IR Temperature Sensor
iSN-81X Series

IIoT Applications for
Distribution Cabinet Monitoring

iSN-812-MRTU

iSN-812-MTCP
iSN-813-MTCP

iSN-811C-MTCP

VPD-170-IRT

- HMI centralized management of remote sensors.

- Data logging analysis to achieve preventive maintenance.
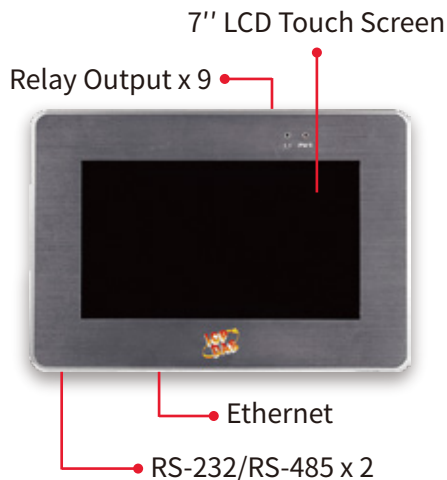
- Non-contact measurement reduces process intervention.

Using thermal imaging technology to monitor the temperature inside the distribution cabinet. It is a new way to reduce inspection time and risks of abnormal stops.
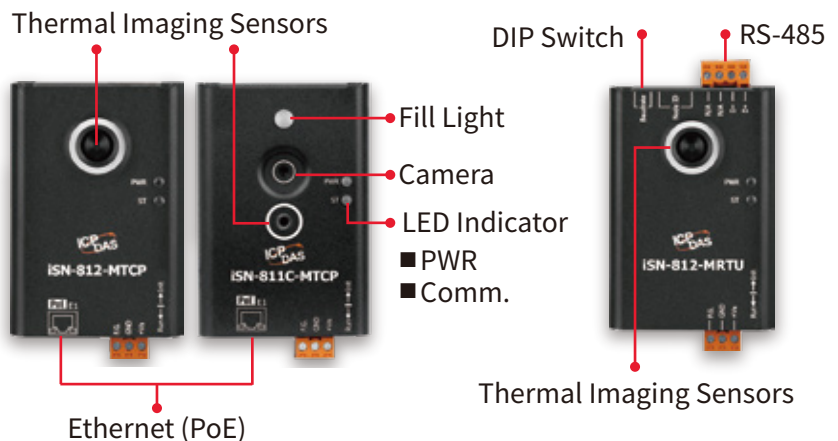
VPD-170-IRT

Data Concentrator

7'' LCD Touch Screen

Relay Output x 9

Ethernet

RS-232/RS-485 x 2

iSN-81x-MTCP / iSN-81x-MRTU

IR Temperature Sensing Module

Thermal Imaging Sensors

Fill Light

Camera

LED Indicator
- PWR
- Comm.

DIP Switch

RS-485

iSN-812-MTCP

iSN-811C-MTCP

iSN-812-MRTU

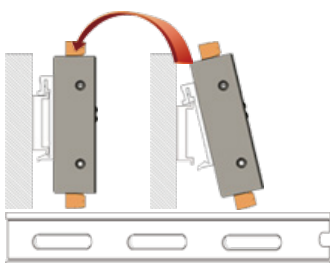Thermal Imaging Sensors

Ethernet (PoE)

Thermal Imaging + Real-time Streaming Determine Abnormal Conditions On-site

iSN-811C-MTCP is the first choice for detecting electrical anomalies, mechanical overheating, equipment inspections, and other troubleshooting tasks. It combines thermal imaging sensors and visible light cameras, offering integrated dual-image information for quicker problem detection.
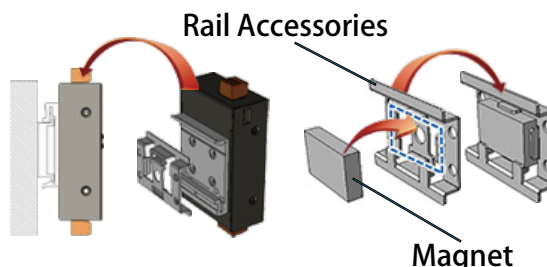
◄ Camera Images

iSN-811C-MTCP

▲ Thermal Images

▲ Image Fusion
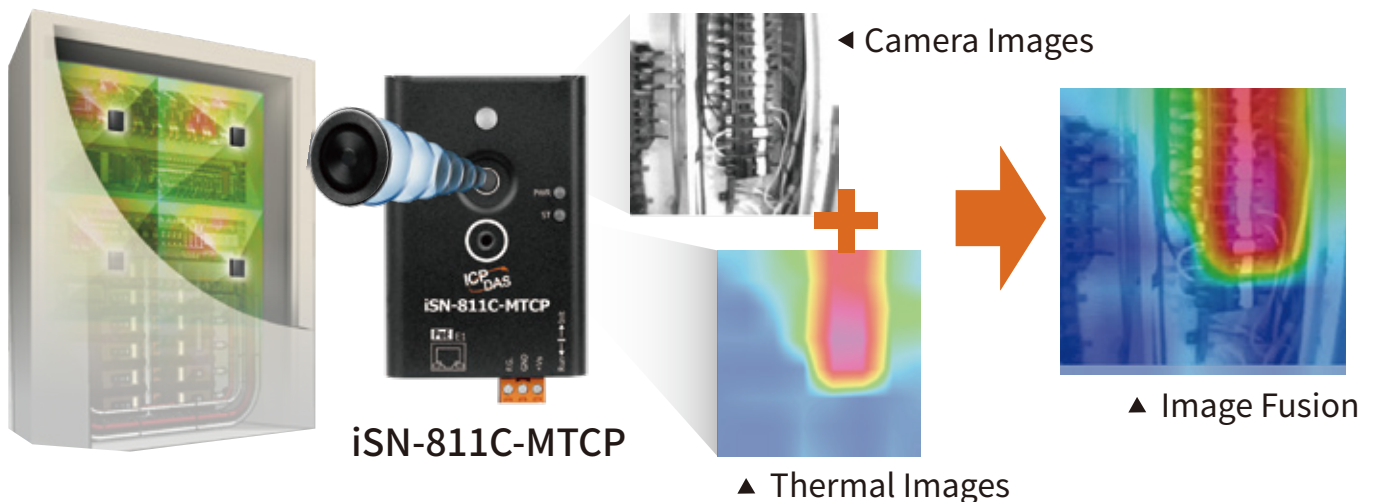
Various Installation Options for Various Fields

Rail Mounting

Magnetic Mounting

Rail Accessories

Magnet

Universal Holder

Magnet

Universal Joint
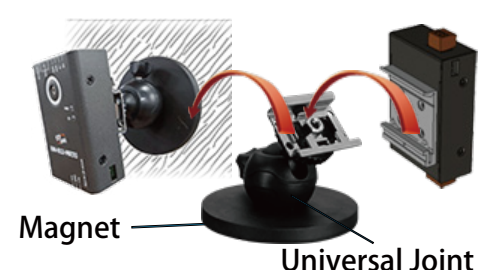
支援 Modbus / MQTT / RESTful 通訊協議

Modbus

| 工業標準 | 區域網路 | 集中式管理 |

- Modbus TCP
- Modbus RTU
- 控制中心
- Modbus Slave
- 資料集中器
- IR 工具軟體

MQTT

| IoT標準 | 主動發送 | 分散式管理 |

- MQTT Broker
- MQTT Client
- MQTT Client
- Subscribe
- Publish 30.8°C
- Publish 47.2°C
- Publish 47.2°C
- Subscribe
- Publish 30.8°C

REST

| 跨平台應用 | 分散式管理 |

- HTTP Client
- RESTful API
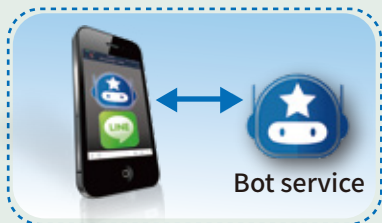- RESTful API
- RESTful API
- HTTP Server
- Internet
- 跨平台網頁瀏覽器

iSN-800 series integrates detection modules and WISE controllers, allowing the temperature measurement system to be expanded to include monitoring needs such as power, gas, and vibration. Abnormal alarm notification to grasp the on-site situation in real time.

Production Line

≫ Production Line – Safety & Preventive

Temperature, vibration, and power monitoring reduce failures and defective products. Exceptions are sent to Line messages for immediate processing to reduce abnormal losses.

- iSN-811C-MTCP monitors the temperature and real-time image of equipment and distribution cabinet.
- Comprehensive monitoring of vibration (AR-300T) and power (PM-2133D-MTCP).
- WISE-5231M-4GE sends abnormal messages for immediate processing.

Bot service

4G

Edge Controller
WISE-5231M-4GE

Ethernet
Modbus TCP

PoE Ethernet Switch
NSM-208PSE

Accelerometer Data Logger
(Thermistor Input)
AR-300-T

▼ Assembly line/Machine

Ethernet
Modbus TCP

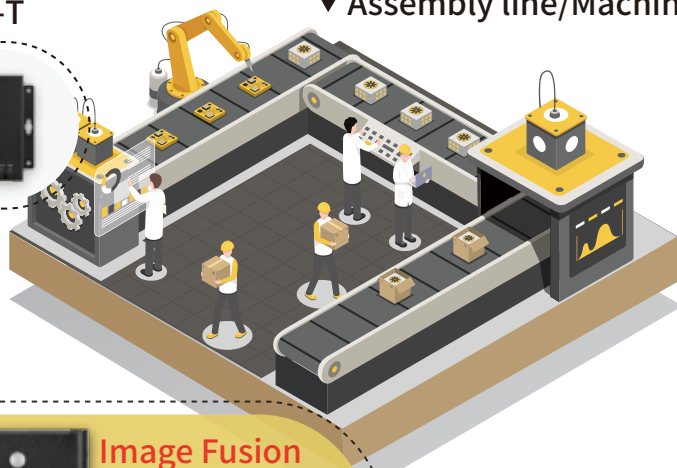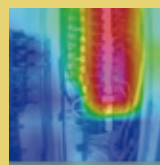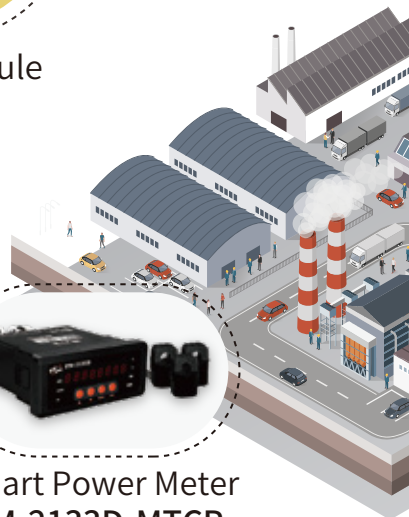Image Fusion

IR Temperature Sensing Module
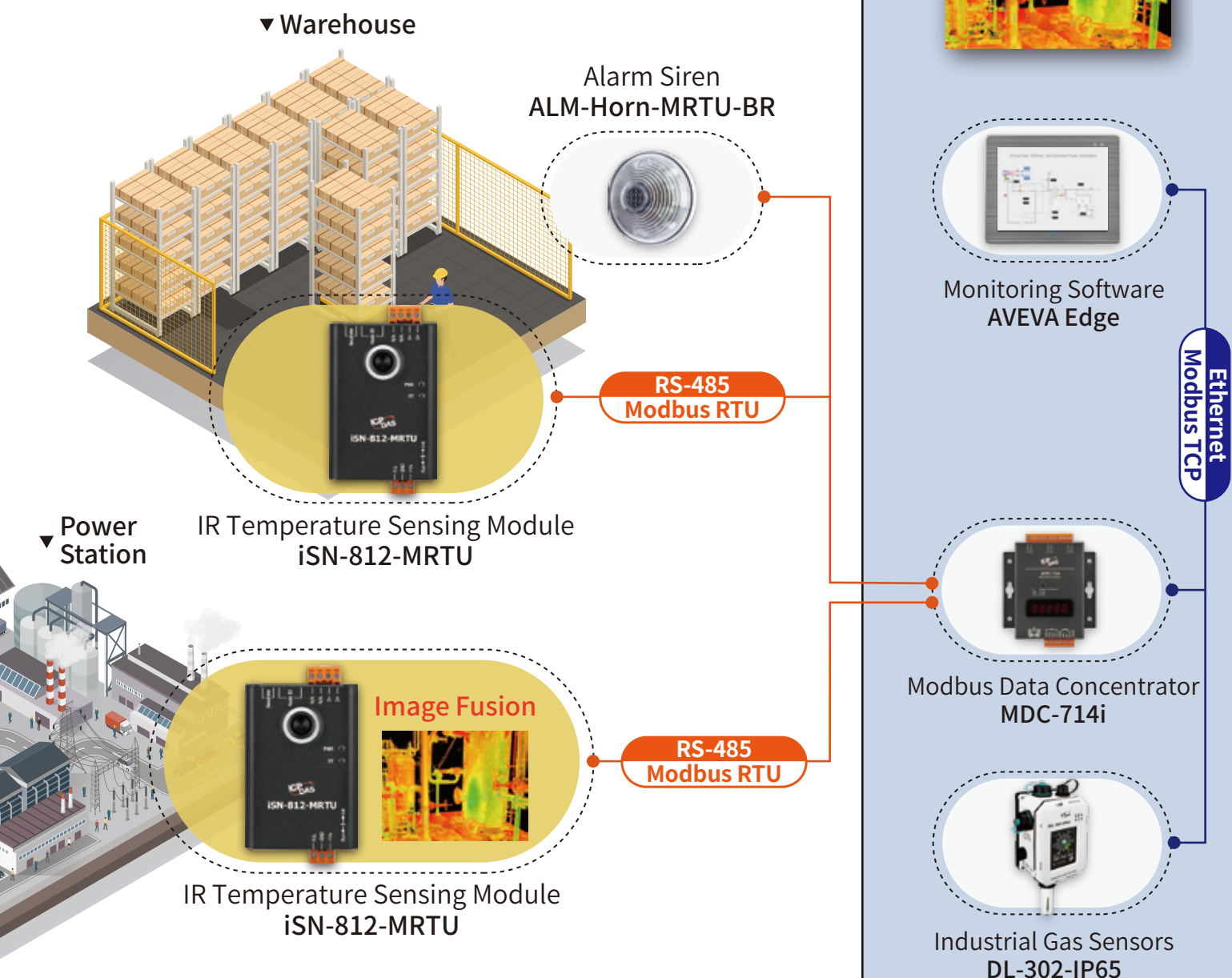**iSN-811C-MTCP**

Smart Power Meter
PM-2133D-MTCP

≫ Warehouse - Safety & Protection

The stability of raw materials and logistics is closely related to product quality, and it is crucial to ensure the safety of the storage environment (low temperature, flammable materials, etc.).

- iSN-812-MRTU monitors warehouse and conveyor temperatures for secure raw material management.
- DL-302-IP65 performs environmental harmful gas detection.
- iSOS-100 emergency call links with the iSOS-ALM-Horn siren.

Supply Chain

▼ **Warehouse**

Alarm Siren
ALM-Horn-MRTU-BR

**RS-485
Modbus RTU**

IR Temperature Sensing Module
iSN-812-MRTU

▼ **Power Station**

Image Fusion

**RS-485
Modbus RTU**

IR Temperature Sensing Module
iSN-812-MRTU

Monitoring Software
AVEVA Edge

**Ethernet
Modbus TCP**

Modbus Data Concentrator
MDC-714i

Industrial Gas Sensors
DL-302-IP65

Control Box Temperature and Environment Monitoring

RS-485 Modbus RTU

iSN-812-MRTU

Ethernet Modbus TCP

VPD-170-IRT

Massage Notification

Edge Controller
WISE-5231M

PoE Ethernet Switch
NSM-208GP

Ethernet Modbus TCP

PoE Modbus TCP

PIR Motion Sensor
PIR-234-E

Industrial LED Display
iKAN-116-IP65

溫溼度: 23°C / 65%, 盤內無異常

Proximity Card Reader
ACS-11P-MF-TC
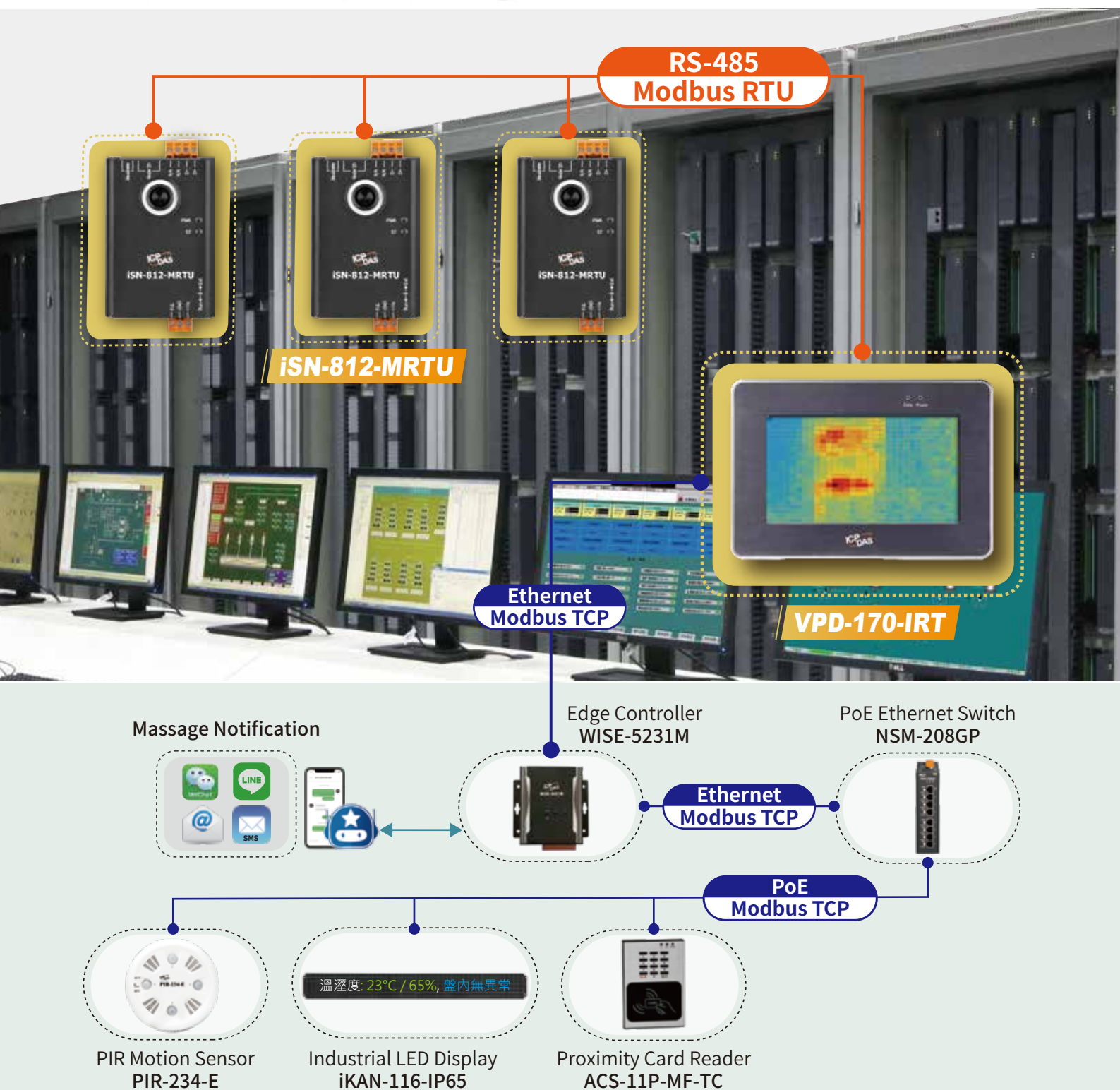
As functionality increased, machines and wiring inside the distribution cabinet have become more complex. Inconsistent inspections raise accident risks. To ensure safety and manage the machine room environment, IoT devices are used for real-time monitoring with zero downtime.

- **Distribution cabinet Monitoring :**
  The IRT sensor continuously monitors the temperature inside the case in a noncontact, large-area manner.
- **Labor Management :**
  Card swiping check-in and human body movement detection improve labor efficiency.
- **Real-time Information :**
  Real-time information and abnormal event notification.

iSN-811C-MTCP *IR Temperature Sensing Module*

Ethernet Modbus TCP

RS-485 Modbus RTU

SCADA
VP-6239-CE7

Power Meter
PM-3133-100

Alarm Siren
iSOS-ALM-Horn

IIOT Communication Server
UA-5231M

In order to avoid heat disasters and downtime of machines caused by poor contact, aging, and damaged parts in electrical control board. ICPDAS provides in-panel monitoring, including temperature and power information collection, analysis, and alarms to avoid errors and effectively improve quality and utilization rate.

- ■ **Temperature Monitoring:**
  Large-area temperature monitoring and real-time image transmission.
- ■ **Power Management :**
  Data tracking and carbon emission basic data analysis.
- ■ **Cloud Application :**
  IIoT communication server, combined with cloud and abnormal notification.

紅外線溫度感測模組

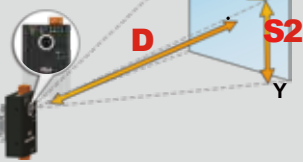| 產品名稱		iSN-811C-MTCP (含攝影機)	iSN-812-MRTU	iSN-812-MTCP	iSN-813-MTCP
紅外線感測器					
像素 (Pixel)		64 (8 x 8)	768 (32 x 24)		4800 (60 x 80)
溫度量測範圍		−50°C ~ 250°C	−40°C ~ 300°C		−20°C ~ 300°C
量測準確率/解析度		±5°C Max. / 0.1°C			
有效感測距離		≦ 1 M	≦ 2 M		≦ 6 M
量測視角	X	60° (D:S1=1:1.15)	110° (D:S1=1:2.86)		90° (D:S1=1:2)
	Y	60° (D:S2=1:1.15)	75° (D:S2=1:1.53)		67° (D:S2=1:1.32)
	D	0.1 M | 1 M	0.1 M | 2 M		0.1 M | 6 M
	S1	0.115 M | 1.15 M	0.286 M | 5.72 M		0.2 M | 12 M
	S2	0.115 M | 1.15 M	0.153 M | 3.06 M		0.132 M | 7.92 M
動態影像 (攝影機)					
解析度 (Pixel)		QVGA (320 x 240)	——		
補光燈		有	——		
通訊介面					
通訊埠		Ethernet, PoE	RS−485	Ethernet, PoE	
通訊協定		Modbus TCP / MQTT / RESTful	Modbus RTU	Modbus TCP / MQTT / RESTful	

紅外線溫度資料集中器

VPD-170-IRT

◆ 高解析度彩色觸控螢幕，提供熱顯像和溫度警報功能。
◆ 進行 VPD−170−IRT 與 iSN−81x 系列模組的各項功能設定。
◆ 連接多台 iSN−81x−MRTU / iSN−81x−MTCP 模組，支援溫度門檻值設定。
◆ 支援 Modbus TCP Slave，可和遠端監控主機 (SCADA) 整合。

顯示器類型	7″ LCD (800 x 480) 觸控螢幕	繼電器輸出	9 x Single Relay (Form A)
通訊介面	RS−232 x 1/RS−485 x 2/Ethernet x 1	蜂鳴器/重置按鈕	有
通訊協定	Modbus RTU / Modbus TCP	防水防塵等級	前面板：NEMA 4 / IP65

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