



Products type-choosing manual

产品选型手册

第12版 **Ex**

智能防爆系统类

飞策防爆电器股份有限公司
FEICE EXPLOSION-PROOF ELECTRIC CO.,LTD

中国·飞策防爆电器股份有限公司

产品样册

智能防爆系统类

智能防爆系统类.....	
FCZN-系列防爆智能控制器.....	3
FC-ZN-C 系列防爆智能传感器.....	12
FCD63-系列防爆智能高效节能 LED（路）灯（智能调光）	16
BYS-系列防爆智能全塑荧光 LED 灯.....	21
FCD63-系列防爆高效节能 LED 灯(智能调光).....	25

FCZN系列防爆智能控制器

FCZN series explosion proof master controller



■ 型号规格含义 Model specifications implication



■ 适用范围 Applications

1. 广泛用于石油开采、炼油、化工、海洋石油平台、油轮等易燃易爆气体环境，也用于军工、港口、粮食储存、金属加工等可燃性粉尘场所，对防爆/三防智能灯具进行远程通信、控制用；
 2. 适用于爆炸性气体环境的1区、2区；
 3. 适用于II A、II B、II C类爆炸性气体环境；
 4. 适用于可燃性粉尘环境的21区、22区；
 5. 适用于防护要求较高、潮湿、含有腐蚀性气体的场所。
1. Widely used in flammable and explosive gas environments such as oil exploitation, oil refining, chemical industry, offshore oil platforms and oil tankers. It is also used in combustible dust places such as military industry, ports, grain storage and metal processing. For remote communication and control of explosion-proof/three-proof intelligent lamps;
 2. Suitable for explosive gas environment zone 1, zone 2;
 3. Explosive atmosphere: class II A, II B, II C;
 4. Suitable for combustible dust environment in the area 22, 21;
 5. Suitable for high protection requirements, damp and containing corrosive gases places.

■ 执行标准

GB3836.1、GB3836.2、GB12476.1、GB12476.5、IEC60079.0、IEC60079.1、IEC61241-0、IEC61241-1。

■ 主要技术参数 Main technical parameters

型号 Model	额定电压(V) Rated voltage	频率 Frequency	防爆标志 Ex-mark	防护等级 Degree of protection	通讯方式 Communication mode	通信距离 Communication distance
FCZN系列 FCZN series	AC220/230V	50/60HZ	Ex de II C T6 Gb Ex tD A21 IP66 T80℃	IP66	Zigbee	1KM
					LoRa	2KM
天线发射 功率/频率 Antenna transmission power / frequency	19±1dBm		接收灵敏度 Reception sensitivity	-104dBm		

注：* 特殊要求请注明 Note: * Please specify special requirements

■ 产品特点 Features

- 开关腔采用隔爆型结构，进、出线腔采用增安型结构。各腔体之间采用模块式组合，腔体之间互不相通，减小单个腔体的净容积，从而消除了爆炸压力重迭，增强了产品的防爆性能；各回路可以自由选择、拼装；体积小，整齐、美观，占用安装现场空间较少；重量轻，安装、维护方便。
 - 外壳采用ZL102铸造铝合金压铸而成，产品防腐能力、抗冲击性能强，外壳防爆性能好，产品上采用标识有永久“Ex”防爆标志。
 - 产品主要结构由壳体、壳盖、智能网关、光纤收发器等组成。
 - 控制器支持星状网拓扑，终端设备通过射频信号将数据上传到控制器处控制器通过4G或以太网将终端上传的信息上传至服务器处，使得通信范围更加广泛，因此在解决方案中可以大大减少中继器的部署，使得方案成本更低，部署更加简单。控制箱应用成熟的工业级无线通讯及简洁、高效、低故障率的通讯技术，实现了对灯具信息的汇总和转发。可对灯具进行单独控制、分组控制、网关群控，满足了客户多样化使用需求。在灯具发生故障时，能自动上报智能照明管理控制系统，实现自动存档备查；上行支持光纤或无线通讯，下行采用无线通讯(Zigbee/LoRa)；具有内置智能无线网关带载能力，使每个防爆智控箱控制智能灯具在250套以上。选用的无线网关及路灯控制器通讯距离远、抗干扰能力强、功耗低、组网灵活，可一点对多点及多点对多点之间的设备间数据传输，组成星型网、网状网等网络结构。并能实时对灯具进行电流、电压、功率、频率、温度检测。
 - 控制器的主要性能如下：
 - a) 具有远距离、低功耗、多节点、单节点的特性；
 - b) 支持2G/3G/4G及TCP/IP等多种网络接入方式；
 - c) 自适应数据传输速率；
 - d) 防雷保护；
 - e) 支持CN470MHZ/US915MHZ/EU868MHZ等多种工作频率；
 - f) 实现多频点、多通道的同时接收；
 - g) 密封式设计，防尘防水；
 - h) 每台控制器可带灯数量大于250盏。
 - 所有接线端子为菲尼克斯或魏德米勒品牌的产品。
 - 所有外露紧固件均采用不锈钢材质。
 - 电缆进出线方向，可根据用户要求做成上进上出、下进下出、上进下出、下进上出等多种形式。
 - 进出线口通常采用管螺纹，配置电缆夹密封装置；也可根据用户现场要求，制成公制螺纹、NPT螺纹等形式。
 - 钢管、电缆布线均可。
 - 户外使用的产品可根据用户要求配置防雨罩，材料选用不低于牌号为SUS304的不锈钢板制作，厚度1.5mm，前突出应高于盘面最高点120mm，两侧应各宽于本体50mm。
 - 安装方式一般为挂式，特殊要求时可制成立式、座式或配电柜式。
1. The switch cavity adopts flameproof structure, and the inlet and outlet cavity adopts safety type structure. Modular combination between each cavity, the cavity is not connected to each other, reduce the net volume of a single cavity, so as to eliminate the explosion pressure overlap, enhance the explosion-proof performance of the product; Each circuit can be freely selected and assembled; Small volume, neat, beautiful, occupy less space on the installation site; Light weight, easy installation and maintenance.

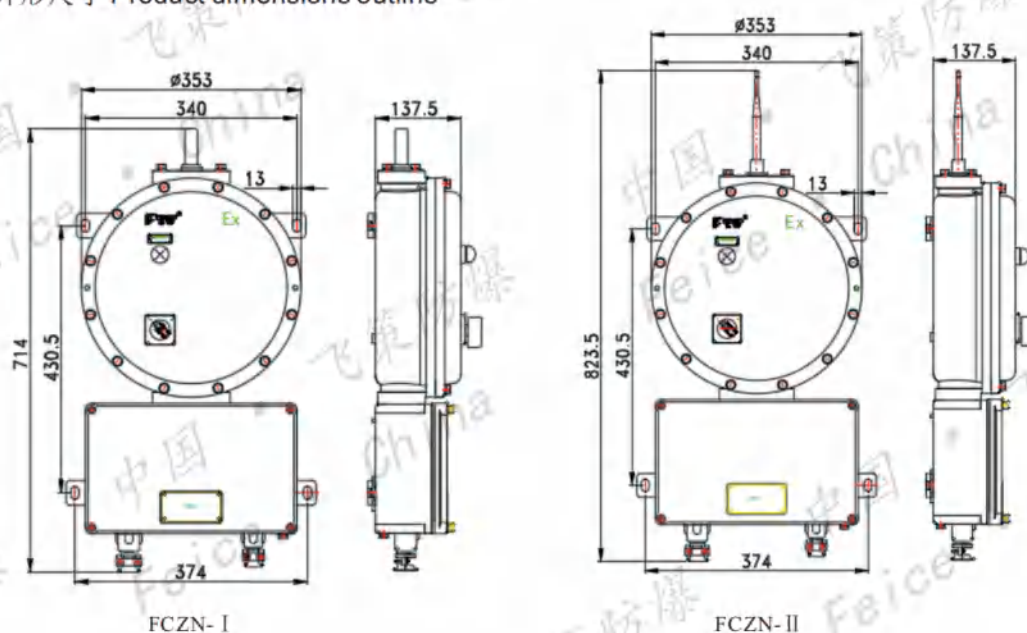
FCZN系列防爆智能控制器

FCZN series explosion proof master controller



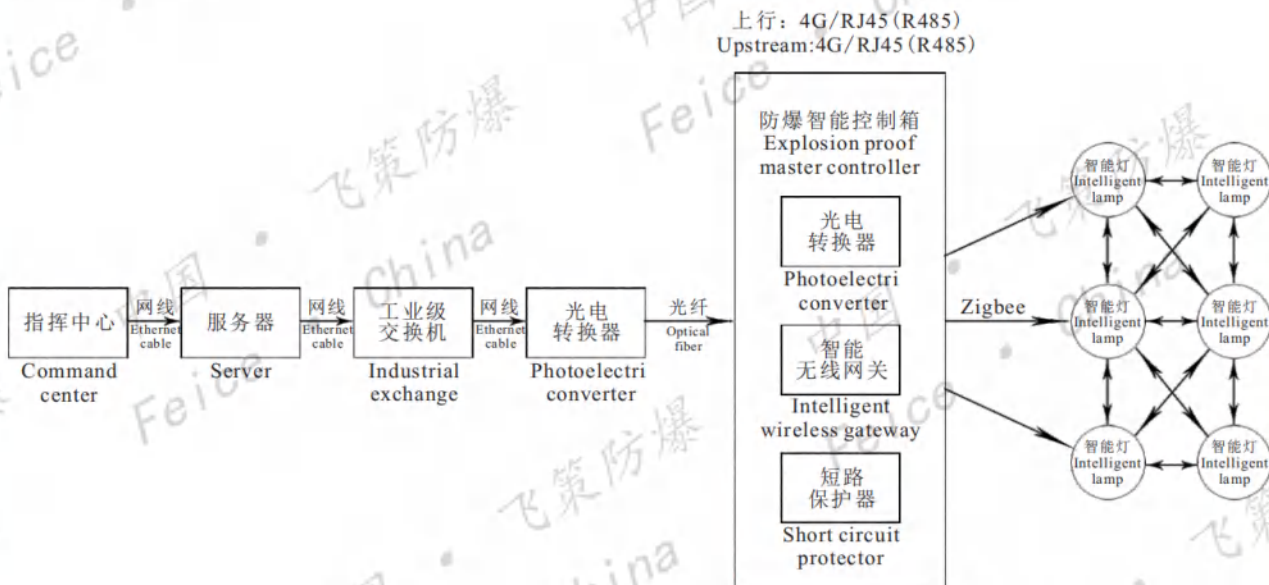
2. The shell is made of ZL102 casting aluminum alloy die-casting, the product anticorrosion ability, impact resistance is strong, the shell explosion-proof performance is good, the product is marked with permanent "Ex" explosion-proof mark.
3. The main structure of the product is composed of shell, shell cover, intelligent gateway, optical transceiver and so on.
4. Controller supports star network topology, terminal equipment through radio frequency signal upload data to the controller in the controller by 4 g or Ethernet will upload information uploaded to the server terminal, wide range of communication range, so in the solution can greatly reduce the deployment of repeater, made plan cheaper, more simple deployment.
The control box uses mature industrial wireless communication and simple, efficient and low failure rate communication technology to realize the collection and forwarding of lamp information. The lamps can be controlled individually, grouped and gateway group to meet the diversified use needs of customers. In the lamp failure, can automatically report to intelligent lighting management and control system, automatic archiving for future reference; Uplink supports optical fiber or wireless communication, downlink uses wireless communication (Zigbee/LoRa); With built-in intelligent wireless gateway carrying capacity, each explosion-proof intelligent control box can control more than 250 sets of intelligent lamps. The wireless gateway and street lamp controller selected have long communication distance, strong anti-interference ability, low power consumption and flexible networking, which can transmit data between devices from point to point or from point to point, forming star network, mesh network and other network structures. And it can detect current, voltage, power, frequency and temperature of lamps in real time.
5. The main performance characteristics of the controller are as follows:
 - a) Features of long distance, low power consumption, multi-node and single-node;
 - b) Support 2G/3G/4G, TCP/IP and other network access modes;
 - c) Adaptive data transmission rate;
 - d) Lightning protection;
 - e) Support CN470MHZ US915MHZ/EU868MHZ etc. Various working frequency;
 - f) Realize the simultaneous reception of multi-frequency points and multi-channels;
 - g) Sealed design, dustproof and waterproof;
 - h) Each controller can be equipped with more than 250 lamps.
6. All terminals are phoenix or Weidmuller brand products.
7. All exposed fasteners are made of stainless steel.
8. The direction of cable inlet and outlet can be made into upper and lower outlet, lower and lower outlet, upper and lower outlet and other forms according to user requirements.
9. Inlet and outlet usually adopt pipe thread, equipped with cable clamping sealing device; It can also be made into metric thread, NPT thread and other forms according to user's site requirements.
10. Steel pipe, cable wiring.
11. Outdoor products can be configured according to user requirements of the rain cover, material selection is not less than the brand SUS304 stainless steel plate production, thickness 1.5mm, the front prominent should be higher than the highest point of the disk 120mm, both sides should be wide than the body 50mm.
12. The installation method is generally hanging, special requirements can be made into vertical, seat type or distribution cabinet type.

产品外形尺寸 Product dimensions outline



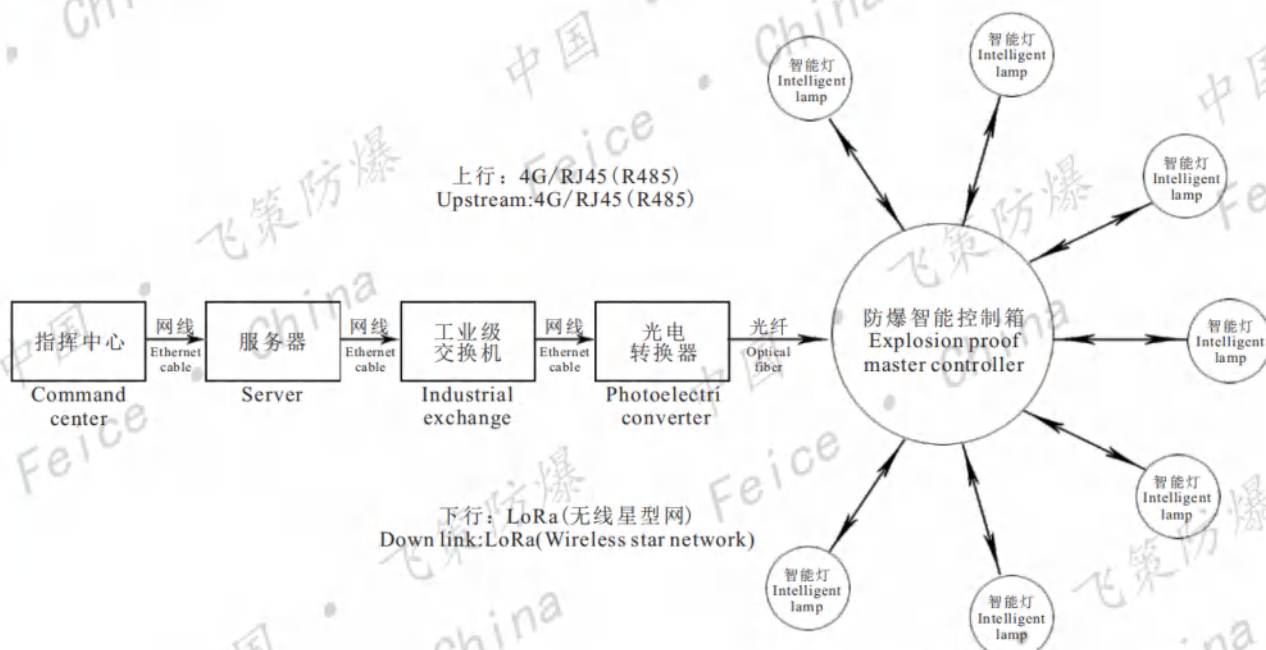
■ 系统网络拓扑图 System network topology

1. Zigbee



下行: Zigbee (无线星型网/网状网等mesh网络)
每个节点可以收发数据, 同时担任其他节点的路由器。
Down link: Zigbee (Mesh networks such as wireless star network and mesh network)
Each node can send and receive data and act as a router for other nodes

2. LoRa



下行: LoRa (无线星型网)
Down link: LoRa (Wireless star network)

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FCZN series explosion proof master controller



■ (Zigbee/LoRa) 参数表 (Zigbee/LoRa) Parameters list

名称 Name	参数值 Parameters value	备注 Note
射频功率 (W) Frequency power	<2	<33dBm
天线类型 Antenna type	外置 External	
采集数据 Collect data	U、I、P、Q、COSΦ	
通讯距离 (m) Communication distance	Zigbee 150~1500	一般环境条件下 Under general environmental conditions
	LoRa 1000~3000	
单网节点容量 Capacity of a single network node	Zigbee 200~500	一般条件下 (单网关) Under general environmental conditions (Single gateway)
	LoRa 500~5000	
适用范围 Adaptive range	Zigbee常用于户内，如户外场景：可搭建自有网网络，小范围传感应用。 Zigbee is often used in indoor, such as outdoor scenes: can build its own network, small range of sensing applications.	
	LoRa常用于户外场景：可搭建自有网网络，大面积传感应用。 LoRa is commonly used in outdoor scenarios: can build its own network, large area sensing applications.	
安装方式 Installation	内置灯具隔爆腔（电源腔） Built-in lamp flameproof cavity (power supply cavity)	

■ 智能照明系统其它主要配置 Other main configuration of intelligent lighting system

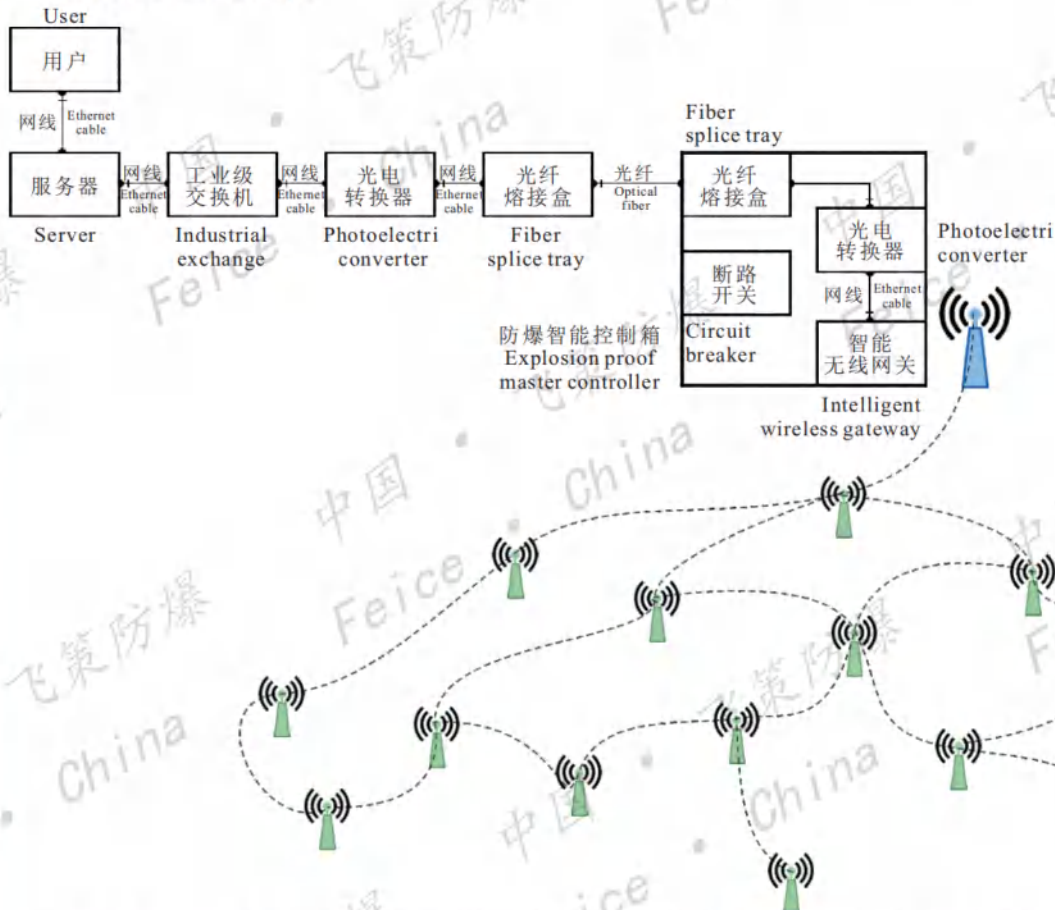
电脑配置 Computer configuration	操作系统 Operating system	Windows server 2012以上版本 Windows server 2012 above version
	处理器 Processor	E5-2620V4
	内存 Memor	16Gx2
	硬盘 Hard disk	900GSA
	阵列卡 Array card	H730RAID卡 H730RAID card
	光驱 Drive	DVDRW
	电源 Power supply	495W
	显示器 Display	键盘、鼠标 Keyboard and mouse
防爆智能控制箱 Explosion proof master controller	防爆标志 Explosion-proof marks	Ex d e II C T6 Gb/Ex tD A21 IP66 T80℃
	内部配置 Internal configuration	网关、短路保护器、光电转换装置等 Gateway, short circuit protector, photoelectric conversion device, etc

防爆智能照明管控系统

■ 防爆智控箱电气接口 Explosion-proof intelligent control box electrical interface

防爆智控箱内装智能无线网关及光电转换器，并具有短路保护功能、智能天线外置、支架式安装，具有与智能灯相同的防爆参数；可与其进入同样的危险区域进行安装、运行，进一步提升单台智控箱控制灯具数量的能力。

Explosion-proof intelligent control box is equipped with intelligent wireless gateway and photoelectric converter, and has short-circuit protection function, intelligent antenna external, support type installation, with the same explosion-proof parameters as the intelligent lamp; It can be installed and operated in the same dangerous area to further improve the ability of a single intelligent control box to control the number of lamps.

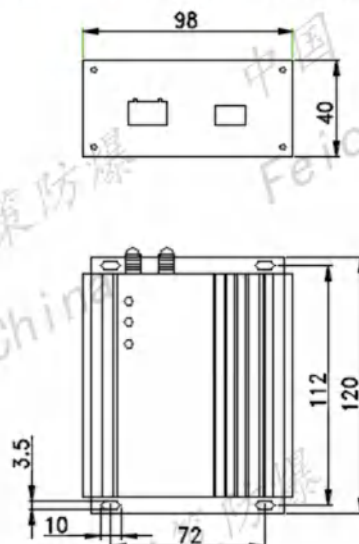


含Zigbee/LoRa天线接口、引入装置、安装方式（支架式）、短路保护器操作方式等，具有光缆过渡连接方式。

Including Zigbee/LoRa antenna interface, introduction device, installation mode (bracket type), short circuit protector operation mode, with optical cable transition connection mode.

■ 智能网关外形安装尺寸及接口 Appearance, installation dimensions, and ports of the intelligent gateway

1. 外形尺寸 Overall dimensions

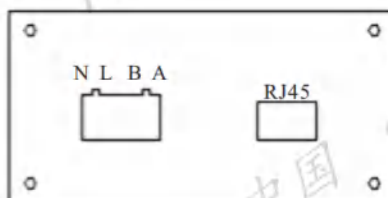
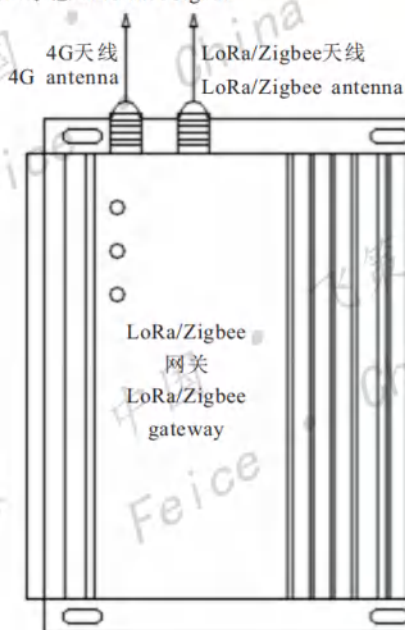


FCZN系列防爆智能控制器

FCZN series explosion proof master controller



2.接口示意 Interface signal



N 零线 Neutral wire
L 火线 Live wire
B 485通讯B接口 485 communication B interface
A 485通讯A接口 485 communication A interface
RJ45连接网络服务器 RJ45connecting to a Network Server

3.网关参数表 Gateway parameter list

额定电压 Rated voltage	AC86V~265V 50~60Hz
安装方式 Installation	螺丝固定/挂壁式 Screw fixation
通讯方式 Communication mode	LoRa/Zigbee/4G
网络接口 Network interface	Lan、2G/3G/4G
数据协议 Data protocol	TCP
环境温度 Environment temperature	-40~85℃
产品重量 Product weight	280g
天线类型 Antenna type	外置 External

■ 网关使用方法、步骤 Gateway usage method and procedure

1. 设备固定：内置于智能防爆控制箱（螺钉固定）；
1. Equipment fixation: built in intelligent explosion-proof control box (screw fixation);
2. 接控制线路；
2. Connect the control cable;
3. 插接天线；
3. Insert the antenna;
4. 供电；
4. The power supply;
5. 电脑端软件网址：58.251.88.164:1250；
5. PC software website: 58.251.88.164:1250;
6. 登陆账号，同时填写邀请码；
6. Log in and fill in the invitation code;
7. 添加设备，并输入产品编号；
7. Add a device and enter the product id;
8. 开始使用。
8. Start using.

注意事项：a.请勿接入过高电压电源；
b.请勿将天线放置于电箱内；
c.请勿接入功率过高的控制产品；
d.请勿将产品放置高温处。

Precautions:a.Do not connect to overvoltage power supply;
b.Do not place the antenna in the electrical box;
c.Do not connect control products with high power;
d.Do not place the product at high temperature.

防爆智能照明管控系统

■ 手机APP登陆 Mobile APP login

1. 下载手机APP软件;
2. 按要求步骤安装APP软件;
3. 进行账号注册;
4. 登陆后输入设备邀请码, 选择项目名称;
5. 点击“设备”, 选择添加到设备信息, 保存;
6. 刷新界面, 等待设备连接。

手机界面:

手机界面一: 首页, 显示总安装灯数量、时间、温度等;

手机界面二: 地图, 点击对应的灯具, 显示设备编码和名称;

手机界面三: 终端设备, 可进入控制每一盏灯的状态, 进行调光控制和数据采集等;

手机界面四: 故障显示和排除;

手机界面五: 我的相关参数。

Mobile phone interface:

Mobile phone interface 1: home page, display the total number of installed lights, time, temperature, etc.

Mobile phone interface 2: map: Click the corresponding lamp to display the device code and name;

Mobile phone interface 3: terminal equipment, can enter into the control of each lamp state, dimming control and data collection, etc.

Mobile phone interface 4: fault display and elimination;

Mobile phone interface 5: My relevant parameters.

■ 故障排除 Troubleshooting

现象 Phenomenon	故障的确认与处理方法 Recognition and treatment of applause
无电源输入 There is no power input.	请确认供电电源是否供上, 供电电压是否正常 Check whether the power supply is on and whether the power supply voltage is normal.
供电正常,但不能控制 The power supply is normal but cannot be controlled.	请确认外置天线放置处信号强度, 确认产品编号与APP控制网络编号是否一致 Please confirm the signal strength where the external antenna is placed and whether the product number is consistent with the APP control network number.
APP操作控制灯具成功, 但灯具不工作 APP successfully operated the control lamp, but the lamp did not work.	请确认产品控制线路是否接好, 灯具电源线正确接入 Please confirm whether the product control circuit is connected properly and the lamp power cord is connected correctly.
灯具能控制,但不能调光 Lamps can be controlled but not dimmed.	请确认灯具支持0~10V信号调光; 调光信号线正负极是否接反 Please confirm that the lamp supports 0~10V signal dimming; Whether the positive and negative terminals of the dimming signal cable are inversely connected.

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V1.0

著作权人： 飞策防爆电器股份有限公司

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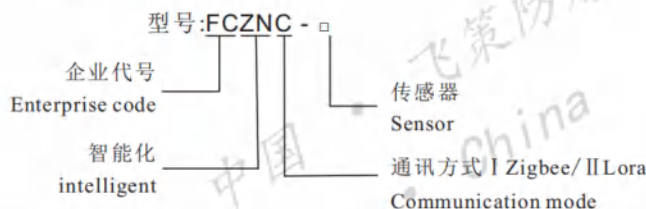
防爆智能照明管控系统

FC-ZN-C系列防爆智能传感器

FC-ZN-C series explosion proof intelligent sensor



型号规格含义 Model specifications implication



适用范围 Applications

1. 广泛用于石油开采、炼油、化工、海洋石油平台、油轮等易燃易爆气体环境，也用于军工、港口、粮食储存、金属加工等可燃性粉尘场所，用于系统电压为AC230V/AC220V智能照明控制场所线路中对智能照明灯具的远程监控以及数据采集等功能；
2. 适用于爆炸性气体环境的1区、2区；
3. 适用于II A、II B、II C类爆炸性气体环境；
4. 适用于可燃性粉尘环境的21区、22区；
5. 适用于防护要求较高、潮湿、含有腐蚀性气体的场所。

1. Widely used in flammable and explosive gas environments such as oil exploitation, oil refining, chemical industry, offshore oil platforms and oil tankers. It is also used in combustible dust places such as military industry, ports, grain storage and metal processing. It is used for remote monitoring and data acquisition of intelligent lighting lamps in the lines of intelligent lighting control places where the system voltage is AC230V / AC220V;
2. Suitable for explosive gas environment zone 1, zone 2;
3. Explosive atmosphere: class II A, II B, II C;
4. Suitable for combustible dust environment in the area 22, 21;
5. Suitable for high protection requirements, damp and containing corrosive gases places.

执行标准

GB3836.1、GB3836.2、GB12476.1、GB12476.5、IEC60079.0、IEC60079.1、IEC61241-0、IEC61241-1。

■ 主要技术参数 Main technical parameters

型号 Model	额定电压(V) Rated voltage	通讯方式 Communication mode	防爆标志 Ex-mark	防护等级 Degree of protection	电缆外径 Φ (mm) Cable outer dia.	进线口螺纹(G) Inlet thread
FC-ZN-C-Ⅰ	AC230/220V	Zigbee	Ex deⅡB/ⅡCT6 Gb Ex tD A21 IP66 T80℃	IP66	Φ10~Φ15	G3/4
FC-ZN-C-Ⅱ		Lora				
天线发射 功率/频率 Antenna transmission power / frequency	19±1dBm≈0.1W/2.4G		调光方式 Dimming mode	0-10V/PWM调光信号		
通讯距离 Communication distance	不小于1KM		标准及频段 Standard and frequency band	支持IEEE802.11b/g/n 标准		

注：* 特殊要求请注明 Note: * Please specify special requirements

■ 产品特点 Features

1. 本产品由防爆外壳、主腔、接线腔和内装转换传感器控制板以及外露无线控制用天线组成。防爆型式为复合型结构，采用ZL102铸铝压铸成型，表面喷塑。外接电缆通过引入装置接到接线端子上，接线腔内外均设有接地螺钉，用户使用该产品时须可靠接地，传感器主腔与接线腔壳盖处有密封条，使该产品的防护等级可达IP66。本产品与BYS-LED防爆防腐全塑荧光LED灯共同组成防爆智能LED灯具。
2. 工作电压输入：AC90~305V 频率50/60HZ。
3. 传感器采用低功耗通讯方式Zigbee或LoRa两种技术，具有通信距离长，灵敏度高，抗干扰性强和功耗低等特点，可实现一点对多点和多点对多点之间的设备间数据的传送；并能与物联网通讯相结合，能采集灯具的实时数据状态并经网关传送到云平台搭建无线2G/3G/4G以太网、WIFI等多种网络方式；可以与监控中心对数据进行分析 and 交互。
4. 具有电压、电流、频率、功率、温度检测的远程读取功能；同时具有过流过压保护、防雷击保护、灯具状况检测和灯具的开关以及调光功能。
5. 可以适用于各类型光源灯具，如LED灯、荧光灯、高压钠灯、金卤灯等。
6. 无线频段：2.4G ISM全球免费频段，无线通道16个，具备0~10V/PWM调光接口。

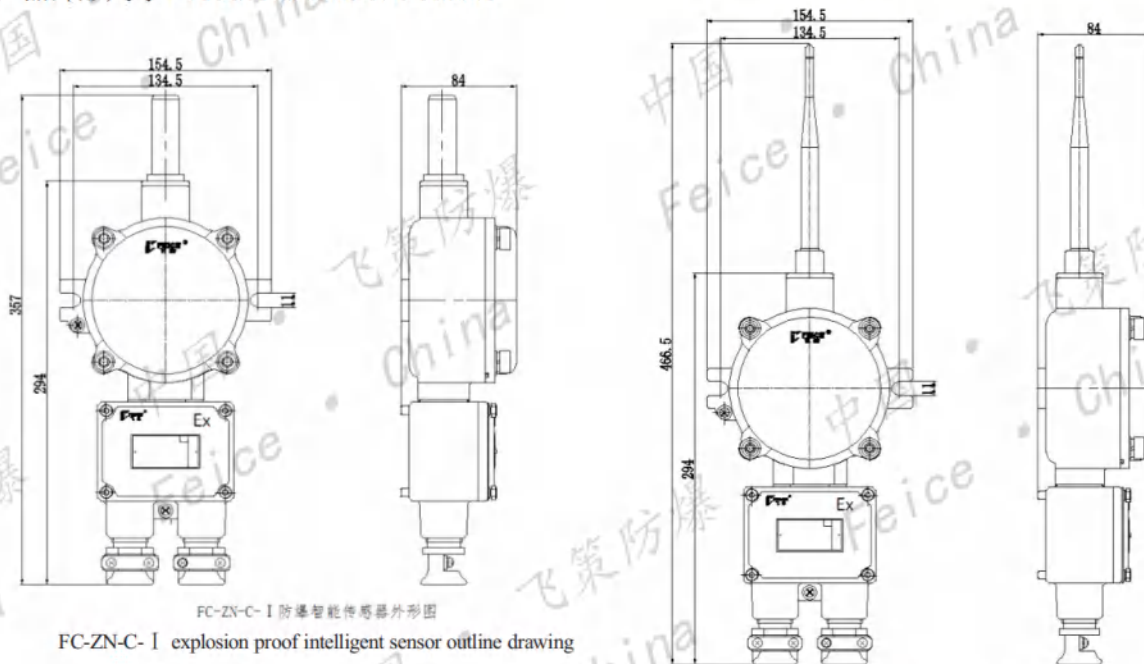
1. This product is composed of explosion-proof shell, main chamber, wiring chamber, built-in conversion sensor control board and exposed antenna for wireless control. The explosion-proof type is a composite structure, which is formed by ZL102 cast aluminum die-casting and sprayed with plastic on the surface. The external cable is connected to the wiring terminal through the lead-in device. Grounding screws are set inside and outside the wiring cavity. Users must be reliably grounded when using the product. There are sealing strips at the main cavity of the sensor and the shell cover of the wiring cavity, so that the protection grade of the product can reach IP66. This product and BYS-LED explosion-proof and anti-corrosion all plastic fluorescent LED lamp together form an explosion-proof intelligent LED lamp.
2. Working voltage input: AC90~305V, frequency 50 / 60Hz.
3. The sensor adopts two technologies of low-power communication mode Zigbee or LoRa, which has the characteristics of long communication distance, high sensitivity, strong anti-interference performance and low power consumption, and can realize the data transmission between one point to multipoint and multipoint to multipoint devices; It can be combined with Internet of things communication, collect the real-time data status of lamps and transmit it to the cloud platform through the gateway, and build a variety of network modes such as wireless 2G / 3G / 4G Ethernet and WiFi; It can analyze and interact with the monitoring center.
4. It has the remote reading function of voltage, current, frequency, power and temperature detection; At the same time, it has the functions of overvoltage protection, lightning protection, lamp condition detection, lamp switch and dimming.
5. It can be applied to various types of light source lamps, such as LED lamps, fluorescent lamps, high-pressure sodium lamps, metal halide lamps, etc.
6. Wireless frequency point: 2.4G ism global free frequency band, 16 wireless channels, with 0~10 V / PWM dimming interface.

FC-ZN-C系列防爆智能传感器

FC-ZN-C series explosion proof intelligent sensor



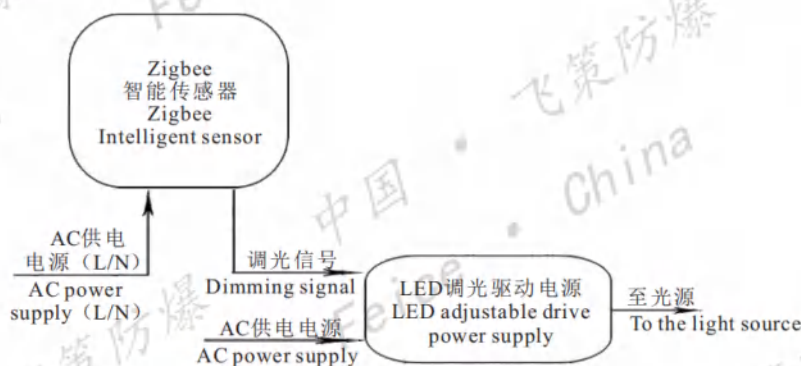
产品外形尺寸 Product dimensions outline



FC-ZN-C-I 防爆智能传感器外形图
FC-ZN-C-I explosion proof intelligent sensor outline drawing

FC-ZN-C-II 防爆智能传感器外形图
FC-ZN-C-II explosion proof intelligent sensor outline drawing

系统图 System diagram



FC-ZN-C-I 防爆智能传感器系统图
FC-ZN-C-I explosion proof intelligent sensor system diagram

接线箱X端子排
Terminal box X terminal block

1	2	3	4	5
红	黑		灰	白
L	N		U+	U-

电源AC230/220V
Supply AC230/220V

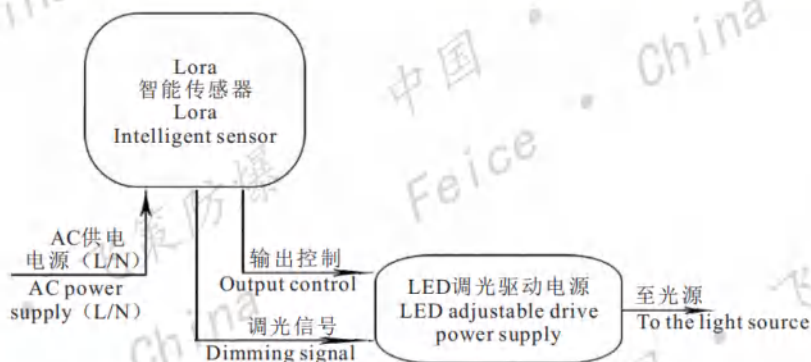
调光信号线
Dimming signal cable

电源接线端
Power terminal
红色 (L) : 火线输入
Red (L) : Live wire input
黑色 (N) : 零线
Black (N) : Neutral wire

调节信号接口
Regulating signal interface
红灰色 (U+) : 信号“U+”为正极
Cervinus (L) : Signal “U+” is positive
白色 (U-) : 信号“U-”为负极
White (U-) : Signal “U-” is negative

FC-ZN-C-I 防爆智能传感器端子接线示意图
FC-ZN-C-I explosion proof intelligent sensor terminal wiring diagram

防爆智能照明管控系统



FC-ZN-C-II 防爆智能传感器系统图
FC-ZN-C- I explosion proof intelligent sensor system diagram

接线箱X端子排
Terminal box X terminal block



电源AC230/220V
Supply AC230/220V

调光信号线
Dimming signal cable

电源接线端

调节信号接口

红色 (L) : 火线输入

白色 (D+) : 信号 “D+” 为正极

黑色 (N) : 零线

蓝色 (D-) : 信号 “D-” 为负极

黄色 (NO) : 火线输入 (控制线)

Yellow (NO) : Live wire input (control line)

FC-ZN-C-II 防爆智能传感器端子接线示意图
FC-ZN-C-II explosion proof intelligent sensor terminal wiring diagram

故障排除 Troubleshooting

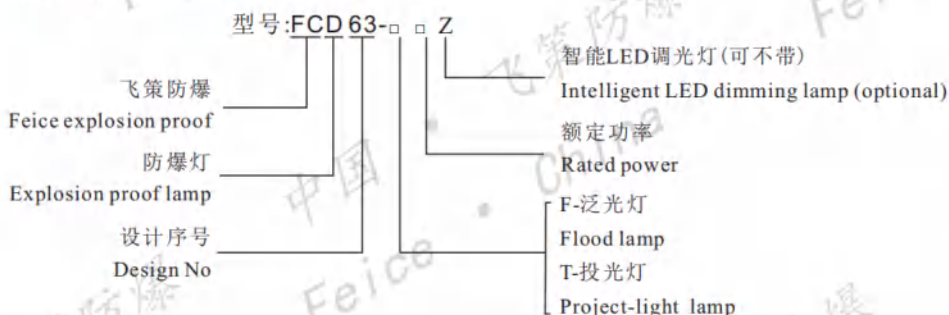
故障现象 Fault phenomenon	原因分析 Cause analysis	故障的确认和排除方法 Troubleshooting methods
无电源输入 There is no power input.	供电电源出线故障 The power supply is faulty.	请确认供电电源是否供上， 供电电压是否正常 Check whether the power supply is on and whether the power supply voltage is normal.
供电正常却不能控制 The power supply is normal but cannot be controlled.	产品编号和控制网络不一致 The product number is inconsistent with the control network.	请确认外置天线放置处信号是否良好， 并确认产品编号和控制网络是否一致 Please confirm whether the signal of the external antenna is good and whether the product number is consistent with the control network.
APP操作控制灯具成功， 但灯具不工作 APP successfully operated the control lamp, but the lamp did not work.	接线可能有误造成 Wiring may be wrong.	请确认产品控制线路是否连接完好， 确保灯具电源线正确接入 Please confirm whether the product control circuit is properly connected and ensure that the lamp power cord is correctly connected.
灯具能控制但不调光 Lamps can be controlled but not dimmed.	调光线路正负极接错或者掉线 The positive and negative poles of the dimming circuit are incorrectly connected or disconnected.	确认灯具是否支持0-10V信号调光 并确保信号线正负接线正确无误 Verify whether the lamp supports 0-10V signal dimming and ensure that the positive and negative signal cable connections are correct.

FCD63-系列防爆智能高效节能LED（路）灯（智能调光）

FCD63- series explosion-proof intelligence high efficiency energy saving LED (street) lamp (intelligent dimming)



型号规格含义 Model specifications implication



适用范围 Applications

1. 具有感光与远距无线通信智能管控两大智能模块，广泛用于石油开采、炼油、化工、军工等危险环境及海洋石油平台、油轮等场所作普通照明及作业照明之用；
 2. 适用于照明节能改造项目及检修更换困难的场所；
 3. 适用于爆炸性气体环境的I区、2区；
 4. 适用于II A、II B、II C类爆炸性气体环境；
 5. 适用于可燃性粉尘环境的21区、22区；
 6. 适用于防护要求较高，潮湿的场所；
 7. 适用于-50℃~+50℃环境。
1. It has two intelligent modules: photosensitive and remote wireless communication intelligent management and control, widely used in oil extraction, oil refining, chemical industry, military and other dangerous environment and offshore oil platforms, oil tankers and other places for common lighting and working lighting;
 2. Suitable for lighting energy saving renovation project and the replacement of difficult places;
 3. Suitable for explosive gas environment zone 1, zone 2;
 4. Explosive atmosphere: class II A, II B, II C;
 5. Suitable for combustible dust environment in the area 22, 21;
 6. Suitable for high protection requirements, damp places;
 7. Suitable for environments from -50℃ to +50℃.

执行标准 Accord with the standard for

GB3836. 1、GB3836. 2、GB12476. 1、IEC60079. 0、IEC60079. 1、IEC61241-0、IEC61241-1。

FCD63-系列防爆智能高效节能LED（路）灯（智能调光）

FCD63- series explosion-proof intelligent high efficiency energy saving LED (street) lamp (intelligent dimming)



主要技术参数 Main technical parameters

额定功率(W) Rated power	额定电压(V) Rated voltage	配光特性 Light distribution characteristics	显色指数 Ra Color render index	光效(lm/W) Luminance efficiency	色温 Color temperature	功率因数 Power factor	安装方式 Installation
20/30/40/50/60	AC220 Dc24* /DC36*	泛光型 Flood light type	≥80	≥120	3000~ 6500	≥0.95	吸顶式 Ceiling type 吊杆式 Suspender type 壁式 Wall type 平台式 Platform type 支架式 Stents type
70/80							路灯式 Street light type 支架式 Stents type
80/100/120		泛光型 Flood light type 投光型 Project-light type 路灯型 Street lamp type					
150/180							
200/240							
300/360							
400/480		支架式 Stents type					
环境温度 Environment temperature	防爆标志 Ex-mark	射频发射能量dBm Radio frequency emission energy	防护等级 Degree of protection	防腐等级 Degree of anticorrosive	电缆外径Φ (mm) Cable outer dia.	进线口螺纹(G) Inlet thread	
-50℃~+40℃	Ex d IIC T6 Gb Ex tD A21 IP66 T80℃	≤20	IP66	WF2	10~14	3/4	
-50℃~+50℃	Ex d IIC T5 Gb Ex tD A21 IP66 T95℃						

注：* 特殊要求请注明 Note: * Please specify special requirements

产品特点 Features

1. 铝合金压铸壳体，表面静电喷塑，外形美观。
2. 智能防爆LED灯具可按照智能照明系统的设置，实现开灯、关灯、调光等动作自动运行，无需人为控制。
3. 智能防爆LED灯具可附加人体感应功能，能够在感应到行人时，点亮所在区域的智能防爆灯具。
4. 智能灯具间隔距离可实现不小于300米有效通讯(Zigbee户外)，并能进行动态自组织、自配置、自维护、确保网络稳定通讯等突出特点。
5. 具有智能调光功能，可感知人体在被监控的范围内移动后，灯具按照设定的亮度进行切换。
6. 纯隔爆三腔复合结构，与外置智能传感器共同组成防爆智能LED灯具，适用于爆炸性气体和可燃性粉尘环境，防爆性能和光度性能卓越。
7. 高防腐性能的不锈钢外露紧固件。
8. 钢化玻璃透明罩，雾化防眩光设计，能承受高能量冲击，抗热聚变，透光率高达90%。
9. 先进的驱动电源技术，宽电压输入，具有恒流、开路保护、短路保护、浪涌保护等功。
10. 多颗国际品牌LED模块，专业光学软件设计的二次配光系统，光线均匀柔和，光效≥120lm/w，显色性高，寿命长，绿色环保。
11. 开放式的散热导风槽，有效散发光源和电源热量，确保灯具的使用寿命。
12. 灯具采用特殊的结构设计，表面采用户外型塑粉喷塑处理，防腐等级达到(湿热带型 TH)WF2，灯具能够四季全天候、连续可靠工作，整套灯具能完全适用于“热带和亚热带季风气候区的海洋性气候环境”的极限气候条件。
13. 灯具外壳所有连接处，均配置硅橡胶材质密封装置，防护等级达到 IP66，能有效防止喷水、雨淋，防止尘埃进入。
14. 灯具外壳隔爆接合面采用高精度数控机床加工，精度高，表面光滑，所有隔爆面均涂置 204-1 置换型防锈油，有效提升隔爆面的防腐性能。

防爆智能照明管控系统

15. 灯具外壳上设置专用的内、外接地端子，并标注专用接地符号，灯具各非导体金属部件连通一体，并用专用接地导线与接地端子连接，接地导线采用黄绿相间专用导线。
16. 灯具、灯杆及安装附件表面采用户外型塑粉喷塑处理，通过高低温、湿热交变及户外防强腐蚀试验，防腐等级达(湿热带型TH)户外防强腐蚀型 WF2，具备户外防湿热强腐蚀的能力。
17. 可提供灯具各种功率的配光曲线，为买方提供照明模拟设计方案。
18. 灯具采用多颗分布式 LED 光源，LED 芯片采用“科锐”或“欧司朗”品牌，采用透镜配光，光线柔和、均匀，光源光效大于 120LM/W，显色性Ra>80；寿命长，光衰低，理论寿命大于 60000 小时。
19. 灯具采用宽电压输入 (AC90V~280V)，配置恒功率输出恒流驱动电源，具有开路、短路、热保护、防雷、防浪涌等保护功能；灯具可瞬间启动，光通量输出恒定，50000小时光通量维持率大于80%。

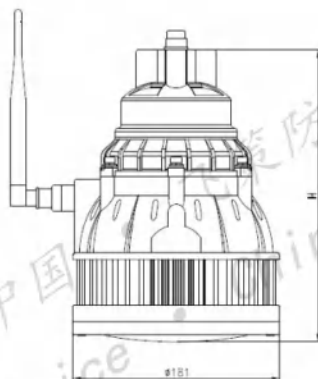
1. Aluminum alloy die-casting shell, electrostatic plastic spraying on the surface, beautiful appearance.
2. Intelligent explosion-proof LED lamps can realize automatic operation of turning on, turning off and dimming according to the setting of intelligent lighting system without manual controle.
3. Intelligent explosion-proof LED lamps can be attached with human body sensing function, which can light up the intelligent explosion-proof lamps in the area when sensing pedestrians.
4. The distance between intelligent lamps can realize effective communication (ZigBee outdoor) of no less than 300m, and can carry out dynamic self-organization, self configuration, self maintenance, ensuring stable network communication and other outstanding characteristics.
5. With intelligent dimming function, it can sense that after the human body moves within the monitored range, the lamps will switch according to the set brightness.
6. Pure flameproof three chamber composite structure, together with external intelligent sensor, forms an explosion-proof intelligent LED lamp, which is suitable for explosive gas and combustible dust environment, with excellent explosion-proof performance and photometric performance.
7. Stainless steel exposed fasteners with high corrosion resistance.
8. Tempered glass transparent cover, atomization anti glare design, can withstand high-energy impact, anti thermal fusion, and the light transmittance is as high as 90%.
9. Advanced driving power technology, wide voltage input, constant current, open circuit protection, short circuit protection, surge protection and other functions.
10. Multiple international brand LED modules, secondary light distribution system designed by professional optical software, uniform and soft light, light efficiency $\geq 120\text{lm/W}$, high color rendering, long service life, green and environmental protection.
11. The open heat dissipation air duct can effectively dissipate the heat of the light source and power supply to ensure the service life of the lamps.
12. The lamp adopts special structural design, and the surface is sprayed with outdoor plastic powder. The anti-corrosion grade reaches (damp hot zone th) WF2. The lamp can work continuously and reliably in all seasons. The whole set of lamps can be fully applicable to the extreme climate conditions of "marine climate environment in tropical and subtropical monsoon climate area".
13. All connections of the lamp shell are equipped with silicone rubber sealing device, and the protection grade reaches IP66, which can effectively prevent water spraying, rain and dust from entering.
14. The flameproof joint surface of the lamp shell is processed by high-precision CNC machine tool with high precision and smooth surface. All flameproof surfaces are coated with 204-1 replacement antirust oil to effectively improve the anti-corrosion performance of the flameproof surface.
15. Special internal and external grounding terminals are set on the lamp shell, and special grounding symbols are marked. All non-conductive metal parts of the lamp are connected into one, and connected with the grounding terminal with special grounding conductor. The grounding conductor adopts yellow and green special conductor.
16. The surfaces of lamps, poles and installation accessories are sprayed with outdoor plastic powder. Through high and low temperature, damp heat alternation and outdoor strong corrosion protection test, the anti-corrosion grade reaches (damp heat belt type th) outdoor strong corrosion protection WF2, which has the ability of outdoor wet heat strong corrosion protection.
17. It can provide light distribution curves of various power of lamps and provide lighting simulation design scheme for the buyer.
18. The lamp adopts multiple distributed LED light sources, the LED chip adopts "Kerui" or "OSRAM" brand, and adopts lens light distribution. The light is soft and uniform, the light efficiency of the light source is greater than 120lm/W , and the color rendering $RA > 80$; Long service life, low light attenuation, and the theoretical service life is more than 60000 hours.
19. The lamps adopt wide voltage input (AC90V ~ 280v) and are equipped with constant power output and constant current driving power supply, with open circuit, short circuit, thermal protection, lightning protection, surge protection and other protection functions; The lamp can be started instantly, the luminous flux output is constant, and the luminous flux maintenance rate of 50000 hours is greater than 80%.

FCD63-系列防爆智能高效节能LED（路）灯（智能调光）

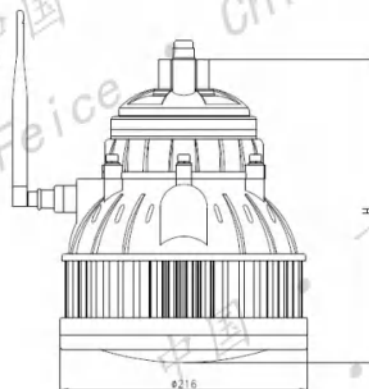
FCD63- series explosion-proof intelligent high efficiency energy saving LED (street) lamp (intelligent dimming)



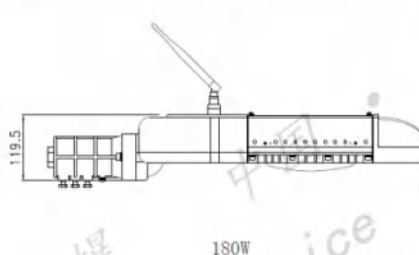
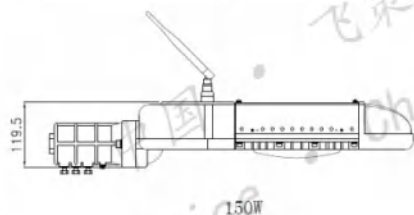
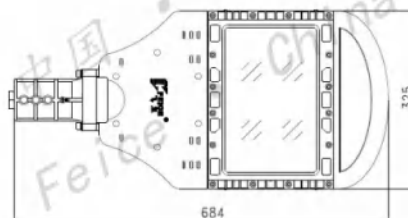
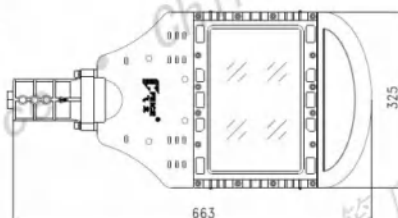
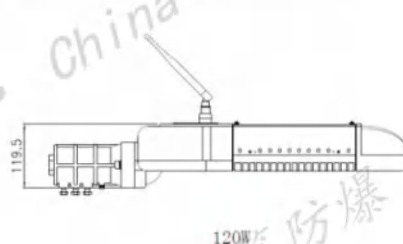
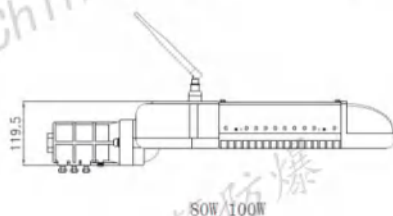
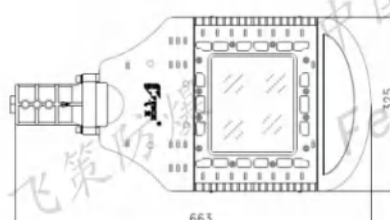
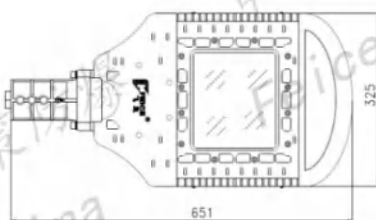
产品外形尺寸 Product dimensions outline



高度H (灯具功率)	
240mm	20、30W
256mm	40、50W
266mm	60W



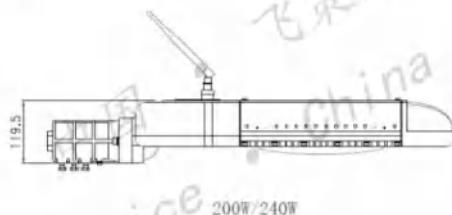
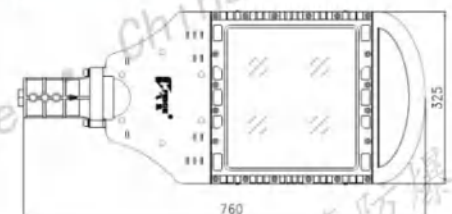
高度H (灯具功率)	
255mm	70、80W
265mm	100W



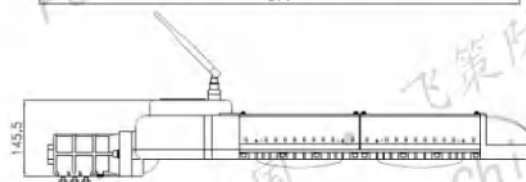
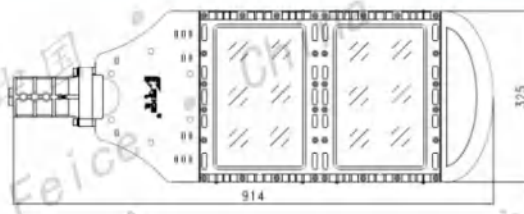
防爆智能照明管控系统

FCD63-系列防爆智能高效节能LED（路）灯（智能调光）

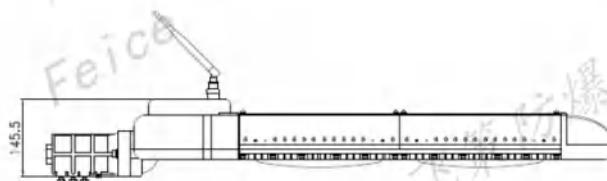
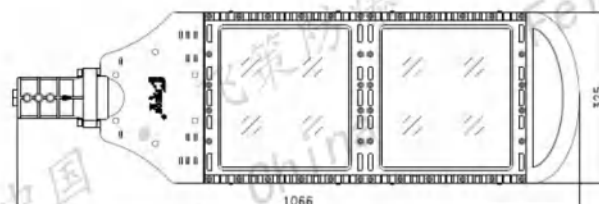
FCD63- series explosion-proof intelligence high efficiency energy saving LED (street) lamp (intelligent dimming)



200W/240W

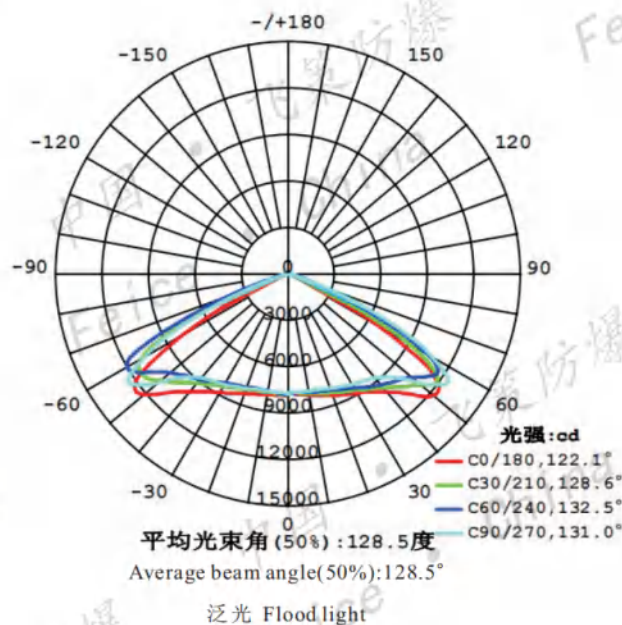
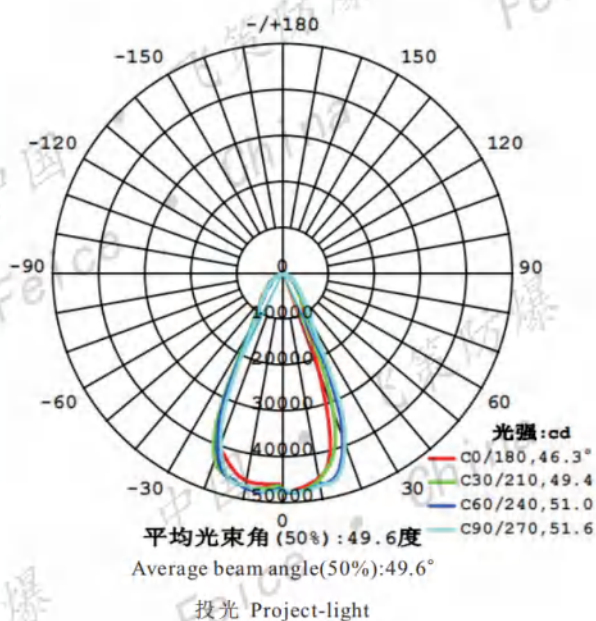


300W/360W



400W/480W

■ 配光曲线 Luminous distribution curve





型号规格含义 Model specifications implication

型号: BYS - □ □ X □ □ □ □ WF2	
防爆	户外防强腐蚀
Explosion proof	Outdoor strong corrosion protection
全塑灯具	S-钢管布线 Wiring with steel tube
Full plastic lamp	(电缆布线可不注) (No marking if cable)
LED灯管	E-配电子镇流器 With electronic ballast
LED tube	X-吸顶式 Ceiling type
单管功率	G-吊杆式 Suspender type
Power of single tube	Z-支架式 Stents type
灯管数	B1-壁式安装30° Wall type30°
Nos. of tube	B2-壁式安装45° Wall type45°
J-应急 (不带不注)	B3-壁式安装60° Wall type60°
J-Emergency (No marking if without)	D-吊链式 Chain hanging type

适用范围 Applications

1. 广泛用于石油开采、炼油、化工、军工等危险环境及海洋石油平台、油轮等场所作普通照明及作业照明之用;
2. 适用于爆炸性气体环境的1区、2区;
3. 适用于II A、II B、II C类爆炸性气体环境;
4. 适用于可燃性粉尘环境的21区、22区;
5. 适用于防护要求较高、潮湿、含有腐蚀性气体的场所;
6. 适用于照明节能改造项目及检修更换困难的场所。

执行标准 Accord with the standard for

GB3836. 1、GB3836. 2、GB12476. 1、GB12476. 5、IEC60079. 0、IEC60079. 1、IEC61241-0、IEC61241-1.

BYS-LED系列防爆智能全塑荧光LED灯

BYS-LED series explosion-proof intelligent plastic fluorescent LED lamp



主要技术参数 Main technical parameters

型号 Model	单管功率(W) Power of single tube	防爆标志 Ex-mark	防护等级 Degree of protection	防腐等级 Degree of anticorrosive	电缆外径Φ (mm) Cable outer dia.	灯管类型 Lamp type
BYS- LED□×(1~3)(J)	9、12、18	Ex de q II C T4 Gb Ex de II C T6 Gb Ex tD A21 IP66 T80℃	IP66	WF2	8~14	LED
色温 Color temperature	光效(lm/W) Luminance efficiency	功率因数 Power factor	显色指数 Ra Color render index	射频发射能量dBm Radio frequency emission energy	应急功率 (W) Emergency power	应急时间 (min) Emergency time
3000K~6500K	≥120	≥0.95	≥80	≤20	9、18	≥90

注：* 特殊要求请注明 Note: * Please specify special requirements

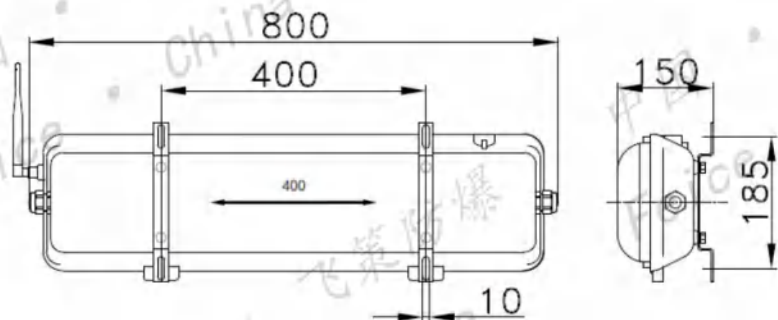
产品特点 Features

1. 本产品防爆型式为隔爆、增安、充砂复合型（荧光灯管）或隔爆、增安复合型（LED灯管）。外壳为增安型结构，内部元件采用防爆元件与外置智能传感器共同组成防爆智能LED灯具。
 2. 外壳采用玻璃纤维增强不饱和聚酯树脂(SMC工程塑料)钢模压制而成，全塑结构，具有强度高，耐冲击（可承受7J冲击），防水，防尘，防腐蚀，抗静电等优点，外壳颜色为白色。
 3. 智能防爆LED灯具可按照智能照明系统的设置，实现开灯、关灯、调光等动作自动运行，无需人为控制。
 4. 智能防爆LED灯具可附加人体感应功能，能够在感应到行人时，点亮所在区域的智能防爆灯具。
 5. 智能灯具间隔距离可实现不小于300米有效通讯(Zigbee户外)，并能进行动态自组织、自配置、自维护、确保网络稳定通讯等突出特点。
 6. 具有智能调光功能，可感知人体在被监控的范围内移动后，灯具按照设定的亮度进行切换。
 7. 灯罩采用聚碳酸酯材质压制而成，具有透光率高，不易变色，耐冲击防腐蚀等优点。
 8. 密封橡皮采用聚氨酯双组份密封胶条连续线浇制作，防水防尘性能高。
 9. 本灯具设有开盖自动断电联锁装置，当打开灯罩时，连锁装置能自动切断内部电源，确保人身安全，开关采用特制的防爆元件。
 10. 灯具设有专门的开锁工具，具有快速开盖功能，便于用户快捷地维修、检测、更换灯管。
 11. 宽电压输入，恒功率输出，具有开路、短路保护功能。
 12. 灯具内部设有独立接地端子，让灯具内部的非带电金属部件可靠接地。
 13. 可根据用户要求配备应急装置，作为事故应急及正常照明两用灯，起跳时间短，应急时间长达90分钟，应急灯正常供电时自动充电，事故断电时或停电时自动启动点亮。
 14. 所有外露紧固件为不锈钢材质。
 15. 本灯具安装方式有：吊链式(D)，吊杆式(G)，吸顶式(X)，法兰式，护栏式，弯杆式，壁式等。
1. The product explosion-proof type for flameproof, increase safety, sand filling compound (fluorescent lamp tube) or flameproof, increase safety compound (LED lamp tube). The shell is of increased safety type structure, the internal components are explosion-proof components and external intelligent sensors together to form explosion-proof intelligent LED lamps.
 2. The shell is made of glass fiber reinforced unsaturated polyester resin (SMC engineering plastic) steel mold, full plastic structure, with high strength, impact resistance (can withstand 7J impact), waterproof, dustproof, corrosion prevention, antistatic and other advantages, the color of the shell is white.
 3. Intelligent explosion-proof LED lamps can operate automatically according to the Settings of intelligent lighting system, such as turning on, turning off, dimming, etc., without manual control.
 4. Intelligent explosion-proof LED lamps can add human body sensing function, can sense pedestrians, light up the area of intelligent explosion-proof lamps.
 5. Intelligent lamps and lanterns interval distance can achieve not less than 300 meters effective communication (Zigbee outdoor), and can carry out dynamic self-organization, self-configuration, self-maintenance, ensure network stability communication and other prominent features.
 6. With intelligent dimming function, can sense the human body in the monitored range of movement, the lamp according to the set brightness switch.

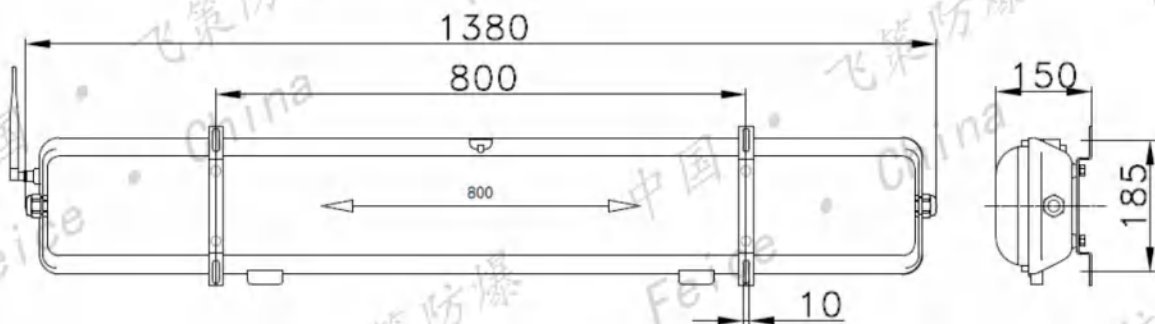
防爆智能照明管控系统

7. The lampshade is made of polycarbonate material, which has the advantages of high light transmittance, not easy to change color, impact resistance and corrosion resistance.
8. Sealing rubber is made of polyurethane two-component sealing rubber strip continuous line casting production, waterproof and dustproof performance is high.
9. The lamp is equipped with open cover automatic power interlocking device, when opened lampshade, interlocking device can automatically cut off the internal power supply, to ensure personal safety, switch with special explosion-proof componentse.
10. The lamp is equipped with a special unlocking tool, with a quick opening function, convenient for users to quickly repair, detection, replacement lamp tube.
11. Wide voltage input, constant power output, with open circuit, short circuit protection function.
12. The lamp is equipped with an independent grounding terminal, so that the internal non-live metal parts of the lamp can be reliably grounded.
13. Can be equipped with emergency device according to user requirements, as an accident emergency and normal lighting dual-use lamp, short take-off time, emergency time up to 90 minutes, emergency lamp automatically charge when normal power supply, accident or power failure automatically start lighting.
14. All exposed fasteners are made of stainless steel.
15. The lamps and lanterns installation methods are: hanging chain type (D), boom type (G), suction type (X), flange type, guardrail type, bent rod type, wall type, etc

■ 产品外形尺寸 Product dimensions outline



BYS-LED 18×2



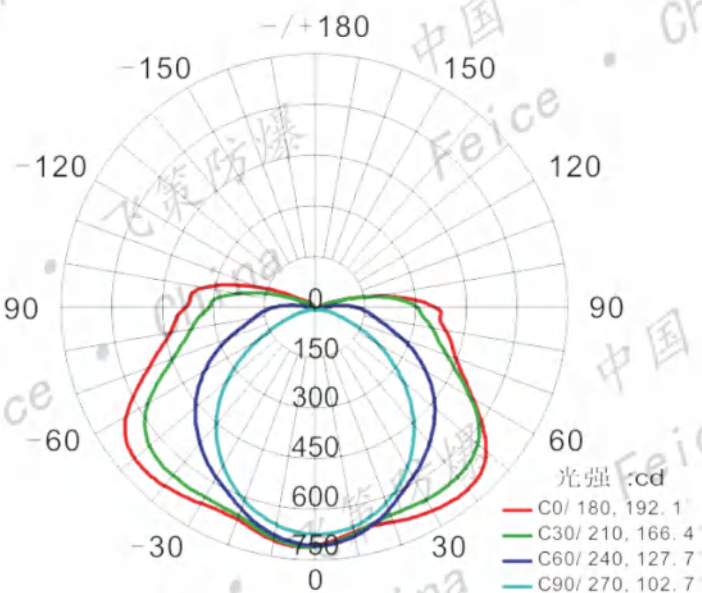
BYS-LED 18×2

BYS-LED系列防爆智能全塑荧光LED灯

BYS-LED series explosion-proof intelligent plastic fluorescent LED lamp



■ 配光曲线 Luminous distribution curve



平均光束角(50%):147.2度
Average beam angle(50%):147.2°

■ 订货须知 Ordering note

1. 按照型号规格含义中的规则逐条进行选择，并在型号规格含义后增加防爆标志。具体体现为：“产品型号-规格代码+防爆标志+订购数量”。例如需要隔爆型路灯灯30W，数量20套，则订货为：“型号：BAD63-规格：20P+Ex d IIC T6 Gb+20”。
 2. 选定安装形式及配件见灯具选型手册中P431~P440页。
 3. 如有特殊需求，需在订购时详细指明。
1. Select one by one according to the rules in the meaning of the model specifications, and add the explosion-proof mark after the meaning of the model specification. The specific embodiment is: "product model - specification code + explosion-proof mark + order quantity". For example, if the explosion-proof street light is 30W and the number is 20 sets, the order is: "Model: BAD63-Specification: 20P+Ex d IIC T6 Gb+20".
 2. For the selected installation form and accessories, see P431~P440 in the Lamp Selection Manual.
 3. If there are special needs, please specify in the order.

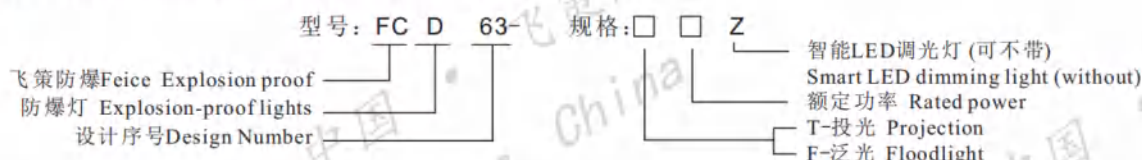
防爆智能照明管控系统

FCD63-系列防爆高效节能LED灯(智能调光)

FCD63-series explosion-proof high-efficiency energy-saving LED lights (smart dimming)



型号规格含义 Model specifications implication



适用范围 Applications

1. 广用于石油开采、炼油、化工、军工等危险环境及海洋石油平台、油轮等场所作普通照明及作业照明之用;
 2. 适用于照明节能改造项目及检修更换困难的场所;
 3. 适用于爆炸性气体环境的1区、2区;
 4. 适用于IIA、IIB、IIC类爆炸性气体环境;
 5. 适用于可燃性粉尘环境的21区、22区;
 6. 适用于防护要求较高,潮湿的场所;
1. It is widely used in dangerous environments such as oil exploration, oil refining, chemical industry, military industry, offshore oil platforms, oil tankers and other places for general lighting and operation lighting;
 2. Applicable to lighting energy-saving renovation projects and places where maintenance and replacement is difficult;
 3. Applicable to Zone 1 and Zone 2 of explosive gas environment;
 4. Applicable to IIA, IIB, IIC explosive gas environment;
 5. Applicable to areas 21 and 22 of flammable dust environment;
 6. Applicable to places with high protection requirements and humidity;

主要技术参数 Main technical parameters

执行标准 Executive standard	GB3836.1 、 GB3836.2 、 GB12476.1 、 GB12476.5
防爆标志 Explosion-proof mark	Ex d IIB / IIC T6 Gb, Ex tD A21 IP66 T80 °C
额定电压 Rated voltage	AC220V 、 DC24V 、 DC36V
额定功率 Rated Power	20W~240W
防护等级 Protection Level	IP65 、 IP66
防腐等级 Anti-corrosion Grade	WF1 、 WF2
引入装置 Introduction Device	G3/4"
适用电缆外径 Applicable Cable Outer Diameter	Φ 10 ~ Φ 14mm

产品结构及特点 Featrues

1. 铝合金压铸壳体,表面静电喷塑,外形美观。
2. 具有智能调光功能,可感知人体在被监控的范围内移动后,灯具按照设定的亮度进行切换
3. 纯隔爆三腔复合结构,适用于爆炸性气体和可燃性粉尘环境,防爆性能和光度性能卓越。
4. 高防腐性能的不锈钢外露紧固件。
5. 钢化玻璃透明罩。雾化防眩光设计,能承受高能量冲击,抗热聚变,透光率高达 90% 。
6. 先进的驱动电源技术,宽电压输入,具有恒流、开路保护、短路保护、浪涌保护、等功能。
7. 多颗国际品牌 LED 模块,专业光学软件设计的二次配光系统,光线均匀柔和,光效 $\geq 120lm/w$,显色性高,寿命长,绿色环保。

防爆高效节能灯具

8. 开放式的散热导风槽,有效散发光源和电源热量,确保灯具的使用寿命。

9. 先进的密封技术,确保在防护要求高,潮湿的环境正常长期运行。

10. 独特设计的支架调节机构,可根据要求调节照射角度。

1. Aluminum alloy die-casting shell, the surface is electrostatically sprayed, and the appearance is beautiful.

2. With intelligent dimming function, it can sense that the human body moves according to the set brightness after the human body moves within the monitored range.

3. Pure flameproof three-cavity composite structure, suitable for explosive gas and flammable dust environment, excellent in explosion-proof performance and photometric performance.

4. Stainless steel exposed fasteners with high corrosion resistance.

5. Tempered glass transparent cover. Atomized anti-glare design, able to withstand high energy impact, heat fusion, light transmittance up to 90%.

6. Advanced drive power technology, wide voltage input, with constant current, open circuit protection, short circuit protection, surge protection, etc.

7. A number of international brand LED modules, secondary optical distribution system designed by professional optical software, the light is even and soft, the light effect is $\geq 120\text{lm/w}$, the color rendering is high, the life is long, and the environment is green.

8. The open heat-dissipating air duct effectively radiates the light source and power supply heat to ensure the service life of the lamp.

9. Advanced sealing technology ensures long-term operation in high-protection, humid environments.

10. Uniquely designed bracket adjustment mechanism that adjusts the illumination angle as required.

■ 调光功能参数 Dimming function parameters

1. 调光感应距离: 16~30米;

2. 探测角度: $30^{\circ}\sim 170^{\circ}$;

3. 调光亮度: 有人感知100%, 无人感知10%、20%或0%, 可根据要求灵活调整0%~100%;

4. 调光延迟时间: 智能调光功能可感知人体在被监控的范围移动后, 即可实现亮度以5%~100%范围内的无极灯光调节, 人员离开后自行延迟30秒~120秒, 灯的亮度恢复到5%~20%的区间内工作。

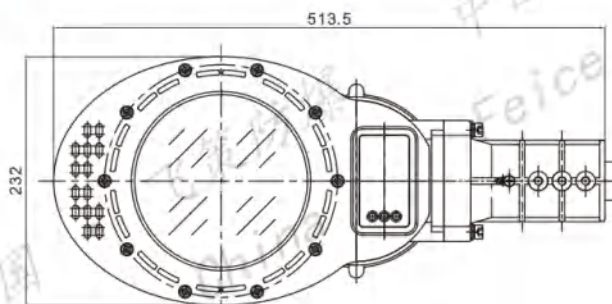
1. Dimming sensing distance: 16~30 meters;

2. Detection angle: $30^{\circ}\sim 170^{\circ}$;

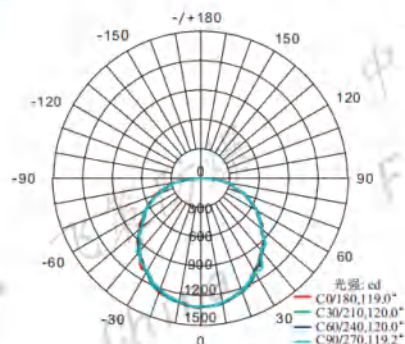
3. Dimming brightness: Some people perceive 100%, no one perceives 10%, 20% or 0%, and can flexibly adjust 0%~100% according to requirements;

4. Dimming delay time: The intelligent dimming function can sense the brightness of the human body in the range of 5%~100% after the movement of the monitored range. The person delays 30 seconds to 120 seconds after leaving. The brightness of the lamp is restored to work within the range of 5% to 20%.

■ 外形及安装尺寸 Outline & Installation dimensions



■ 配光曲线 Luminous distribution curve



■ 订货须知

- 按照型号规格含义中的规则逐条进行选择,并在型号规格含义后增加防爆标志。具体体现为:“产品型号-规格代码+防爆标志+订购数量”。例如需要ⅡC泛光型调光灯60W,数量20套,则订货为:“型号:FCD63-规格:F60Z+Ex d IIC T6 Gb+20”。
- 选定安装形式及配件见灯具选型手册中P431~P440页。
- 如有特殊需求,需在订购时详细指明。

- Select one by one according to the rules in the meaning of the model specifications, and add the explosion-proof mark after the meaning of the model specification. The specific embodiment is: "product model - specification code + explosion-proof mark + order quantity". For example, if the IIC floodlight type dimming lamp 60W is required, the quantity is 20 sets, the order is: "Model: FCD63-Specification: F60Z+Ex d IIC T6 Gb+20".
- For the selected installation form and accessories, see P431~P440 in the Lamp Selection Manual.
- If there are special needs, please specify in the order.