朗锐恒科技
LOONGK TECHNOLOGY
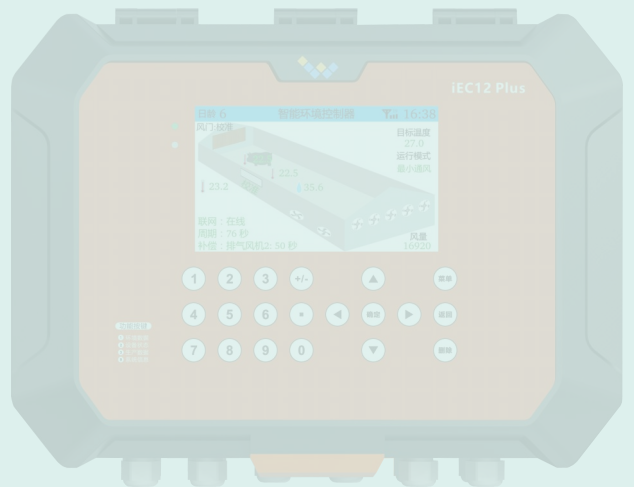
Smart Farming Solutions

Shenzhen Loongk Technology Co.,ltd

Sincere,Cooperation,Liberal,Win-Win

Ten years concentration makes profession

Loongk is one of the leading intelligent equipment suppliers for animal husbandry in China, which delicate to the development platform of livestock climate control and Internet of Things (IOT) technology.We offer efficient, sustainable and one-stop solutions for customers. After ten years of intensive R&D, we obtained a number of key patents and successfully built a comprehensive Internet of things (IOT) platform for the domestic first-class livestock groups.

National High-Tech Enterprise
National Key Scientific Research Project responsible institution in the 13-Five Year Plan
Zhejiang University Scientific Research cooperation institution
Key project partner of BUAA Research Institute Shenzhen branch
R&D institute of the Internet of Things branch of the National Poultry Center
Guangdong Wens Group IoT Project cooperation partner
With 20 years of industry experience and more than twenty affiliated enterprises of science and research

Certificates

高新技术企业
证书

企业名称：深圳市朗锐恒科技开发有限公司　　证书编号：GR202144205075

发证时间：二〇二一年十二月二十三日　　有 效 期：三年

批准机关：

Certificates

証書号 第7180186号

实用新型专利证书

实用新型名称：基于环控物联网的智能养殖控制系统

实用新型专利证书

实用新型名称：一种养殖用网关设备用散热结构
发　明　人：陈道理
专　利　号：ZL 2019 2 2018660.3
专利申请日：2019 年 11 月 21 日
专利权人：深圳市朗锐恒科技开发有限公司
地　址：518000 广东省深圳市南山区西丽桃源街道龙珠三路光前工业区 21 栋 4 楼
授权公告日：2020 年 07 月 03 日　　授权公告号：CN 210928451 U

国家知识产权局依照中华人民共和国专利法经过初步审查，决定授予专利权，颁发实用新型专利证书并在专利登记簿上予以登记。专利权自授权公告之日起生效。专利权期限为十年，自申请日起算。

专利证书记载专利权登记时的法律状况。专利权的转移、质押、无效、终止、恢复和专利权人的姓名或名称、国籍、地址变更等事项记载在专利登记簿上。

局长
申长雨　　申长雨

2020年07月03日

第1页（共2页）

中华人民共和国国家版权局
计算机软件著作权登记证书

▶▶ Certificates

QUAL...

Shenzhen L...

Is in co...

The Certificate is valid...
Environment Controller...

Registered address : 4...

Audit address : 4A, Flo...

This certificate will not rem...
within the 3 years validity...

IAF
华标认证
诚信致远

CHINA STA...
Buil...

CSEC
华标认证

质量管理体系认证证书

证书编号：22820Q11502R0S

统一社会信用代码：91440300573148774Y

兹证明：

深圳市朗锐恒科技开发有限公司

质量管理体系符合：
GB/T 19001-2016/ISO 9001:2015 标准

证书覆盖范围：养殖环境控制器、养殖湿度传感器、养殖物联网网关和养殖中央报警器的研发和销售

注册地址：深圳市南山区桃源街道龙珠三路光前工业区 21 栋 4 楼 4A
审核地址：深圳市南山区桃源街道龙珠三路光前工业区 21 栋 4 楼 4A

颁证日期：2020 年 06 月 22 日
有效期至：2023 年 06 月 21 日
初次颁证日期：2020 年 06 月 22 日

本证书须在国家规定的各行政许可、资质许可有效期内使用方有效。本证书有效期 3 年，每 12 个月内须接受一次监督审核，并与《年度确认通知书》一起使用方可有效。

IAF   CNAS

中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C228-M

证书有效性以左侧二维码扫描内容为准
国家认监委证书查询网址：www.cnca.gov.cn
华标卓越认证（北京）有限公司网址：www.hbccshina.com

华标卓越认证（北京）有限公司
北京市朝阳区北四环东路106号院5号楼（100029）

Loongk Product Series

iEC1680 Series

iEC22 Plus Series

iEC12 Plus Series

L1101 Feed Line Controller

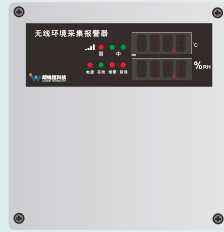EC   Fan Controller

Water Line Controller

Central Alarm Controller

Loongk Product Series

Window Controller

Wireless Collection Alarm
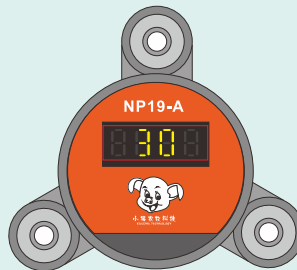
Farming IoT Gateway

Ammeter

Water Meter

Weighing System

Humidity Sensor

Negative Pressure Sensor

Co2 Sensor

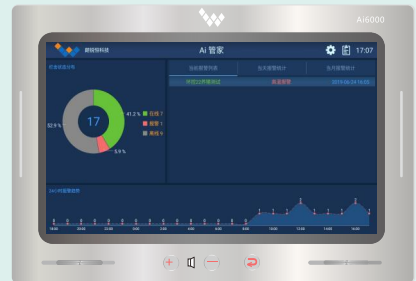# Support both Site networking and cloud networking modes

Cloud networking

Site networking

Centralized alarm AI butler in the site

Cloud networking advantages:

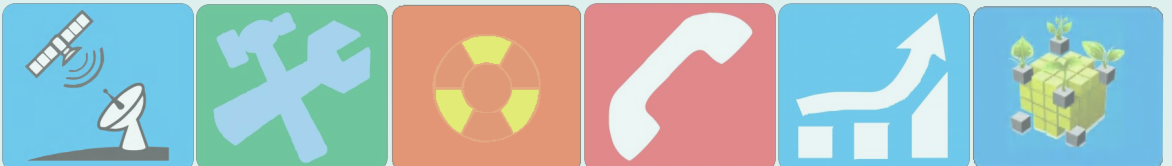Remotely connect to the climate controller for various functional operations without limits by locations

Site networking advantages:

When no external network, you can check the climate indicators and equipment status , and modify the parameters of the climate controller through the site network

Technology develops, animal husbandry progresses

Easy access to information, safe production, efficient management

Wechat applet

Basic function of Farming IOT system

Date report

Data collection

Event sourcing

Phone SMS alarm

Real-time monitoring

Emergency ventilation

Continuous optimization

Remote setup and diagnostics

Easily meet the climate control requirements of high stocking density on multi-tier cage chick farms

iEC1680

partition temperature control/large screen with wide temperature/ touch + button/support multiple languages/support backup battery/ expandable number of control channels/powerful functions of networking software/support power failure alarm/support high temperature alarm
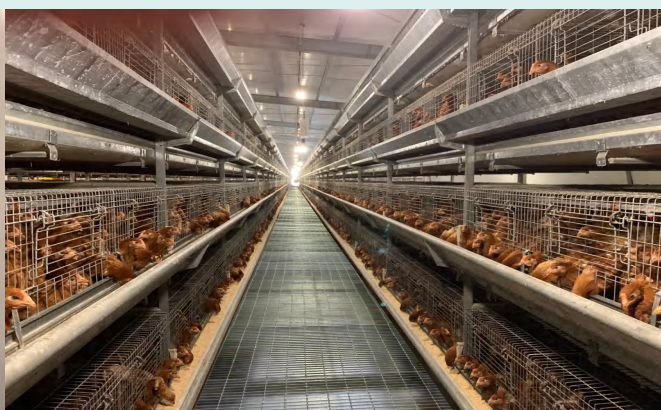
iEC22 Plus Climate Controller

1. 22 channel relays + 4 channel analog outputs

2. Support negative pressure control type

3. 7 channel temperature, 2 channel humidity

4. Self-contained battery power detection

5. Support 4-20mA/0-10V input

6. Support 485 bus device access

7. 5 module expansion bits

8. Support 4G and Ethernet access networking

9. Support fan rotation

10. 7-inch large screen, simpler and more intuitive configuration

iEC12 Plus Climate Controller

1. 12 channel relays + 3 channel analog outputs

2. Support negative pressure control type

3. 3-way analog output

4. Support 4-way temperature

5. Support 2-way humidity

6. Support sensor expansion

7. Support power failure alarm (requires battery power)

8. Support access to the Internet of Things system

9. Support fan rotation and exchange

10. Support dual power

⟫ EC fan dedicated climate controller

1. Special for EC fan
2. EC fan bus interface
3. Mixing of constant speed fan, variable frequency fan and EC fan
4. 8 channel relays + 6 channel analog + EC bus
5. Internet of Things (APP and computer software)
6. Backup battery power supply interface
7. Level-free setting of intelligent ventilation algorithm
8. Negative pressure small window control function
9. 4KV surge high safety protection level 10,
   Ip65 waterproof and dustproof design

Feed line controller

1. Feed line controller

2. The maximum number of controllable material lines is 1 master and 4 slaves

3. With voltage and current monitoring function

4. Various combination configurations

5. Perfect alarm function

6. 220V power supply

7. 7-inch screen, large keyboard input

CCM1000 window controller

1. 220V or 24V power supply

2. Available to set the parameters of the small window switch

3. Support manual or external controller control

4. Real-time display of the opening of the air inlet window

5. Support various air inlet window motor control

Chicken Farm Waterline Control & Alarm

水线控制器 W1100

系统菜单

报警选择　任务计划　管路选择　加药设置

手动冲洗　接线设置　管路配置　系统参数

功能按键
菜单 系统菜单
系统信息
报警日志

返回　确定

水线报警接线盒
W1112

水阀接线盒
W1012

1. Water shortage alarm

2. Automatic flushing/automatic dosing

3. Manual emergency mode

4. No limits of waterline numbers in distributed system

Ai6000 Central Alarm Controller

1. Support 100 environmental controllers to collect alarm information
2. 220V power supply (built-in battery, power failure alarm)
3. Available to connect to one channel of alarm horn output (12V output)
4. Support voice output of alarm content
5. Support the free choice of alarm content
6. Support SMS and phone alarm
7. Support alarm statistics and alarm log query
8. Shortcut keys (volume "+-" "alarm reset")
9. Support 4G full Netcom, WIFI and wired network
10. Support RS485 communication expansion function

≫ L601 Wireless climate collection alarm
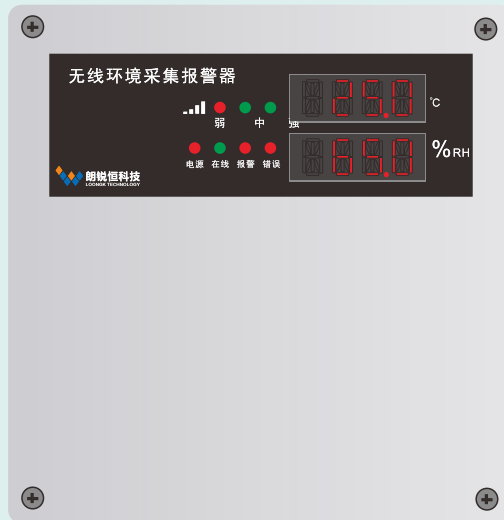
1. Phone SMS alarm for major events such as power failure and high temperature
2. Easy install, no construction required
3. Built-in battery, can work when power off
4. High reliability ,no maintenance needed
5. Built platform to make the most use of data
6. Strong anti-interference ability
7. Suitable for animal husbandry, greenhouse and other industries
8. Available to connect to the Internet of Things system

N2000 Farming IoT Gateway

1. Networking function of farming climate controller
2. Applicable to leading brands
3. SMS phone alarm function
4. Remote data acquisition and monitoring function
5. Available to collect external material, water, electricity and gas, etc.
6. With wired network and 4G full Netcom access function
7. Powerful software for mobile phone and PC
8. Available to connect to Backup battery
9. Easy install in upper rail way
10. Built platform to make the most use of data

C0219 CO2 Sensor

1. Highly reliable sensor for industrial farming
2. Adopt high-precision chip module design
3. Full sealed shockproof design, waterproof and dustproof
4. No maintenance needed,no need to replace parts for long-term use
5. Anti-surge protection
6. Strong anti-interference ability
7. Suitable for animal husbandry, greenhouse and other industries
8. Automatic calibration
9. Temperature compensation
10. Easy install

RHS17 Humidity Sensor

1. Highly reliable industrial sensors

2. Adopt high-precision chip module design

3. Sealed with epoxy potting, waterproof and dustproof

4. Automatic recovery after being soaked in water

5. Anti-surge protection

6. Strong anti-interference ability

7. Suitable for animal husbandry, greenhouse and other industries

8. Automatic calibration

9. Temperature compensation

10. Easy install

⟫ iEC Environment Controller Features

1. More security with dual system,the independent design of control system and human-computer interaction
2. More security with dual power supply
3. Strong anti-interference ability and high stability with power-level electromagnetic compatibility design
4. Free to set the relay function to meet the needs of various power equipment configuration and combination schemes
5. Adaptive ventilation algorithm, smooth ventilation in the house to avoid stress
6. Effectively extending the lifespan of the fan with fan rotation algorithm,
7. Comfortable temperature with air cooling effect algorithm
8. Reduce maintenance costs and effectively prevent the spread of the epidemic by remote and on-site centralized settings
9. Remote and field centralized diagnosis can solve problems in a timely manner and ensure the optimal operating state of the system
10. New function update in time by remote upgrade
11. Strong scalability to satisfy users to access various non-standard sensors and equipment
12. Easy to operate with graphical interface
13. Support batch import and export of controller parameters, which is convenient for batch installation
14. Historical data is accurate to every minute, and the equipment operations can be accurately viewed
15. Built-in professional wired & wireless networking for iEC series climate controller
16. Multiple dampers, small windows and heating zones for different requirements
17. Support both site networking and cloud networking, and site networking mode does not require Internet support
18. Site centralized alarm and large-screen routine board support both

Introduction to iEC

Dual CPUs run at the same time to improve reliability

Operate independently
Control panel failure does not affect device control

Dual power supply for improved security
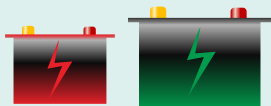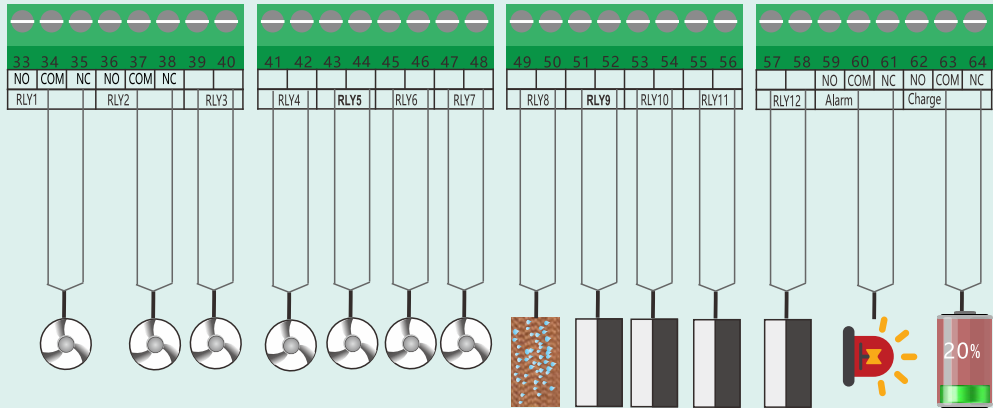
Backup battery capacity detection

20%

In time low battery power warning

Power level electromagnetic compatibility design, strong anti-interference ability

防电磁干扰   防　静　电   放　雷　电

Introduction to iEC

The relay does not specify the type of equipment, free access to equipment

33	34	35	36	37	38	39	40
NO	COM	NC	NO	COM	NC		
RLY1			RLY2				RLY3

41	42	43	44	45	46	47	48
RLY4		**RLY5**		RLY6		RLY7	

49	50	51	52	53	54	55	56
RLY8		**RLY9**		RLY10		RLY11	

57	58	59	60	61	62	63	64
		NO	COM	NC	NO	COM	NC
RLY12		Alarm			Charge		

20%

Remote setting, input and output parameter

Easy and convenient to modify parameters in various methods

系统参数-[　　　　蛋鸡舍]

| ▶ 一键读取 | 💾 下发生效 | 📗 一键导出 | 日期: 请选择日期 ▼ | 🖥 查看修改 |

| 温度 | 湿度 | 静压 | 通风 | 灯光 | 灯光参数 | 喂料 | 保温 | 降温 | 传感器 | 设备 | 尺寸 |

序号	日龄	目标温度(℃)	呼吸量(m³/h)	限制风速(m/s)
1	1	24	2	10
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0

Introduction to iEC

Powerful extension function, strong compatibility

Expansion slot
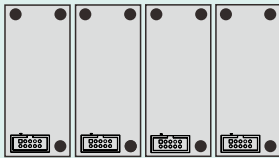
⇨ Feed tower weighing
Pressure Module
Gas Sensor
Light Sensor
Wind Speed Sensor
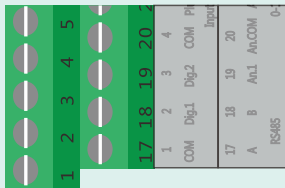
⇨ Bus interface & sensor interface

Optional built-in networking module

Ethernet + 4G full Netcom
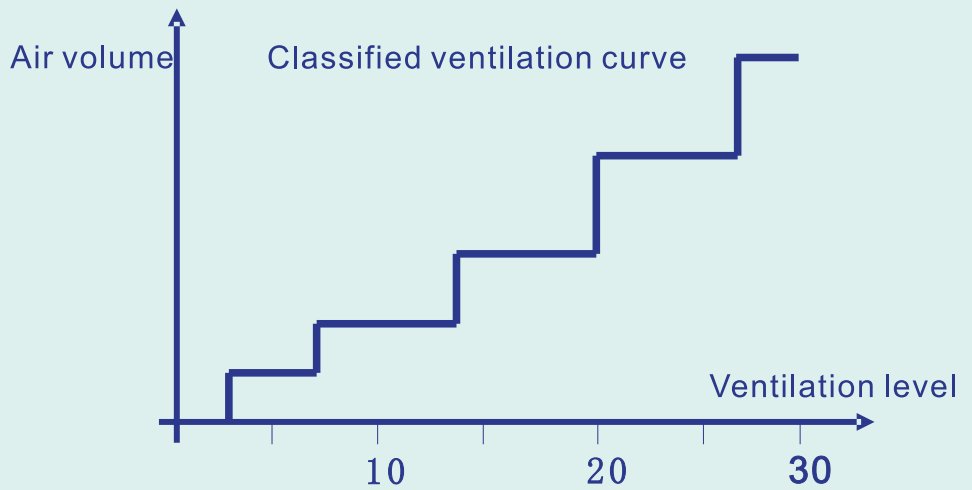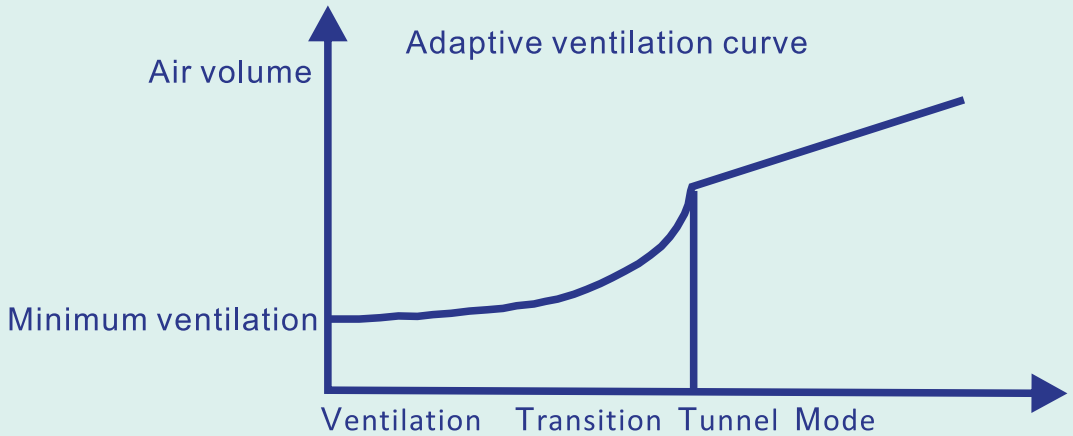
USB

4G module
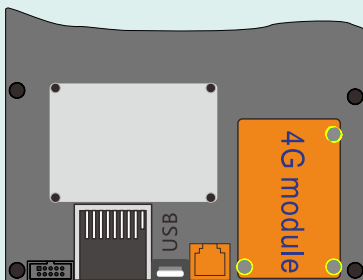
RJ45

➤➤ **Introduction to iEC**

Easy, concise and intuitive with graphical interface
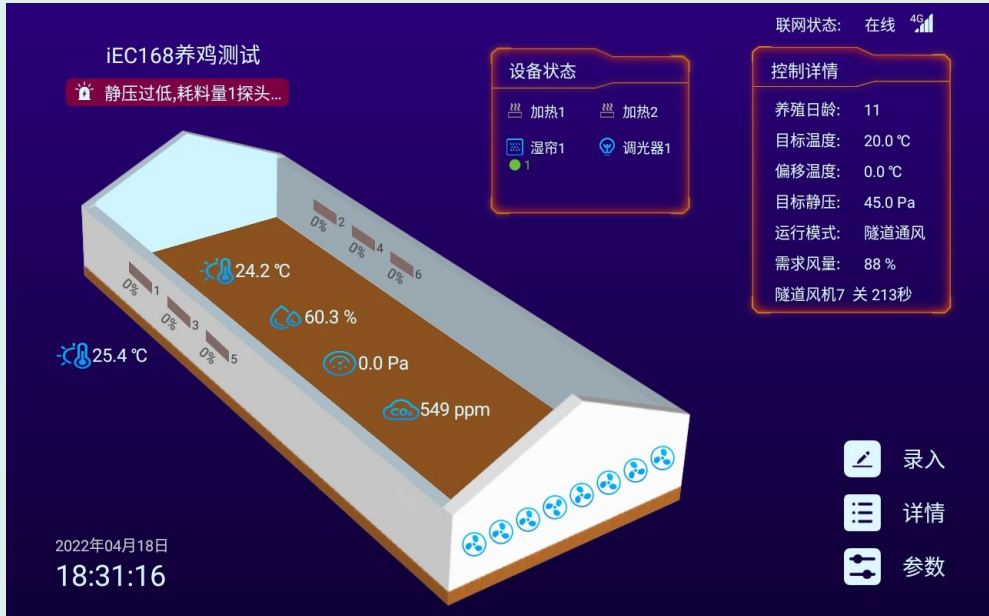
Introduction to iEC

Accurate and efficient adaptive ventilation algorithm

Adaptive ventilation curve

Air volume

Minimum ventilation

Ventilation   Transition   Tunnel Mode

Classified ventilation curve

Air volume

Ventilation level

10   20   30

Introduction to iEC

Emergency ventilation control
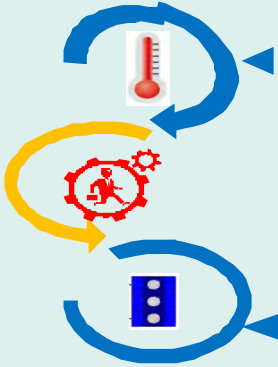
Available to set an absolute high temperature value data as a backup alarm temperature and emergency ventilation control.

Equipped with two sets of normally closed relay output ports, which can ensure the operation of the fan group even if the climate controller fails.

Fan rotation function

Rotate different group of fans will increase the protection efficiency and lifespan.
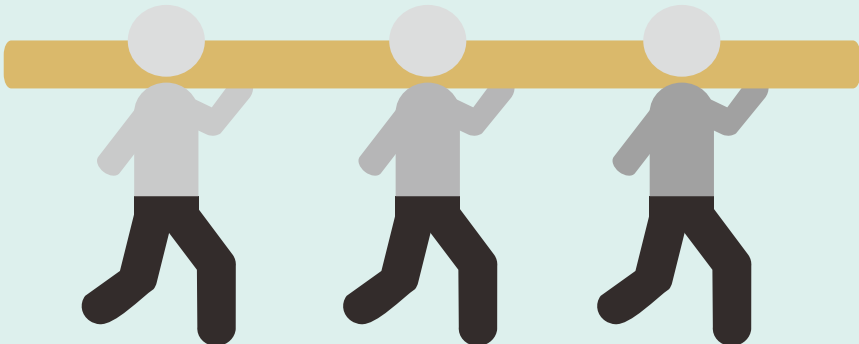
Introduction to iEC

Applications

短信电话报警

Phone SMS alarm

4G full Netcom

Ethernet(RJ45)

USB flash disk

sound-light alarm
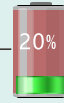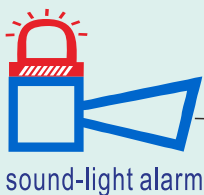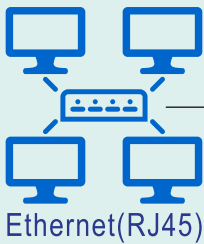
20% Battery level detection

20 interfaces of fan
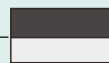
Variable frequency heater

dimmer

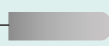Variable frequency fan

4-channel analog output
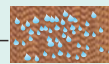
Wet curtain
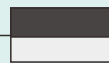
Ventilation window

air door

Ammeter

Humidity Sensor

temperature sensor

silo load cell
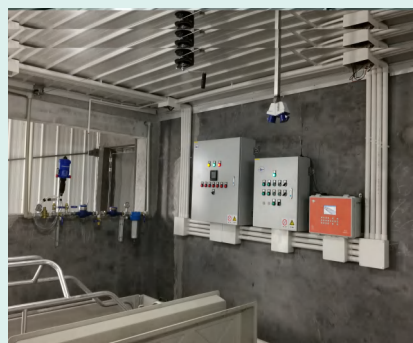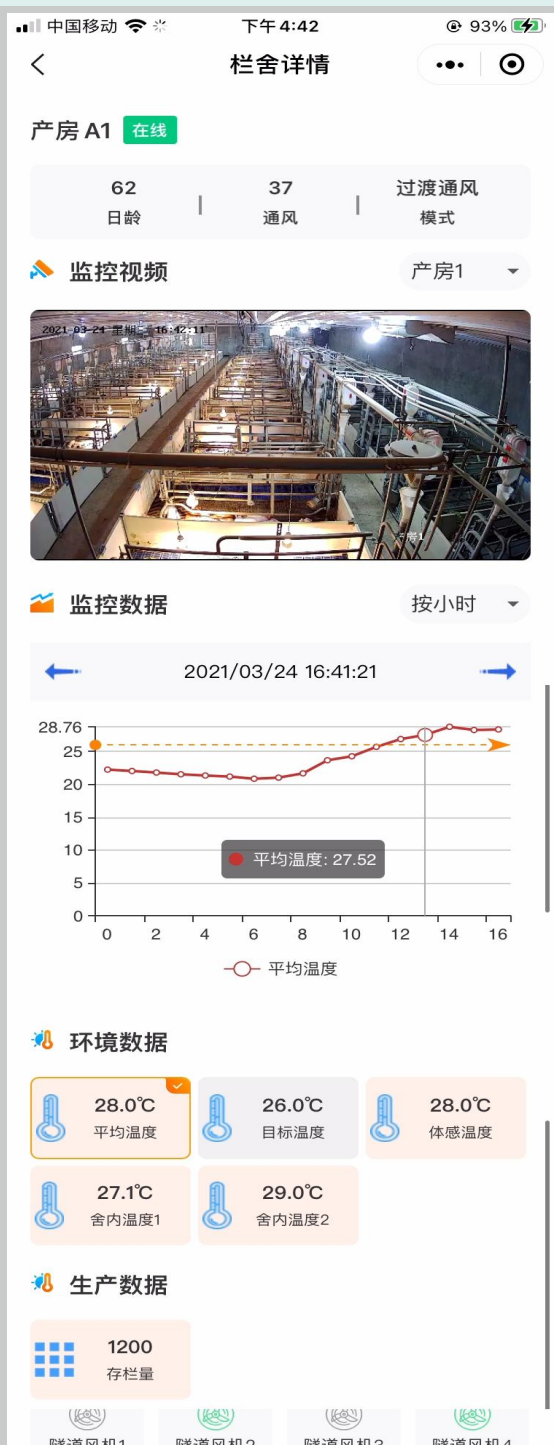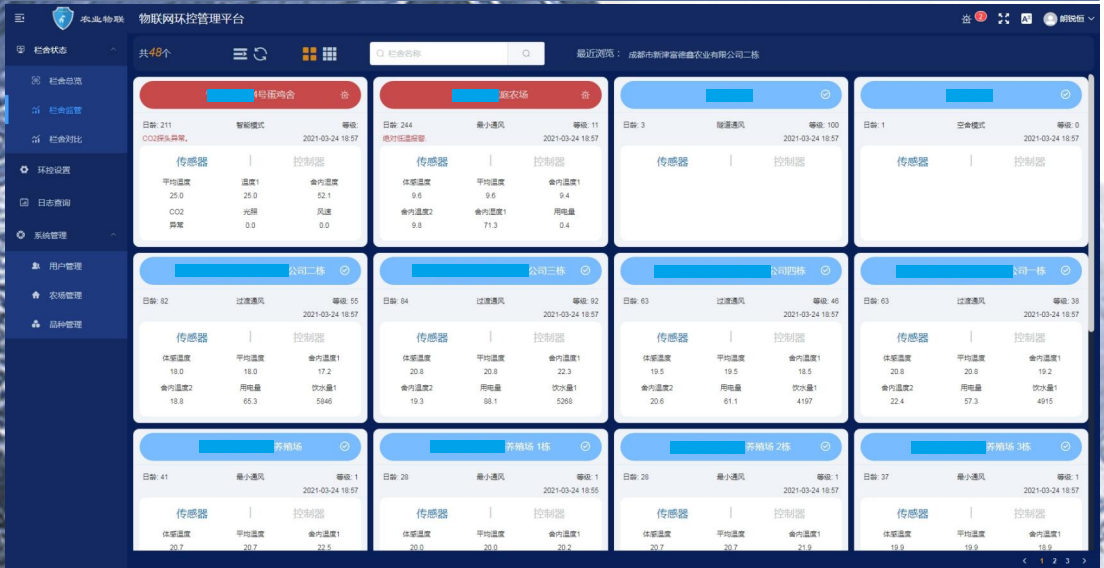
Water Meter

CO2 sensor

Introduction to iEC

Production & Projects

首页

🔵 栏舍状态总览

栏舍总数	29
在线栏舍	23
报警栏舍	1

告警 离线5
在线: 23

📈 栏舍报警趋势图

50

0

2716 2719 2722 2801 2804 2807 2810 2813

⚠️ 最近浏览栏舍

iEC12养猪演示 在线 📹

| 29 | 6 | 28.2 | 63.5 | 0.3 | 522 |
| 日龄 | 通风 | 平均温度 | 舍内湿度 | 负压 | 二氧化碳 |

iEC22养猪演示 告警

首页　栏舍　我的

📶 中国移动 📶 ❄️　　下午4:42　　⊙ 93% 🔋

栏舍详情 ⋯ ⊙

产房 A1 在线

| 62 | 37 | 过渡通风 |
| 日龄 | 通风 | 模式 |

🔭 监控视频　　产房1 ▾

2021-03-24 星期二 16:42:11

📈 监控数据　　按小时 ▾

← 2021/03/24 16:41:21 →

28.76
25
20
15
10
5
0

平均温度: 27.52

0　2　4　6　8　10　12　14　16

—◯— 平均温度

🌡️ 环境数据

| 28.0℃ | 26.0℃ | 28.0℃ |
| 平均温度 | 目标温度 | 体感温度 |

| 27.1℃ | 29.0℃ |
| 舍内温度1 | 舍内温度2 |

🌡️ 生产数据

🔲 1200
存栏量

隧道风机1　隧道风机2　隧道风机3　隧道风机4

iEC climate controller PC applications

Think big, aim high, and stay down to earth

Profession | Concentration | Service

Sincere,Cooperation,Liberal ,Win-Win

To be a smart executive of modern agriculture

Animal husbandry IOT management platform
Intelligent farming solution