ICP DAS

Instant Emergency Call
Fast & Convenient Wireless Deployment

Wireless Emergency SOS System

iSOS Emergency Call

Features

- Built-in rechargeable battery for fast construction.
- Actively upload module status to ensure operation.
- Charged by indoor lighting.
- Adopt Sub 1GHz wireless transmission technology.

iSOS-100

iSOS-109/S2

iSOS-300-IP65

iSOS-309-IP65/S2

iSOS-800-PT

iSOS-ALM-Horn

Multiple Power Supply

No External Power Supply

One-click Trigger

Full Time Monitoring

The emergency SOS system is used in various enterprises, hospitals, and schools to build an effective protection and SOS system in public spaces to provide reliable, rapid, and effective returns, and to avoid regrets caused by processing delays. Once a distress call is triggered, the system can respond to the event immediately.

iSOS-100 iSOS-109/S2
Standard

Emergency Button

Dye-sensitized Interface (iSOS-109/309-IP65)

iSOS-300-IP65 iSOS-309-IP65/S2
Waterproof

Waterproof Emergency Button

IP65 Protection

iSOS-800-PT
Handheld

Emergency Button

Handheld Design

iSOS-ALM-Horn
Acoustooptic Alarm

Sub 1GHz

Tri-color Audible Alarm

IP43 Protection

Sub-GHz Wireless Transmission

◆ Long Transmission Distance：
The transmission distance is up to 100 meter with great diffraction.
◆ Interference-free：
The frequency band is mostly used for dedicated and low duty cycle connections. It is not easy to be disturbed, making data transmission more stable.

Actively receive/pay audible and visual alarms

When the iSOS emergency button is triggered, the iSOS-ALM-Horn receiver signal is triggered by wireless signal synchronization, and the buzzer and warning light are activated immediately.

Diversified Power Supply

Models	iSOS-100 / iSOS-300-IP65 / iSOS-800-PT	iSOS-109/S2 iSOS-309-IP65/S2	iWSN-200R / iSOS-ALM-Horn
Rechargeable Lithium Battery & Solar Cell		✓	
Primary Battery	✓		
DC Power			✓

Applications ⟷

Medical Institution

W.C
Restroom

Hazardous Cargo Warehouse

Production Line

Parking lots

◆ **Integrated iWSN-200R Alarm Relay Auto Output**

The iWSN-200R is equipped with a built-in relay relay, which immediately outputs and controls related alarm devices when the iSOS button trigger signal is received.

◆ **IP65 Protection Design**

The iSOS-300-IP65 is designed to withstand water penetration under strong wind and rain with an IP65 rated waterproof mechanism.
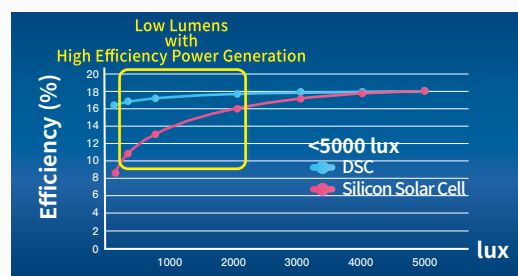
◆ **Active Uploading of Power & Status**

Timely report the existing power and operating status of the emergency button, the monitoring side to effectively ensure the stable operation of the system. When an abnormality occurs, personnel can take advantage of the immediate response, maintenance and replacement.
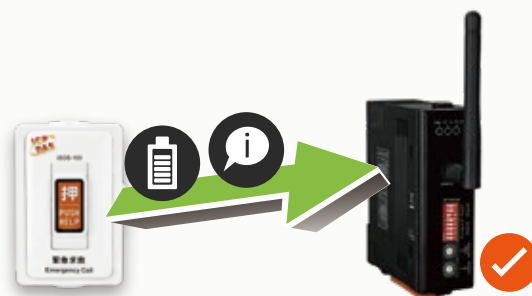
◆ **Uninterrupted with Light Charging**

Using dye-sensitized photovoltaic technology to supply power, the cumulative battery capacity is 1.68 times higher than that of silicon batteries. Charging of the device can be done by ambient light source, and the conversion efficiency is not affected by the light angle, which can meet the long-time operation without power supply.

Low Lumens with High Efficiency Power Generation
Efficiency (%)
<5000 lux
DSC
Silicon Solar Cell
1000 2000 3000 4000 5000 lux

◆ **Scalable integration Capability with iWSN Sensors**

The signal concentrator not only connects to the iSOS series emergency button, but also integrates iWSN power measurement and environmental monitoring modules to extend more intelligent applications.

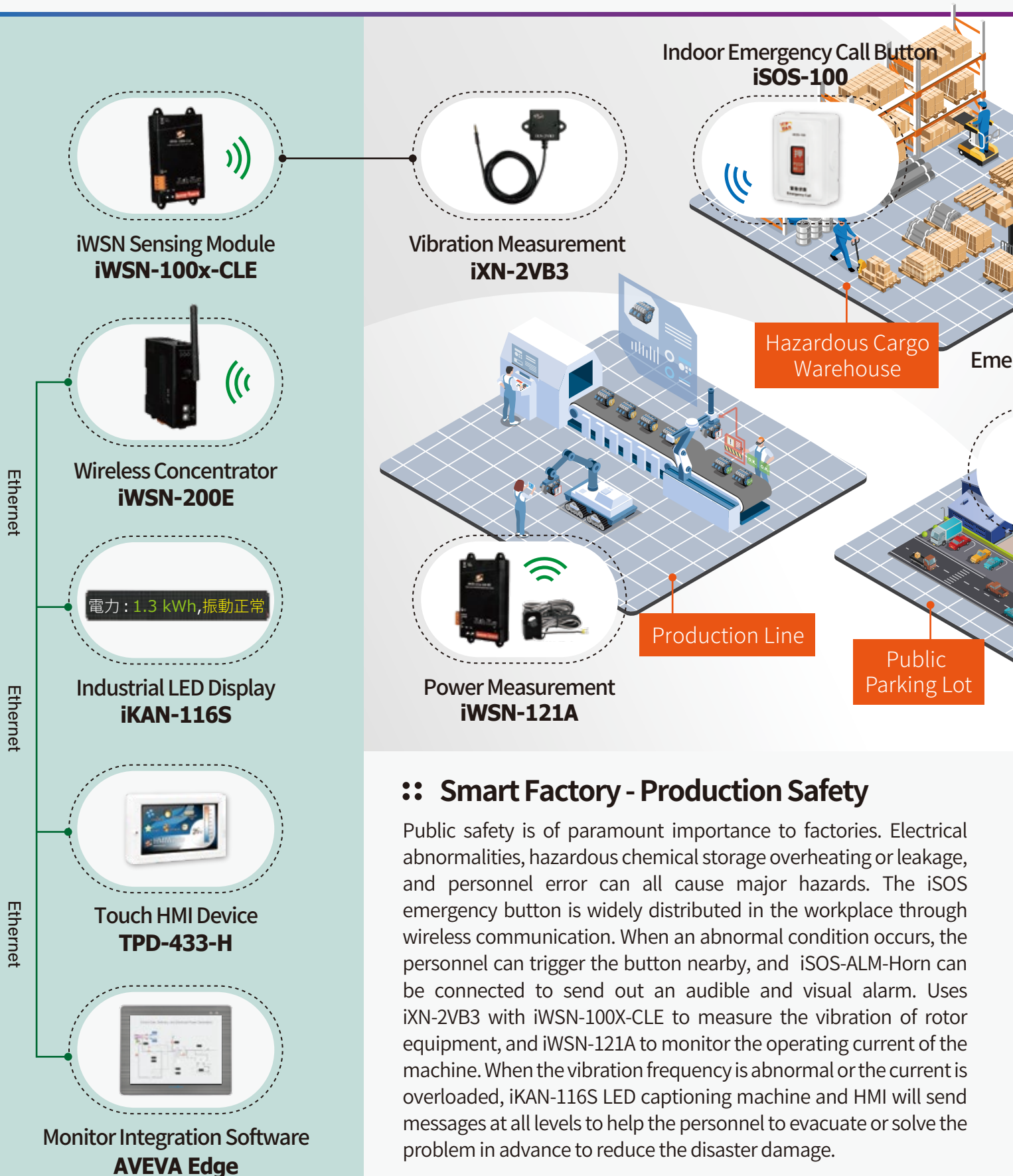**Support Power & Environmental information Measurement Expansion Module**

➢ Power Informations
Voltage, current, instantaneous power, power, etc.
➢ Environmental Informations:
Temperature (Thermal resistance, Thermal imaging), Humidity, Vibration, Gases, etc.
➢ Improve the safety of the production environment and the stability of the operation of the equipment, and to implement preventive maintenance.
➢ Installed without downtime to meet rapid deployment needs in the field

CT

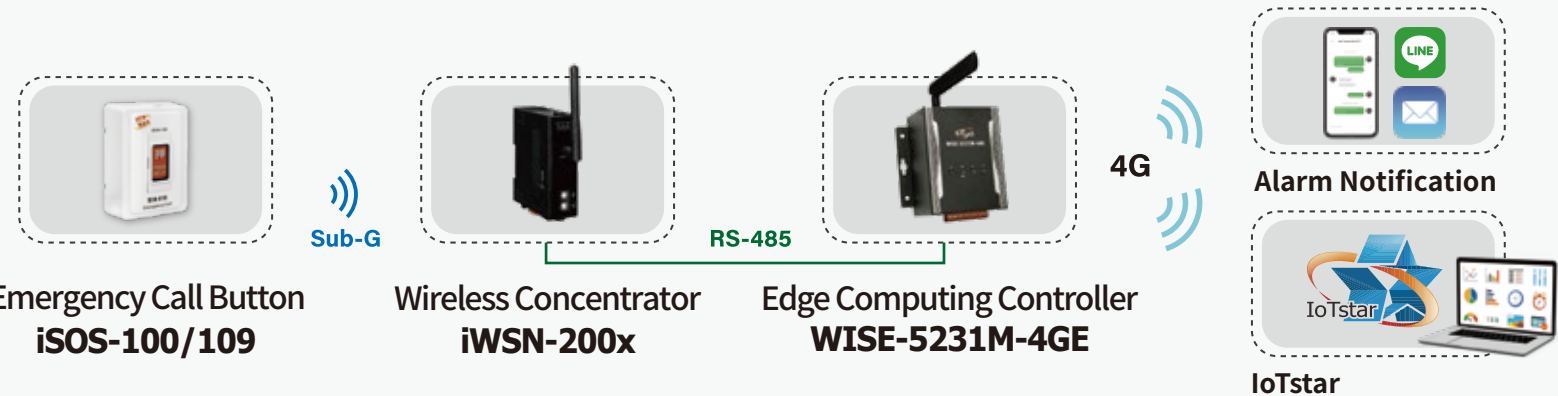**iWSN–200x iWSN–110x**

**iXN-2VB3**

Wireless Smart Security Solutions

The iSOS emergency call button can be integrated with iWSN environment sensing module and WISE edge computing controller to monitor power, temperature and humidity, thermal imaging, gas, vibration data of each field and manage data remotely and graphically in the emergency system architecture. When the iSOS emergency button is triggered or the monitoring data is abnormal, the WISE Edge Computing Controller will take the initiative to send an alarm notification so that the management can get the information immediately.

iWSN Sensing Module
iWSN-100x-CLE

Wireless Concentrator
iWSN-200E

電力：1.3 kWh,振動正常

Industrial LED Display
iKAN-116S

Touch HMI Device
TPD-433-H

Monitor Integration Software
AVEVA Edge

Ethernet

Vibration Measurement
iXN-2VB3

Indoor Emergency Call Button
iSOS-100

Hazardous Cargo Warehouse

Production Line

Public Parking Lot

Power Measurement
iWSN-121A

:: Smart Factory - Production Safety

Public safety is of paramount importance to factories. Electrical abnormalities, hazardous chemical storage overheating or leakage, and personnel error can all cause major hazards. The iSOS emergency button is widely distributed in the workplace through wireless communication. When an abnormal condition occurs, the personnel can trigger the button nearby, and iSOS-ALM-Horn can be connected to send out an audible and visual alarm. Uses iXN-2VB3 with iWSN-100X-CLE to measure the vibration of rotor equipment, and iWSN-121A to monitor the operating current of the machine. When the vibration frequency is abnormal or the current is overloaded, iKAN-116S LED captioning machine and HMI will send messages at all levels to help the personnel to evacuate or solve the problem in advance to reduce the disaster damage.

Emergency Call Button
iSOS-100/109

Sub-G

Wireless Concentrator
iWSN-200x

RS-485

Edge Computing Controller
WISE-5231M-4GE

4G

Alarm Notification

IoTstar

Acousto-optic Alarm
iSOS-ALM-Horn

Outdoor Emergency Call Button
iSOS-309-IP65/S2

IoTstar

LINE

4G

Indoor
Emergency Call Button
iSOS-100

Sports Ground

Edge Computing Controller
WISE-5231M-4GE

RS-485

Leak Detection
iWSN-930R-LK-AC-IP33

Gas Measurement
iXN-1CX (CO)

iWSN Sensing Module
iWSN-100x-CLE

Relay Out

Wireless Concentrator
iWSN-200R

:: Smart Park - from A to Z in Public Safety

In industrial parks (including public spaces and parking lots), the iSOS-300-IP65 emergency call button can be widely installed in outdoor environments to facilitate triggering of the button in case of emergency. The iWSN-200R actively outputs Relay to trigger the ALM-04-MRTU , and then the system will send out a LINE messages to the management via WISE-5231M-4GE for immediate response. In addition to the emergency call button, the iWSN-930R-LK-AC-IP33 can be installed in the parking lot to detect the leakage of water in the rain. The iXN-1CX with iWSN-100X-CLE can be added to detect the concentration of CO indoors and send a LINE message when the data is abnormal to reduce the possibility of hazards.

Voice Alarm
ALM-04-MRTU
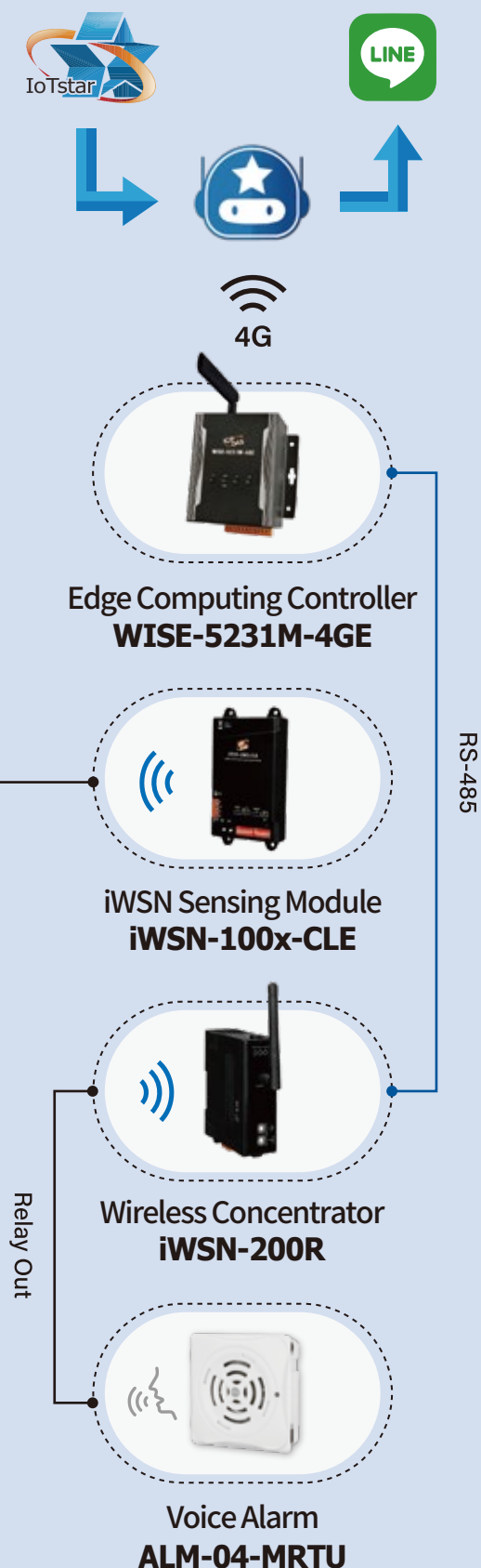
:: Safety Processes - Steelworks Applications

Steel plants are high-temperature, high-risk environment, the process of safety protection must be precise and comprehensive.
ICP DAS provides the following solutions:

◆ iSOS-800-PT handheld wireless emergency alarm button is used to trigger the identification program.

◆ iCAM-ZMR8422X sends back a live image, and the program determines whether the tank contains water and controls the PET-7060 output and traffic signal.

◆ WISE-5231M-4GE pushes the result and screen to WeChat or LINE for report confirmation.

🔻 Water-containing slag tank

🔻 Water-bearing steel slag poured into slag tanks and generated air explosion

Handheld Emergency Call Button iSOS-800-PT

Wireless Concentrator iWSN-200E

Network Switch NSM-208G

Ethernet

Relay Output PET-7060

Ethernet

Image Recognition Server Webcam

Ethernet

Webcam iCAM-ZMR8422X

Edge Computing Controller WISE-5231M-4GE

4G

IoTstar
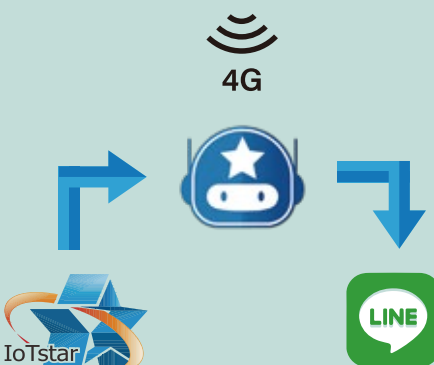
LINE

:: Smart Inspection - Plant Safety Inspection

Owners spend a lot of manpower and material resources on public security inspection and audit every year to avoid abnormalities in equipment, pipelines or personnel violations.
ICP DAS provides the following solutions:

◆ With iSOS-800-PT, the auditor detects abnormalities or triggers a notification when a hazardous incident occurs.

◆ Use iCAM-ZMR8422X to capture the image of the site remotely to grasp the real-time situation and upload it to the database for reference.

◆ Send SMS via WISE-5231M-4GE, relevant personnel can confirm on WeChat or LINE.

:: Safe Workplace - Bathroom Emergency System

In order to improve the safety of the workplace environment, companies want to install an emergency distress system in their factories to enhance personal safety protection. ICP DAS solutions are as follows:

◆ iSOS-109 emergency button is paired with SP-S2-DS dye-sensitized cell charging module to power the module through indoor lighting.

◆ The iWSN-100X-CLE with iXN-0TH sense the ambient temperature and humidity, and the records are stored in the XP-9000 controller for subsequent trace analysis.

◆ When an emergency occurs, iSOS-109/S2 will activate iSOS-ALM-Horn audible and visual alarms to notify the relevant personnel to handle the situation.
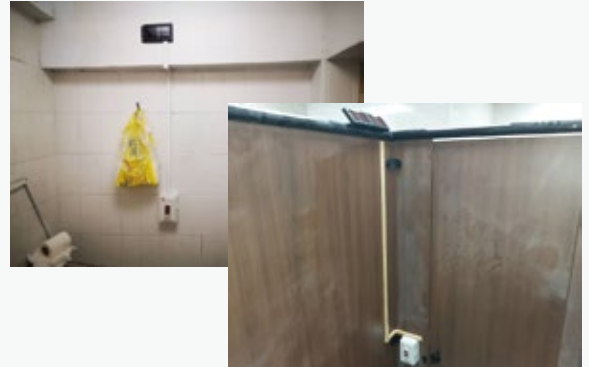
🎧 Installation Diagram

RS-485

Wireless Concentrator
iWSN-200R

Sensor + Expansion Module
iWSN-101X-CLE + iXN-0TH

Emergency Call Button + Solar Cell
iSOS-109/S2

Acousto-optic Alarm
iSOS-ALM-Horn

Ethernet

Touch HMI Device
TPD-703

Industrial Controller
XP-9181-IoT

:: Safe Medical - Medical Safety Monitoring

Hospital ward safety and temperature and humidity monitoring is a key management priority for hospitals. In order to reduce the impact of construction on patients and medical quality. ICP DAS has the following solutions:

◆ iSOS-109 with SP-S2-DS dye-sensitized cell charging module, iWSN-101X-CLE with iXN-0TH temperature and humidity meter for unified monitoring.

◆ TPD-703 HMI Device communicates with iWSN-200R and collects data, and also synchronizes data to XP-9181-IoT to meet the central monitoring needs such as panel display, data management records, report management, and alarm pushing.

🎧 AVEVA Edge Monitor Screen   🎧 Alert Message of LINE

Selection Guide

iSOS Emergency Call System

- Built-in rechargeable and disposable batteries for fast construction.
- Actively upload module status to ensure operation.
- Charged by indoor lighting.
- Applicable to public space safety protection and high-risk areas to call for help.

iWSN-200x Wireless Data Concentretor
iSOS-109 Emergency Call Button
iSOS-309-IP65 Emergency Call Button
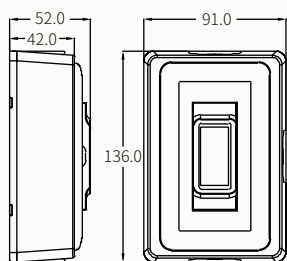**SP-S2-DS** Dye-sensitized Cell Module
iSOS-ALM-Horn Acoustic Alarm

Data Concentrator

Models	iWSN-200U	iWSN-200E	iWSN-200R
Channels / Frequency	0~15 configured by rotary switch / 433 MHz		
Transmission Power	9 ± 1dBm (PA Off) / 18 ± 1dBm (PA On)		
Transmission Distance	LoS 100 M		
Interface	RS-232/RS-485	10/100 Base-T	RS-485
Relay Out	-	-	1 (Form A)
Contact Spec.	-	-	5A@250VAC/5A@30VDC
Protocol	Modbus RTU	Modbus TCP	Modbus RTU

Emergency Call Button Module

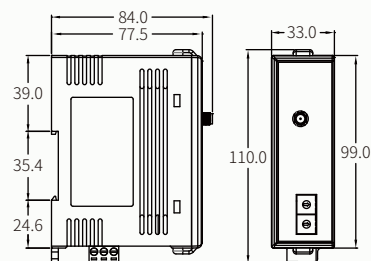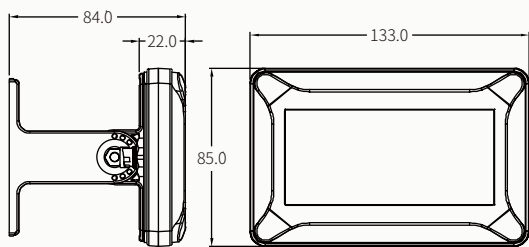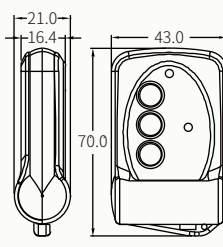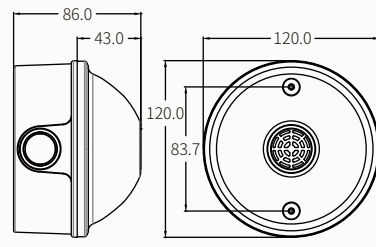| Model	iSOS-109/S2 iSOS-309-IP65/S2	iSOS-100 iSOS-300-IP65 iSOS-800-PT	iSOS-ALM-Horn
Power supply	Rechargeable Lithium Battery and Dye–sensitized Cell Module (SP-S2-DS)	Primary Battery (2 year battery lifespan)	12 VDC
Channels / Frequency	0~15 configured by rotary switch / 433 MHz		
Working Duty	1 / 10 / 30 / 60 sec. ; 3 / 5 / 10 / 30 min.		-
Emergency Trigger Duty	1 sec.		-

Dimensions (Units: mm)

iSOS-100/109
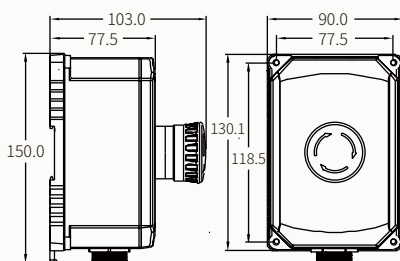
iSOS-300/309-IP65

iWSN-200x

SP-S2-DS

iSOS-800-PT

iSOS-ALM-Horn

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