——Industrial Internet of Things

工业物联网

THE NEXT
GENERATION PRODUCT
LEADER IN AIOT

Company profile

MingQ Technology is situated in the Hong Kong Science Park and stands as a globally leading provider of Internet of Things (IoT) hardware and software products.

Specializing in information communication, artificial intelligence, IoT, and industrial IoT, MingQ Technology is committed to delivering competitive products and services to meet the informationization needs of its customers. We aim to be a trusted partner in customer business innovation and digital transformation.

Product Series

1. • Gateway
2. • Environment Sensor
3. • Equipment Sensor
4. • Security Sensor
5. • Asset Tracking
6. • E-paper

PART 1   Gateway

Intelligent Gateway

Product Overview

Intelligent gateway is equipped with Linux system, which is composed of core control unit and multi-band wireless transceiver unit based on LPWAN. Supports local wireless and wired communication interfaces to connect to various sensing terminals, manage data in a unified manner, and extract, aggregate, and store service data.

Specification

Specification	Parameter
Proc. Clock Freq.	528MHz
Running Memory	256M
Hard Disk Capacity	256M Flash
Wireless Communication	Lora、WIFI、4G
Expansion Interfaces	RJ45、RS485、RS232、USB
Power Input	DC12V~24V
Power Consumption	Average ＜1.5W
Dimensions	260mm×270mm×48mm
Operating temperature	-40℃~85℃
Mounting	Bolt fixation, desktop placement

Edge Vision Gateway

Product Overview

Edge Vision Gateway be connected to various mainstream cameras and achieve front-end computing through pre-processing algorithms, effectively improving recognition speed and reducing back-end computing pressure. It also integrates multi-frequency wireless transceiver units to enable unified management and uploading of sensor data and image data from various transmission line sensors.

Specification

Specification	Parameter
Proc. Clock Freq.	1.6GHz
Running Memory	1GB
Hard Disk Capacity	8GB Flash
Computational Power Support	3.0Tops
Wireless Communication	Lora、WIFI、4G
Expansion Interfaces	RJ45、RS485、RS232、USB、HDMI
Power Input	DC12V~24V
Power Consumption	Average ＜ 2W
Dimensions	260 x 270 x 48 mm
Operating Temperature	-20°C ~ 60°C
Mounting	Bolt fixation, desktop placement

RTU GT-RT301

Product Overview

RTU is used to enable the Internet of Things of some front-mounted sensing devices, or to achieve the network connection of executive terminals such as fans and motors. Support current value, voltage value collection, support DC5V-48V wide voltage output, flexible access to various execution terminals.
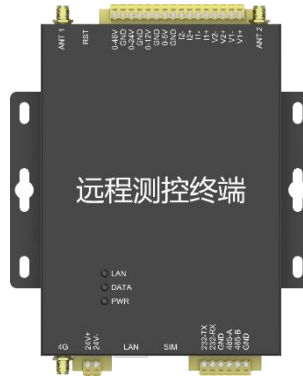
Specification

Specification	Parameter
Wireless Communication	Lora、4G
Communication Interfaces	RJ45＊1、RS232＊1、RS485＊1
LED Indicator	PWR、DATA、LAN
Output Voltage	DC 5V、12V、24V、48V
Control Device	Fan, motor, sound and light alarm, lamp
Collection Voltage	Two routes DC 0-10V
Collection Current	Two routes 4-20mA
Power Supply	DC 9 -32V
Operating Temperature	-40℃~+85℃
Dimensions	152mm×138mm＊30mm
Mounting	Bolt fixation

Portable Gateway

Product Overview

Portable Gateway based on Ubuntu 20.04 desigin. Integrated high-performance motherboard, wireless lora receiver. Realize all kinds of sensor data aggregation, storage, local processing. The equipment integrates high brightness and wide temperature industrial screen and industrial keyboard.

Specification

Specification	Parameter
Screen	14 inch IPS 1920*1080P
Screen luminance	800nit
CPU	4 core 64 bit 1.6GHz
Running Memory	8GB LPDDR4
Hard Disk Capacity	192GB
Software Protocol	Ubuntu 20.04
Ethernet	1 RJ45
Serial port	1*RS232、1*RS485
Other interface	2*USB
Wireless Communication	WIFI6、BT5.0、4G、Lora、
Operating Temperature	-10℃~60℃
Storage Temp	-20℃~70℃
Dimensions	330mm×267mm×93mm

Visual intelligent gateway

Product Overview

Based on the Android system, the visual intelligent gateway can access all kinds of wireless sensors and vision devices, and the device can be equipped with a color IPS full-view screen of various sizes to support local display and processing of various sensor data and visual image data.

Specification

Specification	Parameter
Screen size	7/10/15 inch
Proc. Clock Freq.	4 core 1.8GHZ
Running Memory	2GB
Hard Disk Capacity	8GB Flash
Wireless Communication	Lora、WIFI、4G
Expansion Interfaces	RJ45、RS485、RS232、USB、HDMI
Power Input	12V
Power Consumption	Average < 2W
Dimensions	260mm×160mm×80mm
Operating temperature	-10℃~+50℃
Mounting	Bolt fixation

Aggregation Gateway

Product Overview

Aggregation gateway is a comprehensive indoor gateway that supports various types of interfaces and wireless communication. It can receive various status information collected by wireless sensors, support MQTT protocol, and report data to the cloud through 4G mobile network to achieve remote data monitoring and management.

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Specification

Specification	Parameter
Wireless Communication	Lora 、4G
Expansion Interfaces	RJ45、RS232、RS485
Software Protocol	Modbus TCP/485、MQTT、TCP/IP
Power Consumption	< 0.2W
LED indictor	POWER、Communication、Data
Power Supply	5V DC
Dimensions	220mm*196mm*47mm

Aggregation Gateway

Product Overview

Based on Lora communication modulation scheme, the Aggregation Gateway supports receiving all kinds of wireless sensor data. The hardware of the device integrates RS485/RS232 modules, and the software protocol supports Modbus RS485/TCP.

Specification

Specification	Parameter
Wireless Communication	Lora、4G（选配）
Expansion Interfaces	RS232/RS485、RJ45
Software protocol	Modbus TCP/485
LED indicator	power、data、com
Supply voltage	DC12V~24V
Supply current	< 500mA
Temperature/ humidity	-40℃~+85℃
Dimensions	5~95%RH
Mounting	124mm*109mm*30mm
Wireless Communication	Bracket fixation or screw fixation

Access Point

Product Overview

Access Point is similar to the "network bridge" function of the router, which solves the problem that the transmission distance between the sensor and the base station gateway is too far, and the installation environment is complex, which makes the signal deteriorate and become weak.

Specification

Specification	Parameter
Wireless Communication	Lora
Expansion Interfaces	RJ45、RS232
Power Consumption	< 0.1W
Supply voltage	AC220V
Operating Temperature	-40℃~+85℃
IP	IP65
Dimensions	130mm×115mm*47mm
Mounting	Bracket fixation

PART 2　Environment Sensor

Temperature and humidity sensor

Product Overview

Temperature and humidity sensor is small and overall design simple. The internal integrated high-precision temperature and humidity sensor chip can accurately measure the ambient temperature and humidity data. It is transmitted to the gateway via wireless LoRa communication technology.

Specification

Specification	Parameter
Wireless Communication	Lora
Detection cycle	3 seconds
Data send cycle	10 minutes
Temperature range	-40℃~+85℃ (0.1℃)
Temperature accuracy	±1℃
Humidity measuring range	0%RH ~100%RH
Humidity accuracy	(0.1%RH)
Power supply	±3%RH
Battery life	battery powered
IP	5 Years (Every ten minutes to send)
Dimensions	IP65
Mounting	74mm×65mm×30mm
Wireless Communication	Adhesive and screw fixation
Detection cycle	Lora

Water sensor

Product Overview

Water sensor consists of a water probe cable and a status collection host. Based on the liquid conduction principle and wireless emission technology, when any part of the water probe cable is flooded, the collection host will send an alarm signal.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Detection cycle	1 second
Data send cycle	10 minutes
Length of immersion rope	1.2m(can be customized)
Detection sensitivity	<100KΩ
Power supply	battery powered/DC (optional)
Battery life	5 years (Every ten minutes to send)
Operating temperature	-40℃~+85℃
IP	IP67
Dimensions	83mm×65mm×30mm
Mounting	Foam double-sided glue or screw fixation

Level sensor

Product Overview

Level sensor is composed of liquid level collector and data acquisition host. It can be used for real-time online monitoring of water level in cable Wells, cable ditches, pools, Wells and other places

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Detection cycle	1 second
Data send cycle	10 minutes
Length of probe line	5m (can be customized)
Measure range	0~5m
Measurement accuracy	±0.5%FS
Overload pressure	2 times the range
Power supply	battery powered/DC (optional)
Battery life	5 years (Every ten minutes to send)
Operating temperature	-20℃~+60℃
IP	IP68(Probe)
Dimensions	83mm×65mm×30mm
Mounting	Foam double-sided glue or screw fixation

Noise sensor

Product Overview

Noise sensor adopts modular design, equipped with precision measurement microphone, and adopts digital detection technology, which can measure the environmental noise as low as 30dB. The equipment has the advantages of high sensitivity, good stability and wide dynamic range.

Specification

Specification	Parameter
Wireless Communication	Lora
Detection cycle	10 minutes
Data send cycle	10 minutes
Measuring range	30dB~120dB
Response range	20Hz~12.5kHz
Resolution	0.1dB
Noise accuracy	1dB
Operating temperature	-40℃~+85℃
Power supply	Battery powered
Battery life	>3 years (Every ten minutes to send)
Dimensions	90mm×90mm×34mm
Mounting	Adhesive and screw fixation

CO sensor

Product Overview

CO sensor use electrochemical technology to accurately measure ambient carbon monoxide concentrations. It is transmitted to the gateway through wireless LoRa communication technology. The audible and visual alarm mechanism is added to remind people to evacuate in the first time.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Data send cycle	1 minutes
Preheating time	10 seconds
Measure range	0 - 1000ppm
Max measure	2000ppm
Measurement accuracy	±10% FS
Resolution	1ppm
Warning	Buzzer alarm (optional)
Button Function	Data upload/alarm elimination
LED indicator	Data reporting flashes
Operating temperature	-20℃-+50℃
Service life	5 years
Power Input	DC (0.5A@5V)
Dimensions	90mm×90mm×32mm
Mounting	Adhesive and screw fixation

CO2 sensor

Product Overview

CO2 sensor non-dispersive infrared (NDIR) technology, can accurately measure environmental CO2 concentration. It is transmitted to the gateway via wireless LoRa communication technology. Sound and light alarm mechanism can remind people to evacuate in the first time.

Specification

Specification	Parameter
Wireless Communication	Lora
Data send cycle	1 minute
Preheating time	2 minutes
Measuring range	400 - 5000ppm
Accuracy	±（50ppm+5%)
Resolution ratio	1ppm
Warning function	Buzzer alarm (optional)
Button Function	Data upload/alarm elimination
LED indicator	Data reporting flashes
Operating temperature	-10℃-+50℃
Service life	>10 years
Power Input	DC (0.5A@5V)
Dimensions	90mm×90mm×32mm
Mounting	Adhesive and screw fixation

PM2.5 & PM10 sensor

Product Overview

PM2.5 & PM10 sensor combines laser scattering technology with wireless emission technology, which can be used to monitor ambient particle concentration and report data through wireless communication. Add the indicator light, you can intuitively understand the air quality of the site.

Specification

Specification	Parameter
Wireless Communication	Lora
Data send cycle	1 minute
Preheating time	30 seconds
Measure range	0 - 999ug/m3
Measurement accuracy	±15% FS
Resolution	1ug/m3
Warning	Buzzer alarm (optional)
Button Function	Data upload/alarm elimination
LED indicator	Data report flicker
Operating temperature	-10℃~+60℃
Service life	5 years
Power Input	DC (0.5A@5V)
Dimensions	90mm×90mm×32mm
Mounting	Adhesive and screw fixation

CH4 sensor

Product Overview

CH4 sensor uses a MEMS micro-gas detection module to accurately measure methane concentrations. It is transmitted to the gateway through wireless LoRa communication technology.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Data send cycle	1 minute
Preheating time	>1 minute
Measuring range	500-10000ppm
Maximum concentration	20000ppm
Measurement resolution	500ppm
Warning	Buzzer (optional)
Button function	Data upload / alarm elimination
LED indicator	Data report flashing
Operating temperature	-10℃ - +55℃
Service life	≥3 years
Power Input	DC (0.5A@5V)
Dimensions	90mm×90mm×32mm
Mounting	Adhesive and screw fixation

H2S sensor

Product Overview

H2S sensors use MEMS micro gas detection modules to accurately measure hydrogen sulfide concentrations. It is transmitted to the gateway through wireless LoRa communication technology. Audible and visual alarm mechanism can remind people to evacuate at the first time.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Data send cycle	1 minute
Preheating time	3-5 minutes
Measuring range	0-3ppm
Measurement resolution	30ppm
Warning	Buzzer (optional)
Button function	Data upload / alarm elimination
LED indicator	Data report flashing
Operating temperature	-10℃ - +55℃
Service life	≥3 years
Power Input	DC (0.5A@5V)
Dimensions	90mm×90mm×32mm
Mounting	Adhesive and screw fixation

Muti-sensor

Product Overview

Muti-sensor is a highly sensitive, compact and easy to install composite terminal, which can collect comprehensive analysis of monitoring data and trigger alarm events, and report to the cloud through cat1 communication technology.

Specification

Specification	Parameter
Vibration sensing	3-axis acceleration sensor
Measuring range	±8g can be set
Temperature range	-40℃~+85℃(0.1℃)
Temperature accuracy	±1℃
Humidity measuring range	0%RH ~100%RH
Smoke sensing	(±3%RH)
Measuring range	Optical smoke sensor
Reporting frequency	60°, 80cm identify flame
Battery	Upload 1 time by default 10min
LED indicator	7 days, 6000mAh
Specification	Red light (charging), blue light (power on)
Vibration sensing	Parameter
Vibration sensing	3-axis acceleration sensor

PART 3　Equipment Sensor

Temperature sensor

Product Overview

Temperature sensor adopts high precision temperature chip and integrates ultra-low power wireless sensor network technology to realize real-time monitoring of surface temperature of various heating equipment.

Specification

Specification	Parameter
Wireless Communication	Lora
Data send cycle	10 minutes
Measuring Range	-40℃~+125℃
Temperature measurement accuracy	±1℃
Temperature resolution	0.1℃
Working temperature	-40℃~+85℃
Power supply	Battery powered
Battery life	5 years (Every ten minutes to send)
IP	IP67
Dimensions	50mm×50mm×35mm
Mounting	Magnetic, viscose

Soil stress sensor

Product Overview

Soil stress sensor consists of a sensor host and a sensor probe. The sensor host transmits the extracted signal characteristic parameter data to the intelligent gateway through Lora wireless transmission. It can be used to monitor structural changes of bridge, tunnel and other structural surfaces.

Specification

Specification	Parameter
Wireless Communication	Lora
Stretch	2000
Compression	2000
Resolution ratio	≤0.5% F∗S
Temperature measuring	-40~85℃(±1℃)
Interfaces	RS232
Function of the button	Awaken
Power supply	battery powered
Water pressure resistance	≥0.2MPa
Insulation resistance	≥50MΩ
Dimensions	130mm×100mm×55mm
Mounting	screw fixation

Tilt sensor

Product Overview

By collecting dip data, the tilt sensor calculates the information of the tower's tilt, linear tilt, transverse tilt, etc. The monitoring status is transmitted to the main monitoring station through the data transmission base station, and the tilt of the tower caused by the loosening of the tower and geological changes is monitored through the automatic analysis of historical data.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Data send cycle	10 minutes
Monitoring range	Biaxial ≥ ±60 °
Measurement accuracy	±0.5° (Optional 0.05°)
Measurement resolution	0.01°
Operating temperature	-40℃-+85℃
Power supply	Battery powered
Battery life	5 years (Every ten minutes to send)
IP	IP67
Dimensions	125mm×70mm×37mm
Mounting	Bracket fixation

Vibration sensor

Product Overview

Vibration sensor can collect and analyze the vibration characteristics of various belt conveyors and motors, determine whether the equipment is running, and report the status to the cloud center through the nearby intelligent gateway. This product is very suitable for roller, flat, telescopic belt machine and other equipment working condition monitoring.

Specification

Specification	Parameter
Wireless Communication	Lora
Data send cycle	5 minutes
Measuring range	±16g
Speed range	0-100mm/s
Displacement range	0-100um
Frequency range	5Hz-3000Hz
Operating temperature	-40℃~+85℃
Power supply	battery powered
Battery life	1 years (Every five minutes to send)
IP	IP65
Dimensions	50mm×50mm×32mm
Mounting	Adhesive and screw fixation

PART 4   Security Sensor

Door sensor

Product Overview

Door sensor is a device used for security alarm. It is composed of two parts, wireless transmitter and permanent magnet. It monitors whether doors, Windows and drawers are illegally opened or moved and reports the status of the device in real time.

Specification

Specification	Parameter
Wireless Communication	Lora
Detection cycle	1 second
State response time	<3s
Data send cycle	10 minutes
Operating temperature	-40℃~+85℃
Power supply	battery powered
Battery life	5 years (Every ten minutes to send)
IP	IP67
Main Dimensions	50mm×37mm×23mm
Secondary Dimensions	50mm×15mm×12mm
Mounting	Foam double-sided glue or screw fixation

Smoke sensor

Product Overview

Smoke sensor uses the photoelectric sensor technology to detect ambient gas and detect abnormal smoke caused by poor contact, aging circuits, or heavy loads of electrical equipment. Combined with wireless sensor technology, smoke alarm is reported in time to achieve the effect of safety detection.

Specification

Specification	Parameter
Wireless Communication	Lora/RS485 (optional)
Detection cycle	3 seconds
Data send cycle	10 minutes
Sensitive time	<30s
Warning	buzzer warning
Power supply	battery powered/DC (optional)
Battery life	5 years (Every ten minutes to send)
Operating temperature	-40℃~+85℃
Dimensions	103mm×103mm×52mm
Mounting	Adhesive fixed

PART 5   Asset Tracking

Asset Tracking GL-B20

Product Overview

Asset Tracking GL-B20 supports GPS positioning and uses 9-72V wide voltage DC power supply. It has the characteristics of small size, easy installation, accurate positioning, good waterproof performance, etc., which is very suitable for outdoor track positioning applications of two or three wheeled electric vehicles.

Specification

Specification	Parameter
Wireless Communication	4G
Positioning function	Satellite positioning, LBS (optional)
Positioning accuracy	10 meters
Data send cycle	Upload once in 30 seconds by default, and the reporting frequency can be adjusted.
Indicator	Red light: connection status
Power supply	Green light: positioning status
Operating temperature	DC9-72V wide voltage power
Deminsions	-40℃~+70℃

Asset Tracking GL-B21

Product Overview

Asset Tracking GL-B21 supports GPS positioning, uses battery power, standard Type-c charging interface design, and adopts IP65 waterproof design. It has the characteristics of small size, easy installation, accurate positioning, good waterproof performance, etc., which is very suitable for outdoor positioning applications of vehicles or assets.

Specification

Specification	Parameter
Wireless Communication	2G/3G/4G cellular network
Positioning function	Satellite positioning, LBS (optional)
Positioning accuracy	about 10 meters
Positioning cycle	1 hour (configurable)
Indicator	Red light: connection status
IP	Green light: positioning status
Power supply	IP65
Standby time	battery powered
Charging interface	30 days @ 25 ℃
Operating temperature	Type-c (5V/1A)
Deminsions	90mm*60mm*30mm

Asset Tracking GL-B10

Product Overview

Asset Tracking GL-B10 can upload positioning data through LoRa, which is suitable for application scenarios that need to locate, manage and track assets. Due to the use of LoRa autonomous network wireless communication, wireless communication costs of carrier cards can be eliminated, helping customers to optimize operation management and save costs.

Specification

Specification	Parameter
Wireless Communication	Lora
Network coverage	120 countries and regions
Positioning function	Satellite positioning
Positioning accuracy	about 10 meters
Positioning cycle	12 hours (configurable)
IP	IP65
Power supply	battery powered
Battery life	1 year @ 25 ℃
Operating temperature	-40℃~+85℃
Dimensions	89mm*65mm*28mm

PART 6　E-paper

E-Paper GL-D213

Product Overview

E-paper GL-D213 adopts three-color e-ink screen display scheme, 2.13-inch screen display, small size, through the matching gateway control beacon display content update. Supports low-power wireless receiving of the latest data display content, which can realize long-term maintenance-free information refresh.

Specification

Specification	Parameter
Display technology	Electronic ink screen
Screen size	2.13 inches
Resolution	122*250
Pixel density	131dpi
Display color	Black/white/red
Operating frequency band	2.4G
Viewing angle	180°
Outer box material	white ABS
Dimensions	73mm×40mm×11.5mm
Operating temperature	0℃~+40℃
Power supply	battery powered, 1000mah
Battery life	more than 2 years (10 refreshes per day)
Mounting	Track buckle, adhesive
Communication equipment	Intelligent Gateway

E-Paper GL-D290

Product Overview

E-paper GL-D290 adopts three-color e-ink screen display scheme, which can achieve zero power consumption standby digital display. Supports low-power wireless receiving of the latest data display content, which can realize long-term maintenance-free information refresh. Buckle mounting design, support the market commonly used button battery replacement..

Specification

Specification	Parameter
Display technology	Electronic ink screen
Screen size	2.9 inches
Resolution	128*296
Pixel density	112dpi
Display color	Black/white/red
Operating frequency band	2.4G
Viewing angle	180°
Outer box material	white ABS
Dimensions	93mm×45mm×11.7mm
Operating temperature	0℃~+40℃
Power supply	battery powered, 1000mah
Battery life	more than 2 years (10 refreshes per day)
Mounting	Track buckle, adhesive
Communication equipment	Intelligent Gateway

E-Paper GL-D420

Product Overview

E-paper GL-D420 uses a three-color e-ink screen display scheme to support low-power wireless reception of the latest data. It is very suitable for the display of logistics vehicle sorting, shelf information, cargo information, starting and ending point walking path information, AGV&AMR status information, etc.

Specification

Specification	Parameter
Display technology	Electronic ink screen
Screen size	4.2 inches
Resolution	400*300
Pixel density	120dpi
Display color	Black/white/red
Operating frequency band	2.4G
Viewing angle	180°
Outer box material	white ABS
Dimensions	104mm×94mm×6.35mm
Operating temperature	0℃~+40℃
Power supply	battery powered, 1200mAh@3V
Battery life	1 year (10 refreshes per day)
Mounting	Track buckle, adhesive
Display technology	Electronic ink screen

E-paper GL-D750

Product Overview

E-paper GL-D750 adopts three-color e-ink screen display scheme to achieve zero power consumption standby digital display. The high pixel density makes the visual effect presentation easier to identify and suitable for use in application scenarios that require multiple views after display.

Specification

Specification	Parameter
Display technology	Electronic ink screen
Screen size	7.5 inches
Resolution	480* 800
Pixel density	124 dpi
Display color	Black/white/red
Operating frequency band	WIFI
Viewing angle	180°
Outer box material	white ABS
Dimensions	195mm*137mm*13mm
Operating temperature	0℃~+40℃
Power supply	1200mAh@3.7V（can be charge）
Battery life	1 year (10 refreshes per day)
Mounting	Track buckle, adhesive
Communication equipment	Intelligent Gateway

部分工業物聯網專案 持續更新中...

項目 1：隧道結構應變監測
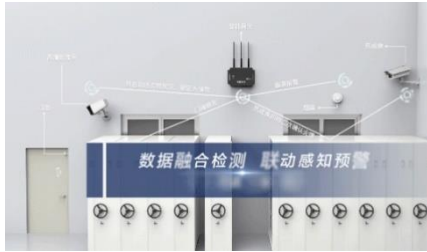
專案 2：檔案室環境綜合監測

項目 3：智慧台區運維監控

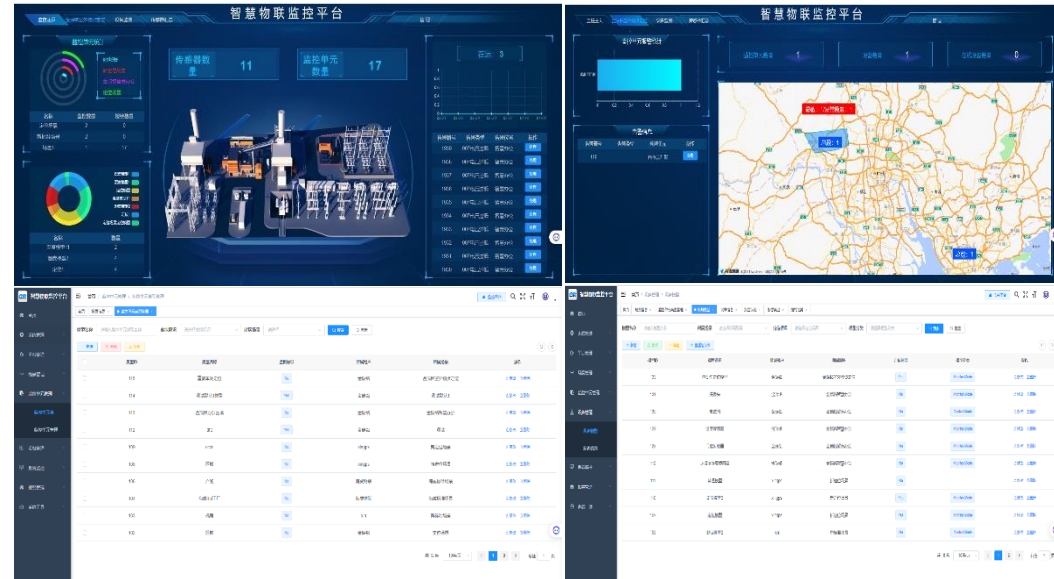項目 4：工廠發電機溫度監測

項目 5：電纜井環境監測

專案 6：減速機運行狀態監測

項目 7：資產追蹤信標

專案 8：無線自組網邊緣智慧終端機

智慧物聯監控平臺，助力項目搭建

支援自訂場景類型　　　靈活綁定感測器等監控設備　　數位孿生
自訂預警類型事件　　　使用者許可權自訂　　　　　　大資料監控預警分析

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