



ILSHIN

Products Catalogue



일신산업전기(주)
<http://www.isie.co.kr>



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ILSHIN Industrial Electric

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빛을 지배한 사람이 결국 지구의 주인이 되었습니다.

공룡의 거대함도, 사자의 날카로운 송곳니도, 독수리의 견고한 날개도 없었지만 사람은 지구의 지배자입니다.

가장 늦게 지구라는 무대에 등장했지만 결국은 주인이 되었습니다.

빛이란 그런 것입니다. 낮과 밤, 잠든 12시간을 깨워 마침내 24시간을 완성하게 하는 것.

어둠을 몰아내고 그 공간을 빛으로 채우기 시작했을 때 인류는 비로소 지구의 주인으로 다시 태어났습니다.

일신은 미지의 영역을 개척하는 인류의 도전에 늘 함께합니다.

일신산업전기는 낮과 밤, 그 열두시간의 경계를 허물고 빛과 어둠의 경계를 허물어

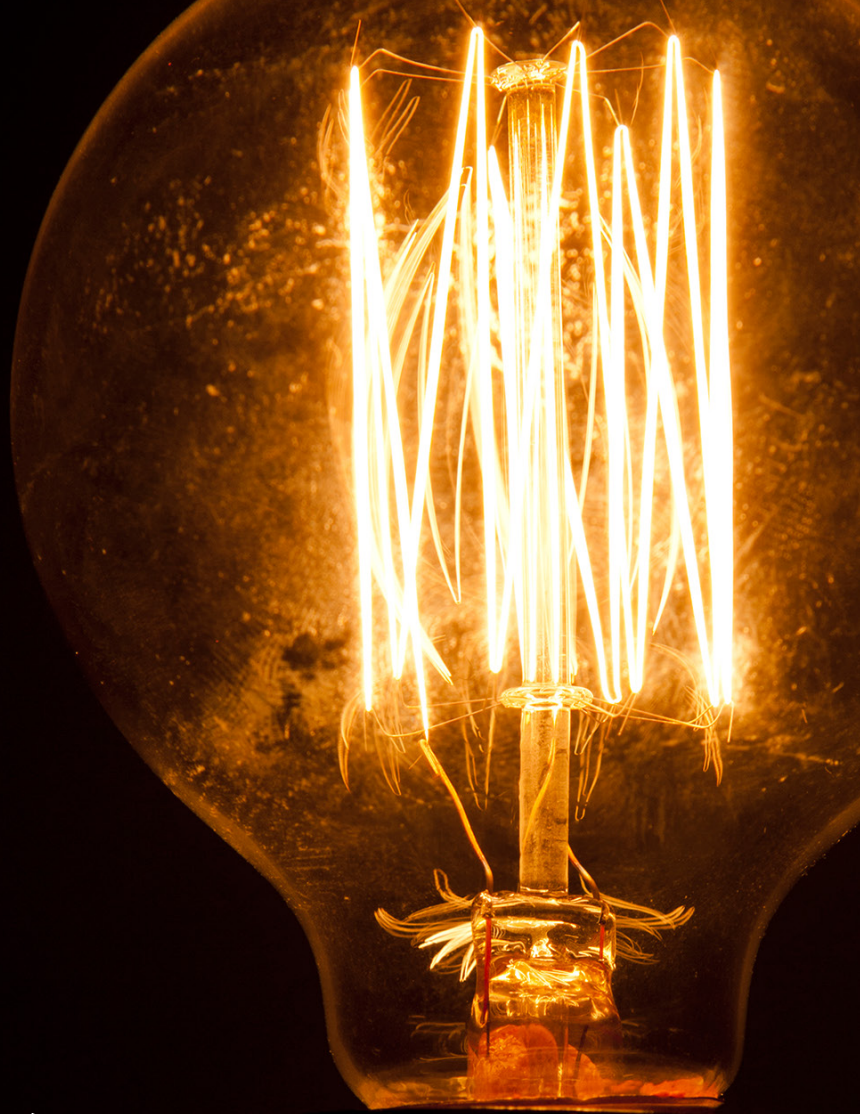
지구를 온전히 내 것으로 만드는데 앞장섭니다.



Best quality!
Technical development!
Certain service!

HISTORY

2025		자재 공급 자격 증명서(KOGAS)
2024	02	S-OIL SHAHEEN PJT 진행
2023		산업 보건 및 안전 관리 시스템 ISO 45001:2018 품질 관리 시스템 ISO 9001:2015 환경경영시스템 ISO 14001:2015 취득
2022	05	베리어 케이블 그랜드 인증 취득
	09	제29회 대한민국 가스안전대상 한국가스공사 산업통상자원부 장관상 수상
	11	광주시 향토중소기업 선정
	12	S-OIL 기자재 공급업체 등록
2021	07	한국산업안전보건공단 <제25회 방호장치 및 보호구 품질대상 품평회> ISEM-* 최우수상 수상
	10	경기도 광주시 유망중소기업 선정
2020	04	IS* Series IECEx, ATEX 인증취득
	11	방폭배관용 유니온 커플링 특허증 발급
	12	일신산업전기 (주) 신사옥이전
2019	04	IS-EPCS-* Series IECEx 인증 취득
	06	FGHL-F** IECEx DEKRA 인증 취득
2018	04	IS-LTL30 NEPSI 인증취득
	06	Component NEPSI 인증취득
	08	ISBE-* Series NEPSI 인증취득
		SK에너지 기자재 공급업체 등록
2017	01	대우건설 기자재 공급업체 등록
	04	일체형 배관자재 인증획득 (MODEL : ISCSO)
		포스코건설 기자재 공급업체 등록
	07	고용노동부 장관상 수상
	11	대우조선해양 기자재 공급업체 등록
2016	01	서부발전 협력업체 등록
	04	GS 칼텍스 협력업체 등록
	12	ISNFL, 직관형 LED등기구 IECEx, ATEX 인증 획득
2015	05	케이블실링장치 폴 유니온 케이블 그랜드 현대오일뱅크 협력업체 등록
2014	03	KCS 방폭 안전인증서 150종 획득
	08	OHSAS 18001 안전보건경영시스템 인증서 획득
	12	한국가스공사 공급업체 등록(품목: 방폭형 LED등기구)(재등록)
2013	07	삼성전자 LED 방폭등 협력업체 등록
2012	03	LED 방폭등기구(9종) 안전인증 취득
	08	실용신안등록(방폭용 절연유니온 제20-0462217호) 실용신안등록(드레인 플러그 제-20-0462043호)
2011	04	LED 등기구 직접생산 확인증명서 취득(중소기업중앙회)
	12	한국가스공사 공급업체 재 등록 (품목: 방폭형 LED등기구)
2010	12	ISO 9001:2008 인증 갱신(KGS)
2009	03	산업기술시험원 방폭성능 검정. LED방폭등기구 외 16종 획득
	10	실용신안등록(히팅코일단부 고정 부재 제20-0446448호)
2008	08	디자인등록(히팅코일분배기 -제30-0503122호)
	10	한국가스공사 공급업체 재 등록(품목:방폭형등기구)
2006	07	한국가스공사 공급업체등록(품목:방폭형등기구)
2005	08	실용신안등록(방폭작업등 -제0393899호)
2001	09	본사 및 공장 신축이전(경기도 광주)
	11	일신산업전기(주) 법인전환
	12	ISO 9001품질시스템 인증서 획득(KGSC)
2000	01	일신산업전기 설립



빙산일각_ 冰山一角 글로벌 리더로의 도약은 결국 기초에 있습니다

숨겨진 90%의 가치에 내일의 비전이 있습니다.

일신이 추구하는 최고의 가치는 보이지 않는 기초에 있습니다.

빙산이 바다 위에堂堂할 수 있는 것은 결국 보이지 않은 90%의 기초가 있기에 가능한 일입니다.

밤을 잊은 기술개발과 원칙에 충실한 품질개선, A/S에 이르기까지

결국은 내일을 선도하는 기업의 초석을 다지기 위한 일신의 노력입니다.

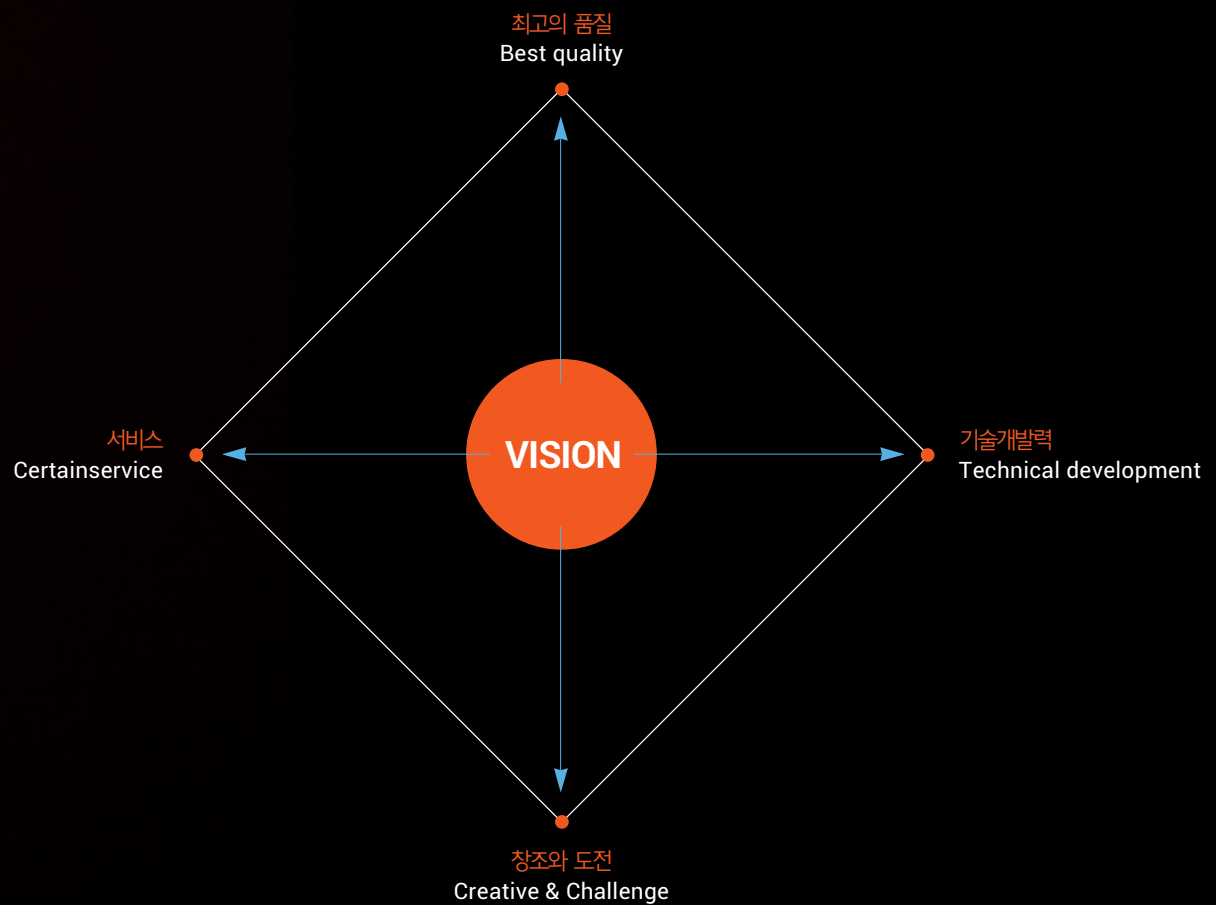
화려하지 않아도 제 자리에서 묵묵히 세상을 밝히는 든든한 버팀목. 일신의 또 다른 이름입니다.

일신산업전기의 미래비전은 끊임없는 연구개발 및 자기관리에 있습니다.

빛이 닿지 않는 곳에 빛을 열어 삶을 더욱 풍요롭게 만드는 일. 일신의 자랑입니다.

ILSHIN INDUSTRIAL ELECTRIC

Leaping into a Global Leader with It's Advanced Process Technology!



삶을 더욱 풍요롭고 알차게 열어갑니다

특수산업분야를 밝히는 한길을 걸어왔습니다.

자연이나 산업의 특성이 만들어 놓은 최악의 조건을 이겨내려 달려온 외길입니다.

연구개발을 위한 노력과 품질향상을 위해 땀방울은 보이지 않는 열정입니다.

제품 하나 하나에 스며든 일신산업전기의 숨결입니다. 빛이란 단순히 밤과 낮을 구별하는 물질이 아닙니다.

사람들의 삶을 더욱 풍요롭게 만들고, 삶의 질을 향상시키는 따뜻한 마음입니다.

일신산업전기가 만들어 온 길입니다. 열정을 다해 걸어갈 길이기도 합니다.

마음과 마음을 이어주는 세상의 빛으로 우뚝 서겠습니다.



LIGHTING
FIXTURES

CONTROL
MANUFACTURES

PLASTIC
MANUFACTURES

PRODUCT CATEGORIES

only adheres
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CONDUIT
FITTINGS

FIRE PROTECTION
EQUIPMENTS

JUNCTION BOXES

2

Technical Information

01_ ILSHIN Industrial Electric

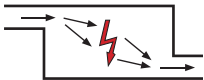
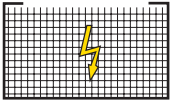
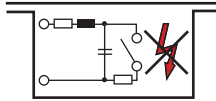
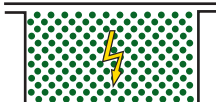
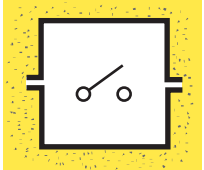
02_ Technical Information

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- 03. Types of protection and their application
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- 18. Cable Glands

03_ Global Leading Products

04_ Supplement

1. Type of Protection

Type of Enclosure	Basic Principle	Schematic	IEC Standard
Flame proof Enclosure 'd'	A type of protection of electrical apparatus in which the enclosure will withstand an internal explosion of a flammable mixture which has penetrated into the interior, without suffering damage and without causing ignition, through any joints or structural openings in the enclosure, of an external explosive atmosphere consisting of one or more of the gases or vapours for which it is designed.		IEC 60079-1
Pressurized Enclosure 'p'	A type of protection in which the entry of a surrounding atmosphere into the enclosure of the electrical apparatus is prevented by maintaining inside the said enclosure a protective gas at a higher pressure than that of the surrounding atmosphere		IEC 60079-2
Powder Filling 'q'	A type of protection in which the enclosure of electrical apparatus is filled with a material in a finely granulated state so that, in the intended conditions of service, any arc occurring within the enclosure of an electrical apparatus will not ignite the surrounding atmosphere		IEC 60079-5
Oil Immersion 'o'	A type of protection in which the electrical apparatus or parts of the electrical apparatus are immersed in oil in such a way that an explosive atmosphere, which may be above the oil or outside the enclosure cannot be ignited		IEC 60079-6
Increased Safety 'e'	A type of protection applied to electrical apparatus that does not produce arcs or sparks in normal service, in which additional measures are applied so as to give increased security against the possibility of excessive temperatures and of the occurrence of arcs and sparks		IEC 60079-7
Intrinsic Safety 'i'	A type of protection in which the electrical apparatus contains intrinsically safe circuits, which are incapable of causing an explosion in the surrounding atmosphere		IEC 60079-11
Non-Sparking Structure 'n'	A type of protection where electrical equipment, in normal operation, is not capable of igniting a surrounding explosive gas atmosphere and a fault capable of causing ignition is not likely to occur		IEC 60079-15
Encapsulation 'm'	A type of protection in which the parts which can ignite an explosive atmosphere are enclosed in a resin sufficiently resistant to environmental influences in such a way that this explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the encapsulation		IEC 60079-18
Dust Ignition Protection 'td'	An enclosure that will exclude ignitable amounts of dusts that might affect performance or rating and that, when installed and protected in accordance with the original design intent, will not permit arcs, sparks, or heat otherwise generated or liberated inside the enclosure to cause ignition of exterior accumulations or atmospheric suspensions of a specified dust		IEC 61241-1

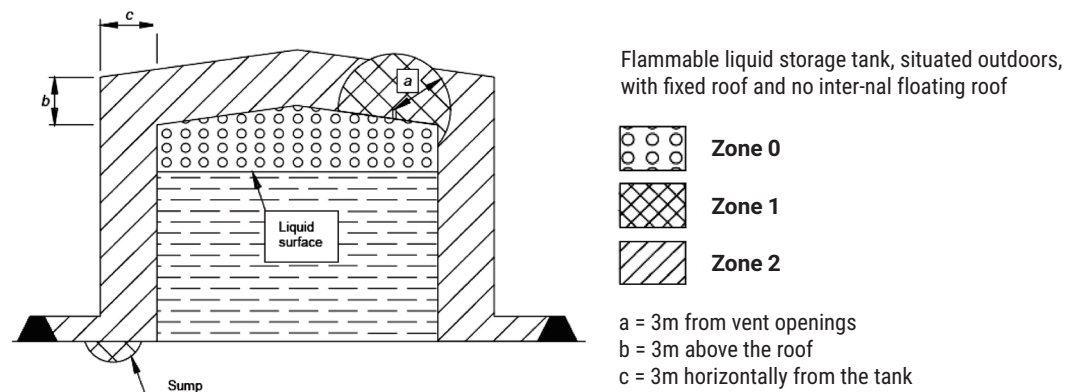
2. Division of Hazardous Areas into Zones

The practice has been established of dividing hazardous areas into zones.*)

This division both takes account of the different dangers presented by potentially explosive atmospheres and enables protective measures to be taken which take account of both the cost and the safety factors.

Zone 0		An area in which an explosive gas atmosphere is present continuously or for long periods.
Zone 1		An area in which an explosive gas atmosphere is likely to occur in normal operation.
Zone 2		An area in which an explosive gas atmosphere is not likely to occur in normal operation and, if it does occur, is likely to do so only infrequently and will exist for a short period only.

Example



Zone 20 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is present continuously or for a long period or frequently.
Dust layers of unknown or excessive thickness may be formed.
Dust layers on their own do not constitute a zone 20.

Zone 21 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is likely to occur during normal operation. Layers of combustible dust will in general be present.

Zone 22 An area in which a hazardous explosive atmosphere formed by a dust cloud in air is likely to occur during normal operation, and if it does occur it will exist for a short period only, or in which accumulations or layers of combustible dust are present.

*) The classification for 202122 is based on the European draft standard dated March 1995 designated prEN 1127-unofficial translation. For dust, there have been number of different forms of words in the last few years.
Hazardous areas where men are at work will be, at the most extreme, Zone 1, Zone 2, Zone 21 or Zone 22.
Zone 0 and Zone 20 will as a rule apply to the interior of process plant or very small inaccessible areas in the workplace.

3. Types of protection and their application

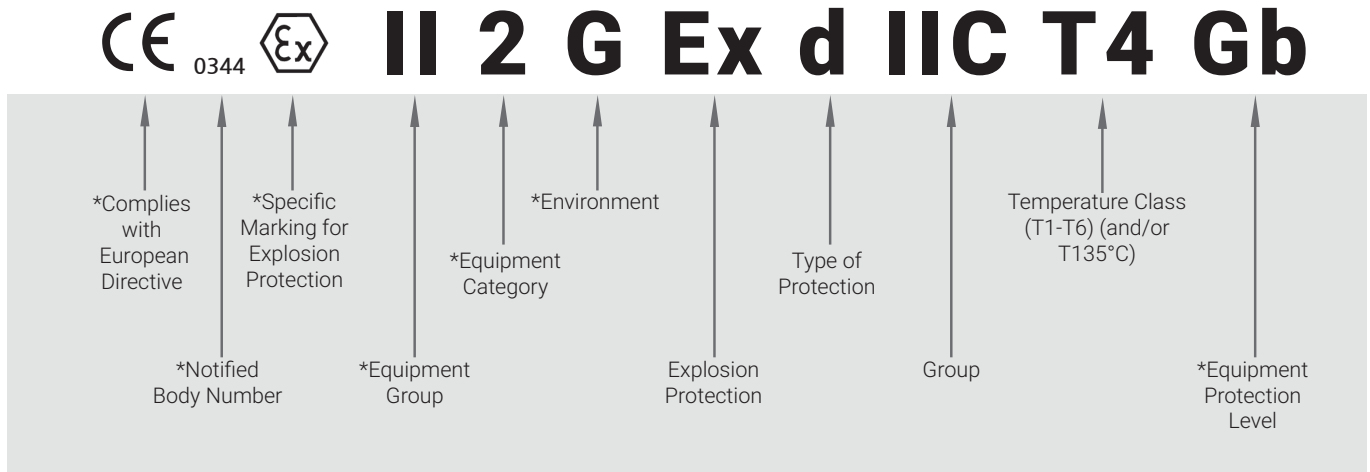
Types of protection for electrical equipment in areas with a danger of gas explosions

Type of protection		Protection principle	EN/IEC	Zone	Application
da d, db dc	Flameproof enclosure	Preventing an explosion from spreading	EN 60079-1 IEC 60079-1	0 1 2	Switching, control, and signaling devices, controllers, motors, power electronics
px py pz	Pressurized enclosure	Exclusion of an explosive atmosphere	EN 60079-2 IEC 60079-2	1 2	Control cabinets, motors, measuring and analysis devices, computers
q	Sand filling	Prevent spark propagation and increased temperatures	EN 60079-5 IEC 60079-5	1 2	Transformers, relays, capacitors
o	Oil immersion	Exclusion of an explosive atmosphere	EN 60079-6 IEC 60079-6	1 2	Transformers, relays, startup controls, switching devices
eb ec	Increased safety	Prevent spark propagation and increased temperatures	EN 60079-7 IEC 60079-7	1 2	Branch and connection boxes, housing, motors, terminal blocks, electrical devices
ia ib ic	Intrinsic safety	Energy limitation	EN 60079-11 IEC 60079-11	0 1 2	Measurement and control technology, sensors, actuators, instrumentation
	Intrinsically safe fieldbus systems (FISCO)		EN 60079-25 IEC 60079-25	0 1 2	
nA	Non-sparking equipment	Prevent sparks, comparable with Ex ec	EN 60079-15 IEC 60079-15	2	Electrical equipment for normal industrial applications
nC	Sparking equipment	Comparable with Ex d	EN 60079-15 IEC 60079-15	2	Electrical equipment for normal industrial applications
nR	Restricted breathing enclosure	Protection provided by enclosure	EN 60079-15 IEC 60079-15	2	Electrical equipment for normal industrial applications
ma mb mc	Molded encapsulation	Exclusion of an explosive atmosphere	EN 60079-18 IEC 60079-18	0 1 2	Coils of relays and motors, electronics, solenoid valves, connection systems
op	op is – inherently safe optical radiation op pr – protected optical radiation op sh – optical systems with interlock	Limiting or preventing the transmission of energy from optical radiation	EN 60079-28 IEC 60079-28	0 or 1 or 2 1 or 2 0 or 1 or 2	Optoelectronic devices

Types of protection for electrical equipment in areas with combustible dust

Type of protection		Protection principle	EN/IEC	Zone	Application
ta tb tc	Protection provided by enclosure	Exclusion of an explosive atmosphere	EN 60079-31 IEC 60079-31	20 21 22	Switching, control, and signaling devices, lamps, branch and connection boxes, housing
pxb pyb pzc	Pressurized enclosure	Exclusion of an explosive atmosphere	EN 60079-2 IEC 60079-2	21 21 22	Control cabinets, motors, measuring and analysis devices
ia ib ic	Intrinsic safety	Energy limitation	EN 60079-11 IEC 60079-11	20 21 22	Measurement and control technology, sensors, actuators, instrumentation
ma mb mc	Molded encapsulation	Exclusion of an explosive atmosphere	EN 60079-18 IEC 60079-18	20 21 22	Coils and relays of motors, electronics, and connection systems

4. Typical ATEX and IECEx Marking [*ATEX only]



5. Equipment Group [ATEX and IECEx]

Equipment Group	Equipment Category	EPL	Atmosphere	Protection Level	Required Protection Performance & Operation
ZI (Mines with firedamp)	M1	Ma	Methane & Dust	Very High	• Two Faults, Remain energised and functioning
I (Mines with firedamp)	M2	Mb	Methane & Dust	High	• Severe normal operation, De-energise in exp. atm.
II (all other areas)	1	a	Gas, Vapour, Mist, Dust	Very High	• Two Faults
II (all other areas)	2	b	Gas, Vapour, Mist, Dust	High	• One Fault
II (all other areas)	3	c	Gas, Vapour, Mist, Dust	Low	• Normal operation

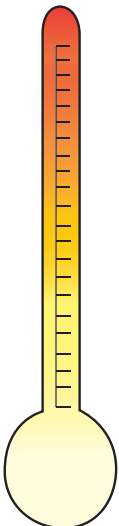
6. Zoning Definitions

Gas IEC 60079-10-1	Dust IEC 60079-10-2	Definitions
0		A place in which an explosive atmosphere is continually present
	20	
1		A place in which an explosive atmosphere is likely to occur in normal operation occasionally
	21	
2		A place in which an explosive atmosphere is not likely to occur in normal operation, but if it does only occurs for short periods
	22	

7. Equipment Categories & Protection Levels

ATEX Category	Equipment Protection Levels	Typical Zone Suitability
1 G	Ga	Equip. suitable for Zones 0,1,2
1 D	Da	Equip. suitable for Zones 20,21,22
2 G	Gb	Equip. suitable for Zones 1,2
2 D	Db	Equip. suitable for Zones 21,22
3 G	Gc	Equip. suitable for Zone 2
3 D	Dc	Equip. suitable for Zone 22

8. Temperature Classification

Max. Surface Temperature	NEC® 500 CEC®	NEC® 505	IEC - Group II	
450° C (842°F)	T1	T1	T1	
300° C (572°F)	T2	T2	T2	
280° C (536°F)	T2A			
260° C (500°F)	T2B			
230° C (446°F)	T2C			
215° C (419°F)	T2D			
200° C (392°F)	T3	T3	T3	
180° C (356°F)	T3A			
165° C (329°F)	T3B			
160° C (320°F)	T3C			
135° C (275°F)	T4	T4	T4	
120° C (248°F)	T4A			
100° C (212°F)	T5	T5	T5	
85° C (185°F)	T6	T6	T6	

Note: For Group I (CENELEC/IEC) applications, electrical apparatus has fixed temperature limits i.e., 150° C and 450° C.

9. Useful Standards

Topic	IEC Standard
Area Classification - Gases, Vapours and Mists	IEC 60079-10-1
Area Classification - Combustible Dusts	IEC 60079-10-2
Electrical Equipment Installation	IEC 60079-14
Electrical Equipment Inspection and maintenance	IEC 60079-17
Electrical Equipment Repair and Overhaul	IEC 60079-19

10. Groups [ATEX and IECEx]

Group	Environment	Location	Typical Substance
I	Gases, Vapours and Coal Dust	Coal Mining	Methane (Fire damp)
IIA	Gases, Vapours and Mists	Surface and other locations	Methane, Propane etc.
IIB			Ethylene
IIC			Hydrogen, Acetylene etc.
IIIA	Combustible Dusts	Surface and other locations	Combustible flyings
IIIB			Non-conductive
IIIC			Conductive

11. Typical NEC® Marking

NEC® 500	NEC® 505
Class I, Division 1, Groups A&B T4	Class I, Zone 0, AEx ia IIC T4
↑ Hazard Class ↑ Area Classification ↑ Gas Group ↑ Temperature Class	↑ Hazard Class ↑ Area Classification ↑ Protection Concept Code ↑ Gas Group ↑ Temperature Class ↑ Approved to US Standards

12. Protection Concepts [North America]

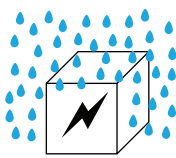
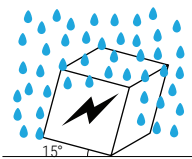
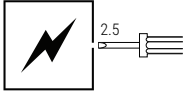
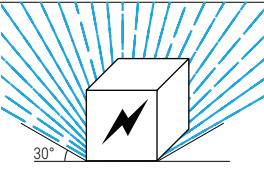
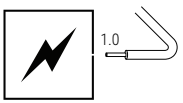
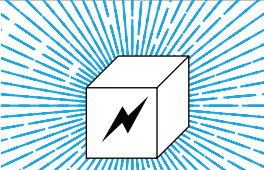
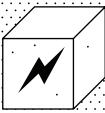
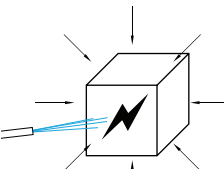
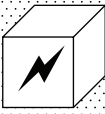
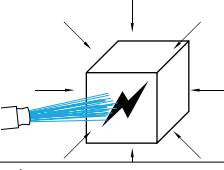
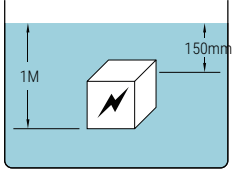
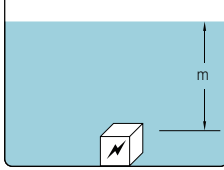
Type of Protection	USA			Canada			Basic Concept of Protection
	NEC® 500	NEC® 505		Existing	New		
	Area Classification		Code	Area Classification		Code	
Increased Safety Non-Incendive	NA Division 2	Zone 1, 2 Zone 2	AEx e AEx n	NA Division 2	Zone 1, 2 Zone 2	Ex e Ex n	No arcs, sparks, or hot surfaces
Flameproof Explosionproof Powder Filled	NA Division 1,2 NA	Zone 1, 2 NA Zone 1, 2	AEx d NA AEx q	NA Division 1,2 NA	Zone 1, 2 NA Zone 1, 2	Ex d NA Ex q	Contain the explosion, prevent flame propagation
Intrinsic Safety	Division 1,2 NA	Zone 0,1,2 Zone 1, 2	AEx ia AEx ib	Division 1,2 NA	Zone 0,1,2 Zone 1, 2	Ex ia Ex ib	Limit the spark energy and temperatures
Pressurized (Purged) Encapsulation Oil Immersion	Division 1,2 NA Division 2	Zone 1, 2 Zone 1, 2 Zone 1, 2	AEx p AEx m AEx o	Division 1,2 NA Division 2	Zone 1, 2 Zone 1, 2 Zone 1, 2	Ex p Ex m Ex o	Exclude gas from ignition sources

Note: NEC® Article 501.1 permits the use of zone-rated equipment in Class I Division 2 locations.

13. Gas Groups [North America]

Substance:	Hazard Class:	NEC 500:	NEC 505:	Lower Exposure Limit:	Upper Exposure Limit:
Any Gas	Class I				
Acetylene		Group A	IIC	2.3 %	100 %
Hydrogen		Group B	IIC	4 %	77 %
Ethylene		Group C	IIB	2.3 %	36 %
Propane		Group D	IIA	1.7 %	11 %
Methane (mining)		Group D		4.4 %	17 %
Combustible Metal Dusts	Class II	Group E			
Combustible Carbonaceous Dusts		Group F			
Combustible Dusts not in Group E or F (Flour, Grain, Wood, Plastics, Chemicals)		Group G			
Combustible Fibres and Flyings	Class III				

14. International Protection IEC 60529

First Figure Protection against Solids			Second Figure Protection against Liquids		
IP	Test	Comment	IP	Test	Comment
0		No Protection	0		No Protection
1		Protected against solid bodies greater than 50mm diameter (e.g. accidental contact with the hand)	1		Protected against vertically falling drops of water (condensation)
2		Protected against solid bodies greater than 12.5mm diameter (e.g. finger)	2		Protected against drops of water falling up to 15° from the vertical
3		Protected against solid bodies greater than 2.5mm diameter (e.g. tools, wires)	3		Protected against water sprayed up to 60° from the vertical
4		Protected against solid bodies greater than 1.0mm diameter (e.g. thin tools and fine wire)	4		Protected against splashing water from all directions
5		Protected against dust (no harmful deposit) - Dust Proof	5		Protected against jets of water from all directions
6		Completely protected against dusts - Dust Tight	6		Protected against powerful jets of water from all directions
IEC (International Electrotechnical Commission) Publication 60529: Classification of Degrees of Protection Provided by Enclosures provides a system for specifying the enclosures of equipment on the basis of the degree of protection provided by the enclosure. IEC 60529 does not specify degrees of mechanical damage of equipment, risk of explosions, or conditions such as moisture (produced for example by condensation), corrosive vapours, fungus, or vermin.			7		Protected against the effects of temporary immersion in water
			8		Protected against the continuous effects of immersion in water having regard to specific conditions

15. Employer's & End User's Obligations [ATEX & DSEAR]

1. Prevent the formation of explosive atmosphere OR avoid the ignition of explosive atmospheres, and control the effects of explosions.
2. Assess explosion risks:
 - Likelihood of explosive atmospheres occurring and their persistence
 - Likelihood that ignition sources are present
 - Scale of the anticipated effects
3. Coordinate the implementation of all measures concerning workers' health and safety.
4. Area classification
5. Mark explosive atmospheres with signs at point of entry
6. 'Explosion Protection Document' shall demonstrate:
 - Explosion risks have been determined and assessed
 - Adequate measures will be taken to comply with Directive 1999/92/EC
 - Places have been classified into zones
 - Places where minimum requirements in Annex II, Part A will apply
 - Workplace and work equipment are designed, operated and maintained properly

16. Useful Standards

Equipment Category Directive 2014/34/EU	Zone of Use	
	Gas, Vapours, & Mist	Dust
Cat 1	Zone 0, 1 & 2	Zone 20, 21 & 22
Cat 2	Zone 1 & 2	Zone 21 & 22
Cat 3	Zone 2	Zone 22

Note: Unless the explosion protection risk assessment states otherwise.

17. NEMA Testing Approximate Equivalent to IPXX

NEMA 1	⇒	IP20
NEMA 2	⇒	IP22
NEMA 3	⇒	IP55
NEMA 3R	⇒	IP24
NEMA 3S	⇒	IP55
NEMA 4 & 4X	⇒	IP66
NEMA 5	⇒	IP53
NEMA 6 & 6P	⇒	IP67 & IP68
NEMA 12 & 12K	⇒	IP54
NEMA 13	⇒	IP54
Do not use to convert IP codes to NEMA ratings		

18. Cable Glands

Cable glands used on explosion protected (Ex) equipment shall maintain the protection concept of the equipment. e.g.

Ex d enclosures shall use Ex d or Ex e cable glands

Ex e enclosures shall use Ex e cable glands

Ex nR enclosures shall use Ex nR cable glands

Ex nA or nC enclosures use Ex e cable glands

Ex tD enclosures shall use Ex tD cable glands

NB: Non-certified cable glands shall not be used on Ex rated equipment. Intrinsically safe installations can use non-certified cable glands

3

Global Leading Products

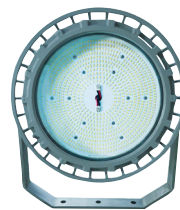
01_ ILSHIN Industrial Electric

02_ Technical Information

03_ Global Leading Products

A_LED LIGHTING FIXTURES	23
B_LIGHTING FIXTURES	67
C_CONTROL MANUFACTURES	73
D_JUNCTION BOXES & OTHER	120
E_FIRE PROTECTION EQUIPMENTS	131
F_CONDUIT FITTINGS	143

04_ Supplement



a

LED LIGHTING FIXTURES

FGHL-0830 Series for Hazardous Location_	24
FGHL-10** Series for Hazardous Location_	25
FGHL-C10** Series for Hazardous Location_	26
IS-LED-F10E/L*/Le* Series for Hazardous Location_	27
IS-LED-F10I/L*/Le* Series for Hazardous Location_	28
IS-LED-C10E/L*/Le* Series for Hazardous Location_	29
IS-LED-C10I*/Le* Series for Hazardous Location_	30
IS-LED-C10I** (RED) for Hazardous Location_	31
IS-LED-C10I** (GREEN) for Hazardous Location_	32
FGHL-F11** Series for Hazardous Location_	33
FGHL-F13** Series for Hazardous Location_	34
FGHL-F11ab Series for Hazardous Location_	35
FGHL-F13ab Series for Hazardous Location_	36
FGHL-F14*&F14/L* Series for Hazardous Location_	37
EGHL-LED***W Series for Hazardous Location_	38
SGHL-LED*W Series for Hazardous Location_	39
IS-LEDF-N* Series for Hazardous Location_	40
IS-LEDF-D* Series for Hazardous Location_	41
ISAL-C10* Series for Hazardous Location_	42
ISAL-F11* Series for Hazardous Location_	43
ISAL-F14* Series for Hazardous Location_	44
ISWL-* Series for Hazardous Location_	45
ISWL-C10* Series for Hazardous Location_	46
ISWL-F11* Series for Hazardous Location_	47
IS-EPLED-** Series for Hazardous Location_	48
IS-LTL20 Series for Hazardous Location_	49
IS-LTL30 Series for Hazardous Location_	50
IS-LTL24 Series for Hazardous Location_	51
IS-LED-TL* Series for Hazardous Location_	52
ISTL-* Series for Hazardous Location_	53
ISTLS-* Series for Hazardous Location_	54
EFDL-LED Series for Hazardous Location_	56
ISNFL-** Series for Hazardous Location_	57
ISAL-N**W Series for General purpose_	58
ISAL-EGHF-***W Series for Hazardous Location_	59
EGHL-LED** Series for General purpose_	60
EGHF-***W Series for General purpose_	61
IS-GSF-** Series for General purpose_	62
GWFL Series for General Location_	63
ZWFL Series for General Location_	64
SJT-100STM/120STM/150STM Series for General purpose_	65
DW-100/120/150 Series for General purpose_	66



FGHL-0830

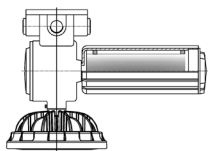
Explosion-proof LED Lighting Fixture
FGHL-0830 series for Hazardous Location

Protection Grade

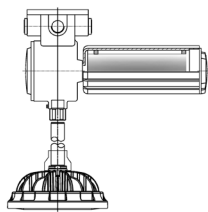
Ex d IIC T6 IP65 for Zone 1·2



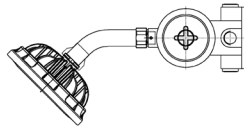
Drawing



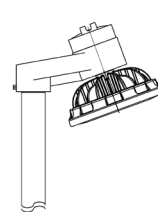
Ceiling Type



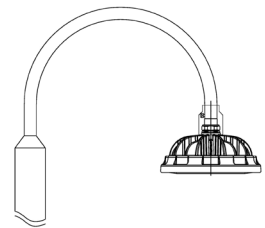
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

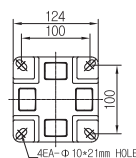
Technical Data

- **Rated Voltage** : AC 220V Below
- **Rated Wattage** : 30W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Weight

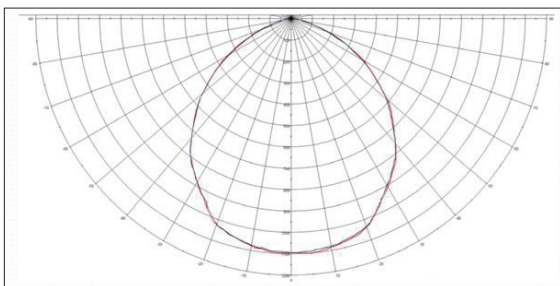
Mounting Typed	Model No.	Weight
Ceiling	FGHL-0830-01	5.8kg
Pendant	FGHL-0830-02	6.5kg
Bracket	FGHL-0830-03	6.3kg
Stanchion	FGHL-0830-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	FGHL-0830-01	FGHL-0830-02	FGHL-0830-03	FGHL-0830-04

FGHL-10**

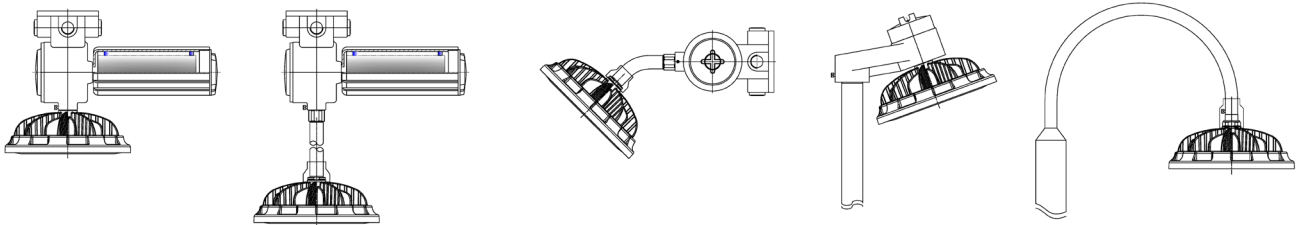
Explosion-proof LED Lighting Fixture
FGHL-10** series for Hazardous Location
Option : Battery Type Lighting

Protection Grade

Ex d IIC T6 IP65 for Zone 1·2



Drawing



Ceiling Type

Pendant Type

Bracket Type

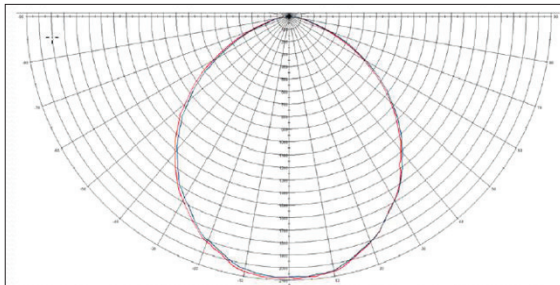
Stanchion Type

Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

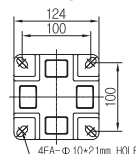
Technical Data

- **Rated Voltage** : AC 240V Below
- **Rated Wattage** : 30W/55W/80W(W/Battery 60min-30W)
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	FGHL-10**-01	6.8kg
Pendant	FGHL-10**-02	7.5kg
Bracket	FGHL-10**-03	7.3kg
Stanchion	FGHL-10**-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	FGHL-1030-01	FGHL-1030-02	FGHL-1030-03	FGHL-1030-04
LED	55W	FGHL-1055-01	FGHL-1055-02	FGHL-1055-03	FGHL-1055-04
LED	80W	FGHL-1080-01	FGHL-1080-02	FGHL-1080-03	FGHL-1080-04
LED	30W~80W	FGHL-10**-01 Battery	FGHL-10**-02 Battery	FGHL-10**-03 Battery	FGHL-10**-04 Battery

FGHL-C10**

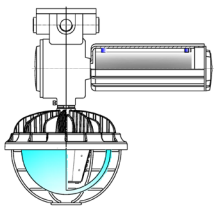
Explosion-proof LED Lighting Fixture
FGHL-C10**Series for Hazardous Location

Protection Grade

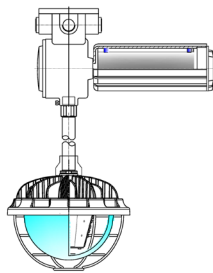
Ex d IIC T6 IP65 for Zone 1·2



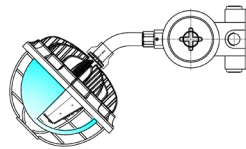
Drawing



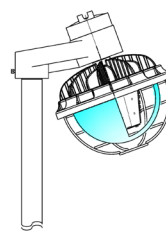
Ceiling Type



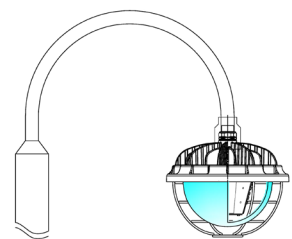
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

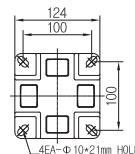
Technical Data

- **Rated Voltage** : AC 220V Below
- **Rated Wattage** : 30W/55W/80W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Weight

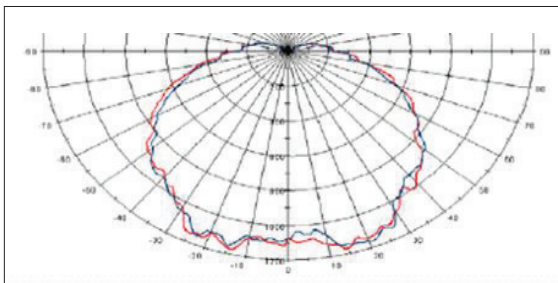
Mounting Typed	Model No.	Weight
Ceiling	FGHL-C10**-01	8.8kg
Pendant	FGHL-C10**-02	9.5kg
Bracket	FGHL-C10**-03	9.3kg
Stanchion	FGHL-C10**-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	FGHL-C1030-01	FGHL-C1030-02	FGHL-C1030-03	FGHL-C1030-04
LED	55W	FGHL-C1055-01	FGHL-C1055-02	FGHL-C1055-03	FGHL-C1055-04
LED	80W	FGHL-C1080-01	FGHL-C1080-02	FGHL-C1080-03	FGHL-C1080-04

IS-LED-F10E/L*/Le*

Explosion-proof LED Lighting Fixture
IS-LED-F10E/L** series for Hazardous Location

Protection Grade

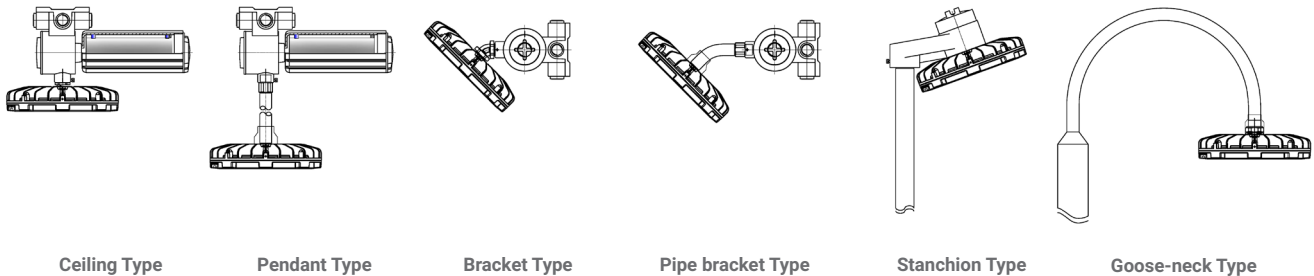
Ex d IIC T6 IP66 for Zone 1·2

Ex tD A21 T80°C IP66 for Zone 21·22

Ex de IIC T6 IP66 for Zone 1·2 [/Le*]



Drawing



Ceiling Type

Pendant Type

Bracket Type

Pipe bracket Type

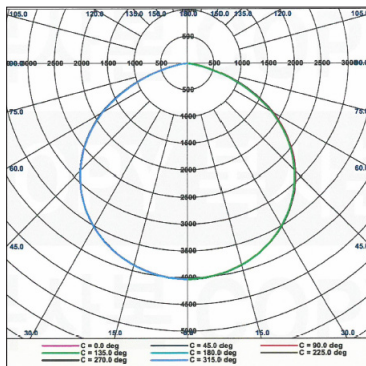
Stanchion Type

Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

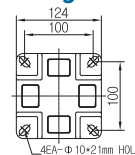
Technical Data

- **Rated Voltage** : AC 100~240V/AC 200~480V
- **Rated Wattage** : 30W/55W/80W/100W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-F10E**-C	6.4kg
Pendant	IS-LED-F10E**-P	7.2kg
Bracket	IS-LED-F10E**-B	7.0kg
Stanchion / Goose-neck	IS-LED-F10E**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-F10E30-C	IS-LED-F10E30-P	IS-LED-F10E30-B	IS-LED-F10E30-G,S
LED	55W	IS-LED-F10E55-C	IS-LED-F10E55-P	IS-LED-F10E55-B	IS-LED-F10E55-G,S
LED	80W	IS-LED-F10E80-C	IS-LED-F10E80-P	IS-LED-F10E80-B	IS-LED-F10E80-G,S
LED	100W	IS-LED-F10E100-C	IS-LED-F10E100-P	IS-LED-F10E100-B	IS-LED-F10E100-G,S

IS-LED-F10I/L*/Le*

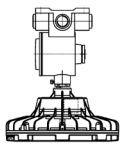
Explosion-proof LED Lighting Fixture
IS-LED-F10I/L** series for Hazardous Location

Protection Grade

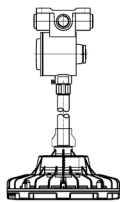
Ex d IIC T6 IP66 for Zone 1·2
Ex tD A21 T80°C IP66 for Zone 21·22
Ex nR IIC T6 Gc IP66 for Zone 2
Ex de IIC T6 IP66 for Zone 1·2 [Le*]



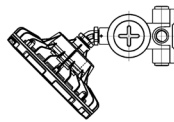
Drawing



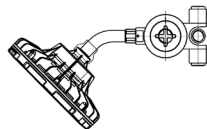
Ceiling Type



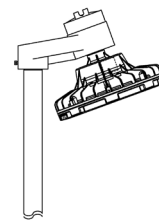
Pendant Type



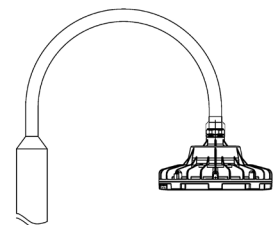
Bracket Type



Pipe bracket Type



Stanchion Type

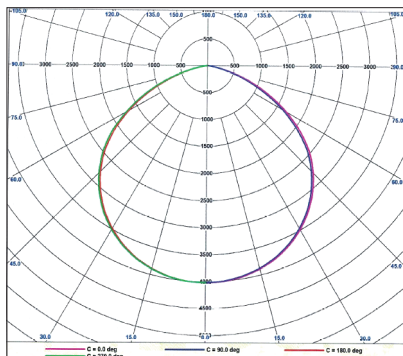


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-F10I 30-C	IS-LED-F10I 30-P	IS-LED-F10I 30-B	IS-LED-F10I 30-G,S
LED	55W	IS-LED-F10I 55-C	IS-LED-F10I 55-P	IS-LED-F10I 55-B	IS-LED-F10I 55-G,S
LED	80W	IS-LED-F10I 80-C	IS-LED-F10I 80-P	IS-LED-F10I 80-B	IS-LED-F10I 80-G,S
LED	100W	IS-LED-F10I 100-C	IS-LED-F10I 100-P	IS-LED-F10I 100-B	IS-LED-F10I 100-G,S

Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

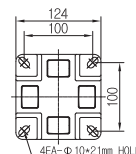
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W/100W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-F10I**-C	6.0kg
Pendant	IS-LED-F10I**-P	6.8kg
Bracket	IS-LED-F10I**-B	6.6kg
Stanchion / Goose-neck	IS-LED-F10I**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

IS-LED-C10E/L*/Le*

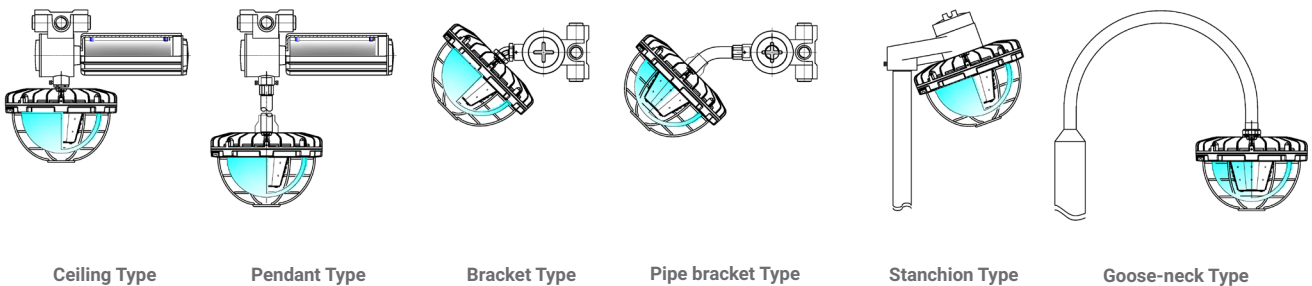
Explosion-proof LED Lighting Fixture
IS-LED-C10E** series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1·2
Ex tD A21 T80°C IP66 for Zone 21·22
Ex de IIC T6 IP66 for Zone 1·2 [/Le*]



Drawing



Ceiling Type

Pendant Type

Bracket Type

Pipe bracket Type

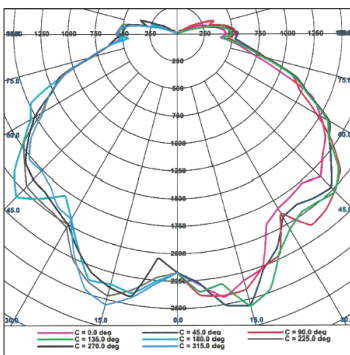
Stanchion Type

Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

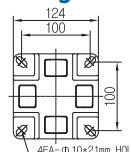
Technical Data

- **Rated Voltage** : AC 100~240V/AC 200~480V
- **Rated Wattage** : 30W/55W/80W/100W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-C10E**-C	8.2kg
Pendant	IS-LED-C10E**-P	8.9kg
Bracket	IS-LED-C10E**-B	9.1kg
Stanchion / Goose-neck	IS-LED-C10E**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

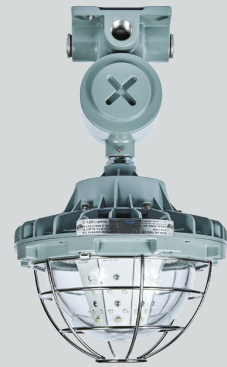
Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-C10E30-C	IS-LED-C10E30-P	IS-LED-C10E30-B	IS-LED-C10E30-G,S
LED	55W	IS-LED-C10E55-C	IS-LED-C10E55-P	IS-LED-C10E55-B	IS-LED-C10E55-G,S
LED	80W	IS-LED-C10E80-C	IS-LED-C10E80-P	IS-LED-C10E80-B	IS-LED-C10E80-G,S
LED	100W	IS-LED-C10E100-C	IS-LED-C10E100-P	IS-LED-C10E100-B	IS-LED-C10E100-G,S

IS-LED-C10I*/Le*

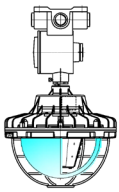
Explosion-proof LED Lighting Fixture
IS-LED-C10I** series for Hazardous Location

Protection Grade

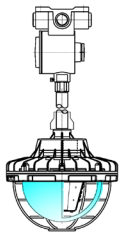
Ex d IIC T6 IP66 for Zone 1·2
Ex tD A21 T80°C IP66 for Zone 21·22
Ex de IIC T6 IP66 for Zone 1·2 [/Le*]



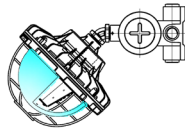
Drawing



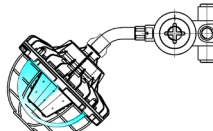
Ceiling Type



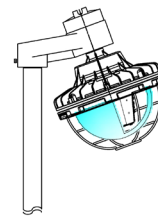
Pendant Type



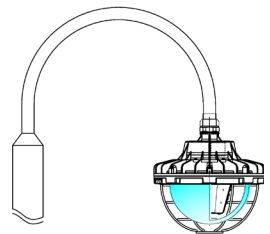
Bracket Type



Pipe bracket Type



Stanchion Type

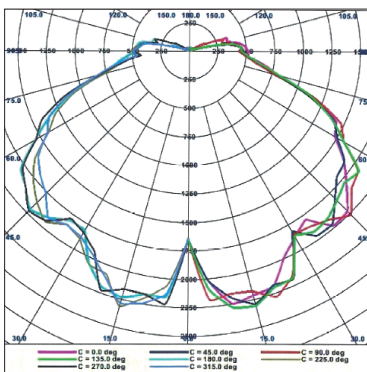


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

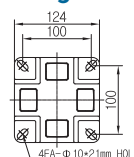
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W/100W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-C10I**-C	7.8kg
Pendant	IS-LED-C10I**-P	8.4kg
Bracket	IS-LED-C10I**-B	8.1kg
Stanchion / Goose-neck	IS-LED-C10I**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-C10I 30-C	IS-LED-C10I 30-P	IS-LED-C10I 30-B	IS-LED-C10I 30-G,S
LED	55W	IS-LED-C10I 55-C	IS-LED-C10I 55-P	IS-LED-C10I 55-B	IS-LED-C10I 55-G,S
LED	80W	IS-LED-C10I 80-C	IS-LED-C10I 80-P	IS-LED-C10I 80-B	IS-LED-C10I 80-G,S
LED	100W	IS-LED-C10I 100-C	IS-LED-C10I 100-P	IS-LED-C10I 100-B	IS-LED-C10I 100-G,S

IS-LED-C10I**

Explosion-proof LED Lighting Fixture
IS-LED-C10I** series for Hazardous Location
소화전표시등기구(RED COLOR)

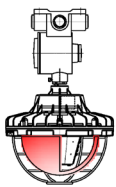
Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

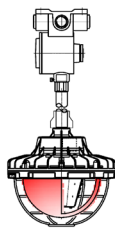
Ex tD A21 T80°C IP66 for Zone 21·22



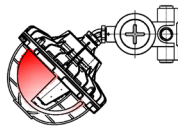
Drawing



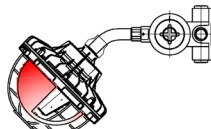
Ceiling Type



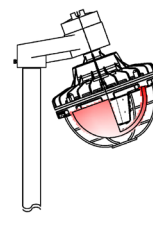
Pendant Type



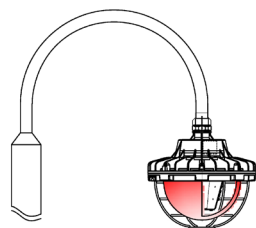
Bracket Type



Pipe bracket Type



Stanchion Type

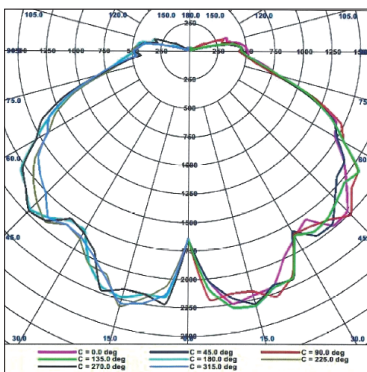


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

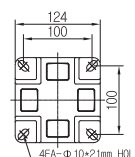
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-C10I**-C	7.8kg
Pendant	IS-LED-C10I**-P	8.4kg
Bracket	IS-LED-C10I**-B	8.1kg
Stanchion / Goose-neck	IS-LED-C10I**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-C10I 30-C	IS-LED-C10I 30-P	IS-LED-C10I 30-B	IS-LED-C10I 30-G,S
LED	55W	IS-LED-C10I 55-C	IS-LED-C10I 55-P	IS-LED-C10I 55-B	IS-LED-C10I 55-G,S

IS-LED-C10I**

Explosion-proof LED Lighting Fixture
IS-LED-C10I** series for Hazardous Location
EYE SHOWER 표시등기구(GREEN COLOR)

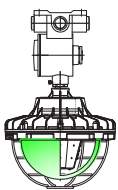
Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

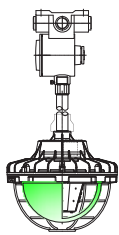
Ex tD A21 T80°C IP66 for Zone 21·22



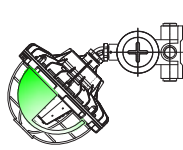
Drawing



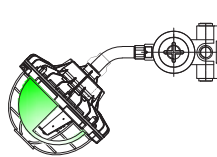
Ceiling Type



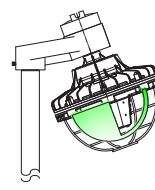
Pendant Type



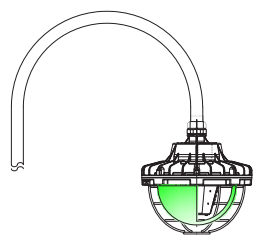
Bracket Type



Pipe bracket Type



Stanchion Type

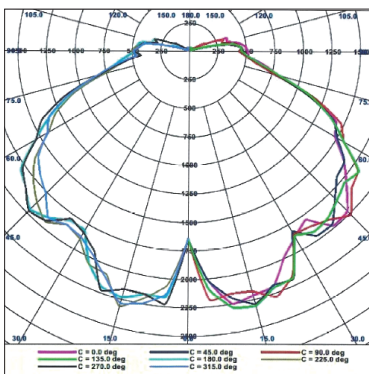


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

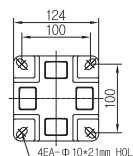
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-LED-C10I**-C	7.8kg
Pendant	IS-LED-C10I**-P	8.4kg
Bracket	IS-LED-C10I**-B	8.1kg
Stanchion / Goose-neck	IS-LED-C10I**-G,S	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	IS-LED-C10I 30-C	IS-LED-C10I 30-P	IS-LED-C10I 30-B	IS-LED-C10I 30-G,S
LED	55W	IS-LED-C10I 55-C	IS-LED-C10I 55-P	IS-LED-C10I 55-B	IS-LED-C10I 55-G,S

FGHL-F11**/-F11**-S

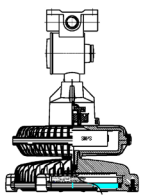
Explosion-proof LED Lighting Fixture
FGHL-F11 series for Hazardous Location

Protection Grade

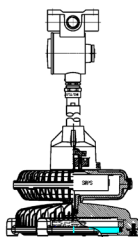
Ex d IIC T6 IP66 for Zone 1·2



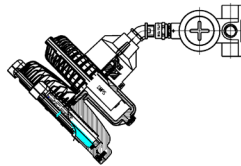
Drawing



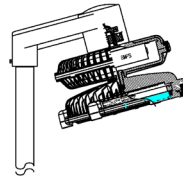
Ceiling Type



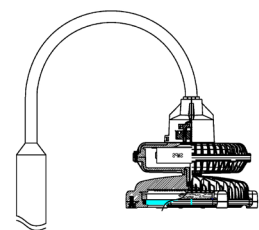
Pendant Type



Bracket Type



Stanchion Type

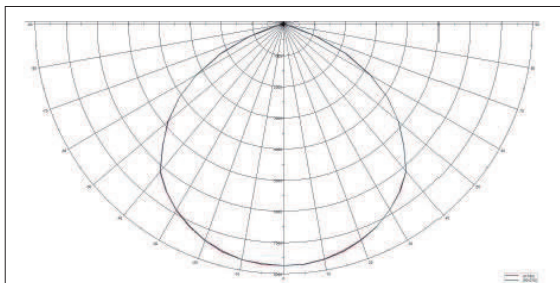


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

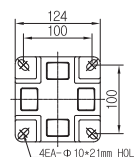
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W(80W MAX)
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	FGHL-F11**-01	12.3kg
Pendant	FGHL-F11**-02	13kg
Bracket	FGHL-F11**-03	12.8kg
Stanchion	FGHL-F11**-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	FGHL-F1130-01	FGHL-F1130-02	FGHL-F1130-03	FGHL-F1130-S
LED	55W	FGHL-F1155-01	FGHL-F1155-02	FGHL-F1155-03	FGHL-F1155-S
LED	80W	FGHL-F1180-01	FGHL-F1180-02	FGHL-F1180-03	FGHL-F1180-S

FGHL-F13**/-F13**-S

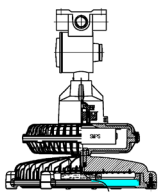
Explosion-proof LED Lighting Fixture
FGHL-F13** series for Hazardous Location

Protection Grade

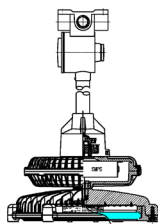
Ex d IIC T6 IP66 for Zone 1-2



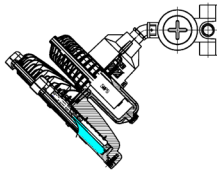
Drawing



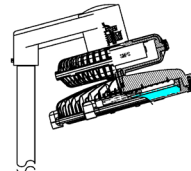
Ceiling Type



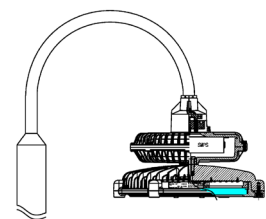
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Die-Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

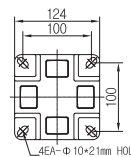
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 100W/120W/150W/200W/LENS(200W)
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

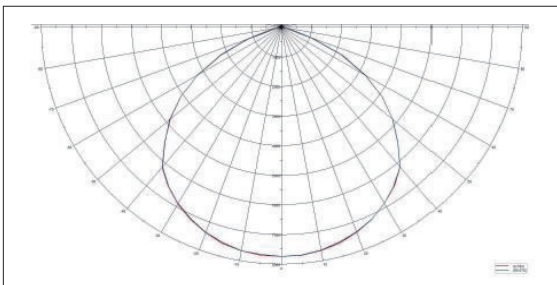
Mounting Typed	Model No.	Weight
Ceiling	FGHL-F13**-01	14.3kg
Pendant	FGHL-F13**-02	15kg
Bracket	FGHL-F13**-03	14.5kg
Stanchion	FGHL-F13**-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	100W	FGHL-F1310-01	FGHL-F1310-02	FGHL-F1310-03	FGHL-F1310-S
LED	120W	FGHL-F1312-01	FGHL-F1312-02	FGHL-F1312-03	FGHL-F1312-S
LED	150W	FGHL-F1315-01	FGHL-F1315-02	FGHL-F1315-03	FGHL-F1315-S
LED	200W	FGHL-F1320-01	FGHL-F1320-02	FGHL-F1320-03	FGHL-F1320-S
LED	LENS	100W~200W			

FGHL-F11ab

Explosion-proof LED Lighting Fixture
FGHL-F11ab series for Hazardous Location

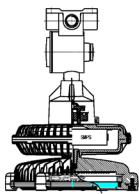
Protection Grade

IECEx : Ex db IIC T6 Gb / Ex tb III C T77°C Db IP66

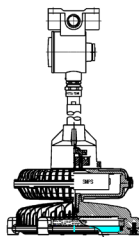
ATEX : Ex II 2 G Ex db IIC T6 Gb / Ex II 2 D Ex tb III C T77°C Db IP66



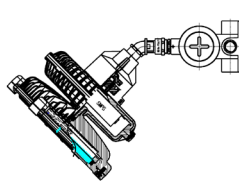
Drawing



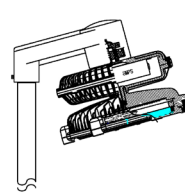
Ceiling Type



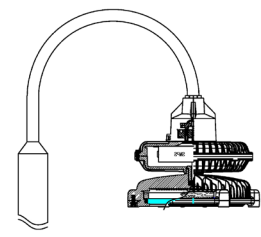
Pendant Type



Wall Mount Type



Stanchion Type

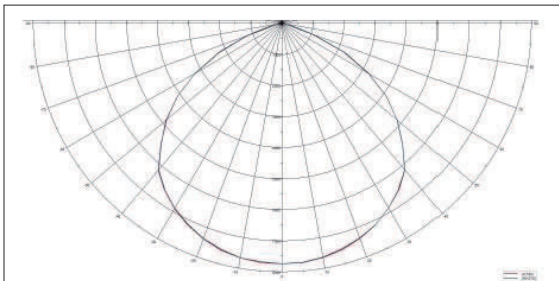


Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Die-Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

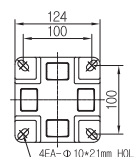
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	FGHL-F11**-C	12.3kg
Pendant	FGHL-F11**-P	13kg
Wall	FGHL-F11**-W	12.8kg
Goose-neck	FGHL-F11**-OP	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Wall Mount Type	Goose-neck Type
LED	30W	FGHL-F1130-C	FGHL-F1130-P	FGHL-F1130-W	FGHL-F1130-OP
LED	55W	FGHL-F1155-C	FGHL-F1155-P	FGHL-F1155-W	FGHL-F1155-OP
LED	80W	FGHL-F1180-C	FGHL-F1180-P	FGHL-F1180-W	FGHL-F1180-OP

FGHL-F13ab

Explosion-proof LED Lighting Fixture
FGHL-F13ab** series for Hazardous Location

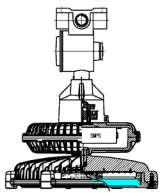
Protection Grade

IECEx : Ex db IIC T5 Gb / Ex tb III C T83°C / T95°C Db IP66

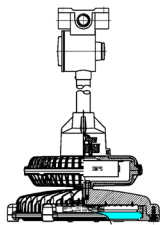
ATEX : II 2 G Ex db IIC T6 / T5 Gb / II 2 D Ex tb III C T83°C / T95°C Db IP66



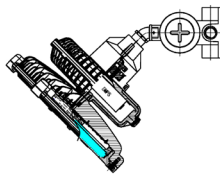
Drawing



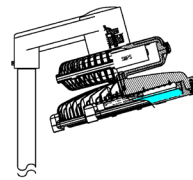
Ceiling Type



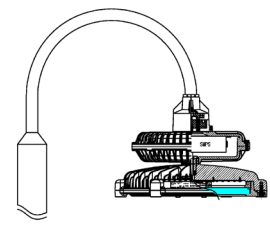
Pendant Type



Wall Mount Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Die-Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

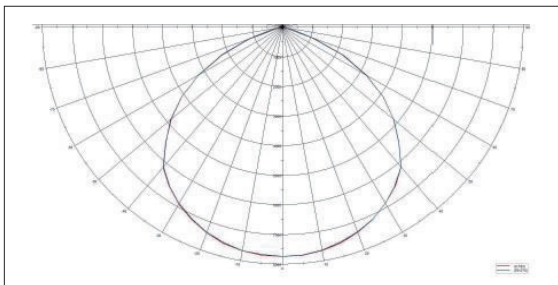
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 100W/150W/200W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

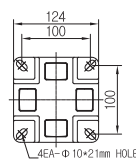
Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	FGHL-F13**-C	14.3kg
Pendant	FGHL-F13**-P	15kg
Wall	FGHL-F13**-W	14.5kg
Goose-neck	FGHL-F13**-15°/30°/45°	
Pole	FGHL-F13**-OP	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Wall Mount Type	Goose-neck Type	Pole Type
LED	100W	FGHL-F1310-C	FGHL-F1310-P	FGHL-F1310-W	FGHL-F1310-15°	FGHL-F1310-OP
LED	150W	FGHL-F1315-C	FGHL-F1315-P	FGHL-F1315-W	FGHL-F1315-30°	FGHL-F1315-OP
LED	200W	FGHL-F1320-C	FGHL-F1320-P	FGHL-F1320-W	FGHL-F1320-45°	FGHL-F1320-OP

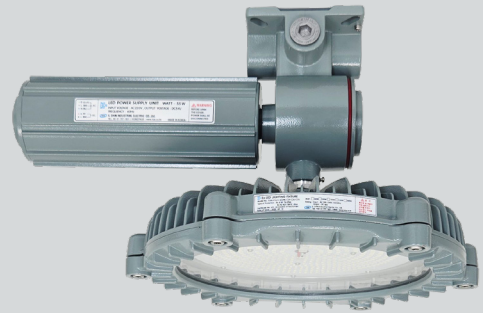
FGHL-F14*&F14/L*

Explosion-proof LED Lighting Fixture
FGHL-F14/L* series for Hazardous Location
Option : Battery Type Lighting

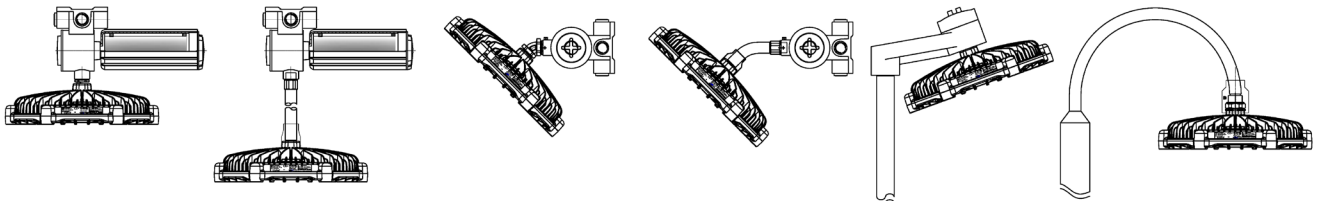
Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

Ex tD A21 T80°C IP66 for Zone 21·22



Drawing



Ceiling Type

Pendant Type

Bracket Type

Pipe bracket Type

Stanchion Type

Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **SMPS Housing** : Cast Aluminium Alloy
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

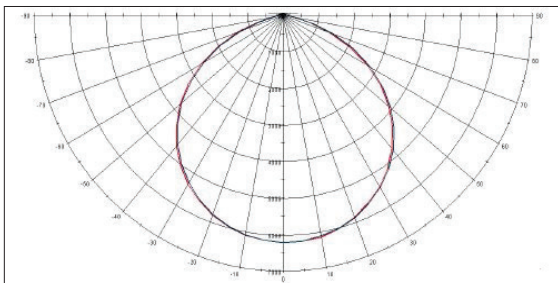
Technical Data

- **Rated Voltage** : AC 100~240V, AC200~480V Below
- **Rated Wattage** : 100W/120W/150W/200W/LENS
(W/Battery 60min-30W)
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C) • **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

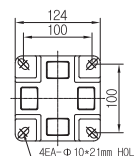
Mounting Typed	Model No.	Weight
Ceiling	FGHL-F14**-C	13kg
Pendant	FGHL-F14**-P	13.5kg
Bracket	FGHL-F14**-B	13.2kg
Stanchion / Goose-neck	FGHL-F14**-G,S	

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	100W	FGHL-F1410-C	FGHL-F1410-P	FGHL-F1410-B	FGHL-F1410-G, S
LED	120W	FGHL-F1412-C	FGHL-F1412-P	FGHL-F1412-B	FGHL-F1412-G, S
LED	150W	FGHL-F1415-C	FGHL-F1415-P	FGHL-F1415-B	FGHL-F1415-G, S
LED	200W	FGHL-F1420-C	FGHL-F1420-P	FGHL-F1420-B	FGHL-F1420-G, S
LED	LENS TYPE	100W~200W			
LED	100~200W	FGHL-F14**-C-Battery	FGHL-F14**-P-Battery	FGHL-F14**-B-Battery	FGHL-F14**-G,S-Battery



Mounting Box Hole Size

Appearance	Hole space
124 × 124	100 × 100

EGHL-LED-***W

Explosion-proof LED Lighting Fixture
EGHL-LED***W series for Hazardous Location
Option : Battery Type Lighting

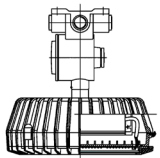
Protection Grade

Ex nR II T6 IP66 for Zone 2

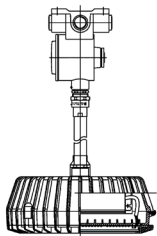
Ex tD A21 IP66 T85°C for Zone 21·22



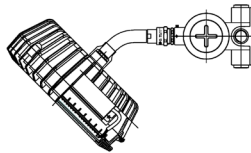
Drawing



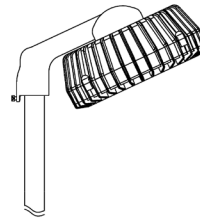
Ceiling Type



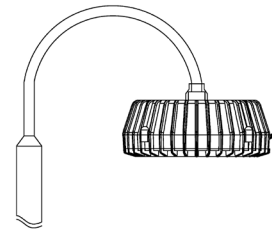
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

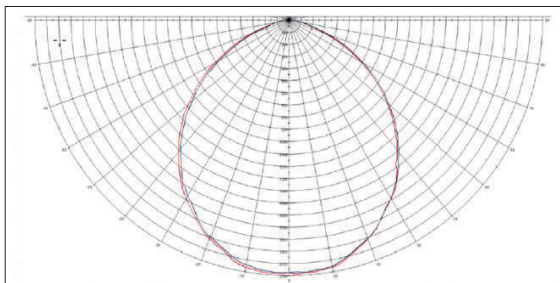
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W/100W/ 30W (W/Battery 60min)
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

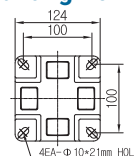
Weight

Mounting Typed	Model No.	Weight
Ceiling	EGHL-LED***W-01	6.8kg
Pendant	EGHL-LED***W-02	7.5kg
Bracket	EGHL-LED***W-03	7.3kg
Stanchion	EGHL-LED***W-04	

Light Distribution Curve



Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	55W	EGHL-LED55W-01	EGHL-LED55W-02	EGHL-LED55W-03	EGHL-LED55W-04
LED	80W	EGHL-LED80W-01	EGHL-LED80W-02	EGHL-LED80W-03	EGHL-LED80W-04
LED	100W	EGHL-LED100W-01	EGHL-LED100W-02	EGHL-LED100W-03	EGHL-LED100W-04
LED	30W~100W	EGHL-LED**W-01 Battery	EGHL-LED**W-02 Battery	EGHL-LED**W-03 Battery	EGHL-LED**W-04 Battery

SGHL-LED*W

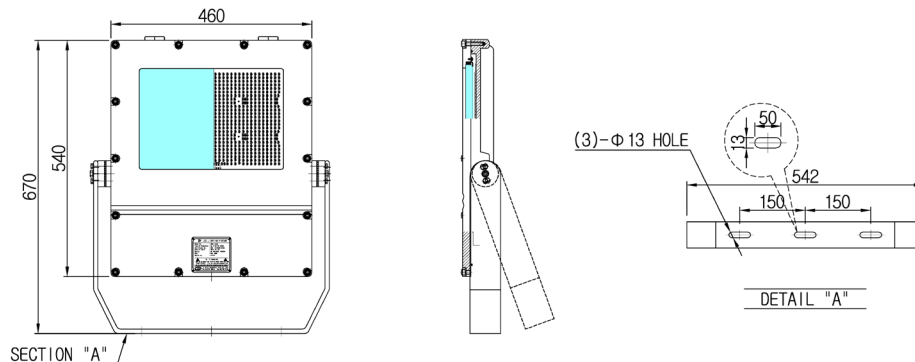
Explosion-proof LED Lighting Fixture
SGHL-LED*W series for Hazardous Location

Protection Grade

Ex d IIB T6 IP66 for Zone 1·2



Drawing



Standard Material

- **Main Body** : Aluminium Alloy
- **Holder** : Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Support** : Stainless Steel

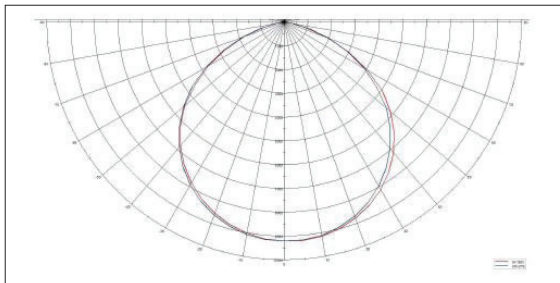
Standard Color

- Munsell no. Dark gray
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 120W/150W/180W/200W/250W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)
- **Demension** : 460(W) × 540(H)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Light Distribution Curve



Ordering Number

Lamp	Watt	Catalogue No.	Weight
LED	120W	SGHL-LED120W	32 kg
LED	150W	SGHL-LED150W	32 kg
LED	180W	SGHL-LED180W	32 kg
LED	200W	SGHL-LED200W(고효율)	32 kg
LED	250W	SGHL-LED250W	32 kg

IS-LEDF-N*

Explosion-proof LED Lighting Fixture IS-LEDF-N* series for Hazardous Location

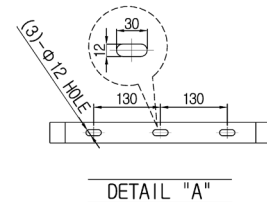
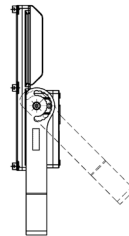
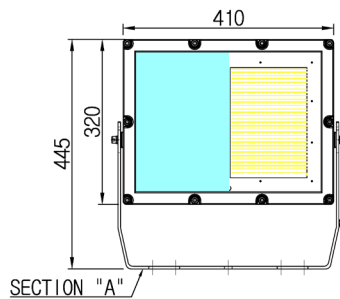
Protection Grade

Ex nR IIC T6 Gc IP66 for Zone 2

Ex tD III C T85°C Db IP66



Drawing



Standard Material

- **Main Body** : Aluminium Alloy
- **Holder** : Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Support** : Stainless Steel

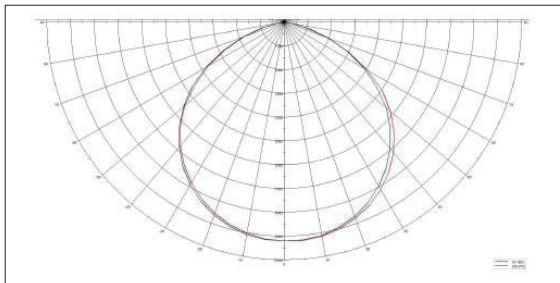
Standard Color

- Munsell no. Dark gray
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 100~240V / AC 200~480V
- **Rated Wattage** : 120W/150W/180W/200W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C) × 2EA
- **Demension** : 410(W) × 320(H)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Light Distribution Curve



Ordering Number

Lamp	Watt	Catalogue No.	Weight
LED	120W	IS-LEDF-N120W	11.3 kg
LED	150W	IS-LEDF-N150W	11.3 kg
LED	180W	IS-LEDF-N180W	11.3 kg
LED	200W	IS-LEDF-N200W	11.3 kg

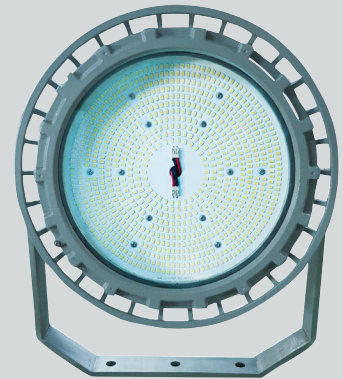
IS-LEDF-D*

Explosion-proof LED Lighting Fixture
IS-LEDF-D* series for Hazardous Location

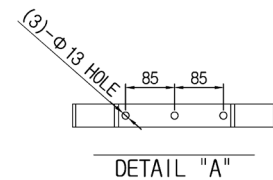
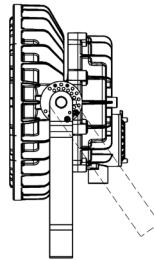
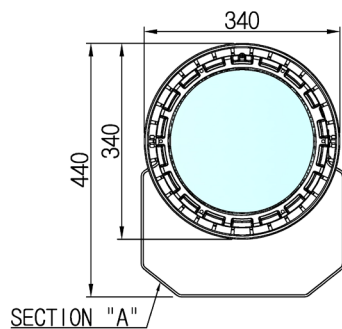
Protection Grade

Ex d IIC T5 IP66 for Zone 1·2

Ex tD A21 T95°C IP66



Drawing



Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Support** : Stainless Steel

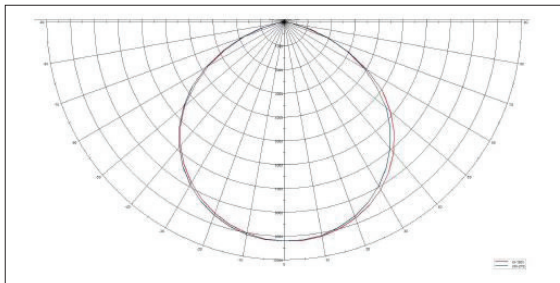
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 90~270V Below
- **Rated Wattage** : 100W/120W/150W/180W/200W /LENS
- **Rated Frequency** : 47~63Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)
- **Demension** : 340(Φ) × 204(H)
- **Tamb** : -30°C ≤ Ta ≤ +45°C

Light Distribution Curve



Ordering Number

Lamp	Watt	Catalogue No.	Weight
LED	100W	IS-LEDF-D100W	10.4 kg
LED	120W	IS-LEDF-D120W	10.4 kg
LED	150W	IS-LEDF-D150W	10.4 kg
LED	180W	IS-LEDF-D180W	10.4 kg
LED	200W	IS-LEDF-D200W	10.4 kg
LED	LENS TYPE	100W ~ 200W	

ISAL-C10*

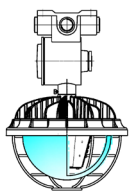
Explosion-proof LED Lighting Fixture
ISAL-C10*Series for Hazardous Location

Protection Grade

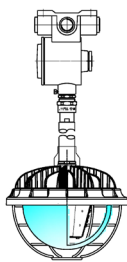
Ex d IIC T6 IP65 for Zone 1·2



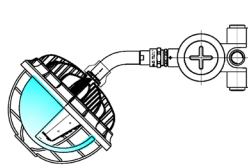
Drawing



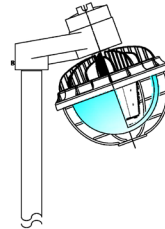
Ceiling Type



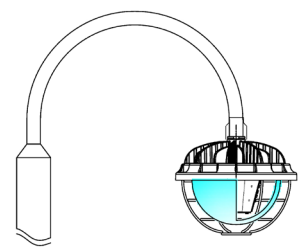
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

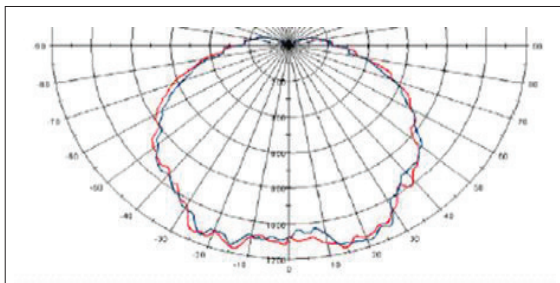
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 220V Below
- **Rated Wattage** : 30W/55W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

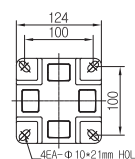
Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	ISAL-C10*-01	6.9kg
Pendant	ISAL-C10*-02	7.4kg
Bracket	ISAL-C10*-03	7.6kg
Stanchion	ISAL-C10*-04	

Mounting Box Hole Size



Appearance	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	30W	ISAL-C1030-01	ISAL-C1030-02	ISAL-C1030-03	ISAL-C1030-04
LED	55W	ISAL-C1055-01	ISAL-C1055-02	ISAL-C1055-03	ISAL-C1055-04

ISAL-F11*

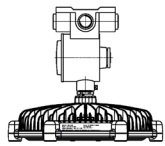
Explosion-proof LED Lighting Fixture
ISAL-F11* series for Hazardous Location
And DC110V 비상등용

Protection Grade

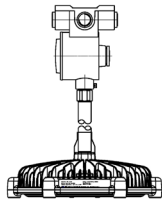
Ex d IIC T6 IP66 for Zone 1·2



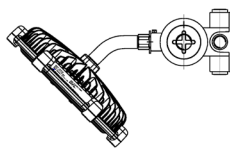
Drawing



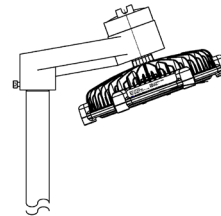
Ceiling Type



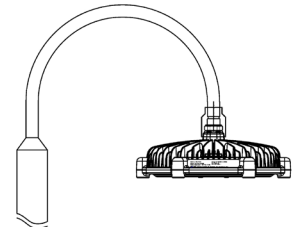
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

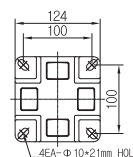
Technical Data

- **Rated Voltage** : AC/DC 100~240V
- **Rated Wattage** : 30W/55W/80W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

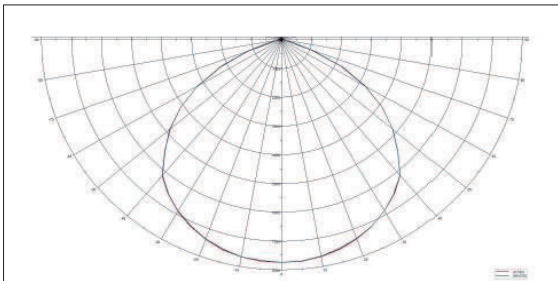
Mounting Typed	Model No.	Weight
Ceiling	ISAL-F11*-01	10.4kg
Pendant	ISAL-F11*-02	11.1kg
Bracket	ISAL-F11*-03	10.9kg
Stanchion	ISAL-F11*-04	

Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Goose-neck Type
LED	30W	ISAL-F1130-01	ISAL-F1130-02	ISAL-F1130-03	ISAL-F1130-04
LED	55W	ISAL-F1155-01	ISAL-F1155-02	ISAL-F1155-03	ISAL-F1155-04
LED	80W	ISAL-F1180-01	ISAL-F1180-02	ISAL-F1180-03	ISAL-F1180-04

ISAL-F14*

Explosion-proof LED Lighting Fixture
ISAL-F14* series for Hazardous Location

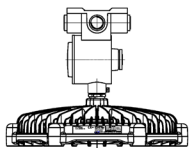
Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

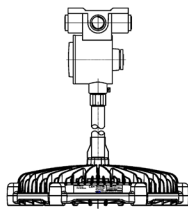
Ex tD A21 T80°C IP66



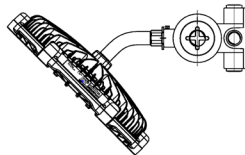
Drawing



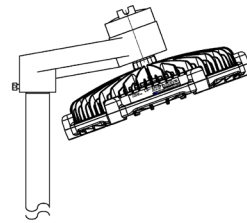
Ceiling Type



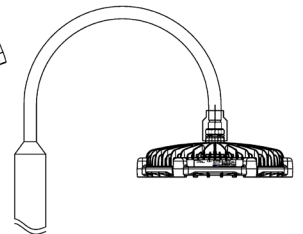
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

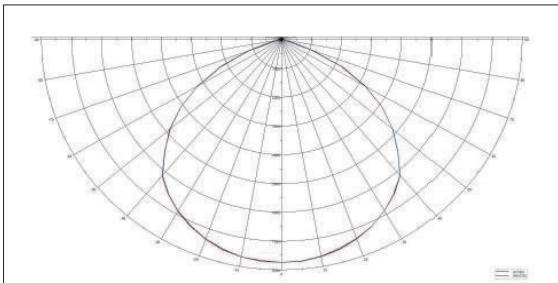
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 100W/150W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

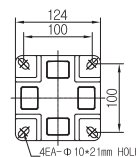
Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	ISAL-F14*-C	10.4kg
Pendant	ISAL-F14*-P	11.1kg
Bracket	ISAL-F14*-B	10.9kg
Goose-neck	ISAL-F14*-S	

Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Goose-neck Type
LED	100W	ISAL-F1410-C	ISAL-F1410-P	ISAL-F1410-B	ISAL-F1410-G, S
LED	150W	ISAL-F1415-C	ISAL-F1415-P	ISAL-F1415-B	ISAL-F1415-G, S

ISWL-* Series

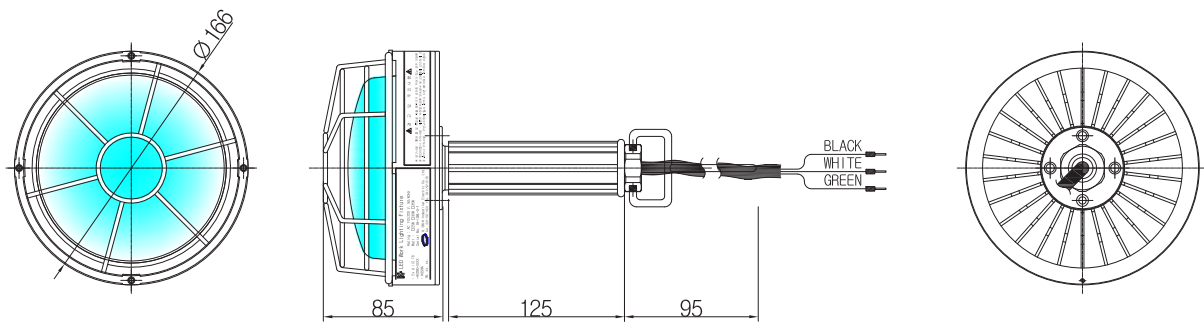
Explosion-proof LED Lighting Fixture
ISWL Series for Hazardous Location

Protection Grade

Ex d IIC T5 IP66 for Zone 1·2



Drawing



Standard Material

- **Main Body** : Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless steel
- **Bolt & Washer** : Stainless Steel

Standard Color

- Silver

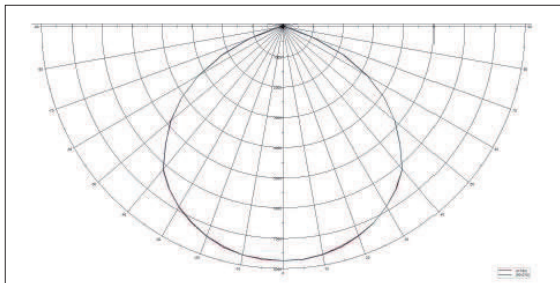
Technical Data

- **Rated Voltage** : AC 110/220V
- **Rated Wattage** : 30W
- **Rated Frequency** : 50/60Hz
- **Option** : Receptacle Plug

Weight

2kg

Light Distribution Curve



Ordering Number

Lamp	Watt	Cable Length			
LED	30W	5m	10m	20m	30m

ISWL-C10*

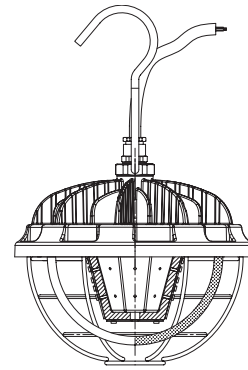
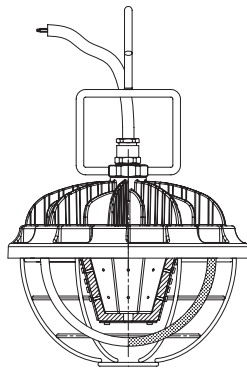
Explosion-proof LED Lighting Fixture
ISWL-C10*Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1·2



Drawing



Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

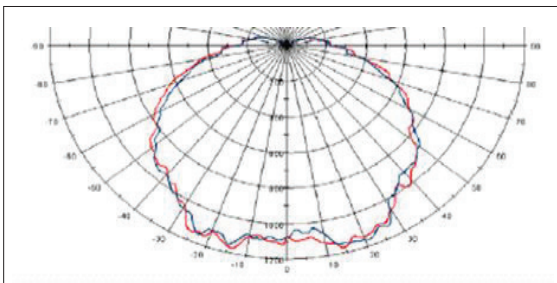
Technical Data

- **Rated Voltage** : AC 220V Below
- **Rated Wattage** : 30W/55W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Option** : Receptacle Plug
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

5.7kg

Light Distribution Curve



Ordering Number

Lamp	Watt	Cable Length (basice 10m)		
		10m	20m	30m
LED	30W	ISWL-C1030-10m	ISWL-C1030-20m	ISWL-C1030-30m
LED	55W	ISWL-C1055-10m	ISWL-C1055-20m	ISWL-C1055-30m

ISWL-F11**

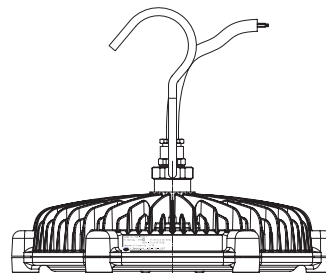
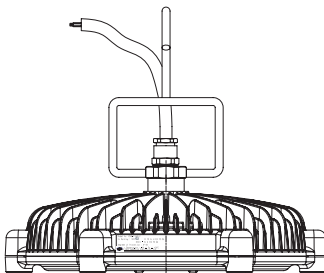
Explosion-proof LED Lighting Fixture
ISWL-F11 series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1·2



Drawing



Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel

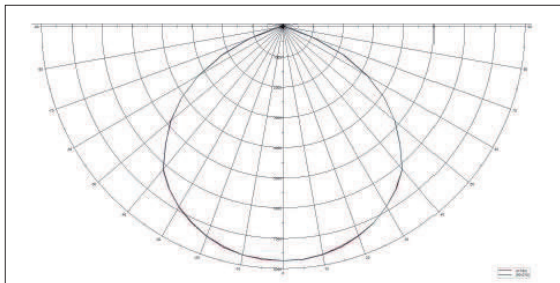
Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 30W/55W/80W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 3/4"(22C), 1"(28C)
- **Option** : Receptacle Plug
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Light Distribution Curve



Weight

5.8kg

Ordering Number

Lamp	Watt	Cable Length (basice 10m)		
		10m	20m	30m
LED	30W	ISWL-F1130-10m	ISWL-F1130-20m	ISWL-F1130-30m
LED	55W	ISWL-F1155-10m	ISWL-F1155-20m	ISWL-F1155-30m
LED	80W	ISWL-F1180-10m	ISWL-F1180-20m	ISWL-F1180-30m

IS-EPLED-**

Explosion-proof LED Lighting Fixture
IS-EPLED-** series for Hazardous Location

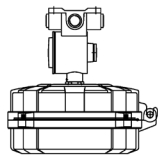
Protection Grade

Ex nR IIC T5 IP66 for Zone 2

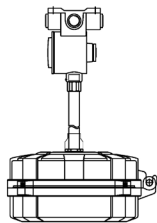
Ex tD A21 T95°C IP66 for Zone 22



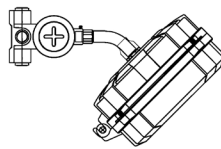
Drawing



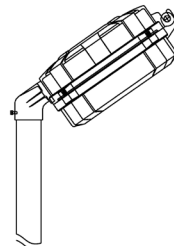
Ceiling Type



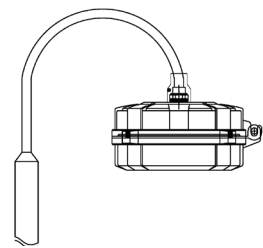
Pendant Type



Bracket Type



Stanchion Type

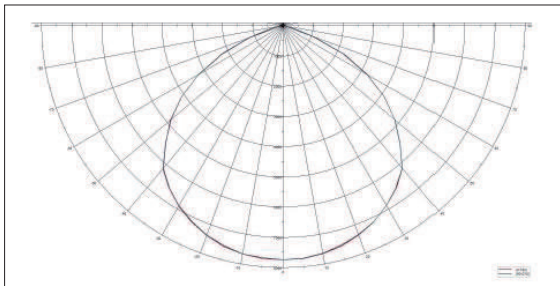


Goose-neck Type

Standard Material

- Main Body : Engineering Plastic
- Cover : Engineering Plastic
- Glass : Heat Resistant Hard Glass
- Guard : Stainless Steel(Optional)
- Mounting Box : Die-Cast Aluminium Alloy
- Bolt & Washer : Stainless Steel

Light Distribution Curve



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

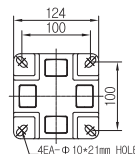
Technical Data

- Rated Voltage : AC 100~240V ,200~480V
- Rated Wattage : 30W/55W/80W/100W
- Rated Frequency : 50Hz/60Hz
- Entry Size : 3/4"(22C), 1"(28C)

Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-EPLED-**W-C	10kg
Pendant	IS-EPLED-**W-P	10.7kg
Bracket	IS-EPLED-**W-B	10.2kg
Stanchion	IS-EPLED-**W-S	
Goose-neck	IS-EPLED-**W-G	

Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type	Goose-neck Type
LED	30W	IS-EPLED-30W-C	IS-EPLED-30W-P	IS-EPLED-30W-B	IS-EPLED-30W-S	IS-EPLED-30W-G
LED	55W	IS-EPLED-55W-C	IS-EPLED-55W-P	IS-EPLED-55W-B	IS-EPLED-55W-S	IS-EPLED-55W-G
LED	80W	IS-EPLED-80W-C	IS-EPLED-80W-P	IS-EPLED-80W-B	IS-EPLED-80W-S	IS-EPLED-80W-G
LED	100W	IS-EPLED-100W-C	IS-EPLED-100W-P	IS-EPLED-100W-B	IS-EPLED-100W-S	IS-EPLED-100W-G

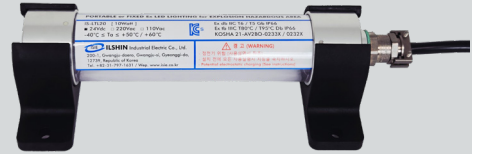
IS-LTL20

Explosion-proof LED Tubular Lighting IS-LTL20 Series for Hazardous Location

Protection Grade

Ex d IIC T6/T5 & Ex db IIC T6/T5 Gb IP66 for Zone 1.2

Ex tD A21 T80°C/T95°C & Ex tb IIC T80°C/T95°C Db IP66 for Zone 21.22



Standard Material

- **Main Body** : Aluminium
- **Cover** : Aluminium
- **Lamp Cover** : Polycarbonate(pc)
- **Option** : Receptacle Plug

Technical Date

- **Rated Voltage** : AC110/220V, DC24V
- **Rated Wattage** : 10W
- **Rated Frequency** : 50Hz/60Hz
- **Tamb** : -20°C ≤ Ta ≤ +60°C (T5/T95°C)
-20°C ≤ Ta ≤ +50°C (T6/T80°C)

User

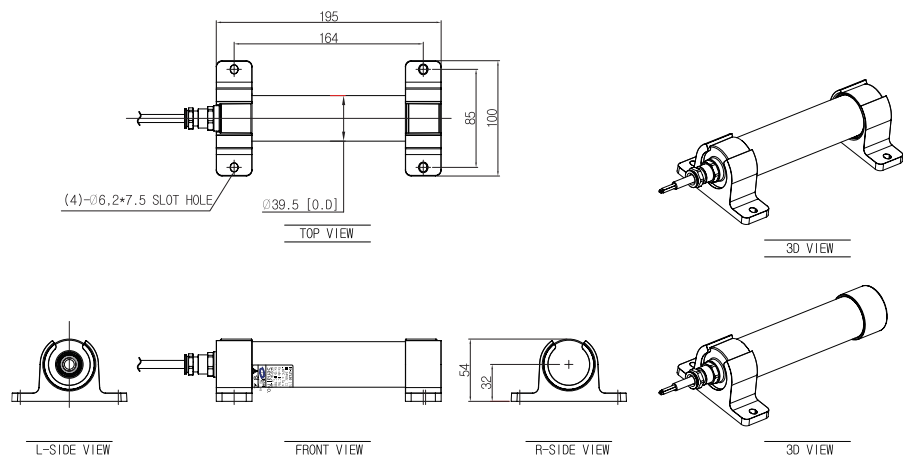
- 폭발성 가스구역, 케미칼 구역, 반도체장비 등 방폭성능이 요구되는 장소에 사용가능한 방폭형 LED조명등기구 임.
- 폴리카보네이트 재료의 투광부를 적용하여 내구성 및 중량감소.
- 컴팩트한 구조와 슬림한 외관으로 협소한 장소설치에 최적화된 구조.
- 고휘도 LEDCHIP 적용 및 눈부심 방지를 적용하여 최적화된 작업조건 충족.
- 조사각도를 조정가능한 브라켓 구조로 광원두 360도 회전가능.
- 고정식, 거치식, 탈부착식, 이동식의 다양한 고정방법으로 설치편의 및 작업효율 증대.
- 전원 케이블 인출을 적용한 방폭인증 취득으로 별도의 케이블 보호조치가 필요하지 않으며 보호용 부품 추가없이 협소한 장소에 심플한 설치가능.
(고객 요청에 따라 케이블 보호조치 부품 적용 가능_FLEXIBLE)

Weight

1.7kg



Drawing



Ordering Number

Model No.	Use	Rating	(*) Lead cable option
IS-LTL20-D24-(*)	LED 10W	DC 24V	3M Below
IS-LTL20-A11-(*)	LED 10W	AC 110V	50M Below
IS-LTL20-A22-(*)	LED 10W	AC 220V	50M Below

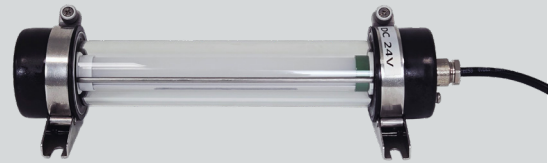
IS-LTL30

Explosion-proof LED Tubular Lighting IS-LTL30 Series for Hazardous Location

Protection Grade

Ex d IIC T6(Gb) IP66 for Zone 1·2

Ex tD A21 IP66 T80°C for Zone 21·22



Standard Material

- **Main Body** : Aluminium
- **Cover** : Aluminium
- **Glass Hold Cover** : Aluminium
- **Glass** : Heat Resistant Hard Glass
- **Option** : Receptacle Plug

Technical Data

- **Rated Voltage** : AC110/220V, DC24V
- **Rated Wattage** : 10W
- **Tamb** : -20°C ≤ Ta ≤ +50°C

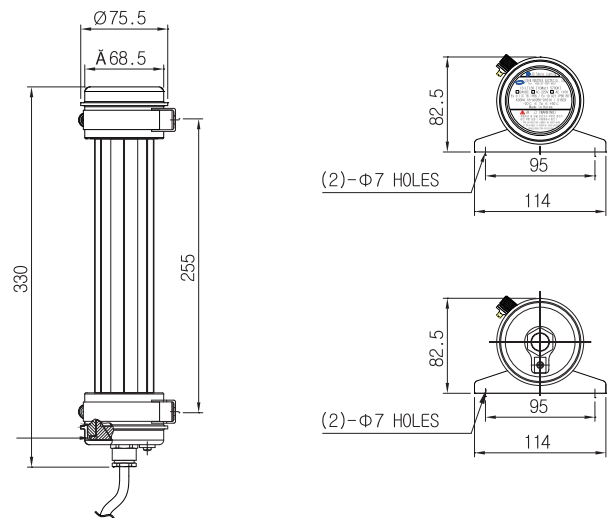
User

배전반 및 제어반 패널의 방폭형 등기구로 내/외부에 설치하여
DOOR 개폐와 연동 및 별도의 스위치와 연동하여 점등 점멸 콤
팩트 한사이즈로 설치에 제약이 없으며 우수한 광원으로 시야
확보에 최적

Weight

1.7kg

Drawing



Ordering Number

Model No.	Use	Rating
IS-LTL30	LED 10W	DC 24V
IS-LTL30	LED 10W	AC 110V
IS-LTL30	LED 10W	AC 220V

IS-LTL24

LED Tubular Lighting Fixture IS-LTL24 Series

Protection Grade

General purpose



Standard Material

- **Main Body** : Polycarbonate(pc)
- **Cover** : Polycarbonate(pc)
- **Bracket** : Stainless Steel

Technical Data

- **Lamp Type** : LED 10W, 5700k
- **Rated Voltage** : AC220V, DC24V 10W
- **Lighting Fixture Color** : Vendor Standard
- **Adjustable Bracket**

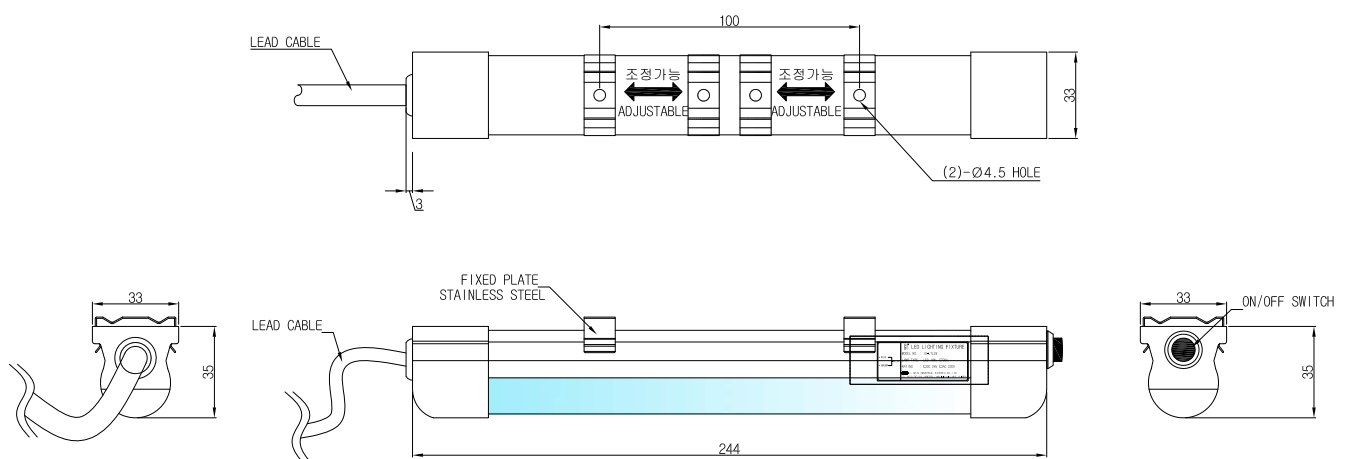
User

일반 수,배전반 및 콘트를 패널의 등기구로 내부에설치하여 ON-OFF스위치 적용으로 즉각적인 점등-점멸이 가능하며, 콤팩트 한사이즈로 설치에 제약이 없고 고휘도 LED 칩 적용 및 눈부심 방지를 적용하여 최적화된 작업조건에 충족함.

Weight

0.08kg

Drawing



Ordering Number

Model No.	Use	Rating
IS-LTL24	LED 10W	DC 24V
IS-LTL24	LED 10W	AC 220V(KC)

IS-LED-TL*

Explosion-proof LED Lighting Fixtures
IS-LED-TL* (Tank Light) for Hazardous Location

Protection Grade

Ex db IIC T6 Gb IP65

Ex tb III C T80°C Db IP65



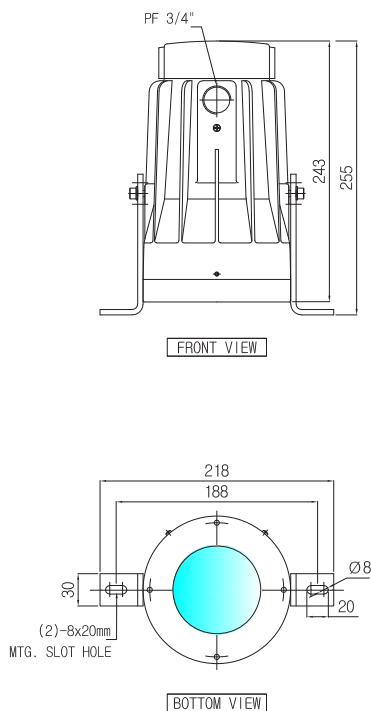
Standard Material

- **Main Body** : Cast Aluminum alloy
- **Bolt & Washer** : Stainless Steel
- **Glass** : Heat Resistant Hard Glass
- **Lamp** : LED(Bulb Type)

Technical Data

- **Size** : Ø137.5 x (H) 243 mm
- **Cable Entry** : PF 16C, PF 22C
- **Rated Voltage** : AC110/220V
- **Rated Wattage** : LED 14W
- **Rated Frequency** : 50/60Hz
- **Tamb** : -20°C ≤ Ta ≤ +60°C

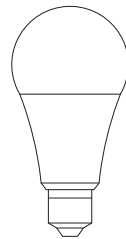
Drawing



Standard Color

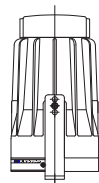
- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

Lamp Type

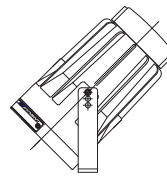


E-26 BASE

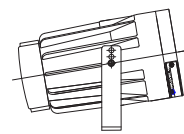
Front view



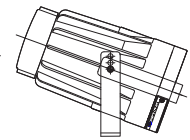
설치예시01



설치예시02



설치예시03



설치예시04

ISTL-*

Explosion-proof Tower Lamp (4 color) ISTL-* Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1·2

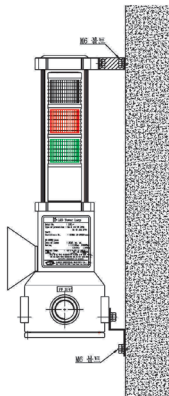
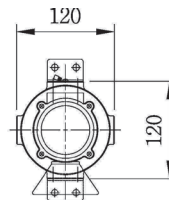
Ex td A21 IP65 T80°C for Zone 21·22



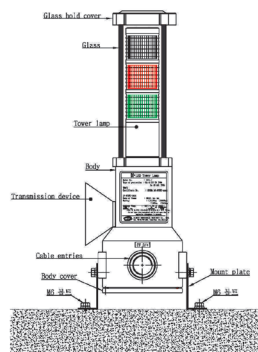
Standard Material

- **Main Body** : Aluminium
- **Cover** : Aluminium
- **Glass Hold Cover** : Aluminium
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Sound Level** : 70dB
- **Tamb** : -20°C ≤ Ta ≤ +50°C

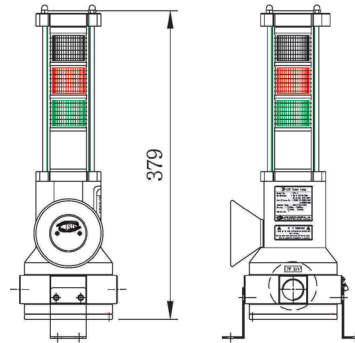
Drawing



ISTL-벽부형



ISTL-자립형



Model No.	Use	Lamp No.	Rating	Remark
ISTL-A	Lighting+Blink+Buzzer	3	AC110/220V	부저형의 경우 아래형식으로 변경가능 [경고음 5음] [멜로디 5음] [알람 5음]
ISTL-B	Lighting+Buzzer	3	AC110/220V	
ISTL-C	Lighting+Buzzer	4	AC110/220V	
ISTL-D	Lighting+Blink+Buzzer	3	AC/DC12/24V	
ISTL-E	Lighting+Blink+Buzzer	4	AC/DC12/24V	
ISTL-F	Lighting+Blink	3	AC110/220V	
ISTL-G	Lighting+Blink	4	AC110/220V	
ISTL-H	Lighting+Blink	4	AC/DC12/24V	
ISTL-I	Lighting+Buzzer	4	AC/DC12/24V	
ISTL-J	Lighting	4	AC110/220V	
ISTL-K	Lighting	4	AC/DC12/24V	

ISTLS-*

Explosion-proof Tower Lamp (3 color)
ISTLS-* Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1-2

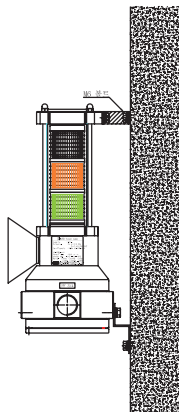
Ex tD A21 IP65 T80°C for Zone 21-22



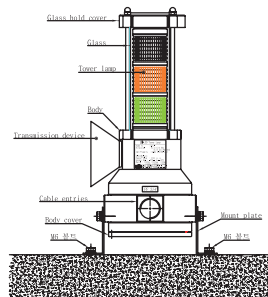
Standard Material

- **Main Body** : Aluminium
- **Cover** : Aluminium
- **Glass Hold Cover** : Aluminium
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Sound Level** : 70dB
- **Tamb** : -20°C ≤ Ta ≤ +50°C

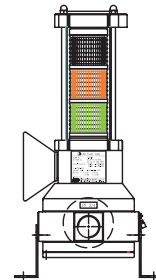
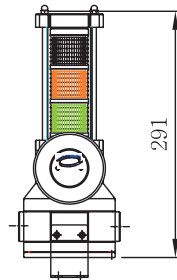
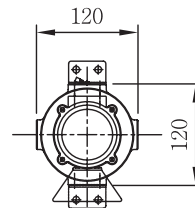
Drawing



ISTLS-벽부형



ISTLS-자립형

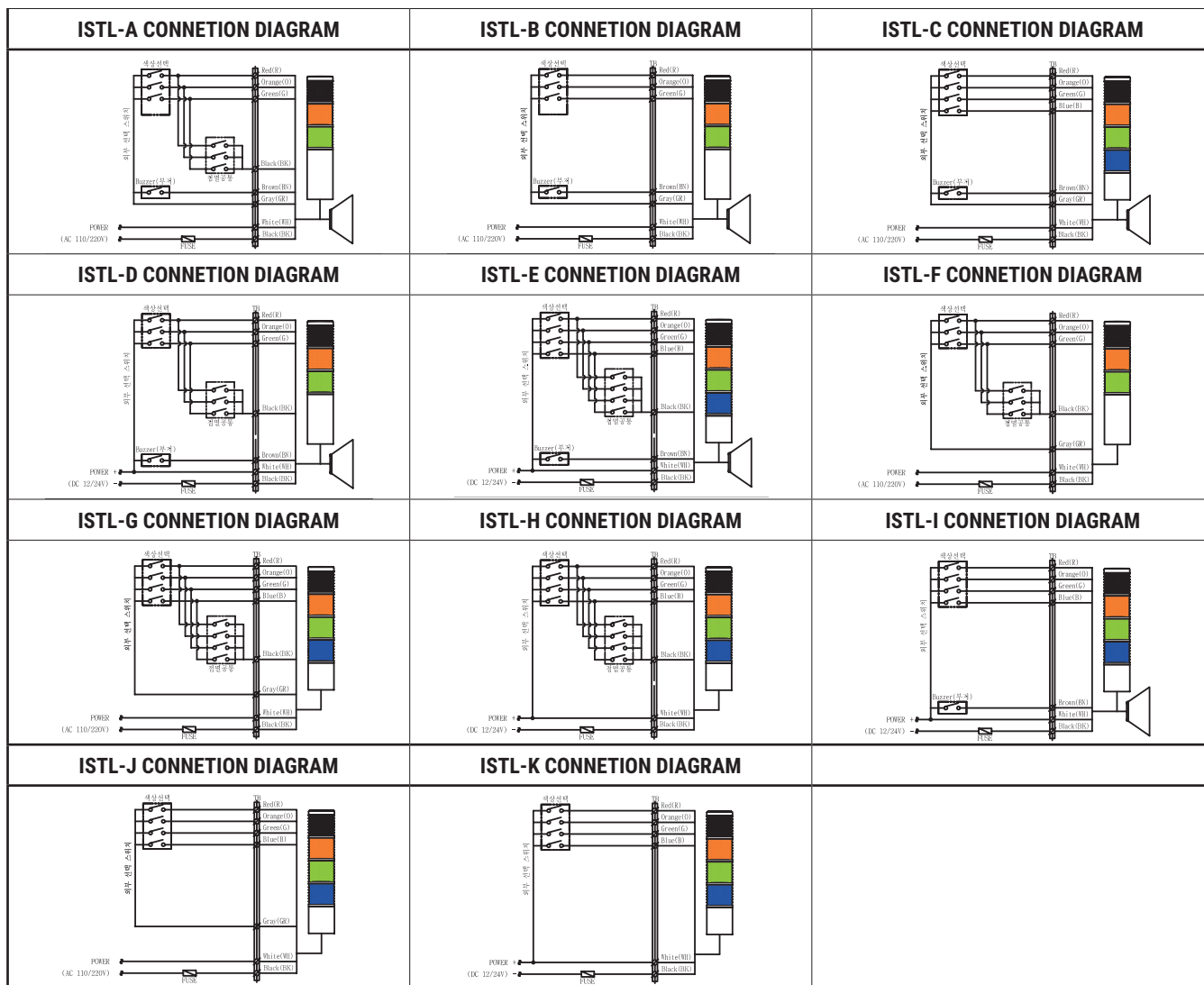


Ordering Number

Model No.	Use	Lamp No.	Rating	Remark
ISTLS-A	Lighting+Buzzer	3	AC/DC12/24V	부저형의 경우 아래형식으로 변경가능
ISTLS-B	Lighting+Blink	3	AC/DC12/24V	
ISTLS-C	Lighting	3	AC/DC12/24V	
ISTLS-D	Lighting	3	AC110/220V	
ISTLS-E	Lighting+Buzzer	2	AC110/220V	[경고음 5음] [멜로디 5음] [알람 5음]
ISTLS-F	Lighting+Blink	2	AC110/220V	
ISTLS-G	Lighting+Blink+Buzzer	2	AC/DC12/24V	
ISTLS-H	Lighting+Blink	1	AC110/220V	

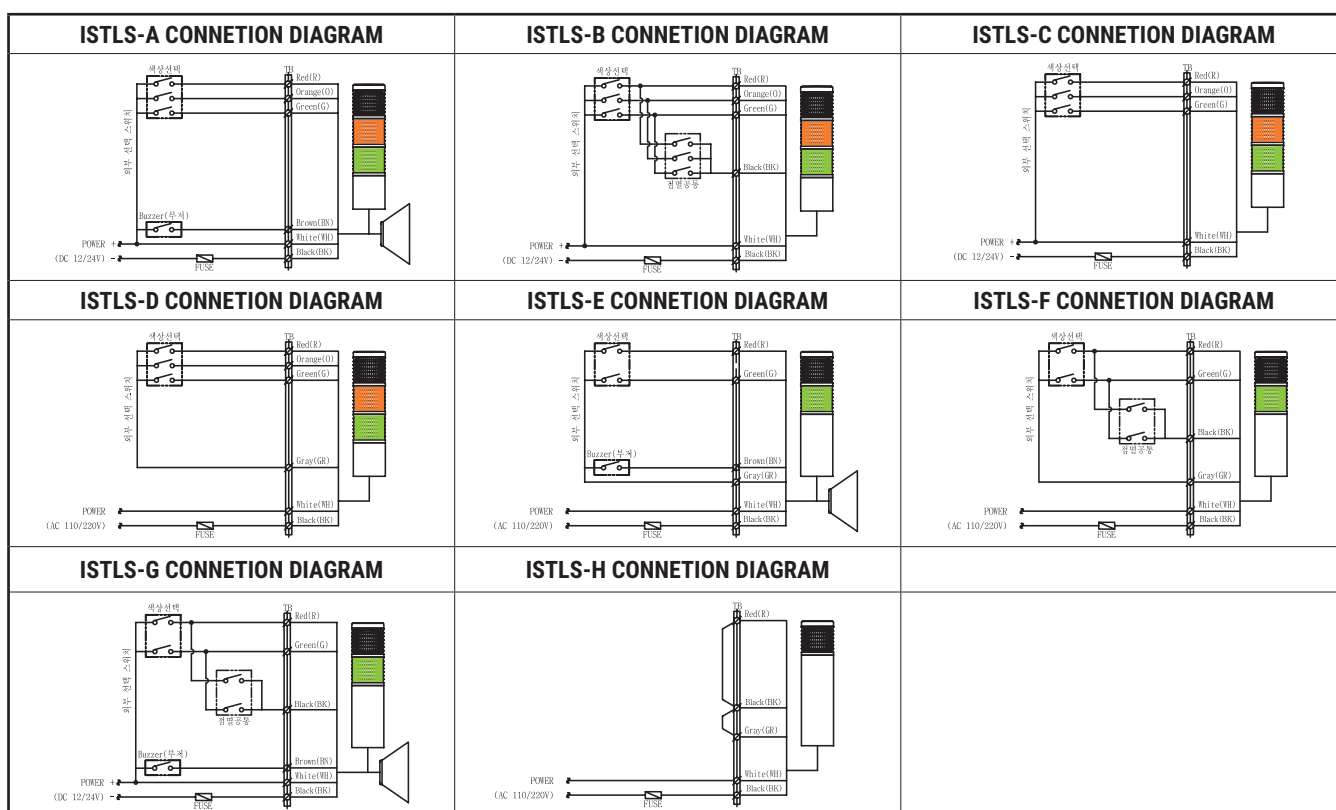
Explosion-proof Tower lamp ISTL-* Series for Hazardous Location

Diagram (4 color)



Explosion-proof Tower lamp ISTLS-* Series for Hazardous Location

Diagram (3 color)



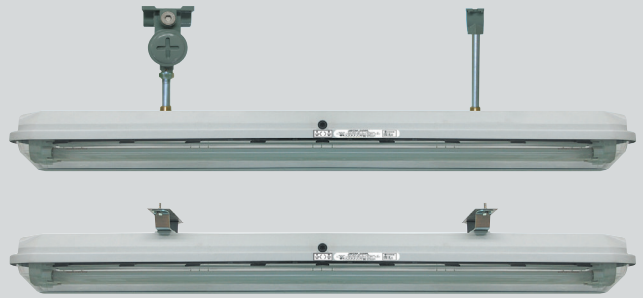
EFDL-LED

Explosion-proof Tubular LED Lighting
Fixture EFDL Series for Hazardous Location

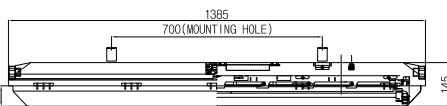
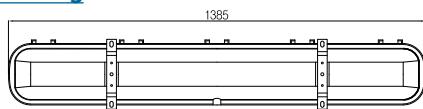
Protection Grade

Ex denR IIB T6 IP66 for Zone 2

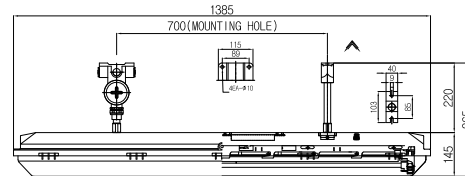
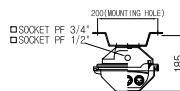
Ex tD A21 T85° IP66 for Zone 21



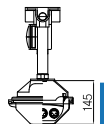
Drawing



Ceiling Type



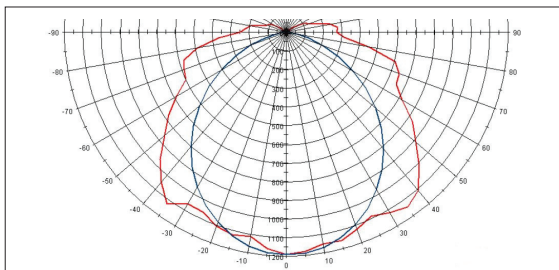
Pendant Type



Standard Material

- **Main Body** : Engineering Plastic
- **Cover** : Engineering Plastic
- **Inner Reflector** : High Purity Aluminium
- **Gasket** : Silicone Rubber
- **Interlock Switch** : Engineering Plastic
- **Mounting Box** : Die-Cast Aluminum

Light Distribution Curve



Standard Color

- Vendor Standard

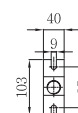
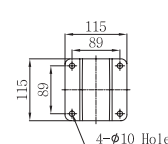
Technical Data

- **Rated Voltage** : AC 240V Below
- **Rated Wattage** : 16.7Wx2
- **Rated Frequency** : 60Hz
- **Entry Size** : 1/2", 3/4"
- **Dimension** : 1385(W) x 204(H) 145(D)
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Weight

Mounting Typed	Model No.	Weight
Ceiling	EFDL-LED-**1	6kg
Pendant	EFDL-LED-**2	7.5kg
Bracket	EFDL-LED-**3	7.5kg

Mounting Box Hole Size(Pendant Type)



Outward	Hole space
115 × 115	89 × 89

Ordering Number

Lamp	Voltage(V)	Frequency(Hz)	Ceiling Type	Pendant Type	Bracket Type
LED	220	50	EFDL-LED-251	EFDL-LED-252	EFDL-LED-253
Lampx2		60	EFDL-LED-261	EFDL-LED-262	EFDL-LED-263

ISNFL-**

Explosion-proof Tubular Lighting Fixture ISNFL-** Series for Hazardous Location

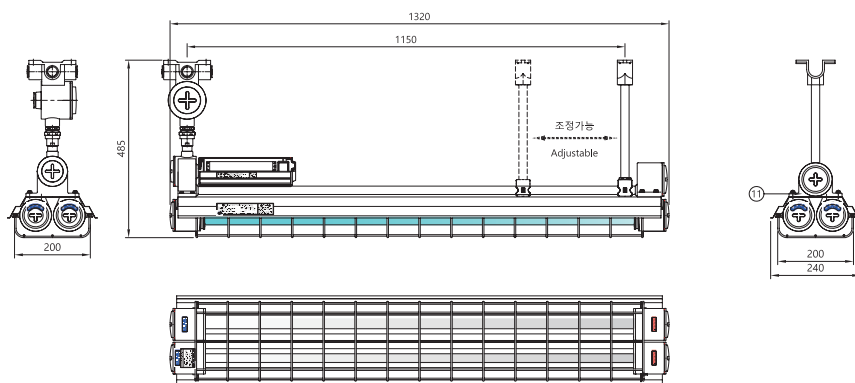
Protection Grade

KCs : Ex d IIC T6 IP66 for Zone1.2

IECEx : Ex d IIC T6 Gb IP66



Drawing



Standard Material

- **Main Body** : Cast Aluminum
- **Cover** : Stainless Steel
- **Cylinder Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminum
- **Guard** : Stainless Steel

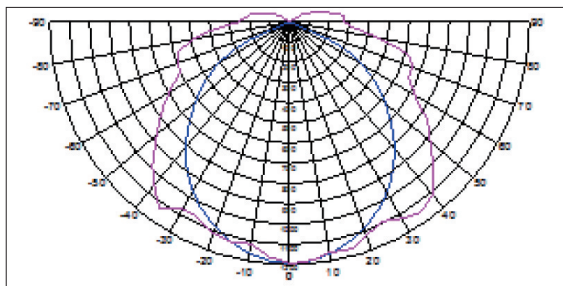
Standard Color

- Munsell No 7.5BG 6/1.5

Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : LED 16.7W & FL 32W Below
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)
- **Dimension** : 1320(W) x 240(H) 485(D)
- **Tamb** : -20°C ≤ Ta ≤ +55°C (T6)

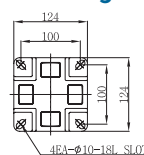
Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	ISNFL-LED-01	16.5kg
Pendant	ISNFL-LED-02	17.0kg
Bracket	ISNFL-LED-03	17.0kg

Mounting Box Hole Size



Outward	Hole space
124 x 124	100 x 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type
LED	16.7W	ISNFL-L16.7 b-01	ISNFL-L16.7 b-02	ISNFL-L16.7 b-03
FL	32W	ISNFL-F32 b-01	ISNFL-F32 b-02	ISNFL-F32 b-03

* Volt selection [b] a:220Vac, b:230Vac, C:240Vac, d:Etc Volt

ISAL-N**W

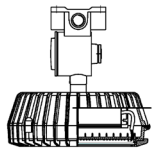
Weather-proof LED Lighting Fixture
ISAL-N**W series for General purpose

Protection Grade

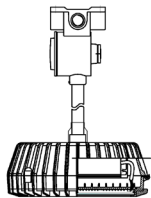
IP65



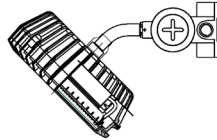
Drawing



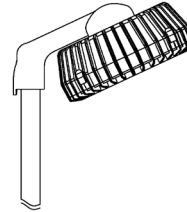
Ceiling Type



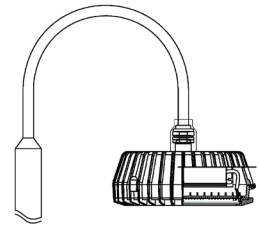
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5

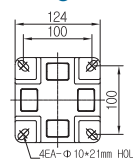
Technical Data

- **Rated Voltage** : AC 220V
- **Rated Wattage** : 55W/60W/80W/100W
- **Rated Frequency** : 60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)

Weight

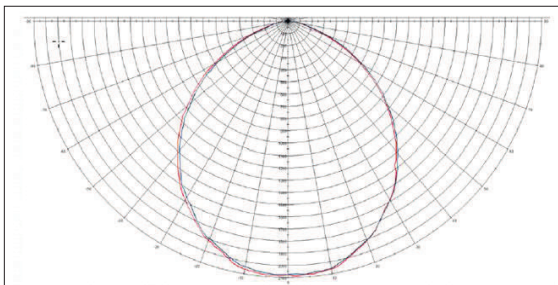
Mounting Typed	Model No.	Weight
Ceiling	ISAL-N**W-01	6.8kg
Pendant	ISAL-N**W-02	7.5kg
Bracket	ISAL-N**W-03	7.3kg
Stanchion	ISAL-N**W-04	

Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Light Distribution Curve



Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	55W	ISAL-N55W-01	ISAL-N55W-02	ISAL-N55W-03	ISAL-N55W-04
LED	60W	ISAL-N60W-01	ISAL-N60W-02	ISAL-N60W-03	ISAL-N60W-04
LED	80W	ISAL-N80W-01	ISAL-N80W-02	ISAL-N80W-03	ISAL-N80W-04
LED	100W	ISAL-N100W-01	ISAL-N100W-02	ISAL-N100W-03	ISAL-N100W-04

ISAL-EGHF-***W

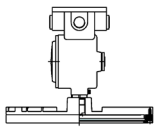
LED Lighting Fixture EGHF-***W series

Protection Grade

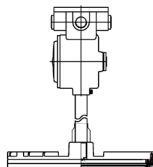
General purpose



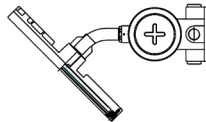
Drawing



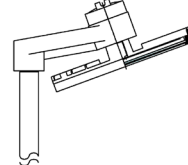
Ceiling Type



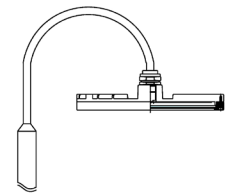
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5

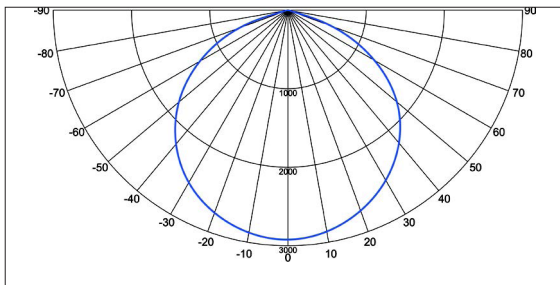
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 100W/120W/150W/200W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)

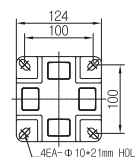
Weight

Mounting Typed	Model No.	Weight
Ceiling	ISAL-EGHF-***W-01	5.5kg
Pendant	ISAL-EGHF-***W-02	8.2kg
Bracket	ISAL-EGHF-***W-03	8.0kg
Stanchion	ISAL-EGHF-***W-04	

Light Distribution Curve



Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	100W	ISAL-EGHF-100W-01	ISAL-EGHF-100W-02	ISAL-EGHF-100W-03	ISAL-EGHF-100W-04
LED	150W	ISAL-EGHF-150W-01	ISAL-EGHF-150W-02	ISAL-EGHF-150W-03	ISAL-EGHF-150W-04
LED	200W	ISAL-EGHF-200W-01	ISAL-EGHF-200W-02	ISAL-EGHF-200W-03	ISAL-EGHF-200W-04

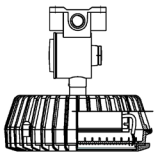
EGHL-LED**

Weather-proof LED Lighting Fixture
EGHL-LED** series for General purpose

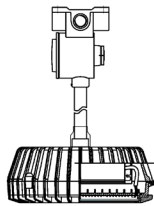
Protection Grade
IP65



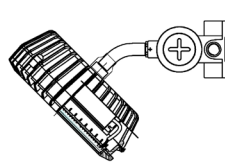
Drawing



Ceiling Type



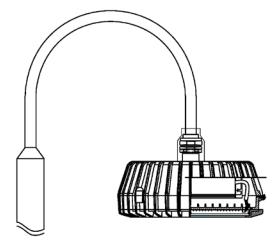
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5

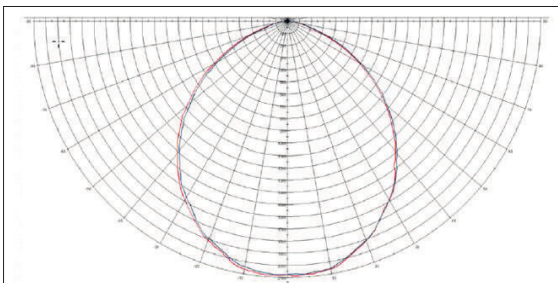
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Wattage** : 55W/60W/80W/100W
- **Rated Frequency** : 60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)

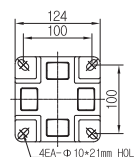
Weight

Mounting Typed	Model No.	Weight
Ceiling	EGHL-LED**W-01	6.8kg
Pendant	EGHL-LED**W-02	7.5kg
Bracket	EGHL-LED**W-03	7.3kg
Stanchion	EGHL-LED**W-04	

Light Distribution Curve



Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	55W	EGHL-LED55W-01	EGHL-LED55W-02	EGHL-LED55W-03	EGHL-LED55W-04
LED	60W	EGHL-LED60W-01	EGHL-LED60W-02	EGHL-LED60W-03	EGHL-LED60W-04
LED	80W	EGHL-LED80W-01	EGHL-LED80W-02	EGHL-LED80W-03	EGHL-LED80W-04
LED	100W	EGHL-LED100W-01	EGHL-LED100W-02	EGHL-LED100W-03	EGHL-LED100W-04

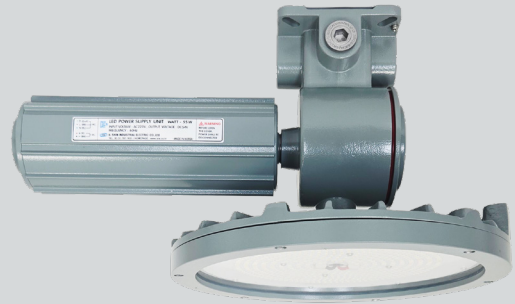
EGHF-***W

Weather-proof LED Lighting Fixture
EGHF-***W series for General purpose

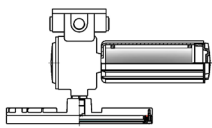
Protection Grade

IP65

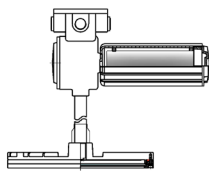
고효율인증(120W)



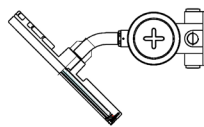
Drawing



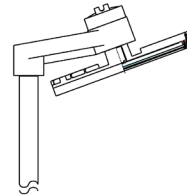
Ceiling Type



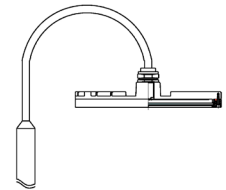
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Holder** : Die-Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

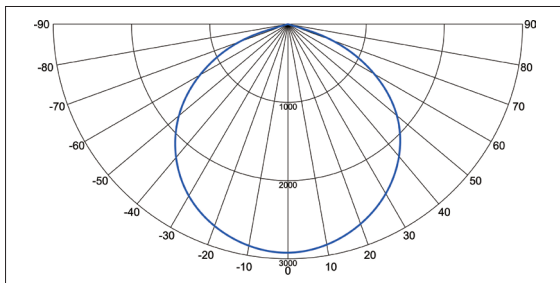
Standard Color

- Munsell no. 7.5BG 6/1.5

Technical Data

- **Rated Voltage** : AC 220V Below
- **Rated Wattage** : 100W/120W/150W/200W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)

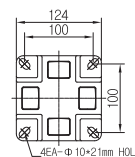
Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	EGHF-***W-01	7.5kg
Pendant	EGHF-***W-02	10.15kg
Bracket	EGHF-***W-03	9.95kg
Stanchion	EGHF-***W-04	

Mounting Box Hole Size



Outward	Hole space
124 × 124	100 × 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Stanchion Type
LED	100W	EGHF-100W-01	EGHF-100W-02	EGHF-100W-03	EGHF-100W-04
LED	120W	EGHF-120W-01	EGHF-120W-02	EGHF-120W-03	EGHF-120W-04
LED	150W	EGHF-150W-01	EGHF-150W-02	EGHF-150W-03	EGHF-150W-04
LED	200W	EGHF-200W-01	EGHF-200W-02	EGHF-200W-03	EGHF-200W-04

IS-GSF-**

LED Lighting Fixture IS-GSF-** series

Protection Grade

IP66

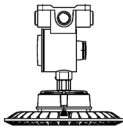
고효율 인증



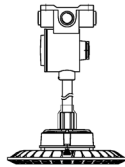
Drawing



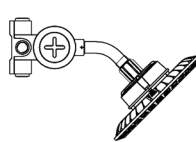
Bracket Support Type



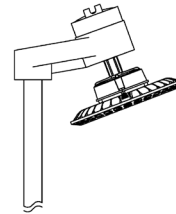
Ceiling Type



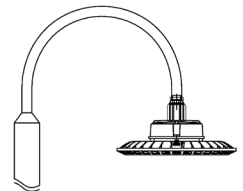
Pendant Type



Bracket Type



Stanchion Type



Goose-neck Type

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Cover** : PC
- **Mounting Box** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- **Mounting Box** : Munsell no. 7.5
- **Head** : Gray

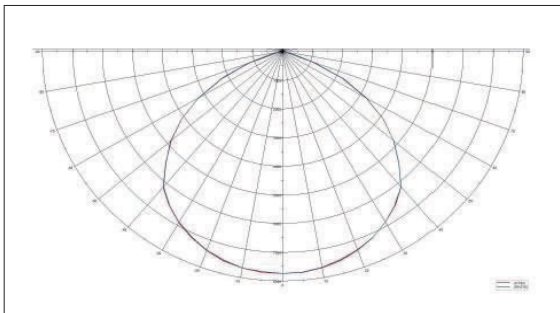
Technical Data

- **Rated Voltage** : AC 220V
- **Rated Wattage** : 60W/80W/100W/120W/150W/200W
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C), 1"(28C)

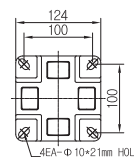
Weight

Mounting Typed	Model No.	Weight
Ceiling	IS-GSF-**-01	3.1kg
Pendant	IS-GSF-**-02	3.6kg
Bracket	IS-GSF-**-03	3.6kg
Goose-neck	IS-GSF-**-04	

Light Distribution Curve



Mounting Box Hole Size



Outward	Hole space
124 x 124	100 x 100

Ordering Number

Lamp	Watt	Ceiling Type	Pendant Type	Bracket Type	Goose-neck Type
LED	60W	IS-GSF60-01	IS-GSF60-02	IS-GSF60-03	IS-GSF60-04
LED	80W	IS-GSF80-01	IS-GSF80-02	IS-GSF80-03	IS-GSF80-04
LED	100W	IS-GSF100-01	IS-GSF100-02	IS-GSF100-03	IS-GSF100-04
LED	120W	IS-GSF120-01	IS-GSF120-02	IS-GSF120-03	IS-GSF120-04
LED	150W	IS-GSF150-01	IS-GSF150-02	IS-GSF150-03	IS-GSF150-04
LED	200W	IS-GSF200-01	IS-GSF200-02	IS-GSF200-03	IS-GSF200-04

GWFL

Tube LED Lighting Fixture Weather-proof

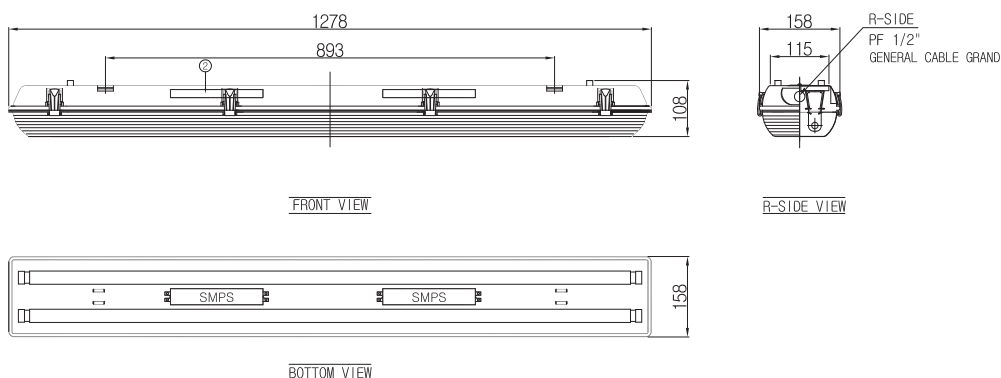
Protection Grade

IP65

고효율 인증



Drawing



Standard Material

- Main Body : Polycarbonate
- Cover : Polycarbonate Cover

Technical Data

- Rated Voltage : AC 100~240V Below
- Rated Wattage : 17.2W*2EA, 16.7W*2EA(고효율)
- Rated Frequency : 50Hz/60Hz
- Entry Size : 1/2"(16C)
- Dimension : 1278(W) x 158(H) x 108(D)

Standard Color

- Main Body : Ivory

Weight

Mounting Typed	Model No.	Weight
Ceiling	GWFL	3.5kg

Ordering Number

Lamp	Watt	Ceiling Type
LED	17.2W*2	GWFL

ZWFL

PCB LED Lighting Fixture Weather-proof

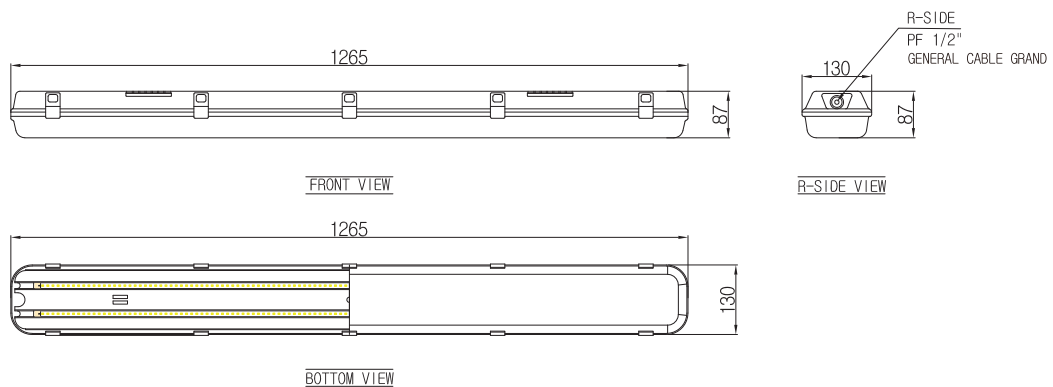
Protection Grade

IP66

고효율 인증



Drawing



Standard Material

- Main Body : ABS
- Cover : Polycarbonate Cover

Technical Data

- Rated Voltage : AC/DC 220V Below
- Rated Wattage : MAX LED40W±10%
- Rated Frequency : 50Hz/60Hz
- Entry Size : 1/2"(16C)
- Dimension : 1265(W) x 130(H) x 87(D)

Standard Color

- Main Body : Gray

Weight

Mounting Typed	Model No.	Weight
Ceiling	ZWFL	2kg

Ordering Number

Lamp	Watt	Ceiling Type
LED	MAX LED40W±10%	ZWFL

SJT-100STM / 120STM / 150STM

Protection Grade

IP66

고효율인증

Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

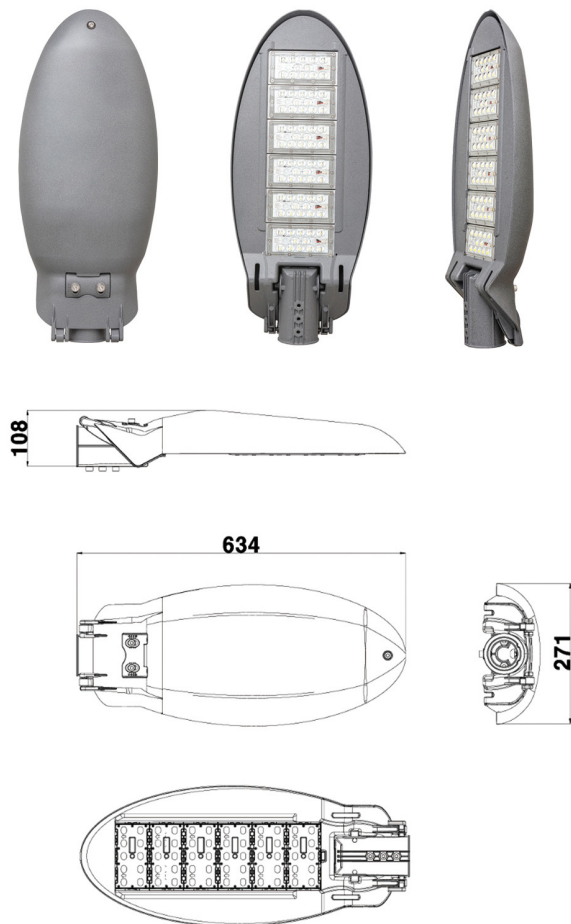
Standard Color

- Dark gray

[시공 예시]



Drawing



Specification

항목	단위	특성		
Model	-	SJT-100STM	SJT-120STM	SJT-150STM
Power Consumption	W	100W	120W	150W
Input Voltage	VAC	100-240		
Input Current	A	2.8	3.3	4.2
Frequency	Hz	50-60		
Power Factor	%	>90		
Luminous Flux	lm	10,741	13,468	16,160
Luminous Efficiency	lm/W	115	111	111
Color Temperature	K	5700 / 4000 / 3000 (Optional)		
Beam Angle	°	Road Class		
IP	-	66		
Operation Temperature	°	-30 ~ 60		
Color Rendering Index (CRI)	-	75		
Total Harmonic Distortion	%	4.6		

DW-100W / 125W / 150W

Protection Grade

IP66

고효율인증

Drawing

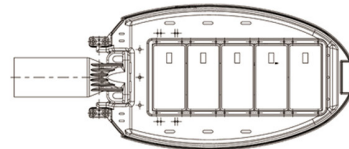
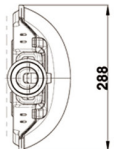
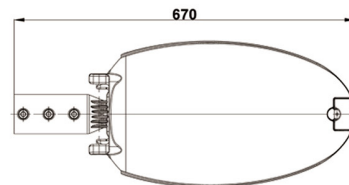
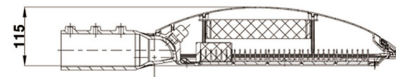
Standard Material

- **Main Body** : Die-Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

Standard Color

- Dark gray

[시공 예시]



Specification

항목	단위	특성		
Model	-	DW-100W	DW-125W	DW-150W
Power Consumption	W	100W	125W	150W
Input Voltage	VAC	100-240		
Input Current	A	2.8	3.3	4.2
Frequency	Hz	50-60		
Power Factor	%	>90		
Luminous Flux	lm	11,500	13,800	17,250
Luminous Efficiency	lm/W	115이상	115 이상	115 이상
Color Temperature	K	5700 / 4000 / 3000 (Optional)		
Beam Angle	°	Road Class		
IP	-	66		
Operation Temperature	°	-30 ~ 60		
Color Rendering Index (CRI)	-	75		
Total Harmonic Distortion	%	4.6		

b



LIGHTING FIXTURES

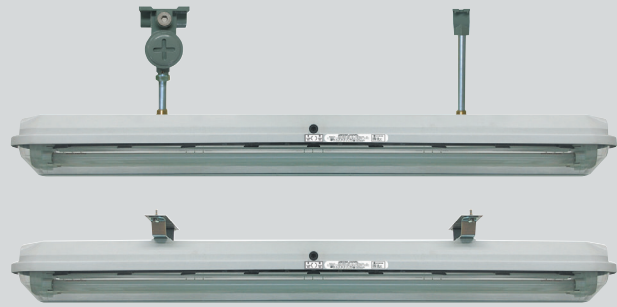
EFDL-233 Series for Hazardous Location_	68
Pole & Stanchion Type Lighting Fixture_	69

EFDL-233

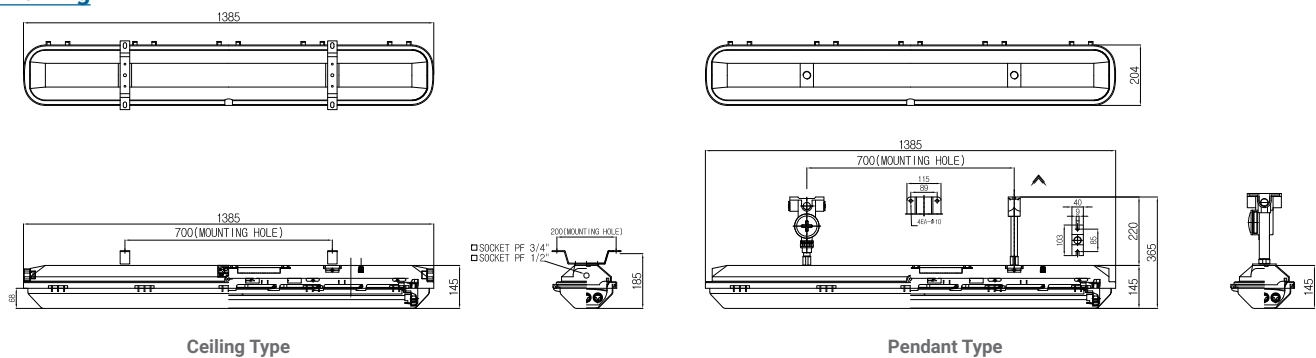
Explosion-proof FL Lighting Fixture EFDL-233 Series for Hazardous Location

Protection Grade

Ex de IIC T4 IP66 for Zone 1·2



Drawing



Standard Material

- **Main Body** : Engineering Plastic
- **Cover** : Engineering Plastic
- **Inner Reflector** : High Purity Aluminum
- **Gasket** : Innoprene
- **Interlock Switch** : Engineering Plastic
- **Ballast Cast** : Engineering Plastic
- **Mounting Box** : Cast Aluminum

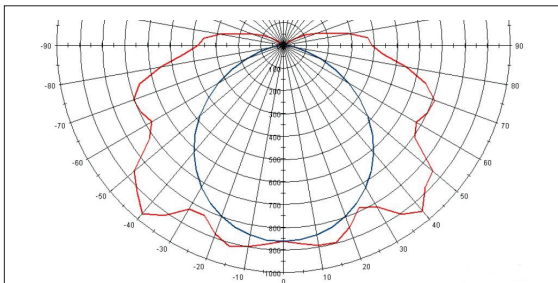
Standard Color

- Vendor Standard

Technical Data

- **Rated Voltage** : AC100~240V Below
- **Rated Wattage** : FL32W × 2, FL32W × 3
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2"(16C), 3/4"(22C)
- **Dimension** : 1385(W) × 204(H) × 145(D)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Light Distribution Curve



Weight

Mounting Typed	Model No.	Weight
Ceiling	EFDL-01	6kg
Pendant	EFDL-02	7.5kg
Bracket	EFDL-03	7.5kg

Mounting Box Hole Size(Pendant Type)

Outward	Hole space
115 × 115	89 × 89

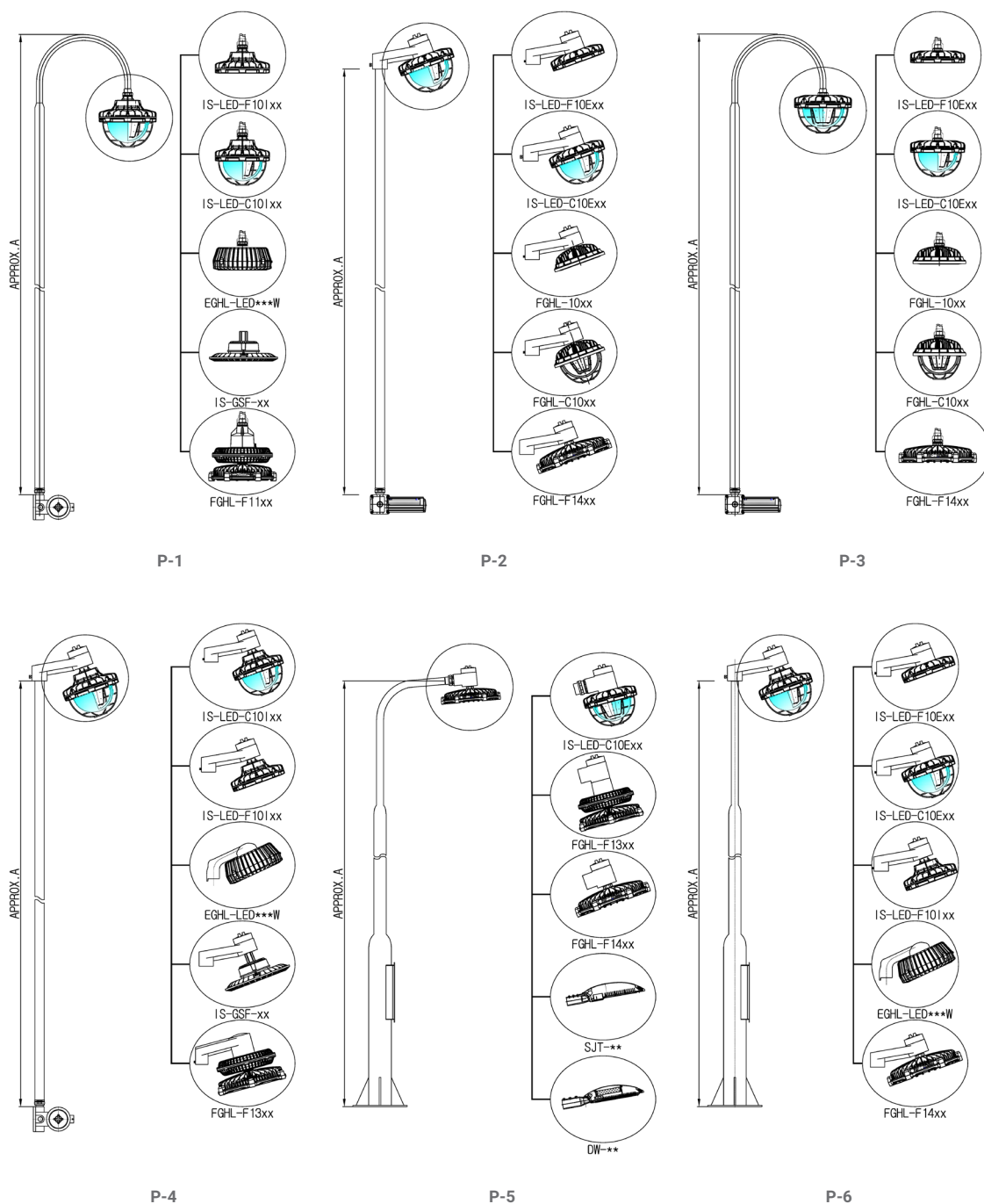
Ordering Number

Lamp	Voltage(V)	Frequency(Hz)	Ceiling Type	Pendant Type	Bracket Type
FL32*1	220	50	EFDL-233-151	EFDL-233-152	EFDL-233-153
		60	EFDL-233-161	EFDL-233-162	EFDL-233-163
FL32*2	220	50	EFDL-233-251	EFDL-233-252	EFDL-233-253
		60	EFDL-233-261	EFDL-233-262	EFDL-233-263
FL32*3	220	50	EFDL-233-351	EFDL-233-352	EFDL-233-353
		60	EFDL-233-361	EFDL-233-362	EFDL-233-363

Pole & Stanchion Series

Variation of Pole & Stanchion Type Lighting Fixture

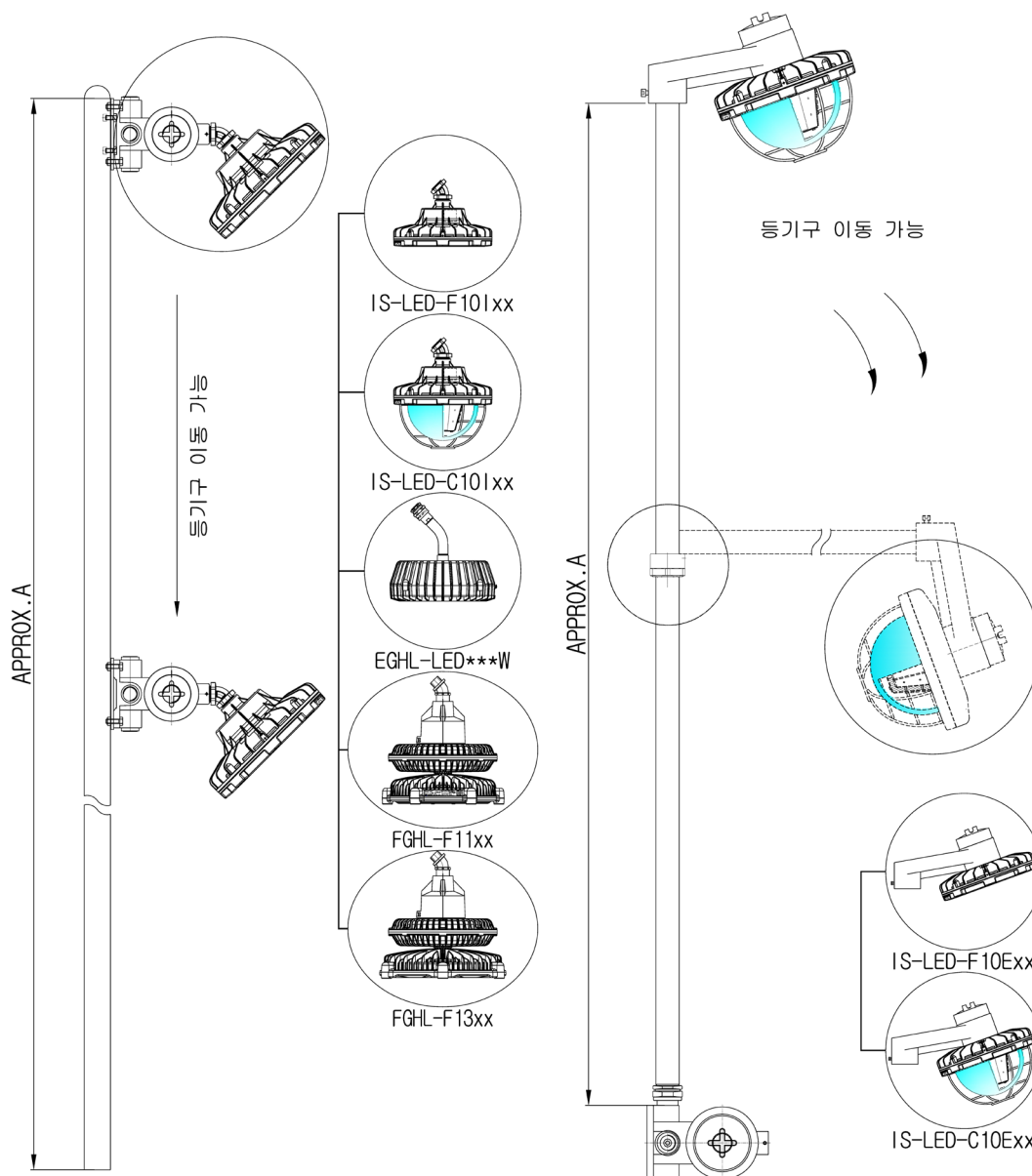
Drawing



Pole & Stanchion Series

Sliding Pole & Bending Pole

Drawing



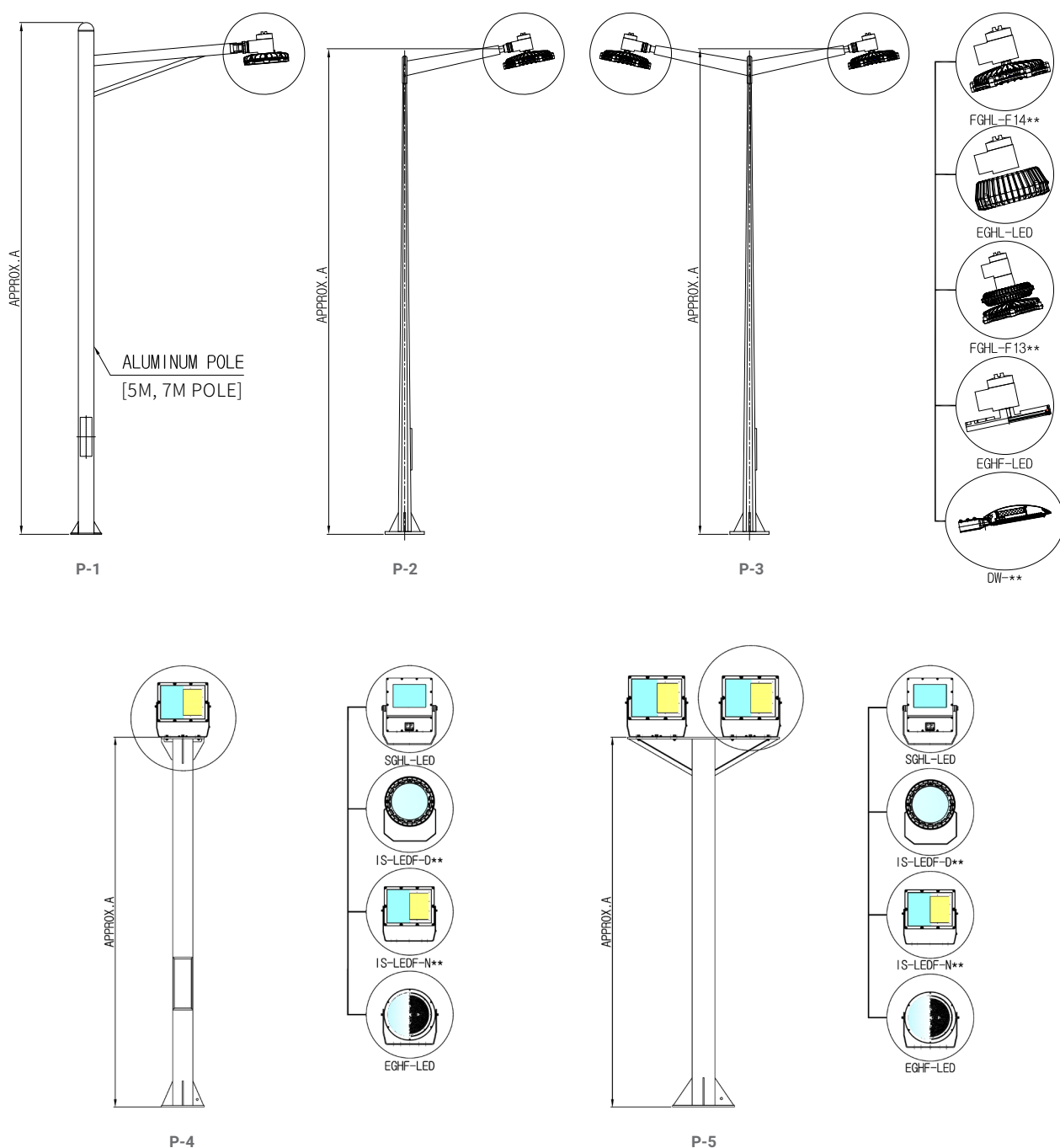
SLIDING POLE

BENDING POLE

Pole & Stanchion Series

Variation of Pole & Stanchion Type Lighting Fixture

Drawing





C

CONTROL MANUFACTURES



Explosion-proof Control Station IS-EPCS-**/F**	74
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Explosion-proof Receptacle and Plug IS-EPRP-**	117
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IS-EPCS-** / F**

Explosion-proof GRP Control Station EPCS Series for Hazardous Location

Protection Grade

Ex de II C T6 for Zone 1·2

Ex tb III C T80 IP66 for Zone 21·22

IECEx : Ex db eb II C T6 Gb / Ex tb II C T80°C Db

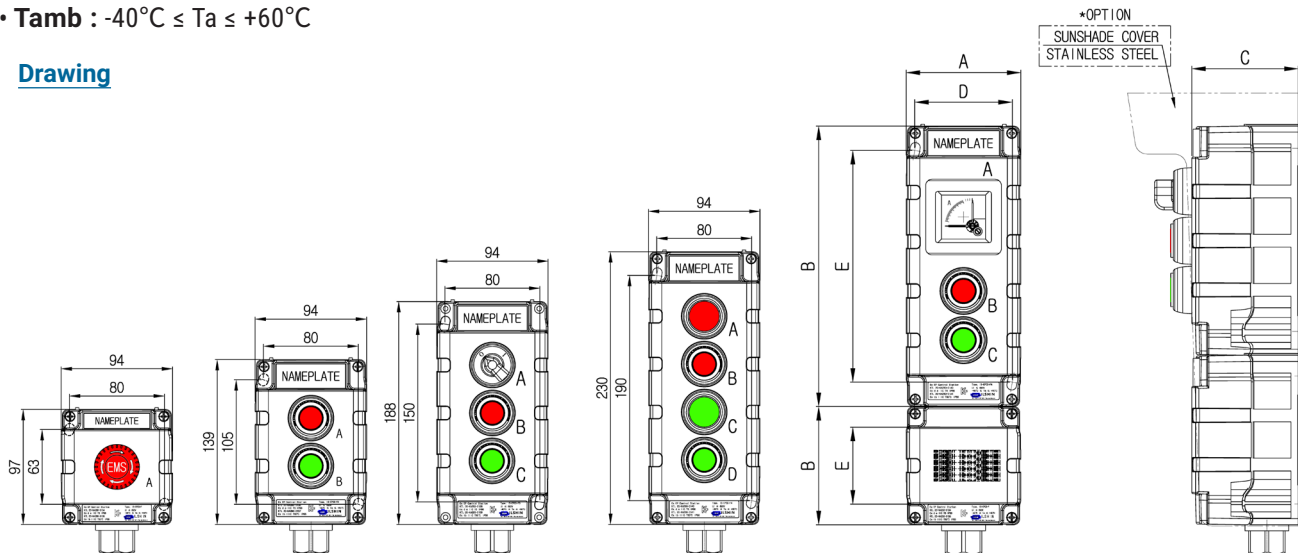


Specification

- **Main Body** : Engineering plastic (GRP)
- **Terminal Box** : Engineering plastic (GRP)
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch
Emergency Switch, Pilot Lamp etc.(Unit : ISCOM Series)
- **Rating** : 690V이하, 13A이하 (Switch), 10A이하 (Ammeter)
- **Iscom-AE**(동작부품)series, MD(모듈장치)series, Ex ammeter,
Ex accessories 부품들의 조합
- **Tamb** : -40°C ≤ Ta ≤ +60°C

- ISCOM-MD Series 별도문의 [P112 참조]
- ISCOM-AE Series 별도문의

Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
IS-EPCS-1 / F1**	94	97	80	80	63
IS-EPCS-1 / F1**-TB	94	194	80	80	63
IS-EPCS-2 / F2**	94	139	80	80	105
IS-EPCS-2 / F2**-TB	94	236	80	80	105
IS-EPCS-3 / F3**	94	188	80	80	150
IS-EPCS-3 / F3**-TB	94	285	80	80	150
IS-EPCS-4 / F4**	94	230	80	80	190
IS-EPCS-4 / F4**-TB	94	327	80	80	190

IS-EPCS-FL

Ex Engineering Plastic Control Station
Tumbler Switch Series for Hazardous Location

Protection Grade

Ex de IIC T6 IP66 for zone 1-2

Ex tb IIC T80°C IP66 for zone 21-22

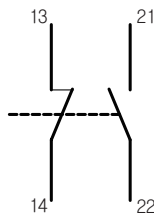


Specification

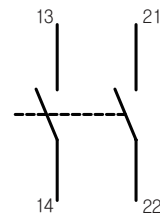
- **Main Body** : Engineering plastic (GRP)
- **Bolt & asher** : Stainless Steel
- **Cable Entry(Socket)** : Standard : Brass
- **Thread** : PF(16C~28C), NPT(1/2"~1"),
Metric(M16~M32)
- **Rated Voltage** : 690V이하, 13A이하
- **Tamb** : -40°C ≤ Ta ≤ +60°C

Terminal assignment

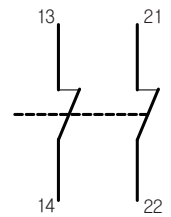
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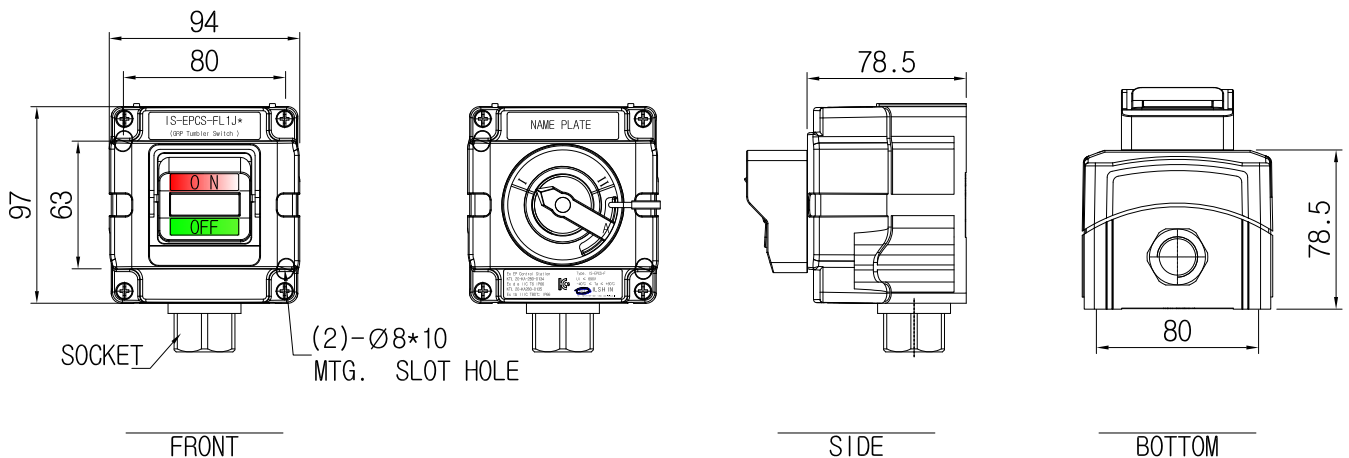
< 2 NO >



< 2 NC >



Drawing



IS-EPCB-**

Increased Safety GRP Control Box
IS-EPCB-** for Hazardous Location

Protection Grade

Ex de II C T6 IP66 for Zone 1·2

Ex tD A21 T80° IP66 for Zone 21·22



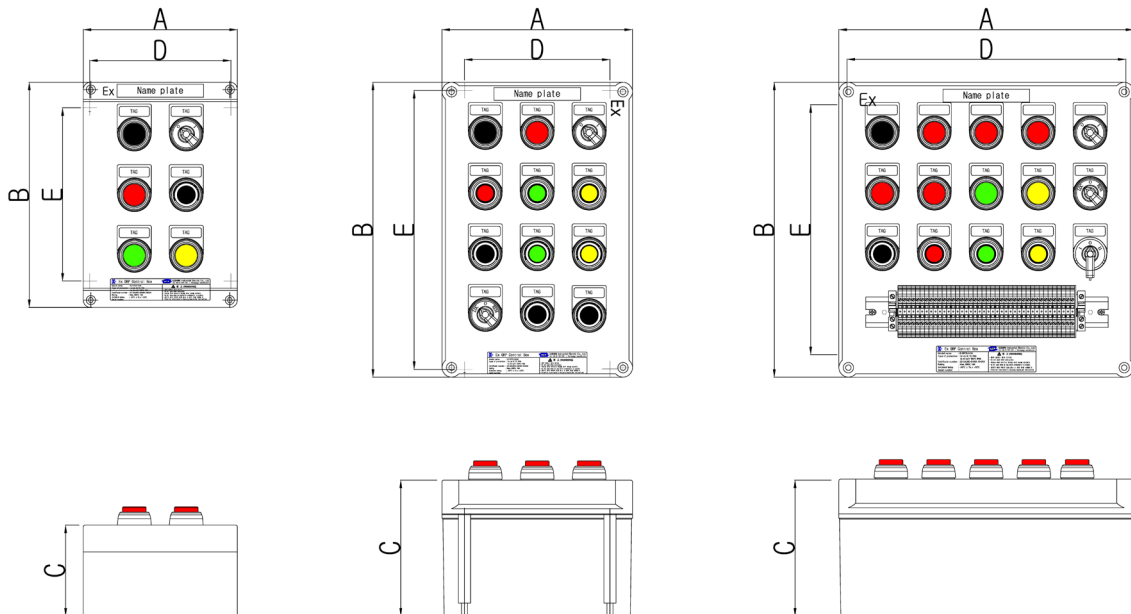
Specification

- **Main Body** : Engineering plastic(GRP-Black)
- **Gasket** : Silicon rubber
- **Bolt & Washer** : Stainless Steel
- **Terminal Box** : increase safety type (Ex e)
- **Rated Voltage** : 690V,16A Below
- **Tamb** : -30°C ≤ Ta ≤ +55°C

Feature

- Enclosure in glass fiber reinforced polyester resin provide excellent resistant to corrosion so have a long life
- **Control Switch** : ISCOM SERIES

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
EPCB-1826	180	260	105	163	200	130 x 220
EPCB-2234	220	340	159	168	322	172 x 285
EPCB-3434	340	340	159	322	289	285 x 285

ISCP-EP SERIES

Explosion-proof GRP Control Panel ISCP-EP Series for Hazardous Location

Protection Grade

Ex db eb II C T6 Gb(Unite + "eb T/B)

Ex eb II C T6 Gb(Only A-meter + "eb" T/B)

Ex db ec II C T6 Gc(Unite + "ec T/B)

Ex td III C T80°C Db



Standard Material

- **Main Body & Cover** : Engineering plastic(GRP-Black)
- **Bolt & Washer** : Stainless Steel
- **Gasket** : Silicon rubber

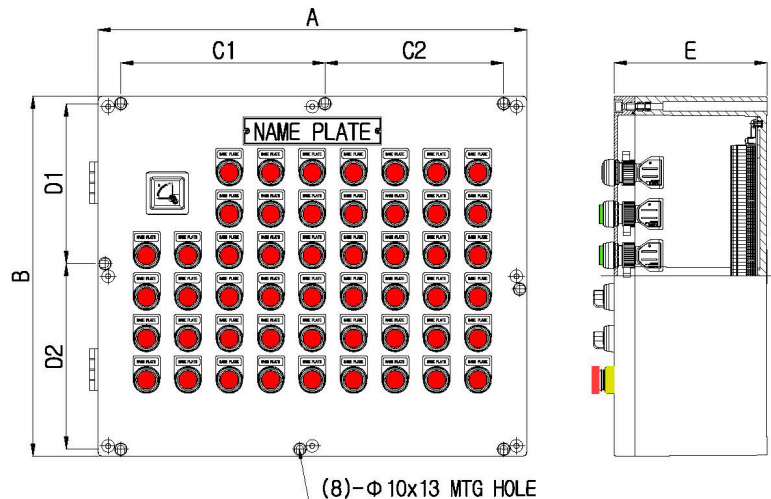
Specification

- **Terminal Box** : increase safety type (Ex e)
- **Unite** : Ampere Meter, Push Button, Pilot Lamp
Selector Switch, Emergency Switch Etc. (ISCOM SERIES)
- **Rated Voltage** : MAX690V Below

Feature

- Enclosure in glass fiber reinforced polyester
resin provide excellent resistant to corrosion so have a long life

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(C1)	Mount(C2)	Mount(D1)	Mount(D2)	Bakelite
ISCP-EP724222	720	420	220	347	312	402	-	130 x 220
ISCP-EP427222	420	720	220	402	-	347	312	410x711
ISCP-EP625222	620	520	220	296	259	232	268	611x510
ISCP-EP526222	520	620	220	268	232	296	259	510x611
ISCP-EP524022	520	400	220	457	-	283	-	509x389
ISCP-EP405222	400	520	220	383	-	457	-	389x509
ISCP-EP403019	400	300	190	338	-	283	-	391x291
ISCP-EP304019	300	400	190	283	-	338	-	291x391

FCS

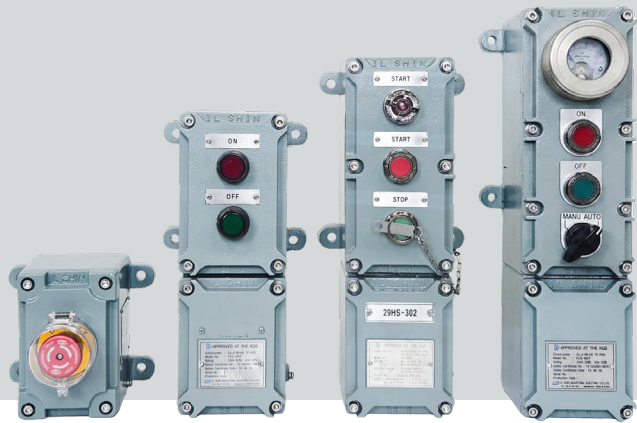
Explosion-proof Control Station FCS Series for Hazardous Location

Protection Grade

Ex d II B T6 for Zone 1·2

Ex d II B+H2 T6 IP65 for Zone 1·2

Ex tD A21 IP65 T85° Zone 21·22



Specification

- **Main Body** : Cast Aluminium Alloy
- **Terminal Box** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch
Emergency Switch, Pilot Lamp
Buzzer, Meter (Ampere, Volt, RPM)
Unit : IS Series

Standard Color

- Munsell no. 7.5BG 6/1.5

If you want other color, contact us please.

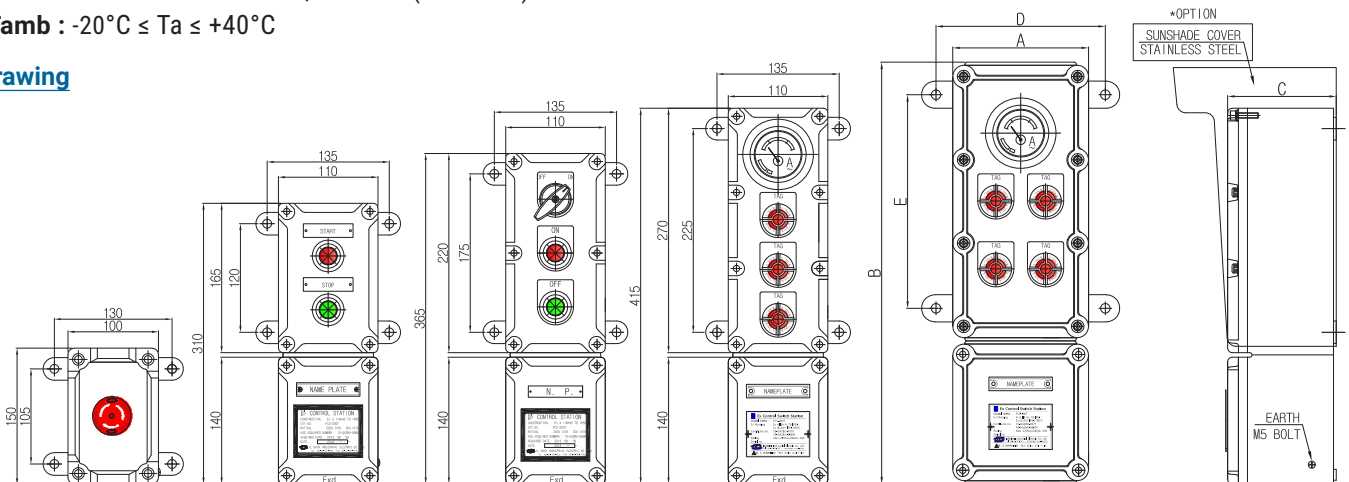
Option

- Sunshade Cover
- Standing Support

Technical Data

- **Rated Voltage** : AC 220V, 10A이하 (FCS-200,300,400)
AC 250V, 20A이하 (FCS-200T,300T,400T)
AC/DC 220V, 20A이하 (FCS-500T)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

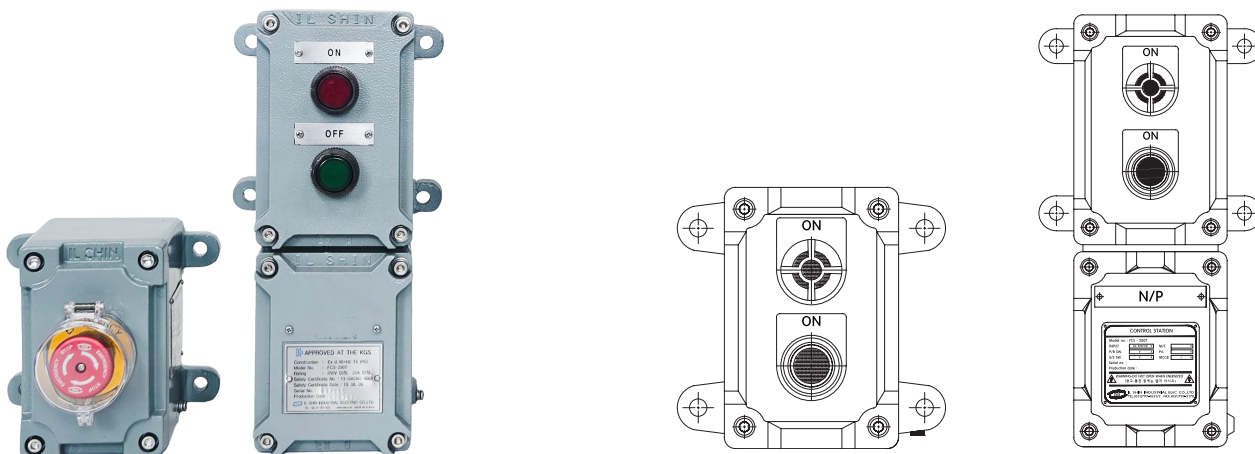
Drawing



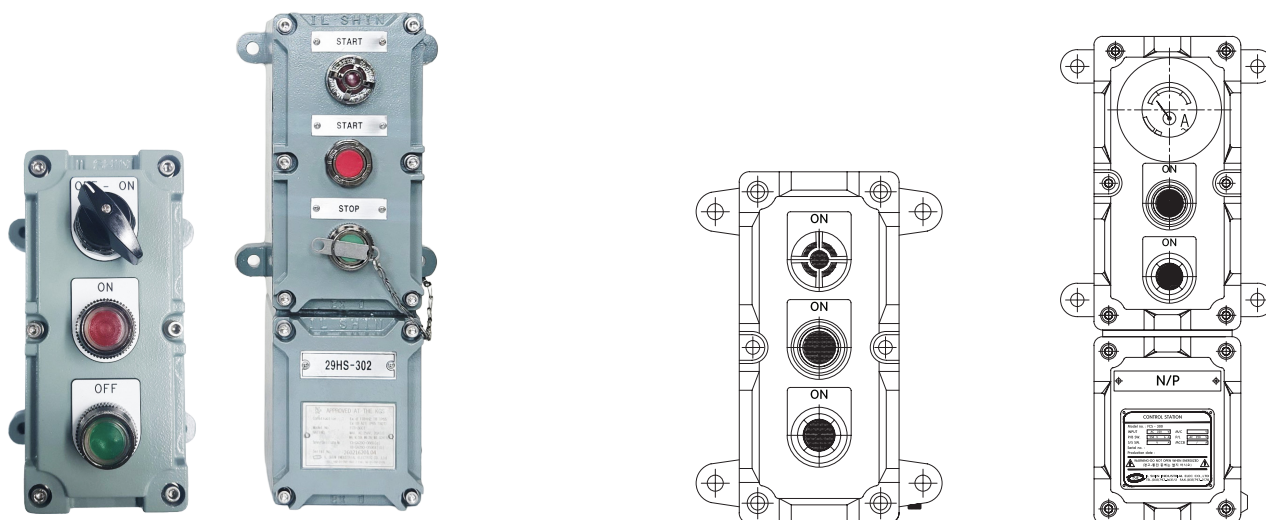
Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Certificate
FCS-200	100	150	115	130	105	d
FCS-200T	110	310	120	135	120	d, tD
FCS-300	100	220	115	134	170	d
FCS-300T	110	365	120	135	175	d, tD
FCS-400	100	257	123	130	200	d
FCS-400T	110	415	120	135	225	d, tD
FCS-500T	150	467	130	187	236	d, tD

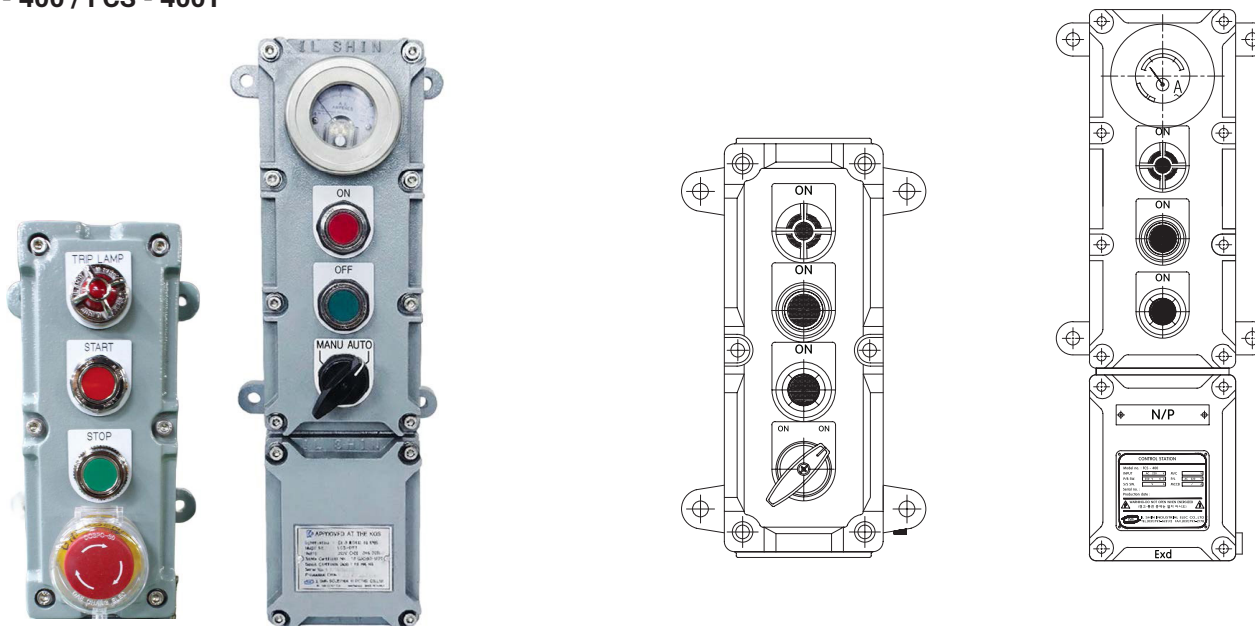
FCS - 200 / FCS - 200T



FCS - 300 / FCS - 300T



FCS - 400 / FCS - 400T



FCS(1)

Explosion-proof Control Panel FCS Series for Hazardous Location

Protection Grade

Ex d II B T6 for Zone 1·2

Ex d II B+H2 T6 IP65 for Zone 1·2

Ex tD A21 IP65 T100°C for Zone 21·22



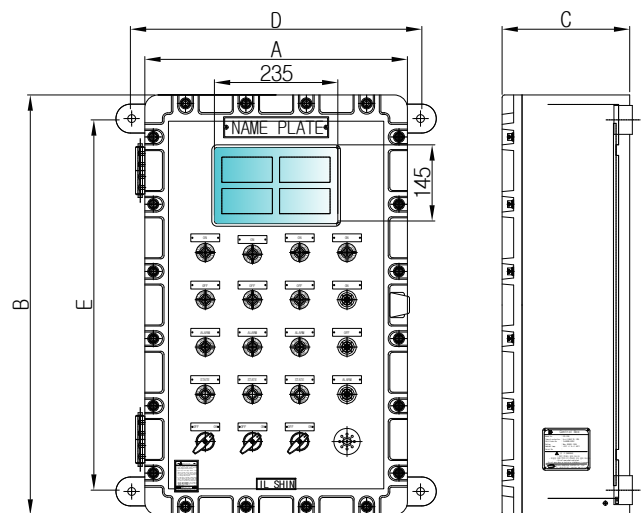
Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp Buzzer, Meter (Ampere, Volt, RPM), Indicator, Frequency
- **Rated Voltage** :
460V,30A Below(FCS-600,FCS-700)
460V,100A Below(FCS-800, FCS-850, FCS-900, FCS-1400)
460V,250A Below(FCS-1000, FCS-1100, FCS-1500B, FCS-1500N)
600V,150A Below(FCS-1150), 460V,300A Below(FCS-1200)
600V,250A Below(FCS-1250, FCS-1300, FCS-1500D)
690V or 500V,250A Below(FCS-1350)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



FRONT VIEW

R-SIDE VIEW

Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate	Certificate
FCS-550	180	225	129	210	160	125 × 160	d
FCS-600	220	250	161	260	170	170 × 175	d
FCS-700	220	350	166	260	270	165 × 285	d
FCS-800	300	400	210	352	295	230 × 330	d, tD
FCS-850	400	400	260	455	340	320 × 320	d
FCS-900	300	500	220	355	400	220 × 420	d
FCS-1000	400	500	230	455	400	310 × 410	d, tD
FCS-1100	400	600	230	450	495	315 × 505	d
FCS-1150	400	700	260	450	575	300 × 590	d
FCS-1200	600	700	285	667	545	490 × 590	d
FCS-1250	500	800	245	555	705	410 × 700	d
FCS-1300	780	880	280	570	884	590 × 690	d, tD
FCS-1400	800	1000	370	880	880	670 × 850	tD
FCS-1500B, D, N	980	1180	360	780	1180	790 × 990	d

FCS(2)

Explosion-proof Control Panel FCS Series for Hazardous Location

Protection Grade

Ex db IIB+H2 T6 IP66 for Zone 1-2

Ex tD A21 IP66 T80°C for Zone 21-22



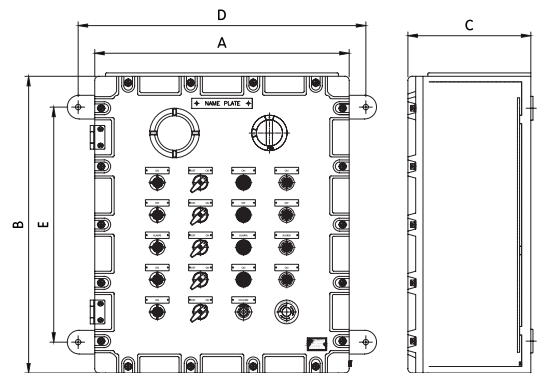
Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp, Buzzer, Meter (Ampere, Volt, RPM), Indicator, Frequency
- **Rated Voltage** :
600V or 500V 250A Below(FCS-3040, FCS-5060)
690V or 500V 250A Below(FCS-4060, FCS-5080, FCS-6070)
- **Tamb** : -20°C ≤ Ta ≤ +40°C

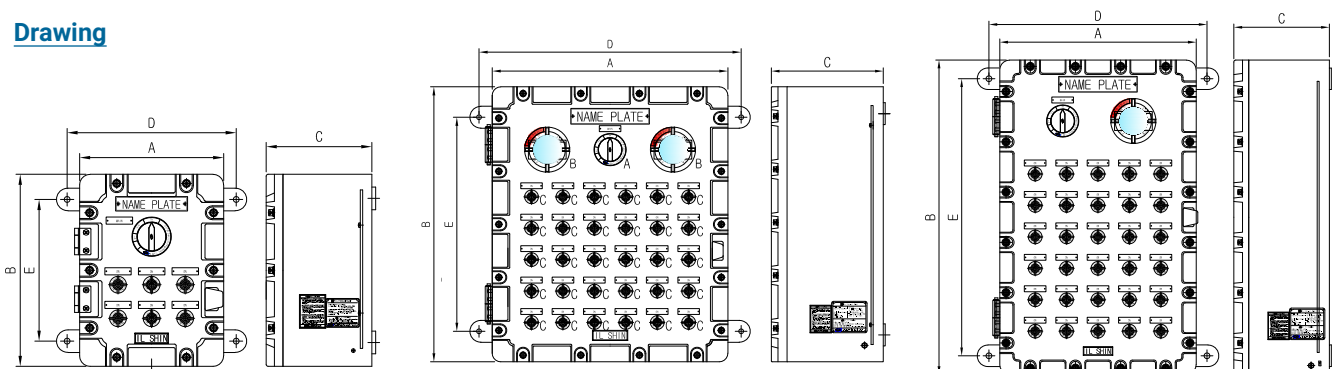
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate	Grade
FCS-3040	300	400	220	352	295	230 × 330	db,tD
FCS-4060	400	600	230	450	495	315 × 505	db,tD
FCS-5060	500	600	250	550	500	390 × 500	db,tD
FCS-5080	500	800	243	555	705	410 × 700	db,tD
FCS-6070	600	700	285	667	545	590 × 490	db,tD
ISCP-DA 7888	780	880	285	570	885	590 × 690	d IIB+H2

FPSC-1020

Explosion-proof Control Station
FPSC Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1-2



Specification

- **Main Body** : Cast Aluminium Alloy
- **Terminal Box** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch
Emergency Switch, Pilot Lamp (Color : Red, Green, Yellow)

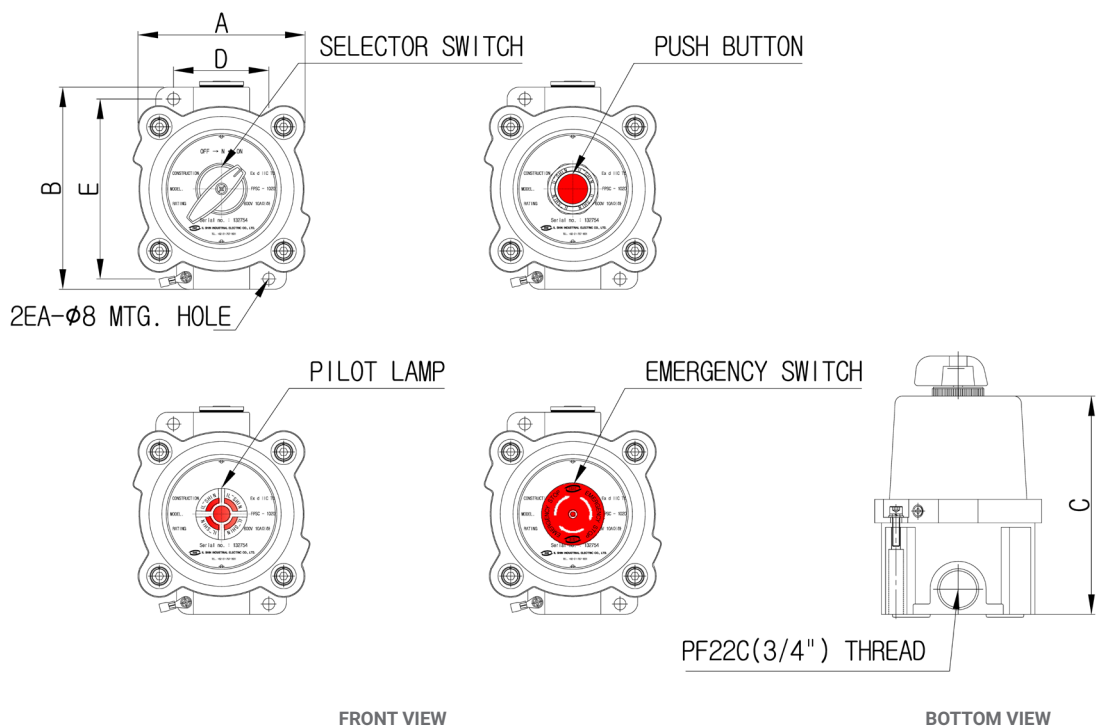
Technical Data

- **Rated Voltage** : AC 600V / DC 250V, 10A 이하
- **Ambient temperature** : $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

Standard Color

- Munsell no. 7.5BG 6/1.5

Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
FPSC-1020	113	137	148	65	122

FTSC

Explosion-proof Flame-proof Tumbler Switch FTSC Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1-2

Ex tD A21 IP65 T80°C for Zone 21-22



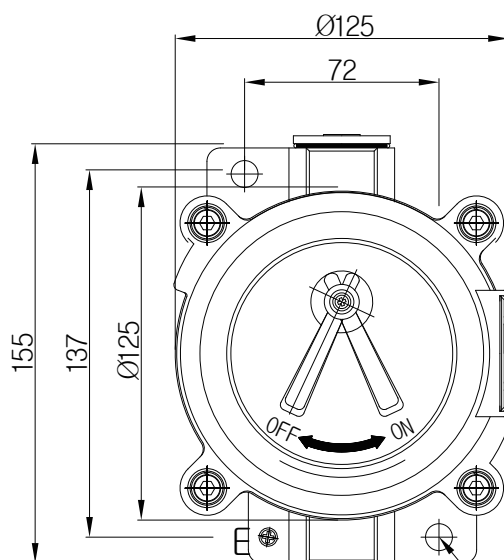
Specification

- **Main Body** : Die-Cast Aluminium Alloy
- **Rated Voltage** : AC250V, 20A 이하
- **Tamb** : -20°C ≤ Ta ≤ +40°C

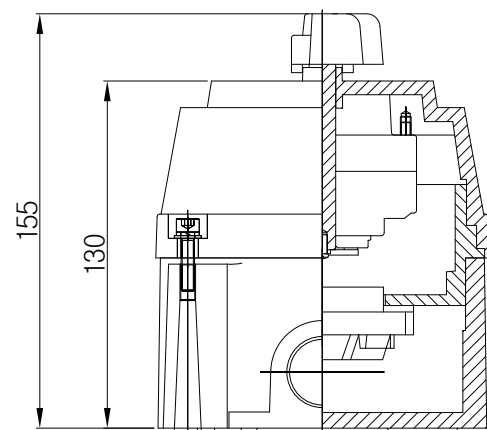
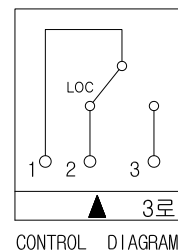
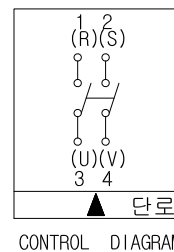
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



FRONT VIEW



BOTTOM VIEW

FECB

Explosion-proof PDP Panel FECB Series for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 Gb IP65 for Zone 1-2
Ex d IIB T6 / Ex tD A21 T80°C IP66



Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Tamb** : d : $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
tD : $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

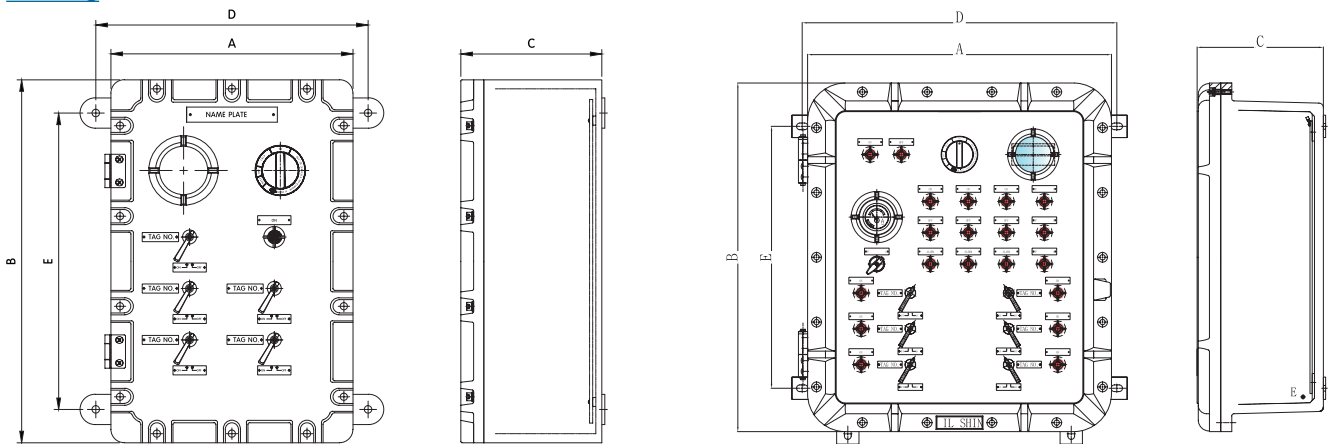
Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

Rated Voltage :

460V,125A Below(FECB-700)
600V,125A Below(FECB-800)
600V,250A Below(FECB-1000)
460V,250A Below(FECB-1100, FECB-1200N)
690V or 500V,250A Below
(FECB-1150, FECB-1250, FECB-4050, FECB-4060, FECB-6070)
460V,100A Below(FECB-1200B)
600V,300A Below(FECB-1300)

Drawing



Ordering Number

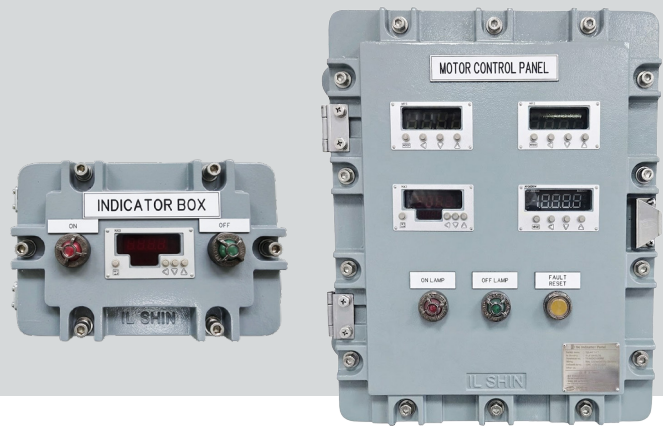
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
FECB-700	220	350	165	260	270	165 × 285
FECB-800	300	400	220	352	295	230 × 330
FECB-1000	400	500	230	455	400	320 × 420
FECB-1100	400	600	230	450	495	330 × 520
FECB-1150	500	600	250	550	500	420 × 520
FECB-1200 B.N	680	780	280	704	586	510 × 610
FECB-1250	500	800	243	555	705	420 × 720
FECB-1300	780	880	280	590	895	590 × 690
FECB-4050	400	500	230	455	400	310 × 410
FECB-4060	400	600	230	450	495	315 × 505
FECB-6070	600	700	285	667	545	490 × 590
ISCB-DA 7888	780	880	285	570	885	590 × 690

FCI

Explosion-proof Indicator Panel FCI series for Hazardous Location

Protection Grade

Ex d II B+H2 T6 IP65 for Zone 1-2



Standard Material

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Unit** : PB, S/S, EM, PL, BZ, Indicator, Frequency
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Rated Voltage :

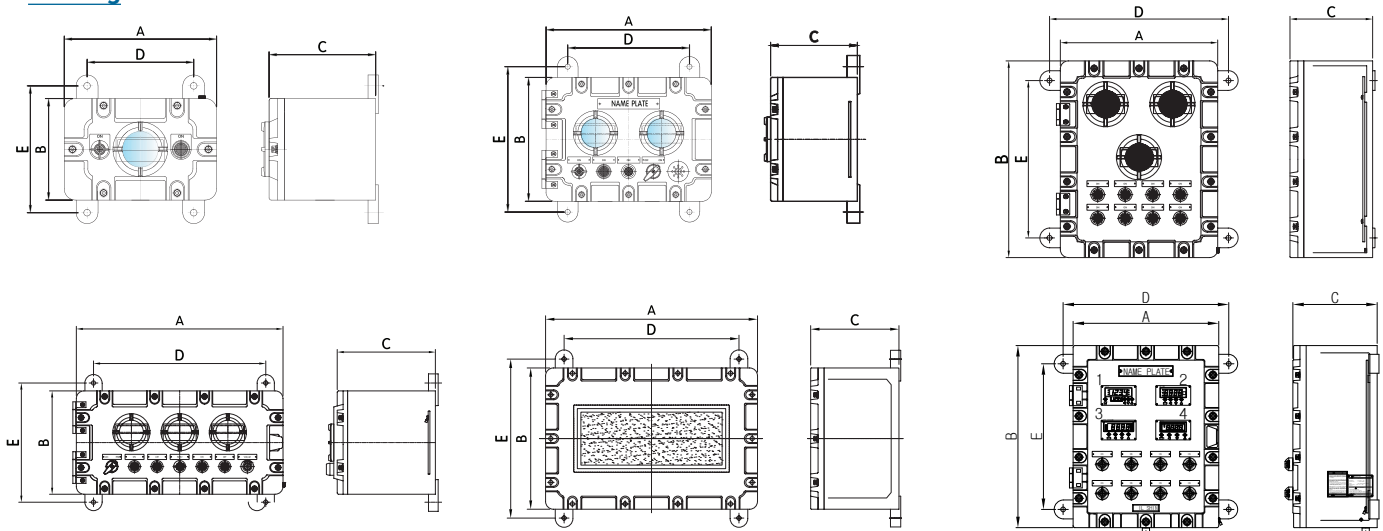
100-240Vac, 12-24Vdc 50/60Hz (FCI-*, FCI-2**, FCI-4****)
 240V Below 50/60Hz (FCI-600), 230Vac, 24Vdc 50/60Hz (FCI-4030D)
 460V, 15A Below (FCI-3020, FCI-4060, FCI-5040, FCI-6030)
 240V, 30A Below (FCI-3040), 250V, 15A Below (FCI-6040)
 230Vac, 24Vdc 50/60Hz (FCI-4030D), 460V, 60A Below (FCI-5040D)

Standard Color

- Munsell no. 7.5BG 6/1.5

If you want other color, contact us please.

Drawing



Dimension(mm)

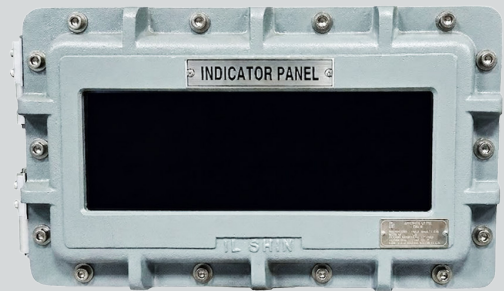
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
FCI-1*	300	200	215	210	240
FCI-2**	400	300	220	295	352
FCI-4****	400	500	230	455	400
FCI-600	220	250	160	260	170
FCI-3020	300	200	215	210	250
FCI-3040	300	400	220	346	300
FCI-4030	400	300	220	295	352
FCI-5040	400	500	230	455	400
FCI-5040D	500	400	230	400	450
FCI-6030	600	300	285	500	346
FCI-6040	600	400	230	495	450

LIU

Flame-proof Indicator Panel LIU BOX for Hazardous Location

Protection Grade

Ex d II B+H2 T6 IP66 for Zone 1-2



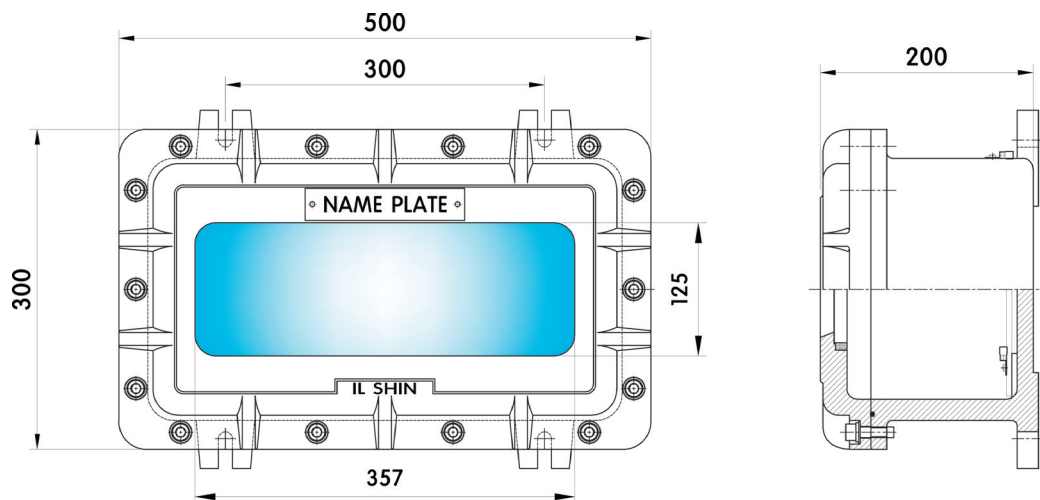
Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Nut** : Stainless Steel
- **Rated Voltage** : AC250V, 15A Below
- **Rated Frequency** : 50/60Hz
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
LIU	500	300	200	300	300	360 × 180

FBC-1000 & FBC-1000N

Explosion-proof Indicator Box

FBC-1000 & FBC-1000N for Hazardous Location

Protection Grade

Ex d II B+H2 T6 for Zone 1-2



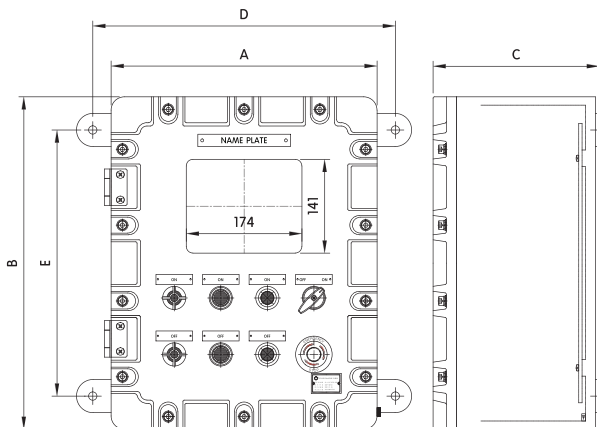
Specification

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Unit** : PB,S/S,EM,PL,BZ Indicator
- **Tamb** : -20°C ≤ Ta ≤ +40°C
- **Rated Voltage** : AC460V, 60A Below

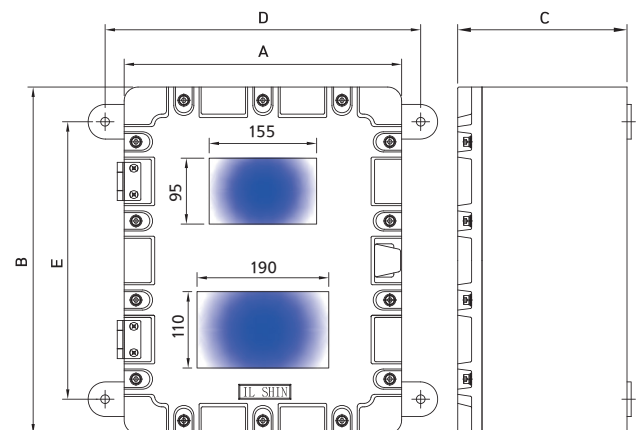
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



FBC-1000



FBC-1000N

Dimension(mm)

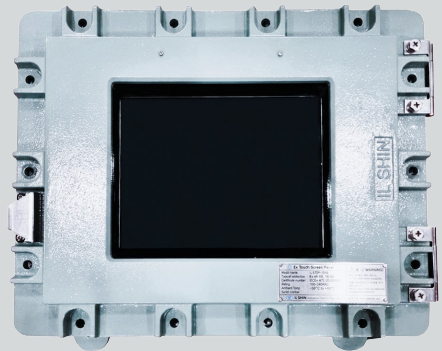
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
FBC-1000	400	500	250	455	400
FBC-1000N	400	500	250	455	400
FMB-5452	540	500	455		

IS-DTSP-5040

Explosion-proof Touch Screen Panel
IS-DTSP-5040 Series for Hazardous Location

Protection Grade

Ex d II B+H2 T6



Specification

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Rated Voltage** : AC90~240V/DC24V
- **Rated Frequency** : 50/60Hz
- **Tamb** : -20°C ≤ Ta ≤ +50°C

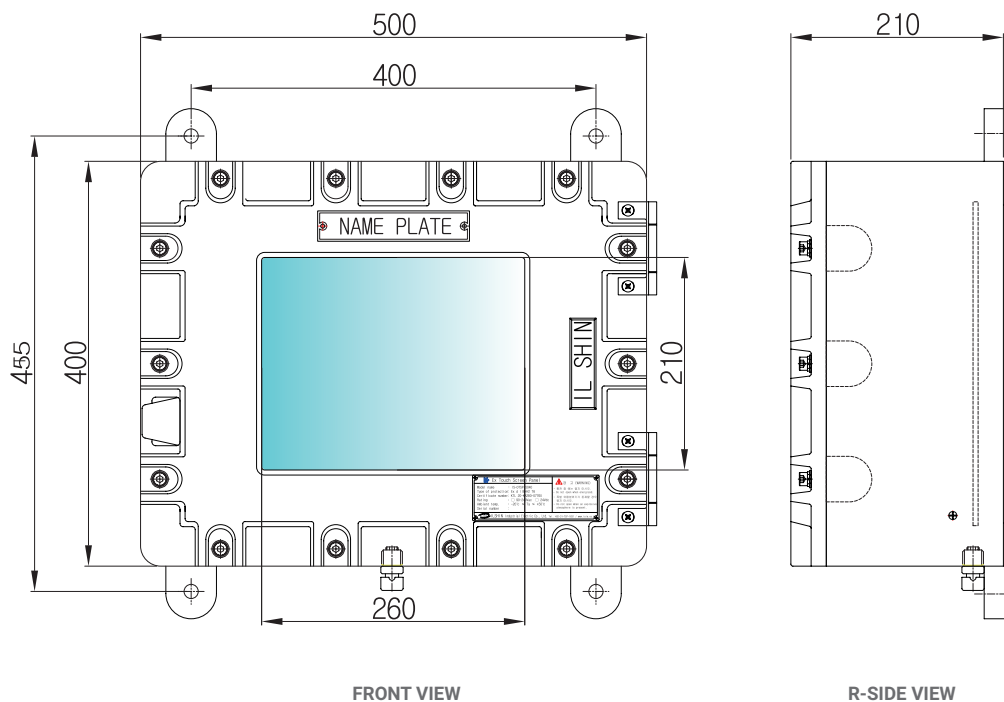
Purpose of product use

- Smart automatic monitoring is performed by detecting organic signals using the display. The industrial site can be managed with the control system.

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



Dimension(mm)

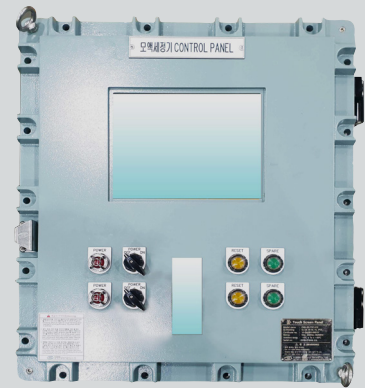
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
IS-DTSP-5040	500	400	210	400	450

CNS-GS-TSP-#12

Explosion-proof Touch Screen Panel
CNS-GS-TSP-#12 Series for Hazardous Location

Protection Grade

Ex nA nR II C T5 IP54 for Zone 2



Specification

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Unit** : PB, S/S, EM, PL, BZ

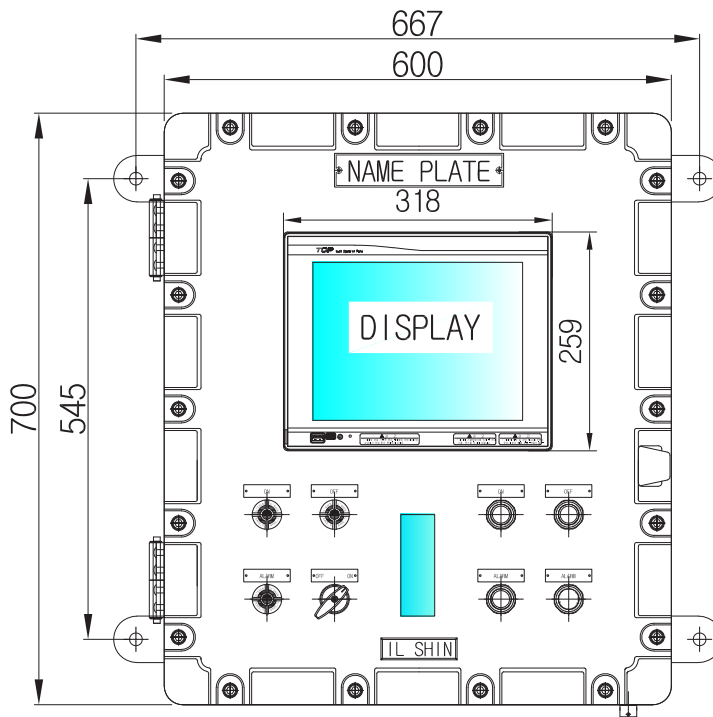
Technical Data

- **Rated Voltage** : AC 100~240V Below
- **Rated Frequency** : 50/60Hz
- **Tamb** : -20°C ≤ Ta ≤ +50°C

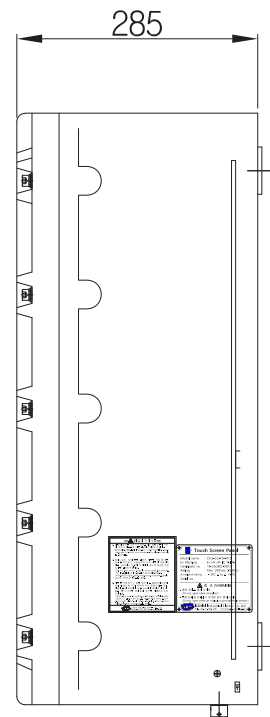
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



FRONT VIEW



R-SIDE VIEW

IS-ETSP-4455-*/CIS-NMKTS-5050

Explosion-proof Touch Screen Panel IS-ETSP-4455-* Series for Hazardous Location

Protection Grade

IS-ETSP-4455-* : Ex db eb nA nC IIC T6/T5 Gc IP54

CIS-NMKTS-5050 : Ex db eb nA nC IIC T5 Gc IP54



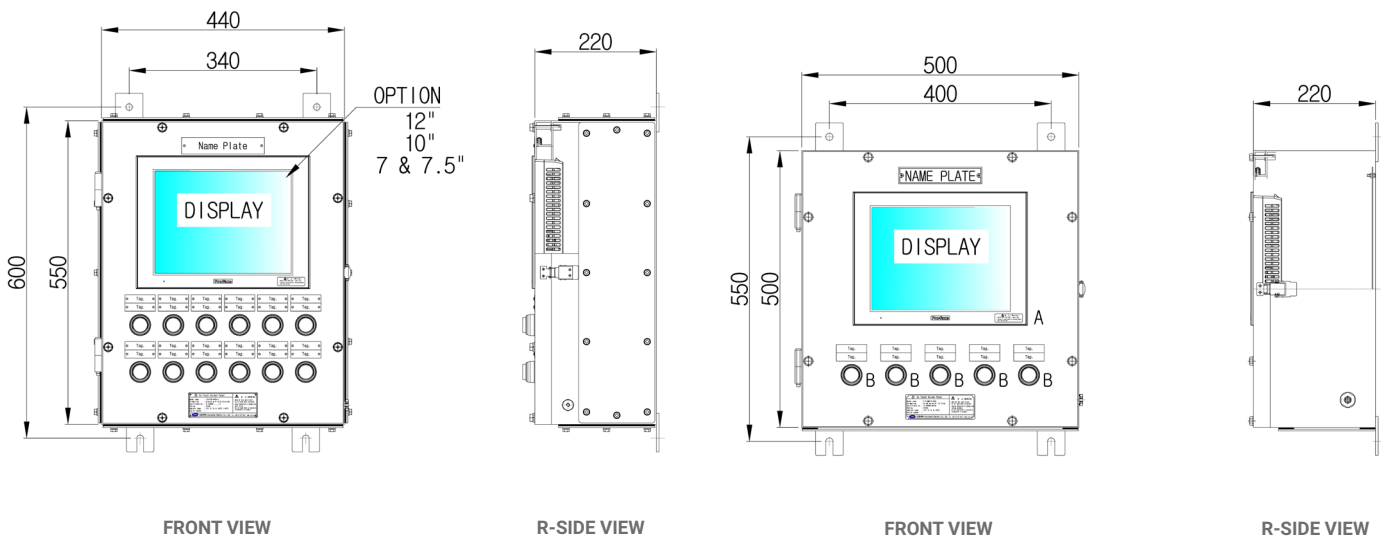
Specification

- **Main Body** : Stainless Steel(SUS304 or SUS316)
- **Cover** : Stainless Steel(SUS304 or SUS316)
- **Bolt & Washer** : Stainless Steel (SUS304)

Technical Data

- **Rated Voltage** : DC24V
- **Rated Wattage** : 17W Below
- **Tamb** : $0^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ (T6 or T5)
 $0^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$ (T5)
- **Control Switch** : ISCOM SERIES

Drawing



IS-ETSP-4455-*

CIS-NMKTS-5050

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
IS-ETSP-4455-*	440	550	220	340	600
CIS-NMKTS-5050	500	500	220	400	550

CIS-TOP**-*

Explosion-proof Touch Screen Panel
CIS-TOP**-* Series for Hazardous Location

Protection Grade

Ex db eb nA IIC T6 Gc IP54



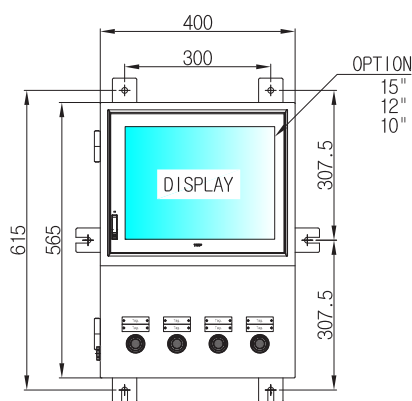
Specification

- **Main Body** : Stainless Steel(SUS304 or SUS316)
- **Cover** : Stainless Steel(SUS304 or SUS316)
- **Bolt & Washer** : Stainless Steel(SUS304)
- **Rated Voltage** : DC 24V
- **Tamb** : $-10^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

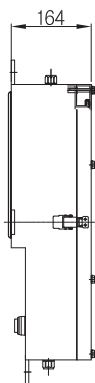
Purpose of product use

- Smart automatic monitoring is performed by detecting organic signals using the display. The industrial site can be managed with the control system.
- **Control Switch** : ISCOM SERIES

Drawing

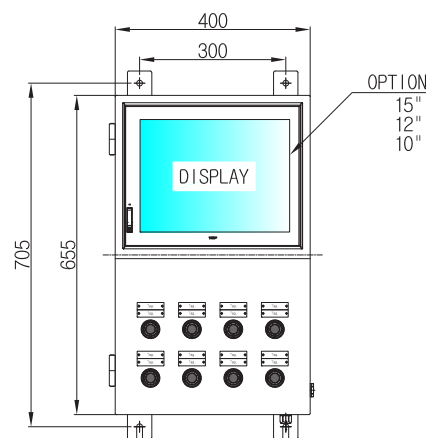


FRONT VIEW

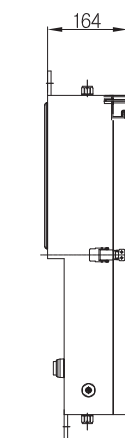


R-SIDE VIEW

CIS-TOP56-*



FRONT VIEW



R-SIDE VIEW

CIS-TOP65-*

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Inch
CIS-TOP56-*	400	565	164	300	615	10"/12"/15"
CIS-TOP65-*	400	655	164	300	705	10"/12"/15"

IS-DB*

Explosion-proof Display box
IS-DB* Series for Hazardous Location

Protection Grade

Ex nA IIC T6 IP44 for Zone 2



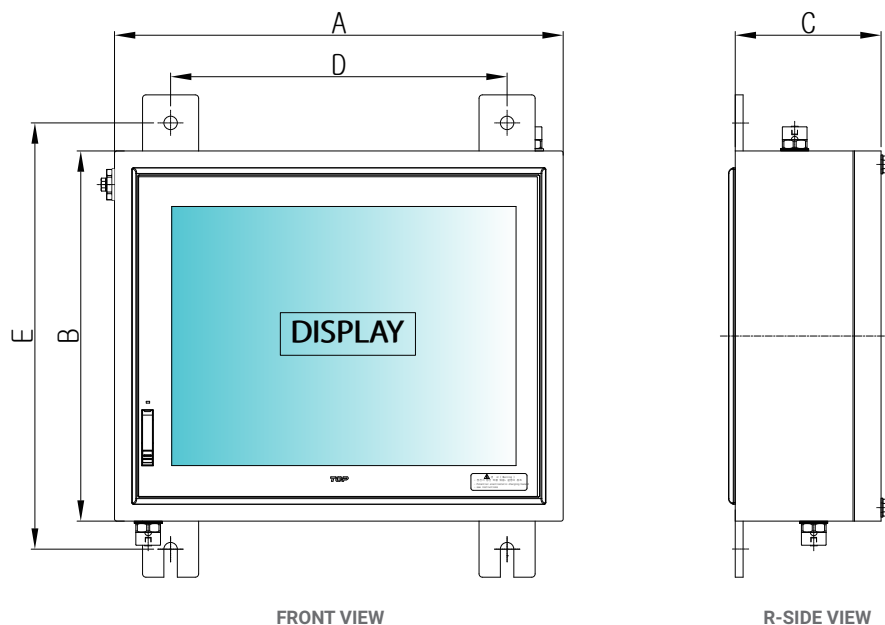
Specification

- **Main Body** : Stainless steel (SUS304 or SUS316)
- **Cover** : Stainless steel (SUS304 or SUS316)
- **Bolt & Washer** : Stainless Steel
- **Rated Voltage** : DC 24V
- **Touch panel** : IS-DB-15 = 15 Inch
IS-DB-12 = 12.1 Inch
- **Tamb** : $-10^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

Purpose of product use

- Smart automatic monitoring is performed by detecting organic signals using the display. The industrial site can be managed with the control system.

Drawing



Dimension(mm)

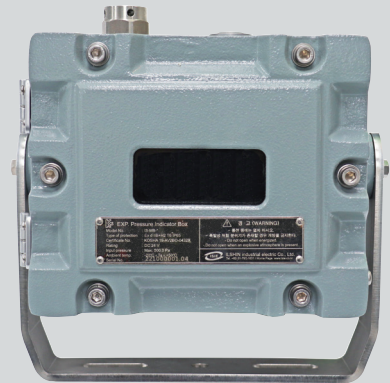
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
IS-DB-12	400	330	130	300	380
IS-DB-15	400	330	130	300	380

IS-MB*, CIS-HYAMB-1820

Explosion-proof Pressure Indicator box IS-MB* Series,
CIS-HYAMB-1820 for Hazardous Location

Protection Grade

Ex d II B+H2 T6 IP65 for Zone 1-2



Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Indicate Glass** : Heat Resistant Hard Glass
- **Bolt & Washer** : Stainless Steel
- **Rated Voltage** : DC 24V
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Purpose of product use

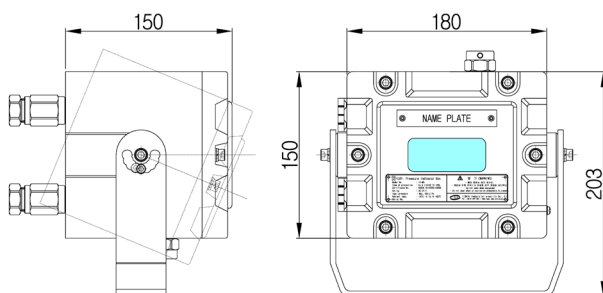
- It is installed inside the gas supply device and measures the differential pressure of the leak pressure and displays it on the screen. It sends a signal to the control unit to prevent accidents due to leakage.

Standard Color

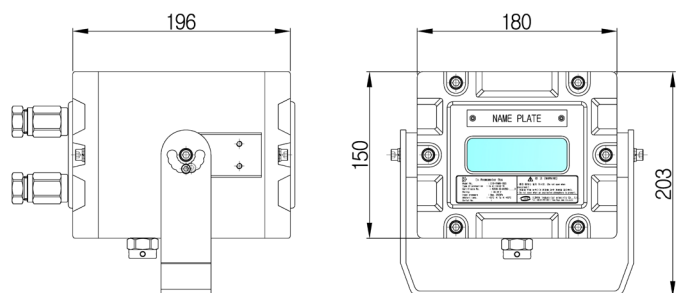
- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.

Drawing

IS-MB*



CIS-HYAMB-1820



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Rating	pressure
IS-MB-PT	180	150	150	DC 24V	0 ~3000Pa
IS-MB-SA	180	150	150	DC 24V	0 ~1000Pa
CIS-HYAMB-1820	180	150	196	DC 24V	0 ~2500Pa

CSLP

Explosion-proof Power Distribution Panel CSLP Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1-2



Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Terminal Box** : Cast Aluminium Alloy
- **Support Channel** : Steel (H.D.G)
- Rotate the bottom of the maintenance work.
- Cover to rotate the structure to the way the threads.

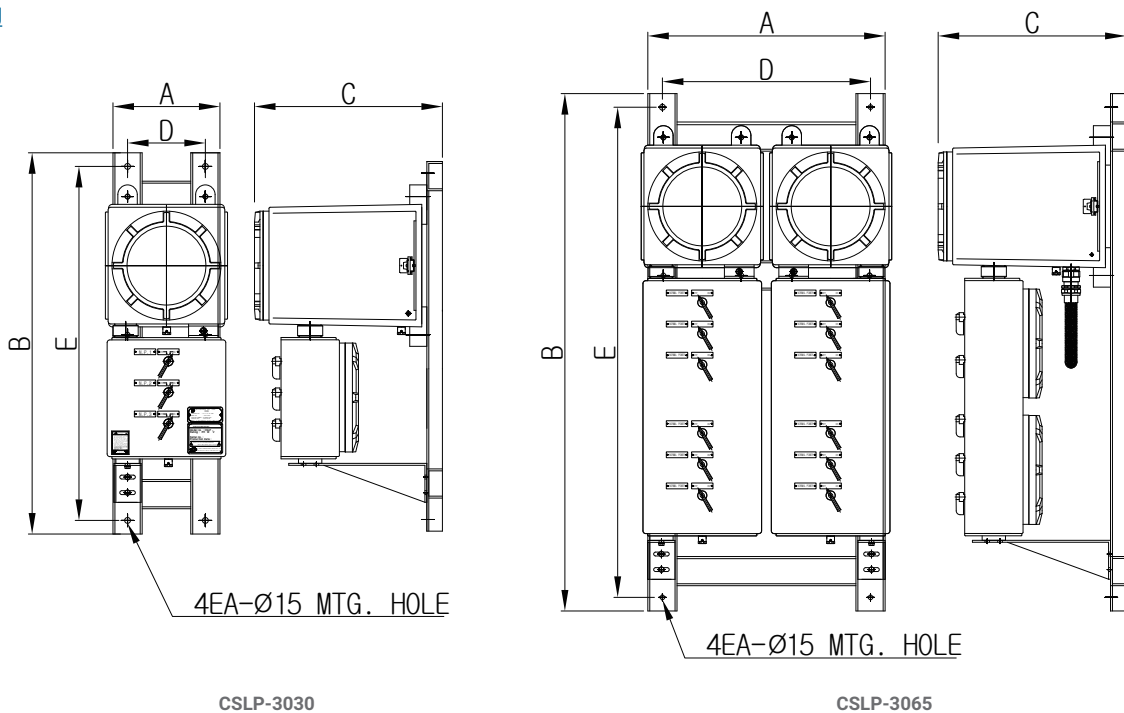
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : CSLP-3030 : AC460V 100A Below
CSLP-3065 : AC600/DC250V 225A Below
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

Drawing



CSLP-3030

CSLP-3065

Dimension(mm)

Model No.	Width(A)	Height(B1+B2)	Depth(C)	Mount(D)	Mount(E)
CSLP - 3030	300	300 + 300	430	200	890
CSLP - 3065	300	300 + 650	430	200	1260

CSTB

Flame-proof Control Panel CSTB Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1-2



Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Support Channel** : Steel (H.D.G)
- Rotate the bottom of the maintenance work.
- Cover to rotate the structure to the way the threads.

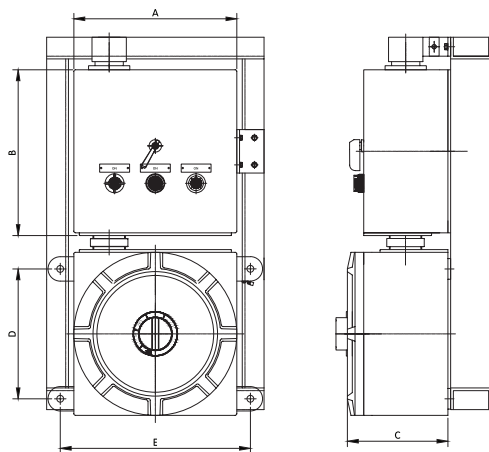
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

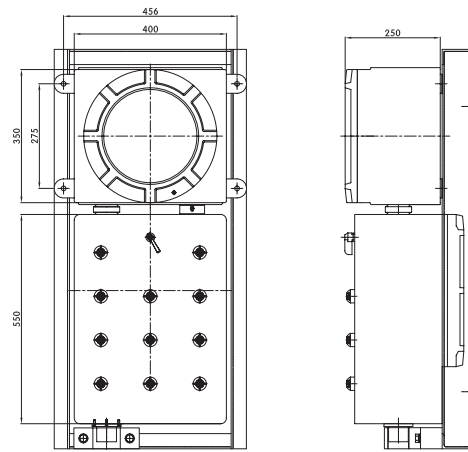
Technical Data

- **Rated Voltage** :
CSTB-3030 : AC460V 125A Below
CSTB-3540 : AC/DC600V 250A Below
CSTB-4055 : AC600V 125A Below
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Drawing



CSTB-3030



CSTB-4055(신규)

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
CSTB-3030	300	300	185	360	456
CSTB-3540	300	350	245	458	275
CSTB-4055	400	550	285	455	450

IS-LCP-6070*

Explosion-proof Control Panel & EHT Panel
IS-LCP-6070* Series for Hazardous Location

Protection Grade

Ex d IIB + H2 T6 IP66 for Zone 1·2



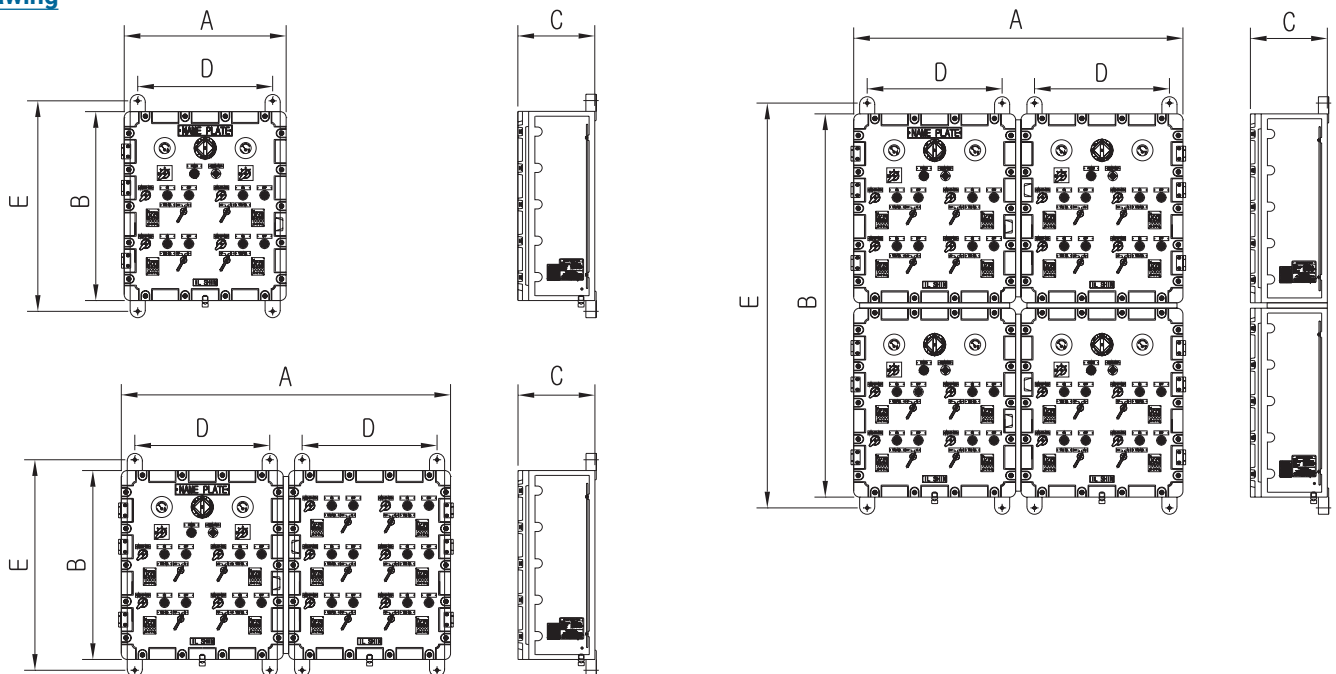
Specification

- **Main Body** : Cast Aluminium Alloy
- **Terminal Box** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp
Buzzer, Meter (Ampere, Volt, RPM), Indicator, Frequency
- **Tamb** : -20°C ≤ Ta ≤ +50°C
- **Rated Voltage** : MAX, 690Vac, BelowVdc, 250A

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



Ordering Number

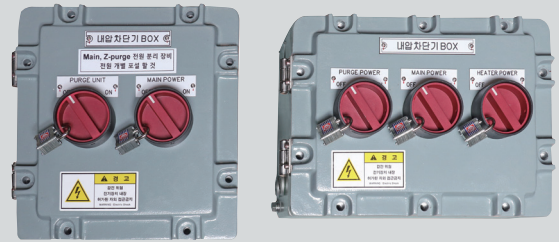
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
IS-LCP-6070	600	700	285	500	780	490 x 590
IS-LCP-6070*2	1200	300	285	500/500	780	490 x 590
IS-LCP-6070*4	1200	1400	285	500/500	780/780	490 x 590
IS-LCP-6070*6	1800	2100	285	500/500/500	780/780	490 x 590

ISBE Series

Explosion-proof Breaker box
ISBE Series for Hazardous Location

Protection Grade

Ex db II B+H2 T6 Gb IP66 for Zone 1·2

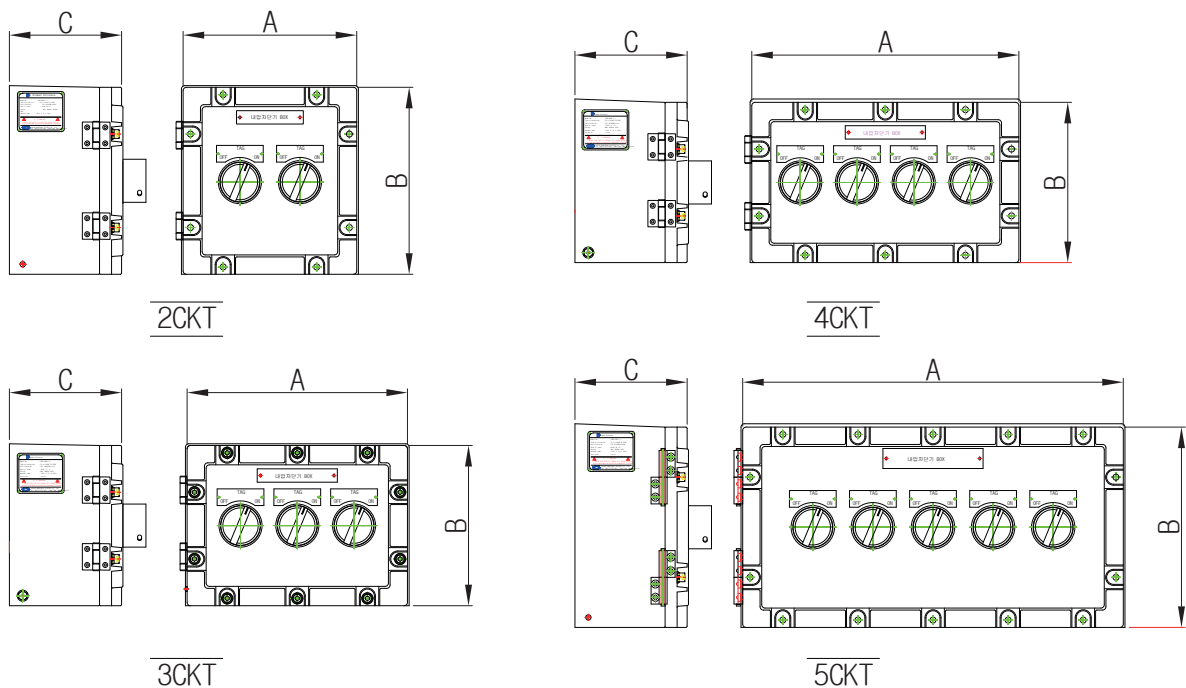


Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Tamb** : $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$

- * Application of protective cover to prevent malfunction of external handle & Locking device.
- * ELB, MCCB can be mixed. Wide range of ratings from 690VAC to 125A Max.
- * Temperature sensor for detecting internal temperature is applicable.(option)
- * A wide and free cable entry is possible by applying a cable entry to the upper, left, right and back sides.
- * Acquired certification to apply the separation distance to the joint surface.

Drawing



* Fixing hole: lower side or back side. (Please contact us for details) *

Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Breaker	Rating	Breaker Q'Ty(Max)
ISBE-2826	260	280	170	ELB, MCCB_2P3P	690VAC,125A	2 CKT
ISBE-3324	330	240	170	ELB, MCCB_2P3P	690VAC,125A	3 CKT
ISBE-3328	330	280	170	ELB, MCCB_2P3P	690VAC,125A	3 CKT
ISBE-4024	400	240	170	ELB, MCCB_2P3P	690VAC,125A	4 CKT
ISBE-4028	400	280	170	ELB, MCCB_2P3P	690VAC,125A	4 CKT
ISBE-5730	570	300	170	ELB, MCCB_2P3P	690VAC,125A	5 CKT

FCS-400T*

Explosion-proof Control Station
FCS-400T* Series for Hazardous Location

Protection Grade

IECEx : Ex db II B+H2 T6 Gb IP66 for Zone 1-2

ATEX : Ex II 2 G Ex db II B+H2 T6 Gb IP66



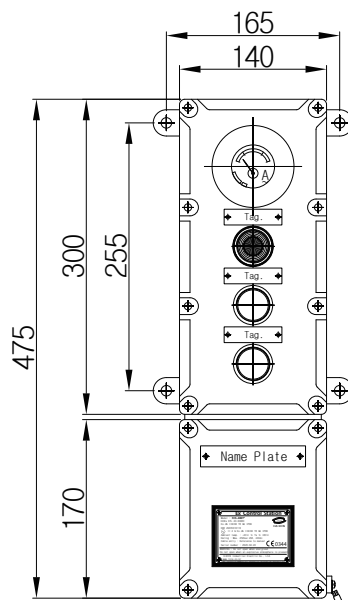
Standard Material

- **Main Body** : Cast Aluminium Alloy (AC4C)
- **Terminal Box** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Selector Switch
Emergency Switch, Pilot Lamp (Color : Red, Green, Yellow)
Meter (Ampere, Volt, RPM)

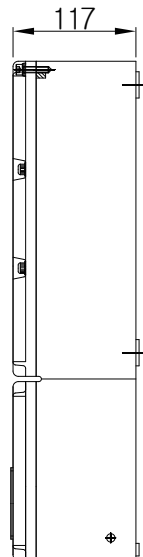
Technical Data

- **Rated Voltage** : AC 250V/20A/DC24V. Max
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

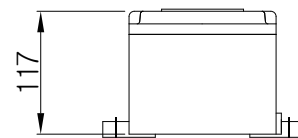
Drawing



FRONT VIEW



R-SIDE VIEW



BOTTOM VIEW

Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Certificate
FCS-400T	140	475	117	165	255	db

IS*-*

Explosion-Proof Control Panel & PDP Panel IS*-* Series for Hazardous Location

Protection Grade

IECEX : Ex db II B+H₂ T6 Gb IP66 for Zone 1-2

ATEX : Ex II 2 G Ex db II B+H₂ T6 Gb IP66



Standard Material

- **Main Body** : Cast Aluminium Alloy (AC4C)
- **Bolt & Washer** : Stainless Steel

Specification

- **Cable Entry** : Order
- **Thread** : NPT, Metric
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp

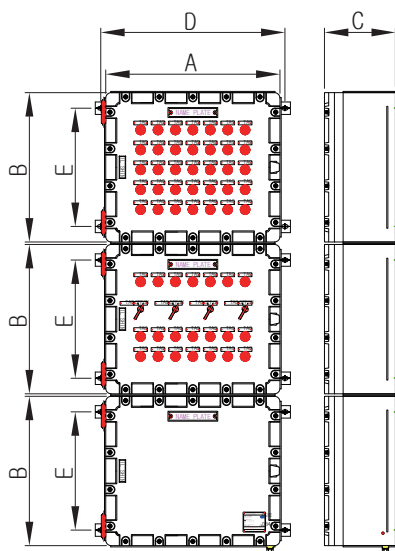
Technical Data

- **Tamb** :
ISA, ISB, ISC (Single) : $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
ISA, ISB, ISC (Double & Triple) : $-20^{\circ}\text{C} \leq T_a \leq +52^{\circ}\text{C}$
- **Rated Voltage** :
ISA, ISB : AC440Vmax, 100Amax
ISC : AC/DC600Vmax, 300Amax
- **Rated frequency** :
ISA, ISB : 50/60Hz

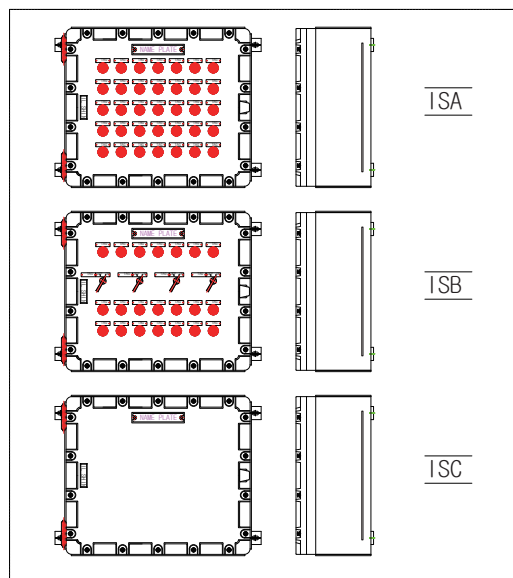
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



IS*(A+B+C)



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
ISA (Control Panel)	700	600	285	740	475	590 × 490
ISB (Power Distribution Panel)	700	600	285	740	475	590 × 490
ISC (Junction Box)	700	600	285	740	475	590 × 490

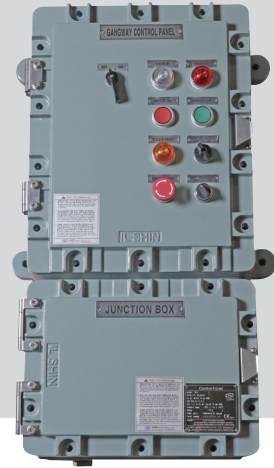
ISC*

Explosion-Proof Junction Box & Control Panel ISC* Series for Hazardous Location

Protection Grade

IECEX : Ex db II B+H₂ T6 Gb IP66 for Zone 1-2

ATEX : Ex II 2 G Ex db II B+H₂ T6 Gb IP66



Standard Material

- **Main Body** : Cast Aluminium Alloy (AC4A)
- **Bolt & Washer** : Stainless Steel

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

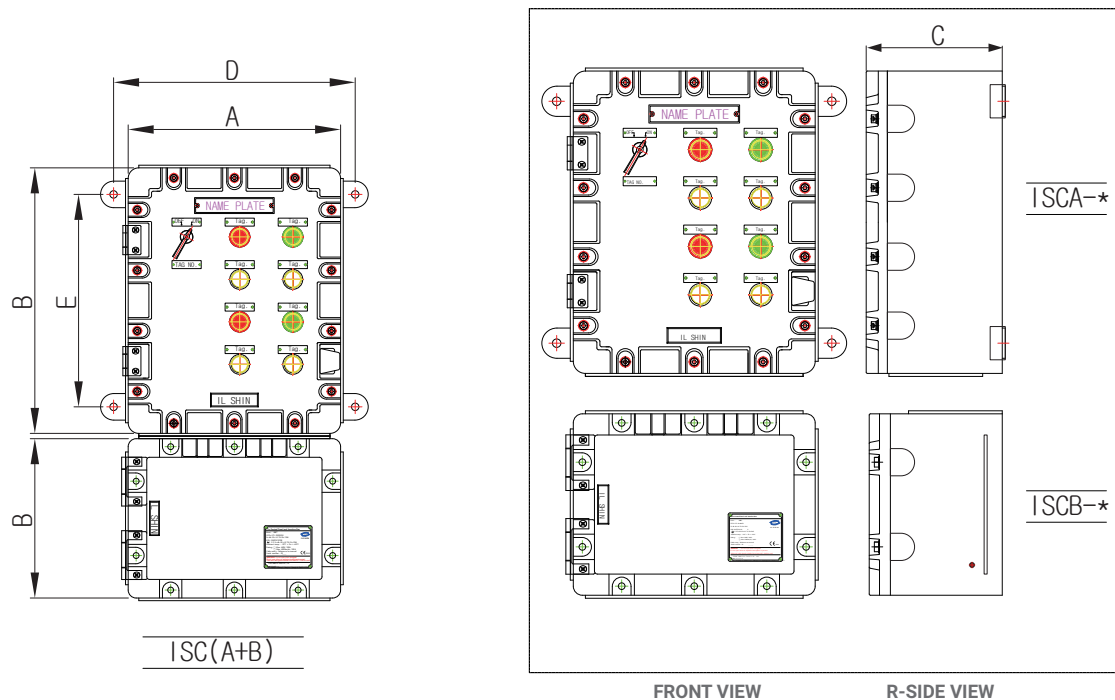
Specification

- **Cable Entry** : Order
- **Thread** : NPT, Metric
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp

Technical Data

- **Rating** :
Max. 440Vac, 100A (Control panel)
Max. 600Vac/dc, 100A (Junction Box)
- **Installation Method** :
Wall mount / Floor / Support
- **Installation location** :
Indoor or Outdoor
- **Tamb** : -20°C ≤ Ta ≤ +60°C

Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
ISCA (Control Panel)	400 / 400	300 / 500	220 / 225	295 / 455	352 / 400	330 × 230 / 310×410
ISCB (Junction Box)	400 / 400	300 / 500	220 / 225	295 / 455	352 / 400	330 × 230 / 310×410
ISCAB	400	500+300	225	455	400	330 × 230 / 310×410

IS*-DA*-* Series

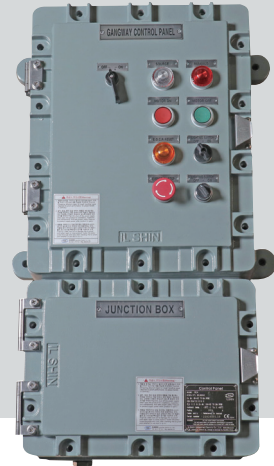
Explosion-Proof Junction Box & Control Panel

IS*-DA*-* Series for Hazardous Location

Protection Grade

IECEx : Ex db II B+H₂ T6 Gb IP66 for Zone 1-2

IECEx : Ex tb III C T80°C Db IP66 for Zone 1-2



Standard Material

- **Main Body** : Cast Aluminium Alloy (AC4A)
- **Bolt & Washer** : Stainless Steel

Specification

- **Cable Entry** : Order
- **Thread** : NPT, Metric
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp Breaker Operation Handle

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rating** :
IS(CP/CB)-DA(4050/5040)-*
: Max. AC 440Vac 100A
IS(CP/CB)-DA(3040/4030)-*
: Max. AC/DC 600Vac 100A
ISJB-DA*-* : Max. AC 600Vac 100A
ISJB-DA*-* : Max. AC 440Vac 100A
AC/DC 600Vac 100A
- **Installation Method** :
Wall mount / Floor / Support
- **Installation location** :
Indoor or Outdoor
- **Tamb** : -20°C ≤ Ta ≤ +60°C

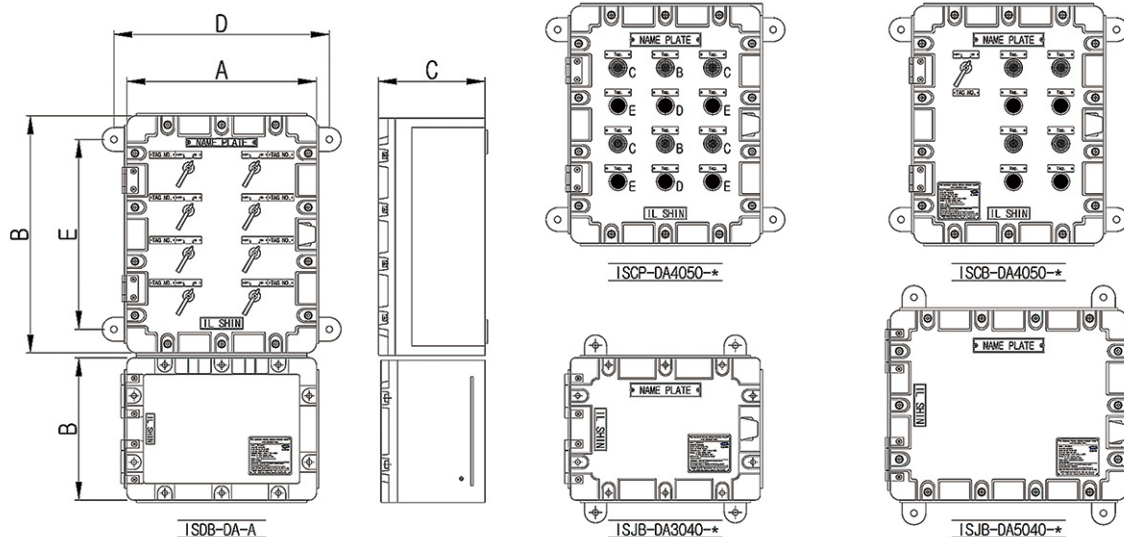
Additional Information

Model Configuration :

IS(a)-DA(b)

(a) Typers	CP	Control Panel
	CB	Circuit Breaker Panel
	JB	Junction Box
	DB	Double Combination
(b) Typers	4050	(W) 400 × (H) 500
	5040	(W) 500 × (H) 400
	3040	(W) 300 × (H) 400
	4030	(W) 400 × (H) 300

Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
IS(a)-DA4050	400	500	225	455	400	310×410
IS(a)-DA5040	500	400	225	400	455	410×310
IS(a)-DA3040	300	400	220	352	295	230 × 330
IS(a)-DA4030	400	300	220	295	352	330 × 230

ISF*

Explosion-Proof Control Panel & PDP Panel ISF* Series for Hazardous Location

Protection Grade

IECEX : Ex db II B+H₂ T6 Gb IP66 for Zone 1-2

ATEX :  II 2 G Ex db II B+H₂ T6 Gb IP66



Standard Material

- **Main Body** : Cast Aluminium Alloy(AC4C)
- **Bolt & Washer** : Stainless Steel

Specification

- **Cable Entry** : Order
- **Thread** : NPT, Metric
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp

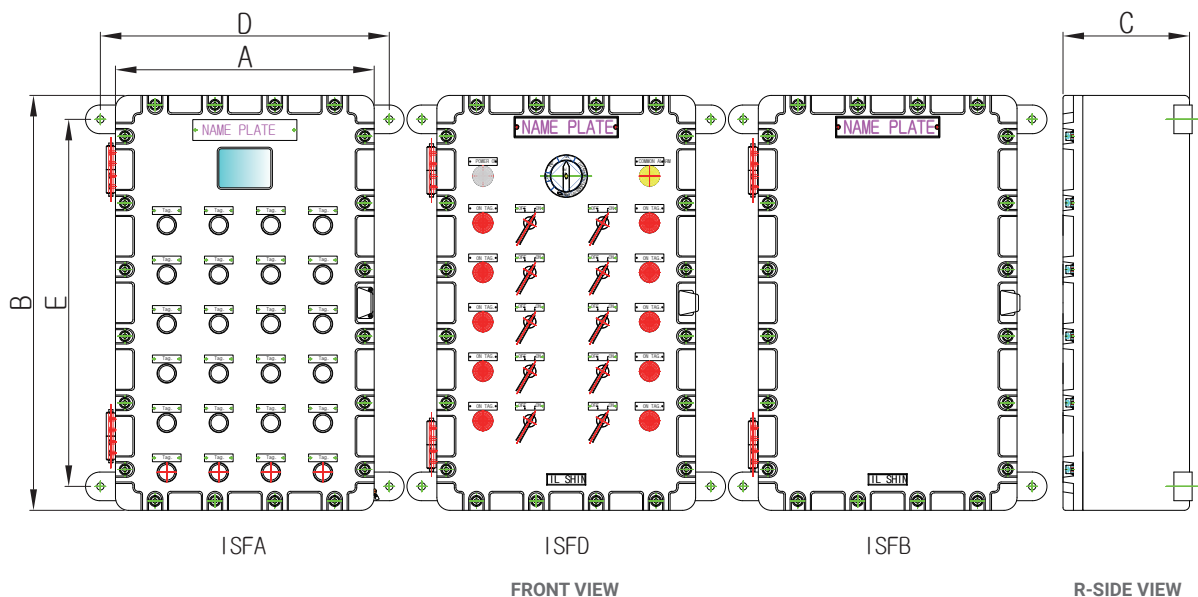
Technical Data

- **Rating** :
Max. 440Vac, 100A (Control panel)
Max. 600V, 230A (Power distribution panel)
Max. 600Vac/dc, 100A (Junction Box)
- **Installation Method** : Wall mount / Floor / Support
- **Installation location** : Indoor or Outdoor
- **Tamb** : ISFA, ISFB : -20°C ≤ Ta ≤ +55°C
ISFD : -20°C ≤ Ta ≤ +40°C (T6)/+55°C(T5)

Drawing

Standard Color

- Munsell no. 7.5BG 6/1.5
If you want other color, contact us please.



Ordering Number

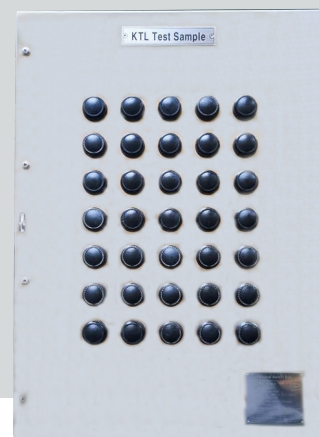
Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
ISFA (Control Panel)	500	800	243	555	705	410×700
ISFB (Junction Box)	500 / 800	800 / 500	243	800 / 555	555 / 705	410×700
ISFD (Power Distribution Panel)	500	800	243	555	705	410×700

IS-S*-5070

Explosion-Proof Local switch box
and Transmitter box for Hazardous Location

Protection Grade

IECEx : Ex tb [ia Da] III C T80° Db IP66



Standard Material

- **Main Body** : Stainless Steel
- **Bolt & Washer** : Stainless Steel

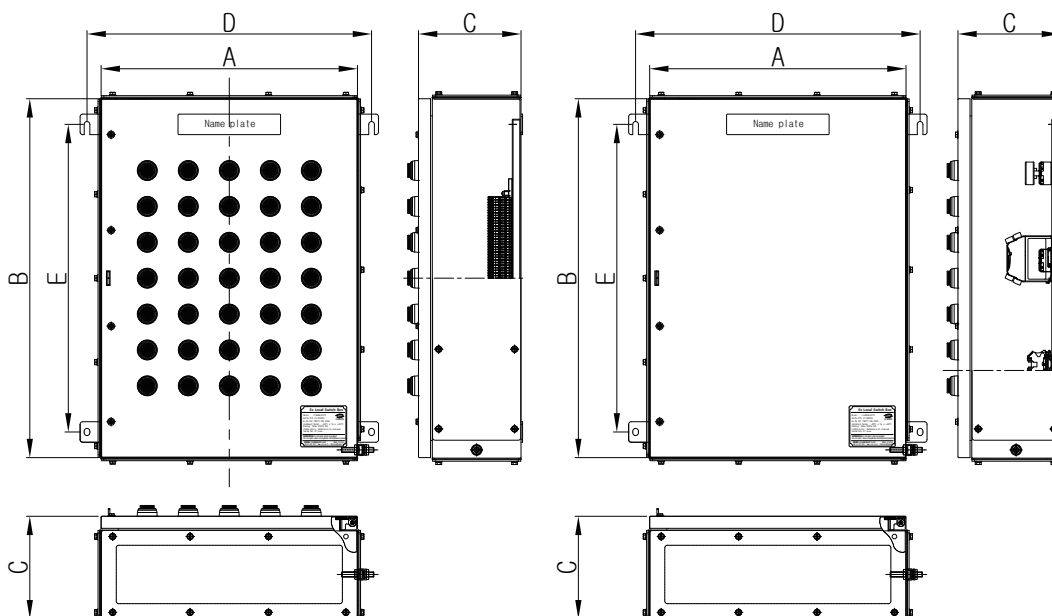
Specification

- **Cable Entry** : Order or Gland Plate
- **Thread** : NPT, Metric
- **Unit** : Push Button, Selector Switch, Emergency Switch, Pilot Lamp

Technical Data

- **Ex Local Switch Box_IS-SLSB-5070** :
IECEx : Ex tb III C T80° Db IP66
Rated : IS-SLSB-5070 : Max. 690V, 5A
Installation method : Wall mounting type
- **Ex Transmitter Box_IS-STB-5070** :
IECEx : Ex tb [ia Da] III C T80° IP66
Rated : IS-STB-5070 : Max. DC28V
Installation method : Wall mounting type
- **Tamb** : IS-SLSB-5070 : $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
IS-STB-5070 : $-20^{\circ}\text{C} \leq T_a \leq +56^{\circ}\text{C}$

Drawing



Ordering Number

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
IS-SLSB-5070	500	700	200	555	600	420×620
IS-STB-5070	500	700	200	555	600	420×620

ISCB-EP*

Explosion-proof Breaker Panel ISCB-EP* Series for Hazardous Location

Protection Grade

Ex de IIC T3 IP66

Ex tD A21 IP66 T95°C



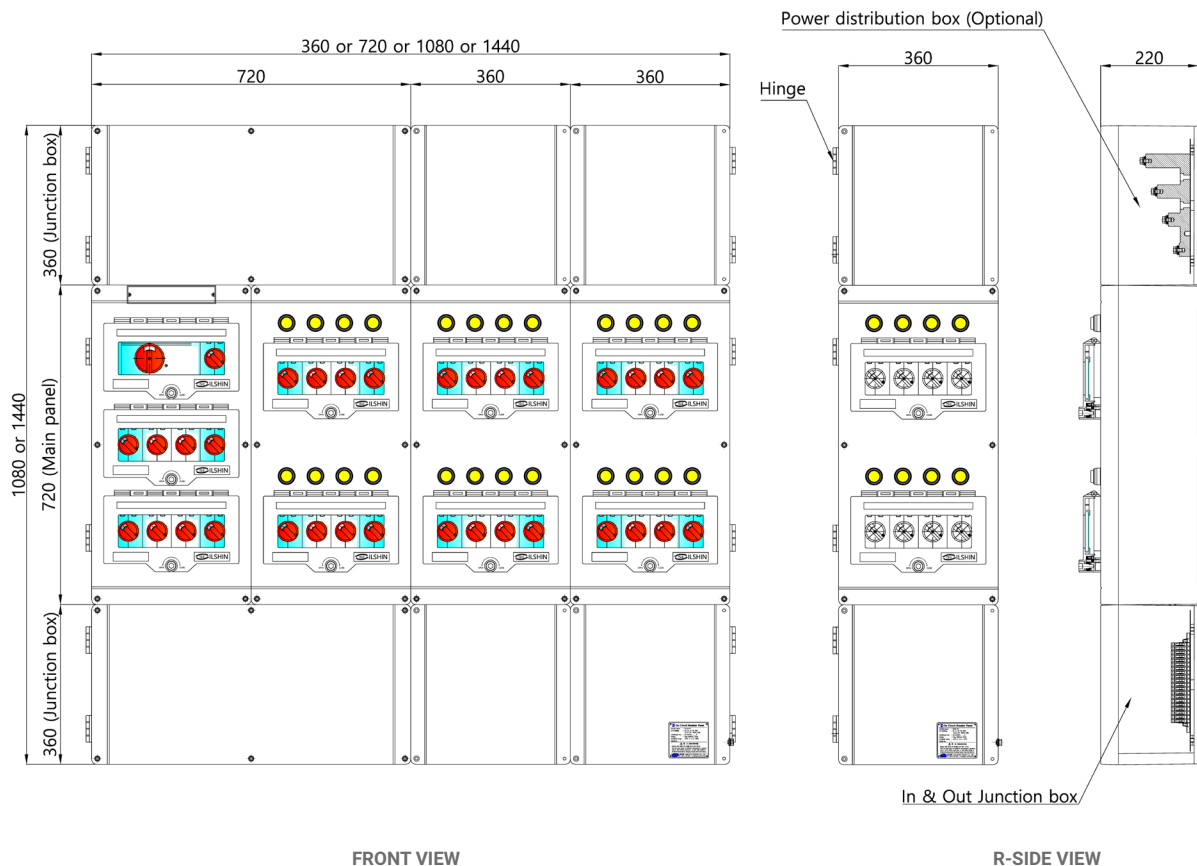
Specification

- **Main Body** : Engineering Plastic
- **Rated Voltage** : AC 690V/ DC 500V Max
- **Rated Current** : 250A Max
- **Branch circuit** : 8CKT, 16CKT, 20CKT & more
- **Tamb** : -20°C ≤ Ta ≤ +40°C
- **Control Switch** : ISCOM SERIES

Standard Color

- If you want other color, contact us please.
- Finish Color : 7.58G 6/1.5

Drawing



EPCP

Explosion-proof Breaker Panel EPCP Series for Hazardous Location

Protection Grade

Ex de II B+H2 T6 IP66 for Zone 1·2



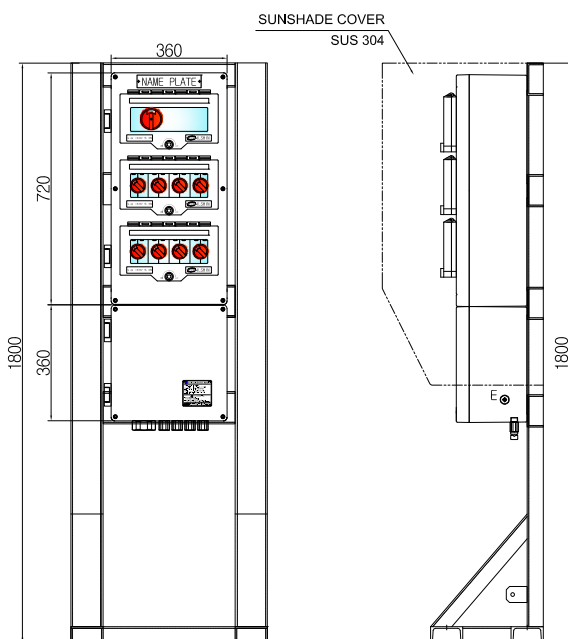
Specification

- **Main Body** : Engineering Plastic
- **Rated Voltage** : AC 600V Max
- **Rated Current** : 250A Max
- **Branch circuit** : 8CKT, 16CKT, 20CKT & more
- **Tamb** : -20°C ≤ Ta ≤ +40°C
- **Control Switch** : ISCOM SERIES

Standard Color

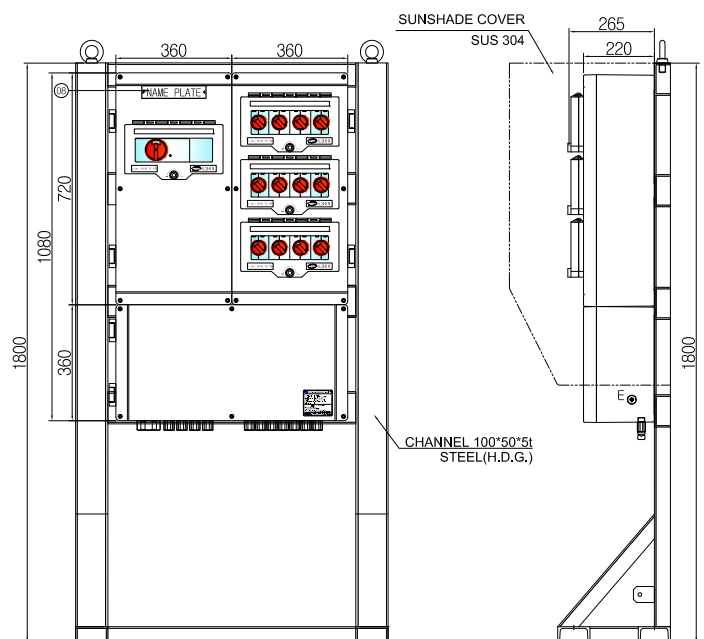
- If you want other color, contact us please.
- Finish Color : 7.58G 6/1.5

Drawing



FRONT VIEW

R-SIDE VIEW



FRONT VIEW

R-SIDE VIEW

WPCP

Weather-proof Breaker Panel
WPCP Series for General Location

Protection Grade
IP66



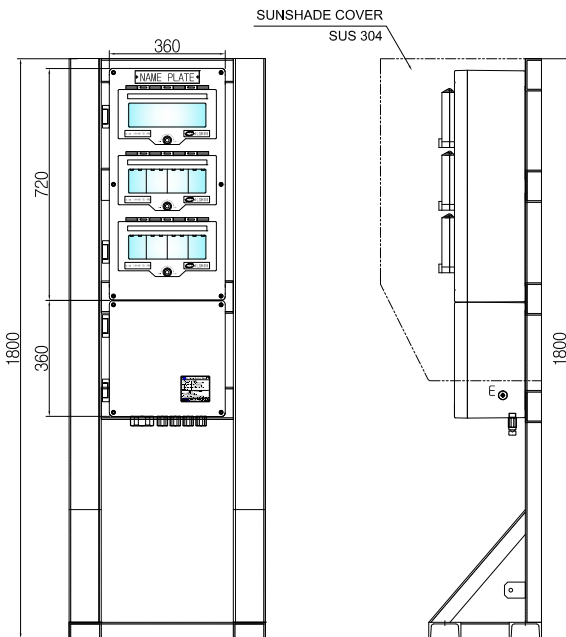
Specification

- **Main Body** : Engineering Plastic
- **Rated Voltage** : AC 600V Max
- **Rated Current** : 250A MAX
- **Branch circuit** : 8CKT, 16CKT, 20CKT & more

Standard Color

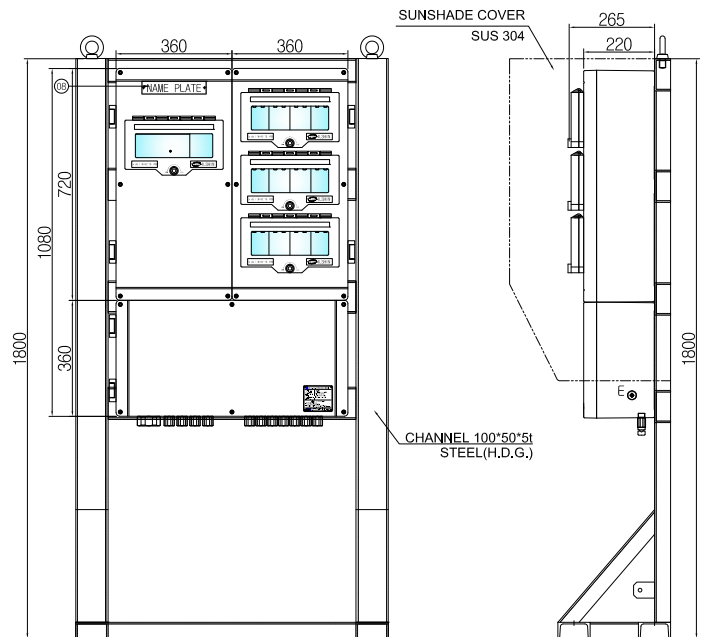
- If you want other color, contact us please.
- Finish Color : 7.58G 6/1.5

Drawing



FRONT VIEW

R-SIDE VIEW



FRONT VIEW

R-SIDE VIEW

CIS-**

Pz-Purge Local Control Panel
CIS-** Series for Hazardous Location

Protection Grade

Ex mb nA nC pzc IIC T6 Gc



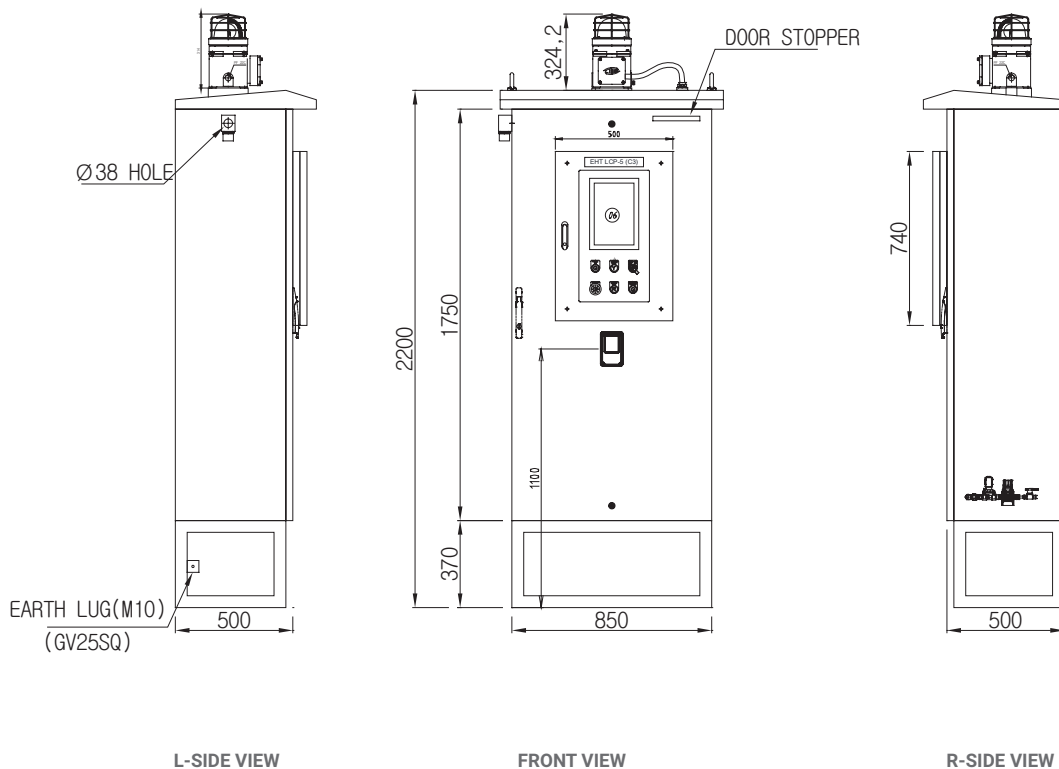
Standard Material

- **Main Body** : Stainless Steel
- **Bolt & Washer** : Stainless Steel

Specification

- **Rated Voltage** : AC380/220V
- **Protective Gas** : N2 or Atmosphere
- **Protective gas supply pressure**: 0.1 ~0.93hPa
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Drawing



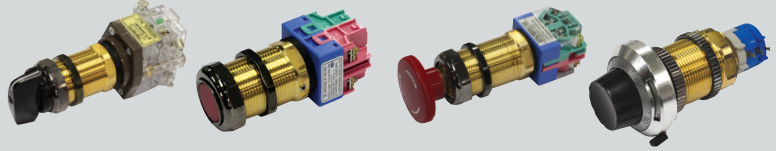
Component IS Series

Explosion-proof Unit Series

Protection Grade

Ex d II C for Zone 1-2

Tamb : -20°C ≤ Ta ≤ +50°C



Selector Switch

- Model : ISCAM
- Rated Voltage : AC 220V BELOW
- Rated Current : 6A BELOW

ISCAM			
IS	CAM-	()	
IL SHIN	SELECTOR SWITCH (CAM TYPE)	(2103)	2단 1a 1b
		(2104)	2단 2a
		(3210)	3단 3a
		3103-AR	RETURN TO CENTER

Push Button Switch

- Model : ISPB
- Rated Voltage : AC 220V BELOW
- Rated Current : 6A BELOW

ISPB-11R				
IS	PB-		() ()	
IL SHIN	PUSH BUTTON	1a 1b	(1) (1)	R-RED
		2a 2b	(2) (2)	G-GREEN
		2a	(2) (0)	Y-YELLOW
		2b	(0) (2)	W-WHITE
				B-BLUE
				B-BLACK

Emergency Switch

- Model : ISEM
- Rated Voltage : AC 220V BELOW
- Rated Current : 6A BELOW

ISEM-PT-11			
ISEM	PT-		() ()
IL SHIN EMERGENCY SWITCH	PUSH LOCK TURN RESET	1a 1b	(1) (1)
		2a 2b	(2) (2)
		2a	(2) (0)
		2b	

Volume

- Model : ISVOL
- Rated Voltage : AC 220V BELOW
- Rated Wattage : 2W BELOW

ISVOL-1-1		
ISVOL-	()	()
IL SHIN VOLUME SWITCH	1kΩ(1) 10kΩ(10)	1TURN(1) 10TURN(10)

Component IS Series

Explosion-proof Unit Series

Protection Grade

Ex d IIC for Zone 1-2

Tamb : -20°C ≤ Ta ≤ +50°C



Pilot Lamp

- **Model** : ISPL
- **Rated Voltage** : AC 220V BELOW/
DC24V
- **Rated Wattage** : 1W BELOW

ISPL-D 24W

IS	PL-	()	()	()
IL SHIN	PILOT LAMP	DC-(D)	24-DC24V	R-RED
		AC-(A)	11-110V	G-GREEN
			22-220V	Y-YELLOW
				W-WHITE
				O-ORANGE
				B-BLUE

Push Button Lamp Switch

- **Model** : ISPBL
- **Rated Voltage** : AC 220V BELOW/
DC24V
- **Rated Current** : 6A BELOW
- **Rated Wattage** : 1W BELOW

ISPBL-D 24R

IS	PBL-	()	()	()
IL SHIN	PUSH BUTTON ILLUMINATED	DC-(D)	24-DC24V	R-RED
		AC-(A)	11-110V	G-GREEN
			22-220V	Y-YELLOW
				W-WHITE
				O-ORANGE
				B-BLUE

Buzzer

- **Model** : ISBZ
- **Rated Voltage** : AC 220V BELOW/
DC24V
- **Rated Current** : 8A BELOW
- **Color** : SILVER
- 90db/1M

ISBZ-A 22

IS	BZ-	()	()
IL SHIN	BUZZER	DC-(D)	24-DC24V
		AC-(A)	11-110V
			22-220V

Component ISCOM Series

Explosion-proof Unit Series

Actuating : Ex eb II C Gb IP66 / Ex tb III C Db IP66

Module(ISC0M-MD*) : Ex db eb II C Gb IP66

Tamb : Actuating : $-40^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$

Module : $-55^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$



Ex Emergency Switch

- **Model** : ISCom-EM(a,b)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Current** : 16A

Type Designation(*-Option : Protection Cover)

- **a-Contact Type(0~7)** : 1a1b / 2a / 2b / 2a2b / 4a / 4b / 1a3b / 3a1b
- **b-Module Type(6~9)** : Panel / Rail / Lead Cable / Module Type A

Operating Handle Type

- Push Locked (Turn to Release) / (Pull to Release)
- Push to next Auto Release)
- Push Locked (Use Key to Release)



Ex Pilot Lamp

- **Model** : ISCom-PL(a,b,c)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Current** : 9mA Max

Type Designation

- **a - Rating** : 1 - 24 Vdc
2 - 220 to 380Vac
3 - 110Vac/dc
4 - 220Vac/dc
- **b-Lamp Color** : Red / Green / Yellow / Blue / White / Black
- **c-Module Type(6~8)** : Panel / Rail / Lead Cable



Ex Push Button

- **Model** : ISCom-PB(a,b,c)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Current** : 16A

Type Designation

- **a-Contact Type(0~7)** : 1a1b / 2a / 2b / 2a2b / 4a / 4b / 1a3b / 3a1b
- **b-Button Type(1~9)** : Push Button / Double Button / Mushroom Head
Twist-to-Release / Mushroom Head Push Button / Mushroom Head Pull
-to-Release / Mushroom Head key release / key Locking Release Push
Button / key Rotary Selector Head / Rectangle
- **c-Module Type(6~8)** : Panel / Rail / Lead Cable
- **x-Lamp Color** : Red / Green / Yellow / Blue / White / Black



Ex Illuminated Push Button

- **Model** : ISCom-IPB(a,b,c)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Wattage** : 9mA Max

Type Designation(*-Option : Protection Cover)

- **b-Lamp Color** : Red / Green / Yellow / Blue / White / Black
- **a-Contact Type(3~4)** : 1b / 1a
- **c-Module Type(6~8)** : Panel / Rail / Lead Cable
- **x-Rading Voltage** : A-24Vac/dc, B-110Vac/dc, C-220Vac/dc

Component ISCOM Series

Explosion-proof Unit Series

Actuating : Ex eb II C Gb IP66 / Ex tb III C Db IP66

Module : Ex db eb II C Gb IP66

Tamb : Actuating : $-40^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$

Module : $-55^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$



Ex Rotary Selector Switch

- **Model** : ISCom-RS(a,b,c)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Wattage** : 16A

Type Designation

- **a - Handle Type(K,S)** : K($\Phi 39$) / S ($\Phi 60$)
- **b-Contact Type(0~7)** : 1a1b / 2a / 2b / 2a2b / 4a / 4b / 1a3b / 3a1b
- **c-Module Type(6~8)** : Panel / Rail / Lead Cable

X-Handle Label

- **Standard** : O - I / I - II / O - I - II / I - O - II / O - . - O
- **Order Made** : On - Off / Start - Stop / Open - Close Up - Stop - Down Etc



Ex Potention Meter

- **Model** : ISCom-PM(a,b,c)
- **Rated Voltage** :
DC24V to AC380V
- **Rated Wattage** : 16A

Type Designation

- **a-Resistance(1,2,5,10)** : 1K Ω / 2K Ω / 5K Ω / 10 K Ω
- **b-Power(1)** : 1Watt
- **Module Type(6~8)** : Panel / Rail / Lead Cable
- **x-Lamp Color** : Red / Green / Yellow / Blue / White / Black

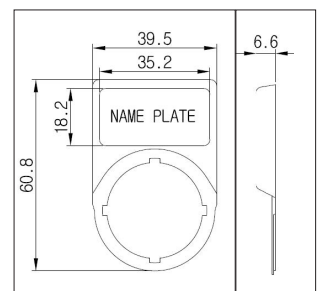
X-Standard-1Turn

(*)Order Made 10Turn



Accessory : Label Plate

- **Model** : ISCom-LP-(*)
 - **Palate material** : Polyamid Resin / Color : Black
 - **Label material** : Laminated plastic, Aluminum & Stainless steel
- (*) Label material : ISCom-LP-L : Laminated plastic
ISCom-LP-A : Aluminium
ISCom-LP-S : Stainless steel



Accessory : EM Protective Cover



Component Installation instructions

Ex Signaling and control actuating & module.

Type ISCom-AE / MD Series



ISCom-AE & MODULE.

Classified table of the actuating elements

Product description	[a] Model configuration
Ex Pilot Lamp	ISCom-AEA-*
Ex Illuminated Push Button	ISCom-AEB-*
Ex Small Rotary Selector	ISCom-AEC-*
Ex Large Rotary Selector	ISCom-AED-*
Ex Key Rotary Selector	ISCom-AEE-*
Ex Rectangle Key Rotary Selector	ISCom-AEF-*
Ex Push Button	ISCom-AEG-*
Ex Double Push Button	ISCom-AEH-**
Ex Mushroom Push Button	ISCom-AEI-*
Ex Wall On-Off Switch	ISCom-AEJ
Ex Key Locking Release Push Button	ISCom-AEK-*
Ex Locking Mushroom Button Key release	ISCom-AEL-*
Ex Emergency Stop Button twist-to-release	ISCom-AEM-*
Ex Emergency Stop Button pull-to-release	ISCom-AEN-*
Ex One Turn Potentiometer	ISCom-AEO
Ex Multi Turn Potentiometer	ISCom-AEP
Ex Blanking Plug	ISCom-AEX

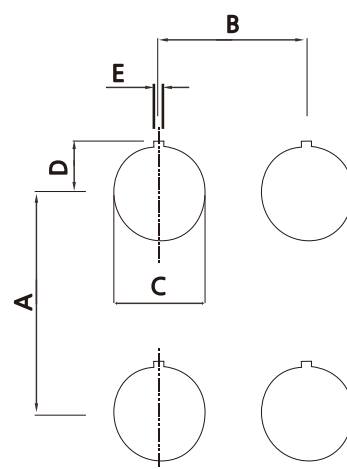
Installation dimensions

Damage to actuating elements due to incorrect installation dimensions.

-The minimum spacing between the mounting holes must be observed

Dimensions

	mm(in)
A*	70 (2.8)
B*	40 (1.6)
C	Ø30.3 (Ø1.9)
D	16.5 (0.65)
E	3 (0.12)



Classified table of the module elements

ISCom - MDSW - a b

b	Type of contact	b	Type of mount
A	1 NO and 1 NC	7	Actuator mounted
B	2 NO	8	Rail mounted
C	2 NC		
D	2 NO and 2 NC		
D1	2 NC and 2 NO		
E	4 NO		
F	4 NC		
G	1 NO / 3 NC		
H	3 NO / 1 NC		

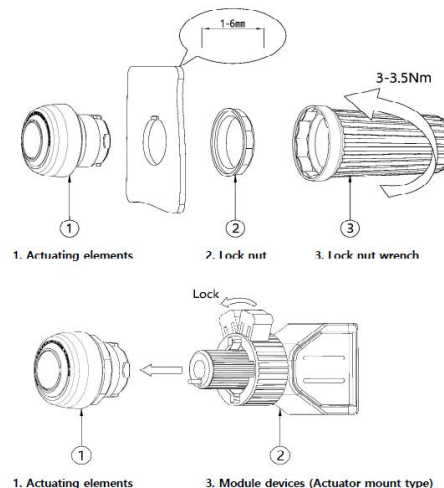
ISCom - MDPL - a b c

a	LED Color	b	Type of mount	C	Lamp rating
R	Red	7	Actuator mounted	B	24Vac/dc
G	Green	8	Rail mounted	C	110Vac/dc
Y	Yellow			D	220Vac/dc
B	Blue			E	220 to 380Vac
W	White				
BK	Black				

ISCom - MDIPB - a b c d

a	Type of contact	b	LED Color	c	Type of mount	d	Lamp rating
1	1N/C	R	Red	7	Actuator mounted	B	24Vac/dc
		G	Green	8	Rail mounted	C	110Vac/dc
		Y	Yellow			D	220Vac/dc
2	1N/O	B	Blue				
		W	White				

Install Drawing



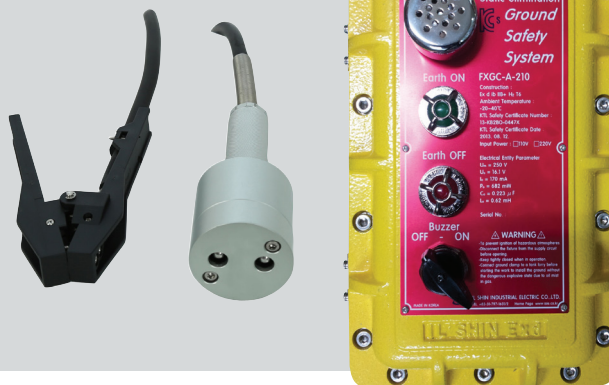
FXGC-A-210

Explosion-proof Static elimination FXGC Series for Hazardous Location

Protection Grade

Ex d ib II B+H2 T6 IP66 for Zone 1-2

Ex ib tb III C T135°C Db

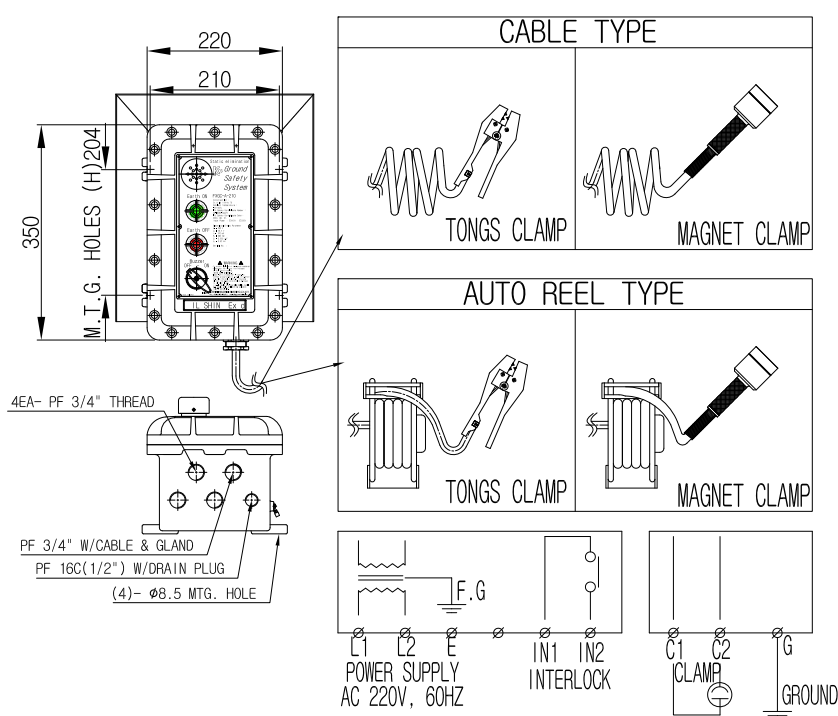


Specification

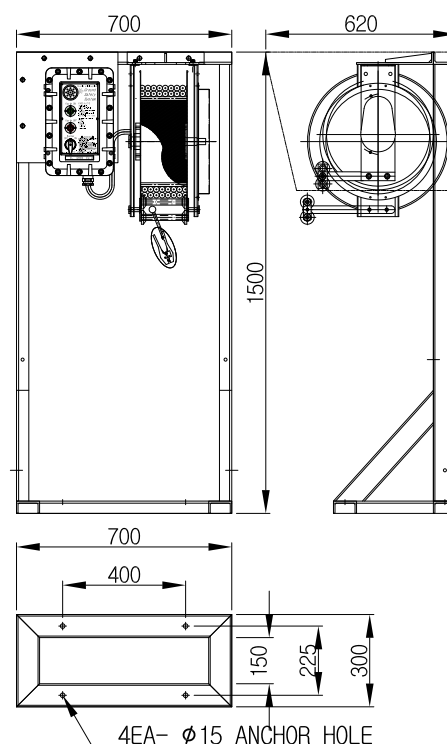
- **Installation Height** : Not higher than 1,000m above sea level
- **Installation Location** : Indoor or Outdoor
- **Product Size** : (W)220mm × (H)350mm × (D) 200mm
- **Weight** : 18.2Kg
- **Tamb** : -20°C ≤ Ta ≤ +40°C

- **Container Material** : Aluminum Alloy
- **Application Standard** : Ministry of Employment and Labor Notification No. 2010-36 (2010.12.24)
- **Installation Criteria** : KS C IEC 60079-14
- **Rating** : AC 110/220V
- **Grounding Type** : "0"-LUG(6), Overall wiring $\mu\text{m}=250\text{V}$, output $U_o=16.1\text{V}$
 $I_o=170\text{mA}$, $P_o=682\text{mW}$
 $C_o=0.223\mu\text{F}$, $L_o=0.62\text{mH}$

Drawing



CONTROL WIRING DIAGRAM



SELF STANDING TYPE(SCALE 1:2)

위험 지역(Hazardous Area)

Hazardous Area

ex) FXGC-A-210 use and Installation (KS C IEC 60079-14)

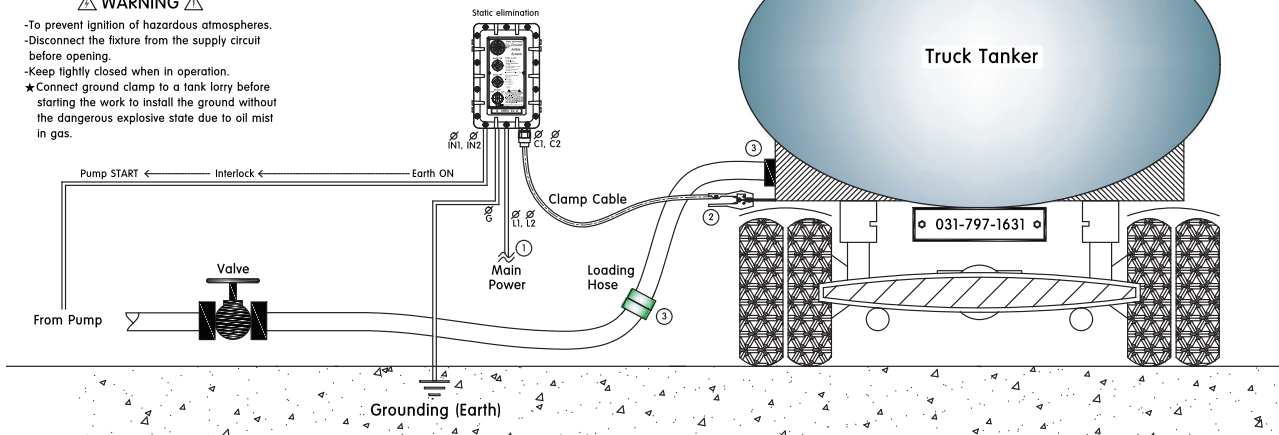
Construction : Ex d ib IIB+H2 T6
Ambient Temperature : -20~40°C

⚠ WARNING ⚠

- To prevent ignition of hazardous atmospheres.
- Disconnect the fixture from the supply circuit before opening.
- Keep tightly closed when in operation.
- ★Connect ground clamp to a tank lorry before starting the work to install the ground without the dangerous explosive state due to oil mist in gas.

Safety Work order

- 1 Power On
- 2 Clamp Install
- 3 Hose Connection



제품사용목적(Specification)

FXGC-A-210은 위험한 지역 내에서 석유류나 가스류를 운반차량에 옮겨 실거나 차량에서 지상용기에 옮길 때 발생하는 정전기가 축적되는 일을 확실하게 억제하여 정전기로 인한 스파크 발생을 원칙적으로 방지하도록 설계되어 있는 GROUND SAFETY SYSTEM(접지안전시스템)이다.

유류나 가스를 이동 시킬 때 일어나는 정전기에 대한 설명은 다음과 같다.

정전기 발생은 유류나 가스 이동 시 분자들간의 마찰에 의하여 일어나고 이때 하전된 분자들은 쉽게 지상으로 방전되지 못하고 계속 집적되는데 이는 유류나 가스가 전기적으로 부도체이기 때문이다.

그리하여 하전된 유류나 가스가 운반차량이나 지상용기에 옮겨 질때 용기자체도 정전기로 하전 되게 된다. 만일 이때 용기가 적절히 접지 되어있지 않으면 용기에 도체로 전기가 흐르는 경우가 발생하고 이때 필연적으로 스파크가 발생한다 만약 이때 주위에 위험 분위기가 조성되어 있다면 폭발의 위험이 생긴다. 이와같은 사태는 사전에 어떠한 소리, 불빛, 냄새, 느낌 없이 일어난다. 이를 미연에 방지하기 위하여 유류나 가스 이동 시는 항상 접지 상태를 감시하는 기구가 필요하고 이를 위하여 GROUND SAFETY SYSTEM(접지안전시스템)을 사용한다.

제품구조(Structure)

GROUND SAFETY SYSTEM은 본질안전으로 설계된 접지탐지장치와 접지시시램프, 펌프 또는 밸브 작동을 통제하는 인터록 접점으로 구성되어 있으며 이들 기기들은 ENGINEERING PLASTIC BOX에 EPOXY-MOLDING 되고 MOLDING BOX와 TERMINAL 접점은 내압 방폭 상자 안에 배치되어 있으므로 방폭 안전을 도모하도록 되어 있다.

금지사항 (Prohibitions)

- 통전 중 개방을 금지합니다
- 부속품 교환시 전원을 차단하고 안전을 유지한 후 교환 하십시오.
- 전원 인가 전에 반드시 점검 및 조정사항을 확인 하십시오.
- 본제품은 자격이 있는 전문 전기 유자격에 의해 시공 및 점검, 검사를 하십시오.
- 가스의 유증기로 인해 폭발성 위험 분위기가 조성되지 않은 상태에서 접지가 설치되도록 작업 전에 GROUND CLAMP를 탱크로리에 연결 하십시오.

ISGMD-DA

Explosion-proof Static elimination ISGMD-DA Series for Hazardous Location

Protection Grade

Ex db [ib] II B+H2 T6 Gb, IP66
Ex db [ib] III C Db] II B+H2 T6 Gb, IP66
Ex tb [ib] III C T80°C Db, IP66
Ex tb [ib] II C Gb] III C T80°C Db, IP66

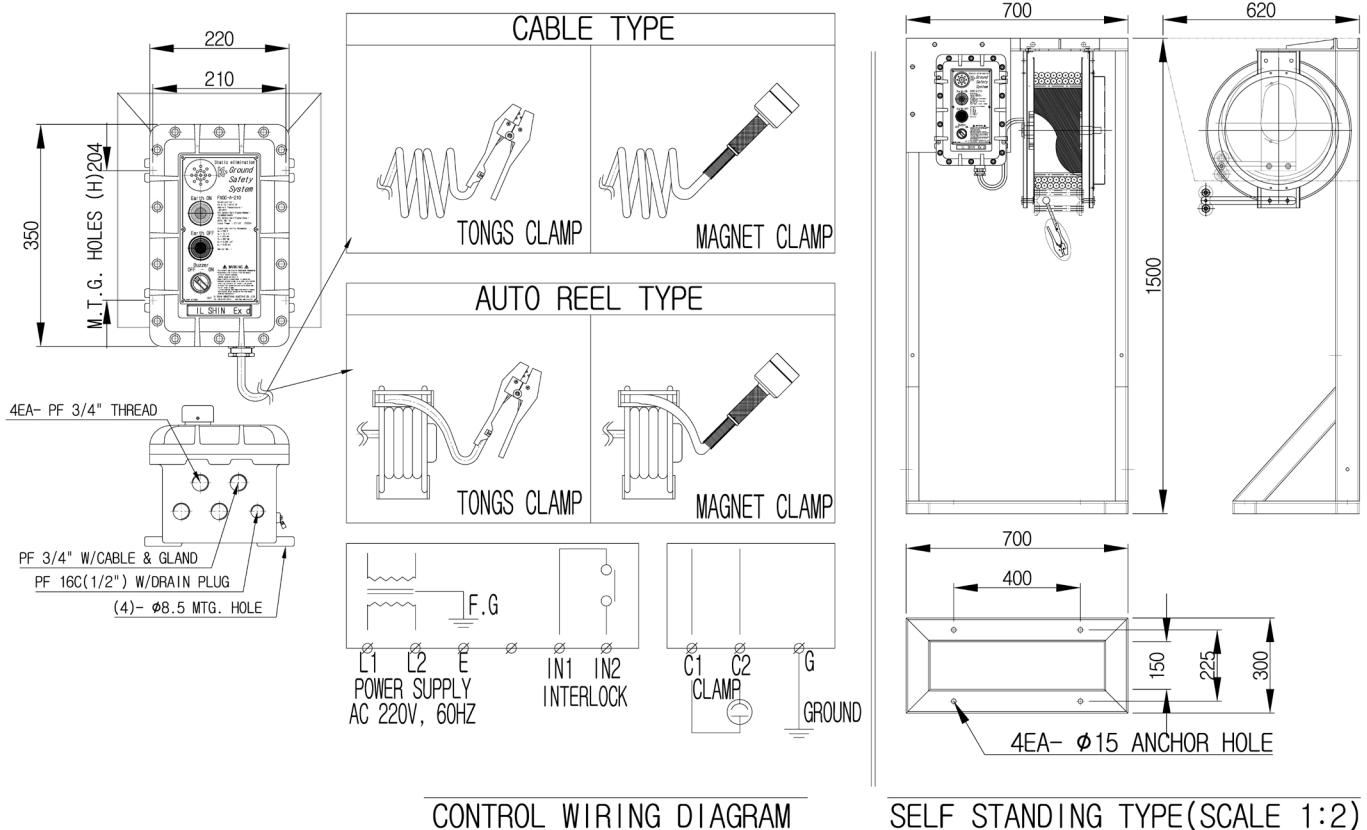


Specification

- **Installation Height** : Not higher than 1,000m above sea level
- **Installation Location** : Indoor or Outdoor
- **Product Size** : (W)220mm × (H)350mm × (D) 200mm
- **Weight** : 18.2Kg
- **Tamb** : -20°C ≤ Ta ≤ +40°C

- **Container Material** : Aluminum Alloy
- **Installation Criteria** : IEC 60079-14
- **Rating** : AC 110/220V
- **Grounding Type** : "O"-LUG(6), Overall wiring
μm=250V, output Uo=16.1V
Io=170mA, Po=682mW
Co=0.223μF, Lo=0.62mH

Drawing



Rack Monitor(RM-1000)

Explosion-proof Static elimination
FXGC Series for Hazardous Location

Protection Grade

Ex d ia II B+H2 T6 IP65

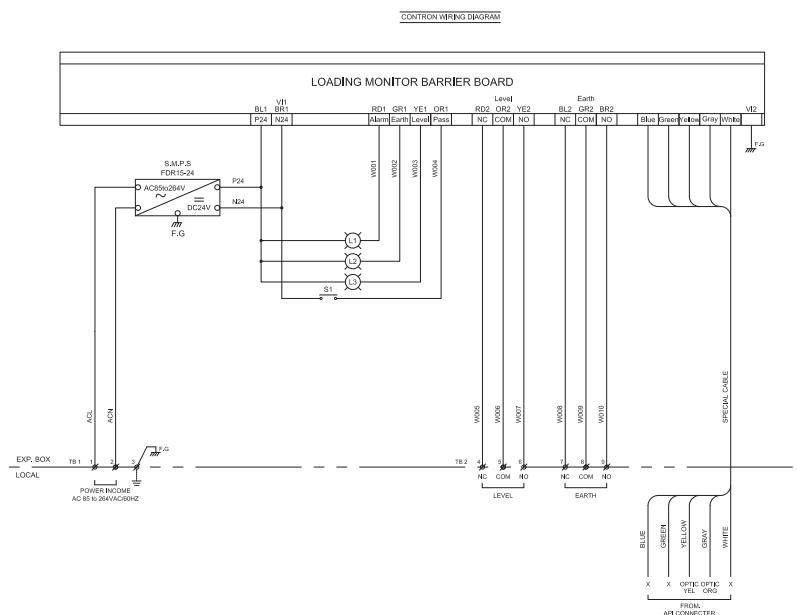
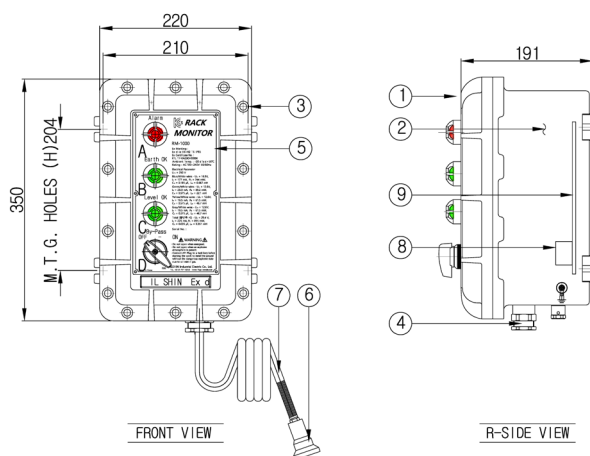


Specification

- **Installation Height** : Not higher than 1,000m above sea level
- **Installation Location** : Indoor or Outdoor
- **Item Name** : Rack Monitor(RM-1000)
- **Product Size** : (W)225mm × (H)355mm × (D) 190mm
- **Tamb** : -20°C ≤ Ta ≤ +50°C

- **Container Material** : Aluminum Alloy
- **Application Standard** : Ministry of Employment and Labor Notification No. 2016-54 (2017.07.03)
- **Installation Criteria** : 17-KA2BO-0393X
- **Rating** : AC 110/240V
- **Grounding Type** : "O"-LUG(6), Overall wiring $\mu\text{m}=250\text{V}$, $U_o=16.8\text{V}$
 $I_o=177\text{mA}$, $P_o=744\text{mW}$
 $C_o=0.185\mu\text{F}$, $L_o=0.567\text{mH}$

Drawing



RM-1000

IS-EPRP-**

Explosion-proof Receptacle and Plug IS-EPRP Series for Hazardous Location

Protection Grade

Ex db eb IIC T6 Gb IP66 / Ex de IIC T6 IP66 for Zone 1·2

Ex tb IIC T85°C Db IP66 / Ex td A21 T80°C IP66 for Zone 21·22



Specification

- **Main Body** : Engineering plastic (GRP)
- **Plug Casing** : Engineering plastic (GRP)
- **Bolt & Nut** : Stainless Steel
- **Tamb** : -30°C ≤ Ta ≤ +60°C

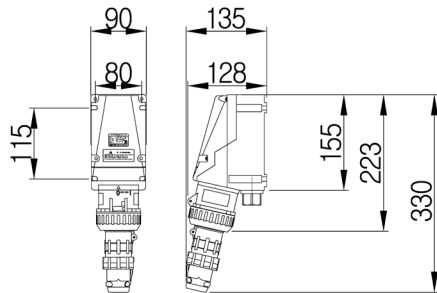
Standard Color

- **FINISH COLOR** : BLACK

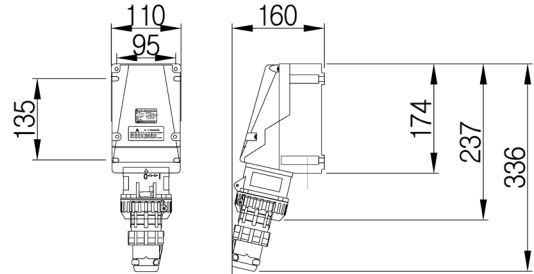
Rated Volt, Ampere and Weight

Model No.	P + E	Rating	Weight	M.T.G
IS-EPRP-16A 3P	2P + 1E	Max250V/20A	1.3kg	80 *115, Ø 7
IS-EPRP-16A	3P + 1E	Max690V/20A	1.9kg	95 *135, Ø 7
IS-EPRP-32A	3P+1E,4P+1E	Max690V/32A	3.2kg	110*170, Ø 7
IS-EPRP-63A	3P+1E,4P+1E	Max690V/63A	9.5kg	184*276, Ø 9

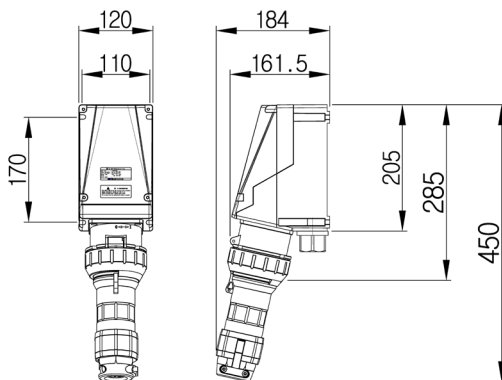
Drawing



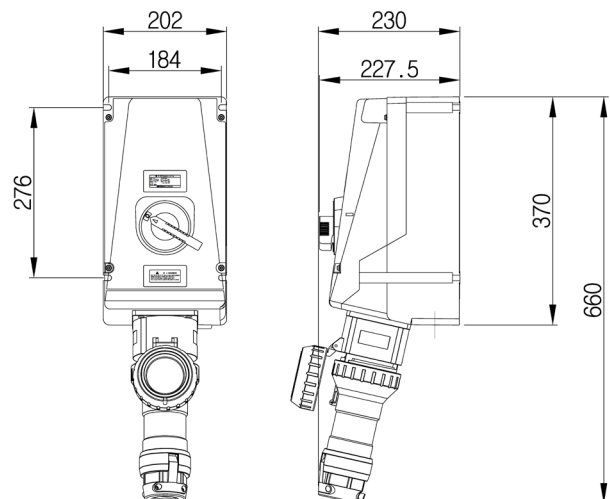
IS-EPRP-16A 3P



IS-EPRP-16A 4P



IS-EPRP-32A



IS-EPRP-63A

FRP

Explosion-proof Receptacle and Plug FRP Series for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 IP65 for Zone 1·2

Ex de IIB+H2 T6 for Zone 1·2

Ex db eb IIB+H2 T6 Gb IP66

Ex tb Ii CT80°C Db IP66

Ex tD A21 IP65 T80°C for Zone 21·22



Specification

- **Main Body** : Cast Aluminium Alloy
- **Plug Casing** : Cast Aluminium Alloy
- **Terminal Box** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Tamb** : FRP-2520/4630/48100 : $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
FRP-48100(tb) : $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

Rated Volt, Ampere

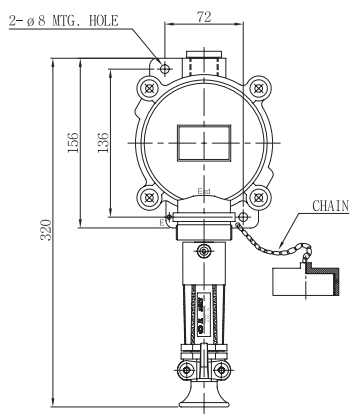
Model No.	Rated Voltage	Rated Current	Remark
FRP-2520*	2P+1E, AC250V	20A	d, tD
FRP-4630	3P+1E, AC480V	30A/60A	de
FRP-48100	3P+1EAC690V	60A/100A	de, tb

Standard Color

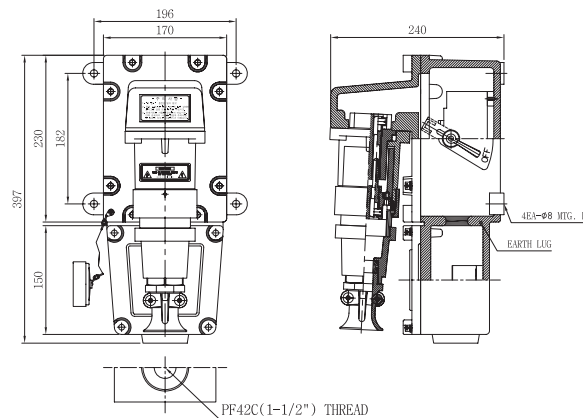
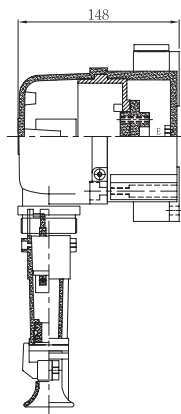
- Munsell no. 7.5BG 6/1.5

If you want other color, contact us please.

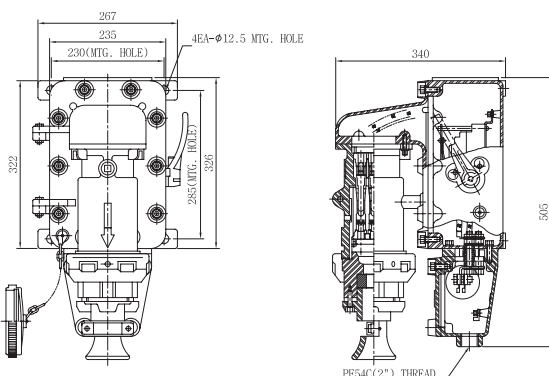
Drawing



FRP-2520



FRP-4630



FRP-48100



d



JUNCTION BOXES & OTHER

Explosion-proof Junction Box FJB	121
Explosion-proof Junction Box TB	122
Explosion-proof Junction Box IJBC	123
Explosion-proof Junction Box ISJB-ES SERIES	124
Explosion-proof GRP Junction Box EPJB-**	125
Explosion-proof GRP Junction Box ISJB-EP	126
Weather-proof Junction Box EPWPJB	127
Increased Terminal Series ISTB-04,6L	128
Explosion-proof Space Heater ISH-200	129

FJB

Explosion-proof Junction Box FJB Series for Hazardous Location

Protection Grade

Ex d II B+H2 T6 IP66 for Zone 1·2
Ex tD A21 T80°C IP66



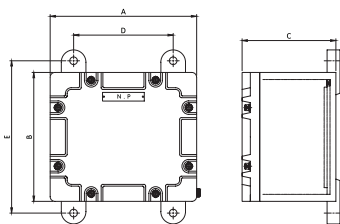
Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Tamb** : -20°C ≤ Ta ≤ +50°C

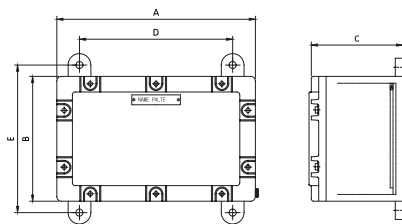
Standard Color

- Munsell no. 7.5 BG 6/1.5
- If you want other color, contact us please.

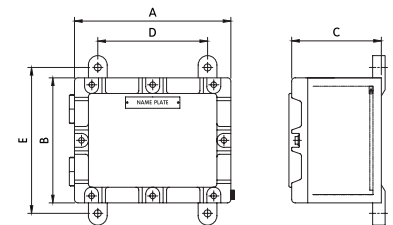
Drawing



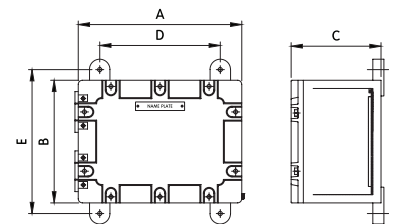
FJB-040



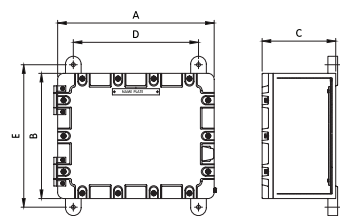
FJB-060



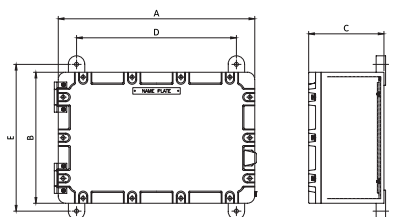
FJB-020



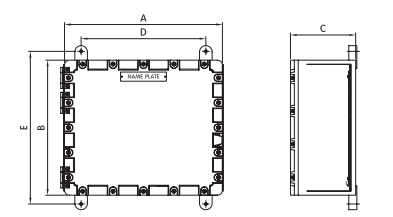
FJB-080



FJB-100



FJB-110



FJB-120

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
FJB-020	220	180	135	160	210	160 × 125
FJB-030	200	200	120	237	132	140 × 140
FJB-040	250	220	160	170	260	175 × 170
FJB-060	350	220	163	270	260	285 × 165
FJB-080	400	300	220	295	352	330 × 230
FJB-100	500	400	230	400	455	410 × 310
FJB-110	600	400	230	495	450	505 × 315
FJB-115	600	500	250	550	500	500 × 390
FJB-120	700	600	285	545	667	590 × 490
FJB-150P	1180	980	360	976	984	990 × 790
PEX-110	600	400	230	495	450	PEX-CCTV PANEL

TB

Explosion-proof Junction Box TB Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

Ex tD A21 IP66 T80°C



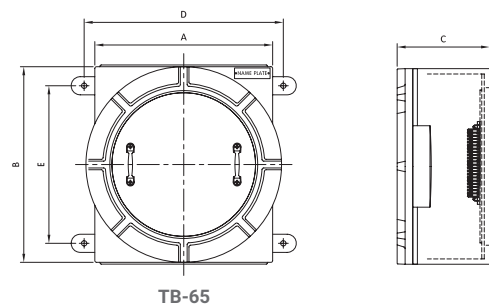
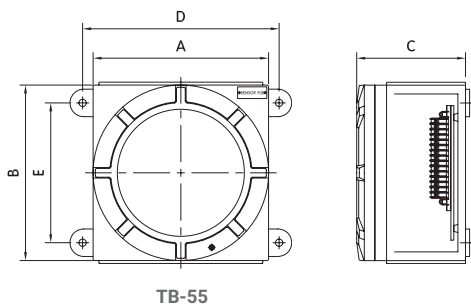
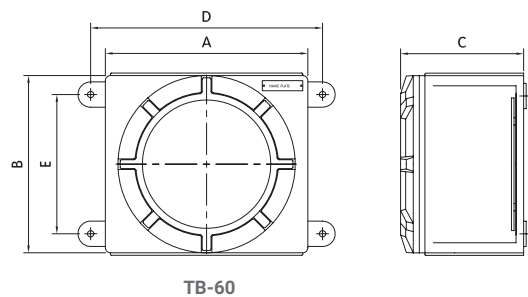
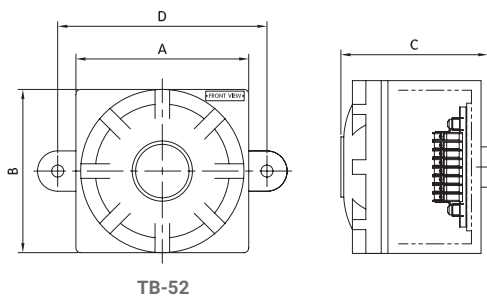
Specification

- **Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
- Cover to rotate the structure to the way the threads

Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Bakelite Plate
TB-52	180	165	150	218	-	130
TB-55	300	300	185	355	243	220 × 220
TB-60	400	350	250	458	275	300 × 265
TB-65	500	550	260	558	445	420 × 420
DTB-60	420	380	270	-	-	-

IJBC

Increased Safety Junction Box IJBC Series for Hazardous Location

Protection Grade

Ex e II C T6 IP66 for Zone 1·2

Ex tD A21 IP66 T85°C for Zone 21·22



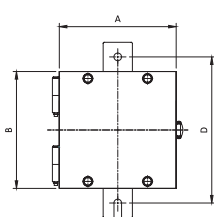
Specification

- **Body & Cover** : Stainless Steel
- **Packing** : EPDM Rubber
- **Cover Bolt & Washer** : Stainless Steel
- **Tamb** : -20°C ≤ Ta ≤ +50°C

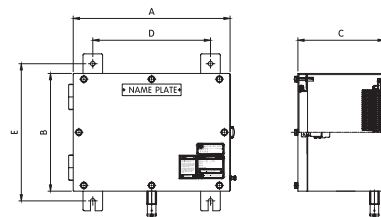
Features

- Stainless steel
- Easy installation and maintenance.
- Good resistant to corrosive environment.
- Ingress Protection Code:IP-66
- IEC Standard Code: IEC60079-7

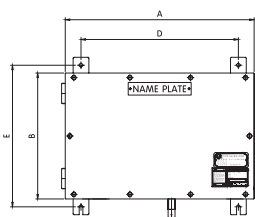
Drawing



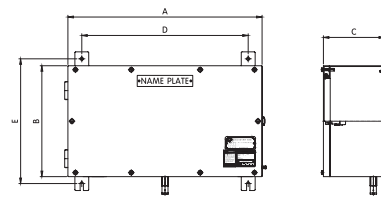
IJBC-20



IJBC-60



IJBC-80



IJBC-120

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)	Stainless Steel Plate	Certificate
IJBC-20	200	200	180	250	-	110 × 140	Ex e, tb
IJBC-40	400	300	220	300	350	310 × 240	Ex e, tD
IJBC-60	500	400	220	400	450	410 × 340	Ex e, tD
IJBC-80	600	400	220	500	450	510 × 340	Ex e, tD
IJBC-120	700	400	220	600	450	610 × 240	Ex e, tD
IJBC-120W	600	600	500	500	650	510 × 540	Ex e
IJBC-3030	300	300	220	200	350	210 × 240	Ex eb, tb
IJBC-5050	500	500	220	400	550	410 × 440	Ex eb, tD
IJBC-6060	600	600	220	500	650	510 × 540	Ex eb, tD
IJBC-6191	610	916	236	455	945	530 × 835	Ex eb, tD

ISJB-ES SERIES

Explosion-proof Junction Box ISJB-ES Series for Hazardous Location

Protection Grade

Ex eb II C T6/T5 Gb IP66 for Zone1・2

Ex tb III C T80°C/T90°C Db IP66 for Zone21・22



Specification

- **Body** : Standard : Stainless steel 304(L)
Option : Stainless steel 316(L)
- **THICKNESS** : 1.5 mm / 2.0 mm
- **OPTION** : Gland Plate / Lockable bracket
Breather&Drain device
Threaded coupling / Clean hole
- **Tamb** : T6 or T80°C : $-40^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
T5 or T95°C : $-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$

Model Guide

• ISJB-ES a b - c d e

(a) : **Closing type** = H (Hinge and screw) /

HL (Hinge, screw and lock bracket)

(b) : **Size** : WxHxD = 606021 (W600 H600 D210)

505021 / 504021 / 404021 / 202015

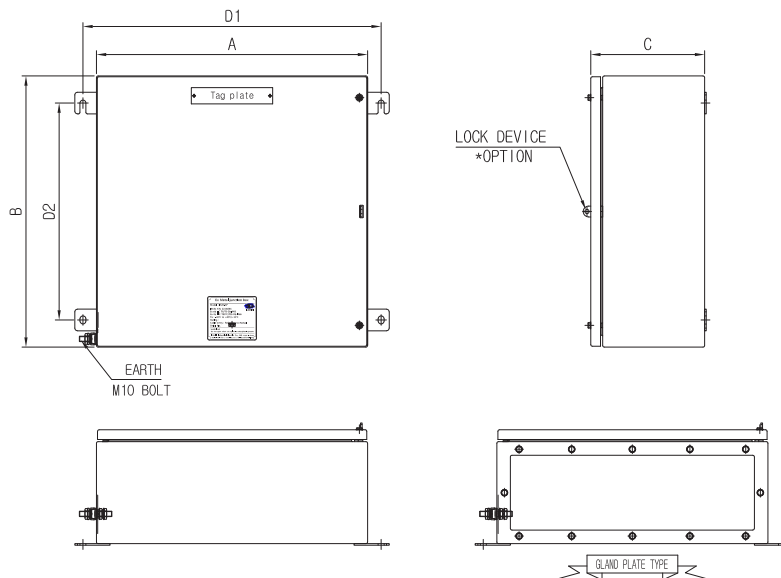
(c) : **Enclosure material** = S4 (304) / S6 (316)

(d) : **Gland plate** = Blank (without)

B (Bottom) T (Top) L (Left) R (Right)

(e) : **Breather and Drain device** = Blank (without) W (with)

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D1)	Mount(D2)	Bakelite Plate	Certificate
ISJB-ES202015	200	200	150	250	-	120 x 180	eb,tb
ISJB-ES404021	400	400	210	450	300	310 x 340	eb,tb
ISJB-ES504021	500	400	210	550	300	410 x 340	eb,tb
ISJB-ES505021	500	500	210	550	400	410 x 440	eb,tb
ISJB-ES606021	600	600	210	650	500	510 x 540	eb,tb

EPJB-**

Increased Safety GRP Junction Box for Hazardous Location

Protection Grade

Ex eb IIC T6 Gb IP66 for Zone1・2

Ex tb IIC T80°C Db IP66 for Zone21・22



Standard Material

- **Main Body** : Engineering plastic (GRP)
- **Bolt & Washer** : Stainless Steel
- **Gasket** : Silicone rubber
- **Tamb** : -30°C ≤ Ta ≤ +50°C

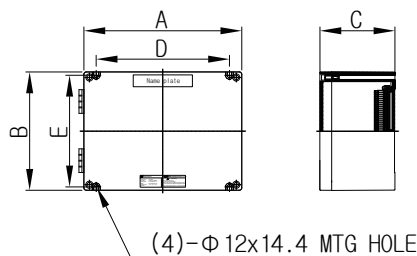
Specification

- Terminal Block : increase safety type (Ex e)
- Standard Color : Black

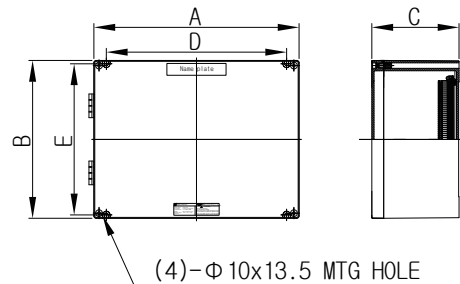
Feature

- Enclosure in glass fiber reinforced polyester resin provide excellent resistant to corrosion so have a long life

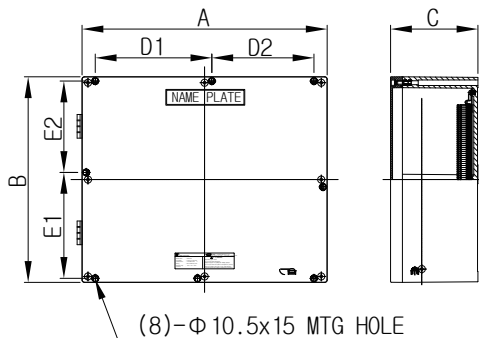
Drawing



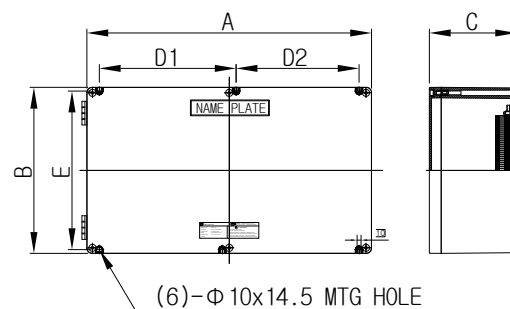
EPJB-4030



EPJB-5240



EPJB-6252



EPJB-7242

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D1)	Mount(D2)	Mount(E1)	Mount(E2)	Bakelite Plate
EPJB-4030	400	300	190	338	-	283	-	350 x 230
EPJB-5240	520	400	220	457	-	383	-	460 x 320
EPJB-6252	620	520	220	295	259	232	268	580 x 480
EPJB-7242	720	420	220	346	312	402	-	660 x 330

ISJB-EP SERIES

Explosion-proof GRP Junction Box ISJB-EP Series for Hazardous Location

Protection Grade

Ex eb II C T6 Gb("eb T/B)
Ex eb II C T6 Gc("ec" T/B)
Ex td III C T80°C Db



Standard Material

- **Main Body & Cover** : Engineering plastic(GRP-Black)
- **Bolt & Washer** : Stainless Steel
- **Gasket** : Silicon rubber

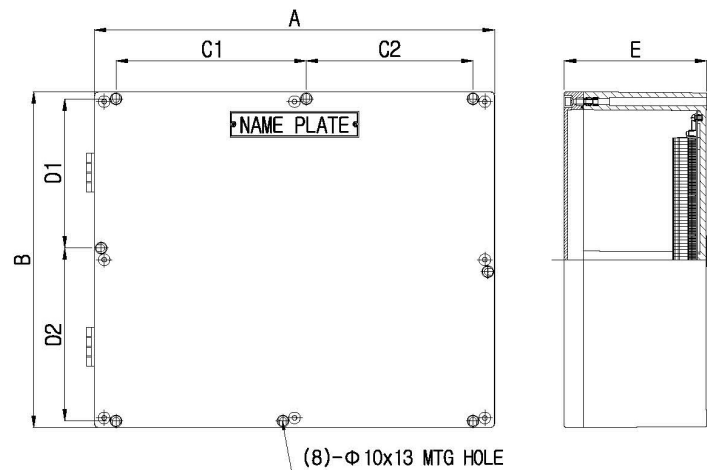
Feature

- Enclosure in glass fiber reinforced polyester resin provide excellent resistant to corrosion so have a long life

Specification

- **Terminal Box** : increase safety type (Ex e)
- **Rated Voltage** : MAX 690V Below

Drawing



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(C1)	Mount(C2)	Mount(D1)	Mount(D2)	Bakelite
ISJB-EP724222	720	420	220	347	312	402	-	711x410
ISJB-EP427222	420	720	220	402	-	347	312	410x711
ISJB-EP625222	620	520	220	296	259	232	268	611x510
ISJB-EP526222	520	620	220	268	232	296	259	510x611
ISJB-EP524022	520	400	220	457	-	283	-	509x389
ISJB-EP405222	400	520	220	383	-	457	-	389x509
ISJB-EP403019	400	300	190	338	-	283	-	391x291
ISJB-EP304019	300	400	190	283	-	338	-	291x391

EPWPJB

Weather Proof Junction Box
EPWPJB Series

Protection Grade
IP65



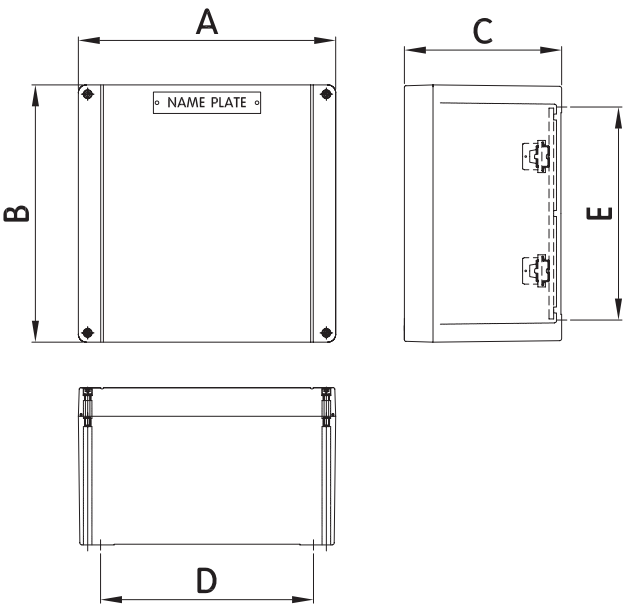
Specification

- **Body & Cover** : Engineering Plastic(GRP)
- **Packing** : Silicone Rubber
- **Cover Bolt & Washer** : Stainless Steel
- **Tamb** : 25.3 ± 2.0℃

Features

- Engineering Plastic(GRP)
- Easy installation and maintenance.
- Good resistant to corrosive environment.
- Ingress Protection Code:IP-65

Drawing



EPEXJB-3636

Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
EPWPJB-3636	360	360	220	298	298
EPWPJB-4230	420	300	190	362	290
EPWPJB-6846	680	460	190	-	-

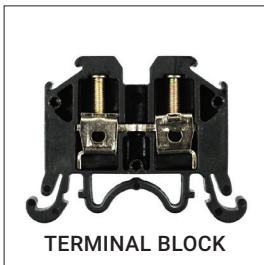
ISTB Series

Increased Safety Terminal Block

Protection Grade

Ex e II

Tamb : -20°C ≤ Ta ≤ +100°C



TERMINAL BLOCK

* ISTB-04, 27A max : Acceptable wires_mm²

- Liner / Stranded : 0.5 ~ 4.0
- The use of twisted / crimping terminals : 0.5~4.0 / 0.5~4.0
- Screw the proper torque : 0.5~1.0 Nm, M3
- Rated Voltage : AC/DC 460V이하, 27A 이하

* The same applies the standard two conductor cross-sectional area :

- Liner / Stranded_mm² : 0.5~2.5
- The use of twisted / crimping terminals_mm² : 0.5~2.5 / 0.5~6.0



STOPPER

* ISTB-6L, 35A max : Acceptable wires_mm²

- Terminal lug use (Ring type)
- The use of twisted / crimping terminals : 0.5~6.0 / 0.5~6.0
- Screw the proper torque : 4.0~5.0 Nm, M4
- Rated Voltage : AC/DC 600V이하, 35A 이하

* The same applies the standard two conductor cross- sectional area :

- Liner / Stranded_mm² : 0.5~4.0
- The use of twisted / crimping terminals_mm² : 0.5~4.0 / 0.5~4.0



END PLATE

DATA SHEET

- Material : PA-66
- Insulation material : I nflammability class in acc. with UL94. V-0
- Internal parts : Clamp_steel & Zinc electronic plating.
Connection Bar_Brass & Tin plating.
- Service Temp' _ -20°C ~ +100°C

Ordering Number

	Model	
Part Name	ISTB-04(PIN TYPE)	ISTB-6L(LUG TYPE)
Terminal Block	27A Below ISTB-04 TB	35A Below ISTB-6L TB
Stopper	ISTB-04 ST	ISTB-6L ST
End Plate	ISTB-04 EP	ISTB-6L EP
Din Rail	ISTB-04 DR	ISTB-6L DR



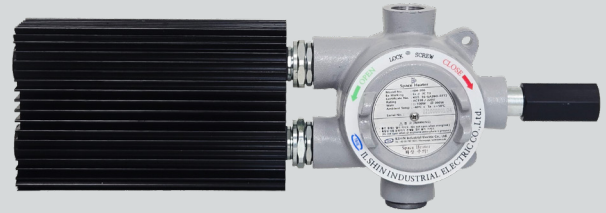
DIN RAIL

ISH-200

Explosion-proof Space Heater ISH-200
for Hazardous Location

Protection Grade

Ex d II C T3 for Zone 1+2



Specification

- **Main Body** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel

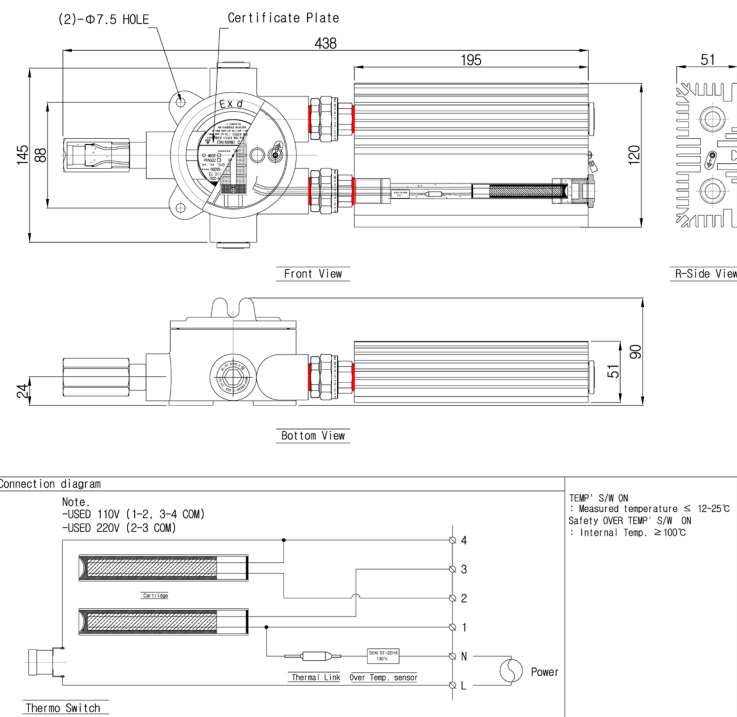
Standard Color

- **Terminal Box** : Silver
- **Heat sink** : Black

Technical Data

- **Rated Voltage** : AC 110V/220V
- **Rated Frequency** : 50Hz/60Hz
- **Entry Size** : 1/2" (16C), 3/4" (22C)
- **Cartridge Heater** : 100W x 2
- **Tamb** : -40°C ≤ Ta ≤ +50°C

Drawing / Diagram



Dimension(mm)

Model No.	Width(A)	Height(B)	Depth(C)	Mount(D)	Mount(E)
ISH - 200	195	120	51	87	-



e



FIRE PROTECTION EQUIPMENTS

Explosion-proof Bell Signal FXBS	132
Explosion-proof Alarm Signal FXAL	133
Explosion-proof Emergency Lighting Fixture IS-FEML-*	134
Explosion-proof Electric Siren IS-FES	135
Explosion-proof Electric Speaker IS-FHS**	136
Explosion-proof Speaker IS-FTD-T*	137
Explosion-proof Speaker IS-FRD	138
Explosion-proof Exit Lighting Fixture FETLE	139
Explosion-proof PBL,PSL : Fire alarm manual Station ExPBL*	140
Explosion-proof PBL,PSL : Fire alarm manual Station ExPSL*	141
Explosion-proof Super visory panel IS-FSVP	142

FXBS

Explosion-proof Bell Signal
FXBS for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 for Zone 1·2



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Gong** : Aluminium Press
- **Bolt & Nut** : Stainless Steel
- **Horn** : Aluminium

Weight

- 4kg

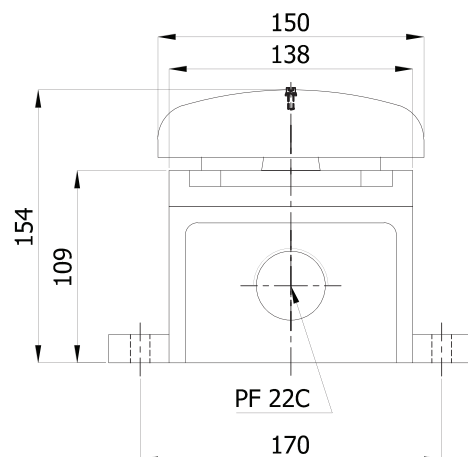
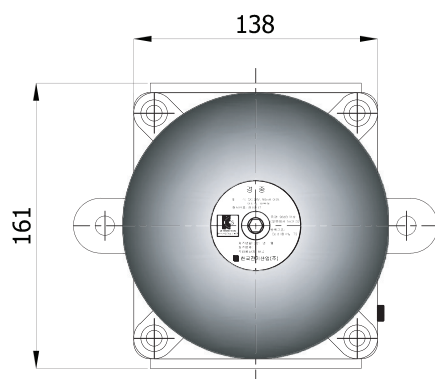
Standard Color

- Munsell no. 7.5R 4/14(Red)
If you want other color, contact us please.

Technical Data

- **Rated Voltage** : DC 24V MAX
- **Sound Level of Bell** : 90dB/1m

Drawing



FXAL

Explosion-proof Alarm Signal
FXAL for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 IP65 for Zone 1·2



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Globe** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Horn** : Aluminium Sheet

Weight

- 10kg

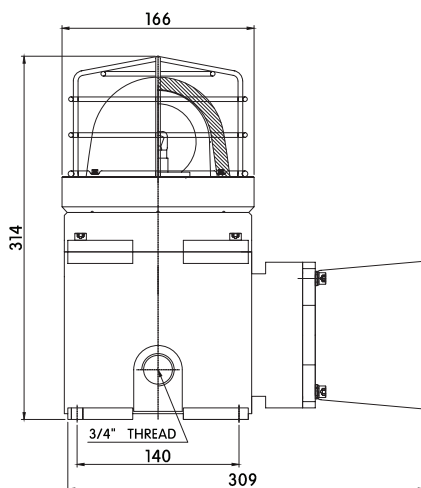
Standard Color

- Munsell no. 7.5BG 6/1.5 or 7.5R 4/14(Red)
- If you want other color, contact us please.

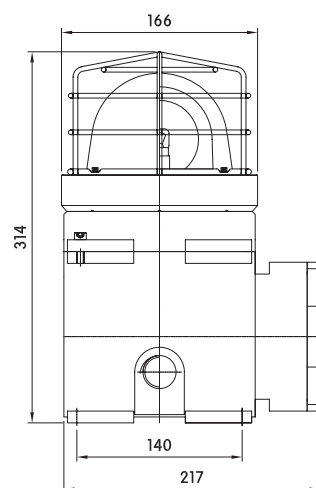
Technical Data

- **Rated Voltage** : AC 100V~240V, DC 24V
- **Lamp** : LED 8W
- **Sound Level** : 100dB/1m
- **Lamp Type** : LED, Flash type, Rotary type
- **Sound** : 경종, 경보, 구급, 화재, 멜로디
- **Hub** : PF22C*2EA(W/blind plug*1EA)

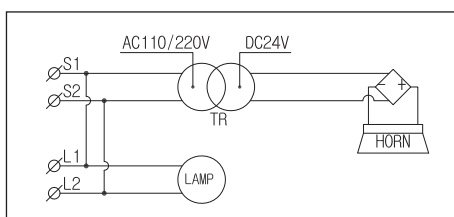
Drawing



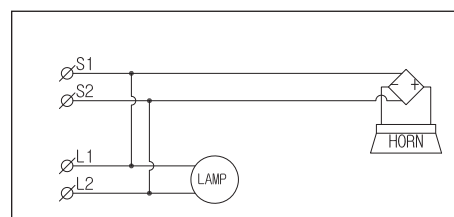
HORN & BEACON ALL-IN-ONE



BEACON SINGLE TYPE



AC_CONNECTION DIAGRAM



DC_CONNECTION DIAGRAM

IS-FEML-*

Explosion-proof Emergency LED Lighting IS-FEML-* series for Hazardous Location

Protection Grade

Ex db IIC T6 Gb IP66 for Zone 1·2
Ex tD A21 IP66 T80°C



Standard Material

- **Main Body** : Cast Aluminium
- **Body Cover** : Die- Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Heat Sink Cover** : Die-Case Aluminium Alloy
- **Flexible** : Stainless Steel 304
- **Accessory Fixing Bolt** : Stainless Steel 304

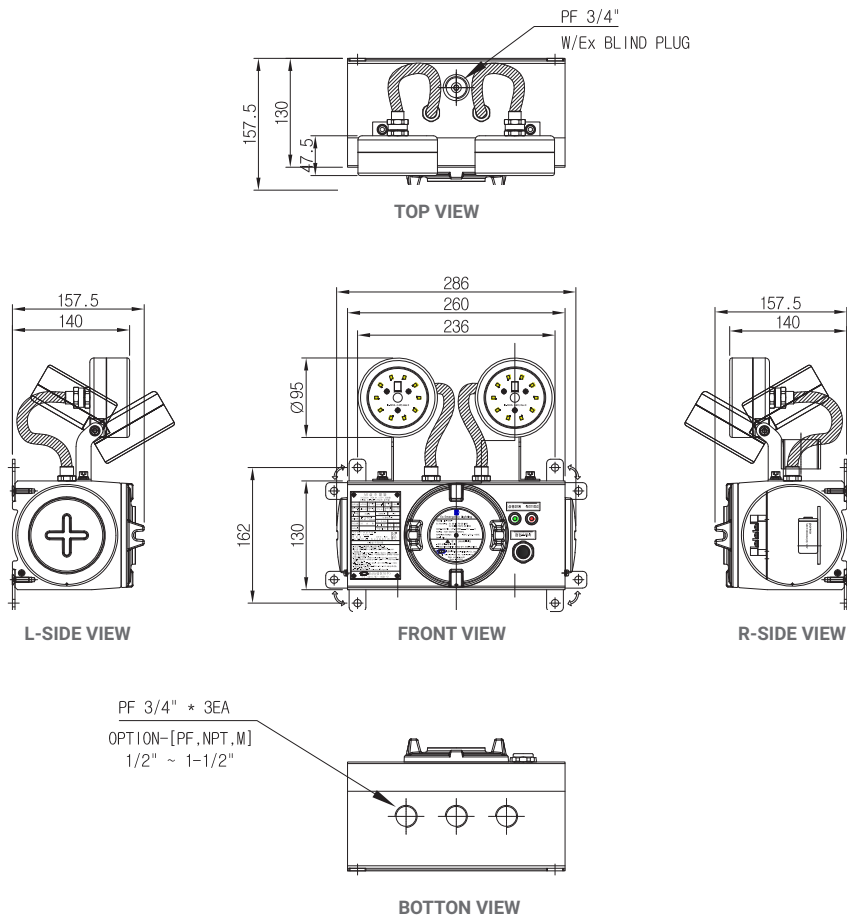
Technical Data

- **Rated Voltage** : AC 250V Below
- **Rated Wattage** : 1.5W Below
- **Rated Frequency** : 50/60Hz
- **Battery** : 60 min. (Ni-Cd battery 4.8V 1,300mAh)
- **LED Lamp** : 5W x 2EA (10W)
- **Tamb** : -20°C ≤ Ta ≤ +60°C
- **배광번호** : D-31

Feature

It is installed in a place where it is difficult to identify with the naked eye in case of an electrical short due to a natural disaster, power outage, or accident. It can be used for 60 minutes on battery power inside the product.

Drawing



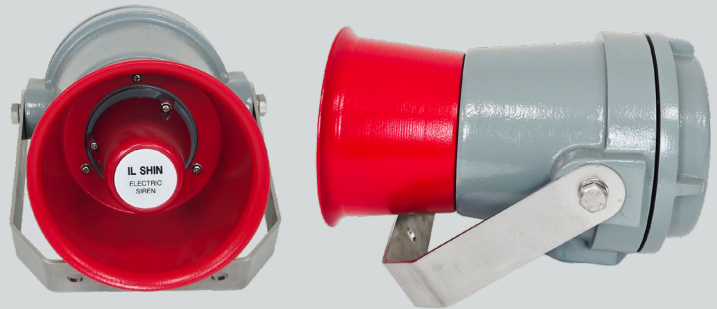
IS-FES-**

Explosion-proof Electronic Siren FES for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 IP65 for Zone 1.2

Ex tD A21 T80°C Db IP65 for Zone 21.22



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Horn** : Aluminium Sheet
- **Speaker** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Support** : Stainless Steel

Weight

- 5kg

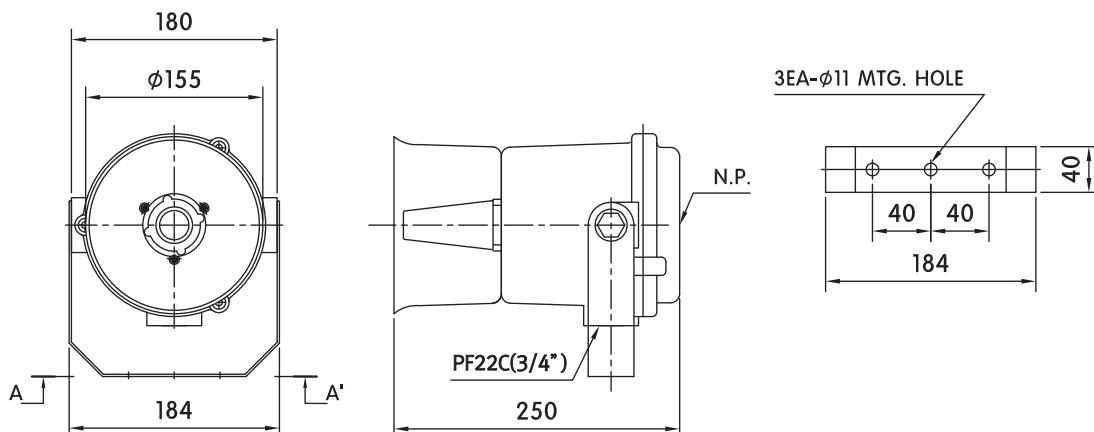
Standard Color

- Munsell no.7.5BG 6/1.5 or 7.5R 4/14(Red)
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : AC110~220V, D24V
- **Sound Level** : 100dB /1m
- **Rated Frequency** : Max 25W, 8Ω
- **Tamb** : -20°C ≤ Ta ≤ +60°C

Drawing



IS-FHS-**

Explosion-proof Electric Horn Speaker
IS-FHS-** for Hazardous Location

Protection Grade

Ex db IIB+H2 T6 Gb IP65
Ex tb IIIC T80°C Db IP65



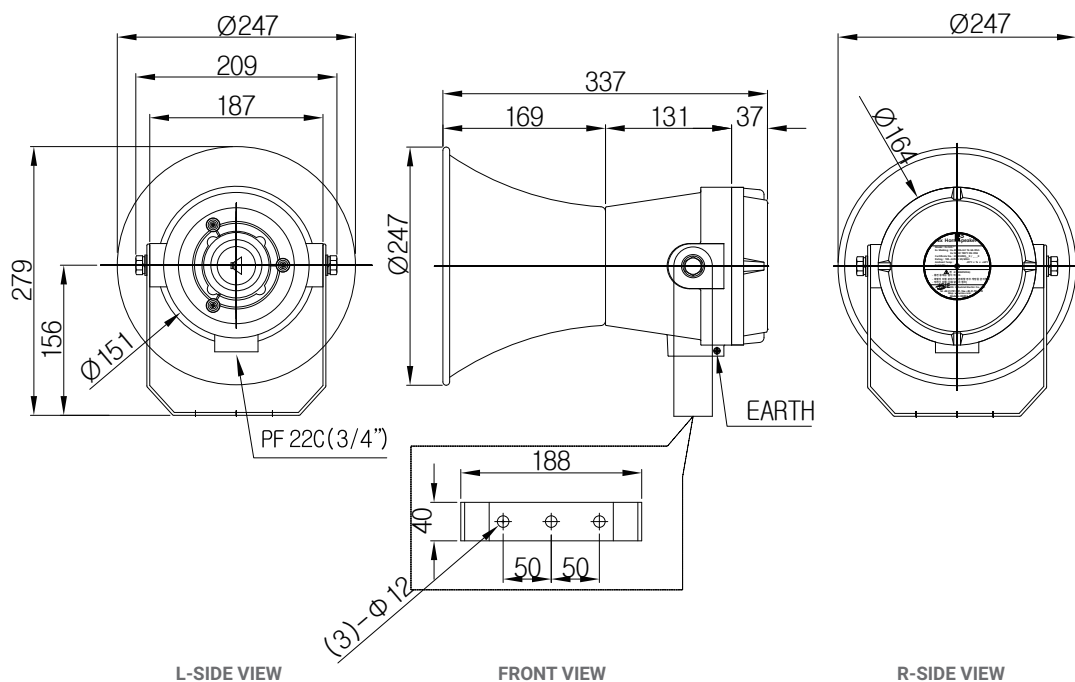
Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Horn** : Aluminium Sheet
- **Speaker** : Cast Aluminium Alloy
- **Bolt & Nut** : Stainless Steel
- **Support** : Stainless Steel

Technical Data

- **Rated Voltage** : AMP(앰프)에 연결 사용
- **Rated Frequency** : 50/60Hz
- **Rated Wattage** : Max.25W, 8Ω
- **Tamb** : -20°C ≤ Ta ≤ +60°C

Drawing



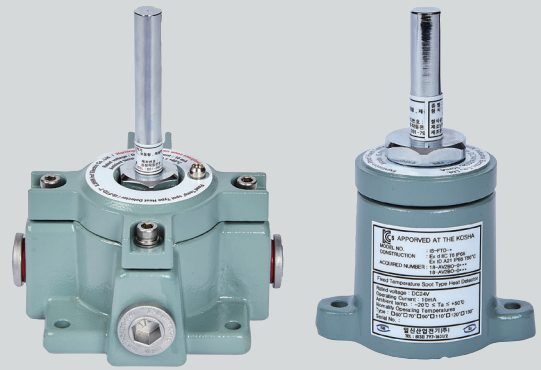
IS-FTD-T*/ IS-FTD-*

Explosion-proof Fixed Temperature Spot Type
Heat Detector IS-FTD-T* for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

Ex tD A21 IP66 T80°C for Zone 21·22



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt** : Stainless Steel
- **O-Ring** : Silicone Rubber

Weight

- 1.2kg

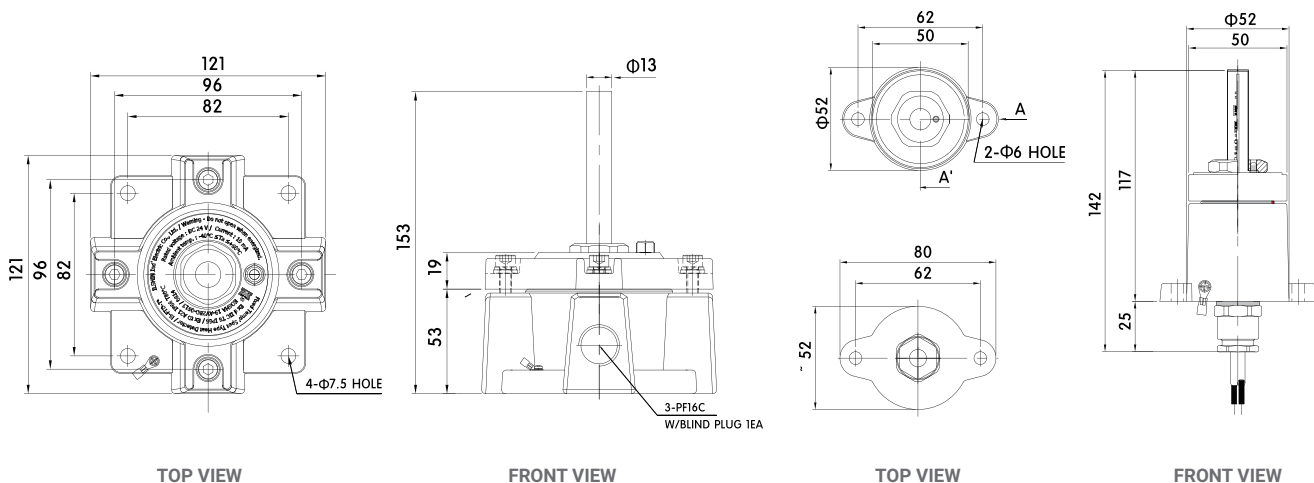
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

Technical Data

- **Rated Voltage** : 24V DC $\pm 20\%$, 10mA
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

Drawing



IS-FTD-T*

IS-FTD-*

형식	모델	정격	감시소비전류	공칭작동온도	비고
IS-FTD-T*	IS-FTD-T70, IS-FTD-70	24V dc $\pm 20\%$, 10mA	35 μA 이하	70(특종)	반도체식
	IS-FTD-T90			90(특종)	
IS-FTD-*	IS-FTD-T70, IS-FTD-70	24V dc $\pm 20\%$, 10mA	35 μA 이하	70(특종)	반도체식 인출타입
	IS-FTD-T90			90(특종)	

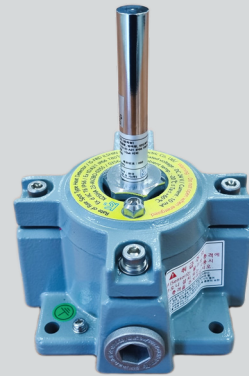
IS-FRD

Explosion-proof Rate of Rise Spot Type Heat Detector IS-FRD for Hazardous Location

Protection Grade

Ex d IIC T6 IP66

Ex tD A21 IP66 T80°C



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Bolt** : Stainless Steel
- **O-Ring** : Silicone Rubber

Weight

- 1.2kg

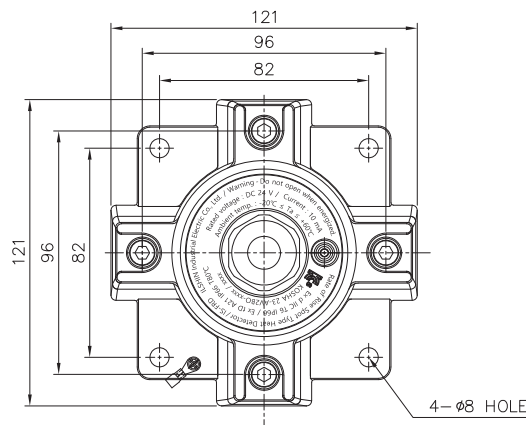
Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

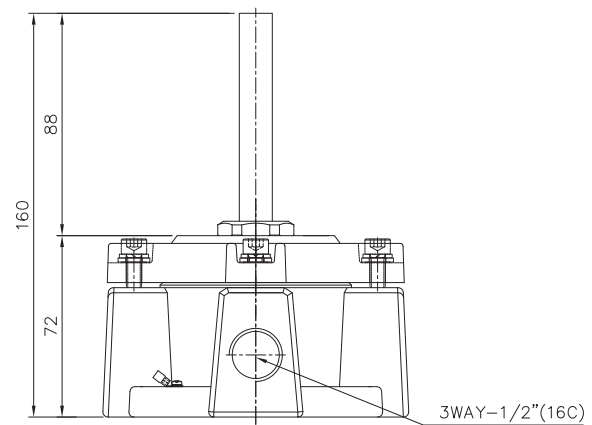
Technical Data

- **Rated Voltage** : 24V DC $\pm 20\%$, 10mA
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

Drawing



TOP VIEW



FRONT VIEW

모 델	정 격	감시상태	종 별	비 고
IS - FRD	24V dc $\pm 20\%$, 10mA	35 μA 이하	2종	반도체식

FETLE

Explosion-proof Exit Lighting Fixture FETLE Series for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 for Zone 1·2
Ex tD A21 IP65 T80°C for Zone 21·22



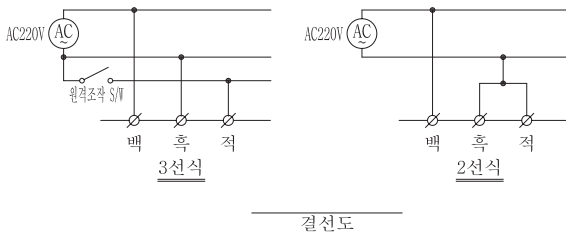
FETLE

FETLE - M

Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Front Glass** : Heat Resistant Hard Glass
- **Lamp** : LED

Diagram



Standard Color

- Munsell no. 7.5BG 6/1.5
- If you want other color, contact us please.

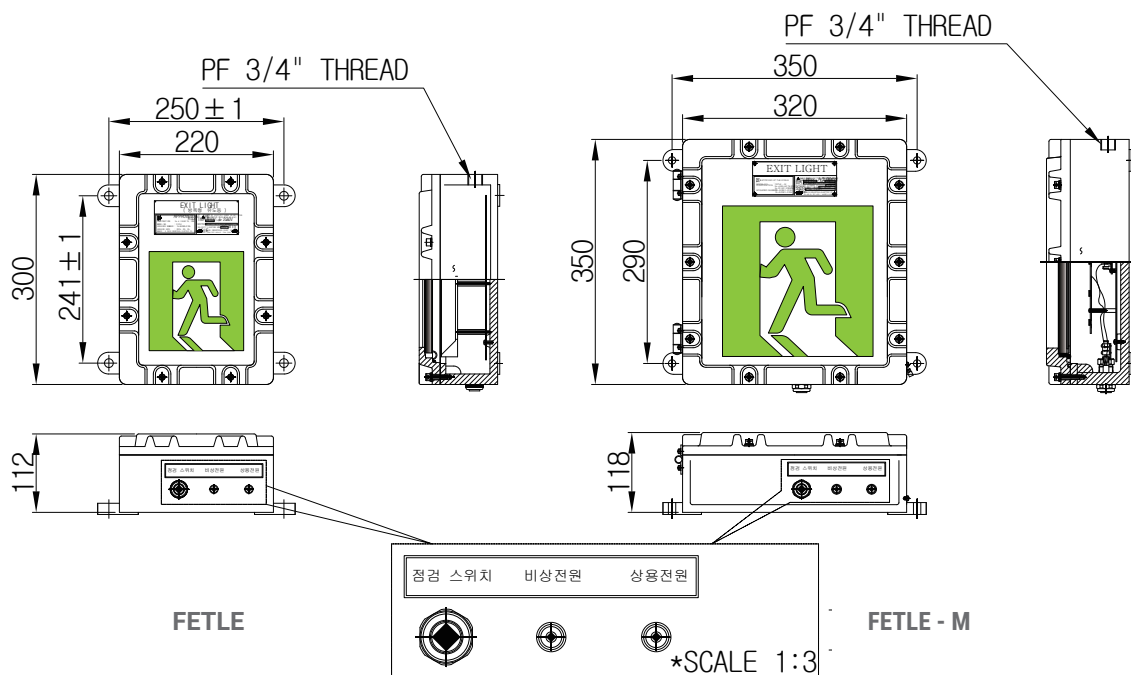
Technical Data

- **Rated Voltage** : AC 250V Below
- **Rated Frequency** : 50/60Hz
- **Effective Lighting Time** : 60minutes
(Battery Charging Operation)
- **소비전력** : FETLE-S: 4.5W
FETLE-M: 6.5W
- **Tamb** : -20°C ≤ Ta ≤ +40°C

Weight

- FETLE-S : 9.4kg
- FETLE-M : 15.1kg

Drawing



ExPBL*

Explosion-proof Fire Alarm Manual Station ExPBL Series for Hazardous Location

Protection Grade

Ex d II B+H2 T6 for Zone 1·2

Ex tD A21 IP66 T80°C for Zone 21·22



ExPBL W200



ExPBL 200

Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Bell** : Die-Cast Aluminium

Standard Color

- **Color** : 7.5R 4/14(Red)

If you want other color, contact us please.

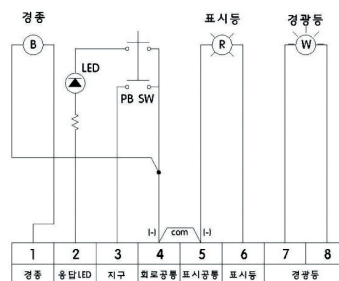
Weight

- **Body** : 6.8kg
- **Bell Cover** : 1.1kg

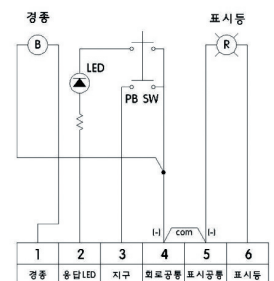
Technical Data

- **Rated Voltage** : DC 24V
- **Warning Light** : LED
- **Sound Level** : 90dB/1m
- **Bell** : DC24V Max, 50mA Below
- **Hub** : 3/4", 1"
- **Tamb** : -20°C ≤ Ta ≤ +50°C

Diagram

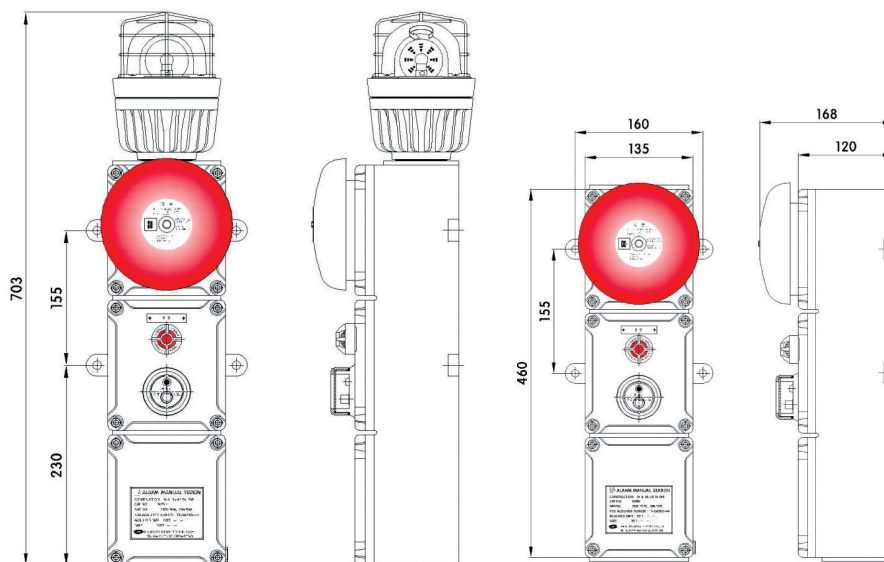


CONNECTION DIAGRAM (DC 24V)
Type. 1



CONNECTION DIAGRAM (DC 24V)
Type. 2

Drawing



ExPSL*

Explosion-proof Fire Alarm Manual Station ExPSL Series for Hazardous Location

Protection Grade

Ex d IIB+H2 T6 for Zone 1·2
Ex tD A21 IP66 T80°C for Zone 21·22



ExPSL W200



ExPSL 200

Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Cover** : Cast Aluminium Alloy
- **Glass** : Heat Resistant Hard Glass
- **Guard** : Stainless Steel
- **Horn** : Aluminium Sheet

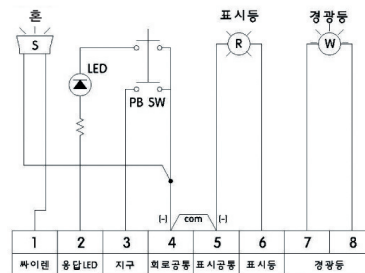
Standard Color

- Color : 7.5R 4/14(Red)
- If you want other color, contact us please.

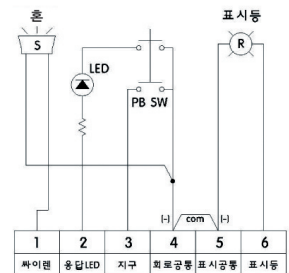
Technical Data

- **Rated Voltage** : DC 24V
- **Warning Light** : LED
- **Sound Level of Siren** : 90dB/1m
- **Siren** : DC24V Max, 50mA Below
- **Sound** : 경종, 경보, 구급, 화재
- **Hub** : 3/4", 1" or user scope
- **Tamb** : -20°C ≤ Ta ≤ +40°C (d).
-20°C ≤ Ta ≤ +50°C (tD)

Diagram

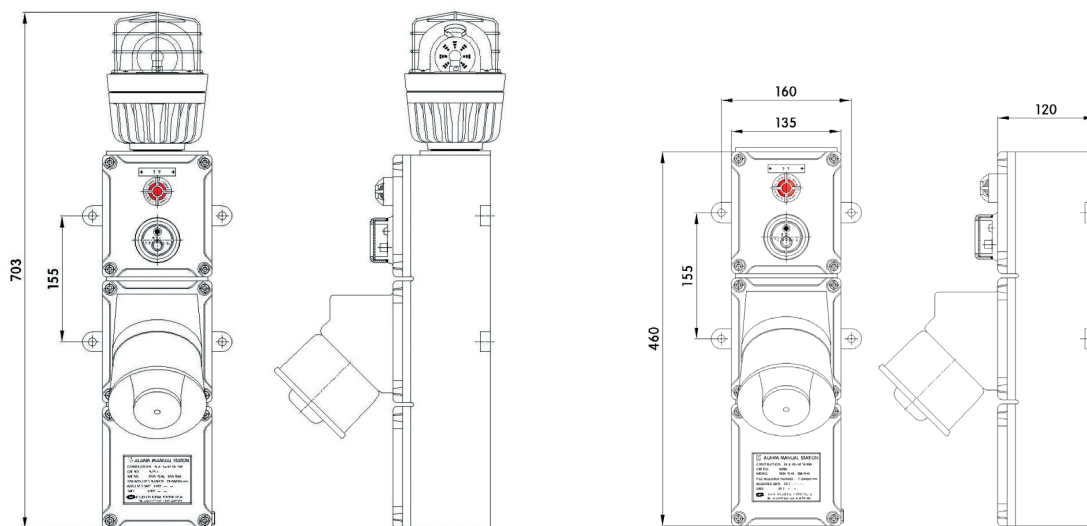


CONNECTION DIAGRAM [DC 24V]
Type. 1



CONNECTION DIAGRAM [DC 24V]
Type. 2

Drawing



IS-FSVP

Explosion-proof Fire Supervisory Panel IS-FSVP for Hazardous Location

Protection Grade

Ex d II B+H2 T6 Gb IP66
Ex tD A21IP65 T80°C



Standard Material

- **Main Body** : Cast Aluminium Alloy
- **Bolt & Washer** : Stainless Steel
- **Unit** : Push Button, Pilot Lamp
- **Tamb** : -20°C ≤ Ta ≤ +60°C

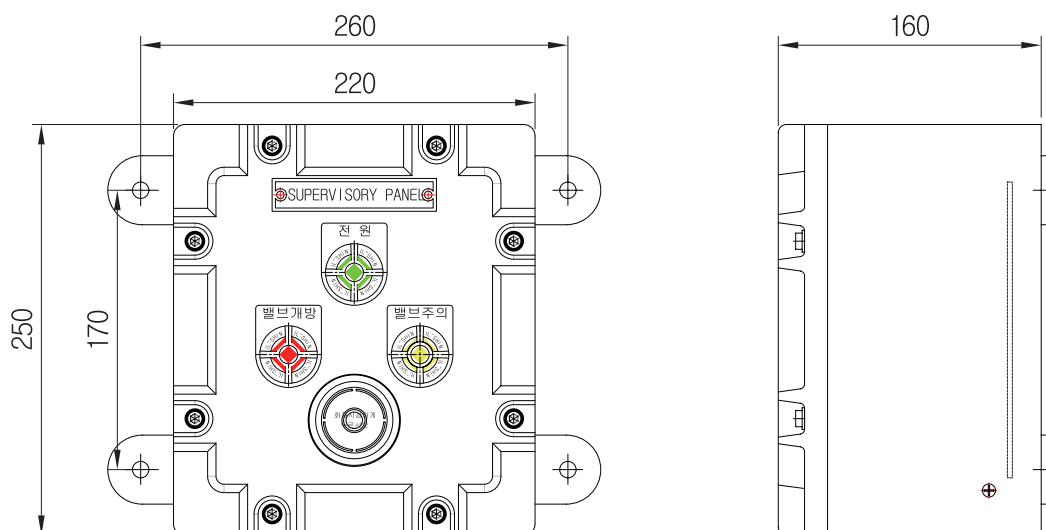
Technical Data

- **Rated Voltage** : DC 24V
- **Rated Frequency** : 50/60Hz

Standard Color

- **Color** : 7.5R 4/14(Red)
- If you want other color, contact us please.

Drawing



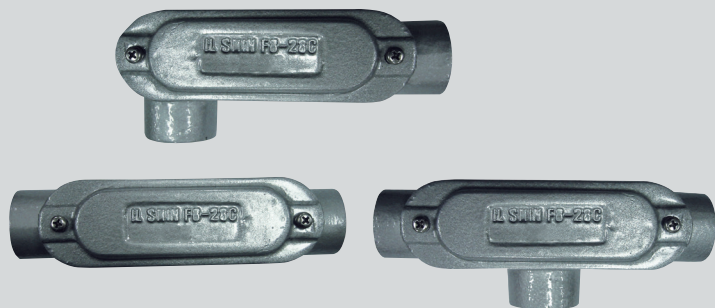
g

CONDUIT FITTINGS

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Elbow and Tee



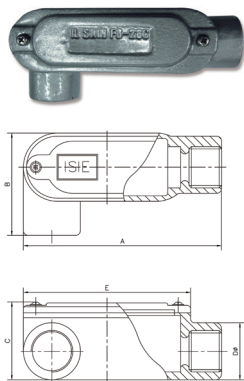
Specification

- **Material** : Cast Iron, Cast Aluminium
- **Thread** : PF, Order Made

Standard Finish

- Hot dip galvanized or Stove enamelled

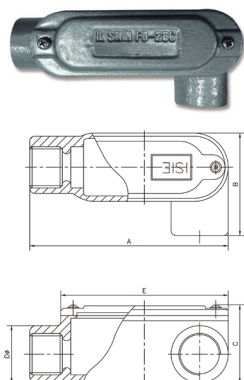
• ELR Elbow Right



Selection Table

Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	123	57	45	31	102	0.42
3/4"(22C)	131	64	48	38	112	0.66
1"(28C)	160	81	59	45	132	1.08
1-1/4"(36C)	169	95	73	57	143	1.41
1-1/2"(42C)	191	102	80	63	161	1.71
2"(54C)	217	111	95	76	190	2.87
2-1/2"(70C)	247	127	114	94	218	5.13
3"(82C)	278	137	128	105	250	5.93
4"(104C)	305	165	154	136	274	10.26

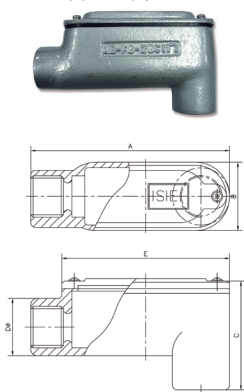
• ELL Elbow Left



Selection Table

Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	123	57	45	31	102	0.42
3/4"(22C)	131	64	48	38	112	0.66
1"(28C)	160	81	59	45	132	1.08
1-1/4"(36C)	169	95	73	57	143	1.41
1-1/2"(42C)	191	102	80	63	161	1.71
2"(54C)	217	111	95	76	190	2.87
2-1/2"(70C)	247	127	114	94	218	5.13
3"(82C)	278	137	128	106	250	5.93
4"(104C)	305	165	154	136	274	10.26

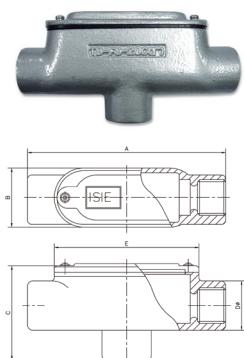
• ELB Elbow Back



Selection Table

Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	123	38	64	31	102	0.42
3/4"(22C)	131	43	72	38	112	0.66
1"(28C)	160	56	82	45	132	1.08
1-1/4"(36C)	169	65	101	57	143	1.41
1-1/2"(42C)	191	71	110	63	161	1.71
2"(54C)	217	80	124	76	190	2.81
2-1/2"(70C)	247	97	146	94	218	5.13
3"(82C)	278	110	155	106	250	5.93
4"(104C)	305	135	177	136	274	10.26

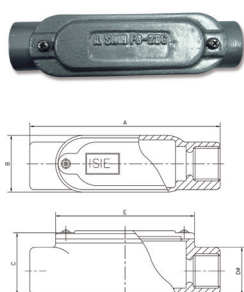
• ETB Tee Back



Selection Table

Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	142	38	77	31	102	0.55
3/4"(22C)	154	43	83	38	112	0.77
1"(28C)	183	56	96	45	132	1.26
1-1/4"(36C)	195	65	108	57	143	1.57
1-1/2"(42C)	218	71	117	63	161	1.98
2"(54C)	245	80	141	76	190	3.18
2-1/2"(70C)	275	97	180	94	218	6.17
3"(82C)	305	110	191	106	250	7.05
4"(104C)	333	135	223	136	274	10.46

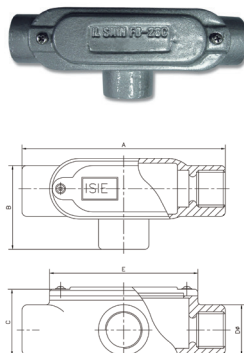
• ELC Straight



Selection Table

Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	142	38	44	31	102	0.38
(22C)3/4"	154	43	49	38	112	0.57
(28C)1"	183	56	62	45	132	0.97
(36C)1-1/4"	195	65	74	57	143	1.26
(42C)1-1/2"	218	71	82	63	161	1.54
(54C)2"	245	80	98	76	190	2.66
70C(2-1/2")	275	97	114	94	218	4.97
82C(3")	305	110	128	106	250	5.78
104C(4")	333	135	153	136	274	10.04

• ET Tee



Selection Table

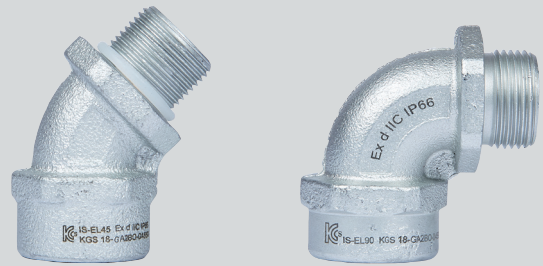
Conduit Size	Dimension (mm)					Weight
	A	B	C	D	E	
1/2"(16C)	142	61	44	31	102	0.55
3/4"(22C)	154	64	49	38	112	0.77
1"(28C)	138	80	62	45	132	1.26
1-1/4"(36C)	195	93	74	57	143	1.57
1-1/2"(42C)	218	99	82	63	161	1.98
2"(54C)	245	112	98	76	190	3.18
2-1/2"(70C)	275	125	114	94	218	6.17
3"(82C)	305	138	128	106	250	7.05
4"(104C)	333	168	153	136	274	10.46

IS-EL**

내압 Elbow 45도, 90도
Ex 45, 90 Degree Adapter

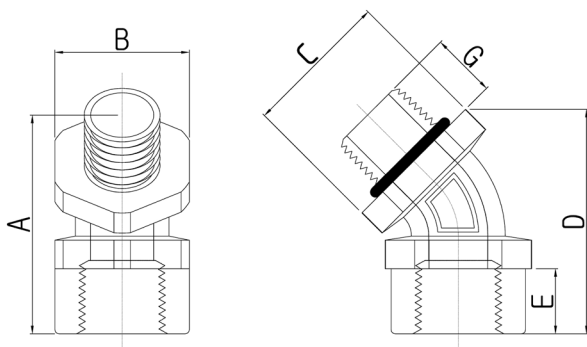
Protection Grade

Ex d IIC IP66

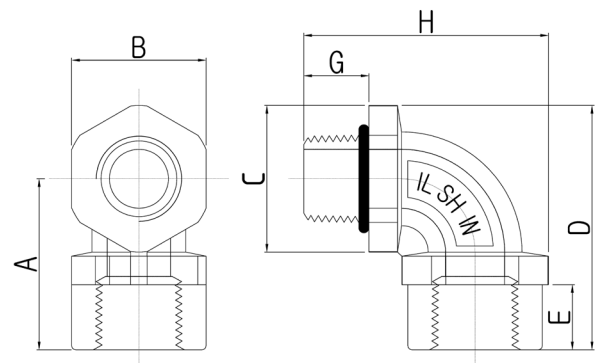


Specification

- **Main Body** : Cast Iron(주철)-H.D.G Plated
- **Tamb** : $-20^{\circ}\text{C} \leq T_a \leq +100^{\circ}\text{C}$
- **IS-EL 45, IS-EL 90**



IS-EL 45 (MxF)



IS-EL 90 (MxF)

Selection Table

Conduit Size	IS-EL 45 Dimension (mm)						Weight
	A	B	C	D	E	G	
1/2"(16C)	53.7	33	36	55.1	16	16	0.55
3/4"(22C)	61.6	38	41	62	16	20	0.77
1"(28C)	65.5	45	49	70	18	18	1.26
1-1/4"(36C)	69	55	58	76.7	18	18	1.57

Conduit Size	IS-EL 90 Dimension (mm)							Weight
	A	B	C	D	E	G	H	
1/2"(16C)	42	33	36	60	16	16	60	0.55
3/4"(22C)	46.5	38	41	66.9	16	20	70.9	0.77
1"(28C)	53	45	49	77.5	18	18	77.5	1.26
1-1/4"(36C)	58	55	58	87	18	18	87	1.57

RJB

Explosion-proof Round Junction Box RJB Series for Hazardous Location

Protection Grade

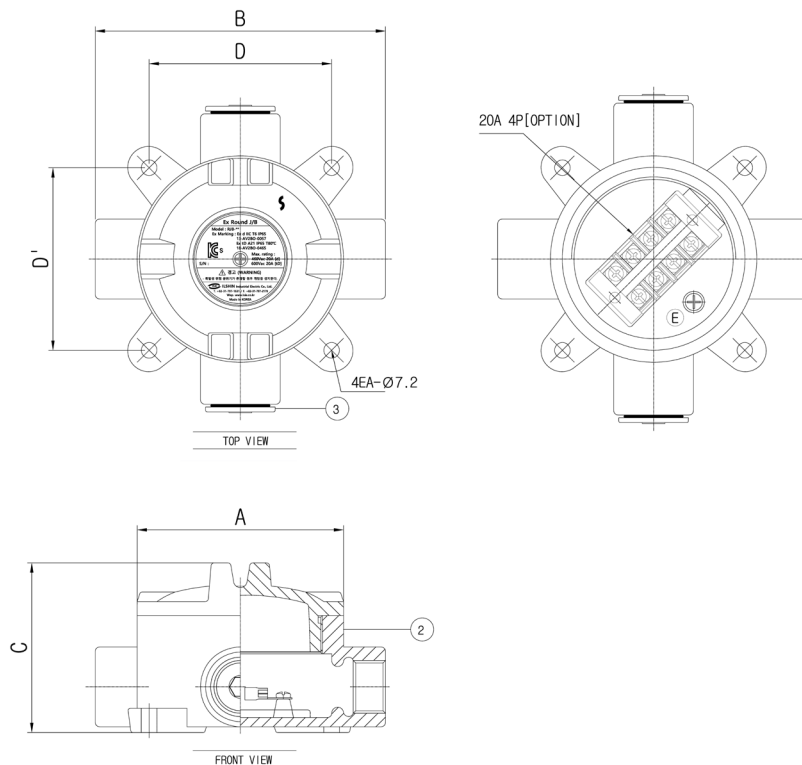
Ex d IIC T6 IP65 for Zone 1-2

Ex tD A21 IP65 T80°C for Zone 21-22



Specification

- **Main Body** : Cast Iron
- **Internal Terminal** : 20A 4P
AC 460V, 20A Below
- **Cable Entry** : PF(Standard), NPT, METRIC(Optional)



Selection Table

Conduit Size	Dimension (mm)					
	A	B	C	D-D'	EØ	H
1/2"(16C), M20	96	135	76	85	8	16
3/4"(22C), M25	96	135	79	85	8	21
1"(22C), M32	96	145	86	85	8	25
1-1/4"(36C)	136	183	107	110	8	34

IS-RJB-M*

IS-RJB-L*

Explosion-proof Round Junction Box
RJB Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1·2

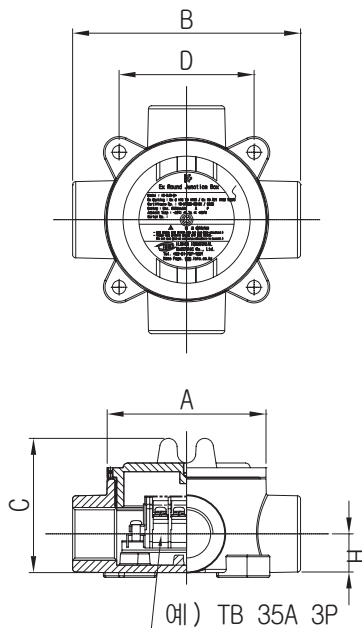
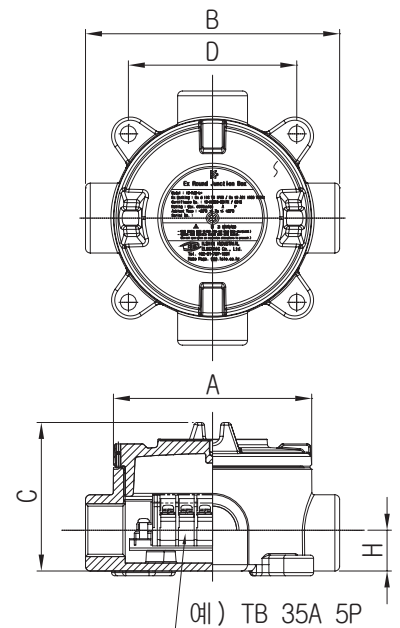
Ex tD A21 IP66 T80°C for Zone 21·22

**Specification**

- **Main Body** : Die-Casting Aluminium Alloy
- **Internal Terminal** : 35A 5P Max
AC/DC 600V 35A Below
- **Tamb** : -20°C ≤ Ta ≤ +60°C
- **Cable Entry** : PF(Standard), NPT, METRIC(Optional)

Weight

- IS-RJB-M - 0.9 kg
- IS-RJB-L - 1.4 kg

IS-RJB-M***IS-RJB-L*****Selection Table**

Model NO.	Dimension (mm)					
	Conduit Size	A	B	C	D	H
IS-RJB-M*	1/2"(16C), M20	100	143.5	84.5	85	19.3
	3/4"(22C), M25	100	143.5	84.5	85	19.3
	1"(28C), M32	100	143.5	84.5	85	19.3
IS-RJB-L*	3/4"(22C), M25	125	160	93.5	106	25.7
	1"(28C), M32	125	160	93.5	106	25.7
	1-1/4"(36C), M40	125	160	93.5	106	25.7

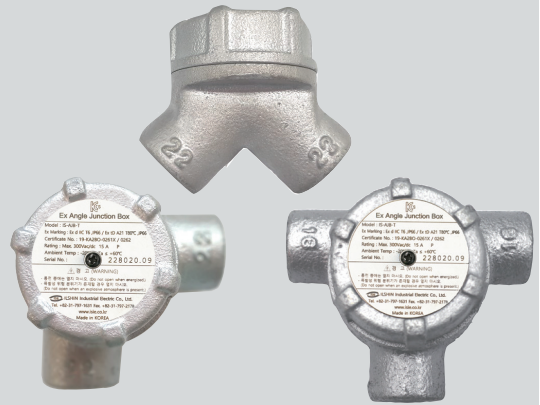
Angle Junction Box

Explosion-proof Angle Junction Box Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP66 for Zone 1-2

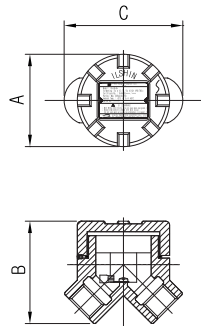
Ex tD A21 IP66 T80°C for Zone 21-22



Specification

- **Material** : Cast Iron
- **Thread** : PF, Order Made
- **정격 Max** : AC/DC 300V, Max, 15A
- **Tamb** : -20°C ≤ Ta ≤ +60°C

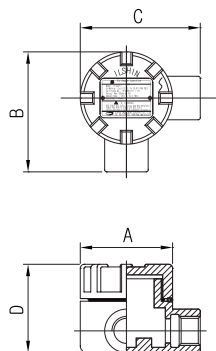
• IS-AJB-B*



Selection Table

Conduit Size	Dimension (mm)			Weight (kg)
	A	B	C	
B* 1/2"(16C)	70	77	90	0.86
B* 3/4"(22C)	70	80	98	0.9
B* 1"(28C)	70	86	108	1.06
B* 1-1/4"(36C)	88	100	126	1.8
B* 1-1/2"(42C)	88	106	136	1.9
B* 2"(54C)	104	115	158	2.76

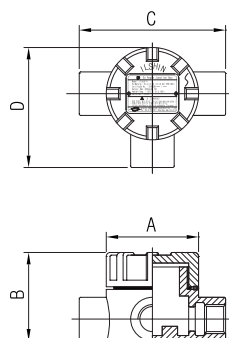
• IS-AJB-L*



Selection Table

Conduit Size	Dimension (mm)			Weight(kg)
	A	B	C	
L* 1/2"(16C)	70	67	91	0.9
L* 3/4"(22C)	70	70	91	0.96
L* 1"(28C)	70	79	97	1.16
L* 1-1/4"(36C)	87	90	111	1.8
L* 1-1/2"(42C)	87	96	111	1.86
L* 2"(54C)	105	112	130	2.86

• IS-AJB-T*



Selection Table

Conduit Size	Dimension (mm)			Weight(kg)
	A	B	C	
T* 1/2"(16C)	70	65	91	0.96
T* 3/4"(22C)	70	70	91	1.06
T* 1"(28C)	70	78	96	1.3
T* 1-1/4"(36C)	88	91	110	2
T* 1-1/2"(42C)	88	95	110	2.14
T* 2"(54C)	106	112	131	3.2

SRJB

Explosion-proof Special Round Junction Box
SRJB Series for Hazardous Location

Protection Grade

Ex d IIC T6 IP65 for Zone 1-2



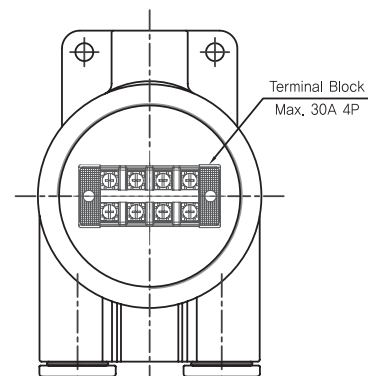
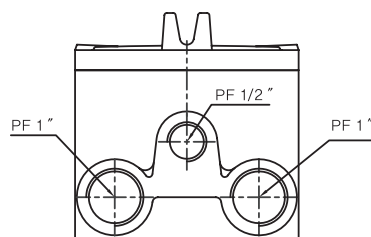
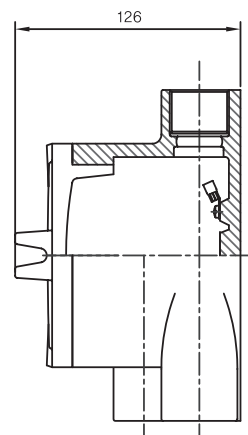
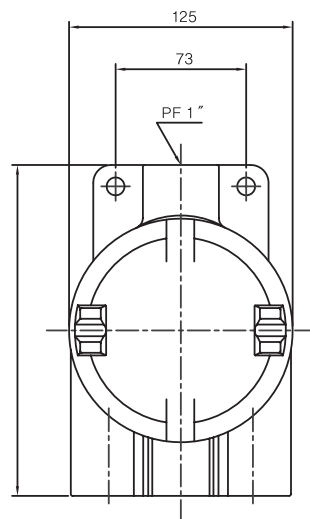
Specification

- **Main Body** : Cast Aluminium
- **Internal Terminal** : 30A 4P Max
AC 460V 30A Below
- **Fitting Option** : Barrier Cable Gland - ISCG-CCG, CSD

Standard Color

- **Box** : 7.5BG 6/1.5

Drawing

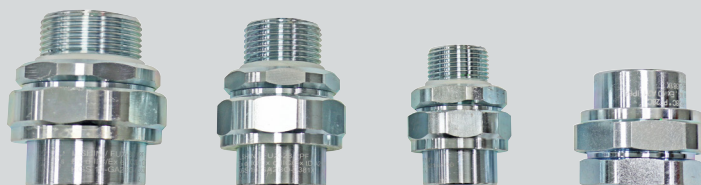


FUX

Explosion-proof Union Coupling FUX Series for Hazardous Location

Protection Grade

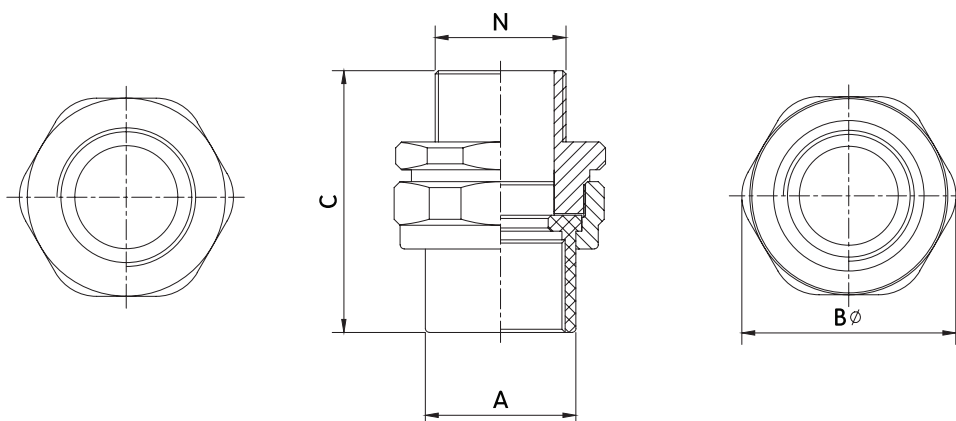
Ex d IIC / Ex e IIC IP66 for Zone 1.2
Ex tD A21 IP66



Specification

- **Material** : Steel, Brass, Stainless Steel, Option
- **Finish** : Zinc Electro Plated and Others
- **Thread** : NPT, PF, Metric
- **Tamb** : $-40^{\circ}\text{C} \leq T_a \leq +100^{\circ}\text{C}$
- **Option** : Male - Female, Female - Female

Drawing



Selection Table

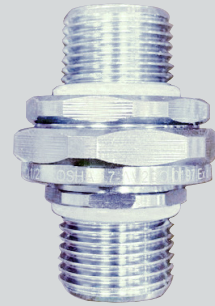
Conduit Size(N)	Dimension (mm)			Weight
	A	B	c	
1/2"(16C)	26	38	56.5	0.18
3/4"(22C)	31	43.5	58.5	0.23
1"(28C)	37	53.5	68	0.39
1-1/4"(36C)	48	63.5	68	0.48
1-1/2"(42C)	55	68.5	78.2	0.67
2"(54C)	66	78.4	84.3	0.82
2-1/2"(70C)	75.1	99	87	1.46
3"(82C)	87.8	113	90	1.78
4"(104C)	113	139	91.5	2.59

ISMU

Explosion-proof Male Union Coupling for Hazardous Location

Protection Grade

Ex d IIC / Ex e IIC / Ex tD A20 IP66



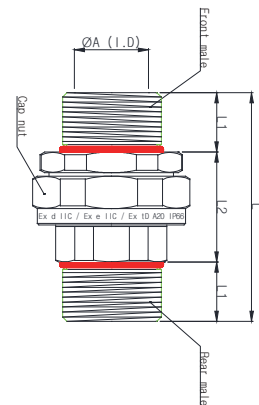
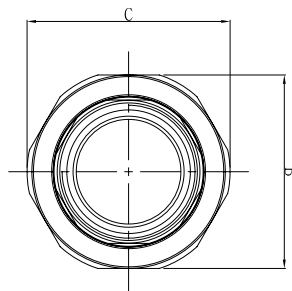
Specification

- **Material** : Steel, Brass, Stainless Steel, Option
- **Thread** : PF/NPT/METRIC

Drawing



ISMU



- Korea patent registration - 한국특허등록 / Design patent - 디자인특허등록
- Material : Standard - Brass (Ni-Plated) / Customized : Stainless steel 304/316 and Steel
- Thread Type : Standard - PF(G) / Customized : NPT and Metric
- Standard Type : Thread type and size is same as Front male and real male (eg. Front male : PF(G) 1-1/2" & Real male : PF(G) 1-1/2")
- Customized Type : Thread type and size is not same as Front male and real male (eg. Front male : M32×1.5p & Rear male : PF(G) 3/4")
- 제품용도
 1. 본 제품의 주 사용 용도로는 방폭전기기와 실링피팅의 연결을 위한 중간접속용 방폭 제품으로 사용되며, 방폭전기기와 실링피팅 연결시 실링피팅의 컴파운드 주입구의 방향을 주입이 용이한 위치로 하여 미체결 나사 접합면 없이 완전 접속되어 방폭전기기의 외함 보호등급과 방폭성능을 유지하는 용도로 사용된다.
 2. 본 제품은 1.항과 같이 기본적인 유니온 커플링의 기능 외에 소켓, 리듀셔와 같은 어댑터의 기능을 추가적으로 수행할 수 있다.
따라서 방폭전기기와 실링피팅 간에 나사산의 종류 또는 규격에 따른 크기가 서로 상이할 경우 본 제품 하나만으로 나사산의 종류와 크기를 변환하여 사용자 목적에 맞게 사용할 수 있다. (eg. M20 - PF(G)1 / M63 - PF(G) 1-1/4)

Selection Table

Conduit Size	Dimension (mm)			
	ØA	L	B	C
1/2"(16C)	14.5	50.1	35	38
3/4"(22C)	19.5	54.1	41	44
1"(28C)	25	67.6	50	53
1-1/4"(36C)	31	76.4	61	64
1-1/2"(42C)	38	81.3	66	70
2"(54C)	49	84.3	78	81
2-1/2"(70C)	60	84.3	95	99
3"(82C)	75	84.3	110	113
4"(104C)	95	84.3	135	139

FUXI

Explosion-proof Insulation Union Coupling
FUXI Series for Hazardous Location

Protection Grade

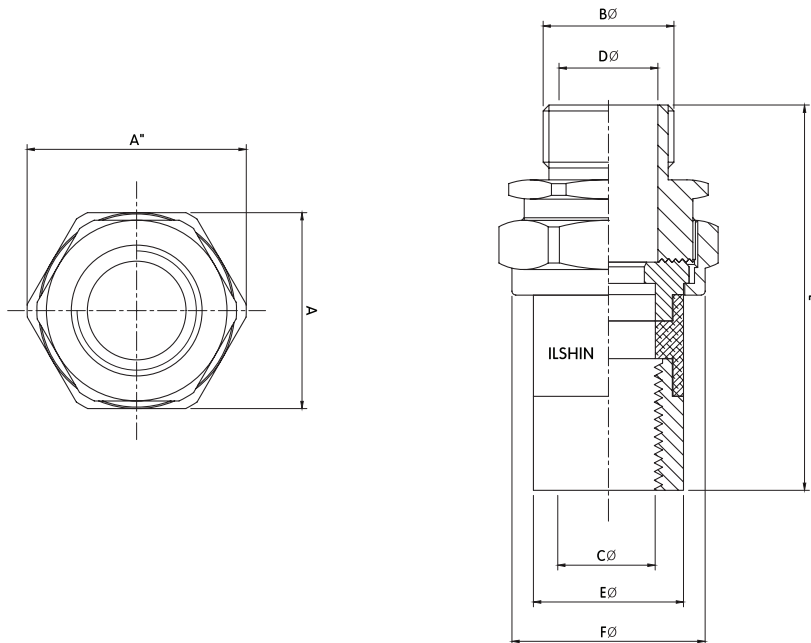
Ex d IIC for Zone 1-2



Specification

- **Material** : Brass, Engineering Plastic
- **Finish** : Nickel Plated
- **Thread** : PF

Drawing



Selection Table

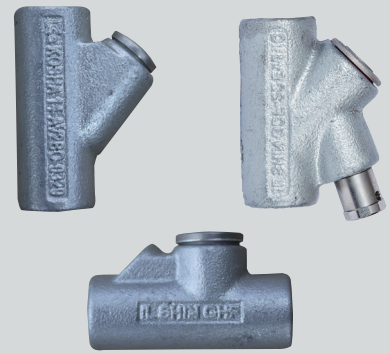
Conduit Size	Dimension (mm)							
	BØ(M)	CØ(F)	A	A''	DØ	EØ	FØ	L
1/2"	1/2"	1/2"	41.0	45.0	14.9	32.0	38.5	90.0
3/4"	3/4"	3/4"	48.0	53.0	20.0	39.0	46.0	90.0
1"	1"	1"	57.0	61.0	25.5	46.0	55.0	90.0
1-1/4"	1-1/4"	1-1/4"	66.0	69.0	35.0	53.5	66.0	102.0
1-1/2"	1-1/2"	1-1/2"	72.0	76.0	40.0	60.0	72.0	102.0
2"	2"	2"	87.0	90.0	40.0	73.0	87.0	102.0

GVF & GHF & GDF

Explosion-proof Sealing Fitting
GVF & GHF & GDF Series for Hazardous Location

Protection Grade

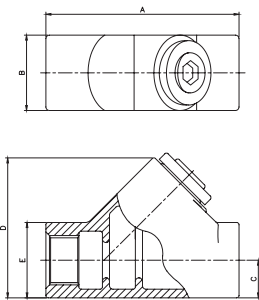
Ex d IIC / Ex e IIC / Ex tD A21 IP66 for Zone1.2



Specification

- **Main Body** : Cast Iron
- **Plug** : Aluminium
- **Sealing compound** : SELPOD-A
- **Tamb** : -40°C ≤ Ta ≤ +100°C

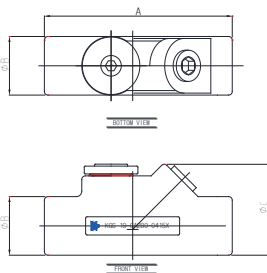
• GVF Vertical



Selection Table

Model No.	Conduit Size	Dimension (mm)					Weight
		A	B	C	D	E	
GVF-16	1/2"	82	32	16	60	32	0.36
GVF-22	3/4"	82	32	16	60	32	0.52
GVF-28	1"	105	45	22.5	81.5	45	0.72
GVF-36	1-1/4"	126	56	28	102	56	1.20
GVF-42	1-1/2"	143	62	31	115	62	1.55
GVF-54	2"	161	76	38	135.5	76	2.30
GVF-70	2-1/2"	185	93	46.5	153	93	3.81
GVF-82	3"	205	108	54	185	108	5.20
GVF-104	4"	231	135	67.5	207	135	7.80

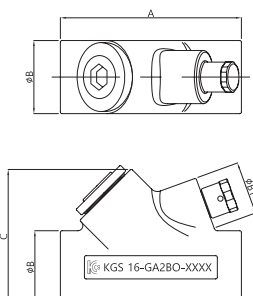
• GHF Horizontality



Selection Table

Model No.	Conduit Size	Dimension (mm)					Weight
		A	B	C	D	E	
GHF-16	1/2"	96	32	16	44	32	0.42
GHF-22	3/4"	97	38	19	50	36	0.47
GHF-28	1"	119	45	22.5	60	45	0.75
GHF-36	1-1/4"	133	56	28	70	56	1.20
GHF-42	1-1/2"	146	62	31	78	62	1.43
GHF-54	2"	165	77	38.5	93	77	2.10
GHF-70	2-1/2"	191	89	44.5	106.5	86	3.80
GHF-82	3"	216	108	54	122.5	104	5.10
GHF-104	4"	248	133	66.5	149	130	6.95

• GDF Drain



Selection Table

Model No.	Conduit Size	Dimension (mm)				Weight
		A	ØB	ØB1	C	
GDF-16	1/2"	82	32	32	64	0.42
GDF-22	3/4"	94	38	32	70	0.47
GDF-28	1"	109	44	32	81	0.75
GDF-36	1-1/4"	126	55	32.5	97	1.20
GDF-42	1-1/2"	142	61	32.5	115	1.43
GDF-54	2"	160	78	32.5	136	2.10
GDF-70	2-1/2"	185	96.0	32.5	164	3.80
GDF-82	3"	205	111.0	32.5	180	5.10
GDF-104	4"	234	136.5	32.5	242	6.95

CGSS & ACG

Explosion-proof Cable Gland(Packing Type)
CGSS, ACG for Hazardous Location

Protection Grade

CGSS : Ex d IIC IP65 for Zone 1-2

ACG : Ex d IIC for Zone 1-2

CGSS-N : Ex d IIC IP65 for Zone 1-2



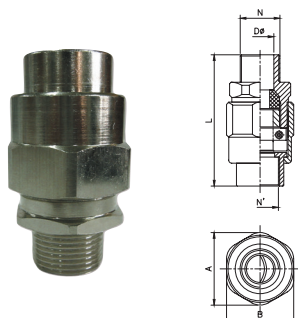
Specification

- **Material** : Stainless Steel, Brass
- **Thread** : PF, NPT METRIC

Standard Finish

- Natural of brass or stainless steel
- Ni Plated

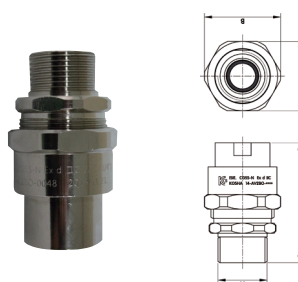
• CGSS



Selection Table

Conduit Size	Dimension (mm)						Weight
	N(N')	A	B	L	DØ	Packing inner Dia	
1/2"(16C)	1/2"	37	33.5	76	15	Φ9~12	0.242
3/4"(22C)	3/4"	41	38	80	20	Φ12~15	0.297
1"(28C)	1"	54	47	92	25	Φ16~20	0.465
1-1/4"(36C)	1-1/4"	58.5	55	98.5	33	Φ18~22	0.635
1-1/2"(42C)	1-1/2"	67	63.5	110	39	Φ23~27	0.867
2"(54C)	2"	80	75	113	51	Φ27~32	1.200

• CGSS-N

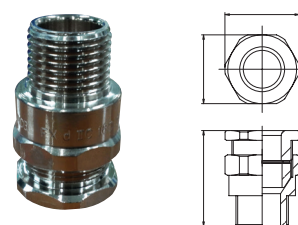


Selection Table

Conduit Size	Dimension (mm)					Weight
	N(N')	A	B	L	Packing inner Dia	
3/4"(22C)	3/4"	41	38	65.2	Φ15~17	0.228

- **Compact Type** : 3/4" Only

• ACG

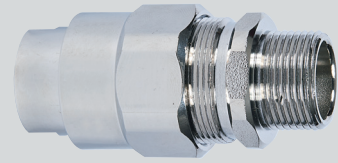


Selection Table

Conduit Size	Dimension (mm)				Weight
	A	B	L	Packing inner Dia	
1/2"(16C)	47	30	14	Φ11~13	0.090
3/4"(22C)	47	30	18	Φ15~17	0.138
1"(28C)	47	44	28	Φ20~22	0.198

ISCG-PCG

Explosion-proof Cable Gland
ISCG-PCG for Hazardous Location



Protection Grade

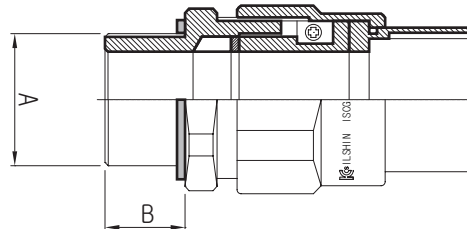
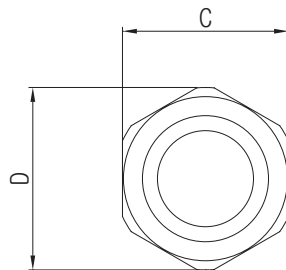
Ex d IIC / Ex E IIC / Ex tD A21 IP66

Specification

- **Material** : Stainless Steel, Brass
- **Thread** : PF, NPT, Metric
- **Tamb** : -30°C ≤ Ta ≤ +100°C

Standard Finish

- Natural of brass or stainless steel
- Ni Plated

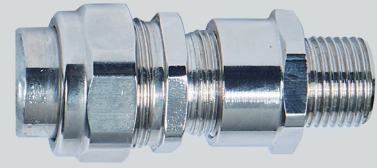


Selection Table

Conduit Size	A		B			C	D	Cable dia.
	NPT/PF	Metric	PF	NPT	Metric			
ISCG-PCG-16	1/2"	M20	17	16	15	30	32.5	6~14
ISCG-PCG-22	3/4"	M25	17	17	15	36	39	14~18
ISCG-PCG-28	1"	M32	22	19	15	42	46	18~22
ISCG-PCG-36	1-1/4"	M40	23	19	15	54	59	23~29
ISCG-PCG-42	1-1/2"	M50	25	20	15	58	62	30~35
ISCG-PCG-54	2"	M63	26	20	15	70	75	36~46
ISCG-PCG-70	2-1/2"	M75	27	29	15	88	95	47~56
ISCG-PCG-82	3"	M90	28	30	17	101	108	57~75
ISCG-PCG-104	4"	M110	30	31	17	127	135	76~88

ISCG-DCG

Explosion-proof Cable Gland
ISCG-DCG for Hazardous Location



Protection Grade

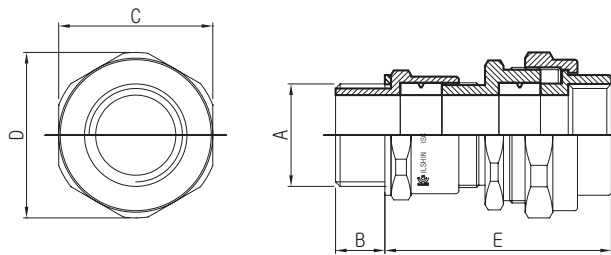
Ex d IIC / Ex e IIC IP66 / Ex tD A21 IP66

Specification

- **Material** : Stainless Steel, Brass
- **Thread** : PF, NPT, Metric
- **Tamb** : $-30^{\circ}\text{C} \leq T_a \leq +100^{\circ}\text{C}$

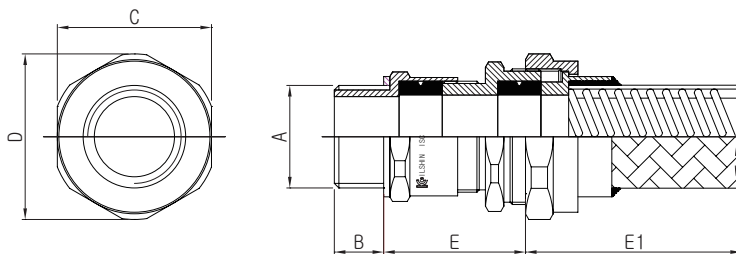
Standard Finish

- Natural of brass or stainless steel
- Ni Plated



Selection Table

Conduit Size	A		B	C	D	E	Cable dia.
	NPT/PF	Metric					
ISCG-DCG-16	1/2"	M20	15	34	37.5	59	6~13
ISCG-DCG-22	3/4"	M25	16	42	44.5	65.5	13~18
ISCG-DCG-28	1"	M32	18	50	53.7	70.5	18~22
ISCG-DCG-36	1-1/4"	M40	19	58	61.5	74.5	22~29
ISCG-DCG-42	1-1/2"	M50	19	64	68	79	29~35
ISCG-DCG-54	2"	M63	20	78	83	83	35~46



Selection Table

Conduit Size	A		B	C	D	E	E1	Cable dia.
	NPT/PF	Metric						
ISCG-DCG-16	1/2"	M20	15	34	37.5	37	300 ~ OVER	6~13
ISCG-DCG-22	3/4"	M25	16	42	44.5	39.5		13~18
ISCG-DCG-28	1"	M32	18	50	53.7	43.5		18~22
ISCG-DCG-36	1-1/4"	M40	19	58	61.5	46.5		22~29
ISCG-DCG-42	1-1/2"	M50	19	64	68	49		29~35
ISCG-DCG-54	2"	M63	20	78	83	53		35~46

ISCG-E1F & -E1FB

Ex Armoured Cable Gland for Hazardous Location

Protection Grade

Ex d IIC Zone 1, 2

Ex tD A21, IP66/67 Zone 21, 22



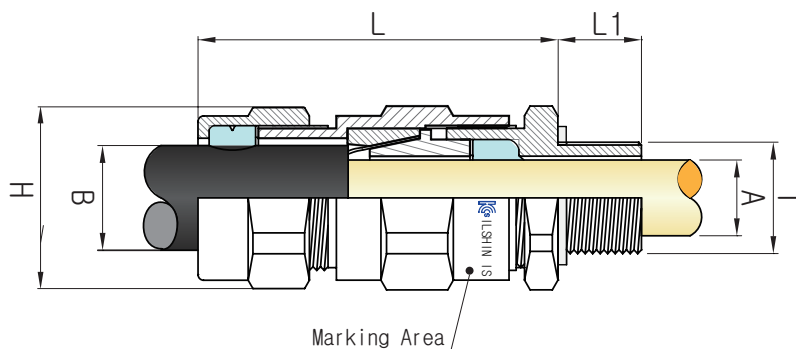
- ISCG-E1F : PF, NPT 3/8" / 1/2" ~ 2-1/2", Metric M16 / M20 ~ M63 / M75
- ISCG-E1FB : PF, NPT 3/8" ~ 1", Metric M16 ~ M32

Specification

- **Material** : Stainless Steel, Brass
- **Thread** : PF, NPT, Metric
- **Tamb** : -60°C ~ +120°C (ISCG-E1F) - Packing Sealing Type
-30°C ~ +100°C (ISCG-E1FB) - Compound Sealing Type

Standard Finish

- Natural of brass or stainless steel
- Ni Plated



ISCG-E1F - a b c	
Category = a	16a, 16b, 20a, 20b ...63b
Thread Type = b	G(PF) : 3/8" ~ 2-1/2" NPT : 3/8" ~ 2-1/2" M : 16 ~ 75
Material = c	: Brass(Ni-plated) S6 : Stainless steel 316 B : Brass(Not Plated)

Selection Table

ISCG-E1F	Entry Thread Size (T)		Cable Range		Thread Length (L1)			Armour Range		H	L
	Metric	NPT, G (PF)	Inner(A)	Outer (B)	Metric	NPT	G (PF)	W	X		
E1F-16a	M16 / M20	3/8" / 1/2"	5 ~ 11	7 ~ 12	15	13 / 15	13 / 17	0.8 ~ 1.25	~ 0.8	25	65
E1F-16b	M16 / M20	3/8" / 1/2"	5 ~ 11	11 ~ 15	15	13 / 15	13 / 17	0.8 ~ 1.25	~ 0.8	25	65
E1F-20a	M20 / M25	1/2" / 3/4"	8 ~ 15	13 ~ 18	15	15 / 16	17 / 17	0.8 ~ 1.25	~ 0.8	31	67
E1F-20b	M20 / M25	1/2" / 3/4"	8 ~ 15	17 ~ 20	15	15 / 16	17 / 17	0.8 ~ 1.25	~ 0.8	31	67
E1F-25a	M25 / M32	3/4" / 1"	13 ~ 20	18 ~ 23	15	16 / 18	17 / 22	1.25 ~ 1.6	~ 0.8	36	71
E1F-25b	M25 / M32	3/4" / 1"	13 ~ 20	22 ~ 26	15	16 / 18	17 / 22	1.25 ~ 1.6	~ 0.8	36	71
E1F-32a	M32 / M40	1" / 1-1/4"	18 ~ 26	23 ~ 29	15	18 / 19	22 / 22	1.6 ~ 2.0	~ 1.2	45	77
E1F-32b	M32 / M40	1" / 1-1/4"	18 ~ 26	28 ~ 32	15	18 / 19	22 / 22	1.6 ~ 2.0	~ 1.2	45	77
E1F-40a	M40 / M50	1-1/4" / 1-1/2"	24 ~ 32	32 ~ 37	15	19 / 20	22 / 22	1.6 ~ 2.0	~ 1.2	55	80
E1F-40b	M40 / M50	1-1/4" / 1-1/2"	24 ~ 32	36 ~ 41	15	19 / 20	22 / 22	1.6 ~ 2.0	~ 1.2	55	80
E1F-50a	M50 / M63	1-1/2" / 2"	31 ~ 40	39 ~ 45	15	19 / 20	22 / 23	1.8 ~ 2.5	~ 1.2	68	88
E1F-50b	M50 / M63	1-1/2" / 2"	31 ~ 40	45 ~ 50	15	19 / 20	22 / 23	1.8 ~ 2.5	~ 1.2	68	88
E1F-63a	M63 / M75	2" / 2-1/2"	39 ~ 54.5	49 ~ 55	15	20 / 27	22 / 23	1.8 ~ 2.5	~ 1.2	82	92
E1F-63b	M63 / M75	2-1/2"	39 ~ 54.5	54 ~ 60	15	27	23	1.8 ~ 2.5	~ 1.2	82	92

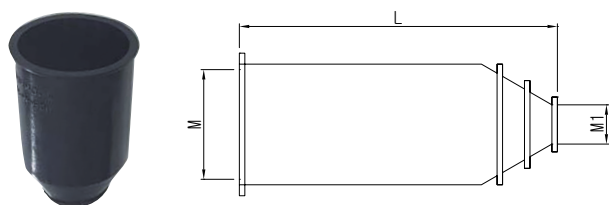
ACCESSORIES

Accessories for
Ex Armoured Cable Gland



Shrouds

- Material : EPDM



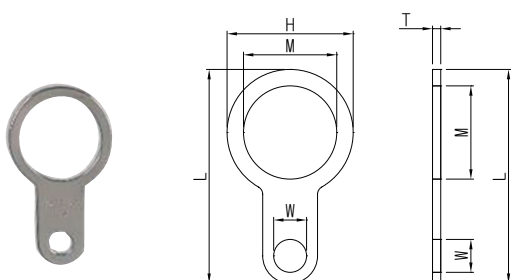
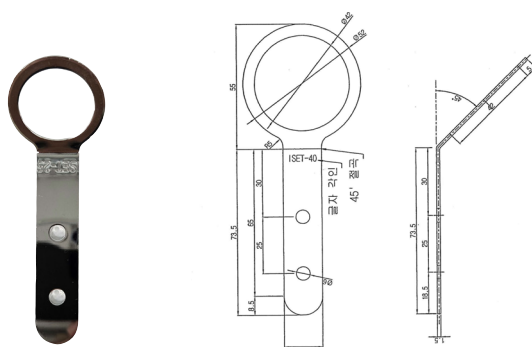
Selection Table

TYPE/SIZE	SH-A			SH-W		
	M	M1	L	M	M1	L
SH-16	22	9	58	27	10	82
SH-20	27	12	60	33	15	95
SH-25	32	17	60	38	16	96
SH-32	39	22	62	48	20	105
SH-40	48	28	62	58	27	108
SH-50	58	36	65	73	30	126
SH-63	73	46	70	88	39	135
SH-75	85	59	72	106	42	145
SH-90	100	68	75	118	55	155
SH-100	112	80	80	128	80	158

Earth Tag

- Material : Brass + Ni. Plated or stainless Steel

* Option - IS-ET45-** 2 Hole Earth Tag



TYPE/SIZE	SH-A		H	M	T	L	W
	PF/NPT	Mertic					
ET-45-20	1/2"	M20	30	21.5	1.5	106.5	6
ET-45-25	3/4"	M25	35	27	1.5	111.5	6
ET-45-32	1"	M32	44	33.5	1.5	120.5	6
ET-45-40	1-1/4"	M40	52	42	1.5	128.5	6
ET-45-50	1-1/2"	M50	63	50.5	1.5	139.5	6

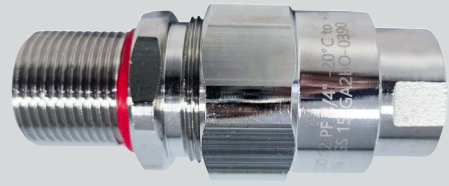
TYPE/SIZE	SH-A		H	M	T	L	W
	PF/NPT	Mertic					
ET-16	3/8"	M16	23	17	1.5	49	6
ET-20	1/2"	M20	30	21.5	1.5	56	7
ET-25	3/4"	M25	35	27	1.5	62	8
ET-32	1"	M32	44	33.5	1.5	74	12
ET-40	1-1/4"	M40	52	42	1.5	81	14
ET-50	1-1/2"	M50	63	50.5	1.5	101	14
ET-63	2"	M63	78	64	1.5	118	14
ET-75	2-1/2"	M75	92	76	1.5	131	14
ET-90	3"	M90	109	91	1.5	162	15
ET-100	3-1/2"	M100	120	101	1.5	177	15
ET-115	4"	M115	134	116	1.5	190	15

ISCSD-*

II Shin Cable Sealing Device ISCSD Series for Hazardous location

Protection Grade

Ex d IIC IP66 for Zone 1, 2



Specification

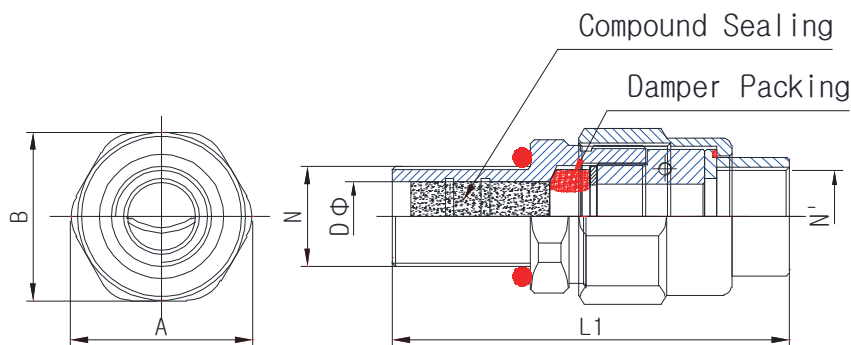
- **ISCSD-G (Flame-Proof Type)**
- **SIZE** : 16C(1/2")~104C(4")
- **Material** : Brass(Ni-Plated)
- **Thread** : PF, NPT, Metric

Standard Finish

- Natural of stainless steel
- Ni Plated

Note

- Explosion Proof Item STEEL CONDUIT and canal drainage structure during condensation.
- IIShin Cable Sealing Device is an accredited explosion proof products.



ISCSD-G

Selection Table

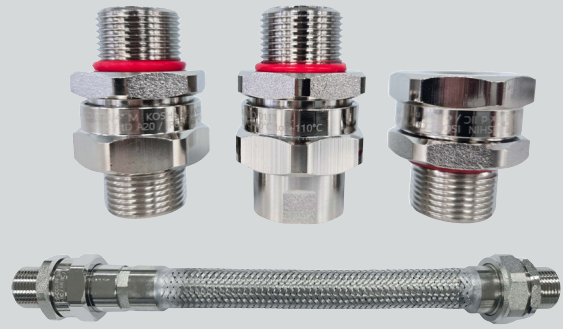
Model No.	Conduit Size	Dimension (mm)						Cable Out Diameter	Weight
		N	N'	A	B	L1	DØ		
ISCSD-G 16	16C(1/2")	1/2"	1/2"	37	34	80.5	15	Φ11~13	0.619
ISCSD-G 22	22C(3/4")	3/4"	3/4"	41	38	83	20	Φ15~17	0.825
ISCSD-G 28	28C(1")	1"	1"	50	47	93.5	25	Φ20~22	1.252
ISCSD-G 36	36C(1-1/4")	1-1/4"	1-1/4"	58	55	101	33	Φ18~22 / Φ22~26	1.839
ISCSD-G 42	42C(1-1/2")	1-1/2"	1-1/2"	67	63	114	39	Φ23~27 / Φ27~31	2.595
ISCSD-G 54	54C(2")	2"	2"	80	75	117.5	51	Φ27~32/ Φ32~38	3.414
ISCSD-G 70	70C(2-1/2")	2-1/2"	2-1/2"	98	93	130	62	Φ41~46	5.713
ISCSD-G 82	82C(3")	3"	3"	114	108.5	133	77	Φ52~58	6.994
ISCSD-G 104	104C(4")	4"	4"	146	138	139	100	Φ64~70	11.497

ISCG-CCG-**

Explosion-proof Cable Gland
for Hazardous Location(CABLE TYPE)

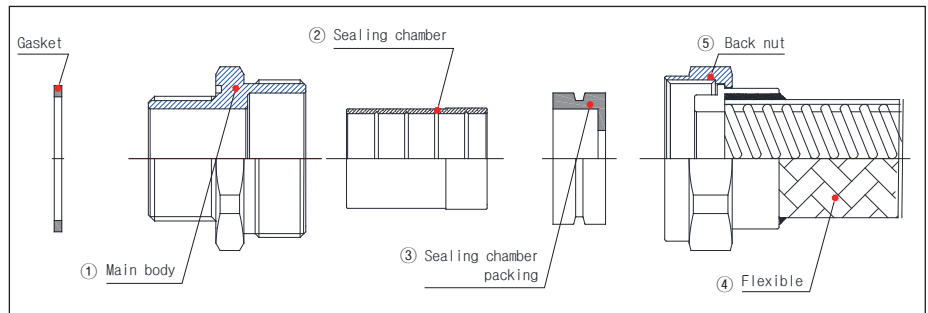
Protection Grade

Ex d IIC / Ex e IIC / Ex nR IIC / Ex tD A20 IP66



Specification

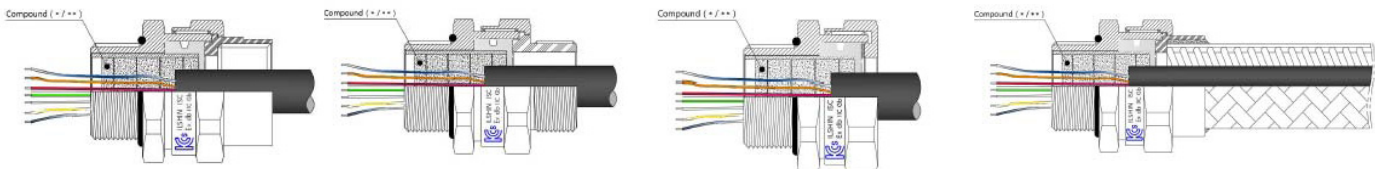
- **Material** : Standard : Brass (Ni-plated),
Option : Stainless steel304,
316, Carbon Steel
- **Thread** : PF, NPT, Metric
- **Compound** : Selpod-LB : Liquid epoxy
Selpod-PB : Putty epoxy
- **Tamb** : -60°C ≤ Ta ≤ +100°C



① Main body ② Sealing chamber ③ Sealing chamber packing ④ Female body ⑤ Back nut

Unfolded view [F-type : MxF]

Drawing



Type-F (Male x Female)

Type-M (Male x Male)

Type-E (Male x End)

Type-X (Male x Flexible(M or F))

Dimmension (mm)

Thread Type			MAX Ø OVER CORES	Chamber Packing inner Ø size		Maximum number of cores	Amount of Compound Required	
PF(G)	NPT	METRIC		Standard	Special		Selpod-LB	Selpod-PB
3/8"	3/8"	M16	Ø6	Ø4(Ø4~7)	Ø2.5(Ø2.5~7)	4	2.4ml	6 mm
1/2"	1/2"	M20	Ø9	Ø7(Ø7~10)	Ø2.5(Ø2.5~10)	8	4.8ml	12 mm
3/4"	3/4"	M25	Ø14	Ø12(Ø12~15)	Ø4(Ø4~15)	14	9.2ml	23 mm
1"	1"	M32	Ø18	Ø16(Ø16~19)	Ø6(Ø6~19)	22	17.6ml	44 mm
1-1/4"	1-1/4"	M40	Ø24	Ø22(Ø22~25)	Ø10(Ø10~25)	30	29.6 ml	74 mm
1-1/2"	1-1/2"	M50	Ø31	Ø29(Ø29~32)	Ø10(Ø10~32)	40	42.4 ml	106 mm
2"	2"	M63	Ø39	Ø37(Ø37~40)	Ø25(Ø25~40)	38	78.8 ml	1통+17 mm

ISCG-CSD-**

Explosion-proof Cable Gland
for Hazardous Location(WIRE TYPE)

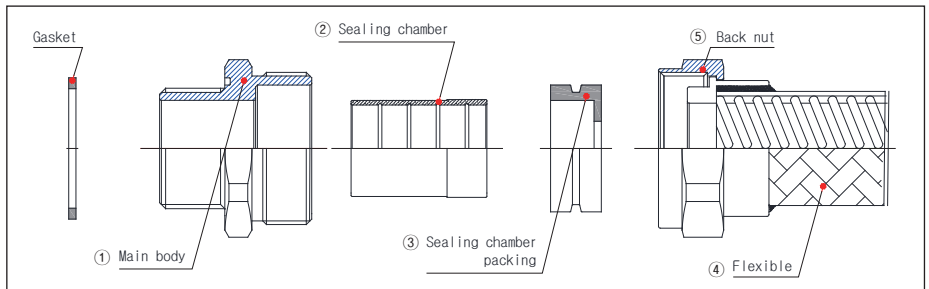
Protection Grade

Ex d IIC / Ex e IIC / Ex nR IIC / Ex tD A20 IP66



Specification

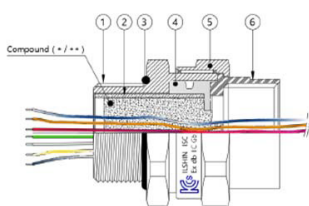
- **Material** : Standard : Brass (Ni-plated),
Option : Stainless steel304,
316, Carbon Steel
- **Thread** : PF, NPT, Metric
- **Compound** : Selpod-LB : Liquid epoxy
Selpod-PB : Putty epoxy
- **Tamb** : -60°C ≤ Ta ≤ +110°C



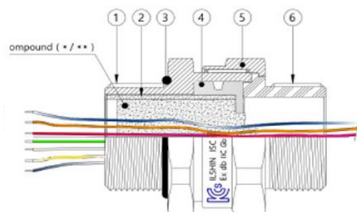
① Main body ② Sealing chamber ③ Sealing chamber packing ④ Female body ⑤ Back nut

Unfolded view [F-type : MxF]

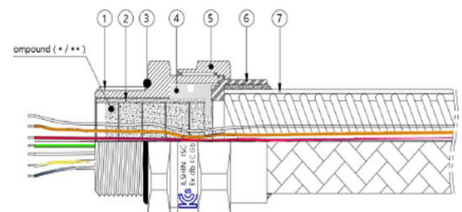
Drawing



Type-F (Male x Female)



Type-M (Male x Male)



Type-X (Male x Flexible(M or F))

Dimension (mm)

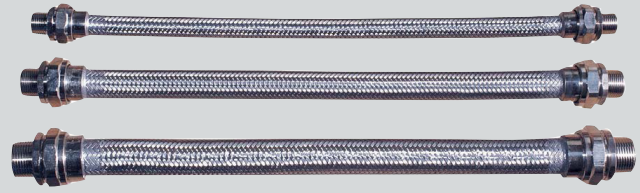
Thread Type			MAX Ø OVER CORES	Chamber Packing inner Ø size		Maximum number of cores	Amount of Compound Required	
PF(G)	NPT	METRIC		Standard	Special		Selpod-LB	Selpod-PB
3/8"	3/8"	M16	Ø6	Ø4(Ø4~7)	Ø2.5(Ø2.5~7)	4	2.4ml	6 mm
1/2"	1/2"	M20	Ø9	Ø7(Ø7~10)	Ø2.5(Ø2.5~10)	8	4.8ml	12 mm
3/4"	3/4"	M25	Ø14	Ø12(Ø12~15)	Ø4(Ø4~15)	14	9.2ml	23 mm
1"	1"	M32	Ø18	Ø16(Ø16~19)	Ø6(Ø6~19)	22	17.6ml	44 mm
1-1/4"	1-1/4"	M40	Ø24	Ø22(Ø22~25)	Ø10(Ø10~25)	30	29.6 ml	74 mm
1-1/2"	1-1/2"	M50	Ø31	Ø29(Ø29~32)	Ø10(Ø10~32)	40	42.4 ml	106 mm
2"	2"	M63	Ø39	Ø37(Ø37~40)	Ø25(Ø25~40)	38	78.8 ml	1통+17 mm

FFCX

Explosion-proof Flexible Coupling FFCX Series for Hazardous Location

Protection Grade

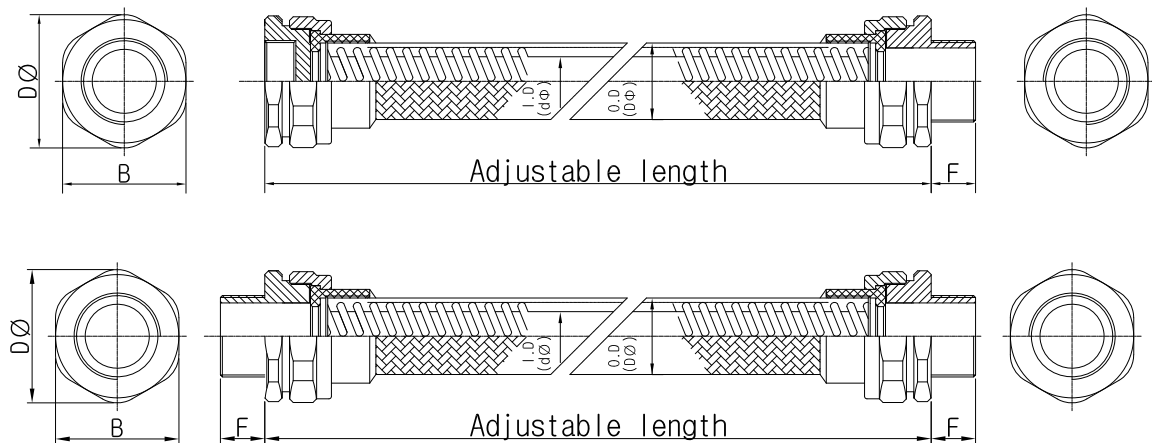
Ex d IIC for Zone 1-2



Specification

- **Flexible Tube** : Stainless Steel
- **End Fitting** : Brass(Stainless Steel)
- **Thread** : NPT, PF
- **M-M** : Male and Male(Standard)
- **M-F** : Male and Female
- **F-F** : Female and Female
- Male and Male union are fitted as standard

Drawing



Selection Table

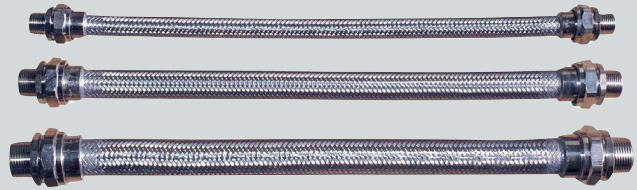
Conduit Size	Min. Bending Radius	Dimension (mm)				
		B	DØ	F	I.D(dØ)	O.D(dØ)
1/2"(16C)	80	35	38	14	12	21
3/4"(22C)	100	41	44	14	20	28
1"(28C)	140	50	53	16	25	36
1-1/4"(36C)	180	60	63	20	32	43
1-1/2"(42C)	210	67	70	24	38	51
2"(54C)	270	77	79	24	50	67
2-1/2"(70C)	350	98	101	32	62	81
3"(82C)	416	109	114	32	79	112
4"(104C)	520	139	142	34	105	138

ISCSD-F

II Shin Flexible Coupling
Non Hazardous location

Protection Grade

GENERAL PRODUCTS(Auto Drain Type)



Specification

- **Flexible (General Type)**
- SIZE : 16C(1/2")~104C(4")
- Flexible Tube : Stainless steel
- End Fitting : Stainless steel or Brass(Ni-Plated)
- Thread : PF, NPT, METRIC
- Enhanced Flexibility & Auto Drain Type

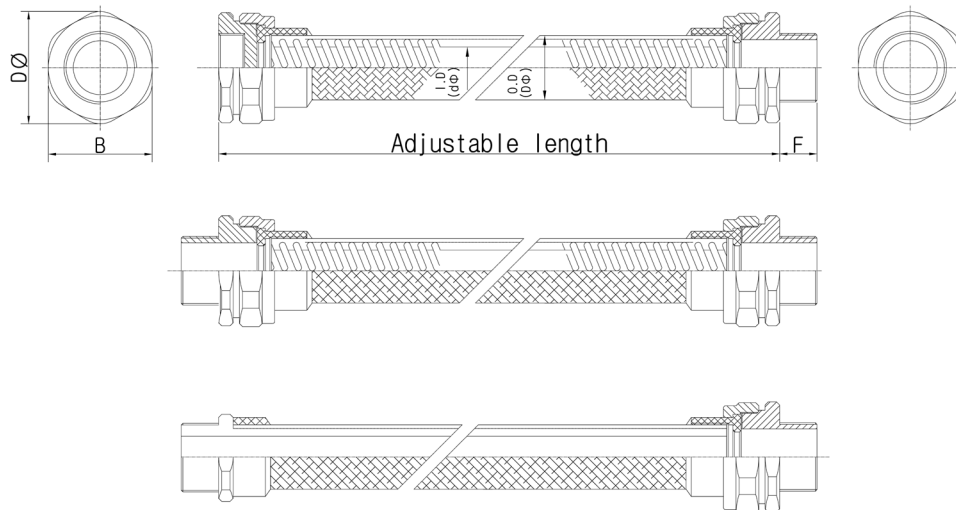
Standard Finish

- Natural of Stainless Steel
- Ni Plated

Note

- Use of FLEXIBLE TUBE can be natural drainage structure during condensation.

Drawing



Selection Table

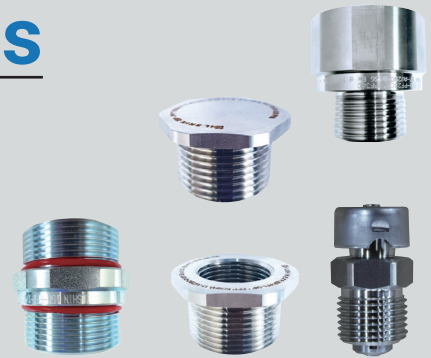
Conduit Size	Min. Bending Radius	Dimension (mm)				
		B	DØ	F	I.D(dØ)	O.D(dØ)
1/2"(16C)	80	35	38	14	12	21
3/4"(22C)	100	41	44	14	20	28
1"(28C)	140	50	53	16	25	36
1-1/4"(36C)	180	60	63	20	32	43
1-1/2"(42C)	210	67	70	24	38	51
2"(54C)	270	77	79	24	50	67
2-1/2"(70C)	350	98	101	32	62	81
3"(82C)	416	109	114	32	79	112
4"(104C)	520	139	142	34	105	138

Adapters & Accessories

Explosion-proof Fitting Accessories
for Hazardous Location

Protection Grade

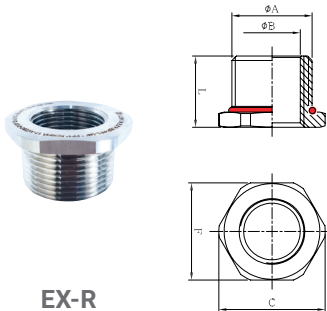
Ex d IIC / Ex e IIC / Ex tD A20 IP66



Reducer : EX-R (Protection Grade) Ex d IIC / Ex e IIC / Ex tD A20 IP66

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



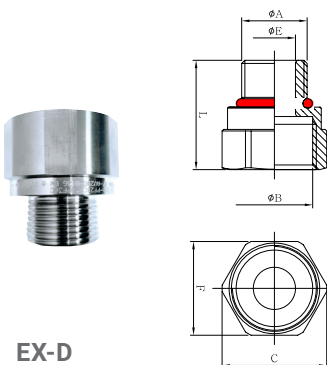
Selection Table

Conduit Size	Dimension (mm)				
	ØA	L	ØB	C	F
3/4"(22C) × 1/2"(16C)	22C	21	16C	35	32
1"(28C) × 3/4"(22C)	28C	25	22C	41	38
1-1/4"(36C) × 1"(28C)	36C	26	28C	52	48
1-1/2"(42C) × 1-1/4"(36C)	42C	26	36C	60	55
2"(54C) × 1-1/2"(42C)	54C	26	42C	71	65
2-1/2"(70C) × 2"(54C)	70C	28	54C	92	85
3"(82C) × 2-1/2"(70C)	82C	28	70C	106	98
4"(104C) × 3"(82C)	104C	28	82C	132	123

Socket : EX-D Series (Protection Grade) Ex d IIC / Ex e IIC / Ex tD A20 IP66

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



Selection Table

Conduit Size	Dimension (mm)					
	ØA	ØE	L	ØB	F	C
1/2"(16C) × 3/4"(22C)	16C	13.5	42.0	22C	32	35
3/4"(22C) × 1"(28C)	22C	20.0	47.0	28C	38	41
28C(1") × 36C(1-1/4")	28C	26.5	52.0	36C	48	52
1-1/4"(36C) × 1-1/2"(42C)	36C	32.0	52.0	42C	55	60
1-1/2"(42C) × 2"(54C)	42C	38.0	52.0	54C	65	71
52"(54C) × 2-1/2"(70C)	54C	49.0	52.0	70C	85	92
2-1/2"(70C) × 3"(82C)	70C	60.0	52.0	82C	98	106
3"(82C) × 4"(104C)	82C	75.0	53.0	104C	123	132
104C(4") × 104C(4")	104C	95.0	53.5	104C	123	132

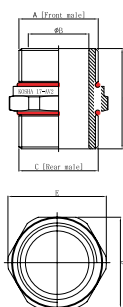
Nipple : ISN (Protection Grade) Ex d IIC / Ex e IIC / Ex tD A20 IP66

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



ISN



Selection Table

Conduit Size	Dimension (mm)				
	A&C	ØB	D	E	L
1/2"(16C)	1/2"(16C)	13.5	27	29	41
3/4"(22C)	3/4"(22C)	19.5	32	35	41
1"(28C)	1"(28C)	25	38	41	52
1-1/4"(36C)	1-1/4"(36C)	32	48	52	53
1-1/2"(42C)	1-1/2"(42C)	38	55	60	55
2"(54C)	2"(54C)	49	65	71	58
2-1/2"(70C)	2-1/2"(70C)	60	85	92	60
3"(82C)	3"(82C)	75	98	106	62
4"(104C)	4"(104C)	95	123	132	65

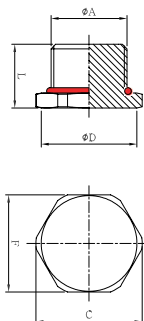
Stopping Plug : ISP (Protection Grade) Ex d IIC / Ex e IIC / Ex tD A20 IP66

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



ISP



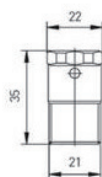
Selection Table

Conduit Size	Dimension (mm)				
	ØA	L	ØD	C	F
1/2"(16C)	16C	21.0	26.5	29	27
3/4"(22C)	22C	21.0	31.5	35	32
1"(28C)	28C	25.0	37.5	41	38
1-1/4"(36C)	36C	26.0	47.5	52	48
1-1/2"(42C)	42C	26.0	54.5	60	55
2"(54C)	54C	26.0	64.5	71	65
2-1/2"(70C)	70C	28.0	84.5	92	85
3"(82C)	82C	28.0	97.5	106	98
4"(104C)	104C	28.5	122.5	132	123

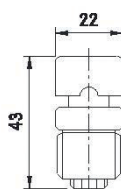
Flame-proof Brether & Drain plug ISBD/FDB Series for Hazardous Location (Protection Grade) Ex d IIC



FDB



ISBD



Standard Finish

- **Material** : Natural of Stainless Steel
- **Thread** : Male 1/2"(16C)
- **Function** : Drain

Standard Finish

- **Material** : Natural of Stainless Steel
- **Thread** : Male 1/2"(16C)
- **Function** : Breather & Drain

Application

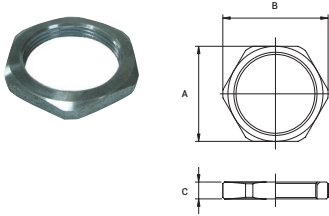
Drain plug and breather are installed in enclosures or conduit system to:

- provide ventilation to minimize
- condensation
- drain accumulated condensate
- at least on breather should be used with such drain or in lower section of conduit system
- universal breather or drain functions as breath when mounted at the top of an enclosure, or as a drain when mounted in be bottom of an enclosure
- drains and breathers are installed in hubs drilled and tapped openings

Locknut : XL Series

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



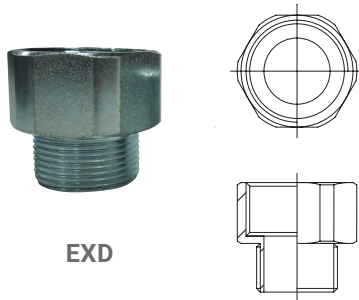
Selection Table

Conduit Size	Dimension (mm)		
	A	B	C
1/2"(16C)	29	27	3
3/4"(22C)	36	33	3
1"(28C)	44	41	5
1-1/4"(36C)	55	60	5
1/2"(42C)	63	67	8
2"(54C)	76	69	8
2-1/2"(70C)	94	84	8
3"(82C)	106	97	8
4"(104C)	135	125	10

Socket : EXD Series (Protection Grade) Ex d IIC

Material

- Stainless Steel or Steel & Brass
- THREAD : PF, NPT, METRIC



Selection Table

Ordering No.	Male Thread Size	Female Thread Size
EXD-1622	1/2"(16C)	3/4"(22C)
EXD-1628	1/2"(16C)	1"(28C)
EXD-2228	3/4"(22C)	
EXD-1636	1/2"(16C)	
EXD-2236	3/4"(22C)	1-1/4"(36C)
EXD-2836	1"(28C)	
EXD-1642	1/2"(16C)	
EXD-2242	3/4"(22C)	1-1/2"(42C)
EXD-2842	1"(28C)	
EXD-3642	1-1/4"(36C)	
EXD-1654	1/2"(16C)	
EXD-2254	3/4"(22C)	
EXD-2854	1"(28C)	2"(54C)
EXD-3654	1-1/4"(36C)	
EXD-4254	1-1/2"(42C)	

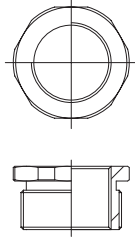
Reducer : EXR or EXR(R) Series (Protection Grade) Ex d IIC

Material

- Stainless Steel or Steel & Brass



EXR



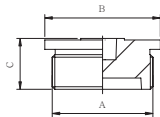
Selection Table

Ordering No.	Male Thread Size	Female Thread Size
EXR-2216	3/4"(22C)	1/2"(16C)
EXR-2816	1"(28C)	1/2"(16C)
EXR-2822		3/4"(22C)
EXR-3616	1-1/4"(36C)	1/2"(16C)
EXR-3622		3/4"(22C)
EXR-3628		1"(28C)
EXR-4216	1-1/2"(42C)	1/2"(16C)
EXR-4222		3/4"(22C)
EXR-4228		1"(28C)
EXR-4236		1-1/4"(36C)
EXR-5416	2"(54C)	1/2"(16C)
EXR-5422		3/4"(22C)
EXR-5428		1"(28C)
EXR-5436		1-1/4"(36C)
EXR-5442		1-1/2"(42C)

Plug : XP Series (Protection Grade) Ex db II C Gb, Ex eb IIC, Ex ta IIIC Da(IP66)

Material

- Aluminium



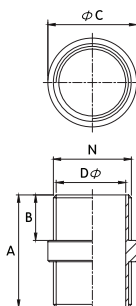
Selection Table

Conduit Size	Dimension (mm)		
	A	B	C
1/2"(16C)	1/2"	27.5	19
3/4"(22C)	3/4"	31.5	19
1"(28C)	1"	40.5	22
1-1/4"(36C)	1-1/4"	48.5	23
1-1/2"(42C)	1-1/2"	55	23
2"(54C)	2"	70	23

Nipple : XN Series (Protection Grade) Ex d IIC

Material

- Stainless Steel or Steel



Selection Table

Conduit Size	Dimension (mm)				
	N(N')	A	B	ØB	DØ
1/2"(16C)	1/2"	42	14	21.5	16.4
3/4"(22C)	3/4"	46.1	16.6	27.3	22
1"(28C)	1"	52	18.1	34.2	28
1-1/4"(36C)	1-1/4"	54.1	19.1	42.6	36
1-1/2"(42C)	1-1/2"	58.5	22	48.7	42.3
2"(54C)	2"	60.7	23.2	60.7	52.9
2-1/2"(70C)	2-1/2"	65	25	76.2	67.3
3"(82C)	3"	77.4	29.7	88.8	78.2
4"(104C)	4"	91.3	39.5	114.5	103.4

IS-TW-**

Internal Tooth Lock Washer

Protection Grade
General



Standard C

- Stainless steel (316L)

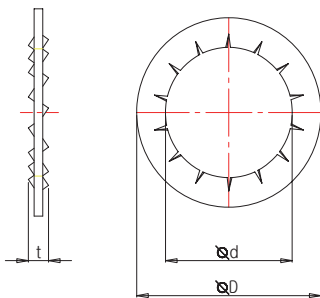
Specification

- Internal tooth lock washer prevents the nut from loosening on screw.

Feature

- An internal tooth lock washer has teeth that extend radially inward to bite into the bearing surface.
- The internal tooth lock washer is designed to prevent a nut or bolt head from loosening with the strut action set up by the teeth.
- The teeth, also, absorb shock and vibration.
- The teeth abrade the grounding surface in electrical grounding applications to improve the electrical connection.

Drawing & Selection Table



Part No.	Entry Thread Size		D	d	t
	Metric	NPT/PF/PT			
IS-TW-16	M16	3/8"	26	17.5	2.0
IS-TW-20	M20	1/2"	32	21.5	3.0
IS-TW-25	M25	3/4"	38	27.0	3.0
IS-TW-32	M32	1"	46	33.4	3.5

(*in mm)

SELPOD-**

Compound For Barrier Cable Gland,
Barrier Sealing Device

Protection Grade

SELPOD - LB : Liquid Epoxy Type

SELPOD - PB : Putty Epoxy Type



Feature

- SELPOD-LB (Liquid epoxy syringe of cylinder 액상형)
(SET 구성품 : Liquid 50ml + 노즐 3EA)

- SELPOD-PB (Putty epoxy stick 고체형)



- ① 노즐(Nozzle)
- ② 액상형 컴파운드(Compound) 50ml
- ③ 컴파운드 건(Sealing Gun) 별매품

용량	50ml(25ml : 25ml)
혼합 비율	1:1(주제 : 경화제)
작업 가능시간	3~4분 (25°C)
초도 경화시간	5~7분 (25°C)
연속사용온도	-60°C ~ +110°C

Liquid 50ml



Putty 178mm

Selection Table

Thread Type			Amount of Compound Required	
PF(G)	NPT	METRIC	Selpod-LB(50ml 기준)	Selpod-PB (178mm 기준)
3/8"	3/8"	M16	10EA(2.4ml)	6 mm
1/2"	1/2"	M20	8EA(4.8ml)	12 mm
3/4"	3/4"	M25	6EA(9.2ml)	23 mm
1"	1"	M32	2EA(17.6ml)	44 mm
1-1/4"	1-1/4"	M40	1EA(29.6 ml)	74 mm
1-1/2"	1-1/2"	M50	0.5EA(42.4 ml)	106 mm
2"	2"	M63	0.4EA(78.8 ml)	1통+17 mm

SEALING COMPOUND(SELPOD-A)

Specification

Supplied with the solution and asbestos packing. This sealing compound makes a seal of sufficient strength and can be used for both vertical type and any angle type sealing fittings.
The solution has a effect of adjusting the setting time and may save the site time on installation.

Attention in Use

- As SELPOD powder is changed in quality by moisture in the air, keep the container tightly closed.
- Hardened sealing compound has rather high insulation resistance in the dry condition. However, it shall not be used as a insulation material. Never make a seal in the space where made.
- Do not add the solution or water after the compound starts hardening. Special attention to be paid that SELPOD will not be hardened by such a treatment.

SELPOD-A Set(POWDER-LIQUID FIBER)



Selection Table

Fitting	Requirement(g)		
	Vertical	Horizontal	Drain
1/2"(16C)	50	90	120
3/4"(22C)	70	110	140
1"(28C)	120	130	210
1-1/4"(36C)	210	220	260
1-1/2"(42C)	250	270	300
2"(54C)	400	440	430
2-1/2"(70C)	700	800	500
3"(82C)	1000	1050	600
4"(104C)	1800	2000	1000

SELPOD-A2 Set(SOLID DOUGH MIXED)



Selection Table

ISCSD Size	Requirement(g)		Total(g)
	A (주제)	B (경화제)	
1/2"(16C)	5 g	5 g	10 g
3/4"(22C)	7.5 g	7.5 g	15 g
1"(28C)	15 g	15 g	30 g
1-1/4"(36C)	27 g	27 g	54 g
1-1/2"(42C)	45 g	45 g	90 g
2"(54C)	75 g	75 g	150 g

ILSHIN, EXPLOSION PROOF COMPONENTS

4

Supplement

01_ ILSHIN Industrial Electric

02_ Technical Information

03_ Global Leading Products

04_ Supplement

방폭요약

I. 위험장소 구분

- IEC 규격
ZONE 0 ZONE 1 ZONE 2
- 한국 규격
0종 장소 1종 장소 2종 장소
- 미국 규격 : NEC/NFPA No.70
NEC500 CLASS I DIVISION 1 DIVISION 2
NEC505 CLASS I ZONE 0 ZONE 1 ZONE 2
ZONE 2 =DIVISION 2 ZONE 1≠DIVISION 1

1. 위험장소 구분에 영향을 주는 요소

위험 발생원
위험가스 누출
위험가스 누출 비율
누출 발생원의 형태
누출 속도
가스의 농도
가연성 액체의 휘발성
액체의 온도
폭발 하한값
가스의 공기에 대한 비중

2. 환기

자연적인 환기
0.5m/sec 속도로 연속적으로 부는 바람(최소 0.3m/sec)
시간당 100회의 공기 치환
※ 일반적인 바람 2m/sec
※ 공간의 육면체에서 50%면에서 자유스러운 건물 통풍
인공적인 환기

3. 미국 API RP 500에 따른 위험장소 구분

위험장소 구분에 대하여 쉽게 정리되어 있어서 적용하기가 편리함

II. 위험가스의 분류

1. IEC 기준

GROUP I : 탄광의 갱도내의 폭발성 가스
GROUP II : GROUP I 이외의 산업용 폭발성 가스
GROUP II는 가스의 위험성 정도에 따라 GROUP II A, GROUP II B와 GROUP II C로 나눈다.

2. NEC 기준

CLASS I 기준내에 GROUP D, GROUP C, GROUP B, GROUP A

3. 상호관계

GROUP D GROUP II A

GROUP C GROUP II B

GROUP A & B GROUP II C

III. 가스 방폭 구조의 종류

1. 전기 점화원을 위험가스에서 분리함으로 폭발을 방지하는 구조

충진방폭 Ex q II T3 : 휴즈

몰드방폭 Ex m II T6 : 전자부품. 적은 용량의 변압기(Ma, Mb 최근 분리)

유입방폭 Ex o II T6 : 중급 변압기

압력방폭 Ex p II T6 : 정밀기기/IEC 60079-2

: 압력유지 50Pa

$X=Y+Z/NEC$

$PX=PY+PZ/IEC$

ROOM OR BUILDING PROTECTION BY PRESSURIZATION/IEC 60079-13

: 양압유지 25Pa

ANALYZER HOUSING PROTECTION BY PRESSURIZATION/IEC 60079-16

: PURGE 유지, 양압 25Pa 또는 해당 가스의 폭발하한값의 25% 이하 유지

※ 문(DOOR) 개방시 공기 방출속도는 초당 0.3m 이상이어야 한다.

높이 2.0m, 폭 0.9m 문에서 방출공기량은 분당 33m³이다.

2. 구조를 특별히 하여 정상상태에서는 온도를 한계 내에 제한하고 스파크가 밖으로 나오지 않게 하는 구조

안전증 방폭 Ex e II T3 : JUNCTION BOX, MOTOR(농형)

비점화 방폭 Ex nA II T2 : 형광등기구. NON-SPARKING APPARATUS

Ex nR II T3 : 방전등기구. RESTRICTED BREATHING ENCLOSURE

Ex nC II T3 : OTHER PROTECTED SPARKING APPARATUS

Ex nL II T3 : ENERGY LIMITED APPARATUS

Ex nZ II T3(Ex nP II T3) : SIMPLIFIED PRESSURIZED ENCLOSURE

3. 에너지를 제한함으로 폭발을 방지하는 구조

본질 안전 방폭 Ex ia II C T4 : INSTRUMENT

Ex ib II B T4

[Ex ia] II C T4 : 본질 안전 관련기기(BARRIER)

4. 방폭기기의 용기가 폭발에 견디도록 한 구조

내압방폭 Ex d II B T4 : SWITCH

5. 예방방폭/확대피해방지 방폭

6. 특별방폭 : Ex s II T3

IV. ATEX(ATMOSPHERES EXPLOSIVES) DIRECTIVE에 따른 방폭기기 표시방법

CATEGORY 1	ZONE 0
CATEGORY 2	ZONE 1
CATEGORY 3	ZONE 2
⊕ II 2 G	
⊕ II 3 D	

V. 방폭표시 기호

Ex-Exd II B T4, Exe II T3
 EEx-EExd II B T4, EExe II T3
 AEx-AExd II T4, AExe II T3
 [Exib] II C T4
 [Exia] II C T4
 ATEX- ⊕ II 2G
 ⊕ II 3D

VI. ZONE에 따른 기기 선정

ZONE 0
 Ex ia, Ex Me
 ZONE 1
 Ex ia, Ex ib
 Ex e
 Ex o
 Ex q
 Ex px
 Ex ma, Ex mb
 Ex d
 ZONE 2
 Ex nA, Ex ne
 Ex ic
 Ex mc
 Ex pz

VII. 방폭전기설비의 전기적 보호

1. 자동차단장치

- ① 과부하, 단락 또는 지락 등의 사고시 다음 각 호의 1의 경우를 제외하고는 자동차단장치를 설치하여야 한다.
 - (1) 보안회로의 경우
 - (2) 자동차단이 폭발 위험보다 더 큰 위험을 발생시킬 우려가 있는 경우
- ② 3상전동기가 단상운전으로 인하여 과전류가 흐를 우려가 있는 경우에는 과전류차단기를 각 상마다 사용하거나 결상계전기를 사용하는 등 이에 적합한 보호장치를 설치하여야 한다.
- ③ 자동차단장치는 사고가 제거되지 않은 상태에서는 자동복귀되지 않는 구조이어야 한다.
 다만, 2종장소에 설치된 설비의 과부하방지장치에는 이를 적용하지 아니한다.

2. 전원공급계통의 접지방식

- 폭발위험장소에 설치된 전기설비에 전력을 공급하는 계통의 접지방식은 보안회로를 제외하고는 다음 각 호에 따른다.
- (1) 중성점 직접접지방식의 경우 중성선과 기기접지선을 공용으로 사용하여서는 아니된다.
- (2) 중성점 직접접지방식 이외의 방식으로 중성점과 기기의 접지극을 별도로 할 경우 0종장소에는 순시작동 자동차단장치를 설치하여야 하고, 기타 폭발위험장소에는 가능한 한 지락경보장치를 설치하여야 한다.

3. 전위의 동일화

- ① 도전부 사이의 전위차에 의한 스파크의 발생가능성을 방지하기 위하여 0종, 1종장소 및 분진폭발위험장소의 모든 도전부는 본딩 등에 의하여 그 전위의 동일화를 기하여야 한다.
- ② 2종장소에서 사용하는 모든 도전성 금속체 등에는 접지를 하고 사용하여야 한다.

VIII. 방폭전기설비의 점검 및 조정

1. 적용범위

- 전기설비의 설치 및 시공 후에 행하는 점검 및 조정에 대하여 적용한다.

2. 전기설비의 점검

- 방폭전기설비는 다음 각 호의 사항 중 해당사항의 적정유무를 확인하여야 한다.

- (1) 단자전압, 상회전, 극수 등
- (2) 퓨즈링크, 광원 등의 교환부품의 종류와 정격
- (3) 윤활부의 기름 주입 또는 윤활유 충전상태
- (4) 전기설비 입구에서의 냉각매체 온도, 압력 및 유량과 배관 등에서의 누출유무
- (5) 제어, 조작, 표시, 경보 등의 전체 제어시스템 작동 이상유무
- (6) 부속 기기류의 작동 및 표시
- (7) 진동의 유무 및 그 정도

3. 배선인입부 점검

① 전기 설비 등에 전선관 나사결합에 의한 인입시에는 다음 각 호의 사항을 확인하여야 한다.

- (1) 후강전선관을 전기설비 등의 용기에 적정하게 조여 부착하여야 하며, 전기설비 등이 내압방폭구조인 경우에는 그 위에 전선관의 나사부에 KS B 0233(전선관 나사)에서 규정한 볼트·너트가 사용되고 있을 것
- (2) 전기설비와 전선관 등의 방폭성능의 유지 및 확보에 필요한 부분의 실링이 유효하게 설치되어 있을 것.
- (3) 전선관, 전선관용 부속품 및 전기설비 등의 나사 결합부에는 빗물 등이 유입되지 않도록 적절한 조치가 되어 있을 것

② 패킹을 이용한 케이블 인입의 경우에는 다음 각 호의 사항을 확인하여야 한다.

- (1) 패킹이 적절하게 조여져 부착되어 있을 것
- (2) 클램프가 부착된 경우에는 그 조임상태가 적정할 것
- (3) 외장이 없는 케이블은 전선관 등으로 외상에 대한 적합한 보호가 되어 있을 것

③ 실링 컴파운드를 충전한 케이블의 인입의 경우에는 다음 각 호의 사항을 확인하여야 한다.

- (1) 컴파운드가 충분한 깊이로 충전되고 밀착상태와 경화상태가 양호할 것
- (2) 클램프의 조임상태가 적정할 것
- (3) 외장이 없는 케이블은 전선관 등을 외상에 대한 적합한 보호가 되어 있을 것

4. 배선과 전기설비 등과의 접속부 점검

- 배선과 방폭전기설비 등과의 접속부는 다음 각 호의 사항을 확인하여야 한다.

- (1) 단자기호, 상회전, 회로 극성 접속이 올바르게 되어 있을 것
- (2) 접속부에서의 조임상태가 확실하고 이완 방지조치가 되어 있을 것
- (3) 단자대 등이 없는 접속부는 확실한 절연처리가 되어 있을 것

5. 용기덮개 등의 점검

- 용기의 덮개 등은 다음 각 호의 사항을 확인하여야 한다.

- (1) 뚜껑 등의 접합부 또는 나사산에는 손상 또는 이물질의 부착이 없고, 비경화성 유지류가 도포되어 있을 것
- (2) 방진 또는 방수용으로 패킹이 이용되고 있는 경우에는 패킹이 바르게 설치되어 있을 것
- (3) 조임나사류의 결손이 없고 적정하게 조일 것

6. 본안회로의 배선

- 본안회로의 배선은 다음 각 호의 내용을 점검하여야 한다.

- (1) 본안회로 배선의 식별이 명확하게 되어 있을 것
- (2) 비본안회로와 혼촉방지조치가 되어 있을 것
- (3) 비본안회로에 의한 정전유도 방지대책이 강구되어 있을 것
- (4) 본안회로와 본안 관련기기의 조합에 있어서 본안회로의 배선에 허용될 수 있는 인덕턴스 및 정전용량의 크기가 제한값 이내일 것

7. 보호장치의 점검 및 조정

- 방폭전기설비의 방폭성능을 유지하기 위한 보호장치는 다음 각 호의 내용을 점검 및 조정하여야 한다.

- (1) 방폭구조 및 사용조건에 따른 작동상태
- (2) 과전류, 단락, 지락사고 등에 대한 설정값 및 작동상태
- (3) 냉각식 전기설비의 경우 냉각매체에 관한 보호장치 작동상태
- (4) 전체 제어시스템의 작동상태

분진 방폭

1. 분진방폭 종류와 기호

분진 내압방폭	: tD(특수방진, 보통방진)
분진 압력방폭	: pD
분진 본질안전방폭	: iaD, ibD
분진 몰드방폭	: mD

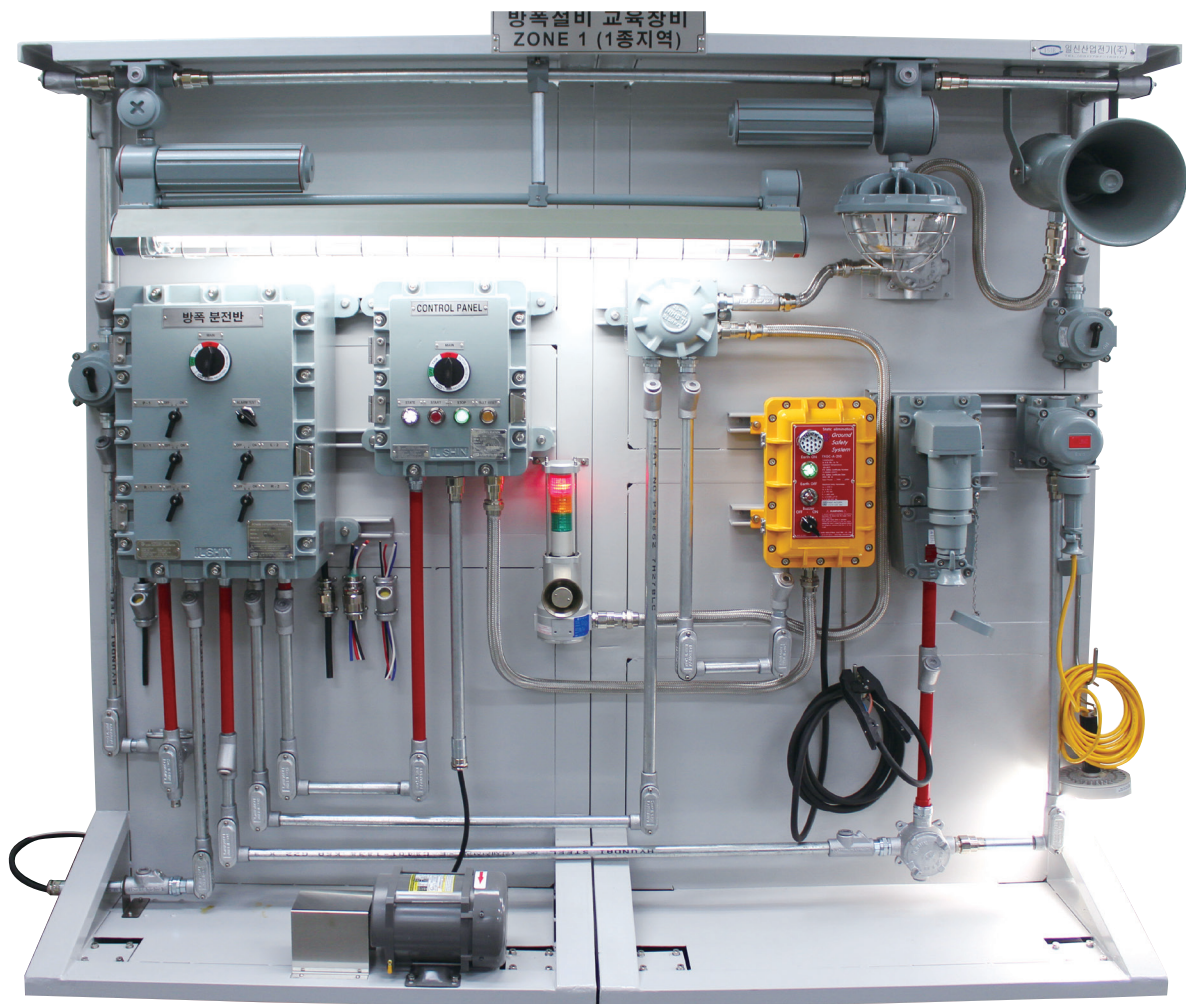
2. 표시기호

Ex tD A21 IP6X T225°C T500320°C(A형 특수방진방폭)
Ex tD A22 IP5X T120°C(A형 보통방진방폭)
Ex tD B22 T170°C(B형 방진방폭)
Ex mD 20 T120°C
Ex iD 20 T120°C
Ex pD 21 IP6X T120°C

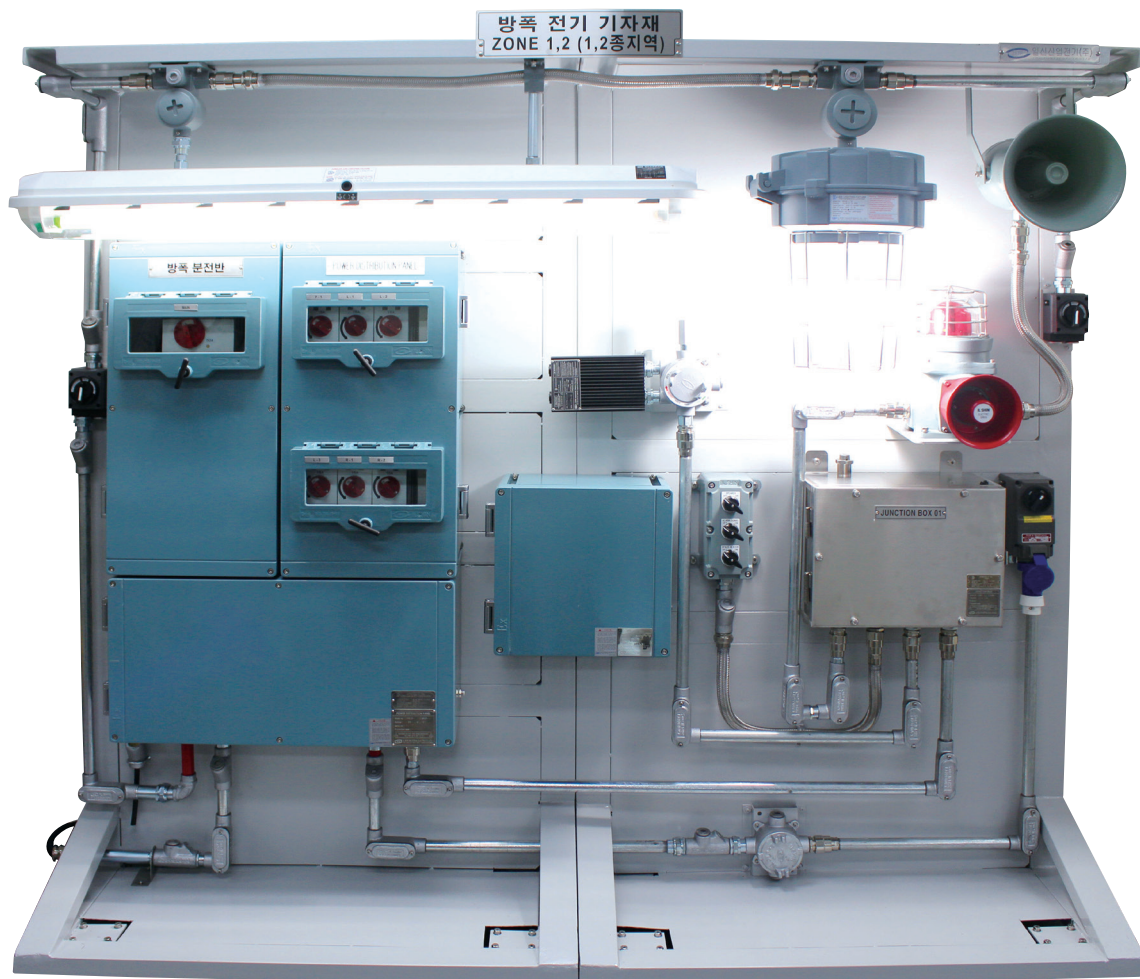
3. 위험장소구분

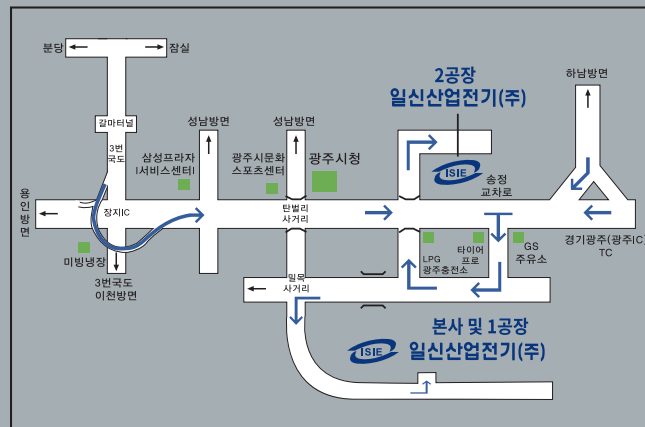
- 1. A형, B형
 - ZONE 20
 - ZONE 21
 - ZONE 22

교육용 기자재 공급
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한국가스공사(KGS)
한화토탈



교육용 기자재 공급
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