installing a tSL-P4R1/tSL-PA4R1 intelligent module from ICPDAS, which monitors the output of the machine's indicators without affecting the operation of the equipment, thereby enabling the current operation stage of the machine to be mastered and ensuring timely command of the logistics system support in order to achieve production goals.

The tSL-P4R1/tSL-PA4R1 is a stack light monitoring module which includes 4-channel DC/AC digital input and 1-channel relay output that can be used to monitor the status of the stack light of the MES (Manufacturing Execution System) machine. The module can be used to detect the status of each color segment of the stack light as being either OFF, ON, or flashing. In addition to detecting the status of each individual color segment, the status of the combination of multiple color segments can also be defined, including the ability to report the duration of the previous status. By integrating the tSL-P4R1/tSL-PA4R1 module into your system, it is easy to implement stack light status monitoring on an MES via SCADA software to improve machine utilization and throughput.

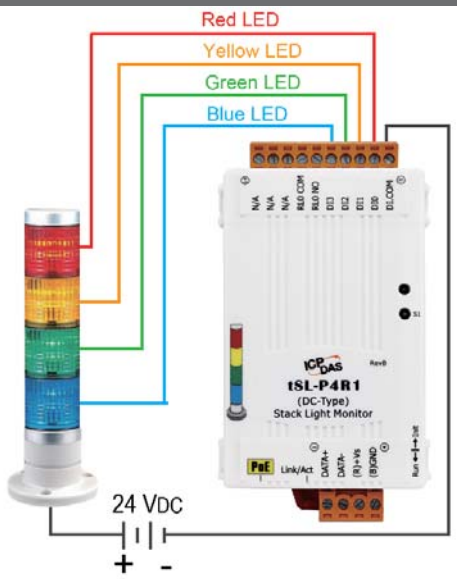
Selection Guide:

Stack Light Monitoring Module							
Model	**Digital Input**		**Alarm Output**		**Interface**		
	Channel	TypeType	Channel	Type	RS-485	Ethernet/PoE	WiFi
tSL-P4R1	4	DC	1	Power Relay, Form A (SPST)	1	1	-
tSL-PA4R1		AC					
▶SL-P6R1-WF	6	DC			1	1	1
▶SL-PA6R1-WF		AC					

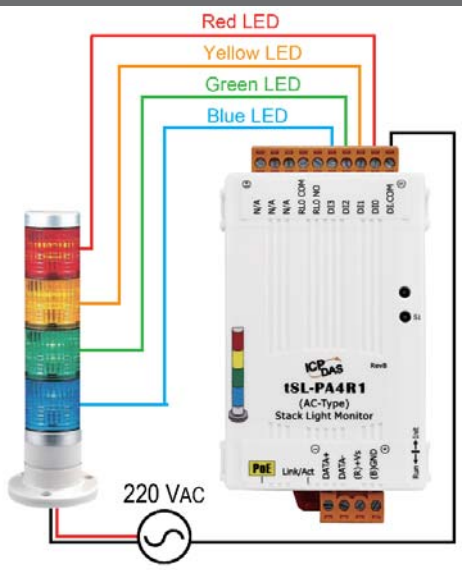
Note: ▶ Available soon

Wire Connections:

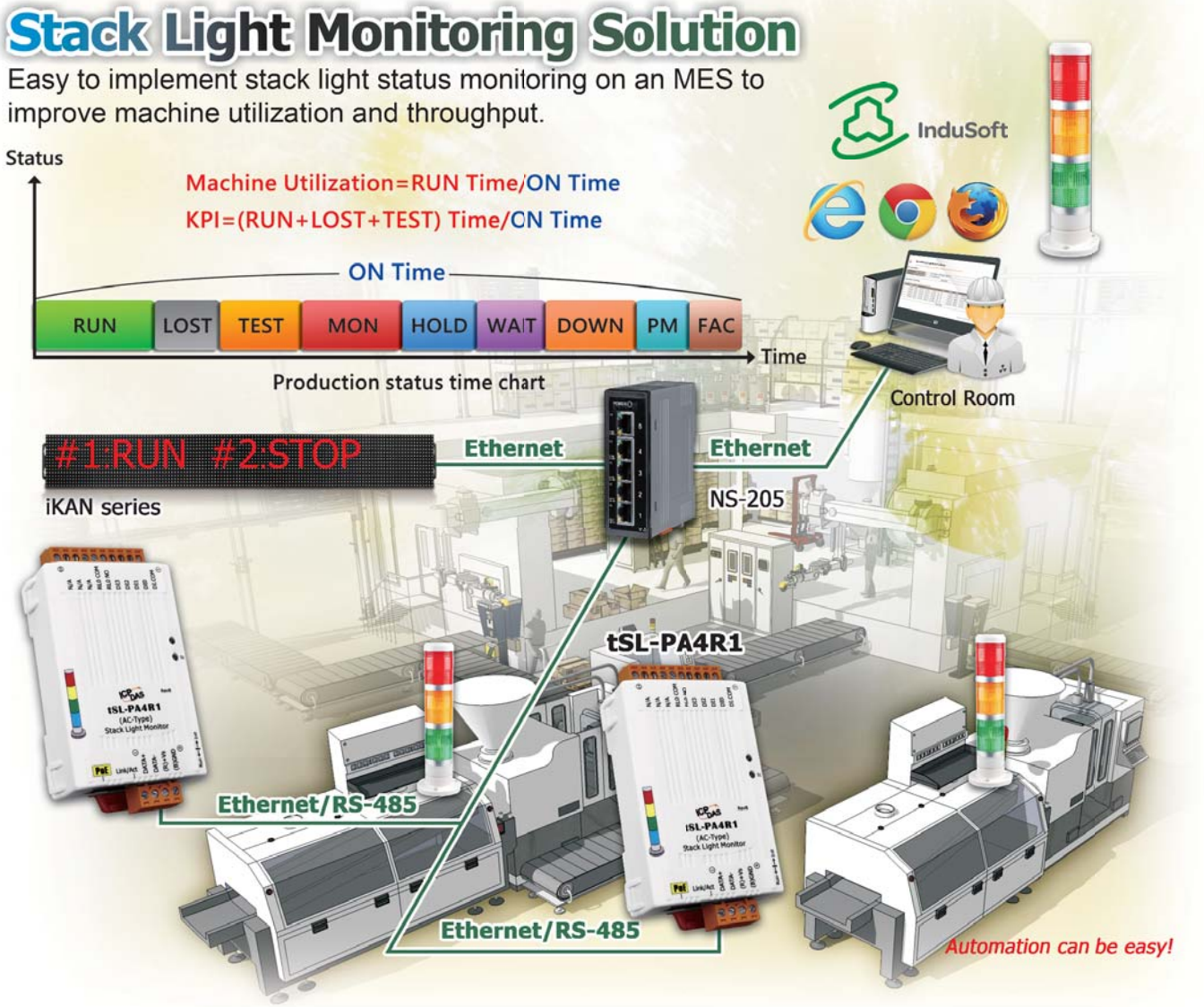
tSL-P4R1



tSL-PA4R1



	ICP DAS Solution (tSL series)	Other company's solution
Interface	RS-485, Ethernet	RS-485, Ethernet
SCADA Integration	Modbus/RTU, Modbus/TCP	Modbus/RTU, Modbus/TCP
IIoT Integration	MQTT protocol. Push the data when the status changed, light Ethernet bandwidth loading.	RESTful protocol. Polling the status, heavy Ethernet bandwidth loading.
Stack Light (DC Type)	Yes	Yes
Stack Light (AC Type)	Yes	No (needs Relays to convert AC to DC)
On/Off Status Detections	Yes	Yes
Flashing Status Detections	Yes	No
MES, ERP Integration	Yes 1. Status for max. of 81 user-defined combinations of multiple color segments. For example: Status#1 (Error): ON, Off, Off, Off Status#2 (Wait): Off, Flash, ON, Off Status#3 (Run): Off, Off, ON, Off Status#4.... (Test): Off, Off, Off, ON ....#81 2. Previous Status Duration Report Easy to calculate the machine utilization for MES, ERP.	No



12. Accelerometer Data Logger Module



AR-200



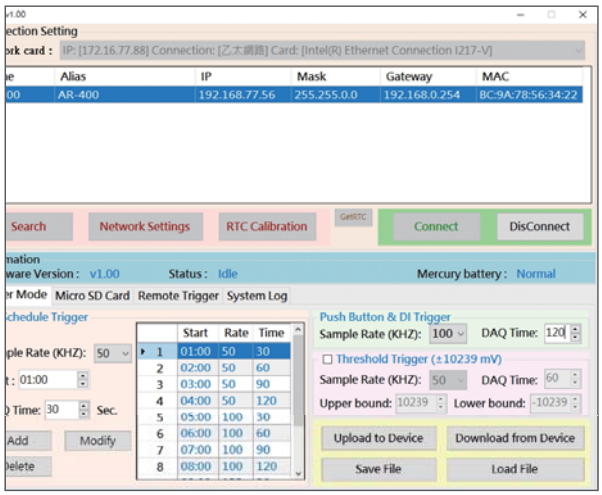
AR-400

Features:

- 2 or 4 simultaneous, 16-bit resolution ADC
- Support 2 or 4 IEPE input and built-in 3 mA excitation current
- AR-200 support sample rate: 200kHz, 100kHz, 50kHz
- AR-400 support sample rate: 125kHz, 100kHz, 50kHz
- Max. Recording time: 120 seconds
- Dynamic range: ±10V
- Flexible trigger modes: Push button trigger, Schedule trigger, analog threshold trigger, digital input trigger and utility remote trigger
- Supports 4 to 32 GB micro SDHC flash card
- Provide LED indicators
- Wide range of power input (+10 ~ +30 VDC) and operating temperature (-25 ~ +75°C)

Introduction:

AR-200 / AR-400 is a high-performance dynamic signal acquisition module equipped with 2 / 4 analog input channels providing simultaneous-sampling at up to 200/125 kHz per channel. The module has a built-in 16-bit resolution ADC and 3 mA excitation current to measure IEPE sensors, and a micro SDHC flash card for data logging. It also supports flexible trigger modes, sampling rates, and recording time span, making it ideal for signal measurement in vibration applications.



Utility:

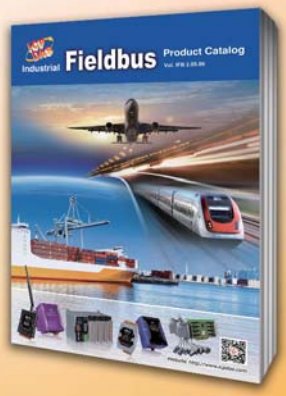
- Provide device search function.
- Support trigger mode configuration
- Support RTC calibration
- Show system event log
- Support utility remote trigger mode
- Provide recording file (*.ar) convert to various file type (*.xls, *.csv, *.txt)

Application:

Vibration Signal Measurement



ICP DAS Catalogs & Brochure



Industrial Fieldbus

- RS-485
- Industrial Ethernet
- Profinet
- CAN bus
- CANopen
- Devicenet
- J1939
- PROFIBUS
- HART
- Ethernet/IP
- BACnet



PC-based I/O Boards

- PCI Express Bus Data Acquisition Boards
- PCI Bus Data Acquisition Boards
- ISA Bus Data Acquisition Boards



Energy Management Solution

- InduSoffttt SCADA Sofftwarre
- Smart Power Meter Concentrator
- Smart Power Meter
- True RMS Input Module
- TouchPAD Devices - VPD Series



Wireless Product

- WLAN (Wi-Fi)
- Radio Modems
- 3G/4G Products
- GPS Products
- Bluetooth LE Converters
- ZigBee Products
- Infrared Wireless Modules
- Wireless Modbus Data Concentrator
- Bluetooth LE Gauge Master



Machine Automation

- Motionnet Solutions
- EtherCAT Motion Control Solutions
- Ethernet Motion Control Solutions
- Serial Communication Motion Control Solutions
- PC-based Motion Control Cards
- PAC Solutions - Motion Modules



Smart Building, Smart Home Automation

- Video Intercom & Access Control
- Touch HMI - TouchPAD Series
- Smart Lighting Control
- Energy Saving - PM/PMC Series
- Environmental - DL/CL Series
- Motion Detector - PIR/RPIR Series
- Wi-Fi Wireless - WF Series
- Infrared Wireless - IR Series
- ZigBee Wireless - ZT Series
- IIoT Server & Concentrato
- Data Server - iDaSer Series
- LED Display - iKAN Series



TouchPAD HMI Solutions

- Introduction
- TPD/VPD Products Series
- Video Intercom & Access Control Series
- TPD/VPD Application



Remote I/O Modules and I/O Expansion Units Products Catalog

- RS-485 Products
- Ethernet Remote I/O Modules
- FRnet I/O Modules
- CAN Bus Products
- PROFIBUS Remote I/O Modules
- HART Products
- Smart Power Meter
- WISE I/O Module

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