



# WISE Introduction



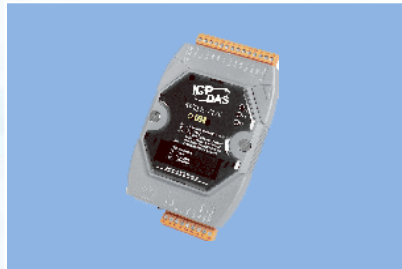
Web Inside, Smart Engine

Industrial Computer Product Data Acquisition System



# WISE Overview

- WISE = **W**eb **I**nside, **S**mart **E**ngine
  - **W**eb **P**age for Properties / Rules setting
  - **R**ule **E**ngine for Control / Logic execution
- Easy-to-use configuration interface, no programming required, more types of I/O supported and flexible logic setting.



**WISE-71xx**



**WISE-790x**



**WISE-4000**



**WISE-580x**

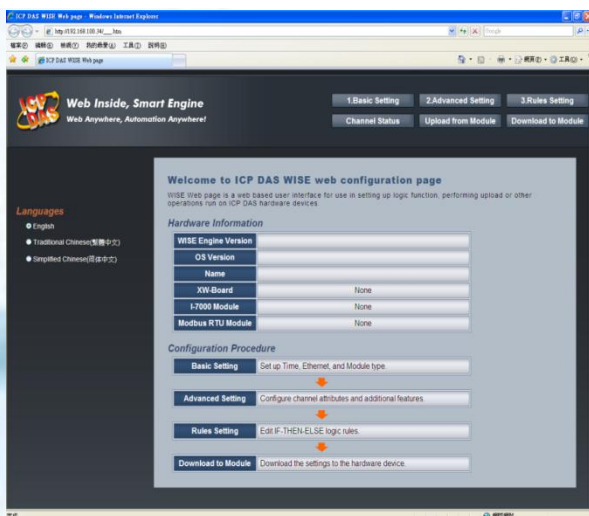
**Web Anywhere, Automation Anywhere !**



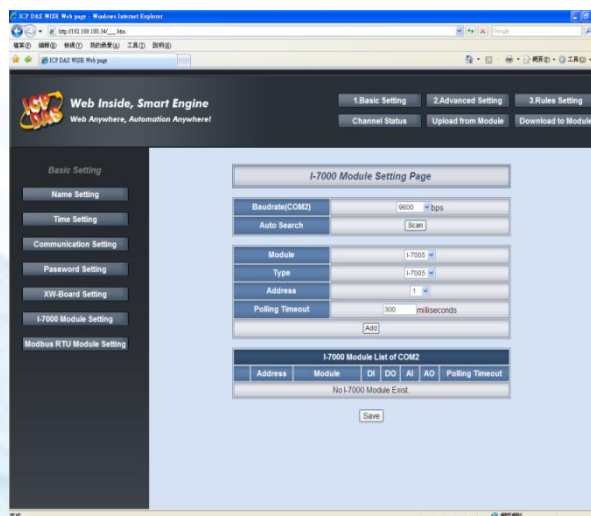
# Features - Web-based operation

- No extra software tool required
  - WISE HMI interface runs on the popular web browsers
- No programming required
  - WISE provides user-friendly web pages for configuration logic rules.
- Properties/Control Rules setting via WISE Web page just a few clicks away.

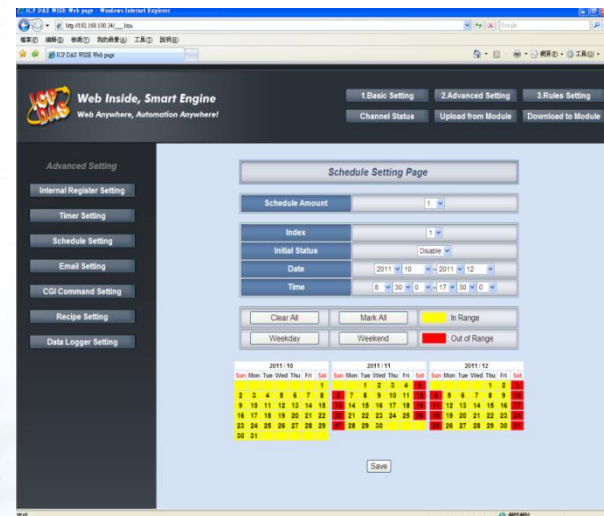
Step 1. Open the WISE WEB page



Step 2. Basic Property Setting



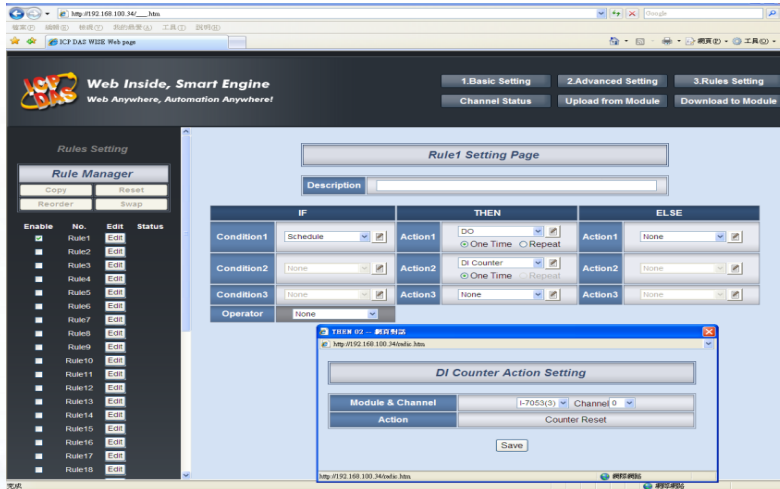
Step 3. Advanced Property Setting



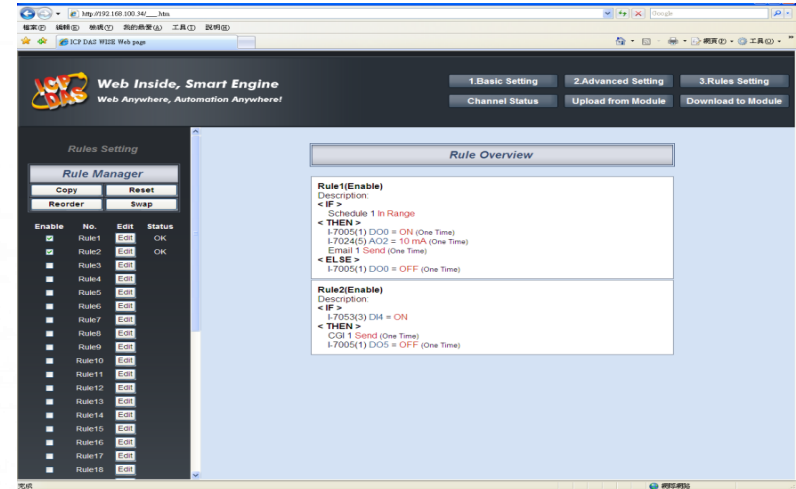


# Features - Web-based operation

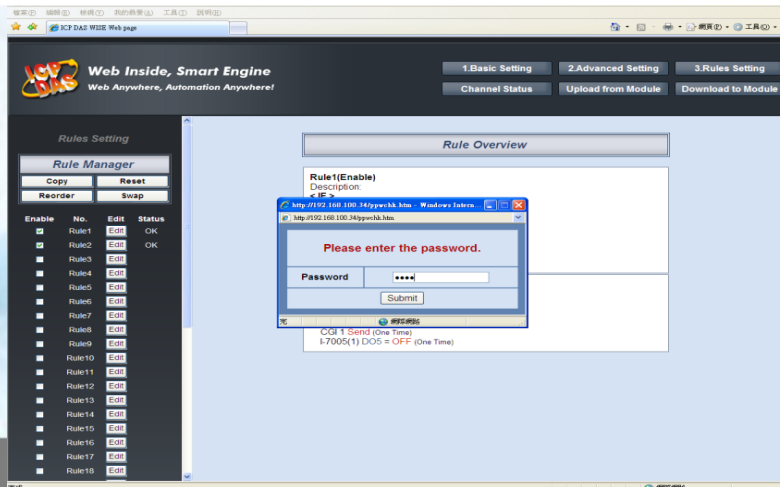
Step 4. Rule Editing



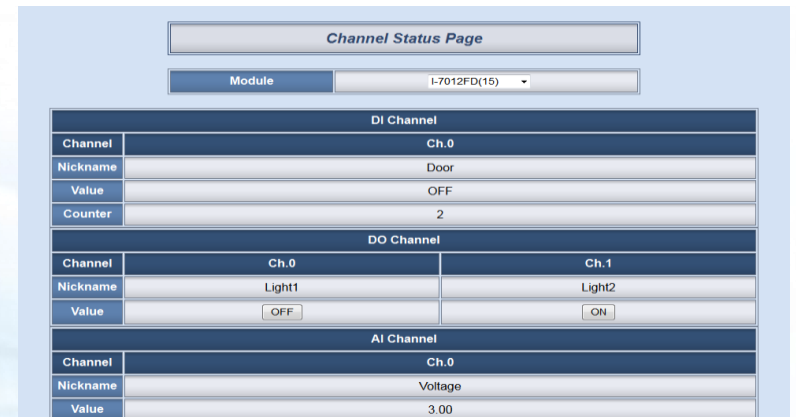
Step 5. Rule Overview



Step 6. Rule Download & Finish



Step 7. Rule engine execution & I/O value display





# Features – Control Logic Execution

- Support IF-THEN-ELSE logic rules execution
  - Provides IF-THEN-ELSE Intelligent rule engine.
  - Supports 36 logic rules

IF Conditions	
DI Channel	ON 、 OFF 、 ON to OFF 、 OFF to ON 、 Change
AI Channel	= 、 > 、 < 、 >= 、 <=(value)
Internal Register	
DI Counter	= 、 > 、 < 、 >= 、 <=(value) 、 Change
Timer	Timeout 、 Not Timeout
Schedule	In Range 、 Out of Range
Rule Status	Enable 、 Disable

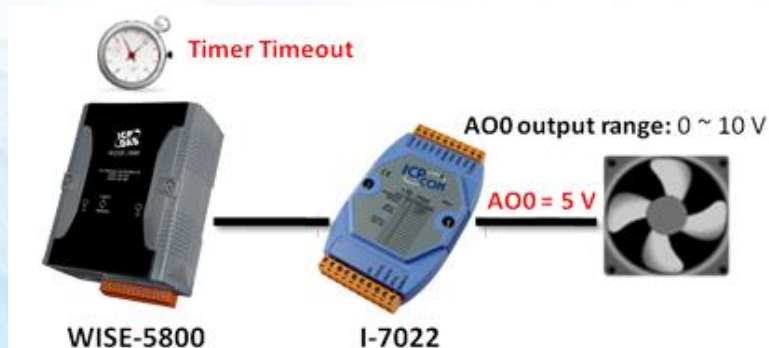
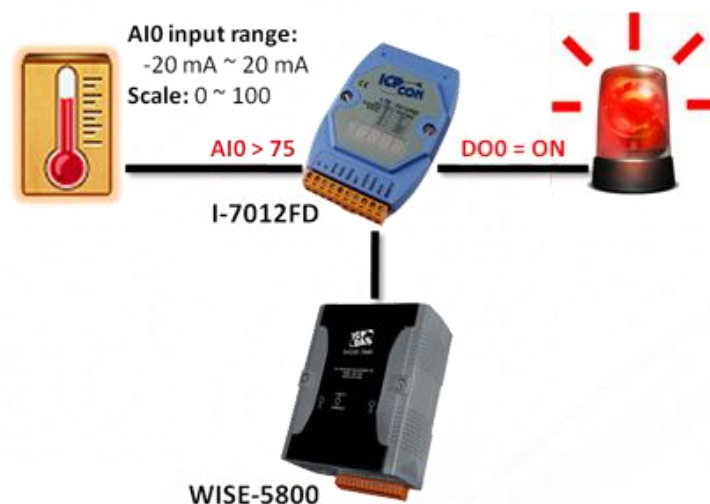
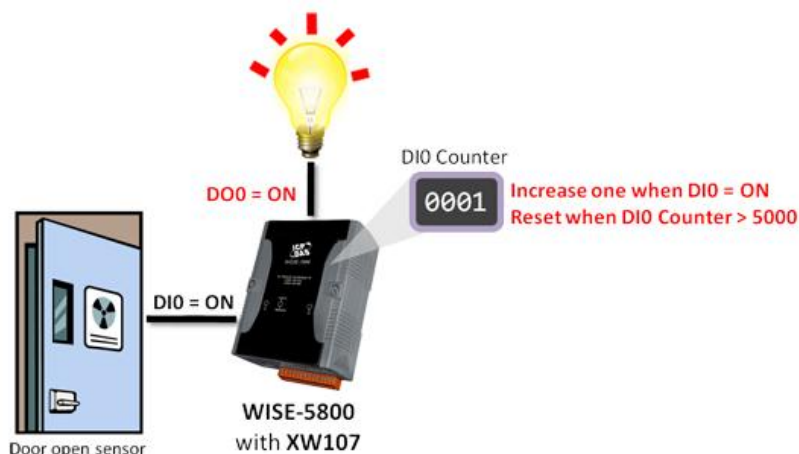


THEN / ELSE Actions	
DO Channel	ON 、 OFF 、 Pulse Output ( Just for XW-Board)
AO Channel	Change the value
Internal Register	
DI Counter	Reset
Timer	Start 、 Reset
Schedule	Enable 、 Disable
Email	Send
SMS	
CGI Commands	Execute
Recipe	
Data Logger	Start 、 Stop 、 One-Time Log
Rule Status	Enable 、 Disable



# Features – Control Logic Execution

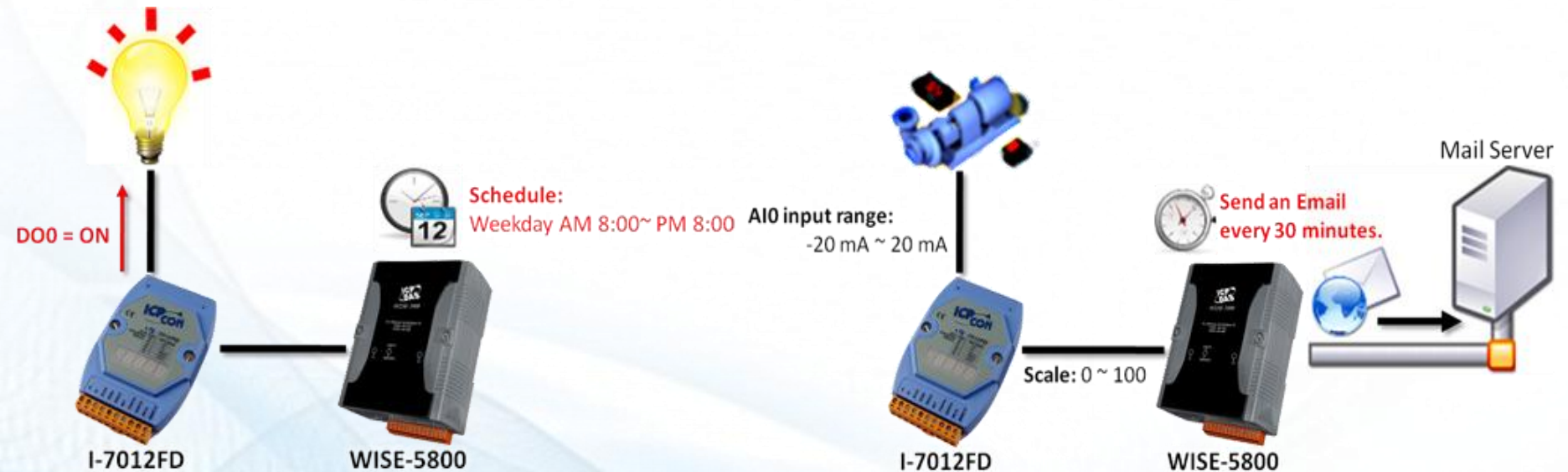
- Fully Automation function supported
  - *AIO & DIO* operation supported





# Features – Control Logic Execution

- Fully Automation function supported
- *Schedule* task operation
- *Timer* task operation





# Features – Control Logic Execution

- Fully Automation function supported
- Remote alarm via **Email**
- Remote alarm via **SMS**





# Features – Control Logic Execution

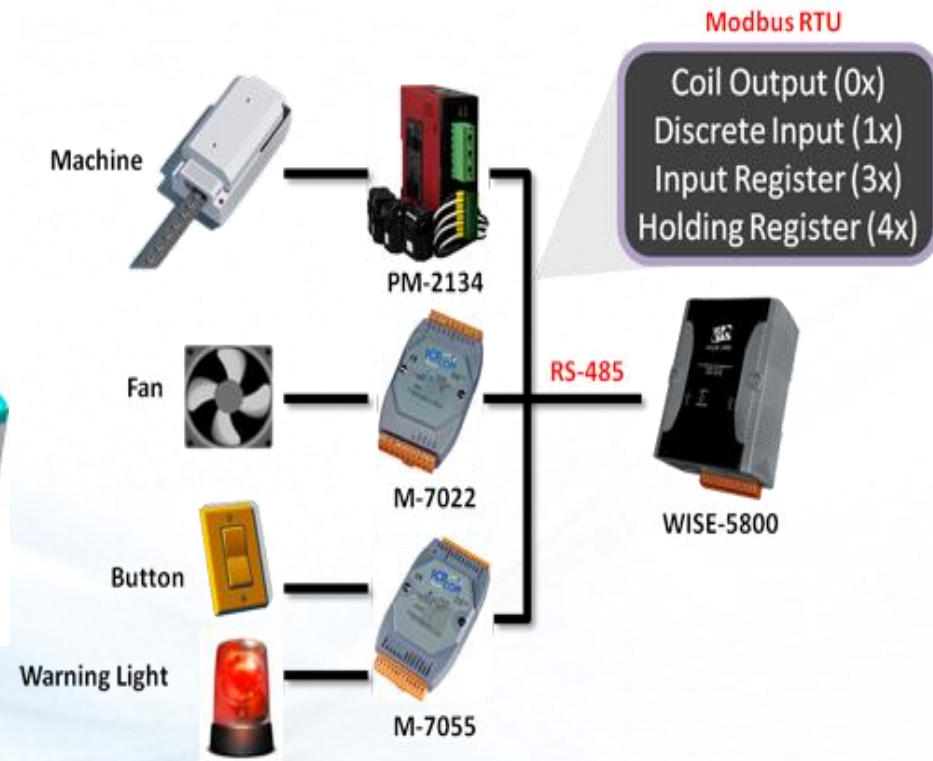
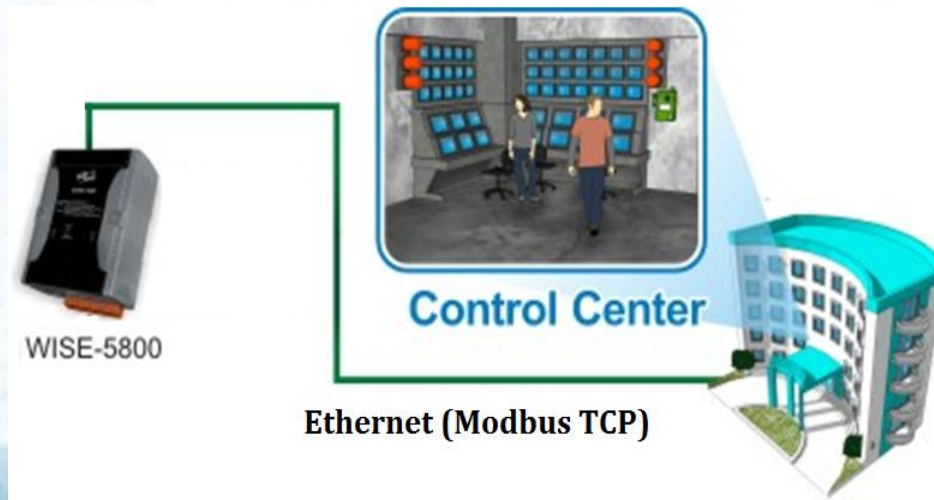
- Fully Automation function supported
- Remote Control via *CGI command*
- *Recipe* function supported





# Features – Control Logic Execution

- Fully Automation function supported
- *Seamless integration* with SCADA software
- *Modbus RTU* device supported





# Features – Data Logger

- Real-time record the I/O channel data of the controller by **Event Trigger** or **Periodic Time**
- Automatically send back the data files by **FTP** or **Email** to the control center





# Features

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- **No extra software tool required**
  - WISE HMI interface runs on the popular web browsers
- **No programming required**
  - WISE provides user-friendly web pages for configure logic rules.
- **Support IF-THEN-ELSE logic rules execution**
  - Provide the intelligent rule engine by IF-THEN-ELSE.
  - Support 36 logic rules
- **Variety IO function provide**
  - AIO 、DIO 、DIO Counter 、DO Pulse output
- **Support Modbus TCP Protocol**
  - Seamless integration with SCADA software



# Features

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- Remote alarm via SMS(Only WISE-4000 & WISE-5801) or Email
  - Real time alarm message sending
- Support Timer/Schedule(Not for WISE-71xx) functions
  - Perpetual calendar, and 12 independent timer settings
- Support Recipe function for Group Action operation
  - Grouping actions together, like Macro
- Support CGI command
  - Easy to link with Surveillance system
- Support Advanced P2P Control (Not for WISE-5800)
  - Not just traditional P2P
  - WISE controllers can share their IO status
  - WISE controllers control and communicate with others directly



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# WISE Platform



# WISE Series



**WISE-71xx**

- Intelligent Controller with **built-in I/O** module for AIO & DIO operation
- Support **PoE** (Power over Ethernet) function
- Support Email message sending and CGI Command sending function
- Support Timer function
- Support Modbus TCP for integration with SCADA software
- **Not** support **Schedule** function



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**WISE-790x(D)**

- Intelligent Controller with **I/O interchangeable module** for AIO & DIO operations
- Support **X-Board** (X107, X109, X110, X111, X202, X203, X303, X304, X305, X308, X310, X324 ) or **FRnet** (FR-2053, FR-2054, FR-2057)
- Support **PoE** (Power over Ethernet) function
- Support Email message sending and CGI Command sending function
- Support Timer function
- Built-in RTC for Schedule function
- Support Modbus TCP for integration with SCADA software



# WISE Series

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**WISE-4000(D)**

- Intelligent Controller with **built-in AI & DIO** module
- Support Email message sending and CGI Command sending function
- Support Timer function
- Built-in RTC for Schedule function
- Support Modbus TCP for integration with SCADA software
- Support **SMS** message sending for alarm status



# WISE Series



WISE-5800



WISE-5801

- Intelligent Controller with **I/O interchangeable module** and **Remote I/O devices** for AIO & DIO operations
- I/O module supported
  - \***XW-Board** by Local Bus
  - \***I-7000 remote I/O Module** (up to 16) by RS-485
  - \***Modbus\_RTU Slave module** (up to 10) by RS-485
- Support Email message sending and CGI Command sending function
- Support Timer function
- Built-in RTC for Schedule function
- Support **Modbus TCP/RTU** for integration with SCADA software
- Support **Active I/O** for integration with SCADA software
- Support **Data Logger** function with micro SD card
- Support **Sntp** for time synchronization
- Web page for mobile device operation
- Fully SMS Function Supported(**Only for WISE-5801**)
  - \***SMS alarm message sending**
  - \***SMS command receiving**



# WISE-71xx Series



**WISE-71xx**

**WISE-790x**

**WISE-4000**

**WISE-580x**

Module Type	I/O Functions				Note
	DI	DO	AI	AO	
WISE-7105	-	4	8	-	Support Thermistor
WISE-7115	-	-	7	-	Support RTD
WISE-7117	-	4	8	-	-
WISE-7118Z	-	6	10	-	Support Thermocouple
WISE-7119	-	4	8	-	
WISE-7126	2	2	6	2	-
WISE-7142	-	16	-	-	-
WISE-7144	8	8	-	-	-
WISE-7151	16	-	-	-	-
WISE-7152	8	8	-	-	-
WISE-7160	6	6	-	-	Power Relay Output
WISE-7167	-	8	-	-	



# WISE-7901(D)





WISE-790x

WISE-71xx

WISE-4000

WISE-580x

Module	WISE-7901		WISE-7901D		
Ethernet Port	10/100 Base-TX with PoE function				
LED Display	-		Yes		
<div> + </div>	I/O Interchangeable Boards				
		DI	DO	AI	AO
	X107	6	7	-	-
	X109	-	7	-	-
	X110	14	-	-	-
	X111	-	13	-	-
	X202	-	-	7	-
	X203	2	6	2	-
	X303	4	6	1	1
	X304	4	4	3	1
	X305	2	2	7	1
	X308	-	6	4	-
	X310	3	3	2	2
	X324	-	4	-	4



# WISE-7902(D)



WISE-790x

WISE-71xx

WISE-4000


WISE-580x

Module	WISE-7902		WISE-7902D		
Ethernet Port	10/100 Base-TX with PoE function				
LED Display	-		Yes		
I/O Functions	FRnet remote I/O modules				
		DI	DO	AI	AO
	FR-2053	16	-	-	-
	FR-2054	8	8	-	-
	FR-2057	-	16	-	-





# WISE-4000(D)

 WISE-4000 WISE-71xx WISE-7901 WISE-580x	Module	WISE-4000	WISE-4000D
	Ethernet Port	10/100 Base-TX	
	GSM	Quad-band 850/900/1800/1900 MHz for <b>SMS</b>	
	I/O Function	3 DI, 3 DO, 8 AI	
	LCD Display	-	Yes

- Web function still through **Ethernet interface(RJ45)**
- **No support GPRS for Data sending**



# WISE-580x



WISE-580x

WISE-71xx

WISE-7901

WISE-4000

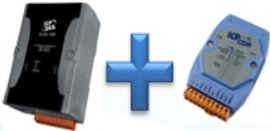
Module	WISE-5800	WISE-5801
Ethernet Port	10/100 Base-TX	
I/O Function	XW-Board I-7000 Modules (up to 16) Modbus RTU Modules (up to 10)	
Data Log	Support period recording or event trigger recording with 2G MicroSD card	
Time Sync	Support SNTP	
Active I/O	Send I/O Data to SCADA software actively through Modbus TCP	
SMS	-	Yes (Send alarm and receive command)


- Web function still through Ethernet interface(RJ45)
- No support GPRS for Data sending



# WISE-580x I/O Function

- Provide a wide range of I/O module to select from
  - Support XW-Board, I-7000 I/O Modules(Up to 16) & Modbus RTU Slave Device(Up to 10)

Module	WISE-5800					
Interface	RS-485					
 I/O Functions	I-7000 AI/AO Module					
		Model	DI	DO	AI	AO
	Voltage & Current	I-7012	1	2	1	-
		I-7017	-	-	8	-
	Thermocouple	I-7011	1	2	1	-
		I-7018	-	-	8	-
		I-7019	-	-	1	-
		I-7013	-	-	1	-
	RTD	I-7015	-	-	6	-
		I-7033	-	-	3	-
	Thermistor	I-7005	-	6	8	-
	Transmitter	I-7014	1	2	1	-
	Analog Output	I-7021	-	-	-	1
		I-7022	-	-	-	2
		I-7024	-	-	-	4

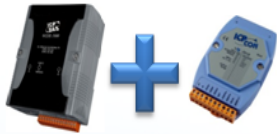
Module	WISE-5800					
Interface	RS-485					
 I/O Functions	I-7000 DI/DO Module					
		Model	DI	DO	AI	AO
	DC Digital Input	I-7041	14	-	-	-
		I-7051	16	-	-	-
		I-7052	8	-	-	-
		I-7053	16	-	-	-
	AC Digital Input	I-7058	8	-	-	-
		I-7059	8	-	-	-
	DC Digital Output	I-7042	-	13	-	-
		I-7043	-	16	-	-
		I-7045	-	16	-	-
	DC Digital Input & Output	I-7044	4	8	-	-
		I-7050	7	8	-	-
		I-7055	8	8	-	-



# WISE-580x I/O Function

- Provide a wide range of I/O module to select from
  - Support XW-Board, I-7000 I/O Modules(Up to 16) & Modbus RTU Slave Device(Up to 10)

Module	WISE-5800					
Interface	RS-485					
I/O Functions	I-7000 Relay Output Module					
		Model	DI	DO	AI	AO
	Power Relay Output	I-7060	4	2	-	-
		I-7061	-	12	-	-
		I-7063	8	3	-	-
		I-7065	4	5	-	-
		I-7067	-	7	-	-
	Solid State Relay Output	I-7063A/B	8	3	-	-
		I-7065A/B	4	5	-	-
	Photomos Relay Output	I-7066	-	7	-	-
	I-7000 Others Module					
		Model	DI Counter	DO	AI	AO
	Counter/ Frequency	I-7080	2	2	-	-
		I-7088	8	8	-	-



Module	WISE-5800				
Interface	Local Bus				
I/O Functions	XW-Board				
		DI	DO	AI	AO
	XW-107	8	8	-	-
	*XW-110	16	-	-	-
	*XW-304	4	4	6	1
	*XW-310	3	3	4	2
	*XW-310c	3	3	4	2



\* : Available soon (XW-110 、XW-304 & XW-310 is by request)



# System Architecture

## WISE-71xx, WISE-790x, WISE-4000

### Rule Configuration



Ethernet

Modbus-TCP

SCADA

OPC Solutions

### WISE Solution

Web  
Server

Web  
Page

Modbus  
TCP  
Slave

IF-THEN-ELSE  
Rule Engine

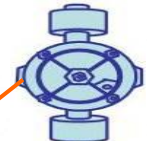
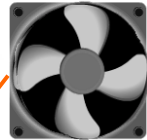
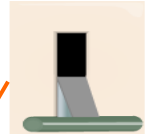
I/O Channel Control

Schedule / Timer Control

Email / SMS / CGI  
command Send

Advanced P2P

I/O Link



Email



SMS (WISE-4000)



CGI command

Industrial Computer Product Data Acquisition System

# System Architecture

## WISE-580x



### Rule Configuration



Ethernet

Mobile Device

Modbus TCP/RTU(RS-232)

SCADA

OPC Solutions

WISE-580x

Web  
Server

IF-THEN-ELSE  
Rule Engine

Logic Rule  
Editing Page

Channel  
Monitoring  
Page

Modbus  
TCP/RTU  
Slave

Active I/O

I/O Channel Control

Schedule / Timer  
Control

Email / CGI command  
Send

Data Logger

SMS Alarm Message sending &  
SMS Command receiving  
(WISE-5801)

XW-Board, I-7000,  
Modbus RTU Device

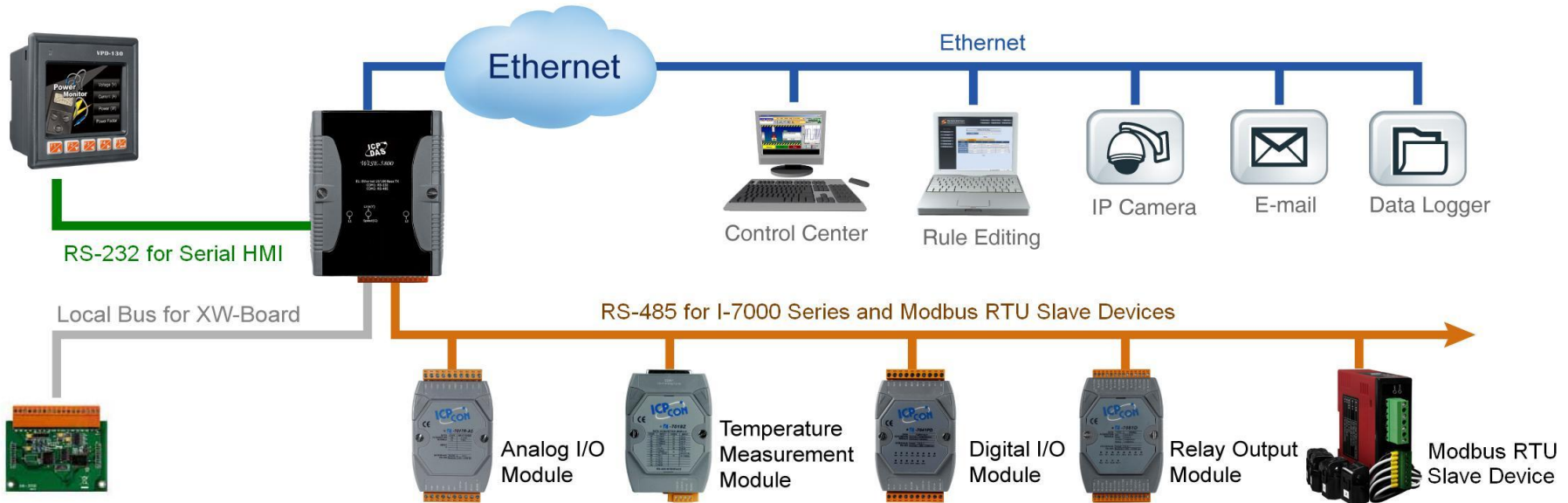


Industrial Computer Product Data Acquisition System



# WISE-580x Architecture

## WISE-5800 System Architecture



Analog



Digital



Pulse/Frequency



RTD Sensor



Thermometer



Relay Output



ON/OFF Switch



Warning Light



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# Some Functions Inside WISE



# Some Functions Inside WISE

## 2. Advanced Setting

DI Attribute Setting

DO Attribute Setting

AI Attribute Setting

AO Attribute Setting

Internal Register Setting

Timer Setting

Schedule Setting

SMS Setting

E-mail Setting

CGI Command Setting

Recipe Setting

P2P Setting

### DO Attribute Setting Page

Module & Channel

WISE-4000 Channel 0

Power On Value

OFF

#### Counter

Condition

Disable

Initial Value

0

#### ☐ Enable Pulse Output

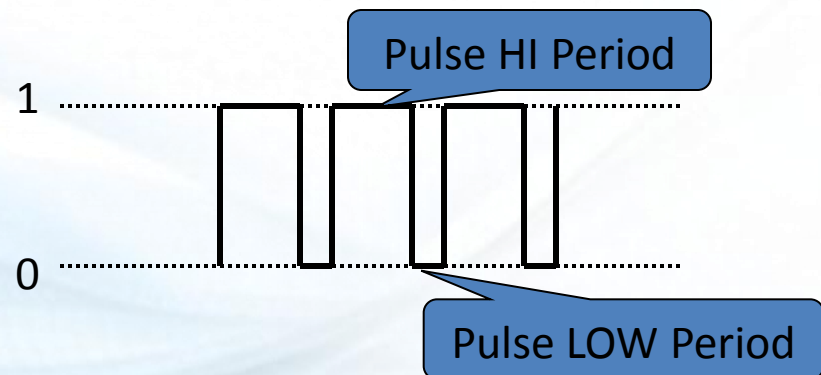
Pulse High

0 X 10ms

Pulse Low

0 X 10ms

※ WISE-5800 with I-7000 doesn't provide pulse Output function







# Some Functions Inside WISE

## 2. Advanced Setting

DI Attribute Setting

DO Attribute Setting

AI Attribute Setting

AO Attribute Setting

Internal Register Setting

Timer Setting

Schedule Setting

SMS Setting

E-mail Setting

CGI Command Setting

Recipe Setting

P2P Setting

### Timer Setting Page

Timer Amount

0

Index

Period

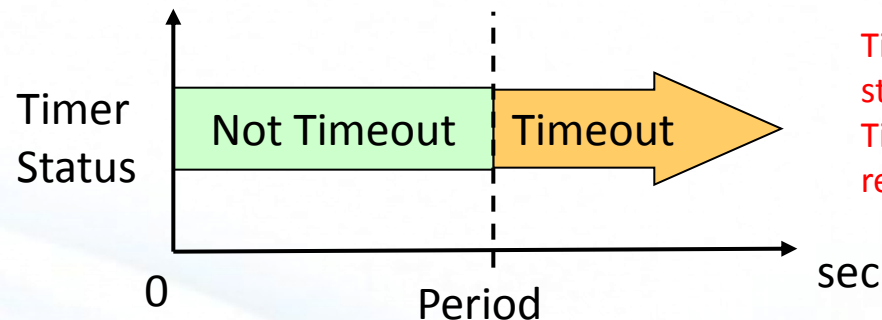
0

Sec

Initial Status

Stop

Save



Timer will be in "Timeout" status only when the Timer is running and reached the setting time

Start : Start or Restart the Timer

Reset : Stop and reset the Timer



# Some Functions Inside WISE

**2. Advanced Setting**

- DI Attribute Setting
- DO Attribute Setting
- AI Attribute Setting
- AO Attribute Setting
- Internal Register Setting
- Schedule Setting**
- SMS Setting
- E-mail Setting
- CGI Command Setting
- Recipe Setting
- P2P Setting

**Schedule Setting Page**

Schedule Amount: 1

Index: 1

Initial Status: Stop

Date: 2010 10 ~ 12

Time: 0 0 0 ~ 0 0 0

Clear All Mark All

Weekday Weekend

: In Range

: Out of Range

2010 10 2010 11 2010 12

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2		1	2	3	4	5	6				1	2	3	4
3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11
10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18
17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	31	
31																				

**Date** **Time** In Range

※WISE-71xx doesn't support this function

**Industrial Computer Product Data Acquisition System**



# Some Functions Inside WISE

2. Advanced Setting

- DI Attribute Setting
- DO Attribute Setting
- AI Attribute Setting
- AO Attribute Setting
- Internal Register Setting
- Timer Setting
- Schedule Setting
- SMS Setting**
- E-mail Setting
- CGI Command Setting
- Recipe Setting
- P2P Setting

**SMS Setting Page**

SMS Amount: 0

Index: [Dropdown]

Phone Number: [Text Field]

Message: (Note: The length of the message cannot exceed 160 characters.)

☐ Unicode

※ WISE-4000 & WISE-5801 only

Industrial Computer Product Data Acquisition System



# Some Functions Inside WISE

## 2. Advanced Setting

DI Attribute Setting

DO Attribute Setting

AI Attribute Setting

AO Attribute Setting

Internal Register Setting

Timer Setting

Schedule Setting

SMS Setting

E-mail Setting

CGI Command Setting

Recipe Setting

P2P Setting

### E-mail Setting Page

E-mail Amount

1 ▾

Index

1 ▾

SMTP Server  
(IP or Domain Name)

mstp.icpdas.com

☒ Authentication

Login ID

icpdas

Password

•••••

Sender Name

ICP DAS

Sender Email Address

service@icpdas.com

1st Receiver Email Address

service.icpdas@gmail.com

2nd Receiver Email Address

3rd Receiver Email Address

4th Receiver Email Address

5th Receiver Email Address

Subject

Temperature too HIGH

Content

(Note: The length of the message cannot exceed 160 characters.)

The engine is overheating.

The engine temperature is \$ai0 now.  
The fan is \$do0.



# Some Functions Inside WISE

## 2. Advanced Setting

DI Attribute Setting

DO Attribute Setting

AI Attribute Setting

AO Attribute Setting

Internal Register Setting

Timer Setting

Schedule Setting

SMS Setting

E-mail Setting

CGI Command Setting

Recipe Setting

P2P Setting

E-mail & SMS provides an interface that allow user to add current channel value into E-mail & SMS content.

Subject	Value report
Content (Note: The length of the message cannot exceed 160 characters.)	DI: \$di0, \$di1 DO: \$do0, \$do1 CI: \$ci0, \$ci1 CO: \$co0, \$co1 AI: \$ai0, \$ai1, \$ai2, \$ai3, \$ai4, \$ai5 AO: \$ao0, \$ao1 IR: \$ir1, \$ir2

Value report - Unicode (UTF-8)

檔案(F) 編輯(E) 檢視(V) 工具(T) 郵件(M) 說明(H)

回覆 全部回覆 轉寄 列印 刪除 上一個 下一個 通訊錄

寄件者: [REDACTED]  
日期: 2010年9月23日 下午 05:20  
收件者: [REDACTED]  
主旨: Value report

DI: OFF, OFF  
DO: OFF, OFF  
CI: 0, 0  
CO: 0, 0  
AI: -16.80, -0.02, -0.02, -0.02, -16.90, -16.80  
AO: 0.00, 0.00  
IR: 99.00, 0.00



# Some Functions Inside WISE

## 2. Advanced Setting

DI Attribute Setting

DO Attribute Setting

AI Attribute Setting

AO Attribute Setting

Internal Register Setting

Timer Setting

Schedule Setting

SMS Setting

E-mail Setting

CGI Command Setting

Recipe Setting

P2P Setting

### CGI Command Setting Page

CGI Amount

0

Index

CGI Command

HTTP:// [ ] . [ ] . [ ] . [ ] : [ ] /  
[ ]

Retry Count

times

Retry Interval

Sec



CGI command



# Some Functions Inside WISE

2. Advanced Setting

- DI Attribute Setting
- DO Attribute Setting
- AI Attribute Setting
- AO Attribute Setting
- Internal Register Setting
- Timer Setting
- Schedule Setting
- SMS Setting
- E-mail Setting
- CGI Command Setting
- Recipe Setting
- P2P Setting

### Recipe Attribute Setting Page

Recipe Amount: 1

Index: 1

Action: DO Add

Edit Delete ▲ ▼ Clear All

<input type="radio"/>	Send SMS1 (0912345678)	<input checked="" type="radio"/> One Time <input type="radio"/> Repeat
<input type="radio"/>	Send Email1	<input checked="" type="radio"/> One Time <input type="radio"/> Repeat
<input type="radio"/>	Send CGI Command1	<input checked="" type="radio"/> One Time <input type="radio"/> Repeat
<input type="radio"/>	WISE-4000 DO0 = ON	<input checked="" type="radio"/> One Time <input type="radio"/> Repeat

Save

Diagram illustrating the system configuration and data flow:

**Machine ON** (with DI0 input) triggers **Recipe1**.

**Recipe1** executes the following actions:

- Send **CGI Command1** to a web camera.
- Send **DO0 = ON** to a light bulb.
- Send **Email1** to a **Mail Server**.
- Send **SMS1** to a mobile phone.

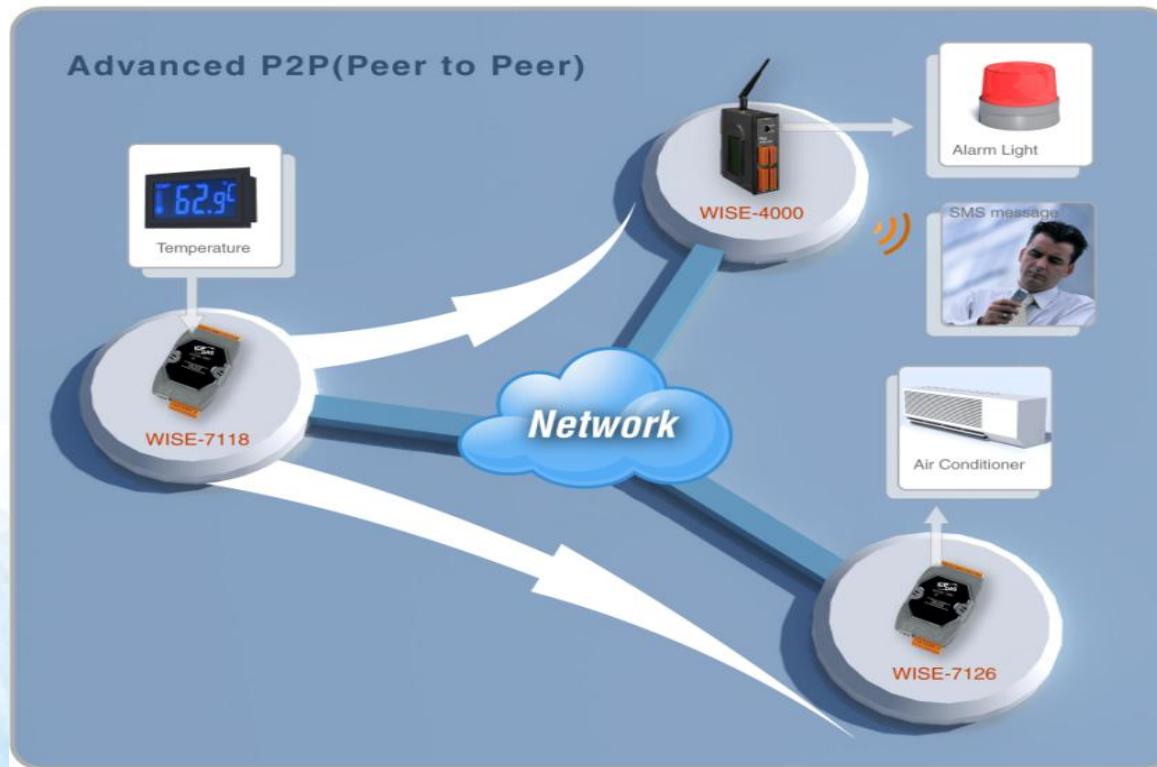
**Rule1:**  
IF DI0 = ON  
THEN Recipe1 Execute

Industrial Computer Product Data Acquisition System



# Some Functions Inside WISE

- Traditional P2P function is just **1-to-1 DI-DO Mapping**.
- WISE's Advanced P2P is WISE controllers can real-time **share their DIO、AIO、Counter、IR information to each other through network.**



※WISE-580x doesn't support this function



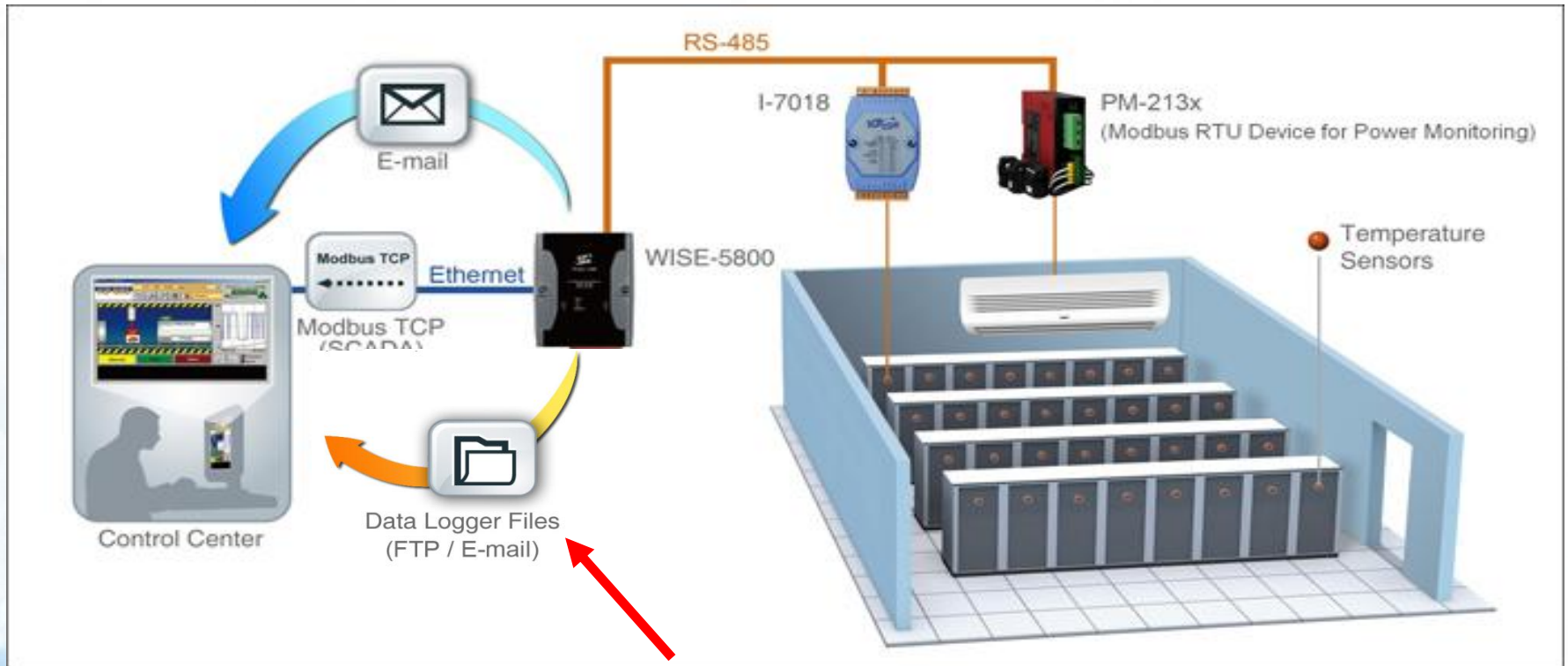
---

# WISE-580x's New Function



# WISE-580x New Function

- Support Data Logger function



WISE-5800 enables real-time recording I/O data and allows to send the data files by FTP or Email to the control center for further administration management or data analysis.



# WISE-580x New Function

---

- **Support Data Logger function**
  - Equips 2G microSD storage for I/O data recording
  - Allows to set up “Sampling Rate”, “Recording period for each log file” and “Total number of log file to be kept”
  - Allows to record I/O data in two ways
    - Period Recording : Record by “Sampling Rate” Setting (10sec, 30sec, 1min, 2min, 3min, 5min, 10min, 20min, 30min, 1hour)
    - Event Trigger Recording : Record in response to IF-THEN-ELSE Action (One time Log)
  - Close Log file every 1 、 2 、 3 、 4 、 6 、 8 、 12 、 24hour(s)
  - When the micro SD card’s free space is less than 20%, WISE-580x will delete the old log files, and only keeps the data logger files of the last month.
  - Allows to send back data file
    - By FTP
      - “Scheduled” : User can define the Timing to send back all log files automatically by FTP everyday
      - “Log file is closed” : When the data file is closed, this file will be sent back by FTP.
    - By Email
      - “Log file is closed” : When the data file is closed, this file will be sent back by Email (As an attached file).



# WISE-580x New Function

- Support Data Logger function

The screenshot shows two web-based configuration pages for the WISE-580x. The top page, 'Data Logger Setting Page', includes options to enable the data logger, set the file name to 'Log', define the data format as '\$m2di2,\$m1ao1' with a DI input and 4 I-7044 channels, set a 5-minute sampling period, and configure log file closure and storage. The bottom page, 'Log File Sending Attribute', shows settings for email and FTP notifications, including IP, port, login ID, password, path, and timeout.

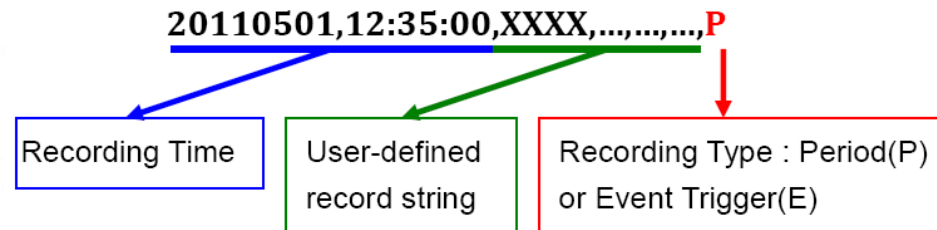
Data Logger Setting Page		
<input checked="" type="checkbox"/> Enable Data Logger		
File Name	Log	
Data Format	\$m2di2,\$m1ao1 DI [v] 4 I-7044 Ch. 0 [v] Add	
Sampling Period	<input checked="" type="checkbox"/> Enable 5 mins [v]	
Close Log File	Every 2 [v] hour(s)	
Total number of Log File	30 [v]	

Log File Sending Attribute		
<input checked="" type="checkbox"/> E-mail	Index	1 [v] (Send as attachment when the log file is closed)
<input checked="" type="checkbox"/> FTP	IP	192 168 100 34
	Port	21
	Login ID	wise <input type="checkbox"/> Anonymous
	Password	****
	FTP Path	/Log
	Timeout	3000 (milliseconds)
Time to upload		<input type="radio"/> Log file is closed <input checked="" type="radio"/> Every day at 23 [v] o'clock

- Data file format(CSV):

- An interface that allow user to add current channel value into Data Format.



- Data Format : "\$m2di2,\$m1ao1".

- ✓ \$m2di2 : The I-7000 module(Address:2) DI2 value
- \$m1ao1 : The I-7000 module(Address:1) AO1 value

- ✓ Real data in Log file :

20110819,12:35:00,ON,5.3,P  
20110819,12:35:10,OFF,4.0,P

.....

.....



# WISE-580x New Function

- Web page for mobile device operation

Guest

DO	
<b>Ch.0</b> Switch 1 <input checked="" type="checkbox"/> ON	<b>Ch.1</b> Switch 2 <input checked="" type="checkbox"/> ON
<b>Ch.2</b> Switch 3 <input checked="" type="checkbox"/> ON	<b>Ch.3</b> Switch 4 <input checked="" type="checkbox"/> ON
<b>Ch.4</b> Switch 5 <input type="checkbox"/> OFF	<b>Ch.5</b> Switch 6 <input type="checkbox"/> OFF
<b>Ch.6</b> Switch 7 <input type="checkbox"/> OFF	<b>Ch.7</b> Switch 8 <input type="checkbox"/> OFF
<a href="#">Go to Logic Setting page</a> © ICP DAS Co., Ltd. All Rights Reserved	

Administrator

DO	
<b>Ch.0</b> Switch 1 <input checked="" type="checkbox"/> ON	<b>Ch.1</b> Switch 2 <input checked="" type="checkbox"/> ON
<b>Ch.2</b> Switch 3 <input checked="" type="checkbox"/> ON	<b>Ch.3</b> Switch 4 <input checked="" type="checkbox"/> ON
<b>Ch.4</b> Switch 5 <input type="checkbox"/> OFF	<b>Ch.5</b> Switch 6 <input type="checkbox"/> OFF
<b>Ch.6</b> Switch 7 <input type="checkbox"/> OFF	<b>Ch.7</b> Switch 8 <input type="checkbox"/> OFF
<a href="#">Go to Logic Setting page</a> © ICP DAS Co., Ltd. All Rights Reserved	



# WISE-580x New Function

- More powerful schedule function provided
  - For 3 shifts lighting control system in factory or office, school bell control system...etc.

Schedule Setting Page

Schedule Amount: 1

Index: 1

Initial Status: Enable

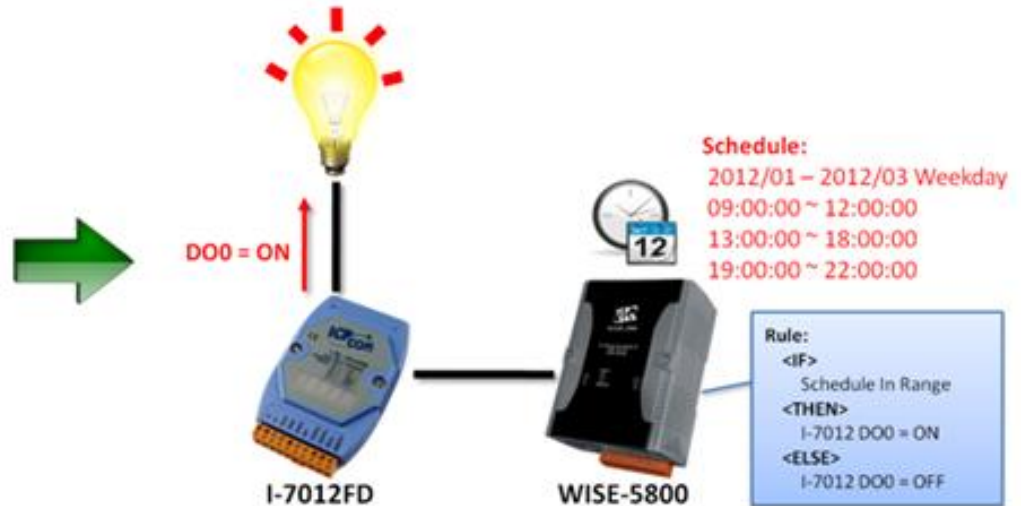
Date: 2012/1/1 ~ 2012/3/3

Time: 9:00 ~ 12:00 Remove, 13:00 ~ 18:00 Remove, 19:00 ~ 22:00 Remove

Clear All, Mark All, Weekday, Weekend

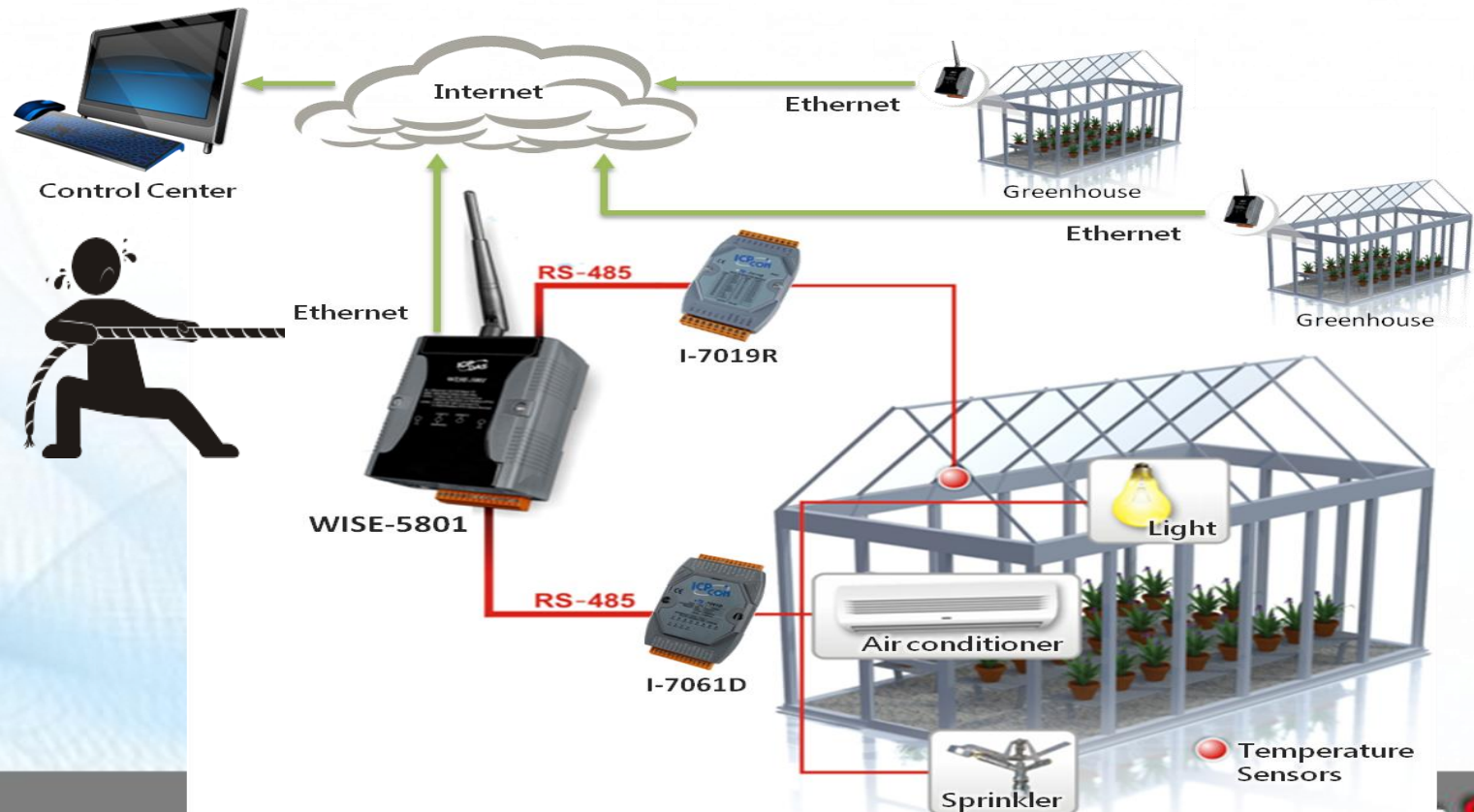
In Range (Yellow), Out of Range (Red)

2012/1, 2012/2, 2012/3



# Traditional Polling Mechanism

- The Polling Mechanism
  - Lower efficient in data communication
  - Lower efficient in saving Network resources

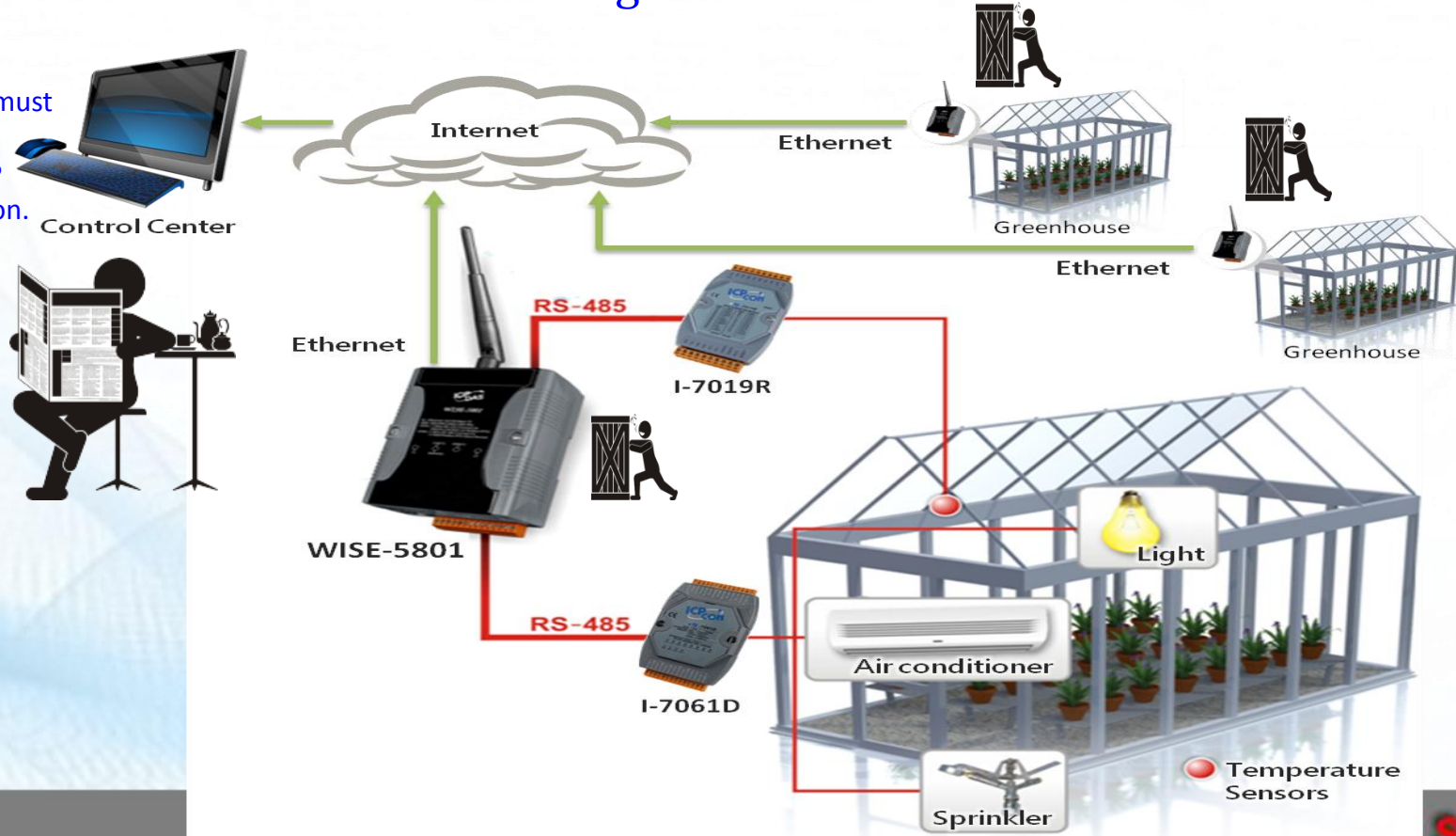




# WISE-580x New Function

- Active I/O function
  - More efficient in data communication
  - More efficient in saving Network resources

The SCADA must equip the Modbus TCP Slave function.





# WISE-5801 New Function

- SMS alarm message sending function

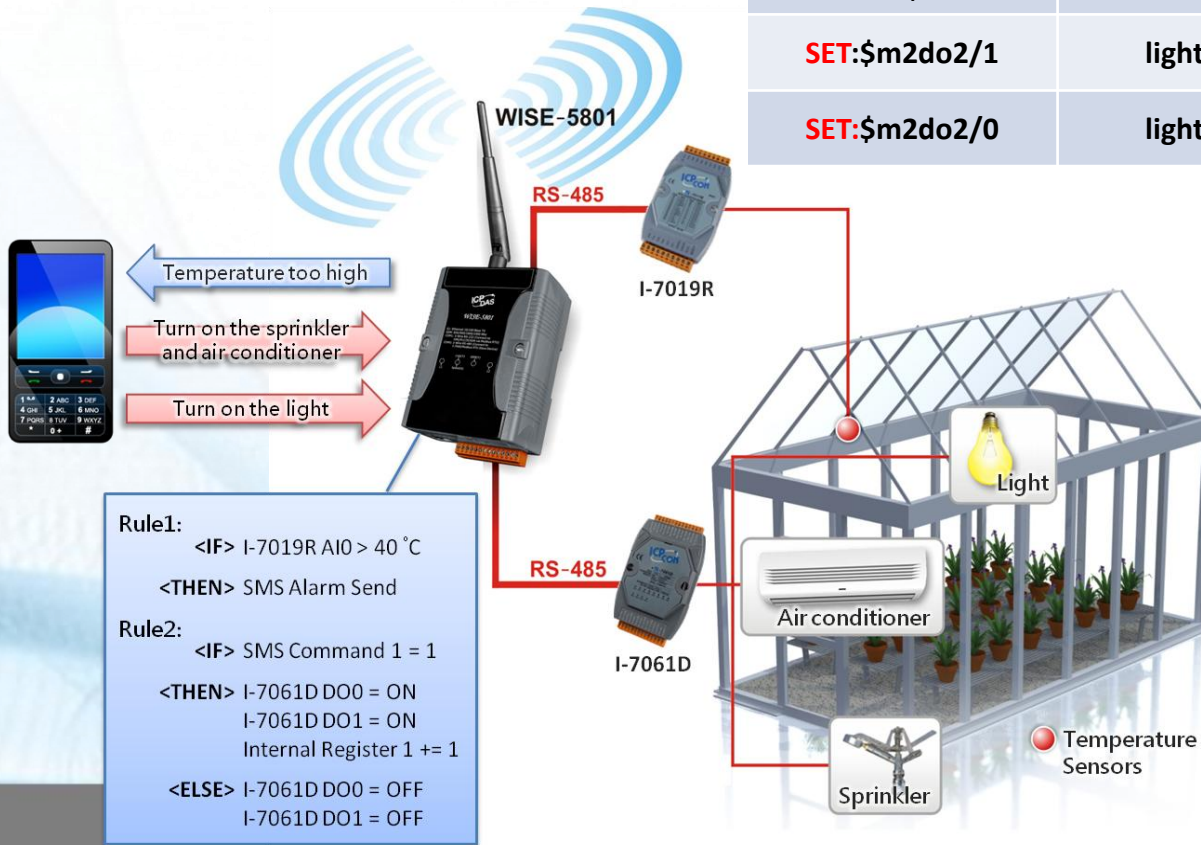




# WISE-5801 New Function

- SMS command receiving function

SMS Original Command	SMS Quick Command	WISE-5801's response
-	-	Attention! The current temperature of the greenhouse is 40.12
<b>ACT:1/1</b>	on	SMS Command 1 set as 1
<b>GET:\$ir1</b>	counter	GET 2.00
<b>SET:\$m2do2/1</b>	light/1	SET I-7061(2) DO Channel 2 as ON
<b>SET:\$m2do2/0</b>	light/0	SET I-7061(2) DO Channel 2 as OFF





# WISE Software function

Module	 WISE-71xx	 WISE-790x(D)	 WISE-4000(D)	 WISE-580x
IO Function	Built-in	X-board 、FRnet	Built-in	XW-board 、I-7000 、 Modbus_RTU Device
Rule Configuration Website	Yes	Yes	Yes	Yes
36 IF-THEN-ELSE Logic Rule	Yes	Yes	Yes	Yes
48 Internal Register	Yes	Yes	Yes	Yes
12 Timer /12 Email/ 12 Recipe/12 CGI Command Supported	Yes	Yes	Yes	Yes
Connect with SCADA or HMI	Yes (Support Modbus TCP)	Yes (Support Modbus TCP)	Yes (Support Modbus TCP)	Yes (Support Modbus TCP/RTU)
8 P2P controllers Supported	Yes	Yes	Yes	-
12 Schedule Supported	-	Yes	Yes	Yes (More Powerful)
12 SMS Supported	-	-	Yes	Yes (WISE-5801, SMS alarm and SMS command)
SNTP Time Synchronization	-	-	-	Yes
Data Logger Support	-	-	-	Yes
Active I/O Support	-	-	-	Yes



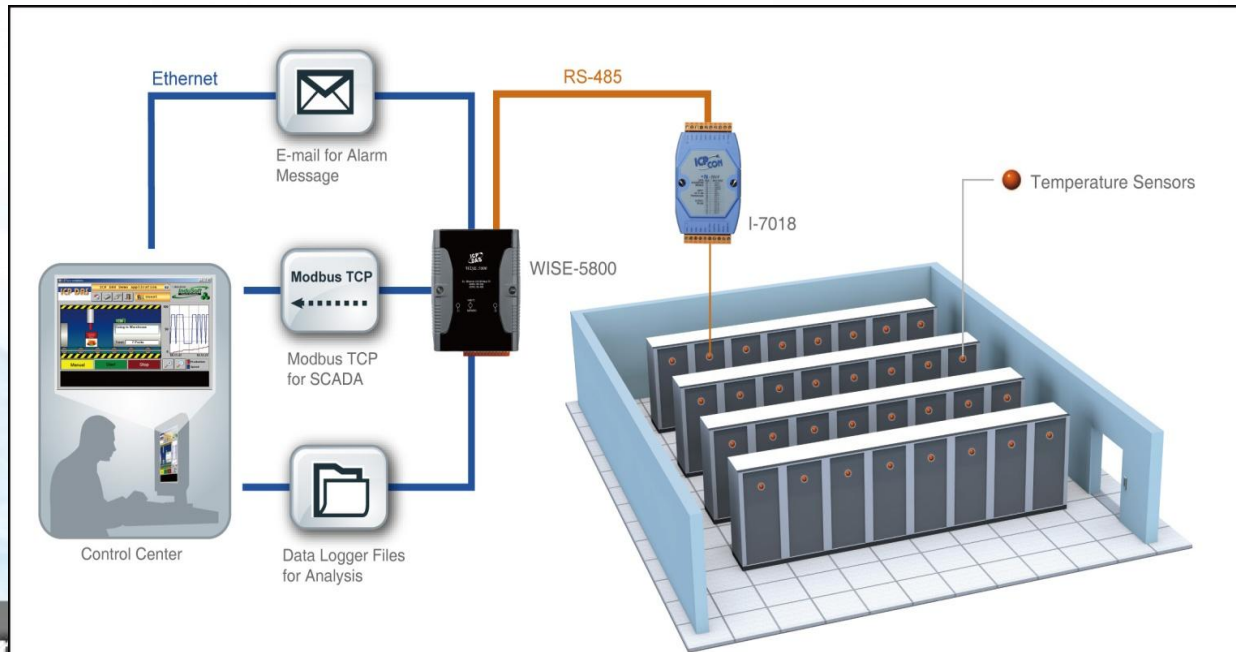
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# Applications



# Environment Monitoring

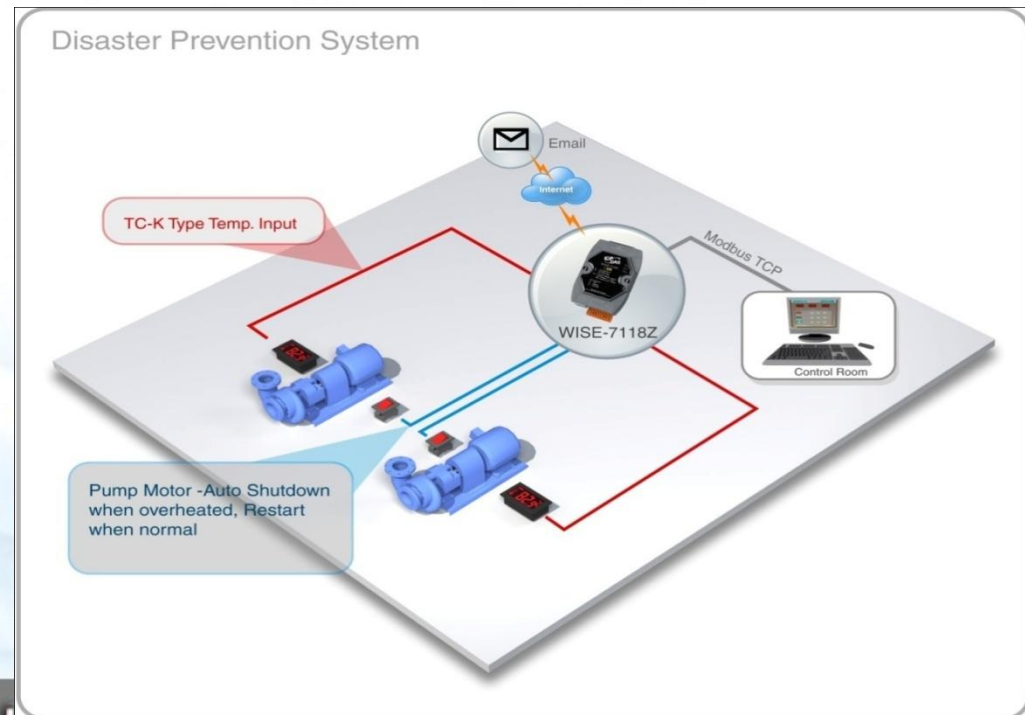
- Customer use WISE-5800 to monitor 120 temperature points.
- Customer can directly monitor 120 temperature points by WISE Web page directly, and send the alarm Email.
- Each set
  - WISE-5800 x 1
  - I-7018 x 16





# Device Monitoring

- Customer use WISE-7115 to monitor device status.
- If the device's temperature exceeds 50 °C, then send an email alarm every 30 minutes.





# Device Monitoring

- 3 Steps to complete all thing

STEP1: Set the timer for 30 minutes.

## Timer Setting Page

Timer Amount	1	▼
Index	1	▼
Period	1800	Sec
Initial Status	Stop	▼

Save

STEP2: Complete the Email Setting Page.

## E-mail Setting Page

E-mail Amount	0	▼
Index	1	▼
SMTP Server IP		
■ Authentication		
Login ID		
Password		
Sender Name		
Sender Email Address		
1st Receiver Email Address		
2nd Receiver Email Address		
3rd Receiver Email Address		
4th Receiver Email Address		
5th Receiver Email Address		
Subject		
Content		
(Note: The length of the message cannot exceed 160 characters.)		

Save



# Device Monitoring

- 3 Steps to complete all thing

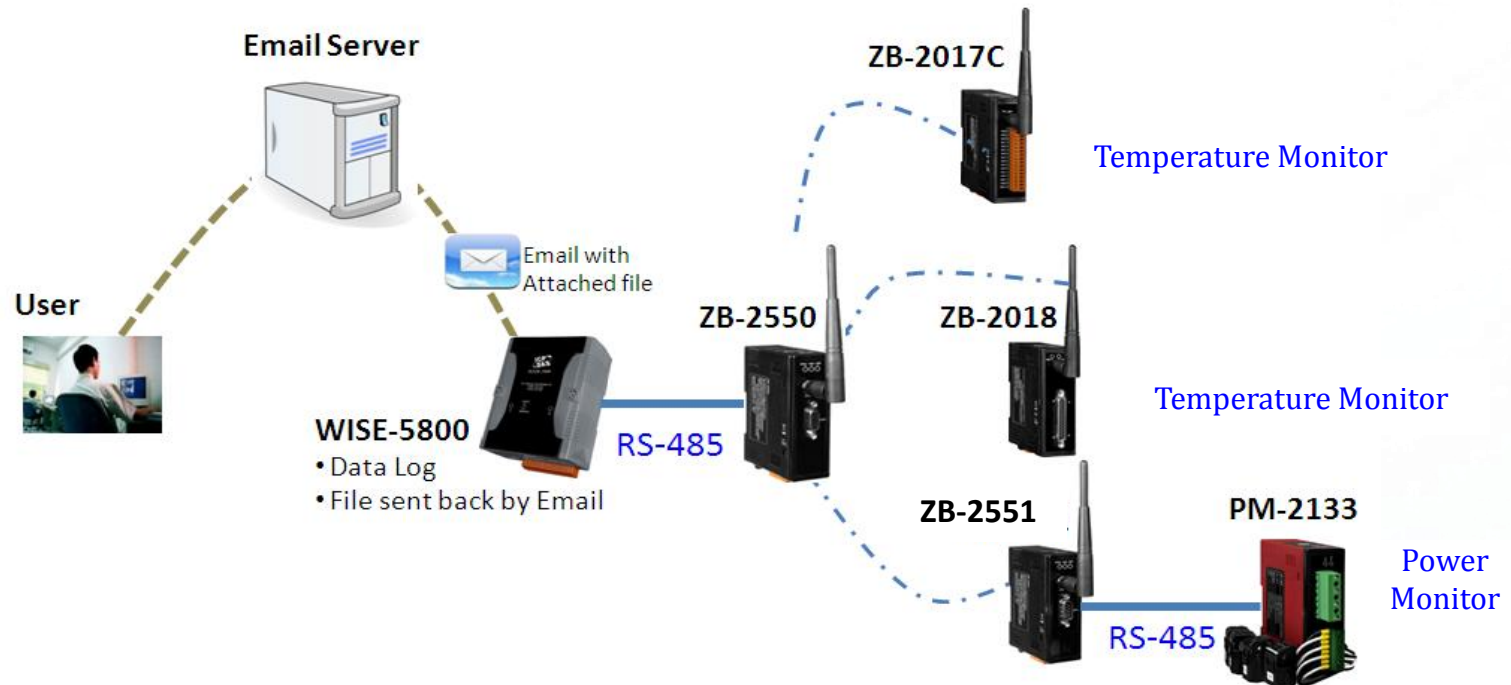
## STEP3: WISE Rule Setting.

Rule Overview
<p><b>Rule 1(Enable)</b> Description: &lt; IF &gt;     WISE-7115 AI0 &gt; 50 °C &lt; THEN &gt;     Email1 Send     Timer1 Start &lt; ELSE &gt;     Timer1 Stop</p>
<p><b>Rule 2(Enable)</b> Description: &lt; IF &gt;     Timer1 Timeout &lt; THEN &gt;     Email1 Send     Timer1 Start</p>



# Data Logger Application

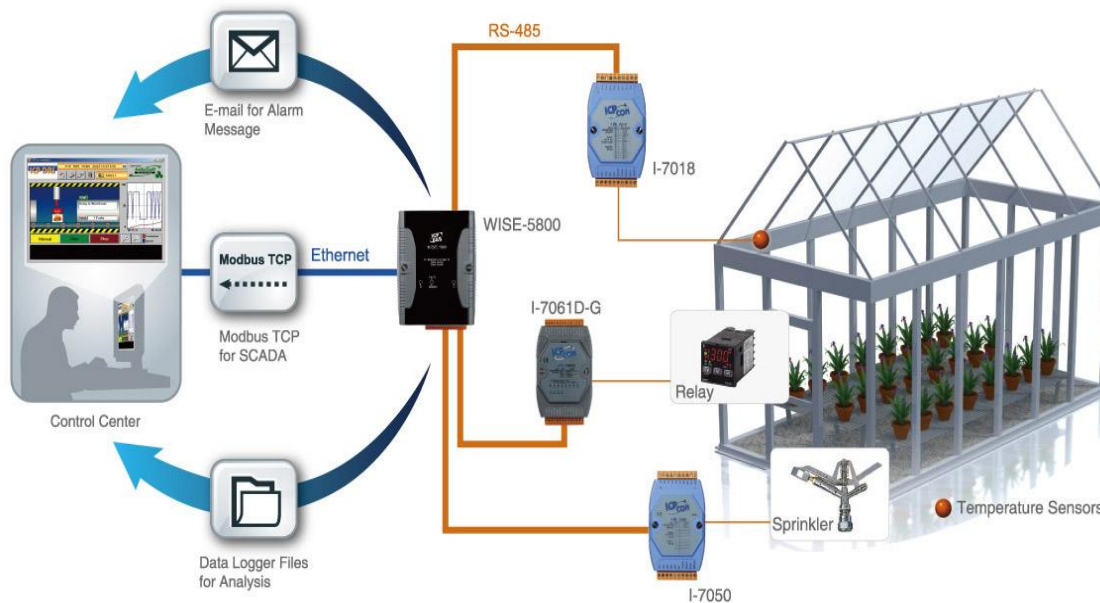
- The data logging application through Zigbee environment from customer
- Equipment
  - WISE-5800(Data Logger) + ZB-2550(Zigbee Host)
  - ZB-2017C-T (Wireless DAQ) & ZB-2018-T (Wireless DAQ)
  - ZB-2551(Zigbee Slave), PM-2133-100(Modbus RTU Power Meter)





# Greenhouse Application

- WISE-5800 for Greenhouse monitoring

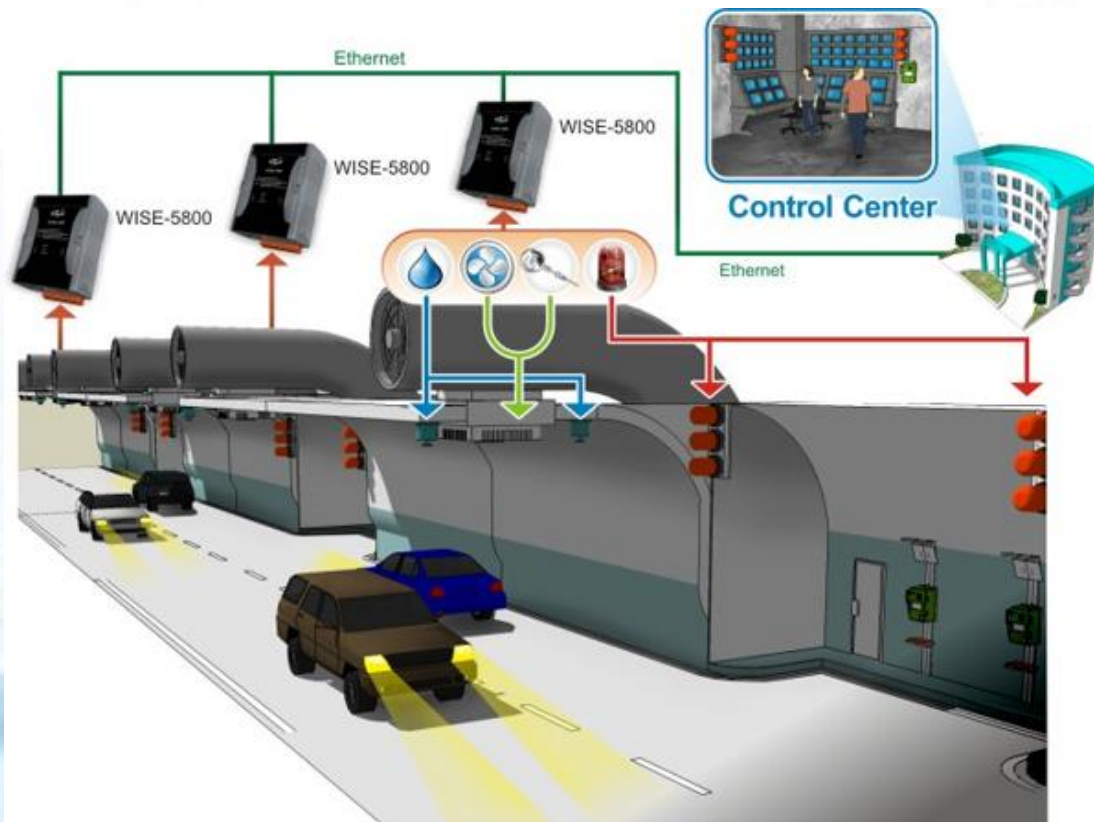


- Allow real-time monitoring & data logger of the temperature and humidity in the greenhouse
- Fan & Sprinkler control by WISE
- Information can be instantly transmitted to the control center and makes real time monitoring of the overall status for each greenhouse



# Tunnel Monitoring System

- WISE-5800 in Tunnel Monitoring System



- Connect with ICP DAS I-7000 modules and Modbus RTU modules to control various I/O devices at the same time.
- IF-THEN-ELSE logic for the real-time monitoring for the on-site status and the immediately response for the emergency situations.
- Support Modbus TCP / RTU Protocol, enables to connect with SCADA software.



# Unmanned Facility Room Monitoring System

- WISE-5801 in Unmanned Facility Room Monitoring System

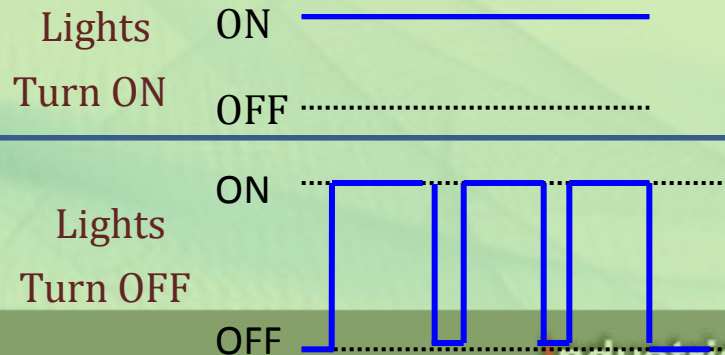


- Connect with ICP DAS I-7000 and Modbus RTU modules for the thermometer, hygrometer, air conditioner and power consumption monitoring and control.
- IF-THEN-ELSE logic for the 24 hours on-site status monitoring and air conditioner redundant control.
- Two-way SMS capability enable WISE-5801 to send message automatically to the related personnel, furthermore, the related personnel could send SMS command message to WISE-5801 for the device remote control operation.

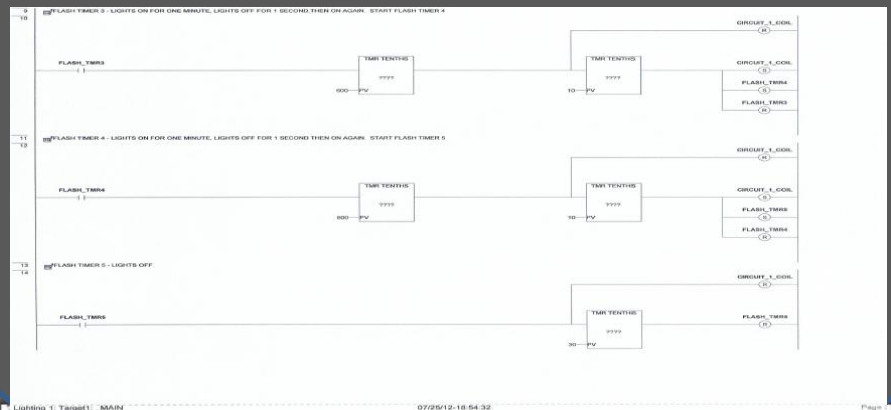
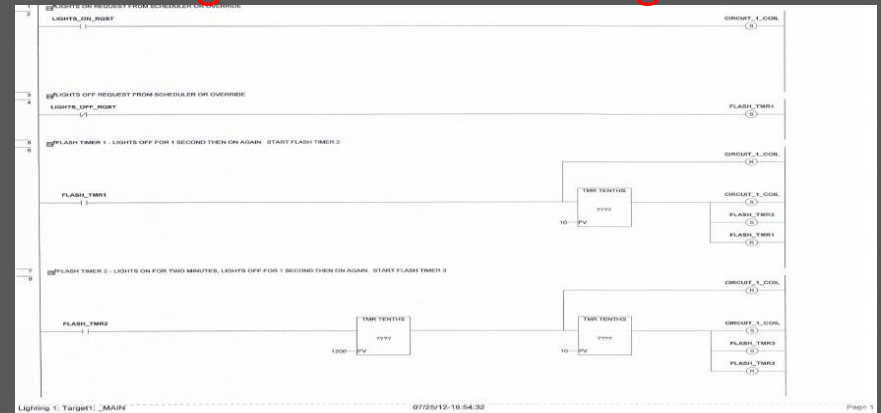


# Lighting Control System

- Original system is using PLC for the lights control



## Original PLC Ladder Program





# Lighting Control System

- WISE-7142 in Lighting control system

1. Enable **DO Pulse Output** & **Counter** Function.



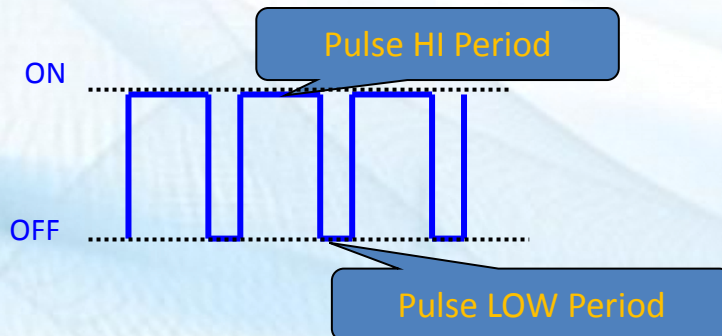
DO Attribute Setting Page	
Module & Channel	WISE-7144 Channel 0
Nickname	
Power On Value	OFF

Counter	
Condition	HI to LO
Initial Value	0

Enable Pulse Output	
Pulse High	1000 X 10ms
Pulse Low	100 X 10ms



2. Enable Internal Register for SCADA software.

Internal Register Setting Page						
Enable	<input checked="" type="checkbox"/> No.01	<input checked="" type="checkbox"/> No.02	<input type="checkbox"/> No.03	<input type="checkbox"/> No.04	<input type="checkbox"/> No.05	<input type="checkbox"/> No.06
Nickname	LIGHTS-OFF-R	Light Flash Pha				
Initial Value	0	0	0	0	0	0

3. **Only 2 rules** for the light control system.

## Rule1(Enable)

Description: Chek LIGHTS\_OFF\_RQST, start LIGHT FLASH or others

< IF >

Internal Register1 = 0

< THEN >

WISE-7144 DO0 = ON (One Time)

Internal Register2 = 0 (One Time)

WISE-7144 DO0 Counter Reset (One Time)

< ELSE >

WISE-7144 DO0 = Pulse Output (One Time)

Internal Register2 = 1 (One Time)

## Rule2(Enable)

Description: Finish LIGHT FLASH loops

< IF >

WISE-7144 DO0 Counter >= 4 (AND)

Internal Register2 = 1

< THEN >

WISE-7144 DO0 = OFF (One Time)

Internal Register2 = 2 (One Time)

WISE-7144 DO0 Counter Reset (One Time)



# Others Applications

- Tank Monitor system
  - Monitor the water level of tank, and send Email or SMS for administrator .





# Others Applications

- Home/Building/Campus Security

- Emergency message sending
- Surveillance system linking
- Lighting control system

SMS



Email



PTZ Dome



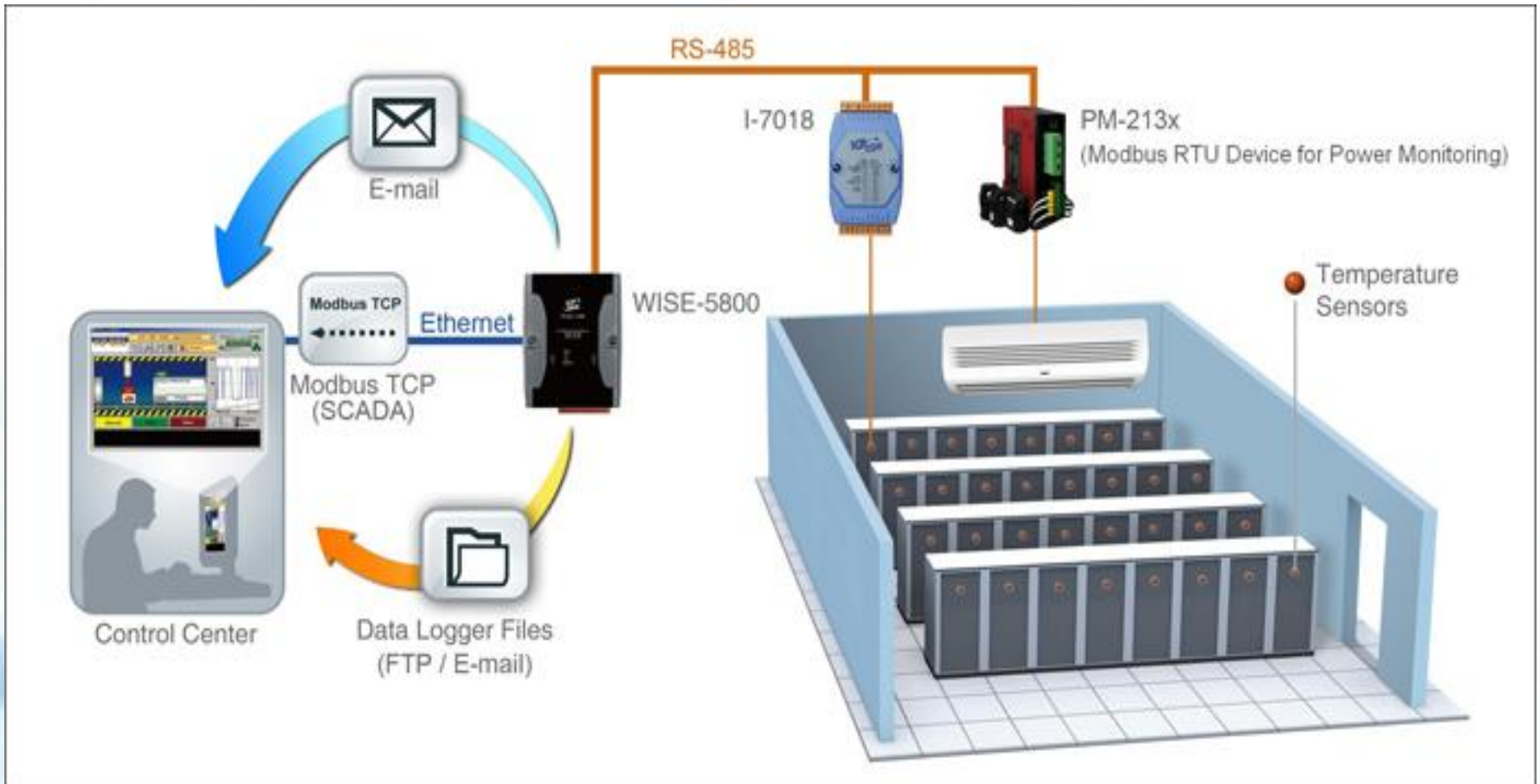
PTZ Dome





# Others Applications

- Facility Management System





# Why WISE ?

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- WISE's Feature
  - Simple, easy-to-use, no-programming-required, Intelligent & web-based operation
  - A **Real-Time automatic logic control & data recording** controller in **local site**.
- The benefit from WISE
  - No extra software tool required, no programming required
  - Free from being distressed by the annoying program development and debug process.
  - Minimizes the learning curve, shorten time to market for system development
  - Dramatically reduce the labor and cost spent on system development



# More Detail about WISE

- Please visit <http://wise.icpdas.com> for more detail information
- HOME Section for news
- Product Section for platform spec.
- Function Section for function introduction & **Step-by-Step Document.**
- Download Section
  - User Manual & Datasheet
  - New version firmware
  - Utility
    - WISE Firmware Uploader
      - \* for WISE Firmware update
    - WISE Rule utility
      - \* To export rule from PC to WISE.
      - \* Import rule from WISE to PC.





# Q & A



~Thank You Very Much~