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公司简介



明迈智能科技股份有限公司位于浙江省国家经济开发区，母公司为明迈防爆技术（上海）有限公司，明迈拥有超过35,000平方米的生产基地，是一家专注于防爆技术、电气技术、新能源科技及工业自动化领域的中国高新技术企业。

明迈是一家专业的防爆技术服务商，致力于为石油化工、军工、化学、制药、生物、电力、交通及基础设施等行业提供解决方案。

公司已通过ISO9001, ISO14000, OHSAS18001, QAN及QAR等管理体系认证，并取得CCC, CE, GB, IECEx, ATEX, EAC等多项国标国际防爆认证。

MINMILE intelligent technology Co.,Ltd is located in National Economy Development Park, Zhejiang Province and its head company is MAM Explosion-proof Technology (Shanghai) Co.,Ltd. MINMILE, with a plant area of more than 35,000 square meters, is a technologically innovative enterprise in China in the fields of explosion-proof technology, electrical technology, new energy science and technology, and industrial automation.

MINMILE is a professional company dedicated to providing explosion-proof technical services for petrochemical, military, chemical, pharmaceutical, biological, electric power, transportation and infrastructure industries.

MINMILE has passed ISO9001, ISO14000, OHSAS18001, QAN and QAR management systems certification and has obtained various explosion-proof certificates such as CCC, CE, GB, IECEx, ATEX and EAC.

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防爆是一个综合的过程，包含了爆炸过程研究、爆炸环境控制、点燃源控制、爆炸损害控制等众多环节，涉及众多内容，知识繁杂。

在煤矿、化工等工业现场等场所，存在着大量的爆炸危险物质，如果不能采用有效的预防和防护措施，就会引起爆炸事故，导致重大的人员和财产损失。为了最大限度防止爆炸和减少爆炸带来的损失，我们有必要充分了解爆炸产生的必要条件。我们通常所说的爆炸更多的是指化学爆炸，这是一种剧烈的燃烧反应，在反应的过程中，存在剧烈的放热反应，产生高温高压和冲击波，从而引起强烈的破坏作用。一次化学爆炸，通常需要以下三个条件。

Explosion protection is a comprehensive process, which includes many aspects such as explosion process research, explosion environment control, ignition source control, explosion damage control,etc and involves many contents and complicated knowledge.

In mining, chemical industry and other industrial sites, there are a large number of explosive hazardous substances. If effective preventive and protective measures cannot be adopted, it will cause an explosion accident, resulting in significant personnel and property losses. In order to prevent explosions and reduce the damage caused by explosions, it is necessary to fully understand the necessary conditions for the explosion. The explosion we usually refer to is chemical explosion, which is a violent combustion reaction. During the reaction, a violent exothermic reaction occurs, producing high temperature and high pressure and shock waves, which cause strong damage.



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防爆的概念 Explosion protection

可燃性物质 1
Flammable substances

既然是燃烧反应，首先需要的是可燃性物质。或者是可燃性粉尘，如糖粉，或者是可燃性蒸气，如石油脑，或者是爆炸性气体，如氢气、煤矿瓦斯。当环境中有可燃性物质时，并不一定会发生爆炸，只有当爆炸性物质的浓度在爆炸极限内时，遇到有效点燃源才会爆炸。

The first factor is flammable substances, either flammable dust, such as sugar powder, or flammable vapor, such as petroleum naphtha, or explosive gas, such ashydrogen, methane. When there is a flammable substance in the environment, it does not necessarily explode. Only when the concentration of the explosive substance is within the explosion limit will it explode if it encounters an effective ignition source.

氧气 2
Oxygen

燃烧反应本身是一种氧化反应，因此各种可燃性物质的爆炸也离不开氧气。

As the combustion reaction itself is an oxidation reaction, the explosion of various combustible materials is also inseparable from oxygen.

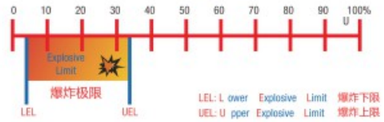
有效的点燃源 3
Ignition source

爆炸三要素同时存在时不一定发生爆炸，只有当可燃性物质与空气在一定浓度范围内并且有点燃源时才会发生爆炸。

An explosion can only occur if the mixture(flammable substance + air)has the right concentration and an ignition source is present.



可燃性气体或者粉尘在空气中的浓度
Level of a flammable gas or dust in the air



什么是可燃性物质的爆炸极限?
What is the Explosive Limit of a Flammable Substance?

可燃性物质的点燃取决于可燃性物质在空气中的浓度。 The ignition of a flammable substance depends on its concentrati on in the air.

当浓度介于以下两个极限之间时，可燃物会被点燃。 It can be produced within a range between two limits :

- 爆炸下限（LEL）指可燃性蒸汽，气体或粉尘与空气所组成的混合物遇火源即能发生爆炸的最低浓度，低于此浓度就不会发生爆炸。
- lower explosive limit (LEL) of a gas, vapor, mist or dust in the air is the minimum concentration above which the mixture could ignite.
- 爆炸上限（UEL）指可燃性蒸汽，气体或粉尘与空气所组成的混合物遇火源即能发生爆炸的最高浓度，超过此浓度就不会发生爆炸。
- upper explosive limit (UEL) of a gas, vapor, mist or dust in the air is the maximum concentration under which the mixture could ignite.

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一、防爆电气设备保护方法　I、Types of protection for electrical equipment

气体防爆电气设备保护方法　Types of protection for electrical equipment in explosive gas atmospheres

防爆类型 Type of protection	标志 Symbol	区域 Zone	图解法 Diagram	主要应用 Main application	标准 Standard
隔爆型 Flameproof	d	1		开关设备，控制站，指示设备，控制系统，电动机，变压器，加热设备，灯具 Switchgears, control stations, indicating equipment,control systems, motors, transformers, heating equipment, light fittings	GB/T 3836.2 IEC 60079-1 EN 60079-1
增安型 Increased safety	e	1		接线盒，安装控制站，防爆元件（具有不同保护类型），鼠笼式电机，灯具 Junction boxes, control stations for installing, Ex-components (with a different type of protection),squirrel-cage motors, light fittings	GB/T 3836.3 IEC 60079-7 EN 60079-7
正压型 Pressurized	px py pz	1 1 2		开关柜和控制柜，分析仪，大型电动机 Switchgear and control cabinets, analyzers, large motors	GB/T 3836.5 IEC 60079-2 EN 60079-2
浇封型 Encapsulation	ma mb mc	0 1 2		小容量开关柜，控制和信号单元显示单元，传感器 Switchgear with small capacity, control and signalling units, display units, sensors	GB/T 3836.9 IEC 60079-18 EN 60079-18
充砂型 Powder filling	q	1		传感器，显示器，电子镇流器，发送器 Sensors, display units, electronic ballasts,transmitters	GB/T 3836.7 IEC 60079-5 EN 60079-5
油浸型 Oil immersion	o	1		发送器，变压器，启动电阻器 Transmitters, transformers, starting resistors	GB/T 3836.6 IEC 60079-6 EN 60079-6
本安型 Intrinsic safety	ia ib ic	0 1 2		仪表技术，现场总线技术，传感器，执行器相关的电气设备安全区域的安装 Instrumentation technology, fieldbus technology, sensors, actuators associated electrical apparatus installation in the safe area	GB/T 3836.4 IEC 60079-11 EN 60079-11
“n”型 Type of protection 'n'	nA nC nR	2 2 2		2区的所有电气设备 "nC"密封装置、"nC"气密装置、"nC"非点燃元件和 "nR"限制呼吸外壳 All electrical equipment for Zone 2 nC = sealing device nC = gas check; obturaton nC = non-igniting elements and nR = restricted breathing enclosures	GB/T 3836.8 IEC 60079-15 EN 60079-15
光辐射型 Optical radiation	op is op pr op sh	0 1 0		op is=本质安全型光辐射 op pr =保护型光辐射 op sh =带互锁装置的光学系统 Op is = inherently safe optical radiation Op pr = protected optical radiation Op sh = optical radiation interlock	IEC 60079-28 EN 60079-28

粉尘防爆电气设备保护方法　Types of protection for electrical equipment in explosive dust atmospheres

防爆类型 Type of protection	标志 Symbol	区域 Zone	图解法 Diagram	主要应用 Main application	标准 Standard
外壳保护型 Protection by enclosure	tD tD tD	20 21 22		开关设备，控制站，接线箱，控制箱，发动机，灯具 Switchgear, control stations, junction boxes,control boxes,motors,light fittings	GB/F3836.31 IEC60079-31 EN60079-31
正压型 Pressurized	pD	20 21		开关和控制柜，发动机 Switchgear and control cabinets, motors	GB/F3836.5 IEC60079-2 EN60079-2
浇封型 Encapsulation	mD mD mD	20 21 22		小容量开关柜，控制和信号单元显示单元，传感器 Switchgear with small capacity, control and signalling units, display units, sensors	GB/F3836.9 IEC60079-18 EN60079-18
本安型 Intrinsic safety	iD iD iD	20 21 22		仪表技术，现场总线技术，传感器，执行器相关的电气设备安全区域的安装 Instrumentation technology, fieldbus technology, sensors, actuators associated electrical apparatus – installation in the safe area	GB/F3836.4 IEC60079-11 EN60079-11

隔爆型 Ex d

将能点燃爆炸性气体的部件置于防爆外壳内，爆炸性气体可以进入防爆外壳，但防爆外壳能承受内部的爆炸压力而不致损失，并能防止传播到外壳外。

Ex d “Flameproof Enclosure”

Parts which can ignite an explosive atmosphere are contained within an enclosure into which the explosive atmosphere can enter but which will contain any resultant explosion and prevent its transmission outside of the enclosure.

增安型 Ex e

在正常运行时不会产生火花，结构上再进一步采取保护措施，提高设备的安全性。在正常和不正常的情况下，都必须避免危险高温。

Ex e “Increased Safety”

This protection method refers to equipment that does not ordinarily produce sparks and for which special precautions must be taken during construction. Unacceptably high temperatures must also be avoided, during both regular operation and certain irregular situations.

正压型 Ex p

保持电气设备内部保护气体的压力高于周围，以免爆炸性混合物进入外壳，或使足量的保护气体通过外壳，使内部的爆炸性混合物的浓度降至爆炸下限以下。

Ex p “Pressurized Equipment”

The ingress of an explosive atmosphere in a housing containing electrical equipment, is avoided by maintaining a protective gas (air or an inert gas) at a slight overpressure to the surrounding atmosphere. The overpressure may or may not be maintained by continuous floe.

浇封型 Ex m

将可能点燃爆炸性混合物的部分浇封在复合物中，使不能点燃周围的爆炸性气体。

Ex m “Encapsulation”

With this protection method all parts that may ignite an explosive atmosphere,are encapsulated in a resin that is sufficiently resistant to ambient influences.The atmosphere must neither be ignited by sparks, nor by heating inside the encapsulation.

充砂型 Ex q

将有可能产生电弧或火花的设备完全埋入装有石英或玻璃粉末颗粒外壳内，以防止点燃外部爆炸性气体环境。

Ex q “Powder Filling”

All equipment that has the potential to arc or to spark is contained within an enclosure filled with quartz or glass powder particles.The powder filling prevents the possibility of an ignition.

油浸型 Ex o

将电气设备的部件整个浸在保护液中，使设备不能点燃液面上或外壳外面的爆炸性气体。现在几乎不使用这种保护方法了。

Ex o “Oil immersion”

Electrical equipment or parts of it are immersed in oil, thus avoiding ignition of the explosive atmosphere above the oil surface or outside the housing. This protection method is rarely applied now.

本安型 Ex i

设备内部的电路在规定的条件下，正常工作或规定的故障状态下产生的电火花和热效应均不能点燃爆炸性混合物。与爆炸区域设备相连接的其它电气设备也应确保构造合理。

Ex i “Intrinsic Safety”

Intrinsic safety is intended for products in which the level of electrical energy circulating or stored in the product is insufficient to ignite a surrounding explosive atmosphere even under fault conditions. Because of the method by which intrinsic safety is achieved it is necessary to ensure that not only the electrical apparatus exposed to the potentially explosive atmosphere but also other electrical apparatus with which it is interconnected, is suitably constructed.

无火花型 Ex n

在正常的工作条件下和在确定的非正常工作条件下，电气设备不能点燃周围的爆炸性气体。此类电气设备可进一步分类如下：
2区的所有电气设备
"nC"密封装置、　"nC"气密装置、
"nC"非点燃元件和　"nR"限制呼吸外壳

Ex n “Non Sparking”

A type of protection where precautions are taken so that electrical equipment that has the potential to arc is not capable of igniting a surrounding explosive atmosphere. This can be further categorized as follows:
All electrical equipment for Zone 2
nC = sealing device　nC = gas check; obturaton
nC = non-igniting elements and
nR = restricted breathing enclosures

光辐射型 Ex op

通过光缆控制脉冲和连续波光辐射，限制照射区域的发射光功率的比率。保护形式包括本质安全型，类似于Ex i和过功率/能量故障保护。其他方法包括光纤的机械保护和光学互锁。

Ex op “Optical radiation”

This is primarily concerned with the control of pulsed and continuous wave optical radiation through fiber optic cable with restrictions on the ratio of emitted optical power to the irradiated area. The protection concepts include Inherently Safe which is analogous to Ex i and provides over-power/energy fault protection. Other methods include mechanical protection of the fiber and optical interlocks.

外壳保护型 Ex t

该方法适用于受外壳和表面温度限制保护的电气设备，用于爆炸性和粉尘环境。

Ex t “Dust Protection by Enclosure”

This method is applicable to electrical equipment protected by enclosure and surface temperature limitation for use in explosive and dust atmospheres.

二、爆炸性环境用电气设备分类及气体和粉尘的分级方法

Ⅱ、Classification of electrical equipment for explosive atmospheres and classification of explosive gases and dusts

在中国GB标准中，爆炸性物质包括各类爆炸性的气体、蒸气、纤维、粉尘等，其中煤矿井下由于存在瓦斯和煤尘，划为I类，不再继续细分；为了便于煤矿以外场所使用的隔爆型电气设备和本质安全型电气设备的制造，其余爆炸性气体根据其特性而划分为ⅡA、ⅡB、ⅡC三个等级。它们是根据气体/蒸气的最大试验安全间隙MESG和最小点燃电流比 MICR来划分的。见下表：

In the Chinese GB standard, explosive substances include various types of explosive gases, vapors, fibers, dust, etc. Group Ⅰ electrical equipment is for mining due to the presence of methane and coal dust and is not further subdivided. Group Ⅱ electrical equipment is for all other hazadous area with explosive gases. Group Ⅱ is further subdivided into groups ⅡA, ⅡB and ⅡC according to the gas/vapor maximum experience safety gap(MESG) and minimum ignition current ratio(MICR). See the table below:

分级 Group	最大试验安全间隙MESG（mm）	最小点燃电流比 MICR
ⅡA	MESG>0.9	MICR>0.8
ⅡB	0.5≤MESG≤0.9	0.45≤MICR≤0.8
ⅡC	MESG<0.5	MICR<0.45

由于MESG和MICR之间在点燃能量上存在着对数关系（MESG (mm)=0.022 × MICR$^{0.87}$(mA)），所以，大多数气体/蒸气在判定级别的时候，只需上述一种方法即可。

而爆炸性粉尘也可按照其特性可进一步再分类：ⅢA类：可燃性飞絮；ⅢB类：非导电粉尘；ⅢC类：导电性粉尘，标志ⅢB的设备可适用于ⅢA设备的使用条件，标志ⅢC类的设备可适用于ⅢA或ⅢB类设备的使用条件。

中国国家标准GB3836.1、国际电工委员会IEC标准和欧洲EN标准等均采用上述的分级方法。美国NEC500标准却不相同，不过虽然方法不同，但可以基本对照，详见以下爆炸危险物质分级对照表

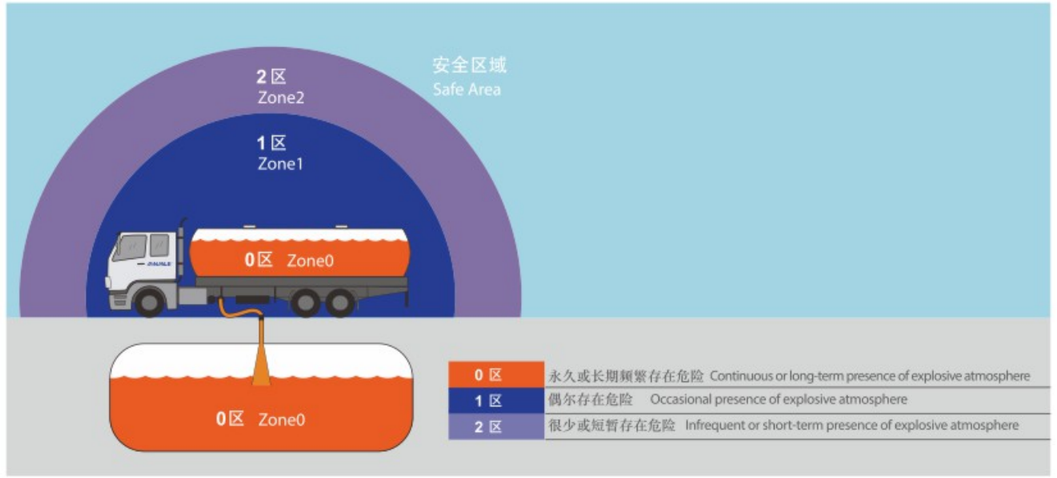
As there is a logarithmic relationship between the MESG and the MICR (MESG (mm)=0.022 × MICR $^{0.87}$(mA)), most of the gases/vapors are classified by only one method.

Group Ⅲ electrical equipment is for hazardous area with explosive dust. Group Ⅲ can be further subdivided to Groups ⅢIA: combustible flyings, Group ⅢB: non-conductive dust and Group ⅢC: Conductive dust according to explosive features of explosive dust. Group ⅢB equipment can be applied to the conditions of use of ⅢA equipment and group ⅢC equipment can be used for the conditions of use of Group ⅢA or ⅢB equipment.

The Chinese national standard GB3836.1, the International Electrotechnical Commission IEC standard and the European EN standard all adopt the above classification method. The US NEC500 standard is different, but the classification method is similar. See the following classification table of explosive hazardous substances.

爆炸性物质分级 Explosive substances classification			代表性物质 Typical Substances		点燃难易程度 Ignition
GB/T 3836、IEC60079、EN60079、NEC505		NEC500			
Ⅰ类 Group Ⅰ		/	瓦斯（甲烷）	Methane	难 Hard ↓ 易 Easy
Ⅱ类 Group Ⅱ	ⅡA	Class Ⅰ Group D	丙烷	Propane	
	ⅡB	Class Ⅰ Group C	乙烯	Ethylene	
	ⅡC	Class Ⅰ Group B	氢气	Hydrogen	
		Class Ⅰ Group A	乙炔	Acetylene	
Ⅲ类 Group Ⅲ	ⅢA	Class Ⅲ	可燃性飞絮	combustible flyings	难 Hard ↓ 易 Easy
	ⅢB	Class Ⅱ Group G	非导电尘	non-conductive dust	
	ⅢC（导电尘Conductive dust）	Class Ⅱ Group F	含碳尘	Carbon dust	
		Class Ⅱ Group E	金属尘	Metal dust	

三、爆炸危险区域划分 Ⅲ、Classification of Zones



气体环境 Gases/Vapors Atmosphere	GB/T 3836、IEC60079、EN60079、NEC505	NEC500
可燃气体等在正常条件下连续出现或经常存在 Continous or frequent presence of flammable gases/vapors	0区(zone 0)	Class Ⅰ Division 1
可燃气体等在正常条件下可能存在 Occasional presence of explosive gases/vapors	1区(zone 1)	
可燃气体等在正常条件下不可能存在 Infrequent presence of explosive gases/vapors	2区(zone 2)	Class Ⅰ Division 2
粉尘环境 Dusts and Fibres Atmosphere	GB/T 12476、GB/T 50058、IEC61241、EN61241、NEC505	NEC500
可燃粉尘等的爆炸性浓度在正常条件下连续出现或经常存在 Continous or frequent presence of flammable dust	20区(zone 20)	ClassⅡ Division 1
可燃粉尘等的爆炸性浓度在正常条件下可能存在 Occasional presence of flammable dust	21区(zone 21)	
可燃粉尘等的爆炸性浓度在正常条件下不可能存在 Infrequent presence of flammable dust	22区(zone 22)	ClassⅡ Division 2
处理、生产或使用可燃性纤维或材料产生可燃性飞絮 flammable flyings	/	ClassⅡ Division 1
存储或处理可燃性纤维 flammable fibers	/	ClassⅡ Division 2

关于NEC标准说明：NEC标准分NEC500、NEC505系列标准，NEC500系列标准是北美本地的标准，它与IEC系列标准在规定和要求等方面相差较大，采用的国家和区域主要是美国和加拿大及周边地区。NEC505系列标准是以IEC标准为基础制定的，基本等效于IEC标准。如果终端用户指定需要执行NEC标准的防爆产品，应明确规定执行NEC500标准，还是NEC505标准。

About the NEC standard: NEC standard is divided into NEC500 and NEC505 series standards. The NEC500 series standard is a North American standard. It differs greatly from the IEC series standards in terms of regulations and requirements and is mainly used in the United States and Canada and the surrounding areas. The NEC505 series of standards is based on the IEC standard and is basically equivalent to the IEC standard. If the end user specifies an explosion-proof product that requires NEC standards, it should clearly specify whether to implement the NEC500 standard or the NEC505 standard.

四、点燃温度组别说明及对照　IV、Classification of Ignition Temperature

各种气体/蒸气点燃温度的测定是在标准的试验环境、设备和方法下进行的，根据测试结果，可以将各种气体/蒸气的点燃温度确定，从而为分组提供依据。中国标准和IEC标准中，通常将爆炸性气体温度组别分成T1~T6这6个组别，而在北美地区，则对部分组别进行了进一步的细分，详细可以见表1。

Various gases/vapors ignition temperatures are measured under standard test environments, equipment, and methods. Based on the test results, the ignition temperatures of various gases/vapors can be determined to provide a basis for grouping. In the Chinese standard and the IEC standard, the explosive gas temperature group is usually divided into six groups of T1~T6, while in North America, some groups are further subdivided. See below table for details.

GB/T 3836、IEC60079、EN60079、NEC505		NEC500	
温度组别 Temperature class	最高温度值（℃） Maximum surface temperature（C）	温度组别 Temperature class	最高温度值（℃） Maximum surface temperature(C)
T1	450	T1	450
T2	300	T2	300
		T2A	280
		T2B	260
		T2C	230
		T2D	215
T3	200	T3	200
		T3A	180
		T3B	165
		T3C	160
T4	135	T4	135
		T4A	120
T5	100	T5	100
T6	85	T6	85

注： 对于用于煤矿井下的I类电气设备，其最高表面温度不应超过：
——150℃，当电气设备表面可能堆积煤尘时；
—— 450℃，当电气设备表面不会堆积煤尘时(例如防粉尘外壳内部)。
此外，当用户选用 I 类电气设备时，如果温度超过150℃的设备表面上可能堆积煤尘，则应考虑煤尘的影响及其焖燃温度。

Note:

For Group I electrical equipment used in mining, the maximum surface temperature should not exceed 150°C when the surface of electrical equipment may accumulate coal dust and should not exceed 450°C when the surface of electrical equipment does not accumulate coal dust (such as inside the dust-proof enclosure).In addition, when the user selects Group I electrical equipment, if coal dust may accumulate on the surface of the equipment whose temperature exceeds 150°C, the influence of coal dust and its smoldering temperature should be considered.

五、设备保护级别（EPL）　V、 Equipment Protection Level(EPL)

在最新的GB/T 3836、IEC60079等防爆设备的有关标准和ATEX指令中，为了便于有关单位选择合适的防爆电气设备，除了规定了防爆电气设备的防爆型式外，还规定了设备的设备保护级别（EPL），不同防爆型式的防爆电气设备，只要EPL相同，其保护能力也认为是相同的，例如Ex d e mb IIC T6 Gb的设备与Ex d IIC T6 Gb的设备具有相同的保护能力，都可以在同样的爆炸危险区域内使用，这样有关单位只需根据不同危险区域划分情况直接选择对应EPL的设备即可，无需过多考虑设备的防爆型式，减少了工作量。各设备保护级别分级及含义见下表：

In the latest GB/T 3836, IEC60079 and other related standards and ATEX directives, in order to facilitate the selection of appropriate explosion-proof electrical equipment, in addition to the explosion-proof type of explosion-proof electrical equipment, the equipment protection level (EPL) is also specified. Explosion-proof electrical equipment of different explosion-proof type, as long as the EPL is the same, its protection ability is also considered to be the same. For example, the Ex d e mb IIC T6 Gb equipment has the same protection capability as the Ex d IIC T6 Gb equipment, and they can all be used in the same hazadous area. Therefore, users can directly select the equipment corresponding to the EPL according to the division of different hazardous areas, without excessive consideration of the explosion-proof type of the equipment, reducing the workload. The classification and meaning of each equipment protection level are as follows:

GB/T3836	ATEX指令 ATEX Directives	代表含义 Meaning	GB/T 3836	
			GB/T、IEC、EN、NEC505	NEC500
Ma	M1	煤矿爆炸性环境用设备，具有“很高”的保护级别 Electrical equipment with “very high” protection level for Explosive mining atmosphere	/	/
Mb	M2	煤矿爆炸性环境用设备，具有“高”的保护级别 Electrical equipment with “high” protection level for Explosive mining atmosphere	/	/
Ga	1G	爆炸性气体环境用设备，具有“很高”的保护级别 Electrical equipment with “Very high” protection level for Explosive gas atmosphere	0区 (zone 0)	Class Ⅰ Division 1
Gb	2G	爆炸性气体环境用设备，具有“高”的保护级别 Electrical equipment with “high” protection level for Explosive gas atmosphere	1区 (zone 1)	Class Ⅰ Division 1
Gc	3G	爆炸性气体环境用设备，具有“一般”的保护级别 Electrical equipment with “lower” protection level for Explosive gas atmosphere	2区 (zone 2)	Class Ⅰ Division 2
Da	1D	爆炸性粉尘环境用设备，具有“很高”的保护级别 Electrical equipment with “Very high” protection level for Explosive dust atmosphere	20区 (zone 20)	ClassⅡ Division 1
Db	2D	爆炸性粉尘环境用设备，具有“高”的保护级别 Electrical equipment with “high” protection level for Explosive dust atmosphere	21区 (zone 21)	ClassⅡ Division 1
Dc	3D	爆炸性粉尘环境用设备，具有“一般”的保护级别 Electrical equipment with “Lower” protection level for Explosive dust atmosphere	22区 (zone 22)	ClassⅡ Division 2

六、防护等级说明（IP等级） VI、Index of IP protection

1ST Digit	图例 Test Parameter	含义 Protection Defination
0	无图标 No test applied	无防护 No specific protection
1	>50mm	防止直径不小于50mm的固体异物（如：手的意外接触） Protect against solid objects larger than 50mm. e.g. accidental touch by persons hands.
2	>12mm	防止直径不小于12.5mm的固体异物（如：手指） Protect against solid objects larger than 12mm. e.g. such as persons fingers.
3	>2.5mm	防止直径不小于2.5mm的固体异物（如：工具、导线） Protect against solid objects larger than 2.5mm. e.g. such as tools & screwdrivers.
4	>1mm	防止直径不小于1mm的固体异物（如：小工具、导线） Protect against solid objects larger than 1mm. e.g. such as tools, wires and small wires.
5		防尘（不能完全防止灰尘进入，但进入的灰尘量不得影响设备的正常运行，不得影响安全） Protect against dust limited ingress. (no harmful deposit).
6		尘密（无灰尘进入） Totally Protect against dust.

IP Rating Example
IP等级举例

IP 6 6

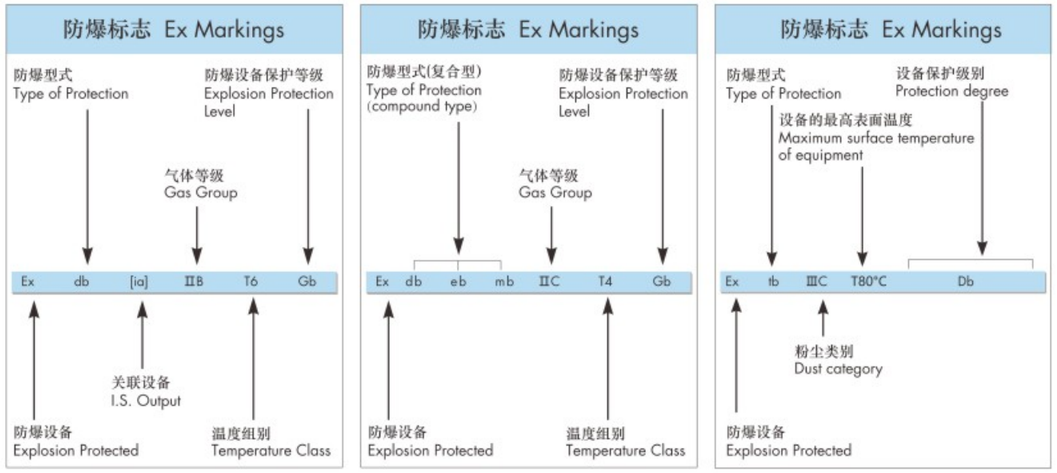
Ingress Protection

2nd Digit	图例 Test Parameter	含义 Protection Defination
0	无图标 No test applied	无防护 No specific protection
1		垂直方向滴水应无有害影响 Protect against vertically falling drops of water.e.g. condens
2		当外壳的各垂直面15° 范围内倾斜时，垂直滴水应无有害影响 Protect against direct sprays of water up to 15° from verticle.
3		各垂直面在60° 范围内淋湿，无有害影响 Protect against direct sprays of water up to 60° from verticle.
4		向外壳各方向溅水无有害影响 Protect against water sprayed from all directions. Limited ingress permitted.
5		向外壳各方向喷水无有害影响 Protect against low pressure jets of water from all directions. Limited ingress permitted.
6		向外壳各方向强烈喷水无有害影响 Protect against temporary flooding of water. e.g. for use on ship decks. Limited ingress permitted.
7		侵入规定压力的水中经规定时间后外壳进水量不致达有害程度 Protect against the effect of immersion between15cm to 1m for 30 minutes.
8		按生产厂和用户双方同意的条件（应比特征数字为7时严酷）持续潜水后外壳进水量不致达有害程度 Protect against long period of immersion under pressure
9		向外壳各方向喷射高温/高压水无有害影响 Spraying high temperature/high pressure water in all directions of the housing has no harmful effects.

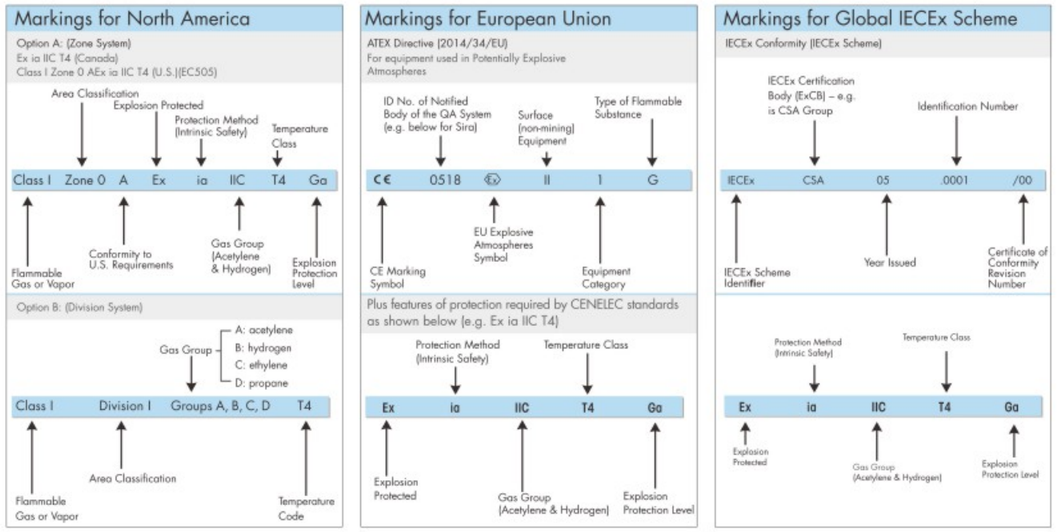


七、不同标准体系防爆标志举例 Ⅶ、Ex-marks examples in different standard systems

中国GB/T 3836 China GB/T 3836

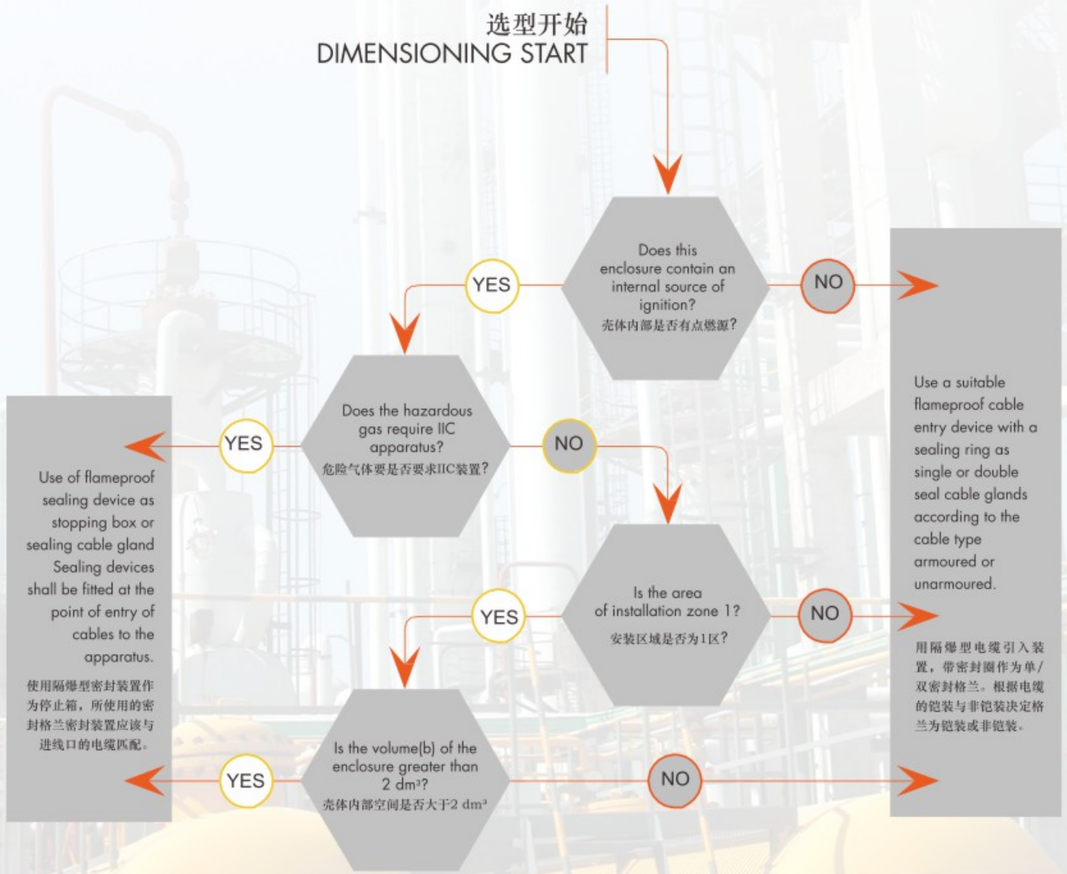


北美、欧盟、IECEx 防爆标志说明 North America, European Union, IECEx standard system marks



在不同区域中，使用安装的格兰必须遵循相关的要求与技术规则做为参考，同时考虑 IEC 60079-14 中规定的准则及灵活的尺寸数据。参数选择表如下流程图。

In operation of the employment in classified areas, the cable gland must be assembled respecting the prescriptions of the technical rules of reference, considering that such assemblages can be determined following the parameters of the rules IEC 60079-14 in view of the date the sizing, parameters selectable as per following flow chart extrapolated by the same rule.

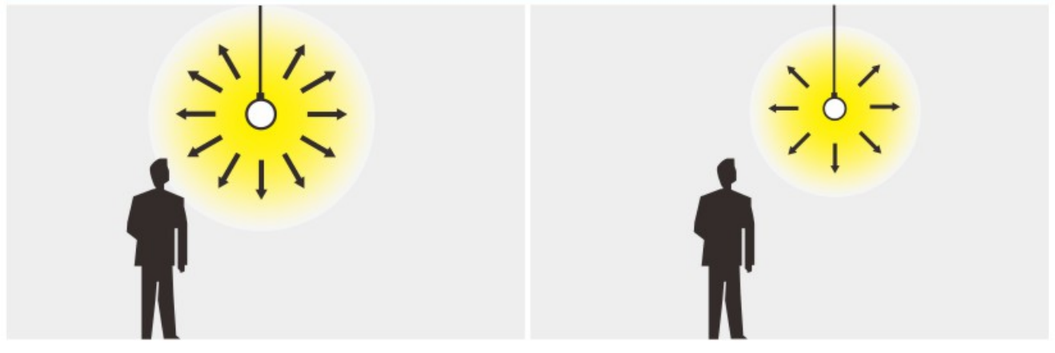


光通量 The Luminous flux

根据辐射对标准光度观察者的作用导出的光度量。

单位：流明（Lm），1Lm=1cd/1sr

It's the amount of light emitted from a light source in the unit of time. It is measured in lumen and it's represented by Φ.

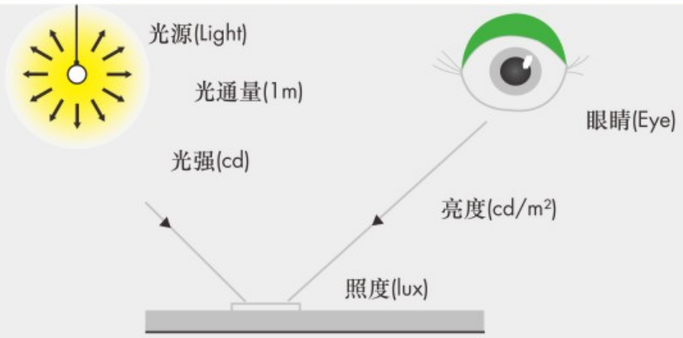


发光强度 The light intensity

发光体在给定方向上的发光强度是该发光体在该方向的立体角元 dΩ 内传输的光通量 dΦ 除以该立体角元所得之商，即单位立体角的光通量。

单位:坎德拉(cd)，1cd=1lm/sr。

It's the amount of luminous flux emitted in a certain direction and in the unit of the solid angle, which is measured in I. Luminous intensity (symbol I) can be defined as the infinitesimal ratio of the luminous flux d to the solid angle d in which it is emitted.



亮度 The luminance

亮度是指发光体（反光体）表面发光（反光）强弱的物理量。人眼从一个方向观察光源，在这个方向上的光强与人眼所“见到”的光源面积之比，定义为该光源单位的亮度，即单位投影面积上的发光强度。

单位：坎德拉每平方米(cd/m²)

The luminance of a body transmitting light to the eye is defined as the ratio of luminous intensity (candela) of the ray hitting the retina to the light-emitting surface (m²). Luminance (L) is measured in nits (nt) which are candelas per square meter (cd/ m²).

照度 The illumination

表示受照面明亮程度的物理量。表面上一点的光照度定义为入射在此点所在面元上的光通量与该面元面积的比值。在数值上，它等于投射在单位面积上的光通量。入射在包含该点的面元上的光通量 dΦ 除以该面元面积 dA 所得之商，单位为

单位：勒克斯 (lx)，1 lx=1 lx/ ㎡。

It's the amount of luminous flux per unit area. It's measured in lux and it is ratio between the incident flux on a surface and the surface measured in m² (lumen/ m²=lux).

平均照度 The average illumination

规定表面上各点的照度平均值。

平均照度(Eav) = 光源总光通量(N*Φ)*利用系数(CU)*维护系数(MF) / 区域面积(㎡) (适用于室内或体育场的照明计算)

The average value of the illumination of each point on the specified surface.
Average illuminanation (Eav) = total luminous flux of light source (N*Φ)*utilization factor (CU)*maintenance factor (MF) / area size (m²) (applicable to indoor or stadium lighting calculation)

维持平均照度 The maintained average illuminance

规定表面上的平均照度不得低于此数值。它是在照明装置必须进行维护的时刻，在规定表面上的平均照度。

The average illuminance on the specified surface shall not be lower than this value. It is the average illuminance on the specified surface at the time when the lighting device must be maintained.

维护系数 The maintenance factor

照明装置在使用一定周期后，在规定表面上的平均照度或平均亮度与该装置在相同条件下新装时在同一表面上所得到的平均照度或平均亮度之比。

The ratio of the average illuminance or average luminance of the lighting device on the specified surface after a certain period of use to the average illuminance or average liminance obtained on the same surface when the device is newly installed under the same conditions.

光强分布 The distribution of luminous intensity

用曲线或表格表示光源或灯具在空间各方向的发光强度值，也称配光。

Use curves or tables to indicate the luminous intensity values of light sources or lighting fixture in various directions in space, also known as light distribution.

光源的发光效能 The luminous efficacy of a light source

光源发出的光通量除以光源功率所得之商，简称光源的光效。

单位：流明每瓦特(lm/W)。

It's the relation between the flux emitted by a light source and the electric power consumption expressed in Watts. It's denoted by Φ/P and measured in Lm/W.

灯具效率 The luminaire efficiency

在规定的使用条件下，灯具发出的总光通量与灯具内所有光源发出的总光通量之比，也称灯具光输出比。

Under the specified conditions of use, the ratio of the total luminous flux emitted by the lighting fixture to the total luminous flux emitted by all the light sources in the lighting fixture is also called the light output ratio of the lighting fixture.

灯具效能 The luminous efficiency

在规定的使用条件下，灯具发出的总光通量与其所输入的功率之比。

单位：流明每瓦特(lm/W)。

It's the ratio of the total flux emitted by a light fixture to the electric power consumption expressed in Watts. It's measured in Lm/W.

光通量维持率 The luminous flux maintenance

光源在给定点燃时间后的光通量与其初始光通量之比。

The ratio of the luminous flux of the light source after a given ignition time to its initial luminous flux.

反射比 The reflectance

在入射辐射的光谱组成、偏振状态和几何分布给定状态下，反射的辐射通量或光通量与入射的辐射通量或光通量之比。

The ratio of the reflected radiant flux or luminous flux to the incident radiant flux or luminous flux under a given state of the spectral composition, polarization state, and geometric distribution of the incident radiation.

照明功率密度 The lighting power density(LPD)

单位面积上一般照明的安装功率(包括光源、镇流器或变压器等附属用电器件)，单位为瓦特每平方米(W/ ㎡)。

It's the installed power of general lighting per unit area (including auxiliary electrical devices such as light sources, ballasts or transformers). It's measured in watts per square meter (W/ ㎡).

室形指数 room

表示房间或场所几何形状的数值，其数值为2倍的房间或场所面积与该房间或场所水平面周长及灯具安装高度与工作面高度的差之商。

It's the numerical value of the geometric shape of a room or place. The value is the ratio of the difference value of 2 times the area of the room or place and the perimeter of the horizontal plane of the room or place to the difference value of the installation height of the lighting fixtures and the height of the working surface.

年曝光量 The annual lighting exposure

度量物体年累积接受光照度的值，用物体接受的照度与年累积小时的乘积表示。

单位：每年勒克斯小时（lx · h/a）。

It's the amount of the cumulative received illuminance of an object in a year multiplied by the cumulative annual hours. It's measured in lux per year（lx·h/a）.

MINMILE

如何合理科学满足空间场所所需求的照明条件?

时间紧迫时，可采用如下快速估算法，初步快速得出方案及成本预算。

How to reasonably and scientifically meet the lighting conditions required by places? When time is limited, the following quick estimation method can be used to quickly get a preliminary plan and cost budget.

首先我们要学会下面的这个表 Firstly, get familiar with the below table

应用区域 Application Area	应用场所 Application Place	平均照度值（Lux） Average illumination value
机加工车间 Machining workshop	粗加工 Roughing	500
	细加工 Fine processing	1000
	精加工 Finishing	2000
仓库 Warehouse	作业非繁忙处 Non-busy place	100
	作业繁忙处（大件产品）Busy place (large product)	200
	作业繁忙处（小件产品）Busy work place (small products)	500
组装车间 Assembly workshop	简单组装 Simple assembly	500
	中等难度 Medium difficulty	1000
	高难度 High difficulty	2000
汽车制造厂 Car factory	车身组装厂 Body assembly plant	500
	发动机制造及组装 Engine manufacturing and assembly	750
	机加工 Machining	750
	总装 Final assembly	1000
纺织车间 Textile workshop	染色车间 Dyeing workshop	500
	制纱车间 Yarn workshop	500
	织物生产车间 Fabric production workshop	2000
车库停车场 Garage parking lot	一般区域 General area	50
	转弯处 turning point	100
	入口处 Entrance	500

北美照明工程学会IES工业照明推荐值表

Illuminating Engineering Society of North America(IES) Industrial Lighting Recommendation value Form

快速估算法将如下的假设作为计算前提 The fast estimation method takes the following assumptions as the calculation premise

照射在工作平面上的维持流明值是新灯具中新光源流明的一半。

比如：灯具裸光通量为3200Lm，则维持流明值=3200*0.5=1600Lm

The maintenance lumen value illuminated on the working are is half of the lumen of the new light source in the new luminaire.

For example, if the bare luminous flux of the lighting fixtur is 3200Lm, the lumen value will be maintained in 1600Lm (Half of 3200Lm).

被照射房间的尺寸是一般的，房间表面系数的反射系数是常规的，房间内的灰尘情况是普通的，（一个一般尺寸的房间是指:从工作平面到灯具低部的高度值MH）。

The dimension of the illuminated room is normal, the reflection coefficient of the surface coefficient of the room is normal, and the dust in the room is normal (a room of general dimension refers to the height value MH from the working plane to the lower part of the lighting fixture).

对于给定房间只采用一种灯具（当工作平面到灯具低部的高度MH大于6米时，可采用高悬挂灯具，当MH小于6米时，可采用低悬挂灯具）

For a given room, only one type of luminaire is used (when the height MH from the working plane to the lower part of the luminaire is greater than 6 meters, a high-hanging luminaire can be used, and when the MH is less than 6 meters, a low-hanging luminaire can be used)

计算过程 Calculation process

◆ 从北照明工程学会IES工业照明推荐值表（见表）中找到应用场所的照度值A

Find the average illumination value A in the above IES Industrial Lighting Recommendation value Form.

◆ 从光源供应商得到光源的流明值B。

Obtain the lumen value B of the light source from the light source supplier

◆ 额定光源流明值B乘以0.5 得到光源维持流明C.

The rated light source lumens value B is multiplied by 0.5 to get the light source maintain lumens C

◆ 灯具数N= $\frac{\text{房间面积（长*宽）}}{\text{光源维持流明C}}$ X 推荐照明度值A

Numbers of Lights=Room sizes (L*W) /maintenance lumen value C*Recommended average value A

◆ 灯具间隔S= $\sqrt{\frac{\text{房间面积（长*宽）}}{\text{灯具数N}}}$

Lights interval S= $\sqrt{\frac{\text{Room size(L*W)}}{\text{Number of lights}}}$

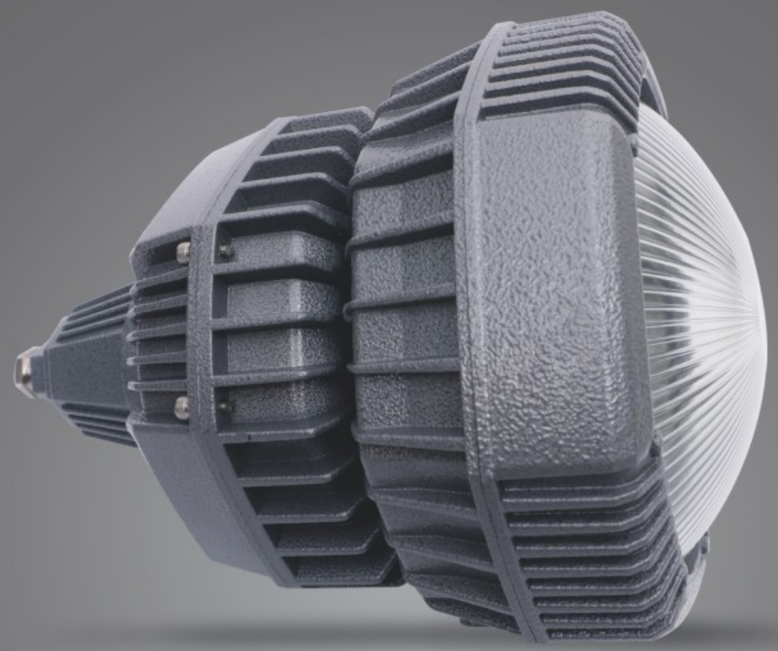
◆ 当使用高悬挂灯具时，灯具间隔S大于悬挂高度；或者当使用低悬挂灯具时，灯具间隔S大于1.5倍悬挂高度，(悬挂高度为：工作面到灯具底部下方的高度MH),如果灯具间隔S过大，应选用功率低一级别的光源，重复第三步，直到灯具间隔S满足要求。

When using high-hanging lamps, the lamp interval S is greater than the hanging height; or when using low-hanging lamps, the lamp interval S is greater than 1.5 times the hanging height, (the hanging height is: the height MH from the working surface to the bottom of the lamp), If S is too big, a light source with a lower power level should be selected, and the third step shall be repeated until the lamp interval S meets the requirements.

◆ 布灯原则

灯具应由中间向边界展开，当灯具的行或列成奇数时，应有一行或一列灯具位于中心线上，当灯具的行或列是偶然时，靠中心最近的灯具距中心线的距离应是灯具间隔S的一半。离墙面最近的灯具距墙面的距离小于等于0.5S。

Lighting fixture layout principle: lamps should be spread from the middle to the boundary. When the rows or columns of lamps are odd, there should be one row or column of lamps on the center line. When the rows or columns of lamps are even, The distance between the nearest lamp to the center and the center should be half of the lamp interval S. The distance between the lamp closest to the wall and the wall is less than or equal to hald of the S.





MAML-02A系列防爆灯具（LED）
MAML-02A Series Explosion-proof Lighting Fixtures

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采用棱晶钢化玻璃，满足4J能量冲击；
- The transparency cover use the ribbed toughened glass cover, which can stand the 4J impact.

- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.

- 灯具使用独立电源腔，内置工业级LED恒流源，127-256V宽电压范围稳定运行，符合EMC要求，且具有短路、过载、过压保护功能；
- The industry type of LED constant flow source put into the individual power cavity of lighting fixture. The lighting can be stable used in 127-256V wide range voltage. It can meet the EMC requirements. The protection functions are available in short circuit, overload and overvoltage.

- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements. When supply power cut off, the lighting fixture can be turned into emergency lighting condition.

- 电缆或钢管布线。
- Wiring with cable or steel tube.

MINMILE

型号含义 Model meaning

MAML-02A – A – B – C – D

	型号（功率）Model(Power)	安装方式 Mounting Type
A	100(30W)	C-吸顶式 C-ceiling type
	100(40W)	W1-壁式30° W1-30°wall type
	100(50W)	W2-壁式90° W2-90°wall type
	100(60W)	W3-支架吸壁式 W3-Bracket wall suction type
	100(70W)	S-吊杆式 S-Pendant pole type
	100(80W)	h-挂钩式 h-hook type
	100(90W)	R-吊环式 R-ring type
	100(100W)	P1(P3)-护栏式 P1(P3)-fence type
	180(120W)	P2(P4)-立杆式 P2(P4)-pole type
	180(160W)	f-可倾斜护栏式 f-tillable mounting type
	180(180W)	0-无安装方式（S型外形） 0-Without mounting type (Stype appearance).

	带网罩/不带 With wire guard or not	带应急/不带 With Emergency Or Not
B	00-不带网罩（可不注） Without wire guard（optional）	00-不带应急（可不注） without emergency（optional）
	N1- 铁喷白材质 Carbon steel with White painted	EG-带应急（应急时间备注） with emergency（indicate time）
	N2- 304材质 N2-304SS	
	N3- 316材质 N3-316SS	

举例1：防爆灯具，功率30W，可倾斜护栏式，不带网罩，不带应急，则型号为：MAML-02A -100(30W)-f.

For example #1: Explosion-proof LED lighting fixture, lamp source is 30W, tillable mounting type, without wire guard, without emergency. the product model No.is MAML-02A-100(30W)-f.

举例2：防爆灯具，功率100W，无安装方式，带304不锈钢网罩，带应急60min，则型号为：MAML-02A-100(100W)-0-N2-EG60min

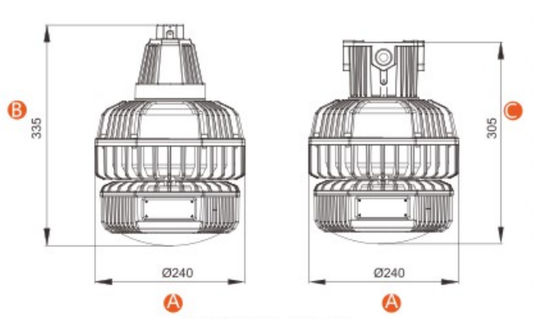
For example #2: Explosion-proof LED lighting fixture, lamp source 100W, without mounting type, with SS304 wire guard, with emergency time 60min, the product model No. is MAML-02A-100(100W)-0-N2-EG60min

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameter

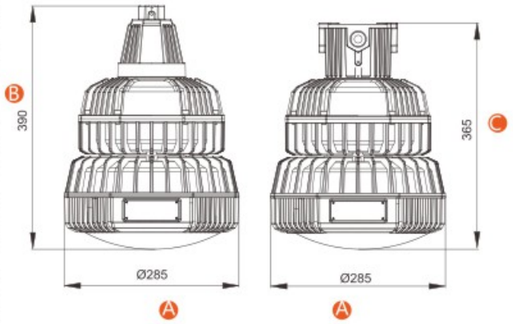
环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +40°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ex II 2G Ex db IIC T5 Gb Ex II 2D Ex tb IIIC T95°C Db
-45°C ~ +60°C	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	Ex II 2G Ex db IIC T4 Gb Ex II 2D Ex tb IIIC T130°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating, international standard color code:RAL 7090		
透明罩 Transparent cover	棱晶钢化玻璃罩，抗4J冲击 Ribbed toughened glass cover ,stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
LED灯珠品牌 LED lamp bead brand	科瑞CREE(首选)、欧司朗OSRAM、飞利浦Lumileds、三星Samsung、日亚Nichia、首尔Seoul Kori CREE (preferred), OSRAM OSRAM, philips Lumileds, Samsung Samsung, Japan's Nichia, Seoul Seoul		
LED驱动电源品牌 LED power supply brand	英飞特Inventronics(首选)、明纬Meanwell、茂硕MOSO Inventronics (preferred), Meanwell and MOSO		
灯具功率 The power of the lamp	30W、40W、50W、60W、70、80W、90W、100W、120W、150W、160W、180W		
额定电压 Rated voltage	AC 127~256V 50HZ/60HZ		
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm (铠装电缆、橡塑电缆)/ 电缆外径范围:10~14mm (客户另配格兰) 3x2.5mm (armored cable, rubber cable) / cable outer diameter range: 10~14mm		
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明；四通接线腔标配直通。 Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate; Standard ceiling wiring cavity equipped with 2 cable entries		
注：格兰由客户单独订购，本产品销售不含进线口的格兰。 Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.			

S/C型外形尺寸图 S/C type Outline Dimensional Drawing



MAML-02A≤100W

■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity



100W<MAML-02A≤180W

■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity

防爆照明灯系列 Explosion-proof Series Lighting Fixture

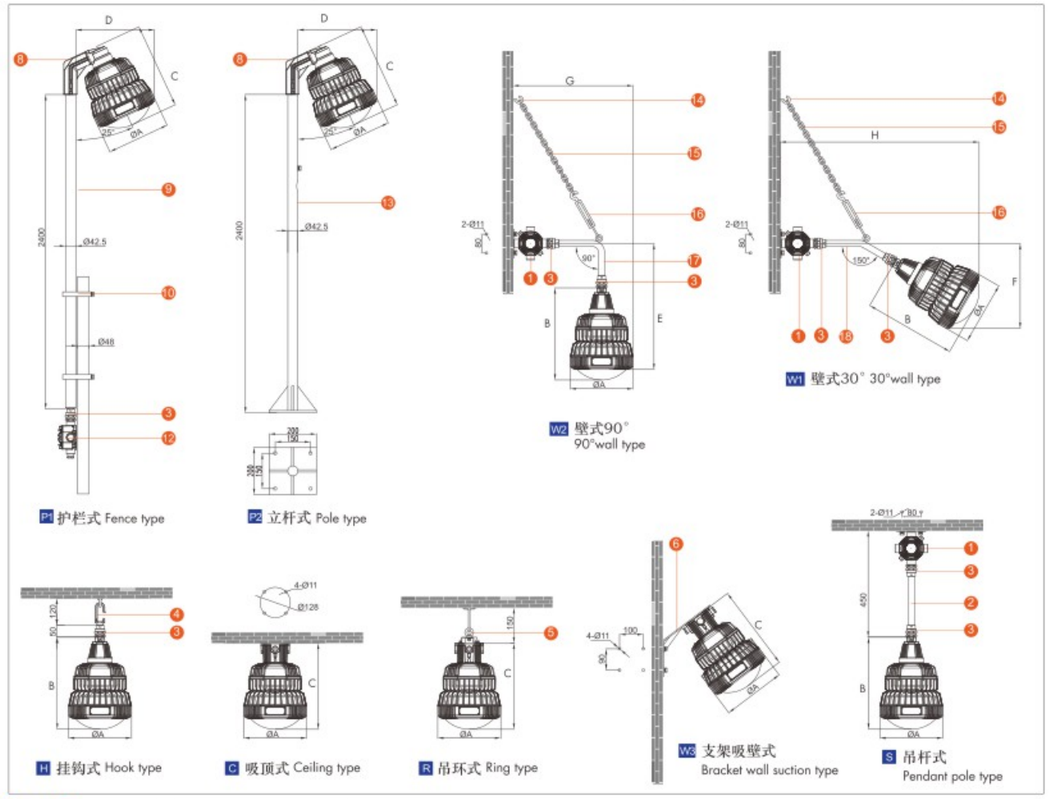
MINMILE

产品外形尺寸、重量及其他参数
Appearance size, weight and other parameters

型号规格 Model specification	功率 (W) Power (W)	色 温 Color temperature	功率因数 Power factor	净重(Kg) weight(Kg)		温度组别 Tc Temperature Classes Tc
				S	C	
MAML-02A-100	30	5500-6500K	≥0.98	6.87	7.02	T4/T5
	40					
	50					
	60					
	70					
	80					
	90					
	100					
MAML-02A-180	120	5500-6500K	≥0.98	9.3	9.45	
	160					
	180					

产品安装示意图 Installation reference

灯具功率 Power（W）	尺寸(mm) Dimensions (mm)							
	A	B	C	D	E	F	G	H
MAML-02A-100（30W/40W/50W/60W/70W/80W/90W/100W）	240	335	305	290	500	305	500	800
MAML-02A-180（120W/160W/180W）	285	390	365	335	535	360	520	850



◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

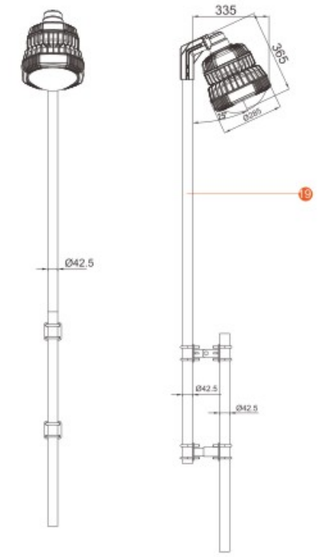
CAD安装示意图+实物图
CAD installation instruction + picture of real products

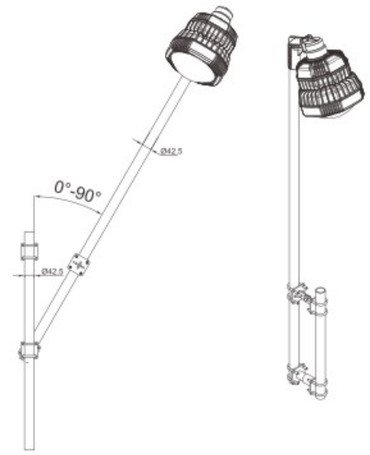






可倾斜护栏式 Tillable mounting type





现场安装维修方便，无需爬高，螺丝拆卸后倾斜至人员操作的角度。
Convenient for maintenance. There is no need for climbing or taking down the screws, the pole can be inclined to convenient angle.

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE

产品优势介绍 Product advantage and features

01



采用3腔独立结构（接线腔、电源腔、光源腔），减少热量传导叠加，有效保证产品长寿命的要求。

Using 3 individual construction (wiring cavity, power supply cavity and lamp source cavity), reducing the heating conduction superposition, which ensure requirement of product long-life.

02



灯具接线腔与灯体采用无线连接方式，客户端接线可避免绕线问题，且该处螺纹结合具有互换性，在后期维护过程中可使用其它功率灯体安装；

The connection between lighting fixture and wiring cavity is wireless connection structure, which avoid wire wrapping problem, and it's thread can be interchangeable. It is convenient for installation and maintain for other lamp source.

03



出线套内的接线盘采用专利的快捷取出结构设计，提高现场安装效率。

The wiring panle inside wiring cavity is patented quickly removed struction type, which improved the site installation efficiency.

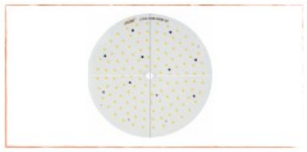
04



吸顶式接线腔方便分线，最多可加工4处通头孔，且接线盘具备2组端子，方便现场分线布线，减少接线盒使用，节省成本。

Ceiling type wiring cavity is convenient for branching, the maximum quantity of cable entries is 4, there are 2 sets of terminals for wiring panel, which convenient for branching and wiring in site, and reducing the usage of terminals box and saving cost.

05



采用国际知名品牌的LED灯珠，采用WAGO品牌的插接端子，保证产品长寿命。

Using the international famous brand of lamp source and WAGO terminals, which ensure the long life time of product.

06

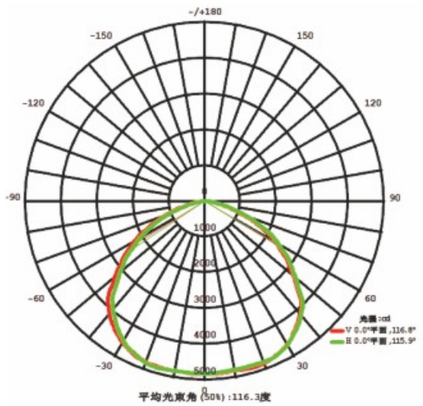


灯具采用高强度棱晶钢化玻璃罩，钢化玻璃罩可耐4J冲击，内部雾面设计实现防眩功能。

The transparency cover use high ribbed strength toughened glass cover, which can stand the 4J impact, the glass inside design is fog type which realize the anti-glare function.

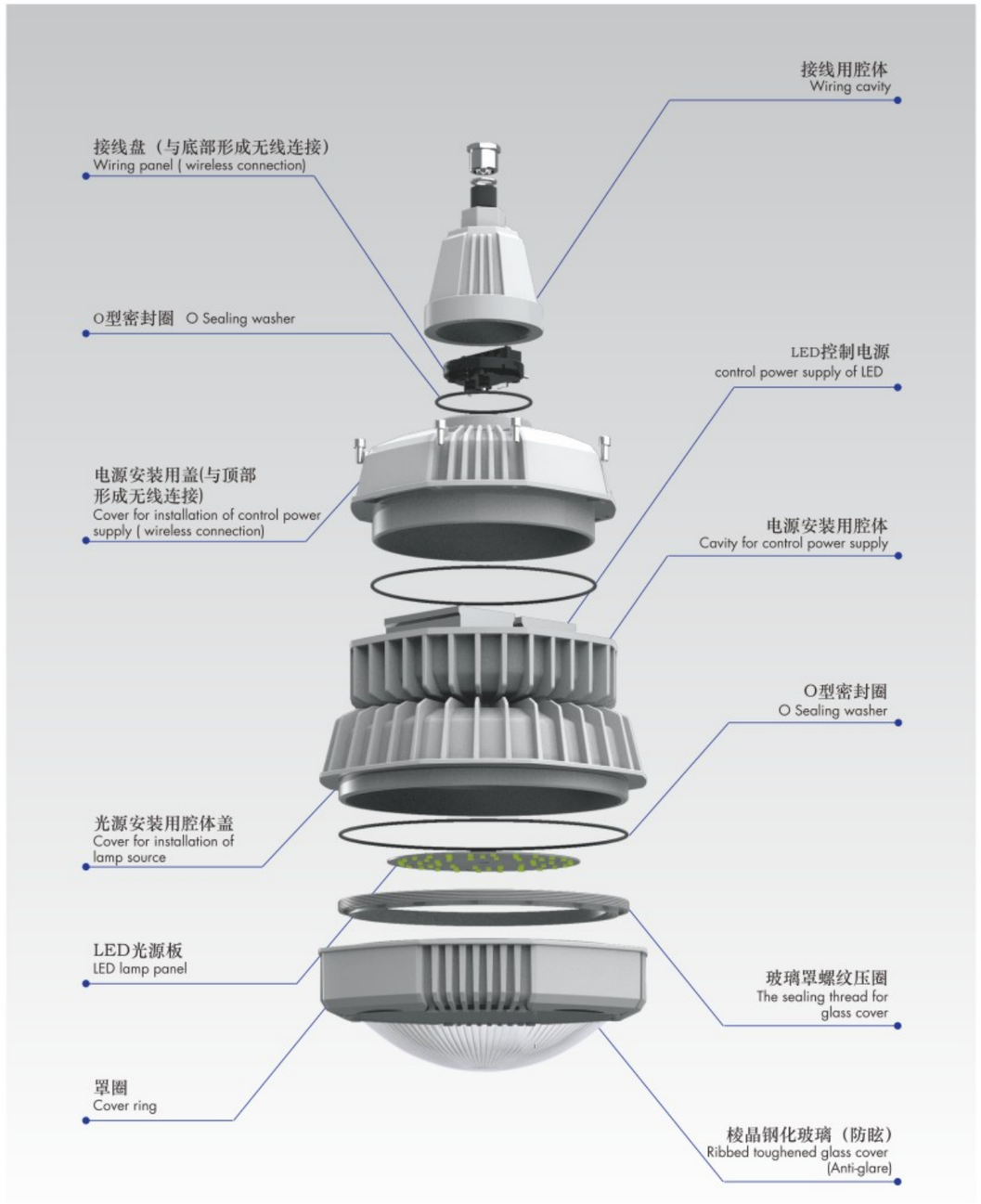
各功率灯具光分布曲线图

Photometric date for each lamp source.



低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbIIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

产品爆炸图 Technical parameters







MAML-02C系列防爆灯具（LED）
MAML-02C Series Explosion-proof Lighting Fixtures

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采棱晶钢化玻璃，满足4J能量冲击；
- The transparency cover use the ribbed toughened glass cover, which can stand the 4J impact.

- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.

- 内置工业级LED恒流源，电压127-256V范围稳定运行，符合EMC要求，且具有短路、过载、过压保护功能；
- The lighting can be stable used in 127-256V wide range voltage. It can meet the EMC requirements. The protection functions are available in short circuit, overload and overvoltage.

- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements. When supply power cut off, the lighting fixture can be turned into emergency lighting condition.

- 电缆或钢管布线。
- Wiring with cable or steel tube.

MINMILE

型号含义 Model meaning

MAML-02C – A – B – C – D

A 型号（功率）Model(Power)

100(30W)	
100(40W)	
100(50W)	
100(60W)	
100(70W)	
100(80W)	
100(90W)	
100(100W)	
180(120W)	
180(160W)	
180(180W)	

B 安装方式 Mounting Type

C-吸顶式	C-ceiling type
W1-壁式30°	W1-30°wall type
W2-壁式90°	W2-90°wall type
W3-支架吸壁式	W3-Bracket wall suction type
U-支架式	U-Bracket type
S-吊杆式	S-Pendant pole type
h-挂钩式	h-hook type
R-吊环式	R-ring type
P1(P3)-护栏式	P1(P3)-fence type
P2(P4)-立杆式	P2(P4)-pole type
f-可倾斜护栏式 f-tillable mounting type	
0-无安装方式（S型外形） 0-Without mounting type (Stype appearance).	

C 带网罩/不带 With wire guard or not

00-不带网罩（可不注） without wire guard（optional）	
N1- 铁喷白材质 Carbon steel with N1-white painted	
N2- 304材质	N2-304SS
N3- 316材质	N3-316SS

D 带应急/不带 With Emergency Or Not

00-不带应急（可不注） without emergency （optional）
EG-带应急（应急时间备注） with emergency （indicate time）

举例1：防爆灯具，功率30W，可倾斜护栏式，不带网罩，不带应急，则型号为：MAML-02C-100(30W)-f

For example #1: Explosion-proof LED lighting fixture, lamp source is 30W, tillable mounting type, without wire guard, without emergency. the product model No. is MAML-02C-100(30W)-f.

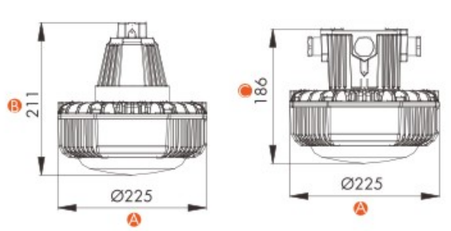
举例2：防爆灯具，功率100W，无安装方式，带304不锈钢网罩，带应急60min，
则型号为：MAML-02C-100(100W)-0-N2-EG60min
For example #2: Explosion-proof LED lighting fixture, lamp source 100W, without mounting type, with SS304 wire guard, with emergency time 60min, the product model No. is MAML-02C-100(100W)-0-N2-EG60min

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameter

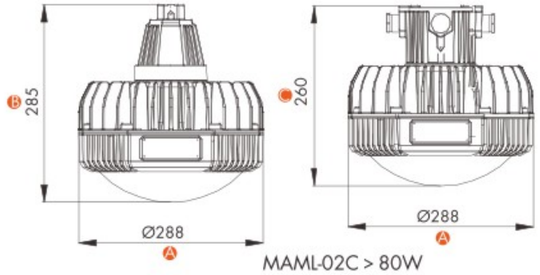
环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +40°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ⓔx II 2G Ex db IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
-45°C ~ +60°C	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	Ⓔx II 2G Ex db IIC T4 Gb Ⓔx II 2D Ex tb IIIC T130°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating, international standard color code:RAL 7090		
透明罩 Transparent cover	棱晶钢化玻璃罩，抗4J冲击 Ribbed high strength glass,stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
LED灯珠品牌 LED lamp bead brand	科瑞CREE（首选）、欧司朗OSRAM、飞利浦Lumileds、三星Samsung、日亚Nichia、首尔Seoul Kori CREE (preferred), OSRAM OSRAM, philips Lumileds, Samsung Samsung, Japan's Nichia, Seoul Seoul		
LED驱动电源品牌 LED power supply brand	英飞特Inventronics 、明纬Meanwell、茂硕MOSO等 Inentronics , Meanwell , MOSO and Etc.		
灯具功率 The power of the lamp	30W、40W、50W、60W、70W、80W、90W、100W、120W、150W、180W		
额定电压 Rated voltage	127~256V AC 50/60HZ		
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable) / cable outer diameter range: 10~14mm		
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明；四通接线腔标配直通。 Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;Standard ceiling wiring cavity equipped with 2 cable entries		
注：格兰由客户单独订购，本产品销售不含进线口的格兰。 Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.			

S C型外形尺寸图 S, C type Outline Dimensional Drawing



MAML-02C≤80W

■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity



MAML-02C > 80W

■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity

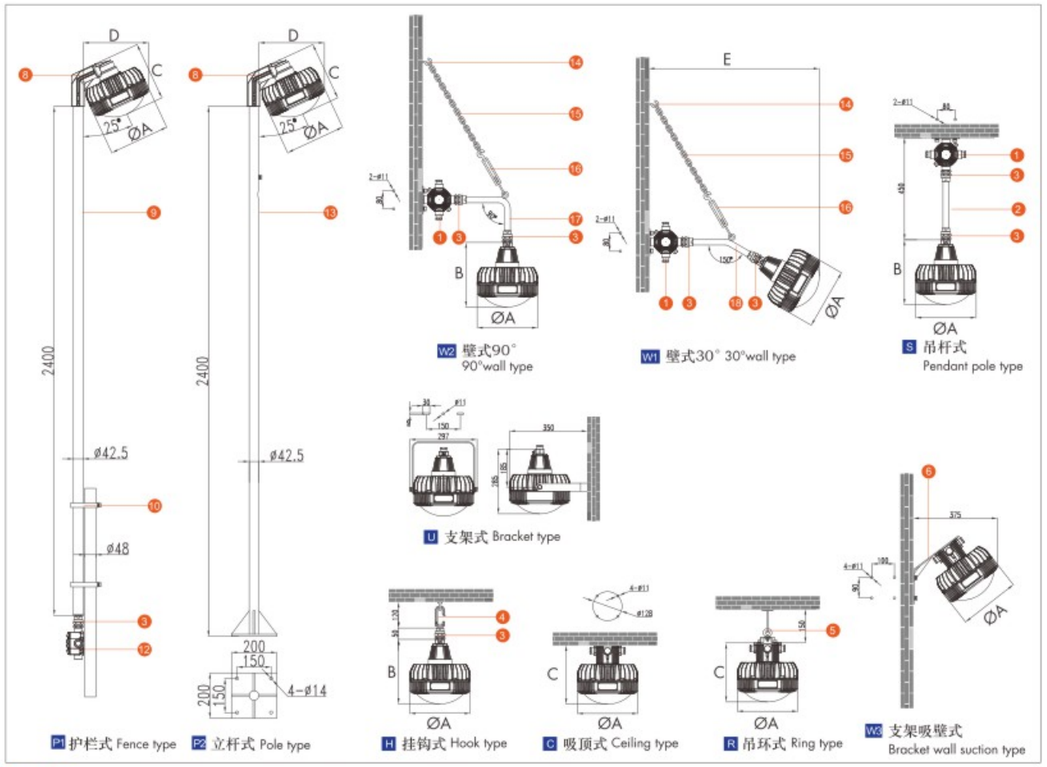
MINMILE

产品外形尺寸、重量及其他参数
Appearance size, weight and other parameters

型号规格 Model specification	功率 (W) Power (W)	色 温 Color temperature	功率因数 Power factor	外形尺寸(mm) L*W Dimensions (mm) L*W				净重(Kg) weight(Kg)		温度组别 Tc Temperature Classes Tc
				A	B	A	C	S	C	
MAML-02C-100	30	5500-6500K	≥0.98	225	211	225	186	3.05	3.2	T5/T4
	40									
	50									
	60									
	70									
	80									
	90									
	100									
	120									
MAML-02C-180	150	5500-6500K	≥0.98	288	285	288	260	7.35	7.5	
	180									

产品安装示意图 Installation reference

灯具功率 Power（W）	尺寸(mm) Dimensions (mm)				
	A	B	C	D	E
MAML-02C-100（30W/40W/50W/60W/70W/80W）	225	211	186	240	700
MAML-02C-100（90W/100W）	288	285	260	290	750
MAML-02C-180（120W/150W/180W）					



◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品优势介绍 Product advantage and features

01



采用3腔独立结构（接线腔、电源腔、光源腔），减少热量传导叠加，有效保证产品长寿命的要求。

Using 3 individual construction (wiring cavity, power supply cavity and lamp source cavity), reducing the heating conduction superposition, which ensure requirement of product long-life.

02



灯具接线腔与灯体采用无线连接方式，客户端接线可避免绕线问题，且该处螺纹结合具有互换性，在后期维护过程中可使用其它功率灯体安装；

The connection between lighting fixture and wiring cavity is wireless connection structure, which avoid wire wrapping problem, and it's thread can be interchangeable. It is convenient for installation and maintain for other lamp source.

03



出线套内的接线盘采用专利的快捷取出结构设计，提高现场安装效率。

The wiring panle inside wiring cavity is patented quickly removed struction type, which improved the site installation efficiency.

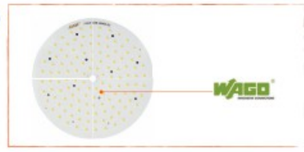
04



吸顶式接线腔方便分线，最多可加工4处通头孔，且接线盘具备2组端子，方便现场分线布线，减少接线盒使用，节省成本。

Ceiling type wiring cavity is convenient for branching, the maximum quantity of cable entries is 4, there are 2 sets of terminals for wiring panel, which convenient for branching and wiring in site, and reducing the usage of terminals box and saving cost.

05



采用国际知名品牌的LED灯珠，采用 WAGO 品牌的插接端子，保证产品长寿命。

Using the international famous brand of lamp source and WAGO terminals, which ensure the long life time of product.

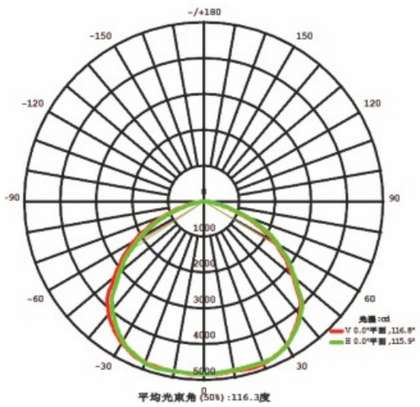
06



灯具采用高强度棱晶钢化玻璃罩，钢化玻璃罩可耐4J冲击，内部雾面设计实现防眩功能。

The transparency cover use high ribbed strength toughened glass cover, which can stand the 4J impact, the glass inside design is fog type which realize the anti-glare function.

各功率灯具光分布曲线图
Photometric date for each lamp source.



MiNMiLE





MAML-01-S系列防爆灯具（节能灯）
MAML-01-S Series Explosion-proof Lighting Fixtures

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight, pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning.The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采用带棱晶钢化玻璃，防眩光，满足4J能量冲击；
- The transparent cover is ribbed toughened glass, which can hold 4J energy impact, anti glare.

- 配置表面阳极氧化处理的纯铝反光罩，有效提高灯具的使用效率；
- Equipped with anodic-oxidation treatment purity aluminium external reflector, improving using efficiency of lighting fixture.

- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements.When supply power cut off,the lighting fixture can be turned into emergency lighting condition.

- 电缆或钢管布线。
- Wiring with cable or steel pipe.



MINMILE

型号含义 Model meaning

MAML-01 – A – C – D – E

A 节能灯泡功率 Energy-saving lamp power	C 安装方式 Mounting Type	D 带网罩/不带 With wire guard or not	E 带应急/不带 With Emergency Or Not
S65(65W)	C-吸顶式 C-ceiling type	00-不带网罩（可不注） without wire guard (optional)	00-不带应急（可不注） without emergency (optional)
S32(32W)	W1-壁式30° W1-30°wall type	N1- 铁喷白材质 Carbon steel with white painted	EG-带应急（应急时间备注） with emergency (indicate time)
S20(20W)	W2-壁式90° W2-90°wall type	N2- 304材质 N2-304SS	
	W3-支架吸壁式 W3-Bracket wall suction type	N3- 316材质 N3-316SS	
	S-吊杆式 S-Pendant pole type		
	h-挂钩式 h-hook type		
	R-吊环式 R-ring type		
	P1(P3)-护栏式 P1(P3)-fence type		
	P2(P4)-立杆式 P2(P4)-pole type		
	f-可倾斜护栏式 f-tillable mounting type		
	0-无安装方式（S型外形） 0-Without mounting type (S type appearance).		

举例1：防爆灯具，光源采用节能灯泡，功率20W，可倾斜护栏式，带铁喷白网罩，不带应急，则型号为：MAML-01-S20(20W)-f-N1

For example #1: Explosion-proof lighting fixture, lamp source is energy-saving lamp, lamp power is 20W, tillable mounting type, with wire guard white coating , without emergency, the model No. is MAML-01-S20(20W)-f-N1

举例2：防爆灯具，光源采用节能灯，功率65W，无安装方式，带304不锈钢网罩，带应急30min，则型号为：MAML-01-S65(65W)-0-N2-EG30min

For example #2, Explosion-proof lighting fixture, lamp source is energy-saving lamp, lamp power is 65W, without mounting type, with SS304 wire guard, with emergency30min. The model No.: MAML-01-S65(65W)-0-N2-EG30min

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

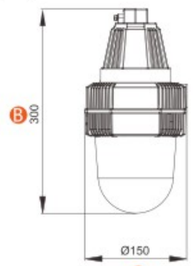
技术参数 Technical parameters

环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +40°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ⓔx II 2G Ex db IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db
-45°C ~ +60°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ex db IIC T5 Gb Ex tb IIIC T95°C Db	Ⓔx II 2G Ex db IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090		
玻璃罩 Transparent cover	棱晶钢化玻璃罩，抗4J冲击 Ribbed high strength glass,stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
光源品牌 lamp brand	飞利浦Philips、亚明1923等（用户自选品牌） PHILPS Philips, Ya Ming 1923 etc. (The optional brand by client)		
灯具功率 The power of the lamp	LED灯泡：Max20W, Max32W, Max65W ； 节能灯泡：18、32、45、65W LED bulbs: Max20W, Max32W, Max65W; energy saving bulbs: 18, 32, 45, 65W		
额定电压 Rated voltage	220~240V AC 50/60HZ		
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber and plastic rubb) / cable OD range:10~14mm		
灯具进线口螺纹规格 Lighting fixture cable entry thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明；四通接线腔标配直通 Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;Standard ceiling wiring cavity equipped with 2 cable entries		

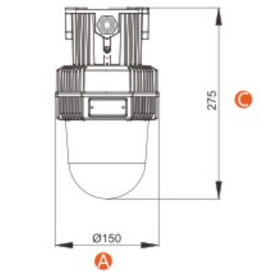
注：格兰由客户单独订购，本产品销售不含进线口的格兰。
Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.

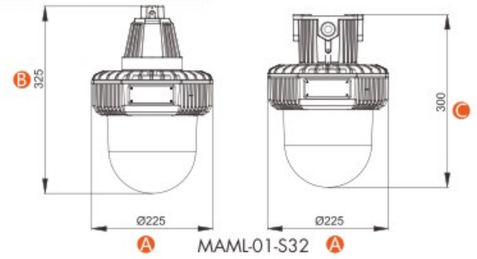
S C型外形尺寸图 S, C type outline dimensional drawing

■ S:单通接线腔
S: Single cable entry wiring cavity
MAML-01-S20



■ C:四通接线腔
C: Four cable entries wiring cavity
MAML-01-S20

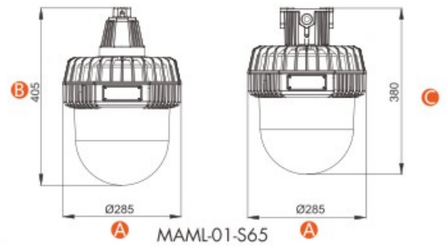




MAML-01-S32

■ S:单通接线腔
S: Single cable entry wiring cavity

■ C:四通接线腔
C: Four cable entries wiring cavity



MAML-01-S65

■ S:单通接线腔
S: Single cable entry wiring cavity

■ C:四通接线腔
C: Four cable entries wiring cavity

防爆照明灯系列 Explosion-proof Series Lighting Fixture

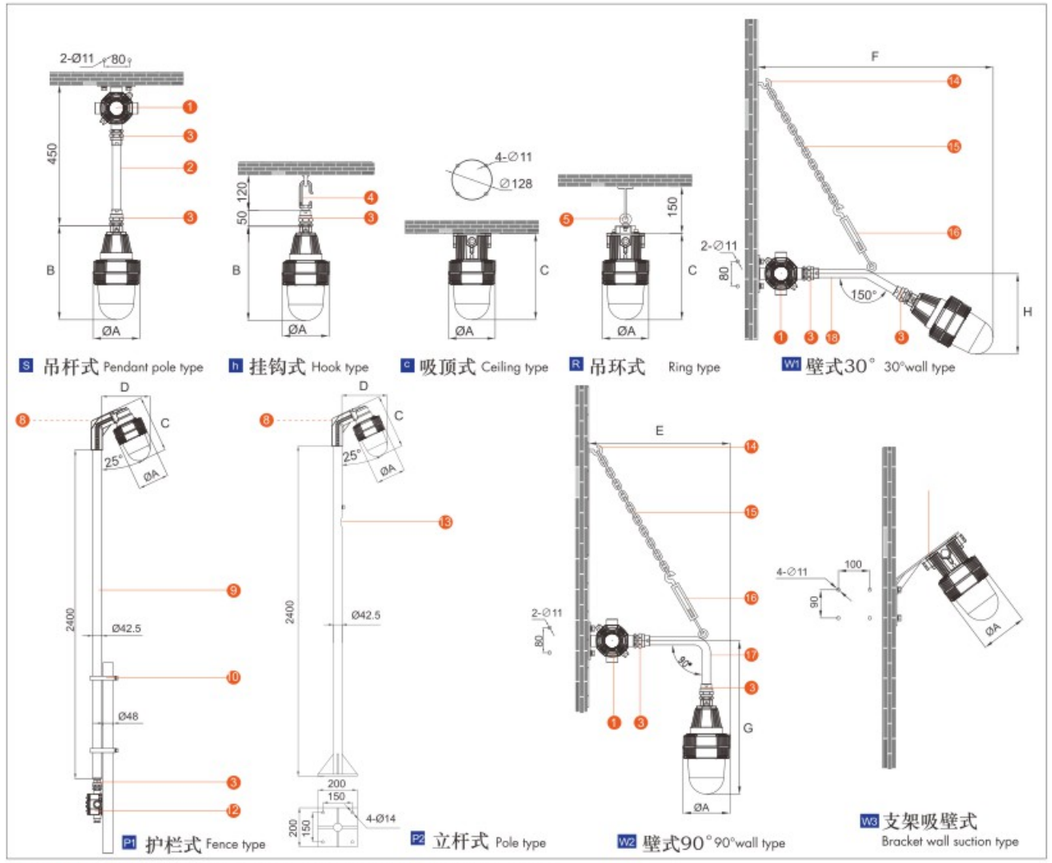
MINMILE

产品外形尺寸、重量及其他参数
Appearance size, weight and other parameters

型号规格 Model No. specifications	光源种类 Light source type	功率 (W) Power (W)	灯座 Lamp holder	色 温 temperature color	功率因数 Power factor	净重(Kg) weight(Kg)		温度组别 Tc Temperature ClassesTc
						S	C	
MAML-01-S20	节能灯泡 Energy saving light bulbs	20	E27	6500K	≥0.9	3.08	3.23	T6/T5
MAML-01-S32		32				4.6	4.75	
MAML-01-S65		65				7.4	7.55	

产品安装示意图 Installation reference

灯具功率 Power（W）	外形尺寸(mm) Dimensions (mm)							
	A	B	C	D	E	F	G	H
MAML-01-S20（20W）	150	300	275	235	490	750	490	260
MAML-01-S32（32W）	225	325	300	225	490	780	510	280
MAML-01-S65（35W）	285	405	380	305	520	850	590	340



◆ 以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.

低温 -45℃ Low temperature
高温 +60℃ High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品优势及特点 Product advantage and features

01



采用2腔独立结构（接线腔、光源腔），方便用户接线及更换光源。

Using 2 individual construction (wiring cavity and lamp source cavity), convenient for update and change lamp source.

02



灯具接线腔与灯体采用无线连接方式，客户端接线可避免绕线问题，且该处螺纹结合具有互换性，在后期维护过程中可使用其它功率灯体安装。

The connection between lighting fixture and wiring cavity is wireless connection structure, which avoid wire wrapping problem, and it's thread can be interchangeable. It is convenient for installation and maintain for other lamp source.

03



出线套内的接线盘采用专利的快捷取出结构设计，提高现场安装效率。

The wiring panle inside wiring cavity is patented quickly removed struction type, which improved the site installation efficiency.

04



吸顶式接线腔方便分线，最多可加工4处通头孔，且接线盘具备2组端子，方便现场分线布线，减少接线盒使用，节省成本。

Ceiling type wiring cavity is convenient for branching, the maximum quantity of cable entries is 4, there are 2 sets of terminals for wiring panel, which convenient for branching and wiring in site, and reducing the usage of terminals box and saving cost.

05



采用国际知名品牌的LED灯泡、节能灯灯泡，采用E27或E40灯座，快速安装，更换方便。

Using international brand LED lamp source, saving-energy lamp source, E27 or E40 lamp holder, installation fast, convenient for change.

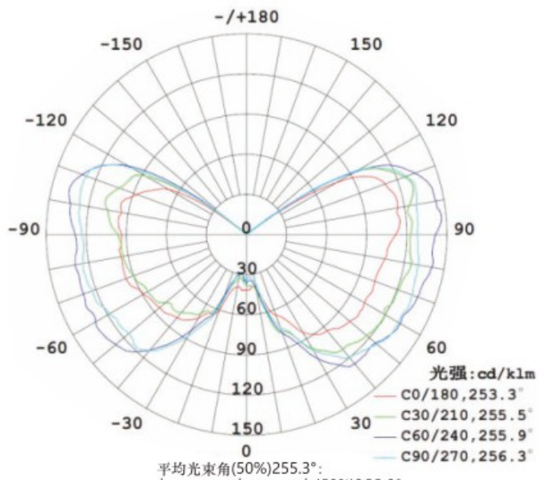
06



灯具采用高强度棱晶钢化玻璃罩，钢化玻璃罩可耐4J冲击，防眩光设计，照射角度大（见配电曲线图）。可根据用户需要配置网罩。

The lighting fixture use high strength ribbed toughened glass cover, which can stand the 4J impact, anti-glare, with wide angel (see photometric date). The wire guard can be customized as per client requirements.

各功率灯具光分布曲线图
Photometric date for each lamp source.

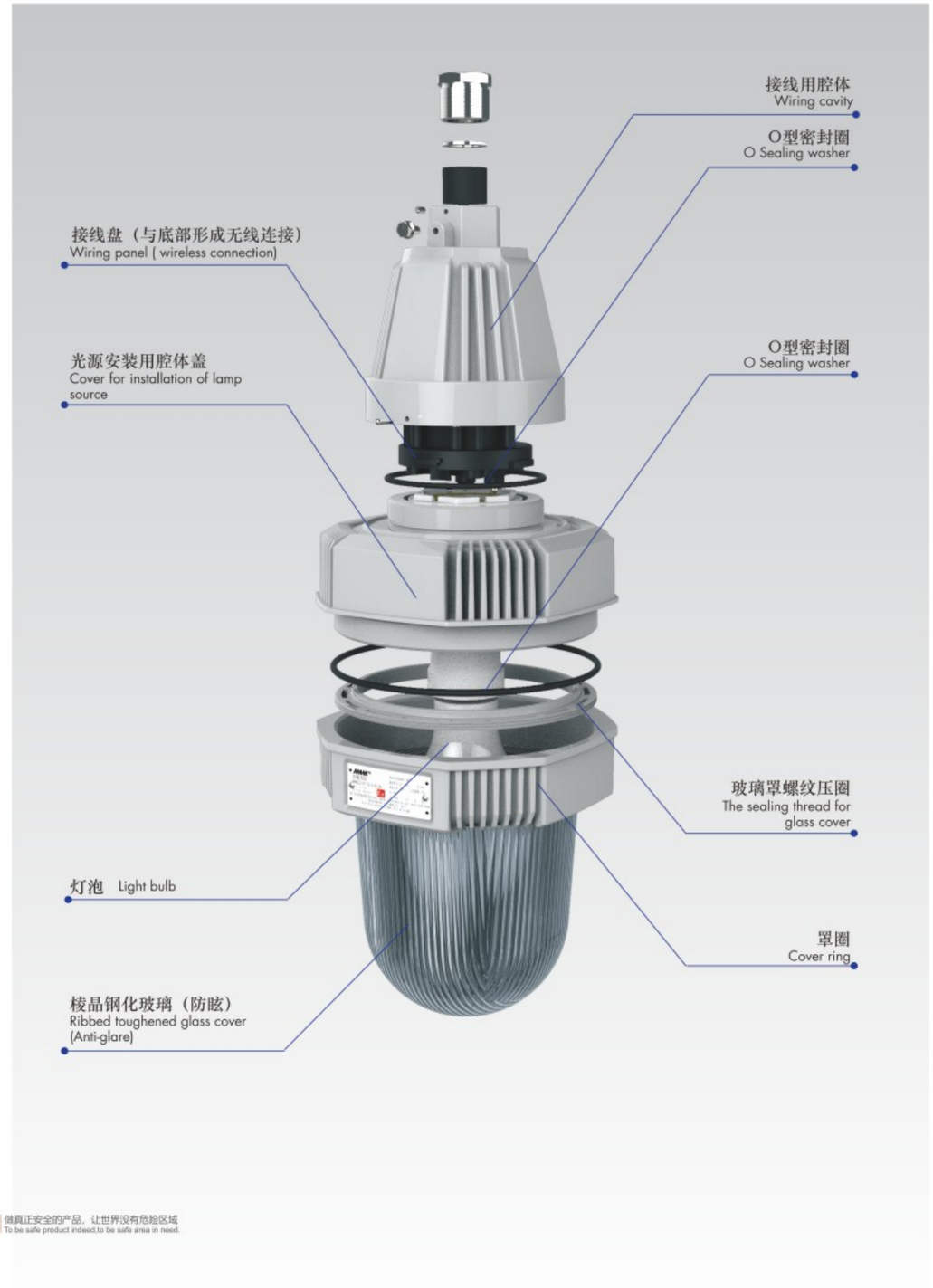


平均光束角(50%)255.3°:
the average beam angle(50%)255.3°

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE

产品爆炸图 Technical parameters









MAML-01系列防爆灯具（气体放电灯）
MAML-01 Series Explosion-proof Lighting Fixtures

低温 -45℃ Low temperature
高温 +60℃ High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product features

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight, pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning.The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采用带棱晶钢化玻璃，防眩光，满足4J能量冲击；
- The transparent cover is ribbed toughened glass, which can hold 4J energy impact, anti glare.

- 配置表面阳极氧化处理的纯铝反光罩，有效提高灯具的使用效率；
- Equipped with anodic-oxidation treatment purity aluminium external reflector, improving using efficiency of lighting fixture.

- 放置光源的腔体与放置镇流器的腔体完全独立，有效防止两个腔体的温差造成的冷凝水现象且有效降低两腔的温度。
- The ballast cavity and lamp source cavity are individual separately, which prevents condensate phenomenon caused by difference of two cavities temperature, and lower the temperature of two cavities.

- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements.When supply power cut off,the lighting fixture can be turned into emergency lighting condition.

- 电缆或钢管布线。
- Wiring with cable or steel pipe.



MINMILE

型号含义 Model meaning

MAML-01 – A – B – C – D – E

	型号(功率) Model(Power)	光源种类 Lamp source type	安装方式 Mounting Type	带网罩/不带 With wire guard or not	带应急/不带 With Emergency Or Not
A	150(70W)	MHI-金卤灯 MHI-Metal halide lamp	C-吸顶式 C-ceiling type	00-不带网罩（可不注） without wire guard (optional)	00-不带应急（可不注） without emergency (optional)
A	150(100W)	HPS-高压钠灯 HPS-High pressure sodium lamp	W1-壁式30° W1-30°wall type	N1- 铁喷白材质 Carbon steel with white painted	EG-带应急（应急时间备注） with emergency (indicate time)
A	150(110W)		W2-壁式90° W2-90°wall type	N2- 304材质 N2-304SS	
A	150(125W)		W3-支架吸壁式 W3-Bracket wall suction type	N3- 316材质 N3-316SS	
A	150(150W)		S-吊杆式 S-Pendant pole type		
A	175(175W)		h-挂钩式 h-hook type		
			R-吊环式 R-ring type		
			P1(P3)-护栏式 P1(P3)-fence type		
			P2(P4)-立杆式 P2(P4)-pole type		
			f-可倾斜护栏式 f-tillable mounting type		
			0-无安装方式（S型外形） 0-Without mounting type (S type appearance).		

举例1：防爆灯具，光源采用金卤灯，功率100W，可倾斜护栏式，带铁喷白网罩，不带应急，则型号为：MAML-01-150(100W-MHI)-f-N1

For example #1: Explosion-proof lighting fixture, lamp source is metal halide lamp, lamp source is 100W, tillable mounting type, with wire guard white coating , without emergency. The model No.: MAML-01-150(100W-MHI)-f-N1

举例2：防爆灯具，光源采用高压钠灯，功率150W，无安装方式，带304不锈钢网罩，带应急30min，则型号为：MAML-01-175(150W-HPS)-0-N2-EG30min

For example #2, Explosion-proof lighting fixture, lamp source is high pressure sodium lamp, lamp source is 150W, without mounting type, with SS304 wire guard, with emergency30min. The model No.: MAML-01-175(150W-HPS)-0-N2-EG30min

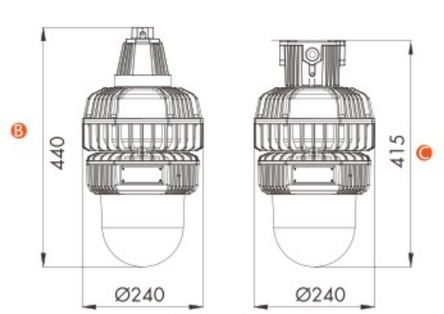
低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameters

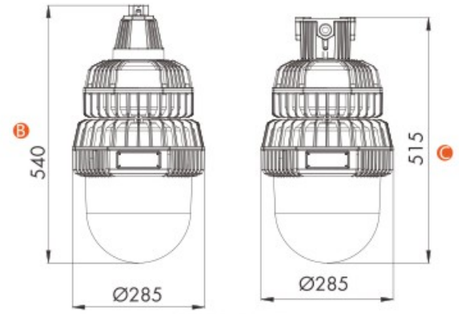
环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +40°C	≤MH 150W/HPS 150W : Ex db IIC T4 Gb Ex tb IIIC T130°C Db	≤MH 150W/HPS 150W : Ex db IIC T4 Gb Ex tb IIIC T130°C Db	≤MH 150W/HPS 150W : Ⓔx II 2G Ex db IIC T4 Gb Ⓔx II 2D Ex tb IIIC T130°C Db
-45°C ~ +60°C	≤MH 175W/HPS 175W Ex db IIC T4 Gb Ex tb IIIC T130°C Db	≤MH 175W/HPS 175W Ex db IIC T4 Gb Ex tb IIIC T130°C Db	MH 175W/HPS 175W : Ⓔx II 2G Ex db IIC T4 Gb Ⓔx II 2D Ex tb IIIC T130°C Db
	≤MH 150W/HPS 150W Ex db IIC T3 Gb Ex tb IIIC T135°C Db	≤MH 150W/HPS 150W Ex db IIC T3 Gb Ex tb IIIC T135°C Db	≤MH 150W/HPS 150W : Ⓔx II 2G Ex db IIC T3 Gb Ⓔx II 2D Ex tb IIIC T135°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090		
玻璃罩 Transparent cover	棱晶钢化玻璃罩，抗4J冲击 Ribbed toughened glass cover ,stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
光源、电感镇流器品牌 Lamp , ballast brand	飞利浦Philips、欧司朗OSRAM、亚明1923等（用户自选品牌） Philips, OSRAM, Yamin 1923 etc. (The optional brand by client)		
灯具功率 The power of the lamp	金属卤化物灯：70、100、150、175W； 高压钠灯：70、110、150W ； Metal halide lamp: 70, 100, 150, 175W; High pressure sodium lamp: 70, 110, 150W;		
额定电压 Rated voltage	220~240V AC 50/60Hz 可定制 220~240V AC 50/60Hz Can be customized		
允许最大进线电缆规格及电缆外径 Maximum entry cable specifications and cable OD.r	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber and plastic rubb) / cable OD range:10~14mm		
灯具进线口螺纹规格 Lighting fixture cable entry thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明；四通接线腔标配直通 Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;Standard ceiling wiring cavity equipped with 2 cable entries		

注：格兰由客户单独订购，本产品销售不含进线口的格兰。
Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.

S C型外形尺寸图 S, C type Outline Dimensional Drawing



■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity



■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity

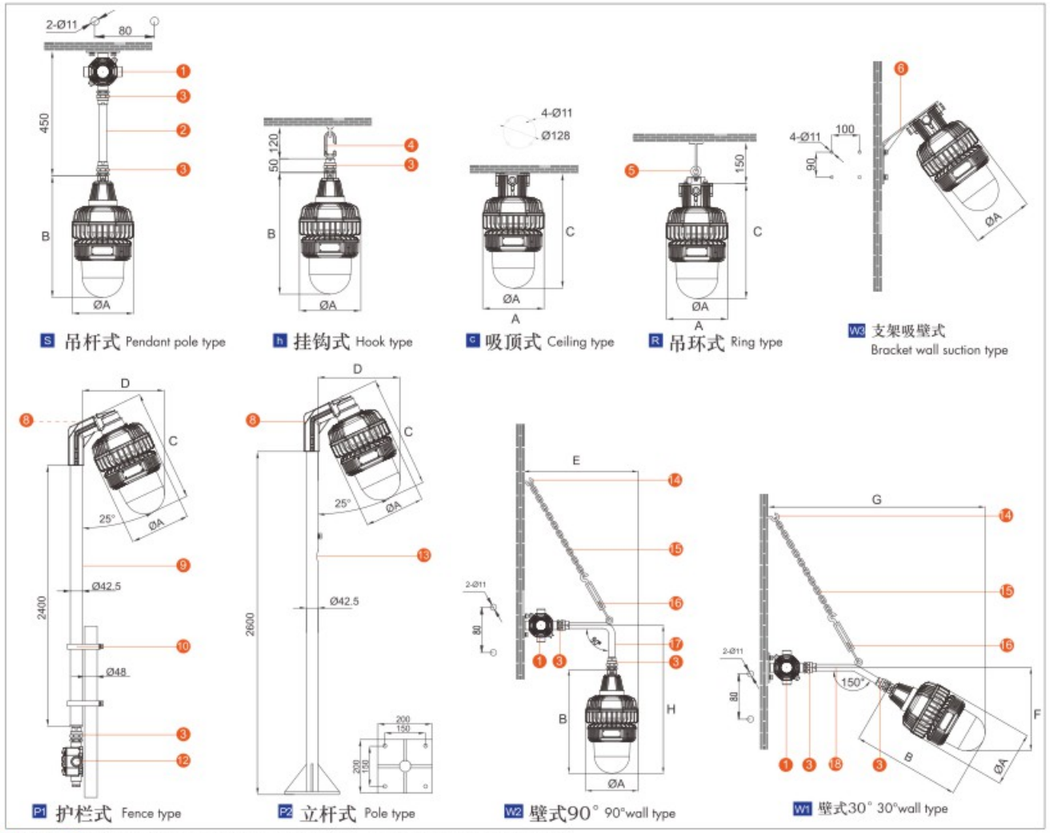
MINMILE

产品外形尺寸、重量及其他参数
Dimension drawings and installation reference

型号规格 odel No. specifications	光源种类 Lamp source type	功率 (W) Power (W)	灯座 Lamp holder	色 温 temperature color	功率因数 Power factor	外形尺寸(mm) L*W Dimensions (mm) L*W				净重(Kg) weight(Kg)		温度组别 Tc Temperature Classes Tc
						A	B	A	C	S	C	
MAML-01-150MHI	金卤灯MHI Metal halide lamp	70	E27	4000K	≥0.9	240	440	240	415	10.6	10.75	T4/T3
		100										
		150										
MAML-01-175MHI		175	E40			285	520	285	495	13.25	13.4	
MAML-01-150HPS	高压钠灯HPS High pressure sodium lamp	70	E27	2000K	≥0.9	240	520	240	415	10.6	10.75	
		100										
		150	E40			285	440	285	495	13.25	13.4	

产品安装示意图 Installation reference

灯具功率 Power（W）	外形尺寸(mm) Dimensions (mm)							
	A	B	C	D	E	F	G	H
MAML-01-150（70W/100W/150W）	240	440	415	305	490	340	880	630
MAML-01-175（150W/175W）	285	540	515	355	520	410	970	730



◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.

低温 -45℃ Low temperature
高温 +60℃ High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品优势介绍 Product advantage and features

01



采用3腔独立结构（接线腔、电源腔、光源腔），减少热量传导叠加，有效保证产品长寿命的要求。

Using 3 individual construction (wiring cavity, power supply cavity and lamp source cavity), reducing the heating conduction superposition, which ensure requirement of product long-life.

02



灯具接线腔与灯体采用无线连接方式，客户端接线可避免绕线问题，且该处螺纹结合具有互换性，在后期维护过程中可使用其它功率灯体安装；

The connection between lighting fixture and wiring cavity is wireless connection structure, which avoid wire wrapping problem, and it's thread can be interchangeable. It is convenient for installation and maintain for other lamp source.

03



出线套内的接线盘采用专利的快捷取出结构设计，提高现场安装效率。

The wiring panle inside wiring cavity is patented quickly removed struction type, which improved the site installation efficiency.

04



吸顶式接线腔方便分线，最多可加工4处通头孔，且接线盘具备2组端子，方便现场分线布线，减少接线盒使用，节省成本。

Ceiling type wiring cavity is convenient for branching, the maximum quantity of cable entries is 4, there are 2 sets of terminals for wiring panel, which convenient for branching and wiring in site, and reducing the usage of terminals box and saving cost.

05



采用国际知名品牌的镇流器、触发器、补偿电容及光源，保证产品质量。

Using international brand of ballast, trigger, compensation capacitor and lamp source, which ensure product quality.

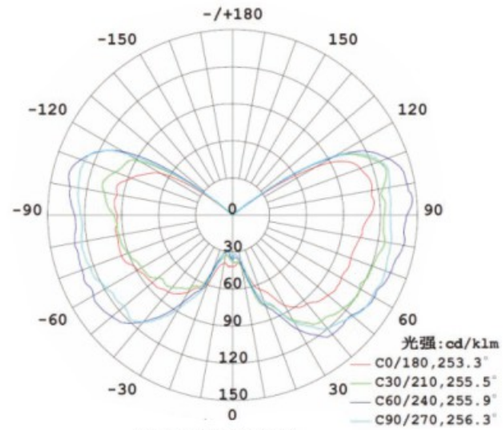
06



灯具采用高强度棱晶钢化玻璃罩，钢化玻璃罩可耐4J冲击，防眩光设计，照射角度大（见配电曲线图）。可根据用户需要配置网罩。

The lighting fixture use high strength ribbed toughened glass cover, which can stand the 4J impact, anti-glare, with wide angel (see photometric date). The wire guard can be customized as per client requirements.

各功率灯具光分布曲线图
Photometric date for each lamp source.

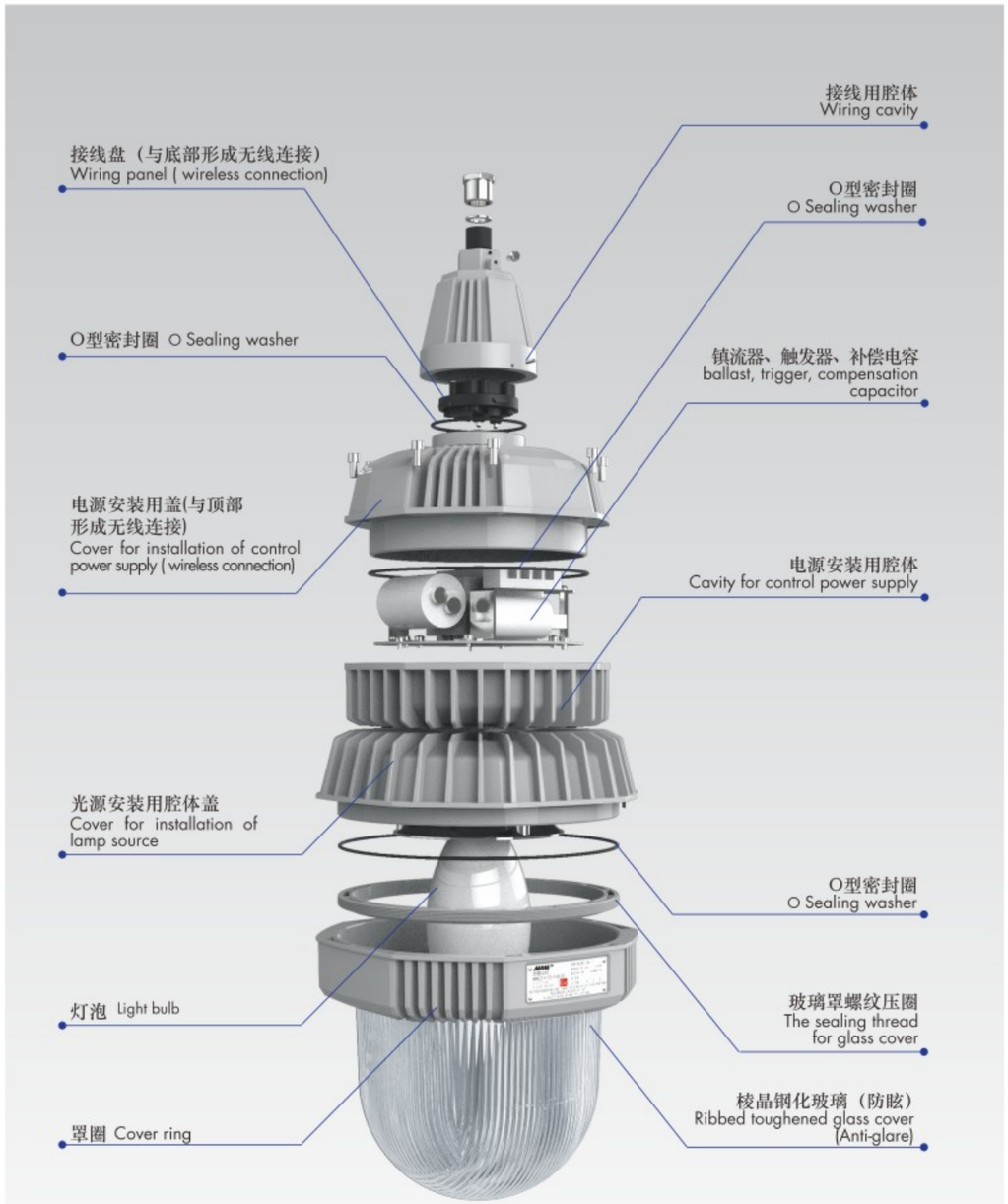


平均光束角(50%)255.3°:
the average beam angle(50%)255.3°

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE

产品爆炸图 Technical parameters







MAMAV



MAML-04A/-05A系列防爆灯具(报警装置)
MAML-04A/-05A Series Explosion-proof Lighting Fixtures

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight, pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning.The exposed fastener is stainless steel. Beautiful appearance.

- 适用于炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采用棱晶钢化玻璃，防眩光，满足4J能量冲击；
- The transparent cover is ribbed toughened glass, which can hold 4J energy impact, anti glare.

- 可根据需求配置不同颜色的报警装置，可选：红、绿、黄；
- Can be equipped with different color as per client requirements(Optional in red, green, yellow)

- 低频率高光强障碍灯可用于铁塔（电力，通信，微波等），烟囱（火电厂，焦化厂，化工厂等），高层建筑，大型桥梁，大型港口机械，大型工程机械，风力发电机等需要对航空器起警示作用的场合。
- The low luminous intensity obstruction lighting can be used in tower(electricity, communication, microwave, etc.), chimney(heat-engine plant, coking plant, chemical plant), high-rise buildings, large bridge, harbour machinery, engineer machinery, wind driven generator, where needs alarm the aircraft.

- 电缆或钢管布线。
- Wiring with cable or steel pipe.



MINMILE

型号含义 Model meaning

MAML-04A/-05A MAMAV - A - B - C - D

报警种类 Alarm type

MAMAV H-声光报警
MAMAV Audio and Visual Caution Spotlight Fittings

04A-5-W-警示灯
Caution light
W1-闪烁型
Flicker type
W2-常亮型
Continuous type

05A-20-A-低光强障碍灯
Low luminous intensity caution spotlight fittings
A1-闪烁型
Flicker type
A2-带光控、闪烁型
With photocell、flicker type
A3-常亮型
Continuous type
A4-带光控、常亮型
With photocell、continuous type

颜色 Color

R-红色 Red
G-绿色 Green
Y-黄色 Yellow

安装方式 Mounting type

C-吸顶式、坐式
Ceiling, horizontal type
S-吊杆式
Pendant pole type

带网罩/不带 With wire guard or not

00-不带网罩（可不注）
without wire guard（optional）
N1- 铁喷白材质
Carbon steel with white painted
N2- 304材质 N2-304SS
N3- 316材质 N3-316SS

举例1：防爆灯具，要求声光报警，座式安装，报警颜色为黄色，带铁喷白网罩，则型号为：MAMAV-H-Y-C-N1
For example #1: Explosion-proof caution spotlight, with audio and visual caution spotlight fittings, horizontal mounting type, caution color is yellow, with white coating wire guard, the model No. is MAMAV-H-Y-C-N1.

举例2：防爆灯具，要求低频低光强障碍灯闪烁型并带光控，座式安装，报警颜色为红色，带304不锈钢网罩，则型号为：MAML-05A-5-A2-R-C-N2
For example #2: Explosion-proof caution spotlight, low luminous intensity caution spotlight with photocell, horizontal mounting type, caution color is red, with SS304 wire guard, the model No. is MAML-05A-5-A2-R-C-N2.

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbIIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

技术参数 Technical parameter

环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +60°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ⓔx II 2G Ex db IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.4 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-11 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090		
透明罩 Transparent cover	棱晶钢化玻璃，抗4J冲击 Ribbed toughened glass, stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
光源及灯具功率 Lamp and lamp power	LED光源，功率： 5~20W LED lamp, power: 5~20W		
额定电压及频率 Rated voltage &HZ	AC/DC: 12/24/36V/48V AC: 220~240V 50/60HZ		
允许最大进线电缆规格及电缆外径 Maximum entry cable specifications and cable OD.	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber and plastic rubber) / cable OD range:10~14mm		
灯具进线口螺纹规格 Lighting fixture cable entry thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明； Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;		
注：格兰由客户单独订购，本产品销售不含进线口的格兰。 Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.			

产品选型技术参数 Technical data

型号规格 Model No. specifications	报警种类 Caution type	闪光次数/分钟 flash frequency (times/min)	声音强度dB Sound intensity dB	产品净重Kg Net weight Kg	温度组别 Tc Temperature ClassesTc
MAMAV-H	声光报警 Audio and visual caution	136	≥110	3.6	T6
MAML -04A-5-W	警示灯（闪烁型W1）Caution light (flash type W1)	136	/	3.5	
	警示灯（常亮型W2）Caution light (continuous type W2)	/	/		
MAML -05A-20-A	低光强障碍灯(闪烁型A1) Low luminous intensity caution spotlight(flash type A1)	45	/	3.3	
	低光强障碍灯(带光控、闪烁A2) Low luminous intensity caution spotlight(with photocell、flash type A2)	45	/		
	低光强障碍灯(常亮型A3) Low luminous intensity caution spotlight(continuous type A3)	/	/		
	低光强障碍灯(带光控、常亮型A4) Low luminous intensity caution spotlight(with photocell、continuous type A4)	/	/		

说明：低光强障碍灯的光控开关灵敏度：70/100lux Note: sensitive of low luminous intensity caution spotlight photocell switch: 70/100lux

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE

产品优势介绍 Product advantage and features

01



本产品可内置声光报警装置、单独闪光装置、单独障碍灯装置，并且发光颜色多色可选，根据需要配置，通用性强。安装方式多样，可以根据用户要求选择座式、吸顶式、壁式、吊杆式、立杆座式等。

The lighting fixture can install visual and caution device, only flash device, only obstacle device, with multicolor optional. It can be customized as per requirements, high universality. The mounting type is diversity, it can be choose as per client requirements: horizontal type, ceiling type, wall type, pendent pole type, pole type etc.

02



灯具接线腔与灯体采用无线连接方式，客户端接线可避免绕线问题。

The connection between lighting fixture and wiring cavity is wireless connection structure, which avoid wire wrapping problem.

03



接线腔内的接线盘采用专利的快捷取出结构设计，提高现场安装效率。

The wiring panle inside wiring cavity is patented quickly removed struction type, which improved the site installation efficiency.

04



座式、吸顶式接线腔方便分线，最多可加工4处通头孔，且接线盘具备2组端子，方便现场分线布线，减少接线盒使用，节省成本；

Horizontal type, ceiling type wiring cavity are convenient for branching, the maximum quantity of cable entries is 4, there are 2 sets of terminals for wiring panel, which convenient for branching and wiring in site, and reducing the usage of terminals box and saving cost.

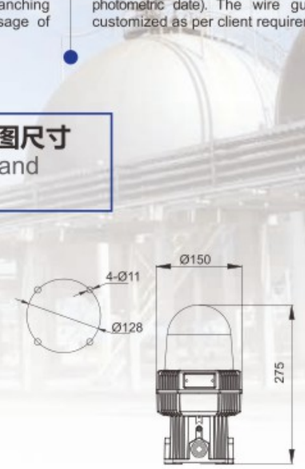
05



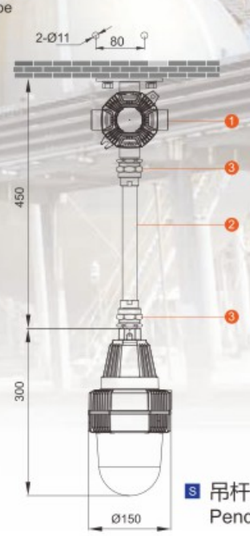
灯具采用高强度棱晶钢化玻璃罩，钢化玻璃罩可耐4J冲击，防眩光设计，照射角度大（见配电曲线图）。可根据用户需要配置网罩。

The lighting fixture use high strength ribbed toughened glass cover, which can stand the 4J impact, anti-glare, with wide angel(see photometric date). The wire guard can be customized as per client requirements.

产品外形及安装示意图尺寸 Dimension drawings and installation reference



C 座式、吸顶式
Horizontal type、Ceiling type

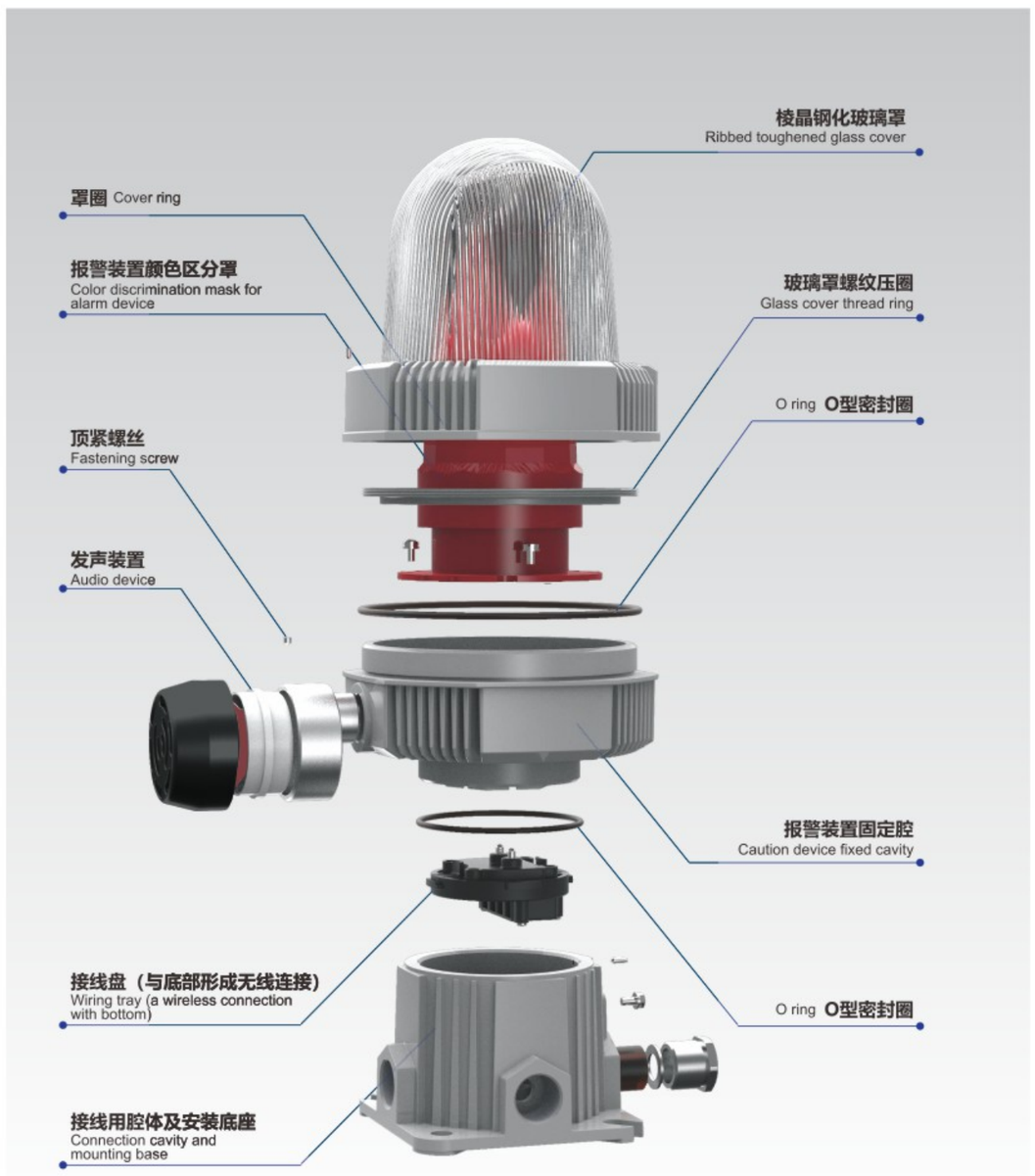


S 吊杆式
Pendant pole type

◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.

低温 -45℃ Low temperature
高温 +60℃ High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品爆炸图 Technical parameters



防爆照明灯系列 Explosion-proof Series Lighting Fixture

MiNMiLE





智能防爆照明灯
Intelligent Explosion-proof Luminaire

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry. spaceflight , pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩雾面钢化玻璃，满足4J 能量冲击；
- The transparency cover use the frosted toughened glass cover, which can stand the 4J impact.

- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.

- 内置工业级LED恒流源，电压127-256V范围稳定运行，符合EMC要求，且具有短路、过载、过压保护功能；
- Built-in industrial-grade LED constant current driver, stable operation within 127-256V voltage range, compliant with EMC standards, and equipped with short-circuit, overload, and over-voltage protection.

- 电缆或钢管布线；
- Wiring with cable or steel tube.

- 工业级无线通讯：智能防爆LED灯具采用工业级LoRa无线通讯，具有低功耗、远距离、抗干扰能力强等特点，且免除现场布置通讯线，方便现场施工；
- Industrial-Grade Wireless Communication: The intelligent explosion-proof LED luminaire utilizes industrial-grade LoRa wireless technology, featuring low power consumption, long-range transmission, and strong anti-interference capabilities. It eliminates the need for field-deployed communication wiring, significantly simplifying on-site installation.

- 远程控制与调光：支持通过物联网平台、专用网关或手机APP进行远程开关、调光（0-100%无级调光），能实现单独控制、分组控制、网关群控，满足现场多样化使用需求，实现按需照明，灵活匹配不同场景和时段需求；
- Remote Control & Dimming:The system enables remote switching and stepless dimming (0-100%) via IoT platforms, dedicated gateways or mobile apps. It supports individual control, group control and gateway-based centralized control to accommodate diverse on-site demands, achieving on-demand lighting that flexibly adapts to various scenarios and time schedules.

- 状态监测与诊断：可实时监测灯具工作状态（在线状态、开关灯状态、电流、电压、功率、亮度等），进行故障预警和诊断，方便运维人员提前干预，提升设备管理水平；
- Status Monitoring & Diagnostics:The system enables real-time monitoring of luminaire operating parameters (online status, on/off state, current, voltage, power, brightness, etc.), providing fault early-warning and diagnostic functions. This facilitates proactive maintenance by operators and significantly enhances equipment management efficiency.

- 智能感应控制（可选）：集成人体感应、光照度感应等传感器，实现“人来灯亮，人走灯暗/灭”，最大化节能效果，尤其适用于巡检通道、仓库等区域。
- Smart Sensing Control (Optional):Integrated with motion sensors and ambient light sensors to enable "light-on when occupied, dimming/off when unoccupied" functionality, maximizing energy efficiency. Particularly suitable for inspection routes, warehouses, and similar areas.

- 智能防爆LED灯具延续传统照明灯具的安装方式，方便现场改造升级。
- The smart explosion-proof LED luminaire maintains traditional lighting fixture installation methods, facilitating seamless on-site retrofitting and upgrades.

MINMILE

型号含义 Model meaning

MAML02-E – A – B – C – D

A 功率 Power

6W	
10W	
15W	
20W	
25W	
30W	

A 安装方式 Mounting Type

W1-壁式30°	W1-30°wall type
W2-壁式90°	W2-90°wall type
U-支架式	U-bracket type
h-挂钩式	h-hook type
S-吊杆式	S-derrick
P3-护栏式	P3-fence type
P4-立杆式	P4-pole type
0-无安装方式	0-Without mounting type

B 带网罩/不带 With wire guard or not

00-不带网罩（可不注）without wire guard（optional）	
N1- 铁喷白材质 Carbon steel with white painted	
N2- 304材质	N2-304SS
N3- 316材质	N3-316SS

C 带应急/不带 With Emergency Or Not

00-不带应急（可不注）without emergency（optional）
EG-带应急（应急时间备注）with emergency（indicate time）

举例1：防爆LED灯，功率30W，支架式安装，不带网罩，不带应急，则型号为：MAML02-E-30W-U

For example #1: Explosion-proof LED lighting fixture, source power 30W,U-bracket type, with wire guard, without emergency. The model No.: MAML02-E-30W-U

举例2：防爆LED灯，功率20W，无安装方式，带304不锈钢网罩，带应急60min，则型号为：MAML02-E-20W-0-N2-EG60min

For example #2: Explosion-proof LED lighting fixture, source power 20W, without mounting type, with SS304 stainless steel wire guard, with 60min emergency time, the model No. is MAML02-E-20W-0-N2-EG60min.

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameter

防爆标志 Ex Marking	Ex db IIC T6 Gb Ex tb IIIC T80℃ Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC 60079-0 IEC 60079-1 IEC 60079-31
防护等级 IP	IP66
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090
透明罩 Transparent cover	雾面钢化玻璃罩，抗4J冲击 frosted toughened,stands 4J impact
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel
LED灯珠品牌 LED lamp bead brand	欧司朗OSRAM、飞利浦Lumileds、三星Samsung OSRAM OSRAM, philips Lumileds, Samsung Samsung
灯具功率 The power of the lamp	40W□60W
额定电压 Rated voltage	110-240V AC 50/60Hz
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable)/cable outer diameter range: 10~14mm
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明； Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;
通讯方式 ATEX-certified Communication Interface	LoRa 无线通讯 LoRa Wireless Communication
选配功能 Configurable Options	人体感应 ATEX-certified Occupancy Sensor

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE





60W 普通防爆灯
60W Standard Explosion-proof Luminaire

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
  Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry. spaceflight , pharmacy, metallurgy, mineral products and etc.
- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
  The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
  Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
  Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 透明罩雾面钢化玻璃，满足4J 能量冲击；
  The transparency cover use the frosted toughened glass cover, which can stand the 4J impact.
- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
  The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.
- 内置工业级LED恒流源，电压127-256V范围稳定运行，符合EMC要求，且具有短路、过载、过压保护功能；
  Built-in industrial-grade LED constant current driver, stable operation within 127-256V voltage range, compliant with EMC standards, and equipped with short-circuit, overload, and over-voltage protection.
- 电缆或钢管布线；
  Wiring with cable or steel tube.

MINMILE

型号含义 Model meaning

MAML02-E – A – B – C – D

A 安装方式 Mounting Type

W1-壁式30°	W1-30°wall type
W2-壁式90°	W2-90°wall type
U-支架式	U-bracket type
h-挂钩式	h-hook type
S-吊杆式	S-derrick
P3-护栏式	P3-fence type
P4-立杆式	P4-pole type
0-无安装方式	
0-Without mounting type	

B 功率 Power

6W
10W
15W
20W
25W
30W

C 带网罩/不带 With wire guard or not

00-不带网罩（可不注）
without wire guard（optional）
N1- 铁喷白材质
Carbon steel with white painted
N2- 304材质 N2-304SS
N3- 316材质 N3-316SS

D 带应急/不带 With Emergency Or Not

00-不带应急（可不注）
without emergency（optional）
EG-带应急（应急时间备注）
with emergency（indicate time）

举例1：防爆LED灯，功率30W，支架式安装，不带网罩，不带应急，则型号为：MAML02-E-30W-U

For example #1: Explosion-proof LED lighting fixture, source power 30W,U-bracket type, with wire guard, without emergency. The model No.: MAML02-E-30W-U

举例2：防爆LED灯，功率20W，无安装方式，带304不锈钢网罩，带应急60min，则型号为：
MAML02-E-20W-0-N2-EG60min

For example #2: Explosion-proof LED lighting fixture, source power 20W, without mounting type, with SS304 stainless steel wire guard, with 60min emergency time, the model No. is MAML02-E-20W-0-N2-EG60min.

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbIIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

技术参数 Technical parameter

防爆标志 Ex Marking	Ex db IIC T6 Gb Ex tb IIIC T80℃ Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC 60079-0 IEC 60079-1 IEC 60079-31
防护等级 IP	IP66
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090
透明罩 Transparent cover	雾面钢化玻璃罩，抗4J冲击 frosted toughened,stands 4J impact
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel
LED灯珠品牌 LED lamp bead brand	欧司朗OSRAM、飞利浦Lumileds、三星Samsung OSRAM OSRAM, philips Lumileds, Samsung Samsung
灯具功率 The power of the lamp	40W、60W
额定电压 Rated voltage	110-240V AC 50/60Hz
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable)/cable outer diameter range: 10~14mm
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明； Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;

防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE





MAML02-E系列防爆LED灯

MAML02-E Series Explosion-proof LED Lighting Fixtures

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.
- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 透明罩采用雾面钢化玻璃，满足4J能量冲击；
- The transparency cover use the frosted toughened glass cover, which can stand the 4J impact.
- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.
- 灯具使用独立电源腔，内置工业级LED恒流源，110-240V宽电压范围稳定运行，符合EMC要求，且具有短路、过载、过压保护功能；
- The industry type of LED constant flow source put into the individual power cavity of lighting fixture. The lighting can be stable used in 110-240V wide range voltage. It can meet the EMC requirements. The protection functions are available in short circuit, overload and overvoltage.
- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements. When supply power cut off, the lighting fixture can be turned into emergency lighting condition.
- 电缆或钢管布线。
- Wiring with cable or steel tube.

MINMILE

型号含义 Model meaning

MAML02-E – A – B – C – D

A 功率 Power

6W	
10W	
15W	
20W	
25W	
30W	

A 安装方式 Mounting Type

W1-壁式30°	W1-30°wall type
W2-壁式90°	W2-90°wall type
U-支架式	U-bracket type
h-挂钩式	h-hook type
S-吊杆式	S-derrick
P3-护栏式	P3-fence type
P4-立杆式	P4-pole type
0-无安装方式	
0-Without mounting type	

B 带网罩/不带 With wire guard or not

00-不带网罩（可不注） without wire guard（optional）	
N1- 铁喷白材质 Carbon steel with white painted	
N2- 304材质	N2-304SS
N3- 316材质	N3-316SS

C 带应急/不带 With Emergency Or Not

00-不带应急（可不注）
without emergency（optional）
EG-带应急（应急时间备注）
with emergency（indicate time）

举例1：防爆LED灯，功率30W，支架式安装，不带网罩，不带应急，则型号为：MAML02-E-30W-U

For example #1: Explosion-proof LED lighting fixture, source power 30W,U-bracket type, with wire guard, without emergency. The model No.: MAML02-E-30W-U

举例2：防爆LED灯，功率20W，无安装方式，带304不锈钢网罩，带应急60min，则型号为：
MAML02-E-20W-0-N2-EG60min

For example #2: Explosion-proof LED lighting fixture, source power 20W, without mounting type, with SS304 stainless steel wire guard, with 60min emergency time, the model No. is MAML02-E-20W-0-N2-EG60min.

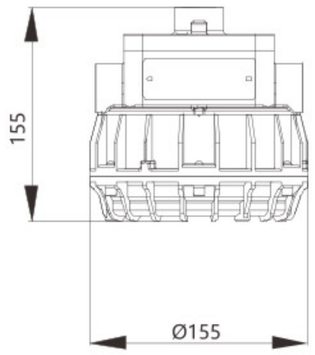
低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameter

防爆标志 Ex Marking	Ex db IIC T6 Gb Ex tb IIIC T80℃ Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC 60079-0 IEC 60079-1 IEC 60079-31
防护等级 IP	IP66
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090
透明罩 Transparent cover	雾面钢化玻璃罩，抗4J冲击 frosted toughened,stands 4J impact
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel
LED灯珠品牌 LED lamp bead brand	欧司朗OSRAM、飞利浦Lumileds、三星Samsung OSRAM OSRAM, philips Lumileds, Samsung Samsung
灯具功率 The power of the lamp	6W 10W 15W 20W 25W 30W
额定电压 Rated voltage	110-240V AC 50/60Hz（其它电压可定制） 110-240V AC 50/60Hz (other voltage can be customized)
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable)/cable outer diameter range: 10~14mm
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明； Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;

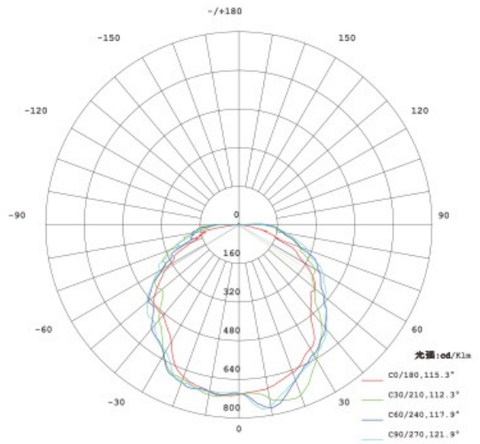
注：格兰由客户单独订购，本产品销售不含进线口的格兰。
Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.

型外形尺寸图 Outline Dimensional Drawing



无安装方式外形图

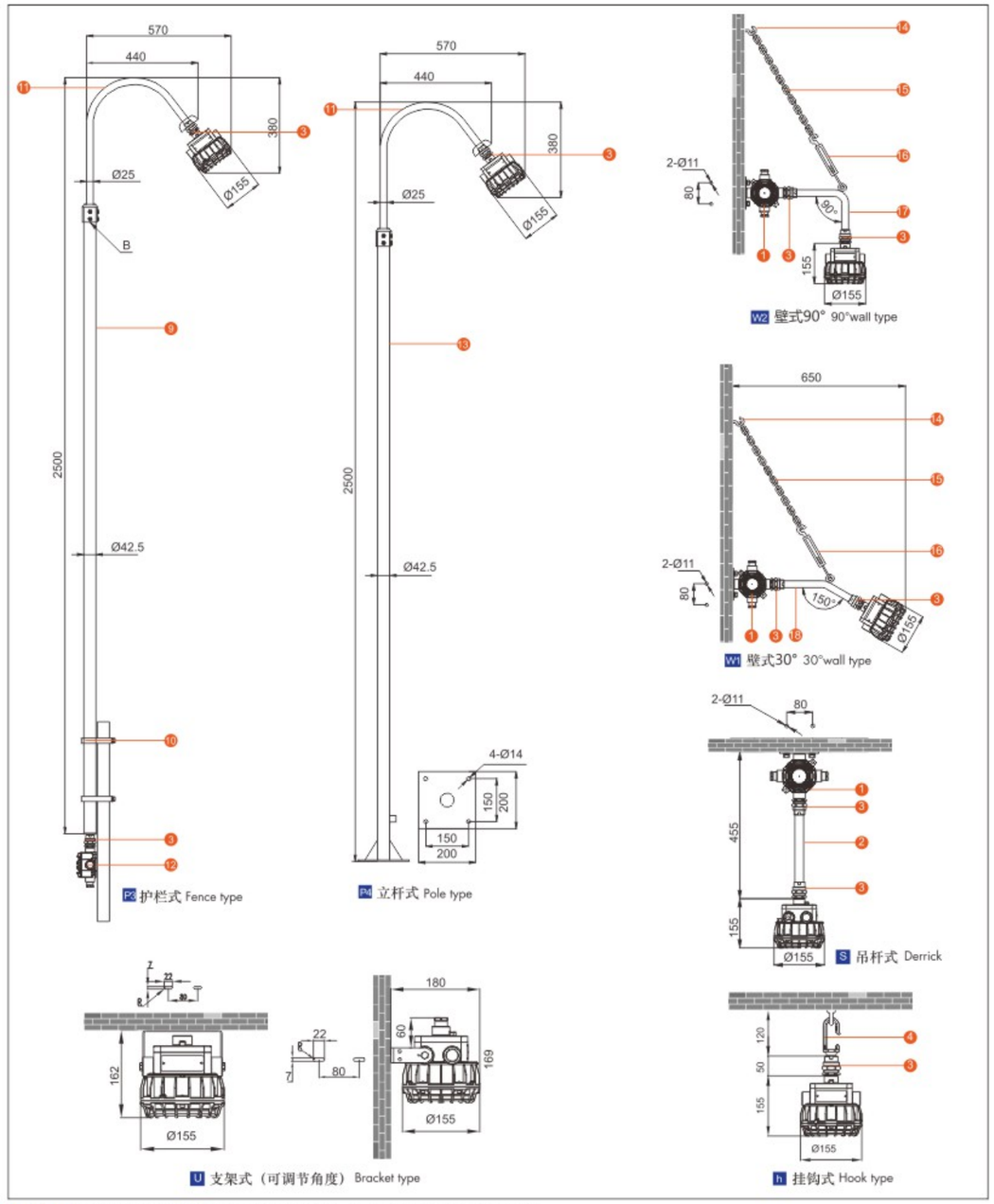
各功率灯具光分布曲线图 Photometric date for each lamp source



平均光束角(50%)：116.9°
the average beam angle(50%)：116.9°

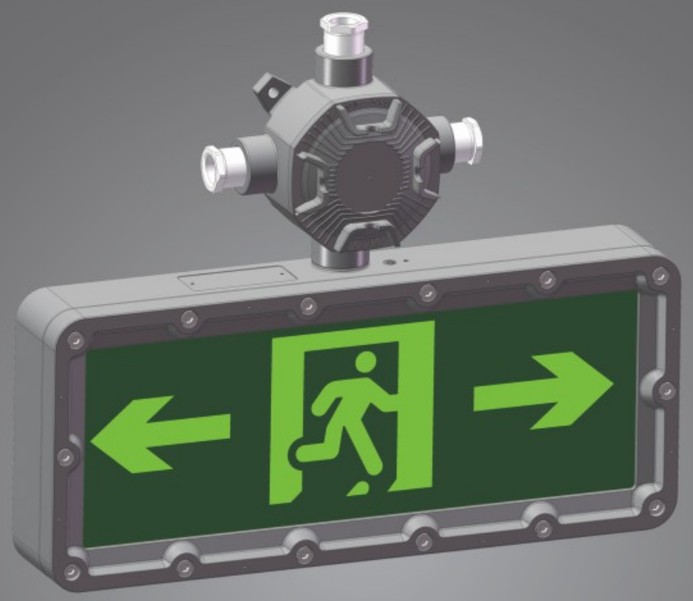
MINMILE

产品安装示意图 Installation reference



◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-P140 for the configuration of accessories.







集中电源集中控制型消防应急标志灯（防爆型、中型）
Fire emergency light, Centralized power supply, centralized control type (explosion-proof type, medium-sized)

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight, pharmacy, metallurgy, mineral products and etc.
- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 采用优质LED光源,低功耗、长寿命，光效高；
- High quality LED light source, low power consumption, long life, high light efficiency
- 灯内不带蓄电池组，方便更换维护内置通信芯片和传感器，可红外遥控，编辑地址；
- The light has no battery pack inside, which is convenient to replace and maintain the built-in communication chip and sensor. It can be remotely controlled by infrared, and the equipment identification environment address code can be edited
- 无极性连接方式，降低现场误接率，提高现场安装及维护的便利性。
- The non-polar connection mode reduces the site mis connected rate and improves the convenience of site installation and maintenance.

型号含义 Model meaning

MM - BLJC - 1LROE II - ☐ - AEX - ☐

- ☐ J:带接线盒 (不带不注) With junction box (Optional)
- AEX 防爆标识 Ex Marking
- ☐ 额定功率Rated Power: 0.5W,1W,2W,3W,4W
- 1LROE II 产品代码，与防爆无关 Product Code:Not related to explosion protection
- BLJC BLJC:集中电源集中控制型 Centralized power supply centralized control
- MM 公司代码 Company Code

MINMILE

技术参数 Technical parameter

环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-40° ~ +60°	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ⓔx II2 G Ex db IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
外形尺寸 Overall dimensions	420*180* 65mm		
安装方式 Mounted Type	壁装 Wall Mounted	吊装 Pendant Type	
面板材质 Panel material	钢化防爆玻璃 Tempered explosion-proof glass		
底座材质 Base material	铸铝喷漆 Powder coated cast aluminum		
光源 Light source	高亮度绿色LED LED High brightness green LED		
输入电源 Input power	DC24~36V		
额定功率 Rated power	0.5W Continuous lighting, strobe, light off, patrol inspection		
主要功能 Major function	持续点亮、频闪、灭灯、巡检		
防护等级 IP degree	IP66/IP68		
防腐等级 Anti-corrosion degree	WF2		
适用区域 Applicable area	化工、炼油、食品加工、石油开采、制药、冶金、矿产等存在可燃性气体及粉尘的危险场所 Hazardous places with combustible gas and dust in chemical industry,oil refining, food processing, petroleum exploitation, pharmaceutical industry, metallurgy, mineral industry, etc		

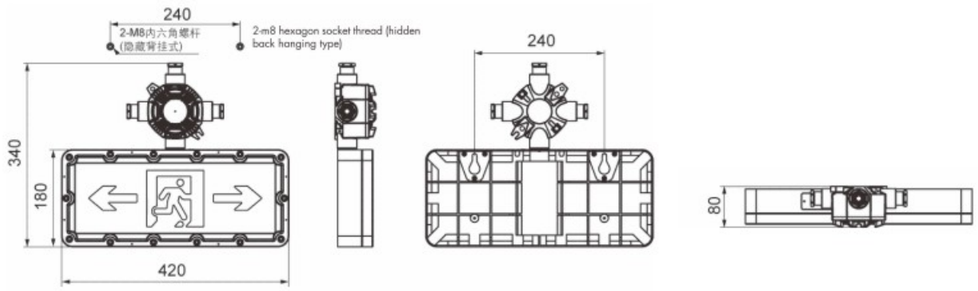
产品面板图形 Product panel graphics



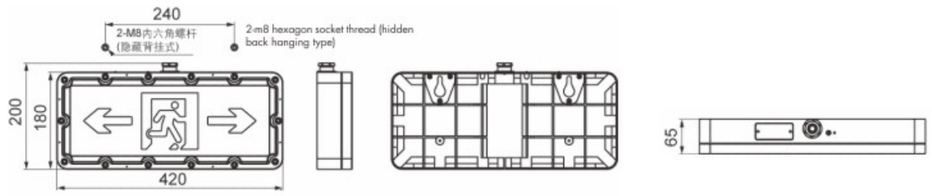
低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbIIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

产品安装示意图 Installation reference

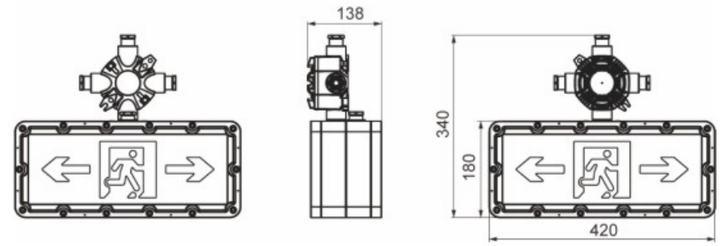
带分线防爆标志灯 Explosion-proof sign light with junction box



带电缆防爆标志灯 Explosion-proof sign light with cable



带分线双面标志灯 Double-sided sign light with junction box







MFL3071-E系列防爆灯具（LED）
MFL3071-E Series Explosion-protected LED Lighting

低温 -40℃ Low temperature
高温 +60℃ High temperature
防爆 nR Ex nR
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.

- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The enclosure is die casting by aluminum alloy, the corrosion-proof performance improved, the surface is high voltage static spraying after shot-blasting and high frequency cleaning. The exposed fastener is stainless steel. Beautiful appearance.

- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.

- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.

- 透明罩采用耐光老化阻燃的PC材料，满足4J能力冲击。
- The transparency cover use the antiglare frosted PC cover, which can stand the 4J impact.

- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. The operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.

- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements. When supply power cut off, the lighting fixture can be turned into emergency lighting condition.

- 电缆或钢管布线。
- Wiring with cable or steel tube.

MINMILE

型号含义 Model meaning

MFL3071-E – A – B – C – D

型号（功率） Model(Power)

20(20W)	C-吸顶式
30(30W)	W1-壁式30°
50(40W)	W2-壁式90°
50(50W)	W3-支架吸壁式
80(60W)	U-支架式
80(80W)	S-吊杆式
100(100W)	h-挂钩式
200(120W)	R-吊环式
200(150W)	P1(P3)-护栏式
200(180W)	P2(P4)-立杆式
200(200W)	f-可倾斜护栏式 f-tillable mounting type

安装方式 Mounting Type

C-吸顶式	C-ceiling type
W1-壁式30°	W1-30°wall type
W2-壁式90°	W2-90°wall type
W3-支架吸壁式	W3-Bracket wall suction type
U-支架式	U-bracket type
S-吊杆式	S-Pendant pole type
h-挂钩式	h-hook type
R-吊环式	R-ring type
P1(P3)-护栏式	P1(P3)-fence type
P2(P4)-立杆式	P2(P4)-pole type
f-可倾斜护栏式 f-tillable mounting type	
0-无安装方式（S型外形） 0-Without mounting type (S type appearance).	

带应急/不带 With Emergency Or Not

00-不带应急（可不注）
without emergency（optional）
EG-带应急（应急时间备注）
with emergency（indicate time）

nR-nR型防爆 nR Explosion-proof

IP66-防水防尘防腐型
weather-proof

举例1：防爆灯具，功率30W，可倾斜护栏式，不带网罩，不带应急，则型号为：MFL3071-E-30(30W)–f-nR

For example #1: Explosion-proof LED lighting fixture, source power 30W, tillable mounting type, with wire guard, without emergency. The model No.: MFL3071-E-30(30W)-f-nR

举例2：防爆灯具，功率80W，无安装方式，带应急60min，则型号为：MFL3071-E-80(80W)-EC60min-IP66

For example #2: Explosion-proof LED lighting fixture, source power 80W, without mounting type, with 60min emergency time, the model No. is MFL3071-E-80(80W)–EC60min-IP66

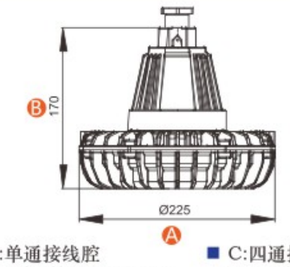
低温 -40°C Low temperature
高温 +60°C High temperature
防爆 nR Ex nR
粉尘 tb IIIC Dust
防护 IP66 protection degree

技术参数 Technical parameter

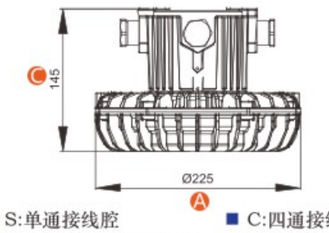
环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-40° ~ +40°	≤100W： Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	≤100W： Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	≤100W： Ⓔx II 2G Ex nR IIC T6 Gc Ⓔx II 2D Ex tb IIIC T80°C Db
	≤200W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤200W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤200W： Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T95°C Db
-40° ~ +60°	≤50W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤50W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤50W： Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T95°C Db
	≥80W： Ex nR IIC T4 Gc Ex tb IIIC T100/113°C Db	≥80W： Ex nR IIC T4 Gc Ex tb IIIC T100/113°C Db	≥80W： Ⓔx II 2G Ex nR IIC T4 Gc Ⓔx II 2D Ex tb IIIC T100/113°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.8 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-15 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating,International standard color code:RAL 7090		
透明罩 Transparent cover	防眩雾化PC罩 Antiglare frosted PC cover		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel		
LED灯珠品牌 LED lamp bead brand	欧司朗OSRAM、飞利浦Lumileds、三星Samsung OSRAM OSRAM, philips Lumileds, Samsung Samsung		
灯具功率 The power of the lamp	30W、40W、50W、60W、80W、90W、100W、120W、150W、180W、200W		
额定电压 Rated voltage	220~240V AC（127-256V电压可定制）220~240V AC 127-256V voltage can be customized		
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable)/cable outer diameter range: 10~14mm		
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25x1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明；四通接线腔标配直通 Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;Standard ceiling wiring cavity equipped with 2 cable entries		

注：格兰由客户单独订购，本产品销售不含进线口的格兰。
Note: Cable gland is ordered separately by the customer. The sales of this product does not include Cable gland with inlet.

S C型外形尺寸图 S, C type outline dimensional drawing



■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity



■ S:单通接线腔 S: Single cable entry wiring cavity
■ C:四通接线腔 C: Four cable entries wiring cavity

防爆照明灯系列 Explosion-proof Series Lighting Fixture

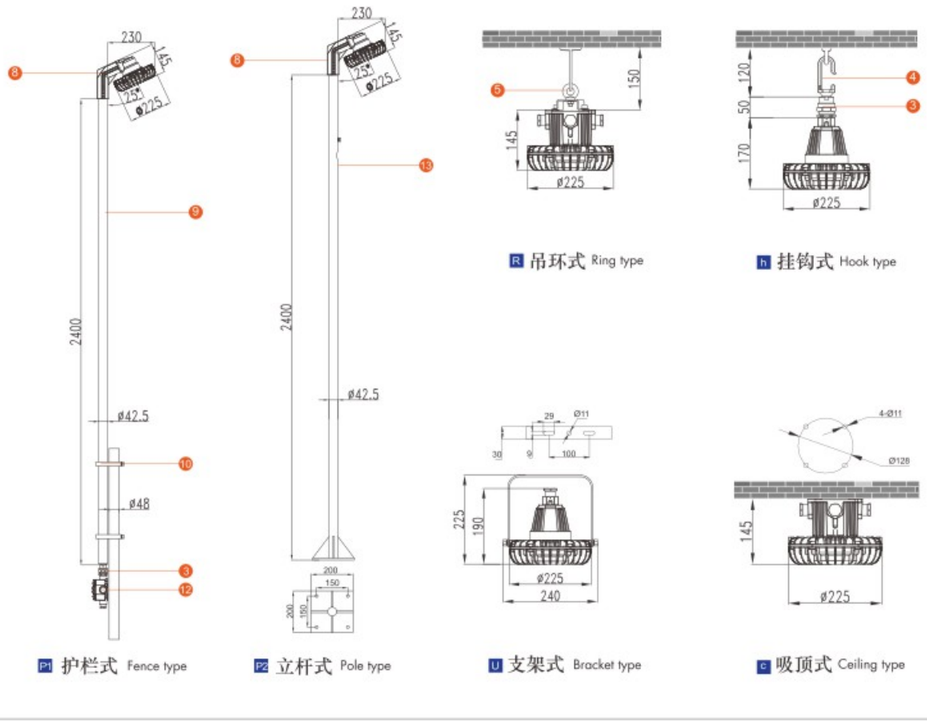
MINMILE

产品外形尺寸、重量及其他参数
Appearance size, weight and other parameters

型号规格 Model specification	功率 (W) Power (W)	色 温 Color temperature	功率因数 Power factor	外形尺寸(mm) L*W Dimensions (mm) L*W				净重(Kg) weight(Kg)		温度组别 Tc Temperature ClassesTc
				A	B	A	C	S	C	
MFL3071-E-(20-80)	20、30、40 50、60、80	5500-6500K	≥0.98	225	170	225	145	1.8	1.95	T6/T5/T4
MFL3071-E-(100-200)	100、120、150 180、200			288	285	288	260	3.5	3.65	

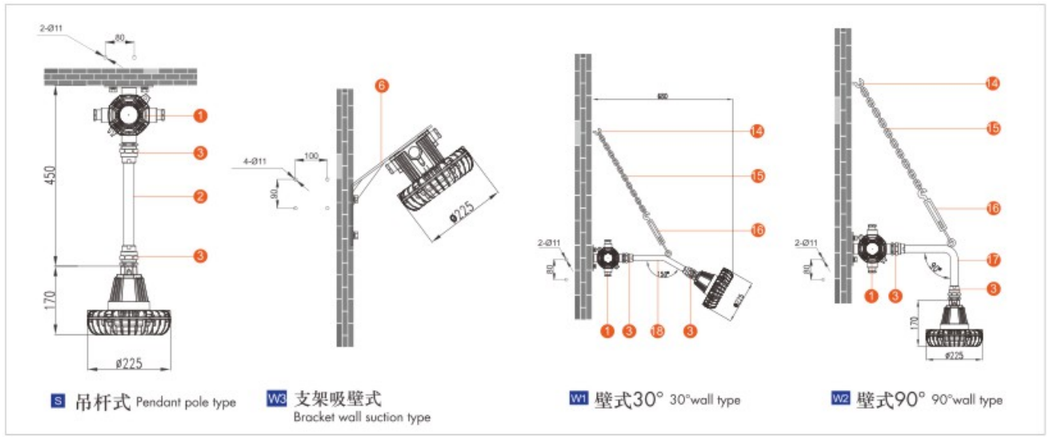
产品安装示意图 Installation reference

MFL3071-E-(30-80)

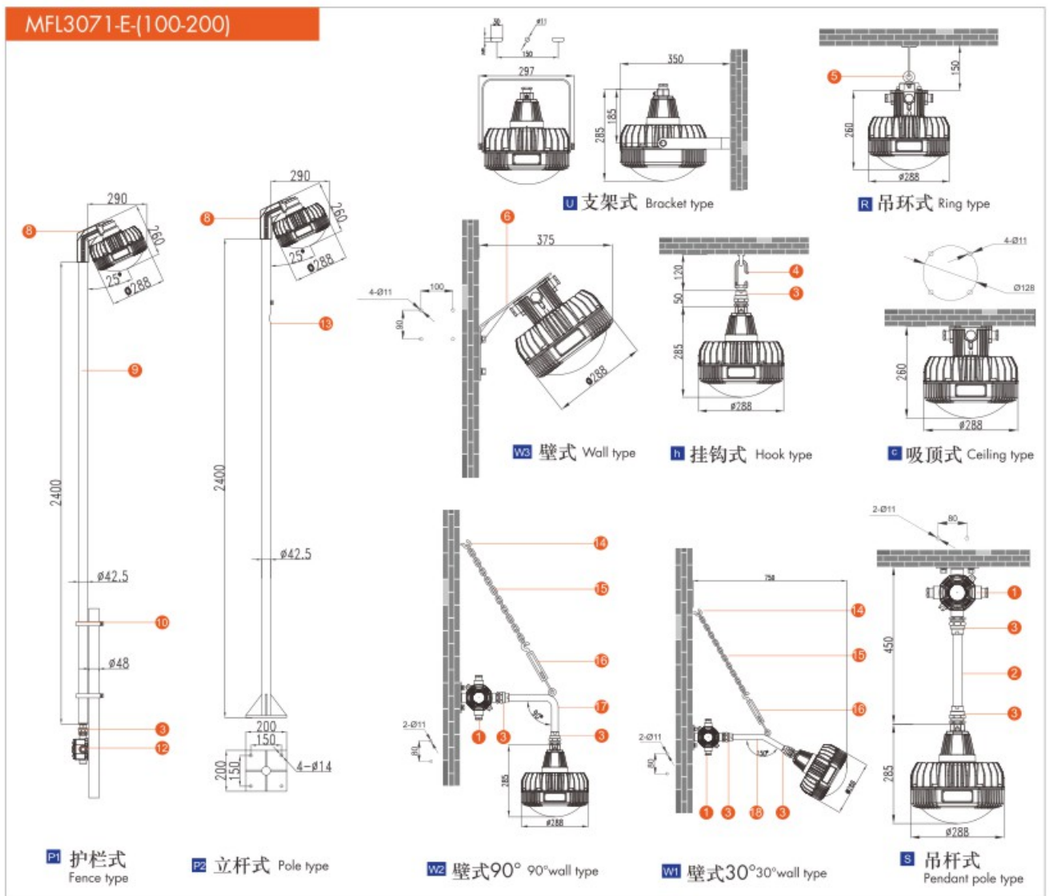


◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-140 for the configuration of accessories.

低温 -40°C Low temperature
高温 +60°C High temperature
防爆 nR Ex nR
粉尘 tb IIIC Dust
防护 IP66 protection degree



MFL3071-E-(100-200)



◆以上●序号产品信息请见P137-138页配件清单表，配件配置情况详见P139-P140。
Please refer to the list of accessories on pages P137-138 for the specific product information of the serial number above and refer to P139-140 for the configuration of accessories.





MAMF01-系列防爆长条形LED灯
MAMF01-Series Explosion-proof Linear LED Lighting Fixtures

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product features

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.
- 外壳采用6065铝合金数控加工，两端使用硅橡胶套包裹，中段使用高强度PC透明管，具有全塑外壳，并使用不锈钢外露紧固件，提高了防腐性能。
- Enclosure is processed by 6065 aluminum alloy, silicon rubber is rolled by two ends, the medial use high strengthen PC transparent tube, full plastics enclosure, and stainless steel exposed fasters, which improving corrosion-proof performance.
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 灯罩使用耐光老化、阻燃的PC材料，满足7J能量冲击；光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The transparent cover adopts anti-light aging, flame-proof PC material to meet the 7J energy impact.The color rendering is extraordinary:the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture.The operation efficiency improved imperceptibly.Other color temperature can be customized,which can meet the requirements of different environment.
- 灯具内置工业级LED恒流源，宽电压范围内稳定运行，符合EMC要求，具有短路，过载，过压保护功能；
- The independent power supply cavity of the lamp is equipped with the industrial LED constant current source, and the wide voltage range is stable and running in accordance with EMC requirements. It has short circuit, overload and over voltage protection function.
- 可根据用户要求配装应急装置，当供电电源断电时，灯具自动切换到应急照明状态；
- The emergency device can be installed as per client requirements.When supply power cut off,the lighting fixture can be turned into emergency lighting condition.
- 电缆布线。
- Wiring with cable.

MINMILE

型号含义 Model meaning

MAMF01 — A — B — C — D — E

灯管数 No.s of tube

S-单管 S-Single Tube

D-双管 D-Double Tube

功率(W) Power

9

12

18

22

36

44

安装方式 Mounting Type

C-吸顶式 C-Ceiling type

S-吊杆式 S-Pendant pole type

W-壁式 W-Wall type

P5-护栏式 P5-Fence type

P6-立杆式 P6-Pole type

f-可倾斜护栏式 f-Tillable mounting type

J1-洁净嵌入式-Q235
J1-Clean embedded mounting type\Q235

J2-洁净嵌入式304SS
J2-Clean embedded mounting type\304SS

J3-洁净嵌入式316SS
J3-Clean embedded mounting type\316SS

0-无安装方式 0-Without mounting type

h-手持式 h-Handheld type

驱动方式 The way of drive

AC-高压线性驱动
AC-High voltage linear drive

DC-直流转换驱动（可不注）
DC-DC change-over drive（optional）

带应急/不带 With Emergency Or Not

00-不带应急（可不注）
without emergency (optional)

EG-带应急（应急时间备注）
with emergency (indicate time)

举例1：防爆长条形LED灯，单管，吸顶式安装，22W，则型号为：MAMF01-S-22-C
Example 1: Explosion-proof Linear LED Lighting Fixtures, single tube, ceiling mounting type, 22W, the model No. is: MAMF01-S-22-C

举例2：防爆长条形LED灯，双管，壁式安装，18W，高压AC直驱，则型号为：MAMF01-D-18-W-AC
Example 2: Explosion-proof Linear LED Lighting Fixtures, double tube, wall mounting type, 18W, high voltage AC direct drive, the model No. is: MAMF01-D-18-W-AC

举例3：防爆长条形LED灯，双管，洁净嵌入式安装304，36W，DC驱动，则型号为：MAMF01-D-36-J4
Example 3: Explosion-proof Linear LED Lighting Fixtures, double tube, clean embedded mounting type304, 36W, DC drive, the model No. is: MAMF01-D-36-J4

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

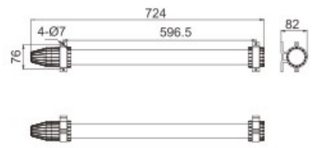
技术参数 Technical parameters

防爆标志 Ex Marking	Ex db ⅡC T6 Gb Ex tb ⅢC T80°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31
防护等级 IP	IP66
保护套材质 Protection cover material	硅橡胶，黑色 Silicon rubber, black color
透明罩 Transparent cover	PC材质，抗刀冲击 PC material, stands 7J impact.
两端壳体材质 Enclosure material of two ends	6065铝合金 6065 aluminum alloy
额定电压 Rated voltage	线性 220-240V 恒流源：110V/120-240V AC,DC 12V、24V、36V Linear: 220-240V Constant current power supply: 110/120-240V AC,DC 12V、24V、36V
进线电缆 Entry cable	标配1.5m(其他长度注明) 电缆外径8-10mm Standard 1.5m (Other optional) Cable diameter 8-10mm

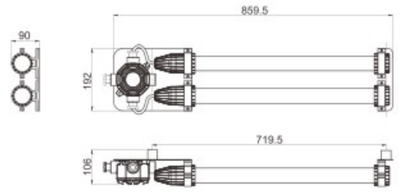
产品外形及安装示意图尺寸 Dimension drawings and installation reference



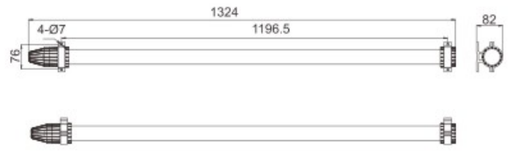
■ 检修灯外形 Appearance of maintenance lamp



■ 18W/22W 单管 18W/22W Single tube



■ 18W/22W*2 双管 18W/22W Double tube



■ 36W/44W 单管 36W/44W Single tube



■ 36W/44W*2 双管 36W/44W*2 Double tube

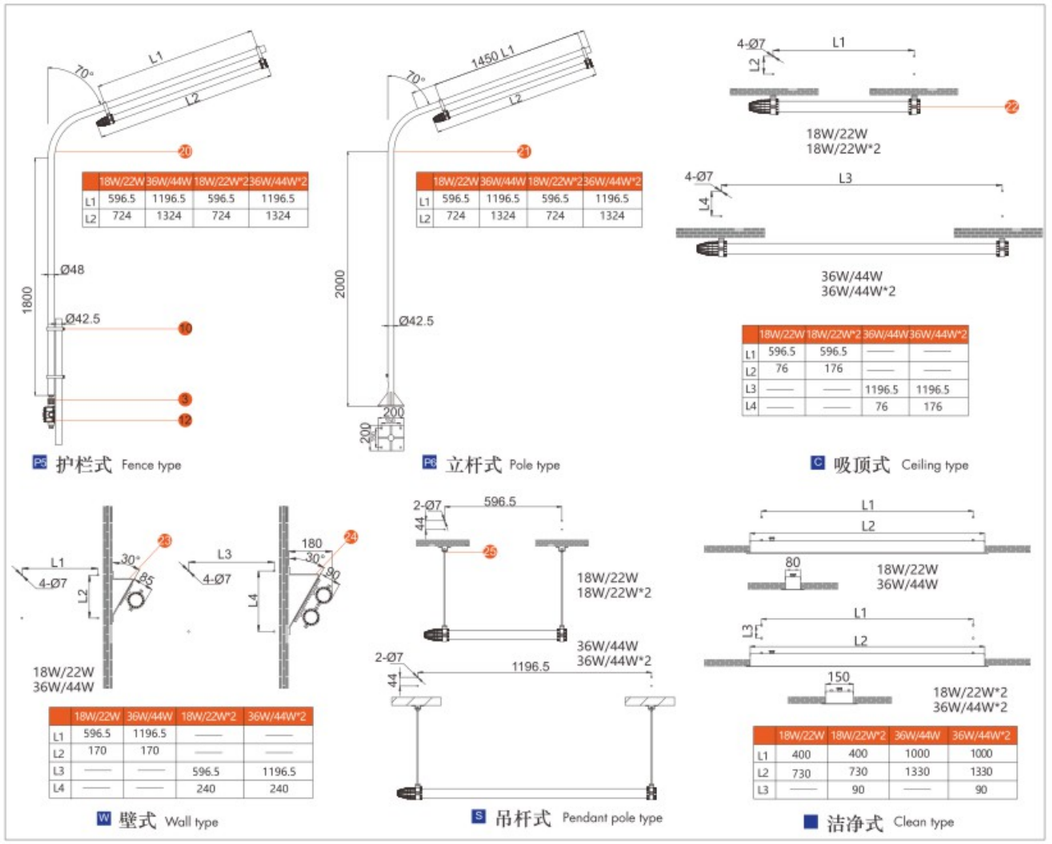
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产品外形尺寸、重量及其他参数
Appearance size, weight and other parameters

型号规格 Model specification	功率 (W) Power (W)	色 温 Color temperature	功率因数 Power factor	电源种类 Power source type	产品净重Kg Net weight Kg	温度组别 Tc Temperature Classes Tc
MAMF01-S-9	9	5500~6500K	≥0.98	恒流电源 Constant current power supply	0.75	T6
MAMF01-S-12	12			恒流电源 Constant current power supply	0.75	
MAMF01-S-18	18			恒流电源 Constant current power supply	0.91	
MAMF01-S-22	22			线性模组 Linear module	0.91	
MAMF01-S-36	36			恒流电源 Constant current power supply	1.46	
MAMF01-D-18	36			恒流电源 Constant current power supply	1.82	
MAMF01-D-22	44			线性模组 Linear module	1.82	
MAMF01-D-36	72			恒流电源 Constant current power supply	2.92	
MAMF01-D-44	88			线性模组 Linear module	2.92	

◆ 说明：产品净重不含标配的电缆。 The net weight not Including cable.

产品安装示意图 Installation reference



Pc 护栏式 Fence type

Pg 立杆式 Pole type

C 吸顶式 Ceiling type

W 壁式 Wall type

S 吊杆式 Pendant pole type

■ 洁净式 Clean type

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品优势介绍 Product advantage and features

01



产品重量轻、体积小，特别适合安装于狭窄的通道，如地下管廊、地下电缆沟等；

The product is light weight and small volume, especially suitable for the installation of narrow passageways, such as underground pipe gallery, underground cable trench, etc.

02



洁净式安装适合于医药化工等对洁净有特殊要求的场合。

The clean type installation is suitable for the medical chemical industry and other places where special requirements for cleanliness.

03



防护等级可达IP68，在水深1m处正常工作不进水；

The protection level can be up to IP68, which can work normally without entering water under the depth of 1m.

04



采用国际知名品牌的LED灯珠，采用WAGO品牌的插接端子，保证产品长寿命。

Using the international famous brand of lamp source WAGO terminals, which ensure the long life time of product.

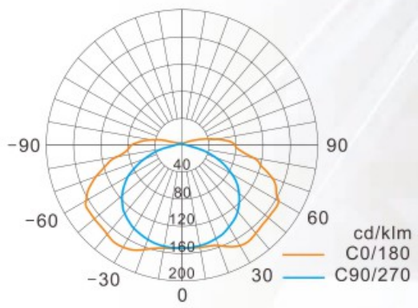
05



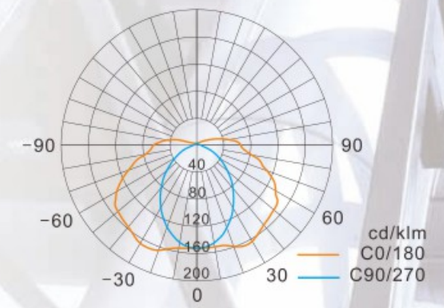
使用高强度透明PC罩，可使用在特别恶劣的环境中。

Using high strength transparent PC cover which is suitable for special bad environment.

各功率灯具光分布曲线图
Photometric date for each lamp source



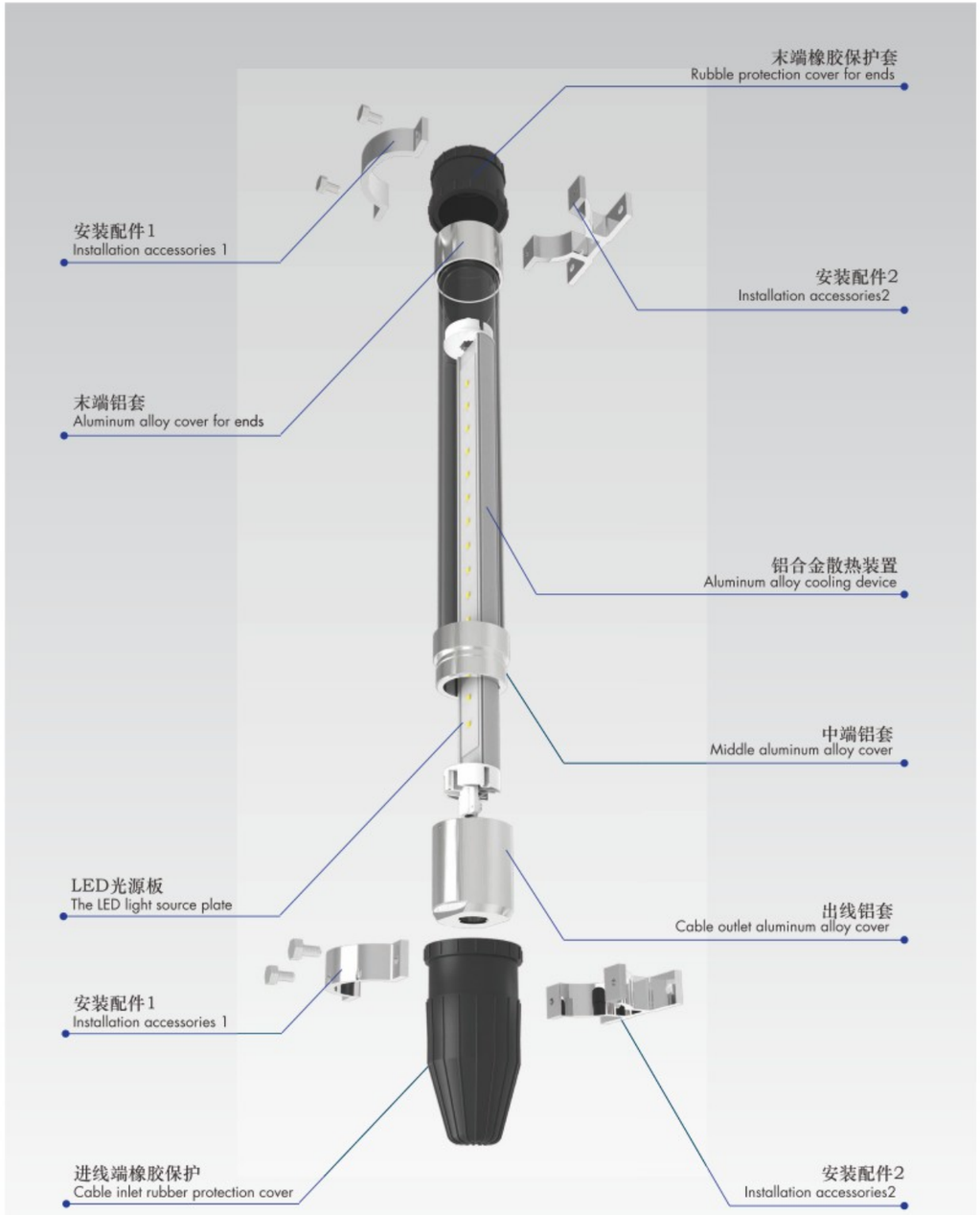
双管 Double tube



单管 Single tube

MINMILE

产品爆炸图 Technical parameters









MAMS01-系列防爆泛光灯
MAMS01-Series Explosion-proof Floodlight

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品特点 Product features

- 用于化工、炼油、食品加工、石油开采、海洋石油平台、油轮、隧道管廊、军工、航天、制药、冶金、矿产等存在可燃气体及粉尘的危险场所；
- Can be used in hazardous area which includes combustible and dust gas, such as chemical engineering, oil refinery, food processing, oil exploitation, offshore oil platform, tanker, tunnel pipe gallery, military industry, spaceflight , pharmacy, metallurgy, mineral products and etc.
- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The shell is made of cast aluminum alloy die casting, after high speed blasting and high frequency cleaning, the surface high pressure electrostatic spraying, improved the anti-corrosion performance, the stainless steel exposed fastener, the appearance is beautiful;
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 透明罩采用高强度PC罩，满足7J能量冲击；
- The transparent cover adopts high strength PC cover to meet the 7J energy impact.
- 光源显色性好，标准产品使用色温为5500-6500K，可消除传统灯具色温偏低引起的疲倦情绪及色温偏高引起的压抑情绪，提高操作者的工作效率；其它色温可接受定制，用于满足各种使用需求；
- The color rendering is extraordinary: the color temperature of standard product is 5500-6500K, which avoid the tired emotion caused by low color temperature of traditional lighting fixture. the operation efficiency improved imperceptibly. Other color temperature can be customized, which can meet the requirements of different environment.
- 灯具的独立电源腔内置工业级LED恒流源，宽电压范围内稳定运行，符合EMC要求，具有短路，过载，过压保护功能；
- The independent power supply cavity of the lamp is equipped with the industrial LED constant current source, and the wide voltage range is stable and running in accordance with EMC requirements. It has short circuit, overload and over voltage protection function.
- 电缆或钢管布线。
- Cable or steel tube wiring.



MINMILE

型号含义 Model meaning

MAMS01 — A — B — C — D — E

A 功率(W) Power	安装方式 Mounting Type	B 灯杆高度 height of lamp pole	C 灯具数 Qty of lamp	D 驱动方式 Driver way
50	U-支架式 U-Bracket type	说明：采用支架式无需注明 Note: Bracket type without indicate	说明：针对S型安装方式 Note: only for S mounting type	AC-高压线性驱动 AC-AC220 high voltage drive
100	S1-路灯式 S1-Street lamp type			DC-直流转换驱动（可不注） DC-DC change-over drive(optional)
150	S2-可倾斜卷扬式 S2-Tillable mounting type with windlass			
200	S3-可倾斜配重式 S3-Tillable mounting type with additional weight	4M	1	
300		5M	2	
400		6M	3	
500		7M	4	
		8M		
		9M		
		10M		

举例1：防爆泛光灯，功率150W，采用可倾斜配重式，高度8米，则型号为：MAMS01-150-S3-8M
Example 1:Explosion-proof Floodlight, lamp power 150W, tillable mounting type with additional weight, height is 8 meters, the model is:MAMS01-150-S3-8M

举例2：防爆泛光灯，功率100W，采用支架式，则型号为：MAMS01-100-U
Example 2: Explosion-proof Floodlight, lamp power 100W, bracket type, the model is MAMS01-100-U

举例3：防爆泛光灯，功率100W，采用路灯式，但不需要配灯杆，则型号为：MAMS01-100-S1
Example 3: Explosion-proof Floodlight, lamp power 100W, street pole type, without pole, the model is MAMS01-100-S1

举例4：防爆泛光灯，功率100W，采用高压线性，可倾斜卷扬式，高度10米，配备3个灯头，则型号为：MAMS01-100-S2-10M-3-AC
Example 4: Explosion-proof Floodlight, lamp power 100W, adopting high pressure linear voltage, street pole type, tillable mounting type with windlass, height is 10 meters, equipped with 3 lamp heads, the model is: MAMS01-100-S2-10M-3-AC

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbIIC Gas | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

技术参数 Technical parameters

防爆标志 Ex Marking	Ex db eb mb IIC T5 Gb Ex tb IIIC T95°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.3 GB/T 3836.31
防护等级 IP	IP66
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating, international standard color code:RAL 7090
透明罩 Transparent cover	高强度PC罩，抗7J冲击 high strength PC, stands 7J impact
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 stainless steel
LED灯珠品牌 LED lamp bead brand	科瑞CREE（首选）、欧司朗OSRAM、飞利浦Lumileds、三星Samsung、日亚Nichia、首尔Seoul Kori CREE (preferred), OSRAM OSRAM, philips Lumileds, Samsung Samsung, Japan's Nichia, Seoul Seoul
LED驱动电源品牌 LED power supply brand	英飞特Inventronics（首选）、明纬Meanwell、茂硕MOSO Inentronics (preferred), Meanwell and MOSO
灯具功率 The power of the lamp source	50W、100W、150W、200W、300W、400W、500W
额定电压 Rated voltage	AC 50/60HZ 127-256V
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x2.5mm（铠装电缆、橡塑电缆）/ 电缆外径范围：10~14mm 3x2.5mm (armored cable, rubber cable) / cable outer diameter range: 10~14mm
灯具进线口螺纹规格 Specification of thread inlet thread	标配M25×1.5，其它NPT3/4、G3/4等特殊螺纹下单时注明； Standard M25 x 1.5, other NPT3/4, G3/4 and other special thread indicate;

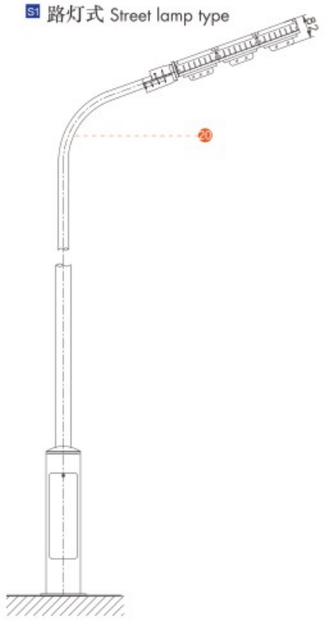
产品外形尺寸、重量及其他参数 Appearance size, weight and other parameters

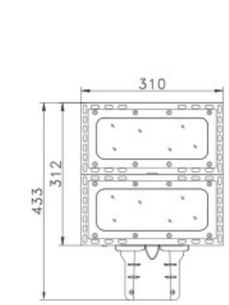
型号规格 Model specification	功率 (W) Power (W)	色 温 Color temperature	功率因数 Power factor	外形尺寸(mm) L*W Dimensions (mm) L*W 支架式(U) Bracket type (U) A	D	E	路灯式(S) Street lamp type (S) A	B	C	净重(Kg) weight(Kg)	温度组别 Tc Temperature Classes Tc
MAMS01-50	50	5500-6500K	≥0.98	310	196	380	310	156	277	3.2	T5
MAMS01-100	100			310	352	380	310	312	433	4.6	
MAMS01-150	150			310	508	380	310	468	554	6.5	
MAMS01-200	200			310	664	380	310	624	675	7.8	
MAMS01-300	300			620	508	690	/	/	/	4.2	
MAMS01-400	400			620	664	690	/	/	/	12.6	
MAMS01-500	500			620	820	690	/	/	/	14.8	

MINMILE

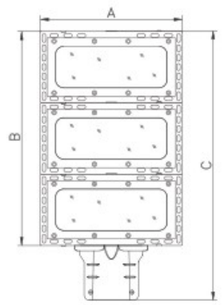
产品安装示意图 Installation reference

S1 路灯式 Street lamp type

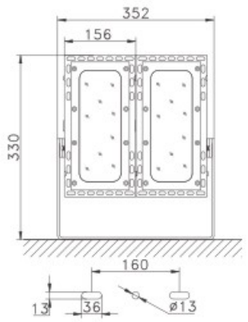




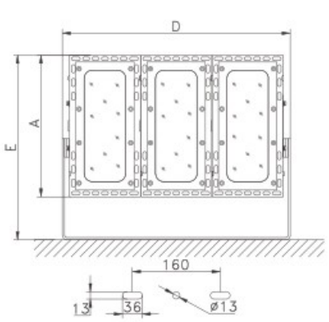
100W



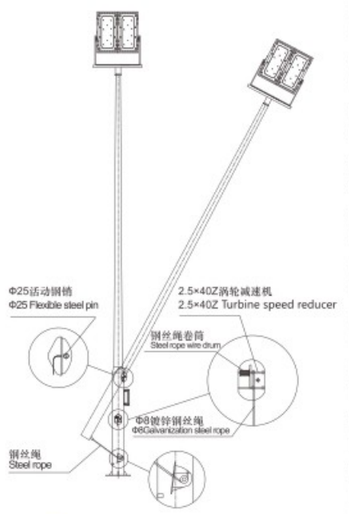
150W



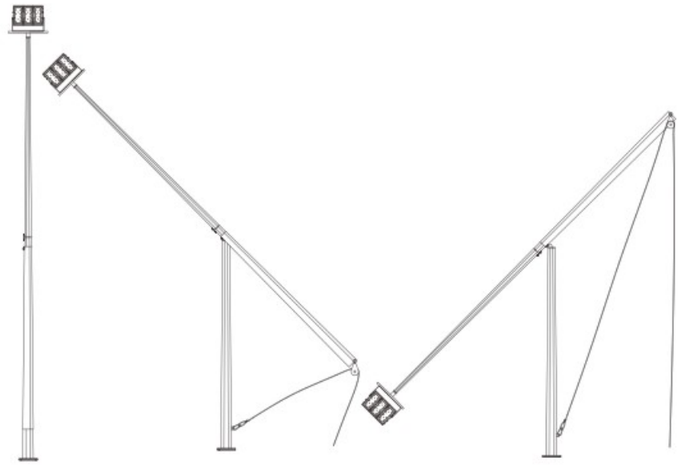
U 支架式 Bracket type



U 支架式 Bracket type



S2 可倾斜卷扬式
Tillable mounting type with windlass



■ 正常使用 Normally use ■ 倾斜过程中 The process of tilt ■ 完全倾斜 Total tilt

S2 可倾斜配重式 Tillable mounting type with additional weight

低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree

产品优势介绍 Product advantage and features

01



产品采用拼接组合形式，可以根据用户对照度的要求进行拼接组合，单节功率达到50W，最大可拼接10节，总功率达500W。

The product adopts splicing combination form, which can be combined together according to the user's requirement of illumination, single node power reaches 50W, the maximum can be joined 10 knots, total power reaches 500W.

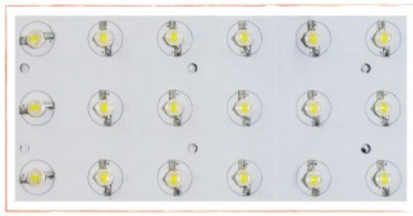
02



可根据需要加路灯连接头成路灯式安装。

It can be changed into street lamp mounting type as per client requirements.

03



采用国际知名品牌的LED灯珠，采用 WAGO 品牌的插接端子，保证产品长寿命。

Using the international famous brand of lamp source WAGO terminals, which ensure the long life time of product.

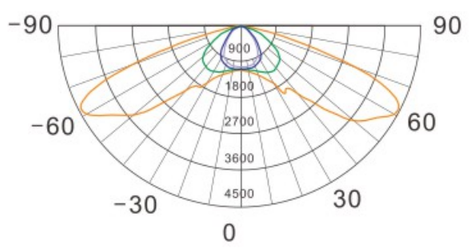
04



灯具采用高强度PC透明罩，可耐7J冲击，并配置高反光率投光镜。

The lighting fixture use high strength PC transparent cover, withstand 7J impact. It is equipped with high reflective rate floodlight.

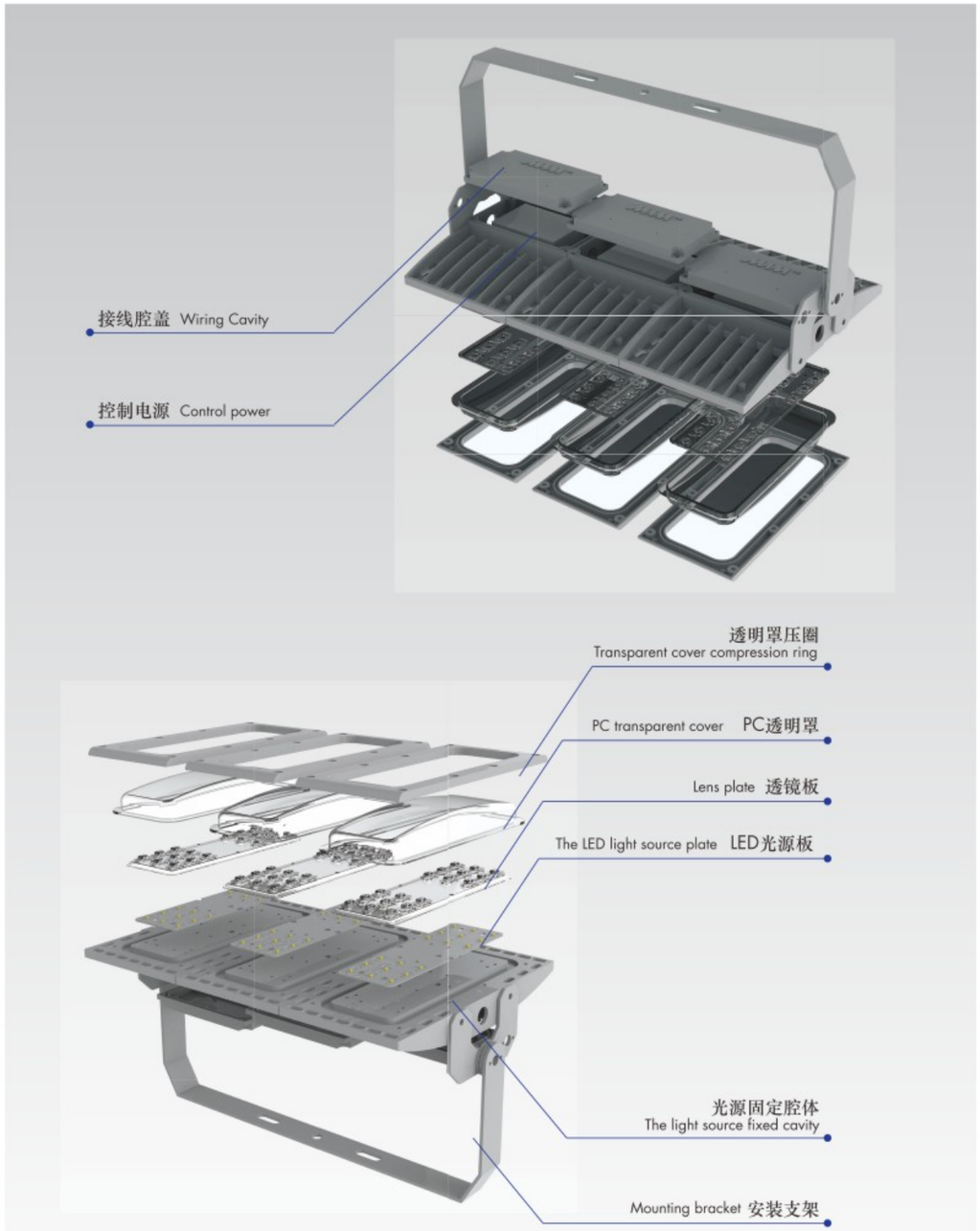
各功率灯具光分布曲线图 Photometric date for each lamp source.



防爆照明灯系列 Explosion-proof Series Lighting Fixture

MINMILE

产品爆炸图 Technical parameters









MAML-03T系列防爆灯具（查视灯）
MAML-03T Series Explosion-proof Lighting Fixtures

低温 -45°C Low temperature | 高温 +60°C High temperature | 气体 dbⅡC Gas | 粉尘 tb ⅢC Dust | 防护 IP66 protection degree

产品特点 Product features

- 用于医药化工、炼油等危险场所的桶槽、反应釜等容器的内部查视；
- It is used in the internal inspection of tanks, reaction kettle and other containers used in hazardous places such as chemical industry and oil refining.
- 外壳采用铸铝合金压铸成型，经高速抛丸、高频清洗后，表面高压静电喷塑，提高了防腐性能，不锈钢外露紧固件，外形美观；
- The shell is made of cast aluminum alloy die casting, after high speed blasting and high frequency cleaning, the surface high pressure electrostatic spraying, improved the anti-corrosion performance, the stainless steel exposed fastener, the appearance is beautiful;
- 适用于爆炸性气体环境1区、2区，ⅡA、ⅡB、ⅡC类爆炸性气体；
- Can be used in Zone 1, Zone 2, IIC, IIB, IIA type combustible gas environment.
- 适用于爆炸性粉尘环境21区、22区，ⅢA、ⅢB、ⅢC类爆炸性粉尘；
- Can be used in Zone 21, Zone 22, IIC, IIB, IIA type combustible dust environment.
- 透明罩采用钢化玻璃，满足4J能量冲击；
- The transparency cover use the toughened glass, which can stand the 4J impact.
- 配置聚光透镜，提高局部地方的照明强度。
- Equipped with condensing lens, improving the illumination for special place.
- 采用长寿命、低能耗、绿色环保的LED光源。
- Using long-life, low energy-saving, environment-friendly LED lamp source.
- 电缆或钢管布线。
- Cable or steel tube wiring.

型号含义 Model meaning

MAML-03T – A – S – N

- MAML-03T：常规模式，不带触控开关及延时功能 Normal mode without touch switch and delay function
- A：功率 3W 5W 7W 9W 12W 15W 20W
- S：带触控开关 With touch switch
- N：带延时功能，延时时间可以根据要求选择，可选时间（Min）：5、10、15 With delay function, delay time can be selected according to the requirement, optional time (Min) : 5, 10, 15

举例：防爆灯具，要求延时关停功能，单次延时间要求15分钟，则型号为：MAML-03T-15W-S

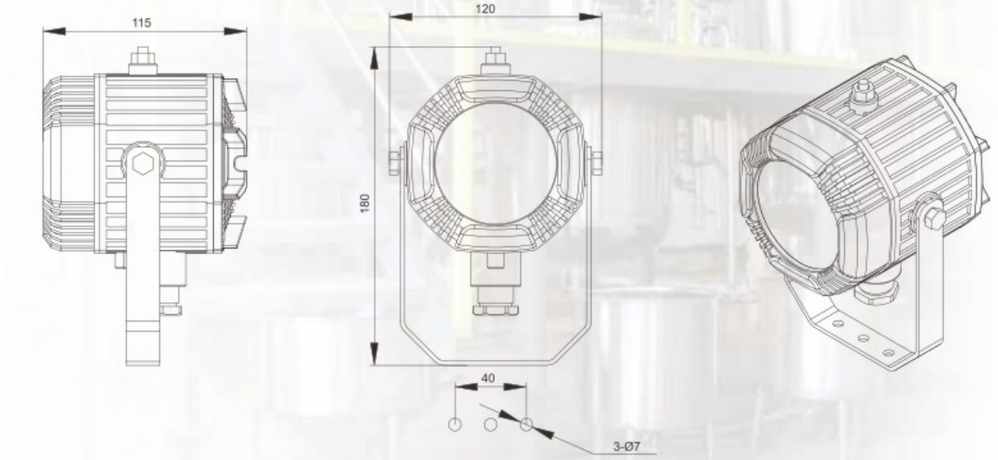
For example: Explosion-proof Tank And Vessel Inspection LED Lighting Fixtures, with delay-off function, delay time is 15min, the model No. is MAML-03T-15W-S

MINMILE

技术参数 Technical parameters

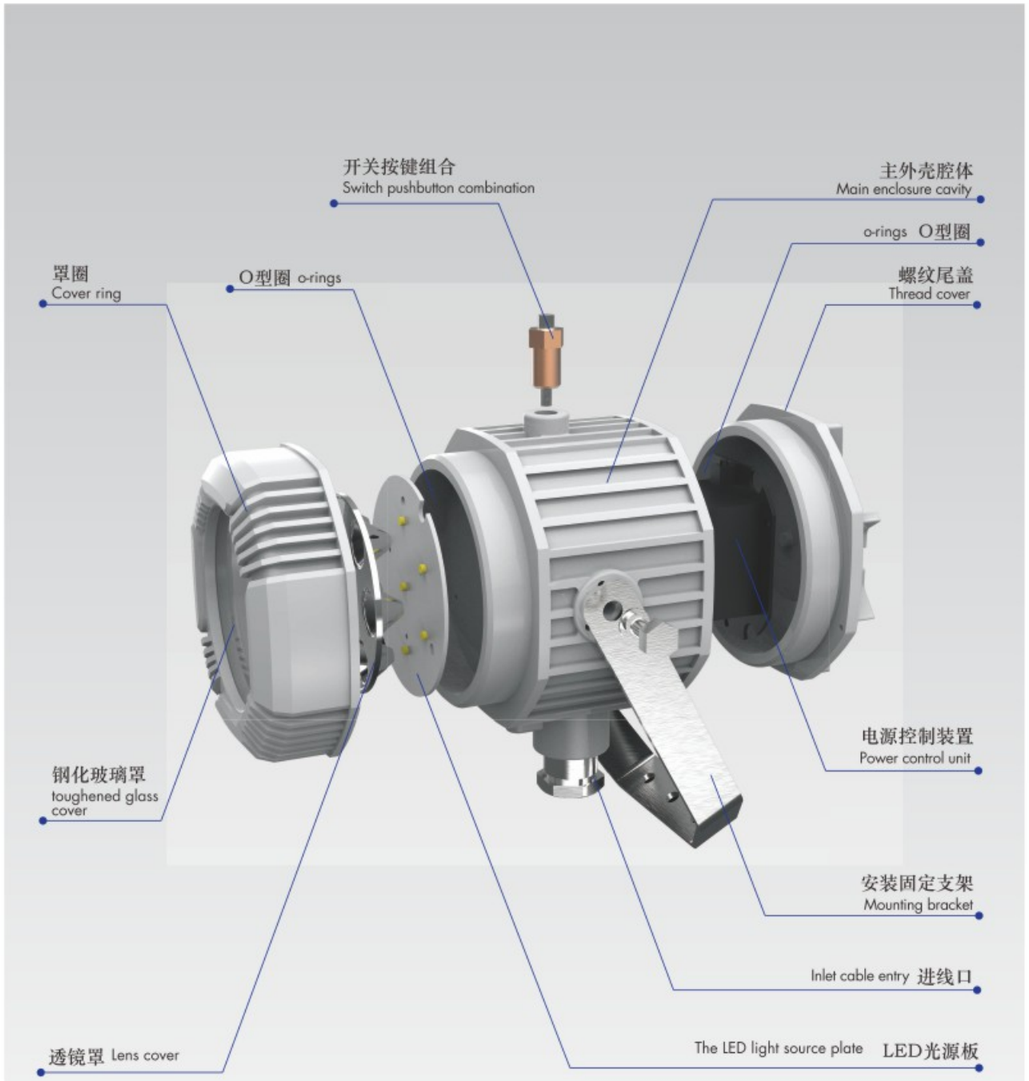
环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-45°C ~ +60°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	Ⓔx II 2G Ex db IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.31 IEC/EN60079-0 IEC/EN60079-1 IEC/EN60079-31		
防护等级 IP	IP66		
保护壳材质 Enclosure Material	铸铝ZL102材料 Aluminium alloy ZL102 material code		
保护壳喷涂材质及颜色 Powder coated and color	静电喷涂，颜色国际标号：RAL 7090 Electrostatic powder coating, international standard color code:RAL 7090		
透明罩 Transparent cover	钢化玻璃，抗4J冲击 Tonghened glass，stands 4J impact		
外露紧固件材料 The material of Exposed fastener	SS304/SS316 不锈钢 SS304/SS316 Stainless steel		
LED灯具功率 The power of the lamp	20W、15W、12W、9W、7W、5W、3W		
额定电压 Rated voltage	AC/DC: 12/24/36V AC: 127-256V 50/60HZ		
允许最大进线电缆规格及电缆外径 Allow maximum cable specification and cable outer diameter	3x1.0mm（铠装电缆、橡塑电缆）/ 电缆外径范围：6~10mm 3x1.0mm (armored cable, rubber cable) / cable outer diameter range: 6~10mm		
灯具进线口螺纹规格 Specification of thread inlet thread	标配M20×1.5，其它NPT½、G½ 等特殊螺纹下单时注明； Standard M20 x 1.5, other NPT½, G½ and other special thread order indicate;		
产品净重 Product net weight（Kg）	1.8Kg		

产品外形及安装示意图尺寸 Dimension drawings and installation reference



低温 -45°C Low temperature
高温 +60°C High temperature
气体 dbIIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

产品爆炸图 Technical parameters



MiNMiLE



MFL-A　　MFL-B



MFL系列LED防爆手电筒
MFL Series LED Explosion-proof hand lamp

低温 -45℃ Low temperature　高温 +55℃ High temperature　气体 dbⅡC Gas　粉尘 tb ⅢC Dust　防护 IP66 protection degree

技术参数 Technical parameters

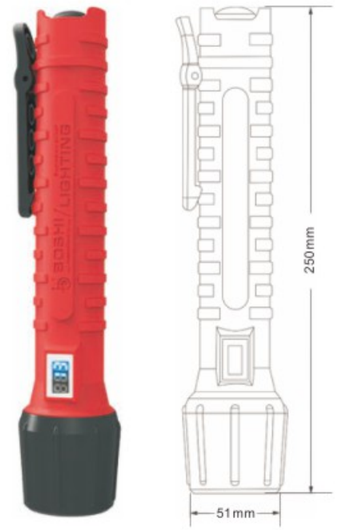
防爆标志 Ex Marking	Ex db [ib] ⅡC T6 Gb Ex ib tb ⅢC T80℃ Db
防护等级 IP	IP66
遵循标准 Conformity to standards	GB/T 3836.1 GB/T 3836.2 GB/T 3836.4 GB/T 3836.31
保护壳材质 Enclosure Material	增强尼龙 Reinforced Nylon

灯具外形尺寸重量表格
Weight table lamps and lanterns shape size

型号规格 Model specification	功率 Power (W)	电池容量 Battery capacity (mAh)	工作电流 Working current (mA)	连续照明时间 Continuous lighting time (h)	光通量 Luminous flux (lm)	光源使用寿命 Light source life (h)	外壳颜色 Enclosure color	净重(Kg) weight(Kg)
MFL-AR	≤9W	3100	900/300	≥4.5	320/120	100000	红色 Red	≥0.9
MFL-AY		3100					黄色Yellow	
MFL-BR		6200		≥9			红色Red	≥0.9
MFL-BY		6200					黄色Yellow	

产品外形及安装示意图尺寸
Product profile and installation schematic dimensions





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产品优势介绍 Product advantage introduction



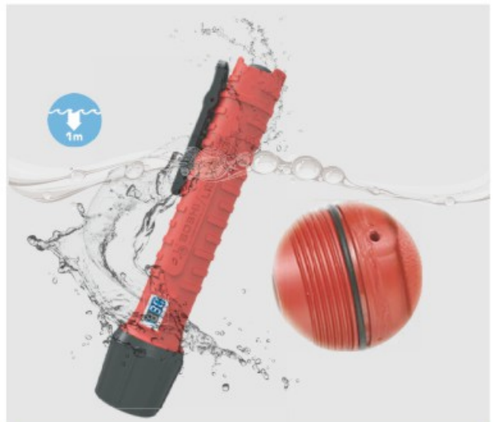
采用耐冲击、耐腐蚀的尼龙外壳，产品不导电、重量轻
The impact resistance, corrosion resistance of nylon enclosure. The product is not conductive, light weight

加入特殊防静电材料，专为石油化工等危险环境设计
Adding special anti-static material, special designed for oil, chemical industry and other dangerous environment.



人性化设计 Humanized design

1. 筒身防滑纹设计 2. 筒身手握有极强的舒适感，尤其戴手套使用。
3. 筒身配备有弹性设计的夹子，方便挂在口袋 或者其他物体上使用。
1. Design of body anti-slip grain
2. It has a strong sense of comfort, especially for gloves.
3. The barrel is equipped with a flexible design clip to hang in the pocket or use on other objects.



产品通过IP68防水试验测试
The product is tested by IP68 waterproof test

采用优质硅橡胶O型密封圈，保证防水防尘性能，延长产品使用寿命。
Adopt high quality silicone rubber o-type sealing ring to guarantee the waterproof and dustproof performance and prolong the service life of the product.



采用LED灯珠，铝合金高效反光杯,均匀光束
Adopt LED lamp bead, aluminum alloy efficiency reflecting cup, uniform beam

低温 -45℃ Low temperature
高温 +55℃ High temperature
气体 dbⅡC Gas
粉尘 tb ⅢC Dust
防护 IP66 protection degree



LED显示屏，实时电量显示
LED display, real-time power display



防拆螺丝锁定筒身与头部的连接，可防止设备意外拆开
The anti-dismantle screw connected with lamp head and lamp body, which can prevent the device dismantled by accidental.



镜片采用高分子材料制成，耐磨耐刮，符合防爆试验要求
The lenses are made of high polymer materials and resistant to scratches. Comply for explosion-proof test requirement

现场使用展示 Field use display







MFL3071-A系列防爆灯具（泛光灯）
MFL3071-A Series Explosion-protected LED Lighting (floodlight)

低温 -40°C Low temperature
高温 +60°C High temperature
防爆 nR Ex nR
粉尘 tb IIIC Dust
防护 IP66 protection degree

技术参数 Technical parameter

LED 品牌 LED Chip Brand: CREE
输入电压 Input Voltage：100...277V AC 50/60Hz
整灯光效 Light Efficiency：>100lm/W
色　温 Color Temperature：3000K/4500K/6000K
工作温度 Operating Temperature：-40°C ~ +60°C

功率因素 Power Factor：>0.98
显色指数 Color Rendering Index(Ra)：>72
驱动品牌 Driver Brand: MOSO MW INVENTRONICS DRIVING THE LIGHTING REVOLUTION
防护等级 IP Grade: IP66
外壳材质 Material：铝合金 Aluminum alloy

环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-40°C ~ +40°C	≤200W： Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	≤200W： Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	≤200W： Ⓔx II 2G Ex nR IIC T6 Gc Ⓔx II 2D Ex tb IIIC T80°C Db
	≤300W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤300W： Ex nR IIC T5 Gc Ex tb IIIC T95°C Db	≤300W： Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T95°C Db
-40°C ~ +60°C	80W/200W： Ex nR IIC T5 Gc Ex tb IIIC T85°C/95°C Db	80W/200W： Ex nR IIC T5 Gc Ex tb IIIC T85°C/95°C Db	80W/200W： Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T85°C/95°C Db
	120W/240W/300W： Ex nR IIC T4 Gc Ex tb IIIC T100°C/115°C Db	120W/240W/300W： Ex nR IIC T4 Gc Ex tb IIIC T100°C/115°C Db	120W/240W/300W： Ⓔx II 2G Ex nR IIC T4 Gc Ⓔx II 2D Ex tb IIIC T100°C/115°C Db

具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Cth	体积 CBM
MFL3071-A	80	SMD	8640	51*39.5*17	6.53/7.26	1pcs	0.0342
	120	SMD	11760	51*39.5*17	6.63/7.36	1pcs	0.0342
	200	SMD	19600	61.5*47*19.5	12.56/14.06	1pcs	0.0564
	240	SMD	22320	61.5*47*19.5	12.86/14.36	1pcs	0.0564
	300	SMD	33600	61.5*47*19.5	12.77/13.7	1pcs	0.0564

注：如您需求功率为300W防爆泛光灯，则型号为：MFL3071-A-300. Note: If you need 300W explosion-protected LED Lighting (floodlight) , the model is MFL3071-A-300.

应用 Application



气体危险场所2区、粉尘危险场所21、22区
Gas: Zone 2, Dust: Zone 21、22



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



洪水塔 Floodtowers



体育场馆 Sportstadiums



建筑 Buildings

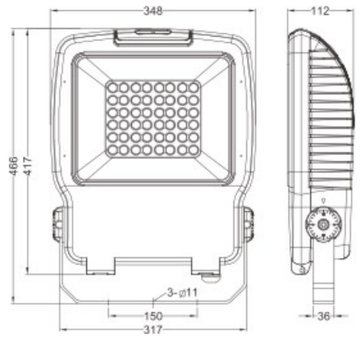
MINMILE

外形及尺寸图、配光曲线图
Outline and dimension drawing/Distribution diagram

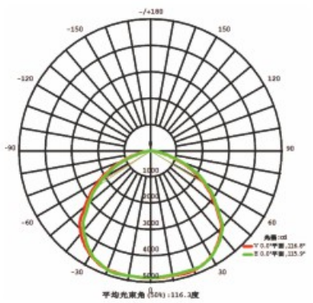
MFL3071-A-80/120



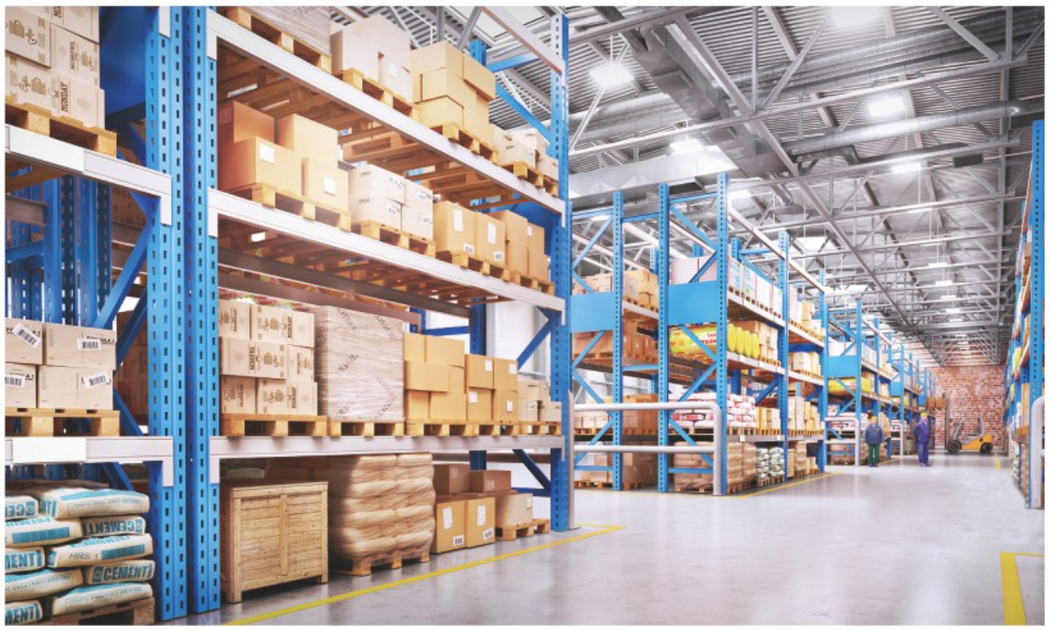
产品图片 Product Photo



线型图 Dimension Diagram



配光图 Photometric



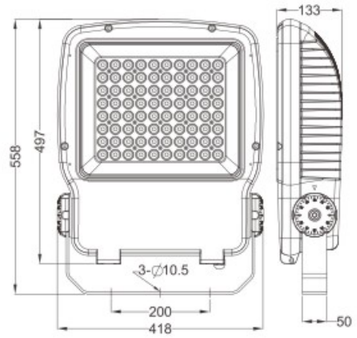
低温 -40°C Low temperature
高温 +60°C High temperature
防爆 nR Ex nR
粉尘 tb IIIC Dust
防护 IP66 protection degree

外形及尺寸图、配光曲线图
Outline and dimension drawing/Distribution diagram

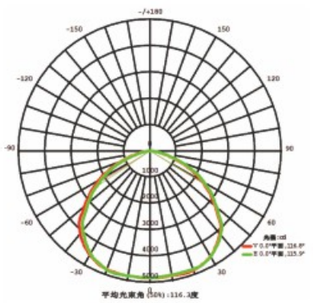
MFL3071-A-200/240/300



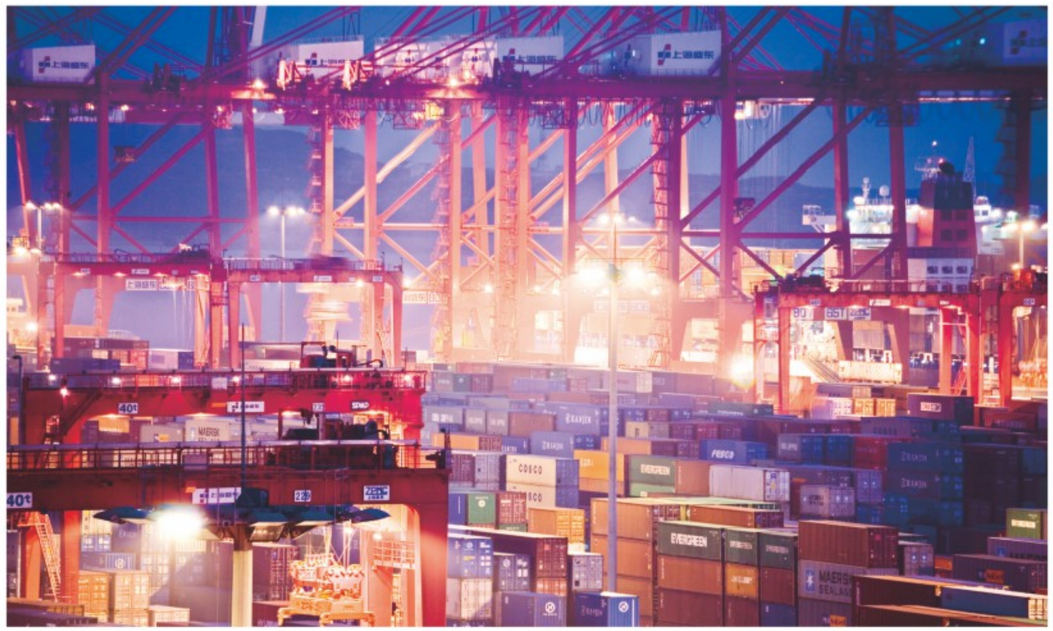
产品图片 Product Photo



线型图 Dimension Diagram



配光图 Photometric



MiNMiLE



反面 Back view



正面 Front view



MFL3071-B系列防水防尽防腐泛光灯
MFL3071-B Series Weatherproof LED lighting

防护 IP66
protection degree

技术参数 Technical parameter

LED 品牌 LED Chip Brand: LUMILEDS
输入电压 Input Voltage: AC100~240V, 50/60HZ
整灯光效 Light Efficiency: >100lm/W
色　温 Color Temperature: 3000K/4500K/6000K
工作温度 Operating Temperature: -40°C ~ +60°C

驱动品牌 Driver Brand: MOSO MW INVENTRONICS DRIVING THE LIGHTING REVOLUTION
功率因素 Power Factor: >0.98
显色指数 Color Rendering Index(Ra): >72
防护等级 IP Grade: IP66
外壳材质 Material: 铝合金 Aluminum alloy

具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Cth	体积 CBM
MFL3071-B	50	SMD	6510	30.5*24.5*7.5	2.2/2.6	1pcs	0.0056
	100	SMD	13419	43.5*36*11.5	3.76/4.2	1pcs	0.0180
	150	SMD	17892	42.5*50*14.5	4.67/5.4	1pcs	0.0308
	200	SMD	27525	49.5*47.5*16.5	6.67/7.67	1pcs	0.0388
	240	SMD	32010	49.5*47.5*16.5	6.77/7.77	1pcs	0.0388
	300	SMD	38240	55.5*50*19.5	11.02/12.22	1pcs	0.0541
	360	SMD	44352	55.5*50*19.5	11.1/12.3	1pcs	0.0541

注：如您需求功率为200W防水防尘防腐泛光灯，则型号为：MFL3071-B-200.Note: If you need 200W weatherproof LED lightings, the model is MFL3071-B-200.

应用 Application



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



洪水塔 Floodtowers



体育场馆 Sportstadiums



建筑 Buildings

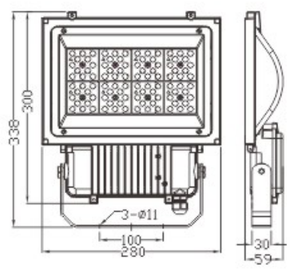
MiNMiLE

外形及尺寸图、配光曲线图
Outline and dimension drawing/Distribution diagram

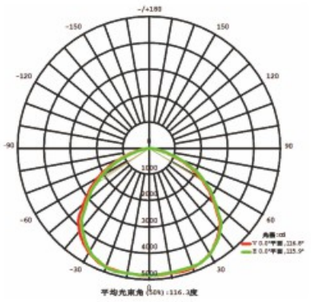
MFL3071-B-50



产品图片 Product Photo



线型图 Dimension Diagram

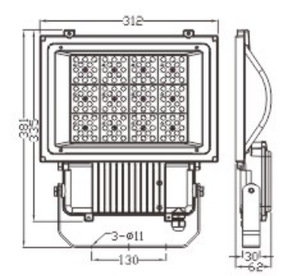


配光图 Photometric

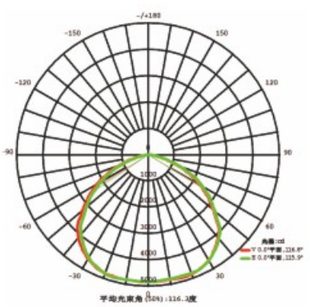
MFL3071-B-100



产品图片 Product Photo



线型图 Dimension Diagram



配光图 Photometric

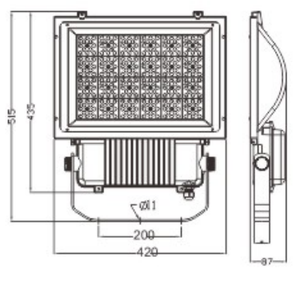
防护 IP66
protection degree

外形及尺寸图、配光曲线图
Outline and dimension drawing/Distribution diagram

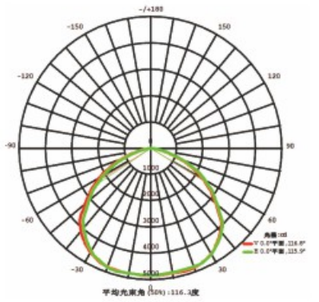
MFL3071-B-200/240



产品图片 Product Photo



线型图 Dimension Diagram

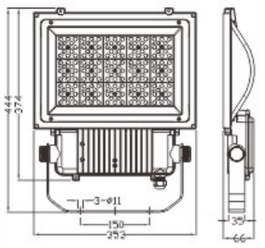


配光图 Photometric

MFL3071-B-150



产品图片 Product Photo

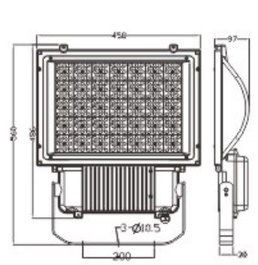


线型图 Dimension Diagram

MFL3071-B-300/360



产品图片 Product Photo



线型图 Dimension Diagram

防爆照明灯系列 Explosion-proof Series Lighting Fixture





MFL3071-C系列防爆灯具(投光灯)

MFL3071-C Series Explosion-protected LED Lighting (spotlight)

低温 -40°C Low temperature · 高温 +60°C High temperature · 防爆 nR Ex nR · 粉尘 tb IIIC Dust · 防护 IP66 protection degree

● 技术参数 Technical parameter

LED 品牌 LED Chip Brand: CREE

输入电压 Input Voltage: 100...277V AC 50/60Hz

整灯光效 Light Efficiency: >100lm/W

色　温 Color Temperature: 3000K/4500K/6000K

工作温度 Operating Temperature: -40°C ~ +60°C

功率因素 Power Factor: >0.98

显色指数 Color Rendering Index(Ra): >72

驱动品牌 Driver Brand: MOSO · MW · INVENTRONICS DRIVING THE LIGHTING REVOLUTION

外壳材质 Material: 铝合金 Aluminum alloy

环境温度 Ambient Temperature	防爆标志 Ex Marking		
	GB	IECEX	ATEX
-40°C ~ +40°C	50W/300W/500W : Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	50W/300W/500W : Ex nR IIC T6 Gc Ex tb IIIC T80°C Db	50W/300W/500W : Ⓔx II 2G Ex nR IIC T6 Gc Ⓔx II 2D Ex tb IIIC T80°C Db
	100W/200W : Ex nR IIC T5 Gc Ex tb IIIC T82/83°C Db	100W/200W : Ex nR IIC T5 Gc Ex tb IIIC T82/83°C Db	100W/200W : Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T82/83°C Db
-40°C ~ +60°C	50W/300W/500W : Ex nR IIC T5 Gc Ex tb IIIC T86/95°C Db	50W/300W/500W : Ex nR IIC T5 Gc Ex tb IIIC T86/95°C Db	50W/300W/500W : Ⓔx II 2G Ex nR IIC T5 Gc Ⓔx II 2D Ex tb IIIC T86/95°C Db
	100W/200W : Ex nR IIC T4 Gc Ex tb IIIC T102/103°C Db	100W/200W : Ex nR IIC T4 Gc Ex tb IIIC T102/103°C Db	100W/200W : Ⓔx II 2G Ex nR IIC T4 Gc Ⓔx II 2D Ex tb IIIC T102/103°C Db

● 具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Ctn	体积 CBM
MFL3071-C	50	SMD	5250	27*26.5*16	3/3.3	1pcs	0.0114
	100	SMD	10500	36*35.5*17.5	6.52/7.2	1pcs	0.0224
	200	SMD	19600	43.5*43*20	10.8/11.8	1pcs	0.0374
	300	SMD	29400	51*50.5*25	17/18	1pcs	0.0644
	500	SMD	50000	68*66*44.5	27.7/30.82	1pcs	0.1997

注：如您需求功率为200W防爆投光灯，则型号为：MFL3071-C-200.

Note: If you need 200W explosion-protected LED Lighting (spotlight), the model is MFL3071-C-200.

● 应用 Application



气体危险场所2区、粉尘危险场所21、22区
Gas: Zone 2, Dust: Zone 21、22



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



洪水塔 Floodtowers



体育场馆 Sportstadiums



建筑 Buildings

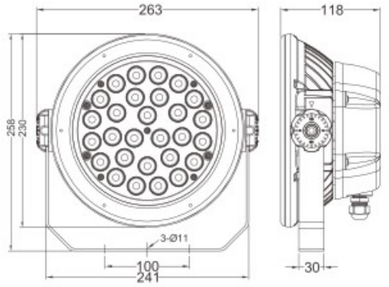
MINMILE

- 外形及尺寸图、配光曲线图 Outline and dimension drawing/Distribution diagram

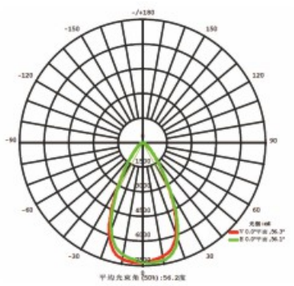
MFL3071-C-50



产品图片 Product Photo



线型图 Dimension Diagram

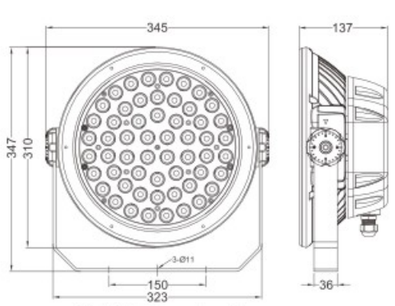


配光图 Photometric

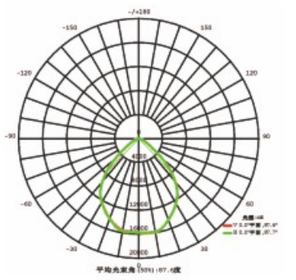
MFL3071-C-100



产品图片 Product Photo



线型图 Dimension Diagram

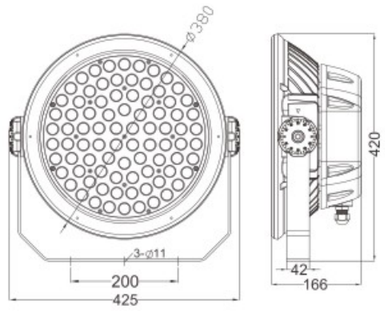


配光图 Photometric

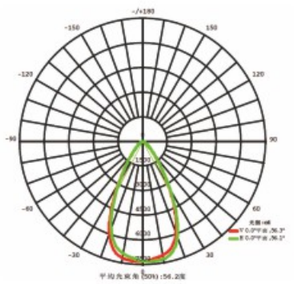
MFL3071-C-200



产品图片 Product Photo



线型图 Dimension Diagram



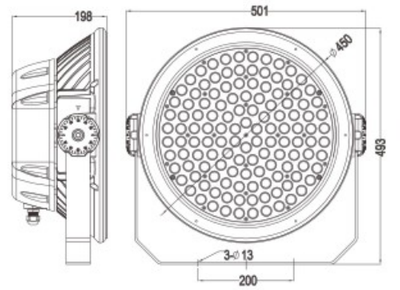
配光图 Photometric

低温 -40°C Low temperature | 高温 +60°C High temperature | 防爆 nR Ex nR | 粉尘 tb IIIC Dust | 防护 IP66 protection degree

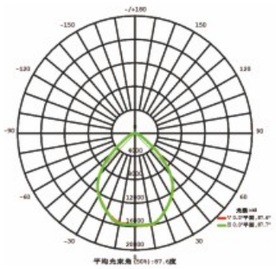
MFL3071-C-300



产品图片 Product Photo



线型图 Dimension Diagram

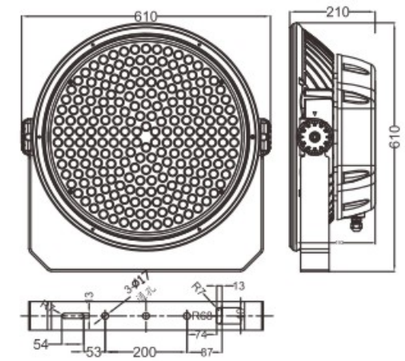


配光图 Photometric

MFL3071-C-500



产品图片 Product Photo



线型图 Dimension Diagram

MiNMiLE





MFL3071-D系列防水防尘防腐高棚灯
MFL3071-D Series Weatherproof LED High Bay lighting

防护 IP66
protection degree

● 技术参数 Technical parameter

LED 品牌 LED Chip Brand: LUMILEDS
输入电压 Input Voltage：AC100~240V, 50/60HZ
整灯光效 Light Efficiency：>100lm/W
色　温 Color Temperature：3000K/4500K/6000K
工作温度 Operating Temperature：-40°C ~ +60°C

驱动品牌 Driver Brand: MOSO MW INVENTRONICS DRIVING THE LIGHTING REVOLUTION
功率因素 Power Factor：>0.98
显色指数 Color Rendering Index(Ra)：>72
防护等级 IP Grade: IP66
外壳材质 Material：铝合金 Aluminum alloy

● 具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Cth	体积 CBM
MFL3071-D	100	SMD	12500	27*27*17	2.55/3.25	1pcs	0.0124
	150	SMD	18750	33*33*18	4/4.5	1pcs	0.0196
	200	SMD	25000	39*39*19.5	5.2/6.2	1pcs	0.0297

注：如您需求功率为200W防水防尘防腐高棚灯，则型号为：MFL3071-D-200.
Note: If you need 200W weatherproof LED High Bay lightings,the model is MFL3071-D-200.

● 应用 Application



化工区公用工程区域
Public engineering area of chemical industry area



工厂 Factories



仓库 warehouses



商场 Hyper markets



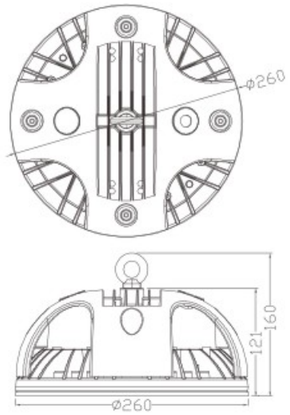
展厅 Exhibition halls

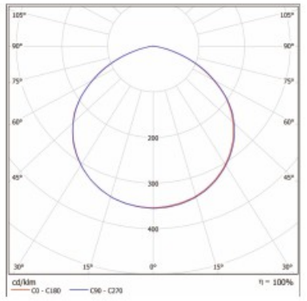
MiNMiLE

- 外形及尺寸图、配光曲线图 Outline and dimension drawing/Distribution diagram

MFL3071-D-100



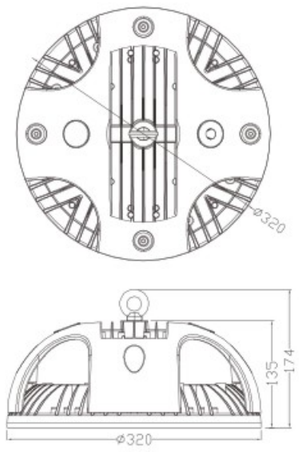


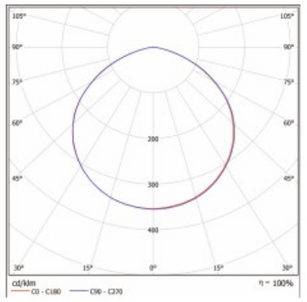


产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric

MFL3071-D-150





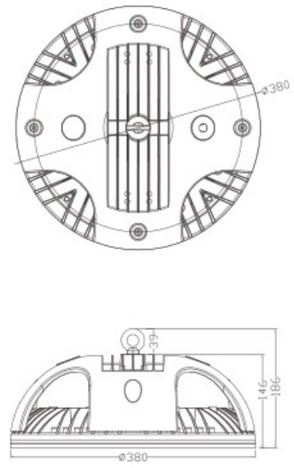


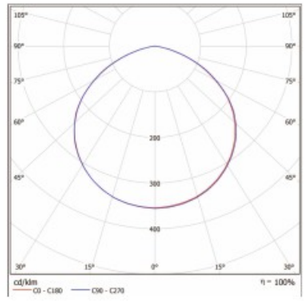
产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric

防护 IP66
protection degree

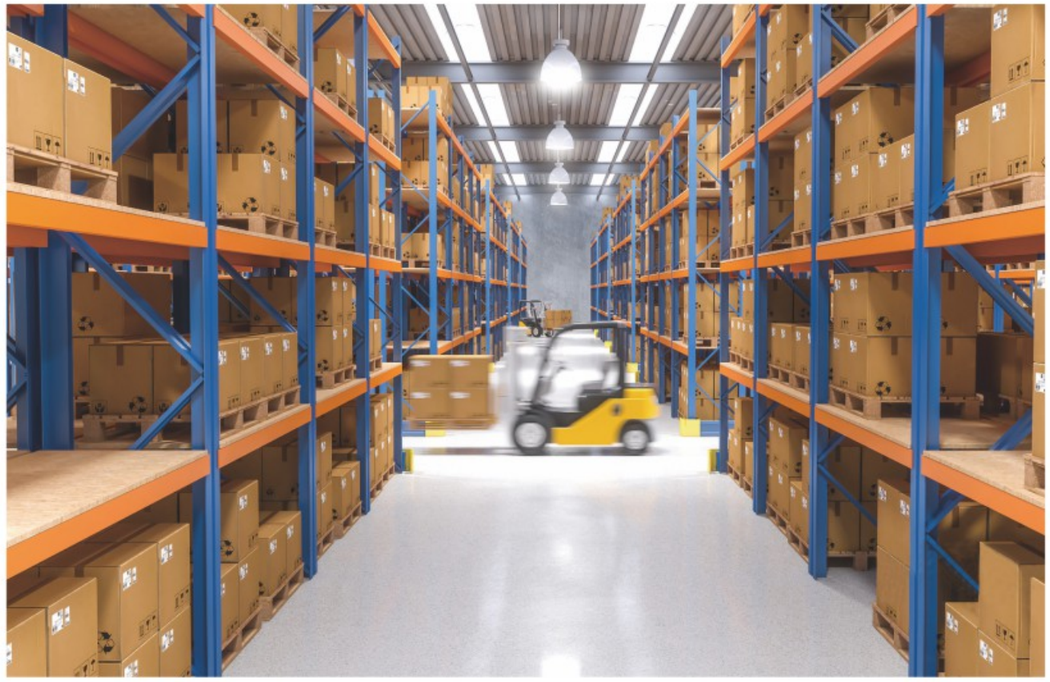
MFL3071-D-200







产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric



MiNMiLE





MRL7025-A系列防水防尘防腐路灯
MRL7025-A Series Weatherproof Street Lamp

防护 IP66
protection degree

技术参数 Technical parameter

LED 品牌 LED Chip Brand: LUMILEDS
输入电压 Input Voltage：AC100~240V, 50/60HZ
整灯光效 Light Efficiency：>100lm/W
色　温 Color Temperature：3000K/4500K/6000K
工作温度 Operating Temperature：-40°C ~ +60°C

驱动品牌 Driver Brand: MW
功率因素 Power Factor：>0.98
显色指数 Color Rendering Index(Ra)：>72
防护等级 IP Grade: IP66
外壳材质 Material：铝合金 Aluminum alloy

具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Ctn	体积 CBM
MRL7025-A	50	SMD	6250	53*29*18.5	3.1/4	1pcs	0.0284
	100	SMD	12700	73.5*38*22.5	6.1/7.2	1pcs	0.0628
	150	SMD	19050	86.5*44*22.5	8.81/9.81	1pcs	0.0856
	200	SMD	25100	86.5*44*22.5	8.91/9.91	1pcs	0.0856

注：如您需求功率为100W防水防尘防腐路灯，则型号为：MRL7025-A-100. Note: If you need 100W weatherproof street lamp, the model is MRL7025-A-100.

应用 Application



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



城市道路和高速公路
Urban roads and highways



停车区域 Parking areas



住宅或工业领域 Residential or industrial areas



公园和商业区 Parks and commercial areas

MINMILE

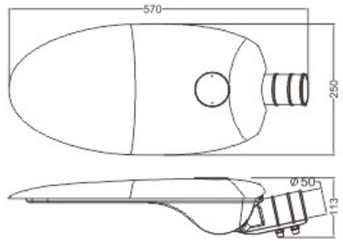
防护 IP66
protection degree

外形及尺寸图、配光曲线图 Outline and dimension drawing/Distribution diagram

MRL7025-A-50



产品图片 Product Photo

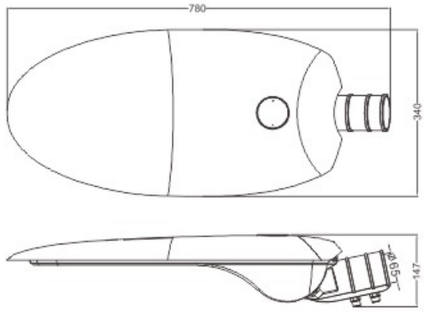


线型图 Dimension Diagram

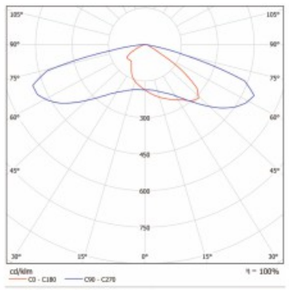
MRL7025-A-100



产品图片 Product Photo

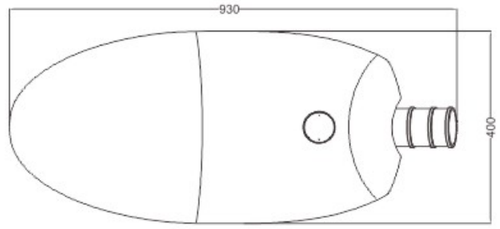


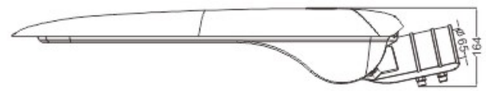
线型图 Dimension Diagram



配光图 Photometric

MRL7025-A-150/200



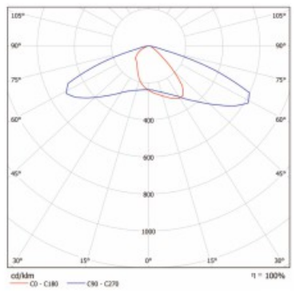


线型图 Dimension Diagram





产品图片 Product Photo



配光图 Photometric

MiNMiLE





侧面



背面



MRL7025-B系列防水防尘防腐路灯
MRL7025-B Series Weatherproof Street Lamp

防护 IP66
protection degree

● 技术参数 Technical parameter

LED 品牌 LED Chip Brand: LUMILEDS
输入电压 Input Voltage：AC100~240V, 50/60HZ
整灯光效 Light Efficiency：>100lm/W
色　温 Color Temperature：3000K/4500K/6000K
工作温度 Operating Temperature：-40°C ~ +60°C

驱动品牌 Driver Brand: MW
功率因素 Power Factor：>0.98
显色指数 Color Rendering Index(Ra)：>72
防护等级 IP Grade: IP66
外壳材质 Material：铝合金 Aluminum alloy

● 具体参数及选型 Specific parameters and selection

型号 Model	功率 Power(W)	封装 Lamp	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Ctn	体积 CBM
MRL7025-B	50	SMD	6250	58.5*28.5*18	3.7/4.2	1pcs	0.0300
	100/120	SMD	12700/15200	68.5*34.5*18	5.7/6.7	1pcs	0.0425
	150	SMD	19050	79.5*39*18	7.7/8.7	1pcs	0.0558

注：如您需求功率为150W防水防尘防腐路灯，则型号为：MRL7025-B-150. Note: If you need 1 50W weatherproof street lamp, the model is MRL7025-B-150.

● 应用 Application



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



城市道路和高速公路
Urban roads and highways



停车区域 Parking areas



住宅或工业领域 Residential or industrial areas



公园和商业区 Parks and commercial areas

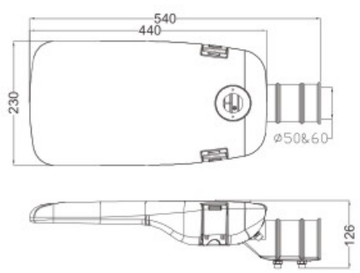
MiNMiLE

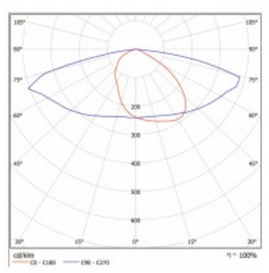
防护 IP66
protection degree

- 外形及尺寸图、配光曲线图 Outline and dimension drawing/Distribution diagram

MRL7025-B-50



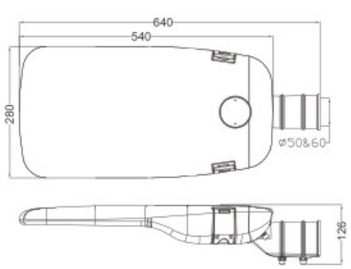


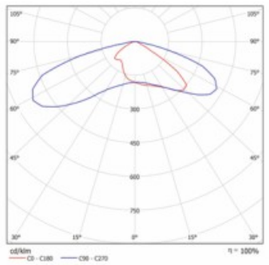


产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric

MRL7025-B-100/120



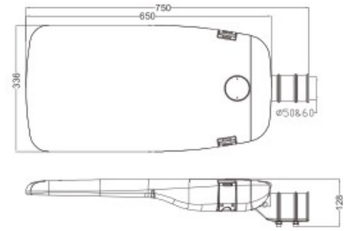


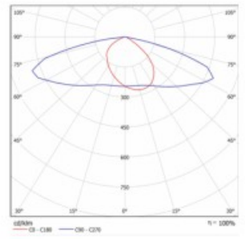


产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric

MRL7025-B-150







产品图片 Product Photo　　线型图 Dimension Diagram　　配光图 Photometric



三防照明灯系列 Weather-proof Series Lighting Fixture

MINMILE





MAMF02系列防水防尘防腐荧光灯
MAMF02 Series Weatherproof light fittings for fluorescent lamp

防护 IP66
protection degree

● 技术参数 Technical parameter

输入电压 Input Voltage：AC186~240V, 50/60HZ
色　温 Color Temperature：6200K
工作温度 Operating Temperature：-40°C ~ +60°C
功率因素 Power Factor：>0.98

显色指数 Color Rendering Index(Ra)：>72
防护等级 IP Grade: IP66
外壳材质 Material：PC

● 应用 Application



气体危险场所2区、粉尘危险场所21、22区
Gas: Zone 2, Dust:Zone 21、22



化工区公用工程区域
Public engineering area of chemical industry area



港口 Harbours



隧道 Tunnel



地下综合管廊
Underground comprehensive pipe corridor



地铁站 Subway station

● 具体参数及选型 Specific parameters and selection

MAMF02 – B – C – E

B — 功率 Power（W）

B-18
B-2*18
B-36
B-2*36
B-58
B-2*58

C-8
C-2*8
C-16
C-2*16

C — 安装方式 Mounting Type

C-吸顶式 Ceiling type
S-吊杆式 Pendant pole type
W-壁式 Wall type
P5-护栏式 Fence type
P6-立杆式 Pole type
f-可倾斜护栏式 Tillable mounting type
0-无安装方式 Without mounting type

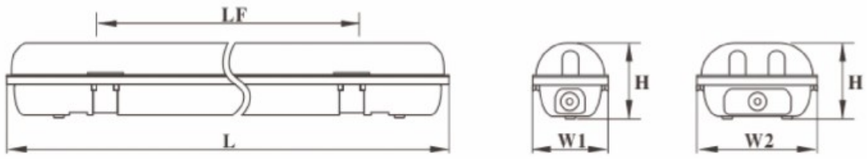
E — 带应急/不带 With Emergency Or Not

00-不带应急（可不注）
without emergency
(optional)
EG-带应急（应急时间备注）
with emergency
(indicate time)

MINMILE

型号 Model	功率 Power(W)	光源 light source	光通量 Luminous Flux	包装尺寸 Packing(cm)	毛重/净重 G.W/N.W(Kgs)	装箱数/装箱量 Pcs/Cth	体积 CBM
MAMF02-B	18	T8	1150	68*48*20	10/8	10 pcs	0.0653
	2*18	T8	2300	68*30*38	11/9	8 pcs	0.0775
	36	T8	2760	129*20*38	14/12	8 pcs	0.0980
	2*36	T8	5520	129*29*30	13.5/11.5	6 pcs	0.1122
	58	T8	4860	160*30*20	12.8/10.8	6 pcs	0.0960
	2*58	T8	9720	160*30*20	12.2/10.2	4 pcs	0.0960
MAMF02-C	8	T8-LED	1100	68*48*20	10/8	10 pcs	0.0653
	2*8	T8-LED	2200	68*30*38	11/9	8 pcs	0.0775
	16	T8-LED	1920	129*20*38	14/12	8 pcs	0.0980
	2*16	T8-LED	3840	129*29*30	13.5/11.5	6 pcs	0.1122

● 外形及尺寸图 Outline and dimension drawing



对应产品	L	H	W1	W2	LF
MAMF02-B-18/2*18 MAMF02-C-8/2*8	66cm	9.3cm	8.5cm	13.5cm	36cm
MAMF02-B-36/2*36 MAMF02-C-16/2*16	126cm	9.3cm	8.5cm	13.5cm	88cm
MAMF02-B-58/2*58	156cm	9.3cm	8.5cm	13.5cm	95cm









MHPL-系列防爆/三防高杆灯
MHPL Serise Explosion-proof/ Weather-proof high pole lamp

低温 -40°C Low temperature
高温 +60°C High temperature
防爆 dbⅡC Gas
粉尘 tbⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 适用于爆炸性气体环境1区2区;适用于可燃性粉尘环境21区22区; 适用于IIA IIB IIC 类爆炸性气体环境;
- 执行标准:
  GB3836.1、GB3836.2、GB3836.3、IEC60079-0、IEC60079-1、IEC60079-7、EN60079-0、EN60079-1、EN60079-7、GB50017《钢结构设计规范》、GB50135《高耸结构设计规范》、GB50011《建筑抗震设计规范》、GB50007《建筑地基基础设计规范》、CJ/T3076《高杆照明设施技术条件》、GB699《优质碳素结构钢技术条件》、GB/T13912《金属覆盖层钢铁制件热浸镀锌技术要求》
- 本公司防爆三防高杆灯结构紧凑、整体牢固、组装、维修便利，升降系统和电器系统工作可靠，配光合理，照度均匀，且照明范围可达3000多平方米;防爆三防高杆灯灯盘造型可按用户意愿或工程需要设计成多种结构形式。
- 灯杆
  1)灯杆由低碳钢或不锈钢板经剪制、折弯、自动焊接成型，如需不锈钢灯杆请注明;
  2)高杆灯的全部钢结构件均进行热镀锌及表面喷塑处理，使所有内外壁表面均获得妥善保护以延长使用寿命和节约维护费用;
  3)灯杆底部开有电器门，内置防爆自动、手动升降系统和防爆电器控制系统。门上备有特制的门锁，可有效避免非工作人员开启。

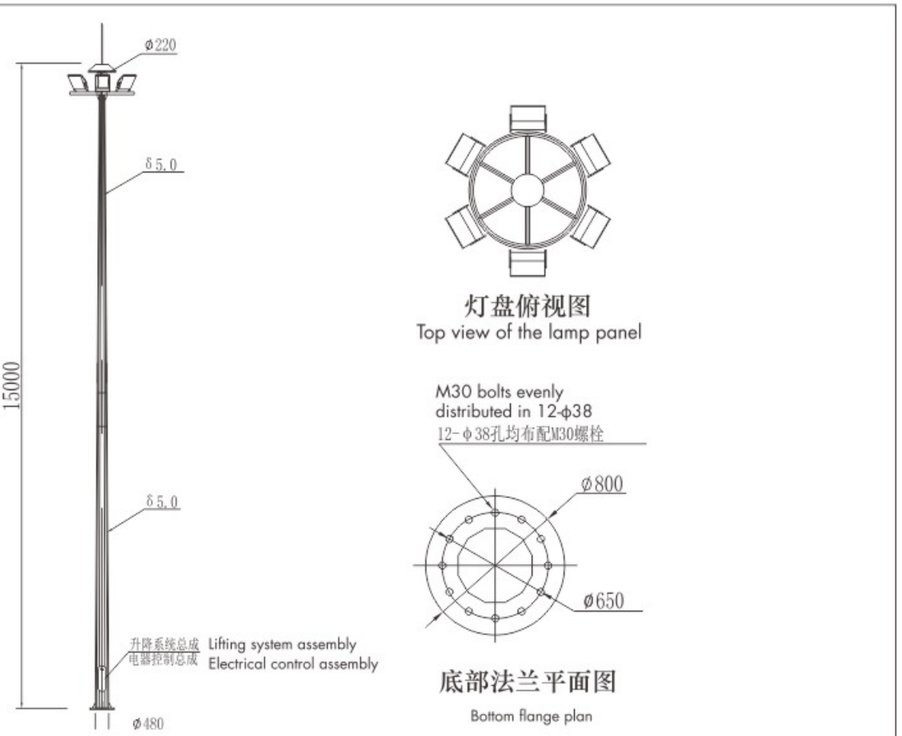
- Can be used in Zone1, Zone 2,21,22,IIC,IIB,IIA typecombustible gas environment.
- Standard:
  GB3836.1, GB3836. 2, GB3836. 3, IEC60079-0, IEC60079-1, IEC60079-7, EN60079-0, EN60079-1, EN60079-7, GB50017 *Code for Design of Stee1 Structures* GB50135 *Code for Design of High- rising Structures*, GB50011 *Code for Seismic Design of Buildings*, GB50007 *Code for Design of Building Foundation*, CJ/T3076 *Technical Requirements for High-Mast Lighting Installation* GB699 *Quality Carton Structure Steel Technical Requirements*. GB/T13912 *Metallic Coatings -Hotdip Galvanized Coatings on Fabricated Ferrous Products- Specification.*
- Our explosion-proof high pole lamp has a compact solidstructure, convenient assembly and maintenance, reliable lifting system and electrical system, reasonable light distribution, uniform illumination, and a lighting range of more than 3000 square meters: The shape of explosion-proof high pole lamp panel can be designed into various structural forms as per client's needs.
- Lamp pole
  1) The lamp pole is made of 1ow carbon steel or stainless steel plate by cutting, bending and automatic welding. If stainless steel lamp pole is required, please specify;
  2)All steel structural parts of the hieh pole lamp are hotdip galvanized and surface sprayed with plastic, so that all internal and external wall surfaces are properly protected to prolong service life and save maintenance costs;
  3) An elevator door is set at the bottom of the lamp pole, and explosion-proof automatic and manual lifting system and explosion proof electrical control system are built in. The door is equipped with a special lock, which can effectively prevent non- staff from opening it.



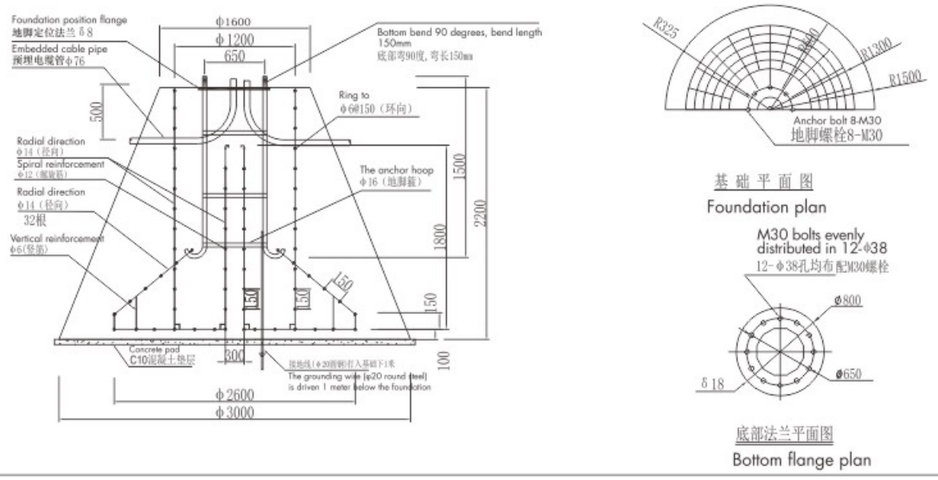


MINMILE

- 防爆/三防外形及安装尺寸 Explosion-proof/ Weather-proof outline and installation dimension

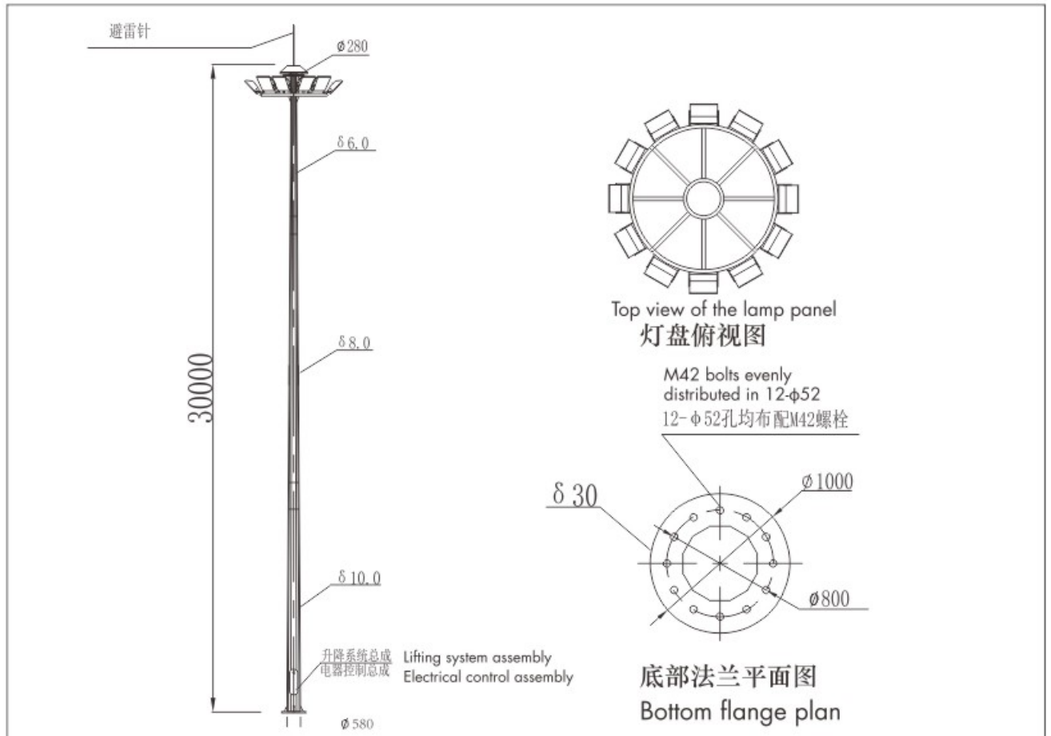


- 基础参考示意图 Basic reference plan

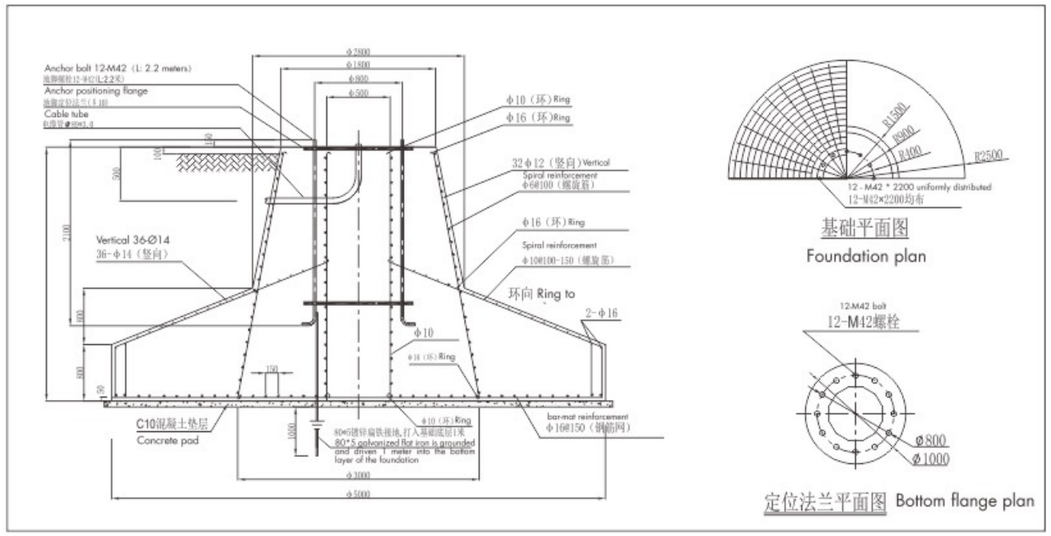


低温 -40℃ Low temperature
高温 +60℃ High temperature
防爆 dbⅡC Gas
粉尘 tbⅢC Dust
防护 IP66 protection degree

- 防爆/三防外形及安装尺寸 Explosion-proof/ Weather-proof outline and installation dimension



- 基础参考示意图 Basic reference plan



MINMILE

灯杆参数 Lamp pole parameter

灯杆高度(m)	Light pole height	15	20	25	30	35	40
底径(mm)	Bottom diameter	550	550	580	650	700	720
顶径(mm)	Crest diameter	220	220	250	280	300	320
壁厚(mm)	Wall thickness	6/6	6/6	6/8	6/8/8	6/8/10	6/8/10/12

灯具型号 Model of lighting fixture

灯具型号 Model of lighting fixture	防爆标志 Ex Marking	防护等级 IP	功率 Power
MAMS01	Ex db eb mb IIC T5 Gb/Ex tb IIIC T95°C Db	IP66	≤500W
MFL3071-A	Ex nR IIC T6 Gc/Ex tb IIIC T80°C Db		≤300W
MFL3071-B			≤360W
MFL3071-C	Ex nR IIC T4 Gc/Ex tb IIIC T102/103°C Db		≤500W

型号含义 Model meaning

MHPL - ▢ - ▢ - ▢ - ▢

- 灯具型号 Model of lighting fixture
- 灯具数量 Quantity of lighting fixture
- 灯杆形式 Light pole form
  - A型:固定式 Type A: fixed type
  - B型:升降式 Type B: lift type
- 灯杆高度 Light pole height

产品优势介绍 Product advantage and features

◆ 防爆电器控制系统

1)防爆电器控制及保护装置都安装固定于灯杆底部的控制箱内,备有照明控制及电机控制线路;

2)采用手动控制防爆防腐主令控制器，实现远距离控制升降(约5米);

3)双回路电力电缆供电，可实现全负荷照明和部分照明，具有手控、光控及电脑时间控制等多种方式，以满足用户的不同需求;

4)采用拖缆方式供电，防爆控制箱和照明电缆采用特制的具有锁定装置的专用插件连接。

◆ Explosion-proof electrical control system

1) Explosion-proof electrical control and protection devices are installed in the control box fixed at the bottom of the lamp pole, equipped with lighting control and motor control circuits;
2) Manual control of explosion-proof and anti-corrosion master controller is adopted to realize remote control of lifting (about 5m);
3) Double circuit power cable for power supply can realize full load lighting and partial lighting, with manual control, light control, computer time control and other ways to meet the different needs of clients;
4) The cable is not fixed, and the explosion-proof control box and lighting cable are connected by special plug-ins with locking devices.

低温 -40°C Low temperature | 高温 +60°C High temperature | 防爆 dbIIC Gas | 粉尘 tbIIIC Dust | 防护 IP66 protection degree

◆ 防爆自动、手动升降系统

由防爆电机、蜗轮蜗杆、卷扬机等部件组成。具有自锁性能的蜗轮蜗杆传动机构，可以使灯盘在任何位置停止，并设置过扭矩保护，具有自动、手动操作功能。

◆ Explosion-proof automatic and manual lifting system

It is composed of explosion-proof motor, worm gear, winch and other components.Worm gear and worm drive mechanism with self- locking performance can stop the lamp panel at any position, and over torque protection is set, with automatic and manual operation functions.

◆ 钢缆导向滑轮系统

该组件由三组滑轮臂成120度角排列，并被固定在灯杆顶部固定支撑架上，每组滑轮臂安装有:

1)终身润滑密封的特制轴承;

2)专用于灯盘自动锁定，脱落的卸载装置;

3)高分子非金属绝缘材料的滑轮，对电缆表面无损伤;

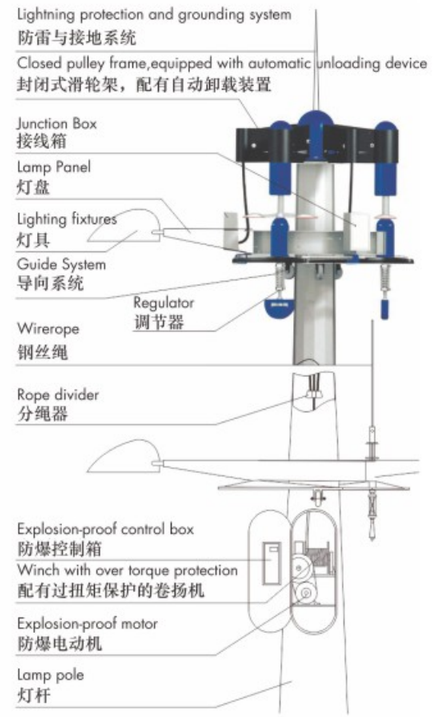
4)防止钢缆滑出导向轮的限位装置;

5)所有钢制部件均经过热浸锌处理或由不锈钢材料制成。

◆ Cable guide pulley system

The assembly consists of three groups of pulley arms arranged at an angle of and fixed on the fixed support frame at the top of the lamp pole. Each group of pulley arms is installed with:

1) Special bearings with lifetime lubrication and sealing;
2) Special unloading device for automatic locking and falling off of lamp panel;
3) Pulleys made of polymer non-metallic insulating materials have no damage to the cable surface ;
4) A limit device to prevent the steel cable from sliding out of the guide wheel;
5) All steel parts are hot-dip galvanized or made of stainless steel.



◆ 挂钩装置

挂钩装置的特殊几何形状由计算机辅助设计而成，经过精密的计算和实际论证，可确保灯盘升至预定位置时，挂钩在钢缆的牵引下与卸载装置产生相对运动，从而达到锁定、脱卸的目的。在正常使用情况下，钢缆处于卸荷状态，延长了钢缆的使用寿命，保证灯盘在恶劣天气情况下处于稳定状态。

◆ Hook device

The special geometry of the hook device is designed by computer-aided design. After precise calculation and practical demonstration, it can be ensured that when the lamp panel rises to the predetermined position, the hook will move relative to the unloading device under the traction of the steel cable, so as to achieve the purpose of locking and unloading. In normal use, the steel cable is in the unloaded state, which extends the service life of the steel cable and ensures that the lamp panel is in a stable state in bad weather.

◆ 导向及制动系统

此系统在灯盘正常上升和下降过程中起导向作用，一旦钢丝绳发生断裂时，此系统起制动保护，防止灯盘坠落的作用。

1)导向系统使灯盘在升降过程中始终处于对中位置，防止灯盘偏斜与灯杆碰撞、损伤灯杆或灯盘防腐表面;.

2)制动系统由彼此成120度角排列的三组装置组成，通过同时楔入灯杆的三块制动器，一旦悬吊钢绳再次拉紧，制动器从灯杆上放松使灯盘可以重新升降;

3)在钢缆处于卸荷状态时，制动器始终保护锁定;

4)先进的制动技术，防止钢性冲击，制动力更大，制动平稳无噪声。

◆ Guidance and braking system

This system plays a guiding role in the normal rising and falling process of the lamp panel. Once the steel wire rope breaks, this system plays a braking protection role to prevent the lamp panel from falling.

1) The guide system makes the lamp panel always in the center position during the lifting process to prevent the lamp panel from deflecting, colliding with the lamp pole, and damaging the lamp pole or the anti-corrosive surface of the lamp panel.
2) The braking system is composed of three groups of devices arranged at an angle of 120 degrees to each other. Through three brakes wedged into the lamp pole at the same time, once the suspension wire rope is ti ghtened again, the brakes will be released from the lamp pole so that the lamp panel can be lifted and lowered again;
3) When the steel cable is unloaded, the brake is always protected and locked;
4) Advanced braking technology prevents steel impact, provides greater braking force, and ensures smooth braking without noise.

◆ 防雷接地装置

防爆高杆灯必须设置专用接地装置，接地电阻不大于10欧姆。

◆ Lightning protection grounding device

The explosion- proof high pole lamp must be equipped with a special grounding device with a grounding resistance of no more than 10 ohms.

◆ 所有机械传动部位均经过非电气防爆处理。

◆ All mechanical transmission parts are subject to non-electrical explosion -proof treatment.





MSTL-系列防爆/三防路灯

MSTL Series Explosion-proof/ Weather-proof Street Light

低温 -40°C Low temperature
高温 +60°C High temperature
气体 dbⅡC Gas
粉尘 tbⅢC Dust
防护 IP66 protection degree

产品特点 Product feature

- 灯杆为优质钢板制作成型，圆锥杆结构，内外热浸锌处理后表面高压静电喷塑，具有很强的抗腐蚀能力，可广泛用于各种化工厂道路及场所照明；
- The lamp pole is made of high-quality steel plate and has a tapered pole structure. After hot-dip galvanizing inside and outside, the surface is sprayed with high-voltage electrostatic plastic. It has strong corrosion resistance and can be widely used for lighting roads and places in various chemical plants;

- 灯杆形式分为单臂(A型）、单臂(B型)、等长臂(C型)等形式供用户根据现场需要选用；
- It can be divided into single arm (type A), single arm (type B), equal length double arm (type C) and other types for users to choose based on their needs;

- 灯杆高度有多种，无特殊注明时按照单臂6米供货，灯杆高度、臂长可根据用户要求定制；
- There are a variety of lamp pole heights. If there is no special indication, it shall be supplied as per single arm 6M. Lamp pole height and arm length can be customized according to users' requirements;

- 防爆灯具与灯杆采用专用联接套固定，连接牢固可靠；
- Explosion-proof lamps and poles shall be fixed with special coupling sleeves, and the connection shall be firm and reliable;

- 马路灯系列灯具、灯杆抗风能力强，可广泛用于沿海、沿江等风力较大地区；
- The street light series lamps and poles have strong wind resistance, and can be widely used in coastal, riverside and other areas with strong wind;

- 灯杆底部的门盖与灯杆固定采用专用螺栓固定，开启时须用专用工具开启，可有效避免非工作人员开启；
- The cover at the bottom and the lamp pole are fixed with special bolts. It must be opened with special tools, which can effectively prevent non-staff from opening;

- 内装防爆接线箱的进线格兰为2-M32，适用电缆规格为:φ17-φ26.2;出线格兰为M25,适用电缆规格为:非铠装φ11.3-φ19.9,其他进出线格兰规格及过线范围可定制。
- The incoming cable gland of the explosion-proof junction box is 2-M32, and the applicable cable specification is: ϕ 17-ϕ 26.2; The outlet cable gland is M25, and the applicable cable specification is: non armored ϕ 11.3- ϕ 19. 9. Other specifications of inlet and outlet cable gland and the range of wire passing can be customized.

注:若用户电缆规格不适用上述要求，请将电缆数据提供我公司订制进线格兰。

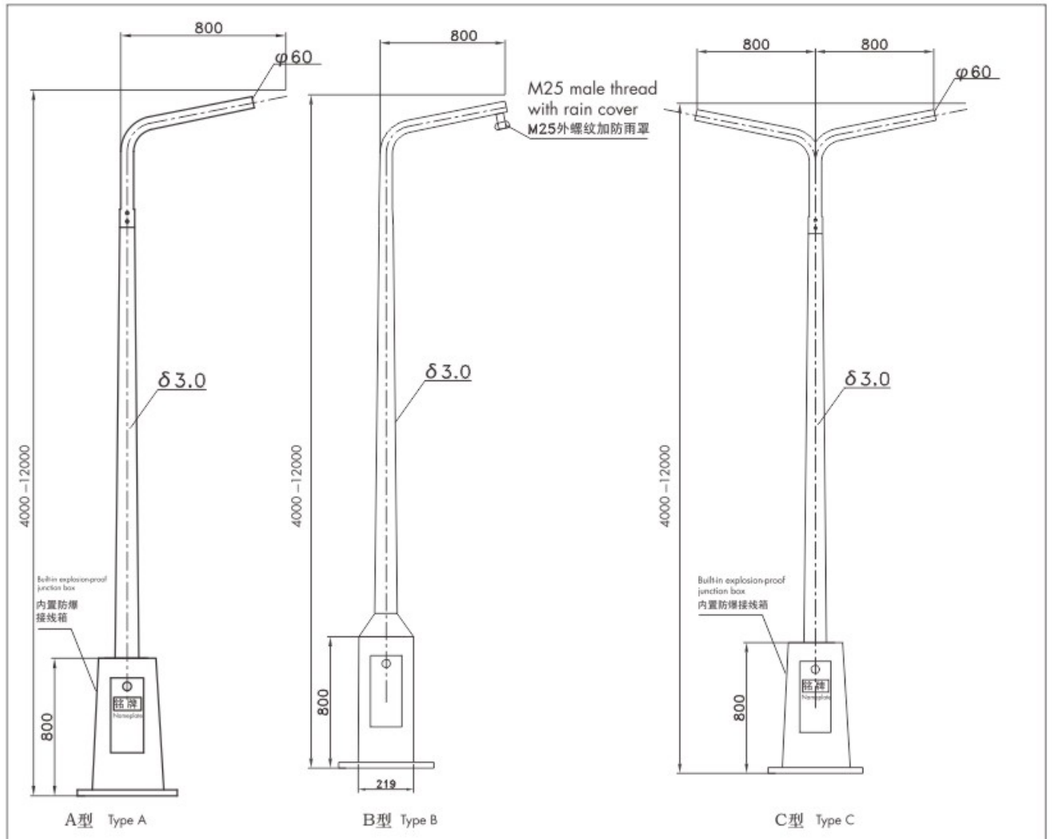
Note: if the cable specifications are not applicable to the above requirements, please provide the cable data to our company to customize the incoming cable gland.



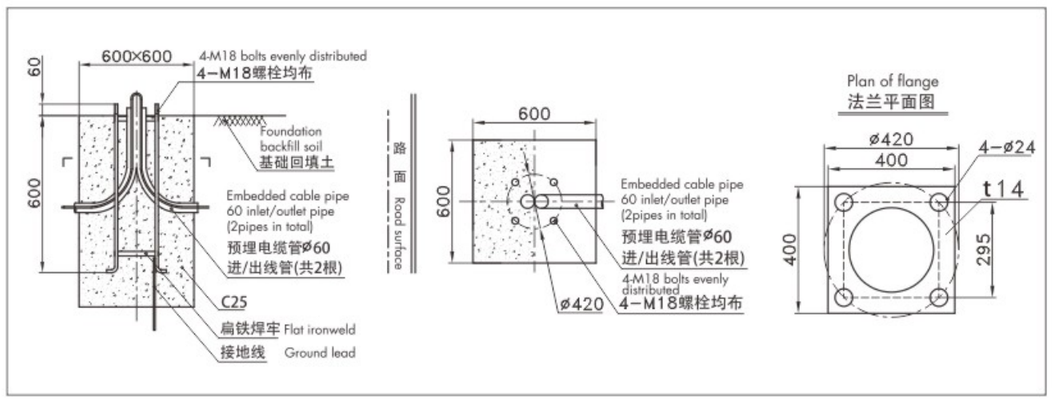


MINMILE

● 防爆外形及安装尺寸 Explosion-proof outline and installation dimension

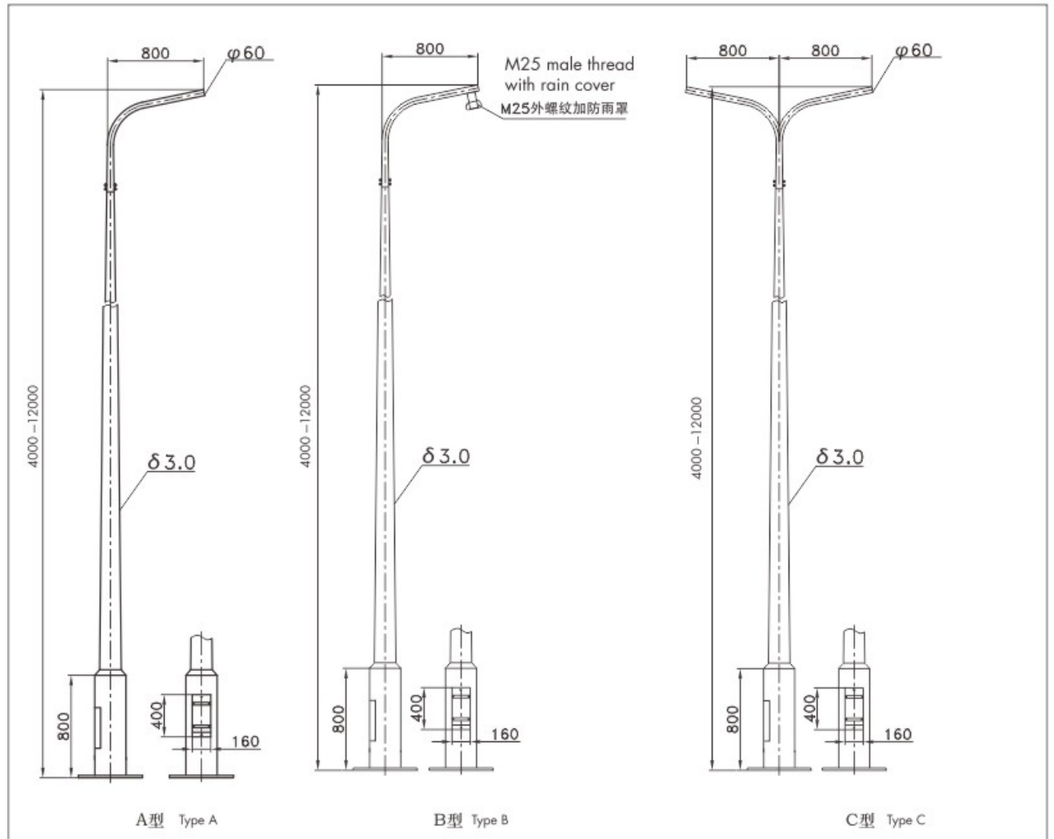


● 基础参考示意图 Basic reference plan

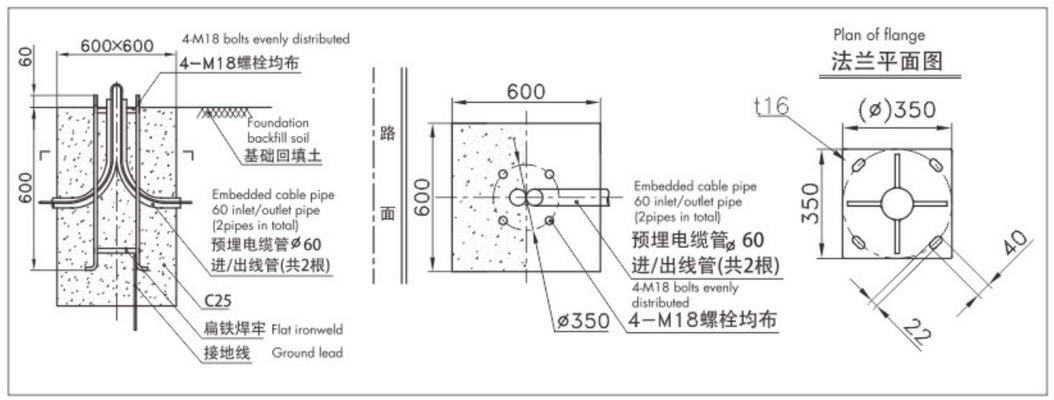


低温 -40°C Low temperature
高温 +60°C High temperature
气体 db IIC Gas
粉尘 tb IIIC Dust
防护 IP66 protection degree

● 三防外形及安装尺寸 Weather- proof outlinea and installation dimension



● 基础参考示意图 Basic reference plan



MINMILE®

灯具型号 Model of lighting fixture

灯具型号 Model of lighting fixture	防爆标志 Ex Marking	防护等级 IP	功率 Power
MAML-02A	Ex db IIC T5 Gb/Ex tb IIIC T95°C Db	IP66	≤180W
MAML-02C	Ex db IIC T5 Gb /Ex tb IIC T95°C Db		≤180W
MAML-01	Ex db IIC T4 Gb /Ex tb 'IIIC T130°C Db		≤175W
MAMS01	Ex db eb mb IIC T5 Gb/Ex tb IIC T95°C Db		≤500W
MRL7025-A			≤200W
MRL7025-B			≤150W

型号含义 Model meaning

MSTL - □ - □ - □

- 灯具型号 Model of lighting fixture
- 灯杆形式 Light pole form
  - A型:单臂 Type A:single armType
  - B型:单臂 B:single arm
  - C型:等长壁 Type C:equal length double arm
- 灯杆高度 Light pole height

灯具本体组合件 Lamp body composition

产品 Product pictures	名称 Name	代号 Code name	产品特点及描述 Product features and description	产品净重 Product net weight(kg)	适用于产品型号 Applicable to product model
	S型接线腔 S type junction cavity	1、MS01-NPT3/4 2、MS01-M25*1.5	1、进线口螺纹可以根据用户要求来制作； 2、内配无线连接接线盘，方便用户接线及后期维修维护。 1. The incoming thread can be made according to the user's requirements; 2. Equipped with wireless connection wiring board, convenient for connection and maintenance.	0.75	
	C型接线腔 C type junction cavity	1、MC01-NPT3/4 2、MC01-M25*1.5	1、进线口螺纹可以根据用户要求来制作； 2、内配无线连接接线盘，且可根据用户要求配置2组分线端子，方便用户接线及后期维修维护。 1. The incoming thread can be made according to the user's requirements; 2. Equipped with wireless connection wiring board, convenient for connection and maintenance.	0.9	
	玻璃罩带罩圈 Glass cover with cover ring	MLG01-285	大角度照明玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Large Angle lighting glass cover, cover and glass are sealed with epoxy resin.	4.6	
	玻璃罩带罩圈 Glass cover with cover ring	MLG01-225	大角度照明玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Large angle illumination glass cover, the cover ring and glass are sealed with epoxy glue.	3.0	
	玻璃罩带罩圈 Glass cover with cover ring	MLG01-150	大角度照明玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Large angle illumination glass cover, the cover ring and glass are sealed with epoxy glue.	1.4	
	玻璃罩带罩圈 Glass cover with cover ring	MLG02-285	平面玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Plane glass cover, the cover ring and glass is sealed by epoxy glue.	2.8	
	玻璃罩带罩圈 Glass cover with cover ring	MLG02-225	平面玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Plane glass cover, the cover ring and glass is sealed by epoxy glue.	1.9	
	玻璃罩带罩圈 Glass cover with cover ring	MLG04-155	平面玻璃罩，罩圈与玻璃采用环氧树脂胶封合。 Plane glass cover, the cover ring and glass is sealed by epoxy glue.	1.2	
	玻璃罩带罩圈 Glass cover with cover ring	MLG03-225	半凸玻璃，罩圈与玻璃采用环氧树脂胶封合。 Half convex glass cover, the cover ring and glass is sealed by epoxy glue.	2	
	玻璃罩带罩圈 Glass cover with cover ring	MLG03-285	半凸玻璃，罩圈与玻璃采用环氧树脂胶封合。 Half convex glass cover, the cover ring and glass is sealed by epoxy glue.	3	
	玻璃罩保护网 Protective guard	MN01-285 MN02-285 MN03-285	可根据用户需求来定制产品材质，MN01：Q235材质，MN02：304不锈钢材质，MN03：316不锈钢材质 Material type can be customized as per client requirements, MN01: Q235，MN02：304stainless steel，MN03：316 stainless steel.	0.45	MAML01-250 MAML01-S65 MAML02-B≥80
	玻璃罩保护网 Protective guard	MN01-225 MN02-225 MN03-225	可根据用户需求来定制产品材质，MN01：Q235材质，MN02：304不锈钢材质，MN03：316不锈钢材质 Material type can be customized as per client requirements, MN01: Q235，MN02：304stainless steel，MN03：316 stainless steel.	0.28	MAML01-150 MAML01-S40 MAML02-B≤60
	玻璃罩保护网 Protective guard	MN01-150 MN02-150 MN03-150	可根据用户需求来定制产品材质，MN01：Q235材质，MN02：304不锈钢材质，MN03：316不锈钢材质 Material type can be customized as per client requirements, MN01: Q235，MN02：304stainless steel，MN03：316 stainless steel.	0.19	MAML01-S18 MAMAV

防爆照明灯系列 Explosion-proof Series Lighting Fixture

灯具安装配件选型表
Lighting fixture installation accessories list

产品图片 Product pictures	名称 Name	代号 Code name	产品特点及描述 Product features and description	产品净重 Product net weight(kg)	图标号 Figure label	标注 Mark
	防爆分线盒 Explosion-proof junction box	MAMX-06-CF2 (单独吊灯式支架代号：MSS01) MAMX-06-CF2(the code of single pendant pole bracket: MSS01	产品由1只防爆分线盒三通型和1个吊杆式配件组成开孔为M25*1.5 The product is composed of one 3-way junction box with pendent mountingaccessories, cable entry size M25*1.5	1.1	1	
	直管 Straight tube	MG-30	两端采用外螺纹M25*1.5，用于吊杆式安装灯具与吊灯盒的连接。标配30CM长，可根据要求定制。 Two ends use outside thread M25*1.5, used for pendant pole type lighting fixture installation and connection with junction box of lighting fixture. The standard length is 30CM, it can be customized as per client requirements.	0.36	2	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM M25*1.5-C	产品用于灯杆与灯具分线盒的连接，一内一外螺纹M25*1.5。 The product is used for the connection betweenlight poles and lights/junction boxes, one end with female threads M25*1.5 and the other end male threads M25*1.5.	0.26	3	用户自备 User-provided
	吊灯钩 Suspended hook	MH-M25*1.5	一端为M25*1.5外螺纹，用于与灯具的连接，另一端为挂钩。 One of end isM25*1.5 outside thread, used for connection of lighting fixture, the other end is hook.	0.2	4	
	吊环套件 Ring accessories	MR-M6	本配件为组合套件，用于实现吊环式的安装。 This accessories are one set of combination, used for realize the hook type installation.	0.14	5	
	壁式支架 Wall type bracket	MU-8	标配材质为Q235喷涂，喷涂颜色同灯具。 The standard material is Q235 with powder coated RAL7090	3	6	
	U型卡 U type clip	UK-1	符合1.5寸钢管，用于配合护栏管支架使用。 Conformity to 1.5 inches steel tube, used with fence pole bracket.	0.2	7	用户自备 User-provided
	护栏弯头 Guardrail elbow	GDLE	铝合金材质，喷涂颜色同灯具。 ZL102,with powder coated RAL7090	0.7	8	
	护栏杆 Fence pole	FP1	采用1.2寸钢管并做相应加工以实现地面法兰式安装。 标配立杆高2.4米，定制高度需下单备注。 Using 1.2inches steel tube, meet the requirement of flange type installation. The standard vertical pole is 2.4 meters high, and the customized height should be noted。	12.5	9	
	U型管夹 U type clip	UK-2	用于护栏杆与护栏的固定。 Used for fixation for fence pole and fence.	0.2	10	用户自备 User-provided
	弯杆 Elbow	WG	弯杆,带四个安装螺丝 Bend bar with four mounting screws	2	11	
	防爆分线盒 Explosion-proof junction box	MAMX-06-C	用于护栏杆底部分线。开孔M25*1.5三通 Cable wiring for fence pole, three cable entries M25*1.5	0.84	12	
	法栏杆 Flange pole	FP2	采用1.2寸钢管并做相应加工以实现地面法兰式安装。 标配立杆高2.4米，定制高度需下单备注。 Using 1.2 inches steel tube, meet the requirement of flange type installation. The standard vertical pole is 2.4 meters high, and the customized height should be noted。	17	13	
	膨胀挂钩 Expanding hook	FH-M6	用于固定挂钩 Used for fixed of hook.	0.05	14	

灯具安装配件选型表
The fitting table of fitting fitting of lamps and lanterns

产品图片 Product pictures	名称 Name	代号 Code name	产品特点及描述 Product features and description	产品净重 Product net weight(kg)	图标号 Figure label	标注 Mark
	链条 Chain	CA-35-450	链条采用直径3.5*450，Q235材质镀白 Chain diameter is 3.5*450, Q235 material with white coated.	0.15	15	
	花篮螺丝 Turnbuckle	FS-M6	用于调节链条的长度 Used for change the length of chain.	0.1	16	
	90° 弯杆 90°curve tube	WP-90	两端采用外螺纹M25*1.5，用于壁式90° 安装灯具与吊灯盒的连接。标配50CM长，可根据要求定制。 Two ends are outside thread M25*1.5, used for wall type 90°, connection installed lighting fixture and junction box, the standard length is 50CM, it can be customized as per client requirements.	0.6	17	
	150° 弯杆 150°curve tube	WP-150	两端采用外螺纹M25*1.5，用于壁式30° 安装灯具与吊灯盒的连接。标配30CM长，可根据要求定制。 Two ends are outside thread M25*1.5, used for wall type 30°, connection installed lighting fixture and junction box, the standard length is 30CM, it can be customized as per client requirements.	0.35	18	
	可倾斜护栏杆 Tiltable fence pole	竖杆：P3-1.2 弯杆：P6-1.2 Vertical rod：P3-1.2 Curve tube：P6-1.2	可实现倾斜功能，减少攀高作业造成的安全隐患，便于现场安装及维护。 标配立杆高1.2米，定制高度需下单备注。 Tilt able function, reduce the damage of high place job, convenient for installation and maintain of site. The standard vertical pole is 1.2 meters high, and the customized height should be noted。	30	19	
	长条灯护栏杆 Fluorescent lighting fixture fence pole	LFP1	采用1.2寸钢管并做相应加工。标配立杆高2.0米，定制高度需下单备注。 Use 1.2 inches steel tube with process accordingly. The standard vertical pole is 2.0 meters high, and the customized height should be noted。	15	20	
	长条灯立杆 Fluorescent lighting fixture stand pole	LFP2	采用1.2寸钢管并做相应加工以实现地面法兰式安装。标配立杆高2.0米，定制高度需下单备注。 Use 1.2inches steel tube with process accordingly, meeting the requirement of flange installation. The standard vertical pole is 2.0 meters high, and the customized height should be noted。	22	21	
	长条灯固定扣 Fluorescent lighting fixture fixed button	GK-1	采用铝型材制作，用于长条灯具的多种形式安装。一般情况下一套灯具配2个。 Adopting aluminum alloy material, used for linear lighting fixture varies of installation type. The normal condition is 1set of lighting fixture equipped with 2 sets.	0.12	22	
	长条灯壁式支架(单管) Fluorescent lighting fixture wall type bracket (single tube)	MU-3	用于单管防爆长条形LED灯具的壁式安装。一般情况下一套灯具配2个。 Used for single tube linear LED lighting fixture wall type mounting type. The normal condition is 1set of lighting fixture equipped with 2 sets.	0.12	23	
	长条灯壁式支架(双管) Fluorescent lighting fixture wall type bracket (double tube)	MU-4	用于双管防爆长条形LED灯具的壁式安装。一般情况下一套灯具配2个。 Used for double tubes linear LED lighting fixture wall type mounting type. The normal condition is 1set of lighting fixture equipped with 2 sets.	0.16	24	
	螺杆及固定架 Screw and fixed bracket	SP-M6	长条形LED灯具吊杆式安装套件。一般情况下一套灯具配2个。 Linear LED lighting fixture suspended mounting type accessories, the normal condition is 1set of lighting fixture equipped with 2 sets.	0.18	25	

防爆照明灯系列 Explosion-proof Series Lighting Fixture

安装方式配置表
Lnstallation mode configuration table

适用于产品型号 Applicable to. product model	MAML-02A系列 MAML-02A Series MAML-01系列 MAML-01 Series	MAML-02C系列 MAML-02C Series MAML02-E系列 MAML-02-E Series	MAML-01-S系列 MAML-01-S Series MFL3071-E系列 MFL3071-E Series		
安装方式 Installation	名称 Name	代号 Code name	图标号Figure Lab	数量 Qty	备注 Note
W1-壁式30° W1-30°wall type	防爆分线盒 Explosion-proof junction box	MAMX-06-CF2	1	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
	膨胀挂钩 Expanding hook	FH-M6	14	1	
	链条 Chain	CA-35-450	15	1	
	花篮螺丝 Turnbuckle	FS-M6	16	1	
	150° 弯杆 150° curve fube	WP-150	18	1	
W2-壁式90° W2-90°wall type	防爆分线盒 Explosion-proof junction box	MAMX-06-CF2	1	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
	膨胀挂钩 Expanding hook	FH-M6	14	1	
	链条 Chain	CA-35-450	15	1	
	花篮螺丝 Turnbuckle	FS-M6	16	1	
	90° 弯杆 90° curve fube	WP-90	17	1	
W3-支架吸壁式 W3-Bracket wall suction type	吸壁支架 Wall suction brackct	MU-8	6	1	
S-吊杆式 S-Pendant pole type	防爆分线盒 Explosion-proof junction box	MAMX-06-CF2	1	1	
	直管 Straight tube	MG-30	2	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
h-挂钩式 h-hook type	吊灯钩 Suspended hook	MH-M25*1.5	4	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
R-吊环式 R-ring type	吊环套件 Ring accessories	MR-M6	5	1	
P1-护栏式 P1-fence type	护栏弯头 Guardrail elbow	GDLE	8	1	
	护栏杆 Fence pole	FP1	9	1	
	U型管夹 U Type clamp	UK-2	10	1	用户自备 User-provided
	防爆分线盒 Explosion-proof junction box	MAMX-06-C	12	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
P2-立杆式 P2-pole type	护栏弯头 Guardrail elbow	GDLE	8	1	
	法栏杆 Flange pole	FP2	13	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	1	用户自备 User-provided
P3-护栏式 P3-fence type	防爆分线盒 Explosion-proof junction box	MAMX-06-C	12	1	
	弯杆 Elbow	WG	11	1	
	护栏杆 Fence pole	FP1	9	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	2	用户自备 User-provided
P4-立杆式 P4-pole type	弯杆 Elbow	WG	11	1	
	法栏杆 Flange pole	FP2	13	1	
	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	1	用户自备 User-provided

安装方式配置表
Lnstallation mode configuration table

适用于产品型号 Applicable to. product model	MAMF01-系列 MAMF01- Series				
安装方式 Installation	名称 Name	代号 Code name	图标号 Figure Lab	数量 Qty	备注 Note
W1-壁式 W1-wall type	长条灯壁式支架(单管) Fluorescent lighting fixture wall type bracket (single tube)	MU-3	23	1	
	长条灯壁式支架(双管) Fluorescent lighting fixture wall type bracket (double tube)	MU-4	24	1	
S-吊杆式 S-Pendant pole type	螺杆及固定架 Screw and fixed bracket	SP-M6	25	1	
C-吸顶式 C-Ceiling type	长条灯固定扣 Fluorescent lighting fixture fixcd button	SK-1	22	1	
P5-护栏式 P5-fence type	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	1	用户自备 User-provided
	U型管夹 U type clamp	UK-2	10	1	用户自备 User-provided
	长条灯护栏杆 Fluorescent lighting fixture fence pole	LFP1	20	1	
P6-立杆式 P6-pole type	防爆活接头 Explosion-proof adaptor union	MHJ-FM-M25*1.5-C	3	1	用户自备 User-provided
	长条灯立杆 Fluorescent lighting fixture stand pole	LFP2	21	1	



防爆照明灯系列 Explosion-proof Series Lighting Fixture