

TEPEX

make your work surroundings safer



About us



TEP Ex is a regional leader in manufacturing of explosion-protected electrical equipment. Through continuous development of new products and markets, modernization of technology and investment in company employees and organization, we continue the tradition of more than 60 years of experience in the field.

Long-term company policy relies on our people and delivery of innovative products from our own development teams. Aiming for excellence is for us one of the most important corporate values. Our products are intended for use in potentially explosive atmospheres of gases, vapors and dust in industries such

as refineries, offshore installations, petrochemical industry, chemical industry, pharmaceutical industry, food processing, shipbuilding and underground mining.

The production program includes Ex light fittings, Ex installation material and accessories, Ex control units, Ex signal devices, Ex terminals, Ex distribution cabinets up to 630 V and 500 A.

In accordance with national regulative, all of our products and systems for quality assurance are certified by an authorized certification institution in the Republic of Croatia –Ex Agency. At European level, the certification was carried out according to the **ATEX Directive 2014/34/EU** by an authorized certification notified body CESI and Ex Agency.

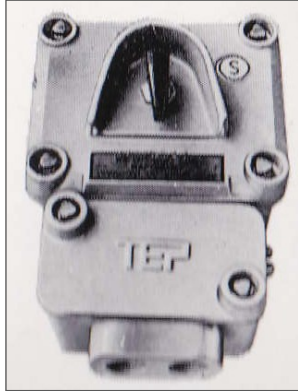
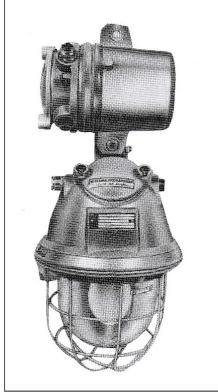
All of our products and systems for quality assurance are certified according to certification was carried out according to the **GOST TR CU** (Technical Regulation Customs Union) certificates are official documents certifying the conformity of the production with the standards of the Customs Union formed by Belarus, Kazakhstan and Russian Federation. The production process is conducted according to high standards of **ISO 9001** (Quality Assurance System) and **ISO 14001** (Environmental Management System), ensuring high quality products with constant care for environment.

Based on our long history in producing supreme quality explosion protected electrical equipment, we are ready to deal with every demand or specific requirement of our customers.

If you would need any additional information regarding our products or our company, we will be glad to answer your questions, with the professional approach from our Communication team.



1948. || TEP || 2002. || Ex || TEP Ex

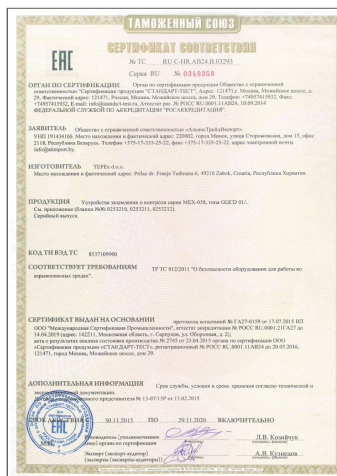
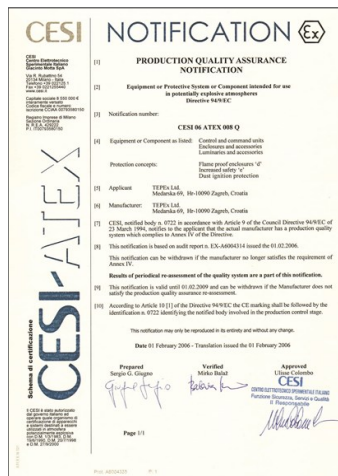


Explosion protected products from the middle of the last century

Examples of today's Ex products



Production



The electrical equipment installed in areas with risk of explosion must be designed and tested in such way that it does not cause arcing or high temperatures which would provide a source of ignition for such a mix. For this reason, these materials must be provided only by companies able to attach the relevant product certificate of compliance with international standards.

This certificate, issued by competent and government authorized laboratories along with a test report, proves that the product is totally safe and suitable for installation in the concerned plant.

TEPEX Quality System conforms to the requirements of:

EN ISO 9001:2008 and EN ISO/IEC 80079-34:2011.

All our Ex-protected products are certified in accordance with the European standard ATEX Directive 2014/34/EU, also obtained the certifications for the Russian market (Custom union), EAC.



Ex LED light fittings

Following new trends in Ex lighting, and the advent of LED sources in explosive areas, TEPEX already in 2013. started production of Ex light fitting with LED light source (LED FLXE 118). Currently, several types of Ex certified LED lamps (pendant/max. 80W and linear LED lamps with 36W).

The main advantages of LED lighting over conventional (mercury, fluorescent, metal-halide ...) lighting.

- *Durability*
- *Energy efficiency*
- *selectable color temperature*
- *environmentally friendly*

In 2017. we plan to start production of Ex pendant light fittings ~120W, and linear LED light fitting in GRP (Polyester) housing, Ex e type PSF 52 LED, PSF 28 LED.



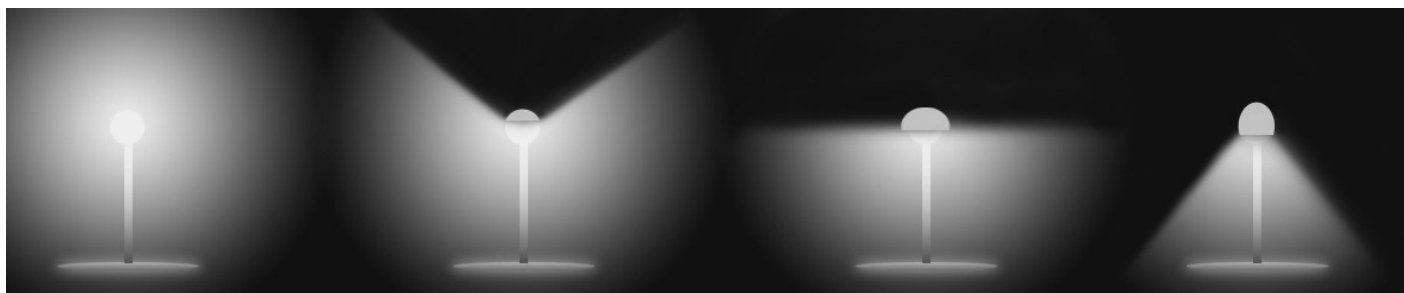
Ex LED

light fitting type PSF 52 LED

linear

Modern LED lighting has a significantly longer service life than conventional lighting, does not contain harmful compounds (mercury, cadmium ...), does not emit UV rays and releases significantly less heat energy.

When creating light-technical calculations it should be noted that the LED lighting (directional light) contribute to the reduction of light pollution of the atmosphere and losses on light scattering.



Contents

Ex BULKHEAD LIGHT FITTINGS, PENDANT LIGHT FITTINGS, FLOODLIGHTS

Bulkhead light fitting 0403.24	14
Pendant light fitting PLFM	16
Pendant light fitting PLFS	20
Pendant light fitting PLFL	22
Floodlight RLF	24

Ex FLUORESCENT LIGHT FITTINGS, EMERGENCY LIGHT FITTING

Fluorescent light fitting PSF	28
Emergency light fitting PSF E	30
Fluorescent light fitting FLX	32
Emergency light fitting FLXE LED	36
Fluorescent light fitting SIF	38

Ex LED LIGHT FITTINGS

Bulkhead light fitting 0403.24 LED 20	40
Pendant light fitting PLFM 20 LED	42
Pendant light fitting 0401.35 LED 30	44
Pendant light fitting PLFS 50 LED	46
Linear LED light fitting FLX 310 LED	48
Linear LED light fitting PSF LED	50

Ex INSTALLATION EQUIPMENT

Installation switch SKX SW	54
Junction boxes RK 01	56
Junction boxes JBX	58
Terminal boxes SKXE	60
Terminal boxes SKXE INOX (AISI 316L)	70

CONTROL UNITS

Control units SKX 12 SKX 15	80
Control units SKX 16 SKX 20	92
Grounding device GGCD	102

DISTRIBUTION CABINETS, BUSBAR ENCLOSURES

Distribution cabinets R3002....R3006	106
Busbar enclosure SKX	110

SIGNALLING DEVICE, PLUGS AND SOCKETS, ACCESSORIES

Signal horn dHH,	114
Signal bell dHW	116
Telephone dST1	118
Torchlights DF, headlamp DS	120
Plugs and sockets	122
Adapter ADP	128
Multicore bushing RSM	130
Electronic ballast SMP	132
Cable glands, adapters, reducers, locknuts	134

Explosive atmospheres occur when flammable gases, mist, vapors or dust are mixed with air. This creates a risk of explosion. The amount of a substance needed to create an explosive atmosphere depends on the substance in question. The area where this possibility exists is defined as a potentially explosive atmosphere.

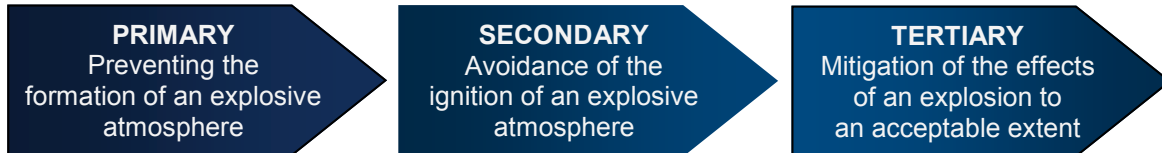
These atmospheres can be found throughout industries, from chemical, pharmaceutical, food, to power, and wood processing. The areas may also be known as “*hazardous areas*” or “*hazardous locations*.”

GUIDE FOR EXPLOSION PROTECTION

Equipment and products operating in hazardous areas are required to meet stringent criteria. They must be “protected” to avoid the possibility of them becoming a source of ignition.

If the danger of explosion cannot be completely or only partly avoided by measures of preventing the formation of an hazardous explosive atmosphere, then measures must be taken that avoid the ignition of the explosive atmosphere.

Integrated explosion protection



Categories / Protection levels / Zones

AREAS	CATEGORIES	EPL	ZONES	EXPLOSIVE ATMOSPHERE
Mining - I	M1	Ma	/	>1,5% CH ₄
	M2	Mb		<1,5% CH ₄
Other than mines - II	1G, 1D	Ga, Da	0, 20	Continuously, long term or frequently
	2G, 2D	Gb, Db	1, 21	Likely to occur
	3G, 3D	Gc, Dc	2, 22	Not likely to occur, short period
EPL - Equipment Protection Level		G - Gas D - Dust	a - very high protection level b - very high protection level c - extended protection level	

Maximum Surface Temperature	450°C					
	300°C					
	200°C					
	135°C					
	100°C					
	85°C					
Temp. Class	T1	T2	T3	T4	T5	T6
Gas Groups	I	methane				
	IIA	ammonium, ethane, propane, benzene, methanol	ethyl n-butanol, n-butyl alcohol	benzine, kerosene, n-hexane, diesel fuel	etileter, acetilaldehyd, benzaldehyd, dibutyleter, diheksileter	-
	IIB	LPG mix	ethylene	hydrogen sulphide	etileter, dietileter	-
	IIC	hydrogen	acetylene	-	-	carbon disulphide

Dust Groups	
IIIA	Combustible flyings
IIIB	Non-conductive dust
IIIC	Conductive dust

Dust	Flash point [°C]		Minimum ignition energy (cloud) [mJ]	Lower Explosion Limit (cloud) [g/m ³]
	layer	cloud		
Cellulose	270	480	80	55
Sugar	400	370	30	45
Strach	380	400	25	25
Wheat	220	500	60	65
Sawdust	260	470	40	35
Aluminium powder	490-700	550-800	15-160	40-140
Zinc	540	690	960	460
Asphalt	550	510	40	35

Type of protection

Types of protection for explosive atmosphere of flammable gases, vapors, mists or dusts EN/IEC 60079-0 - General Requirements

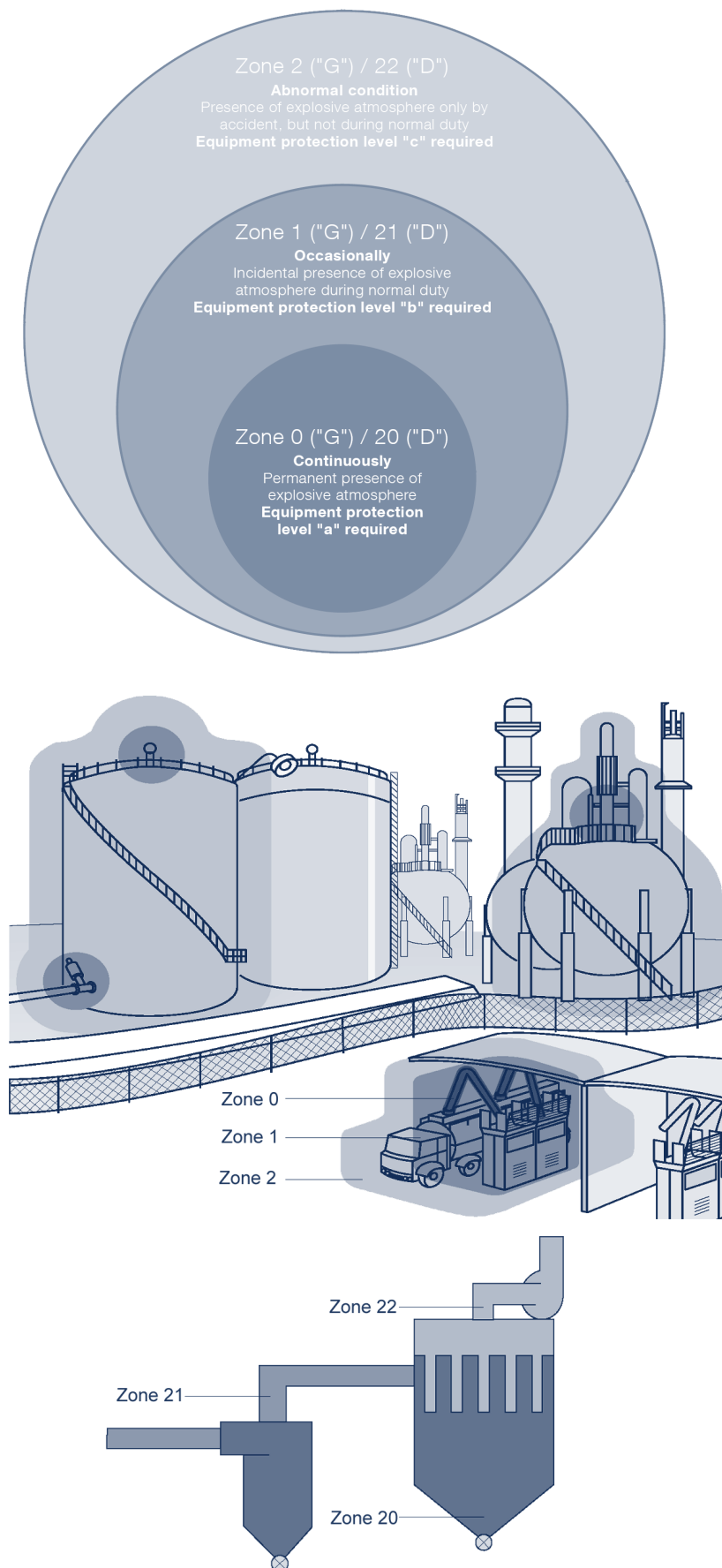
Type of protection	Standard	Concept	Symbol	Category	EPL
Flameproof	EN/IEC 60079-1		d	2G M2	Gb Mb
Increased safety	EN/IEC 60079-7		e	2G M2	Gb Mb
Pressurized	EN/IEC 60079-2		px, py, pz	M2, 2G, 3G 2D, 3D	Mb, Gb, Gc Db, Dc
Intrinsic safety	EN/IEC 60079-11		ia, ib, ic	M1, M2, 1G, 2G, 3G 1D, 2D, 3D	Ma, Mb, Ga, Gb, Gc Da, Db, Dc
Type of protection "n"	EN/IEC 60079-15		nA nC nR	3G	Gc
Powder filling	EN/IEC 60079-5		q	M2, 2G	Mb, Gb
Oil - immersion	EN/IEC 60079-6		o	M2, 2G	Mb, Gb
Encapsulation	EN/IEC 60079-18		ma mb Mc	M1, M2, 1G, 2G, 3G 1D, 2D, 3D	Ma, Mb, Ga, Gb, Gc Da, Db, Dc
Protection by enclosures	EN/IEC 60079-31		tD ta, tb, tc	1D, 2D, 3D	Da, Db, Dc
Optical radiation	EN/IEC 60079-28		op_a op_b op_c	1G, 2G, 3G	Ga, Gb, Gc

Type of protection for non-electrical equipment EN 13463-1 / IEC 80079-36

Flow restricting	EN 13463-2		fr	3G, 3D	/
Flameproof	EN 13463-3		d	M2, 2G	/
Constructional safety	EN 13463-5 prIEC 80079-37		c	M2, 1G, 2G, 3G 1D, 2D, 3D	Mb, Ga, Gb, Gc Da, Db, Dc
Control of ignition sources	EN 13463-6 prIEC 80079-37		b	M2, 1G, 2G, 3G 1D, 2D, 3D	Mb, Ga, Gb, Gc Da, Db, Dc
Liquid immersion	EN 13463-8 prIEC 80079-37		k	M1, M2, 1G, 2G, 3G 1D, 2D, 3D	Ma, Mb, Ga, Gb, Gc Da, Db, Dc
Pressurized	EN/IEC 60079-2		p	M2, 2G, 2D 3G, 3D	/

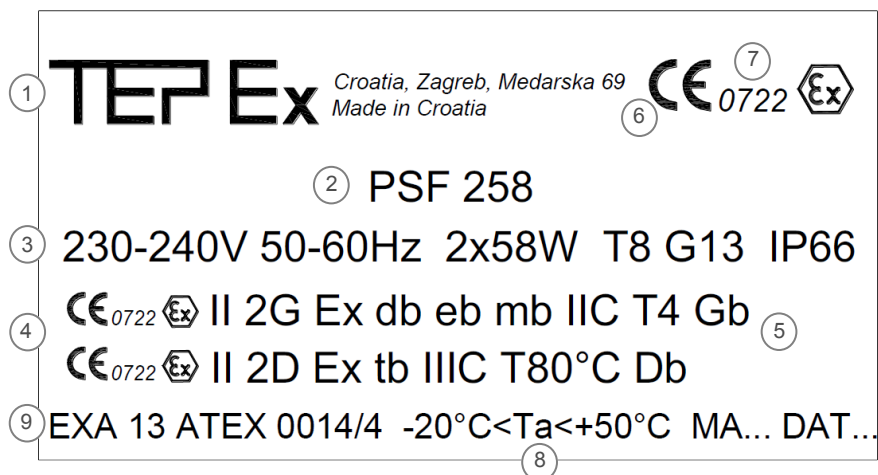
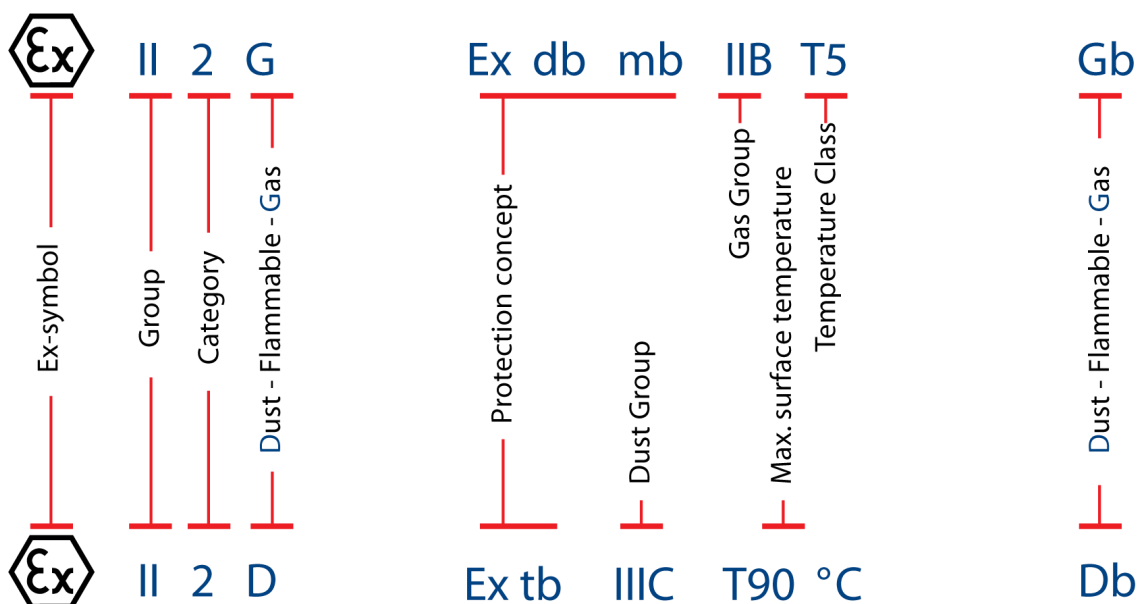
GUIDE FOR EXPLOSION PROTECTION

EXAMPLES OF A CLASSIFICATION INTO ZONES

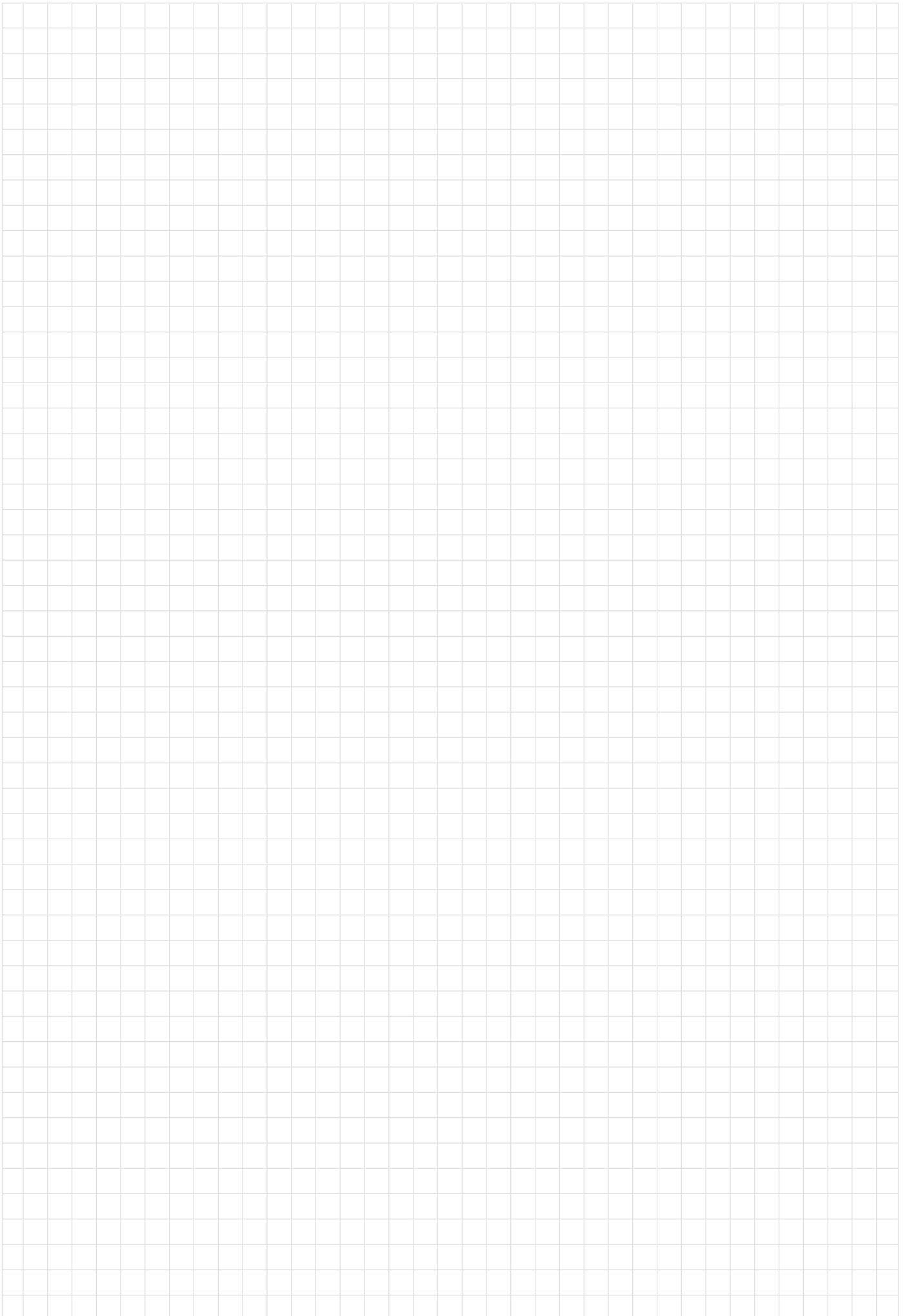


Above drawings are examples only and must not be used as a model for an actual plant whose design is, in every case, the responsibility of the constructor and operator.

EPL (IEC)



No.	Description
1	Manufacturer's name and address
2	Product identification
3	Technical data
4	Indication of the Equipment Category and Hazardous Atmosphere
5	Marking of explosion protection
6	Conformity symbol , EU symbol 
7	Notified body (ExNB)
8	Standard ambient temperature (-20 ÷ +40°C), unless stated on label
9	Certificate number and product number



Light fittings



E27

IP 64



IK08



-40 +60



ATEX



IM2

- incandescent lamps up to 100 W and halogen lamps up to 77 W
- Through-wiring possible
- For use in underground mines



CONSTRUCTION

Housing: 0403.24/10, /11, /12 - aluminium powder painted casting
0403.24/20 - cast iron

Diffuser: borosilicate glass protected with steel gird

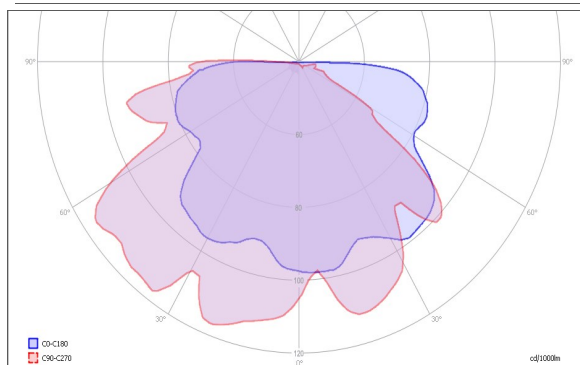
TECHNICAL DATA

Certificate:	EXA 15 ATEX 0070X RU C-HR.AB24.B.03246
Marking:	CE 0722
Apparatus category:	II 2GD, I M2
Marking of explosion protection:	Ex d e IIC T3-T2 Gb Ex tb IIIC T130° Db Ex d e I Mb
Ambient temperature:	-40°C ≤ T _a ≤ +40/50/60°C - type II 2GD -20°C ≤ T _a ≤ +40°C - type I M2
Degree of protection:	IP 64, category 1 - type II 2GD IP 54, category 1 - type I M2
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230V AC, 110V AC, 24V AC/DC
Frequency:	50Hz (60Hz on request)
Rated power:	See selection table
Light output ratio:	η=0,68%
Lamps:	Incandescent lamps, E 27 lampholder, up to 100W Halogen lamps, E 27 lampholder, (77W A ECO)
Connecting terminals:	Terminals L1 + N for 2 x 4 mm ² flexible/solid Terminals PE for 2 x 4 mm ² flexible/solid/stranded Tightening torque for screw clamp 2,2 Nm
Cable entry:	1 x M25x1.5 cable gland (through-wiring possible) 1 x M25x1.5 plug
Cover fixing:	M 6, Hexagonal screw; without switch
Packing:	The packing contains: 1 pcs 360x240x205 mm

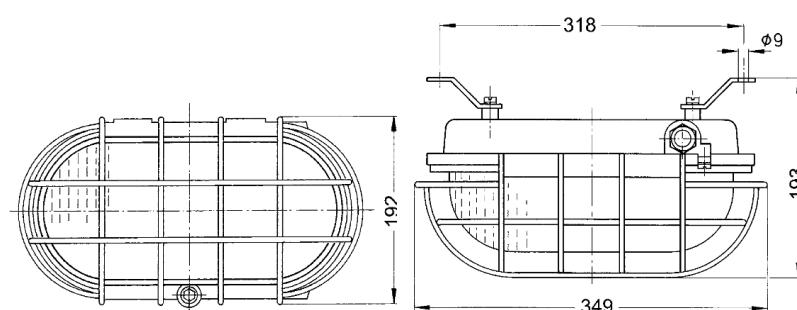
MODEL CODE

Model code	Apparatus category	Explosion protection	Rated voltage	Max. wattage	Luminous flux	WEIGHT
0403.24/10	II 2G	Ex d e IIC T2, T3 Gb	230/110 V AC 230/110 V AC, 24 V AC/DC 230 V AC	100W max. 60W max. 77W max. / A ECO	1500 lm 800 lm 1320 lm	4,3 kg
0403.24/11,12 (signal red or green glass)		Ex d e IIC T3 Gb	230 V AC	40W max.	450 lm	4,3 kg
0403.24/20	I M2	Ex d e I Mb	230 V AC	100W max.	1500 lm	7,5 kg

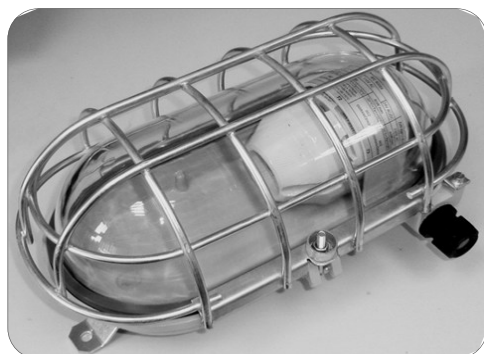
POLAR CURVE



DIMENSION DRAWING (all dimensions are in mm)



MOUNTING Two brackets with two screws M6



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Ex d lampholder E27 set	0403.24 10-110		Ex e cable gland M25	SPU 25
	Gasket 0403.24	0403.24 10-120		II M2 Ex e I Cable gland	0403.24 20-120
	Replacement glass	0403.24 10-130		Ex e plug M25	SPC 25
	Light bulb 40W, 60W, 100W	0403.24 20-110		I M2 Ex e I Plug M25	0403.24 20-130

E27

IP 66



IK08



ATEX



- Low weight/3,5 kg
- Up to 70W HSE (5900 lm)



CONSTRUCTION

Housing: aluminium powder painted casting

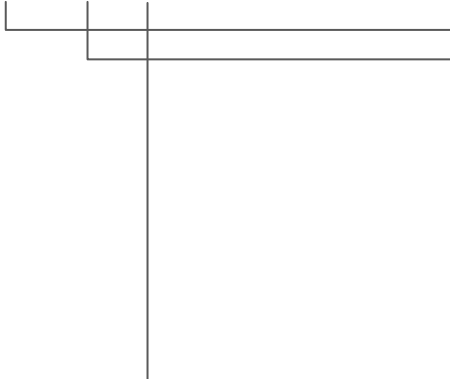
Diffuser: borosilicate glass

Accessories: protected galvanized steel gird (INOX on request), assembly kit for wall, pipe and ceiling mounting

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0056X and 0056X/1 RU C-HR.AB24.B.03245
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T6-T3 Gb Ex d IIC T6-T3 Gb Ex tb IIIC T80°C - T155°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C [ATEX] -50°C ≤ T _a ≤ +40°C [EAC]
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230V AC PLFM FLASH - see model code table
Frequency:	50Hz (60Hz on request)
Rated power:	See model code table
Light output ratio:	η=0,75%
Cable entry:	2 x M20x1.5 II 2G Ex d e IIC Gb, II 2D Ex tb IIIC Db ADP 23/1 II 2G Ex d e IIC Gb, II 2D Ex tb IIIC Db
Connecting terminals:	L, N, PE; max. 2 x 2,5 mm ² solid, flexible terminal for external -PA connection; max 2x6 mm ²
Weight:	3,5 kg → PLFM 100/., PLFM FLASH-. 4,5 kg → PLFM 20 LED-., PLFM 70 HSE-.
Packing:	The packing contains: 2 pcs 340x260x170 mm

PLFM ... - .



- Basic type code**
Maximal wattage and type of sources:
100 - A incandescent lamp 100W max,
A ECO halogen lamp 105W max,
QT halogen lamp 100W max.
100/1 - LME mixed discharge lamp 100W max.
100/2 - TC-SB compact fluorescent lamp 23W max.
100/3 - LED BULB lamp 15W max.
20 LED - LED MODUL special 20W max.
FLASH - XENON MODUL special 5W max.
70 HSE - HSE-I high pressure sodium discharge lamp 70W,
HSE-I high pressure sodium discharge lamp 50W.
- Type of entries:**
1 – indirect entry – type with Ex e junction box,
2 – indirect entry – type with Ex d adapter ADP 23/1,

MODEL CODE

Model code	Max. wattage	Lamp type	Nominal voltage	Luminous flux	Lamp holder	Temp. class (gas)	T ₀ MAX (dust)
						T _a =40°C	T _a =40°C
PLFM 100 - .	100 W	A	230V	1340 lm	E27	T4	130°C
	116 W Osram 105 W Philips	A ECO	230 V	2135 lm Osram 1980 lm Philips	E27	T4	130°C
	100 W	QT	230 V	1800 lm Osram	E27	T4	130°C
PLFM 100/1 - .	100 W	LME	230 V, 50 Hz	1100 lm	E27	T3	155°C
PLFM 100/2 - .	22 W Osram 23 W Philips	TC-SB	230 V, 50 Hz	1440 lm	E27	T6	80°C
PLFM 100/3 - .	12 W Osram 13 W Philips	LED	230 V, 50 Hz	810 lm Osram 1055 lm Philips	E27	T6	80°C
PLFM 20 LED - .	20 W	LED modul	230 V, 50 Hz	1300 lm	-	T6	80°C
PLFM FLASH - .	5 W	XENON	10–100 V DC	4J/90Hz	-	T6	80°C
			110 V AC				
			230 V AC				
PLFM 70 HSE - .	70 W	HSE	230 V, 50 Hz	5900 lm Osram 5600 lm Philips	E27	T4	130°C
	50W	HSE	230 V, 50 Hz	3600 lm Osram 3500 lm Osram	E27	T4	130°C

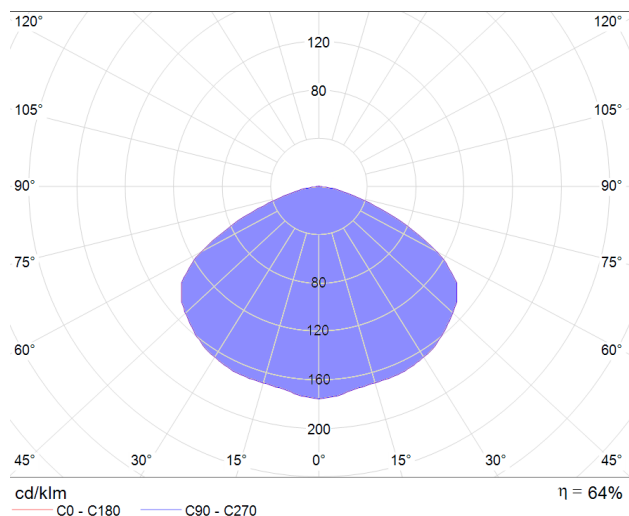
MOUNTING

Pendant, on pipe, wall, ceiling

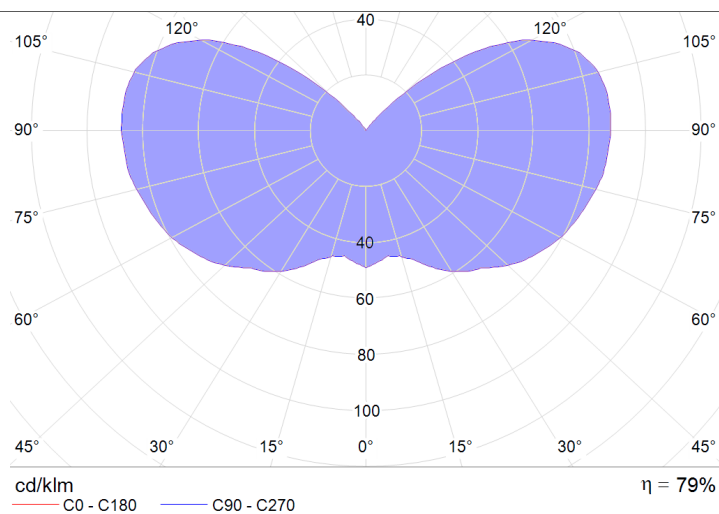
With vertical suspension on the bolt with ring bolt head M8
Wall mounting bracket



POLAR CURVE

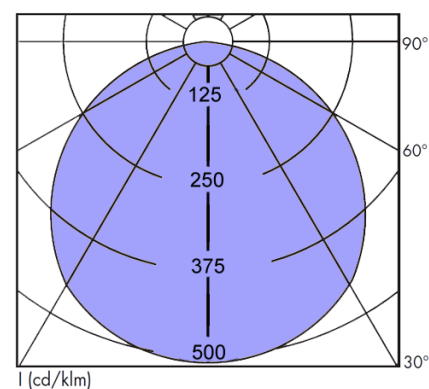
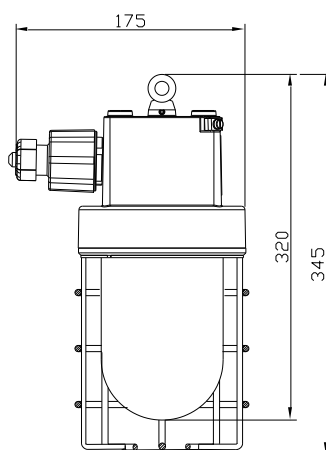
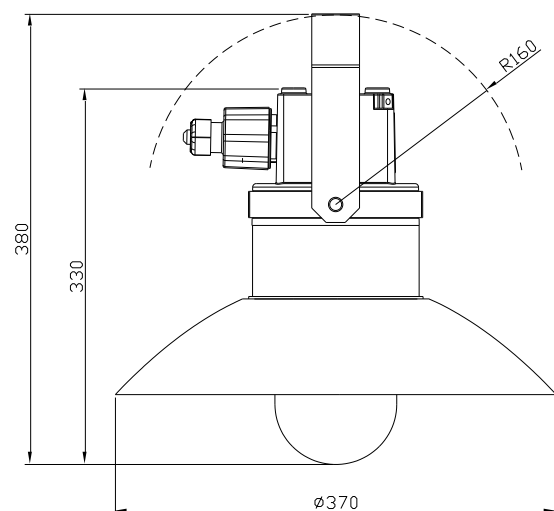


PLFM 100-., PLFM 70 HSE
With external reflector



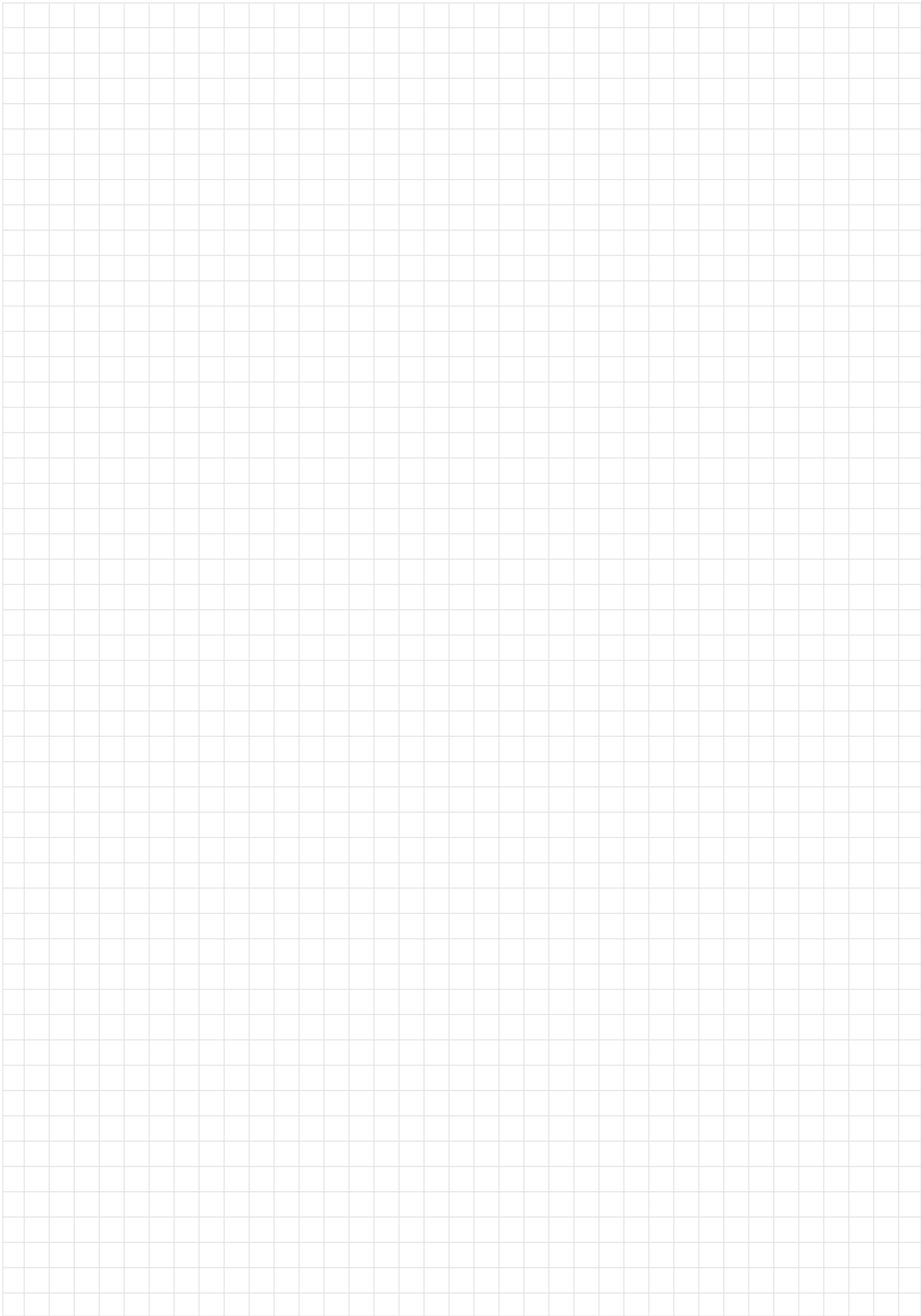
PLFM 100-., PLFM 70 HSE
Without external reflector

DIMENSION DRAWING (all dimensions in mm)



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Replacement glass PLFM	PLFM 10-120		Ex e cable gland M25	SPU 25
	Wire guard PLFM	PLFM 10-130		Ex e plug M25,	SPC 25
	Gasket PLFM	PLFM 10-140		Light bulb	According to type table
	Lampholder with internal reflector	PLFM 10-150		PLFM fixing bracket for tube R 2"	PLFM 20-120
	Ballast set	PLFM 10-170		PLFM mounting bracket (ceiling mounting)	PLFM 20-130
	Adapter ADP 23	PLFM 20-110		PLFM mounting bracket (wall mounting)	PLFM 20-140



E27



IP 66

IP 67



IK08



- Heavy duty construction, aluminium enclosure and borosilicate glass
- Up to 150W HIE, 12500 lm



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass

Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

TECHNICAL DATA

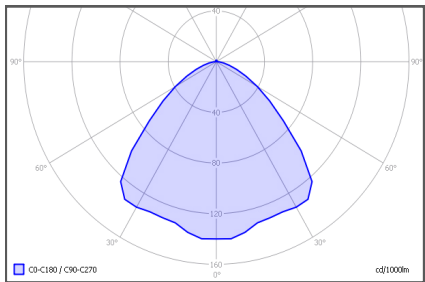
Certificate:	CESI 06 ATEX 052 RU C-HR.AB.B.03244
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T4,T5,T6 Ex tD A21 IP66 T80°C / T130°C Ex d e IIC T3/T4
Ambient temperature:	-20°C ≤ Ta ≤ +40°C / +50°C [ATEX] -50°C ≤ Ta ≤ +40°C / +50°C [EAC]
Degree of protection:	IP 66/67, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V (-10% / +6%) (other voltage on request) 12 V AC/DC, 24 V AC/DC, 110 V AC, 230 V AC-lamp type PLFS-T/FLASH
Frequency:	50Hz (60Hz on request)
Rated power:	See model code table
Light output ratio:	η=0,66% - 0,75%
Cable entry:	two entries Ex e M25x1,5
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² solid, flexible terminal for protective earthing conductor connection -PE; max 2x6mm ² terminal for external -PA connection; max 2x6mm ² tightening torque for screw clamp 1,2 Nm
Cable gland and plug:	II 2GD Ex e M25 IP66 tightening torque for gland screw 2,5 Nm tightening torque for gland and plug 3,5 Nm
Weight:	8,6 kg
Packing:	The packing contains: 2 pcs 610x390x280 mm

MODEL CODE

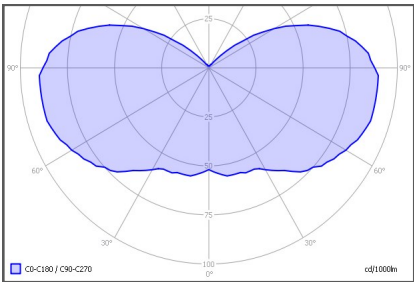
Model code	Max. wattage	Lamp type	Luminous flux	Lamp holder	Temp. class (gas)		T ₀ MAX (dust) T _a =40°C
					T _a =40°C	T _a =50°C	
PLFS-T/200	max. 200 W	A	2500 Lm	E27	T4	T4	130°C
	max. 230 W	QT	4200 Lm			T3	
	max. 160 W	LME	3150 Lm			T4	
	max. 30 W	TC-TSE	2300 Lm		T6	-	80°C
PLFS-T/125	125 W	HME	6700 Lm		T4	-	130°C
	110 W	HSE-I	9500 Lm			-	
PLFS-T/100	100 W	HSE	9000 Lm			-	
		HIE	8400 Lm			-	
PLFS-T/70	70 W	HSE	5800 Lm		T5	T4	95°C
		HIE	5500 Lm				
PLFS-T/150	150 W	HIE	12500 Lm		T4	-	130°C
PLFS-T/FLASH	15 W / 11 J (in total)	XENON	-	-	T6	-	80°C

POLAR CURVE

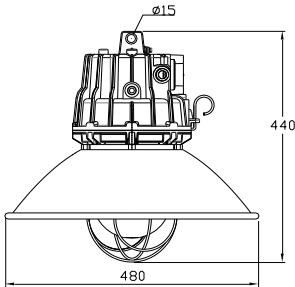
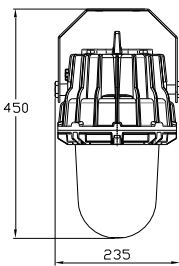
DIMENSION DRAWING (all dimensions in mm)



With external reflector



Without external reflector



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Replacement glass PLFS-T	PLFS-T 10-120		Ex e cable gland M25	SPU 25
	Wire guard PLFS-T	PLFS-T 10-130		Ex e plug M25,	SPC 25
	Base plate with lamp holder, ballast	PLFS-T 10-140		Light bulb	According to type table
	PLSF-T cover Exe set	PLFS-T 10-150		PLFS-T fixing bracket for tube R 1 1/2"	PLFS-T 20-120
	PLFS-T external reflector, wide	PLFS-T 20-100		PLFS-T mounting bracket (ceiling and wall mounting)	PLFS-T 20-130
	PLFS-T external reflector, narrow	PLFS-T 20-110			

E40



IP 66



IK08



ATEX



EAC

- Up to 250W discharge sources



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass

Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

TECHNICAL DATA

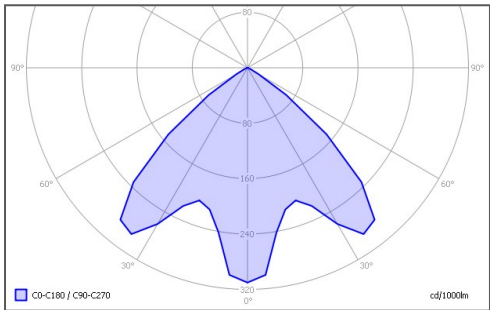
Certificate:	EXA 14 ATEX 0001 RU C-HR.AB24.B.03247
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	 Ex d e IIC T4-T3 Gb Ex d IIC T4-T3 Gb Ex tb IIIC T140°C - T155°C Db
Ambient temperature:	-20°C ≤ Ta ≤ +40°C / +50°C [ATEX] -50°C ≤ Ta ≤ +40°C / +50°C [EAC]
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V (-10% / +6%) (other voltage on request)
Frequency:	50Hz (60Hz on request)
Rated power:	See model code table
Light output ratio:	η=0,53% - 0,77%
Cable entry:	two entries Ex d, M20x1,5-6H
Ex d adapter:	type ADP 23/1, II 2G Ex d e IIC Gb II 2D Ex tb IIIC Db, cable gland ISO 25 for cable ∅ 7-15 mm
Connection terminals inside adapter, type PLFL-1/...	terminals for connection L + NE + PE; 2,5 mm ² , solid, stranded
Connection terminals inside light fitting	terminals for connection L + NE + PE; 2,5 mm ² , solid, stranded it is possible through wiring, I _{max} = 16 A
External PA / PE terminal:	max 2 x 6 mm ² flexible, 3 pcs.
Tightening torque:	housing of Ex d e adapter and Ex d plug 3,5 Nm pressure nut of cable gland 2,5 Nm screws of Ex e terminal 1,2 Nm
Weight:	ca 18 kg – PLFL-/500 A,IQ and PLFL/250 LME ca 23 kg - PLFL-/250 HIE, HSE, HME

MODEL CODE

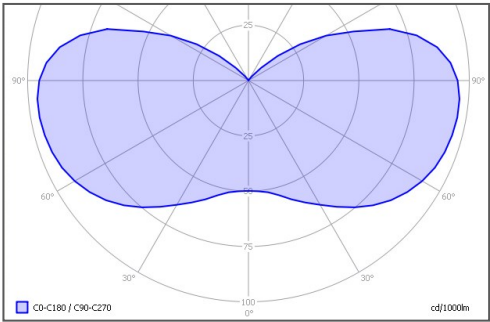
Model code	Max. wattage	Lamp type	Luminous flux	Lamp holder	Temp. class (gas)		T ₀ MAX (dust)
					T _a =40°C	T _a =50°C	T _a =40°C
PLFL/250 HIE, HSE, HSE Twinarc	250 W	HIE	20000	E40	T4	T3	140°C
		HSE	28000				
		HSE Tw	32000				
PLFL/250 HME		HME	20000				
PLFL/250 LME	LME	5500	-				150°C
PLFL/500 A,QT	500 W	A			8400		
		QT			10250		

POLAR CURVE,

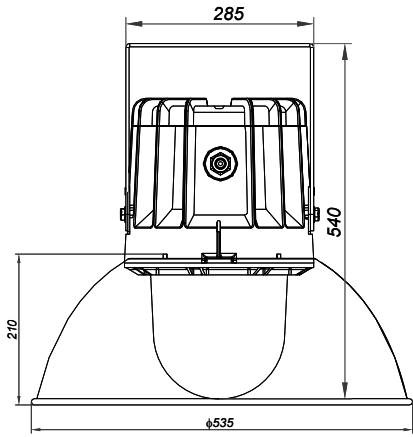
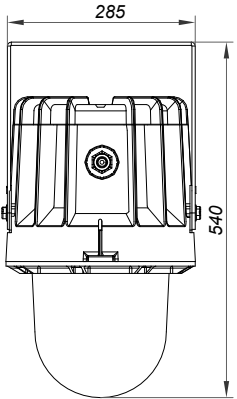
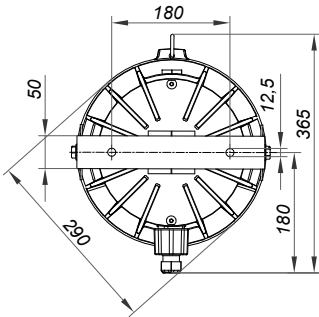
DIMENSION DRAWING [mm]



With external reflector



Without external reflector



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Replacement glass PLFL	PLFL 10-120		Gasket set PLFL	PLFL 10-160
	Wire guard PLFL	PLFL 10-130		Ex d plug M20,	SPC Exd 20
	Base plate with lamp holder, ballast	PLFL 10-140		Light bulb	According to type table
	Adapter ADP 23	PLFS-T 10-150		PLFL fixing bracket for tube R 1 1/2"	PLFL 20-120
	PLFL external reflector	PLFL 20-100		PLFL mounting bracket (ceiling and wall mounting)	PLFL 20-130

All technical data is relevant at the time of print.

E40

IP 66



IK08



ATEX



- Up to 400W discharge sources
- QL source up to 100 000 hours life time



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate tube glass

Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

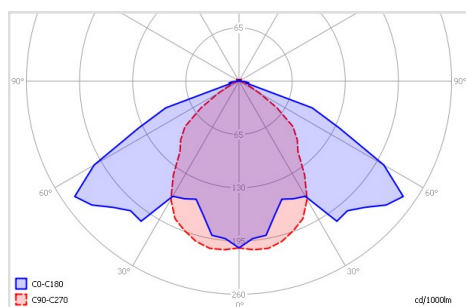
TECHNICAL DATA

Certificate:	EXA 14 ATEX 0047 RU C-HR.AB24.B.03248
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex Ex d e IIC T4-T3 Gb Ex d IIC T4-T3 Gb Ex tb IIIC T130°C - T195°C Db
Ambient temperature:	-20°C ≤ Ta ≤ +40°C [ATEX] -50°C ≤ Ta ≤ +40°C [EAC]
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	RLF/... HIT,HST,HME,QT -230/240 V (-10% / +6%) / 50 Hz RLF/... QL -230 V (200-277 V) - 50/60 Hz or (190-264 V) - DC
Frequency:	50Hz (60Hz on request)
Rated power:	See model code table
Light output ratio:	η=0,60%
Cable entry:	RLF/... HIT,HST,HME,QT - three entries M20, with two Ex d plug and one Ex de adapter, type ADP 03/23, for cable ∅6-15 mm RLF/... QL - two entries M25 into Ex e junction box with one Ex e cable gland, type SPU 25, for cable ∅v 6-15 mm and one Ex e plug
Connection terminals inside light fitting	RLF/... HIT,HST,HME,QT -clamps in Ex de adapter for connection L1, L2, N, PE, 2,5mm ² max. / clamp - solid, stranded;
External PA / PE terminal:	max 2 x 6 mm ² flexible, 3 pcs.
Weight:	See model code table
Packing:	The packing contains: 1 pcs 600x400x300 mm

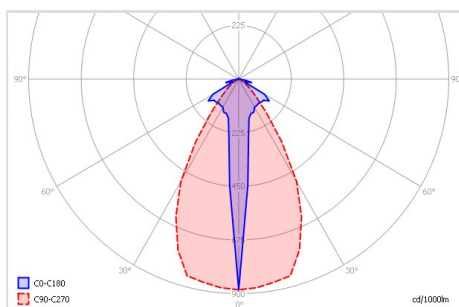
MODEL CODE

Model code	Max. wattage	Lamp type	Luminous flux	Lamp holder	Temp. class (gas)	T ₀ MAX (dust)	Weight	
					T _a =40°C	T _a =40°C		
RLF/250 HIT	250 W	HIE	20000	E40	T4	130°C	25 kg	
RLF/250 HST		HST	33200					
RLF/250 HME		HME	13000					
RLF/400 HIT	400 W	HIE	34000		T3	190°C	27 kg	
RLF/400 HST		HST	56500					
RLF/500 IQT RLF/300 IQT	500 W 300 W	IQT	10 250 5 600				QL	T4
RLF/85 QL	85 W	QL	6300					
RLF/165 QL	165 W		12000					

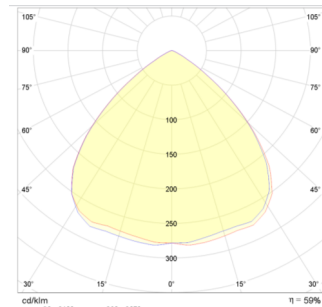
POLAR CURVE



Wide beam reflector

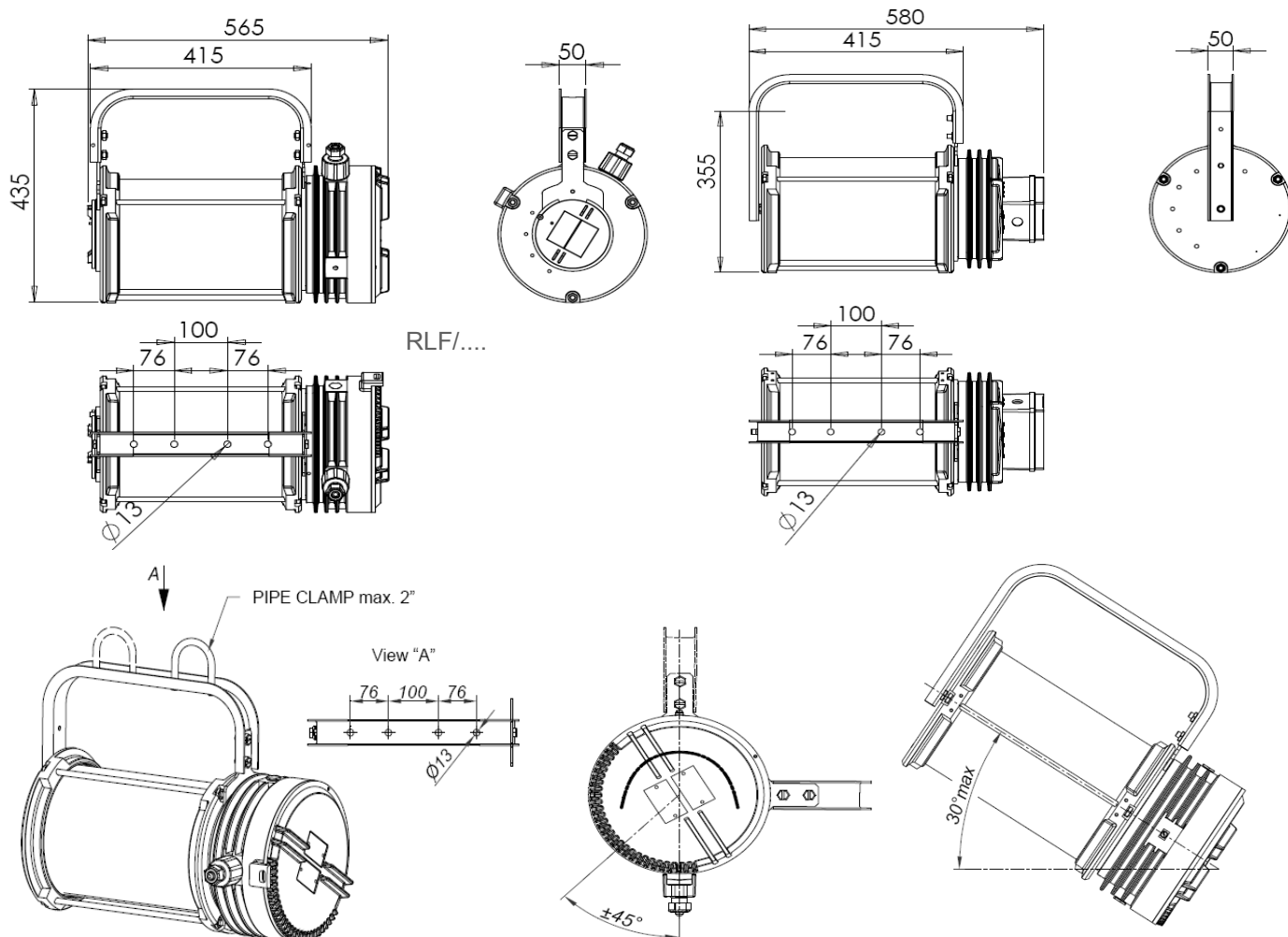


Narrow beam reflector



QL 165 W

DIMENSION DRAWING (all dimensions in mm)



All technical data is relevant at the time of print.

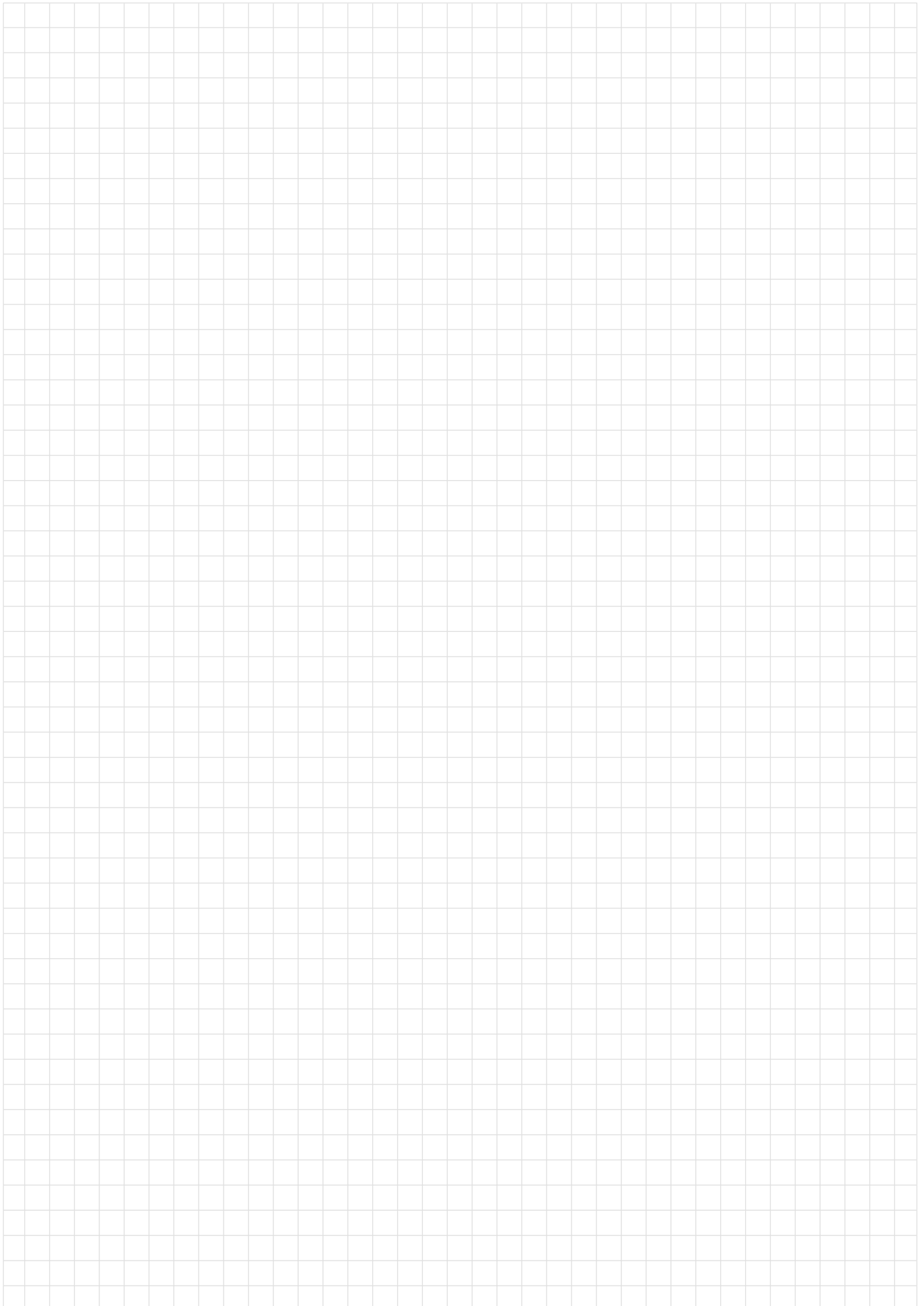
SPARE PARTS AND ACCESSORIES

If it is not ordered differently, floodlight **RLF/ ... HIT,HST,HME,QT** presume floodlight with RLF carrier, one Ex de adapter ADP 03/32 and two Ex d plugs, without light source and mounting accessories. Manufacturer will deliver spare parts and accessories on buyer request.

Sketch	Description	Code	Sketch	Description	Code
	Light bulb	RLF 10-110		Base plate HME Set	RLF 20-120
	Mounting screw M12x40	RLF 10-120		Gasket RLF	RLF 20-130
	U screw M12	RLF 10-130		Adapter Ex d e	ADP 23/1
	Base plate HIT, HST Set	RLF 20-110		Ex d plug M20	RLF 20-140

If it is not ordered differently, floodlight **RLF/... QL** presume floodlight with RLF QL carrier, one Ex e junction box MMK 13 with Ex e connecting terminals, Ex e M25 cable gland, Ex e M25 plug, and Philips QL Induction Lighting System, without mounting accessories. Manufacturer will deliver spare parts and accessories on buyer request.

Sketch	Description	Code	Sketch	Description	Code
	MMK 13 gasket	RLF QL 10-110		Ex e plug M25	SPC 25
	Ex e cable gland M25	SPU 25			



G13

IP 66



IK08



ATEX



IM2

- T8 fluorescent lamps in parallel configuration
- Central locking
- Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected
- In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply
- PSF 218 - use in underground mines



CONSTRUCTION

Housing: SMC polyester plastic reinforced with glass fiber

Diffuser: PC polycarbonate plastic

Gasket: silicone

Central locking: can be opened/closed using a socket key SW8, hinged lamp cover

The light fitting is normally supplied without light sources, socket key screw, two Ex e cable glands M25, two Ex e plugs M25 and with four ring screw M8 (pendant version).

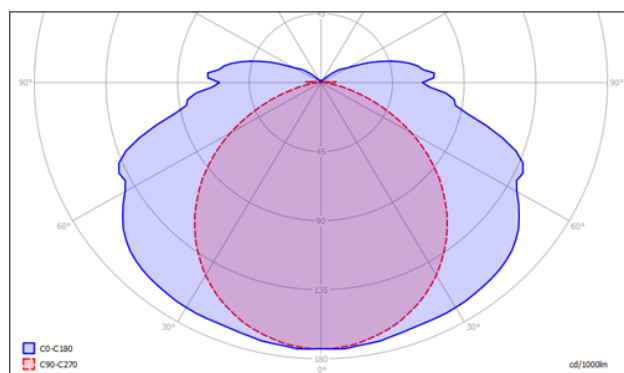
TECHNICAL DATA

Certificate:	EXA 13 ATEX 0014, EAC RU C-HR.AB24.B.03249
Marking:	CE 0722
Apparatus category:	II 2GD, I M2 (type PSF 218)
Marking of explosion protection:	Ex d e mb IIC T4 Gb Ex tb IIIC T80°C Db, Ex d e mb I Mb
Ambient temperature:	-20°C ≤ Ta ≤ +50°C [ATEX] -50°C ≤ Ta ≤ +40°C [EAC]
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220....240 V (±10%)
Frequency:	50/60 Hz
Power factor:	λ=0,95
Ballast lumen factor:	98%
Light output ratio:	η=0,72% - 0,78%
End of life switch:	The electronic ballast, type SMP 07/12 fulfills the requirements according to IEC 61347-2-3 (simulation of the "end of life effect" of fluorescent lamps)
Estimated service life:	70 000 h at T _{amb} =40°C
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters Ø6-15 mm, and two Ex e plugs
Through wiring:	3 x 2,5 mm ² , max. 16 A, or looping of the cables (entry and exit on one side)
Packing:	The packing contains: 1 pcs PSF 218 : 825x270x210 mm PSF 236 : 1420x270x210 mm PSF 258 : 1700x270x210 mm

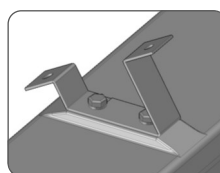
MODEL CODE

Model code	Max. Wattage	Lamp type	Nominal voltage	Luminous flux [lm]	Lamp holder	Nominal operational current	Weight
PSF 218	2x18 W	T8	220 - 240 V	2 x 1350	G13	0,18 A	7,5 kg
PSF 236	2x36 W			2 x 3350		0,33 A	10 kg
PSF 258	2x58W			2x 5200		0,5 A	12 kg

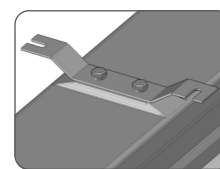
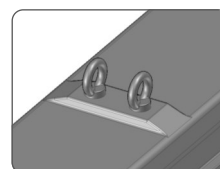
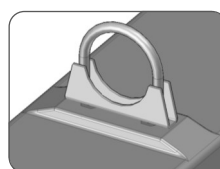
POLAR CURVE



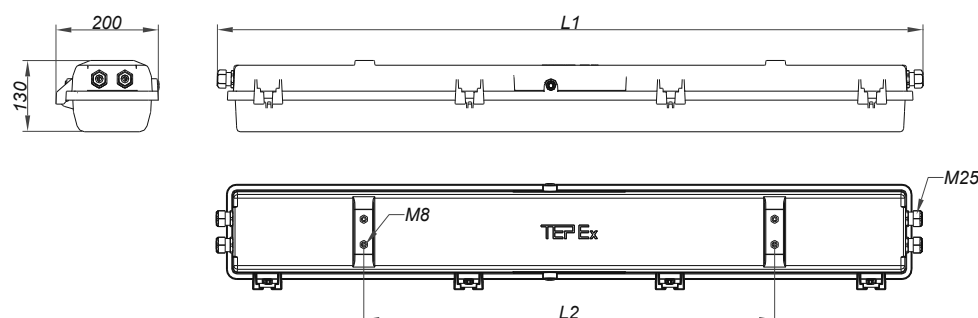
MOUNTING



Pendant, on pipe, wall, ceiling



DIMENSION DRAWING (all dimensions in mm)



	L1 [mm]	L2 [mm]
PSF 218	750	400
PSF 236	1370	800
PSF 258	1665	800

SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Diffuser PSF	PSF218 10-120 PSF236 20-120		Ex e cable gland SPU 25	SPU 25
	Gasket PSF	PSF218 10-130 PSF236 20-130		Ex e plug M25	SPC 25
	Internal reflector with lamp holder PSF	PSF218 10-140 PSF236 20-140		PSF Ceiling mounting set	PSF 30-110
	EI. ballast SMP	SMP 07/12 SMP 08 (PSF 258)		PSF Pipe mounting set	PSF 30-120
	Terminals 5x2,5mm ²	PSF236 20-150		PSF Wall mounting set	PSF 30-130
	Socket key SW8	PSF236 20-160		Ring bolt M8	PSF 30-140

G13

IP 66



IK08



- 1,5 or 3h autonomy
- Maintained / Non maintained operation
- Ni-Mh battery



CONSTRUCTION

Housing: SMC polyester plastic reinforced with glass fiber

Diffuser: PC polycarbonate plastic

Gasket: EPDM formed gasket

Central locking: can be opened/closed using a socket key SW8, hinged lamp cover

The light fitting is normally supplied without light sources, with socket key, two Ex e cable glands M25, two Ex e plugs M25 and with four ring screw M8 (pendant version).

TECHNICAL DATA

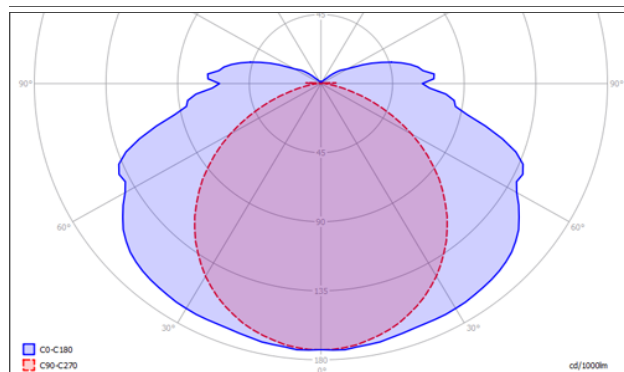
Certificate:	EXA 13 ATEX 0014/3
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	 Ex db eb mb IIC T4 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ Ta ≤ +40°C
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220....240 V (±10%)
Frequency:	50/60 Hz
Power factor:	λ=0,95
Ballast lumen factor:	98%
Light output ratio:	η=0,78%
Battery:	PSF 218E - Ni-Mh Saft VHT D, 4,8V 6Ah PSF 236E - Ni-Mh Saft VHT F, 4,8V 10Ah
Nominal autonomy:	1,5 / 3 hours
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters Ø6-15 mm, and two Ex e plugs
Piktogram:	300x150mm
Packing:	The packing contains: 1 pcs PSF 236 : 1420x270x210 mm PSF 218 : 825x270x210 mm

Emergency fluorescent light fitting

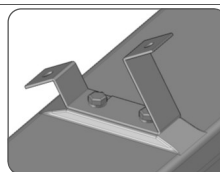
MODEL CODE

Model code	Max. Wattage	Lamp type	Nominal voltage	Luminous flux [lm]	Luminous flux bat. mod [lm]	Lamp holder	Nominal operational current	Weight
PSF 218	2x18 W	T8	220 - 240 V	2 x 1350	1,5h 60% (800lm) 3h 40% (550lm)	G13	0,18 A	9,0 kg
PSF 236	2x36 W			2 x 3350	1,5h 60% (2000lm) 3h 30% (1000lm)		0,33 A	12,5 kg

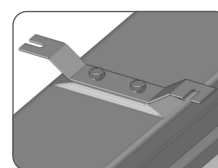
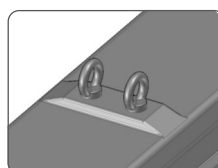
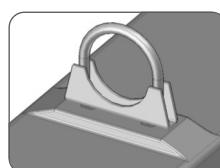
POLAR CURVE



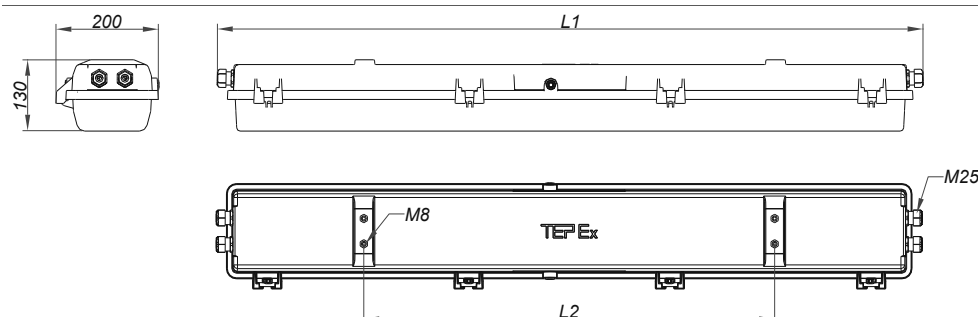
MOUNTING



Pendant, on pipe, wall, ceiling



DIMENSION DRAWING (all dimensions in mm)



	L1 [mm]	L2 [mm]
PSF 218 E	750	400
PSF 236 E	1370	800

SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	MODEL CODE	SKETCH	DESCRIPTION	MODEL CODE
	Diffuser PSF	PSF 218 10-120 PSF 236 20-120		Ex e cable gland	SPU 25
	Gasket PSF	PSF 218 10-130 PSF 236 20-130		Ec e plug	SPC 25
	Internal reflector with lamp holder	PSF 218 10-140 PSF 236 20-140		Ceiling mounting, set	PSF 30-110
	Pendant mounting, set	PSF 30-150		Pipe mounting, set	PSF 30-120
	Battery module	BATEx 01/6 BATEx 01/10		Wall mounting, set	PSF 30-130
	Terminals 8x0,5 – 4mm ² , set	PSF 218E 10-150		Metal cable glands for armoured cable M25 13-21mm	PSF 30-160
	Signal LED indicator	LEDEx 02		Socket key SW8	PSF218 20-160
	Terminal	SL2		Ring bolt M8	PSF 30-140
	Electronic ballast and inverter for emergency lighting	SMPE 15/18 SMPE 15/36		Piktograms - DIN 4844-2	PSF 30-170

All technical data is relevant at the time of print.

2G11

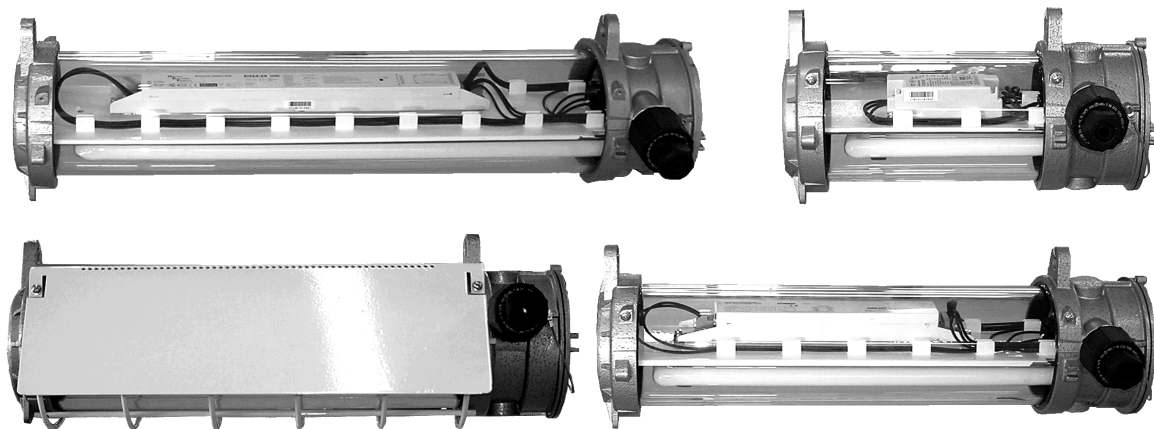
IP 66



IK08



- TC-L fluorescent compact lamps
- 100÷280V AC/DC
- 0-60 Hz



CONSTRUCTION

Housing: aluminium, corrosion resistant grey polyurethanes painted

Diffuser: borosilicate glass tube

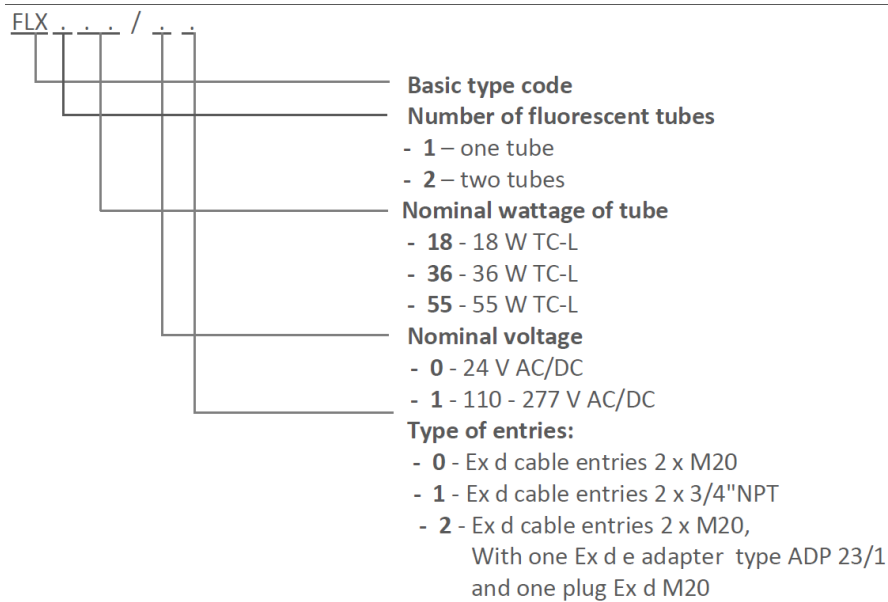
Gasket: silicon

The light fitting is normally supplied with two light sources, two entries M20 and wall/sealing mounting set.

TECHNICAL DATA

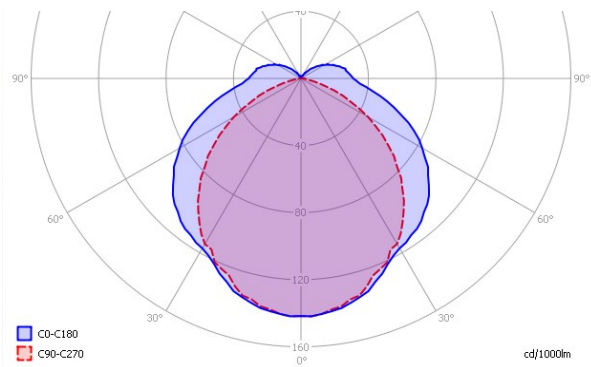
Certificate:	CESI 06 ATEX 051-01/09, EAC RU C-HR.AB24.B.03253
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	 Ex de IIC T5/T6 Gb Ex tD A21 IP66 T95°C/T80°C
Ambient temperature:	-20°C ≤ Ta ≤ +50°C [ATEX] -50°C ≤ Ta ≤ +50°C [EAC]
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	100 V ÷ 280 V AC/DC
Frequency:	0-60 Hz
Rated power:	See model code table
Ballast lumen factor:	98%
Light output ratio:	η=0,73%
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ² PE for outside earthing max. 2 x 6 mm ²
Cable entry:	2 x M20 2 x 3/4"NPT 2 x M20, with one Ex d plugs and one adapter type ADP 03/24, for cable φ6-15 mm
Through wiring:	With two Ex de adapter ADP 03/24 - 4 x 2,5 mm ² , max. 16 A,
Energy classification EEL:	A2
Electromagnetic compatibility:	in conformity with the EMC Directive 2004/108 EC and harmonized standards EN 55015+A1+A2, EN 61547 , EN 61000-3-2+A1, EN 61000-3-3

MODEL CODE

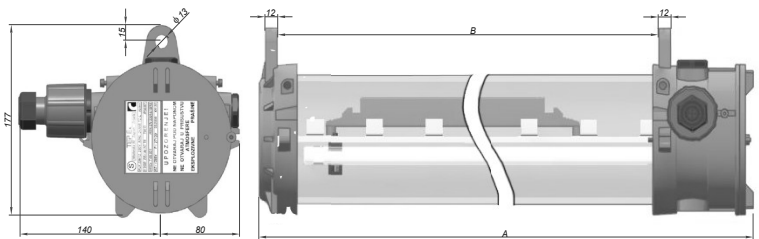


Model code	Max. Wattage	Lamp type	Nominal voltage	Luminous flux [lm]	Lamp holder	A	B	Weight
FLX 218	2x18 W	TC-L	100-280 V	2 x 1200	2G11	330	215	3,3 kg
FLX 236	2x36 W			2 x 2900		520	405	5,8 kg
FLX 255	2x55 W			2 x 4700		645	530	8,4 kg

POLAR CURVE

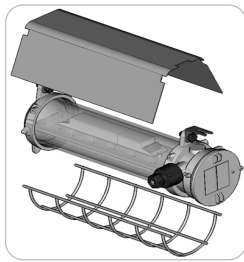
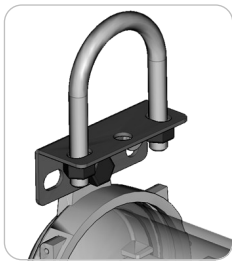
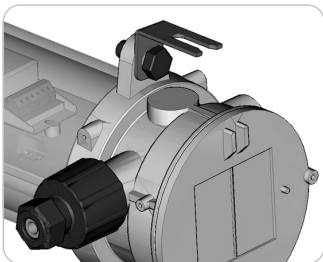


DIMENSION DRAWING (all dimensions in mm)



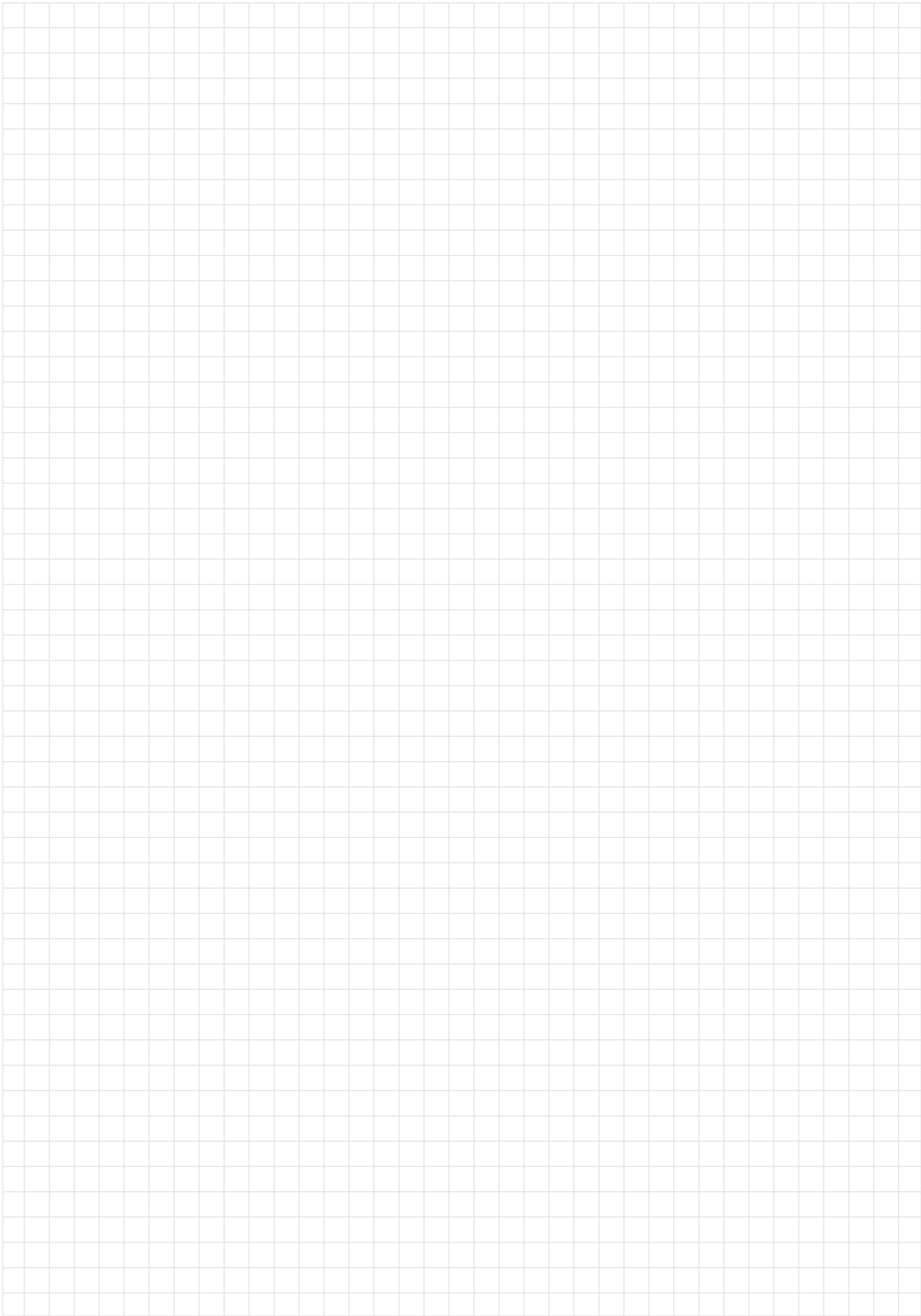
MOUNTING

Pendant, on pipe, wall, ceiling mounting. Operates in any position.



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Cover gasket FLX	FLX 10-120		Ex d cable gland SPU 20	SPU 20
	Base plate FLX/...	FLX 10-130		Ex d plug M20	SPC 20
	Protective grid FLX set	FLX 20-140		FLX Wall / ceiling mounting set	FLX 20-170
	External reflector FLX	FLX 20-150		FLX Pipe mounting set	FLX 20-180
	Adapter ADP 23	FLX 10-160			



LED

IP 66



- Used for marking escape routes and exits in potentially explosive atmospheres.
- Self-test, monitoring and diagnostics reduce costly maintenance checks.
- >3h autonomy
- Maintained / Non maintained operation
- Possibility of supplies with **DALI** compatible ballast
- Ni-MH 3,6V/2.2Ah, build in light fitting, microprocessor controlled charging, discharging and control of battery

FLXE 118 LED



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass tube,

Gasket: silicon

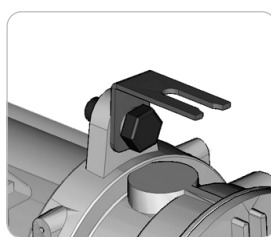
The light fitting is normally supplied with two entries M20 and wall/sealing mounting set

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0001X EAC RU C-HR.AB24.B.03252
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C /+50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220-240 V 110V on request
Frequency:	50Hz / 60Hz
Rated power:	2x 1,2W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2 x M20 or 2 x 3/4"NPT or 2 x M20, with one Ex d plugs and one adapter type ADP 03/24 for cable φ6-15 mm
Weight:	4kg

MOUNTING

Pendant, on pipe, wall, ceiling mounting . Operates in any position.



Emergency LED light fitting

MODEL CODE

FLXE 118 LED

Pictogram According with DIN 4844-2

0	Without	5	
1		6	
2		7	
3		8	
4			

Cable entry:

- 0 ... Ex d cable entry 2 x M20x1,5, ISO 965-1, ISO 965-3
- 1 ... Ex d cable entry 2 x 3/4"NPT, ANSI/ASME B1.20.1
- 2 ... Ex de adapter ADP 24 (for cable 6-15mm)
- 3 ... 2x Ex de adapters ADP 24 (for cable 6-15mm) through wiring

Rated voltage:

- 0 ... 24 V AC/DC
- 1 ... 60 V AC/DC
- 2 ... 110 - 127 V AC/DC
- 3 ... 220 - 240 V AC/DC

The lamp can operate with two types of connection:

a) Maintained (Dauerschaltung)

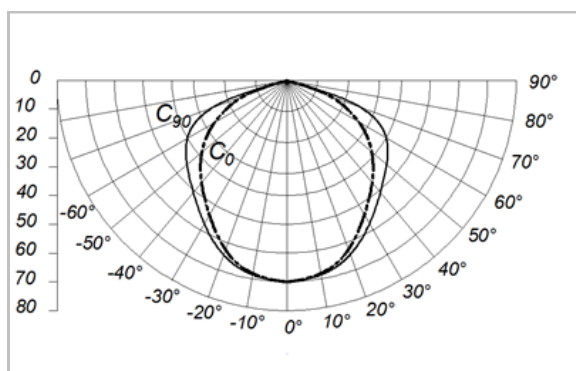
The light fitting can be used for general and orientation lighting with mains power supply via L' (installation switch). In case of voltage drop or an interruption in the mains power supply L, the light fitting will continue to operate in battery-powered mode, regardless of the status of installation switch L' (ON/OFF).

b) Non maintained (Bereitschaftschaltung)

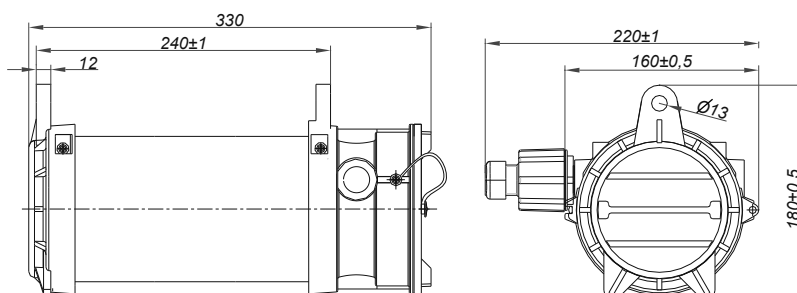
In case of voltage drop or an interruption in the mains power supply L, the light fitting will operate only in battery-powered mode.

In both types of the connection in the presence of continuous phase L, it is possible to verify the correctness of the emergency system by turning on the switch in the TEST circuit.

ISOCANDELA CURVE [l/cd]



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLX	FLX 10-120		External reflector FLX	FLX LED 20-150
	Base plate FLXE	FLXE 10-130		FLX Wall / ceiling mounting set	FLX 20-170
	Protective grid FLXE set	FLXE 20-140		FLX Pipe mounting set	FLX 20-180

G13

IP 66



IK08



CONSTRUCTION

Housing: Epoxi/polyester powder-coated sheet steel

Diffuser: flat borosilicate glass with a high thermal and mechanical stability

Gasket: EPDM formed gasket

All-pole are disconnected via NC switch when glass cover is opened.

The light fitting is normally supplied without light sources, two Ex e cable glands M25, one Ex e plug M25 and with two ring screw M8 (pendant version).

TECHNICAL DATA

Certificate:	EXA 13 ATEX 0015
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	 Ex d e mb IIC T4 Gb Ex tb IIIC T80°C Db
Ambient temperature:	$-30^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Degree of protection:	IP 66, category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220....240 V ($\pm 10\%$)
Frequency:	50/60 Hz
Power factor:	$\lambda=0,95$
Ballast lumen factor:	98%
Light output ratio:	$\eta=0,72\%$
End of life switch:	The electronic ballast, type SMP 07/12 fulfills the requirements according to IEC 61347-2-3 (simulation of the "end of life effect" of fluorescent lamps)
Estimated service life:	70 000 h at $T_{amb}=40^{\circ}\text{C}$
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters Ø6-15 mm, and two Ex e plugs
Through wiring:	5x terminals 4x4 mm ² , max. 16 A, or looping of the cables (entry and exit on one side)
Disconnection of the light:	Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the lamp cover are closed. In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply.
Packing:	The packing contains: 1 pcs 142X415X140 mm

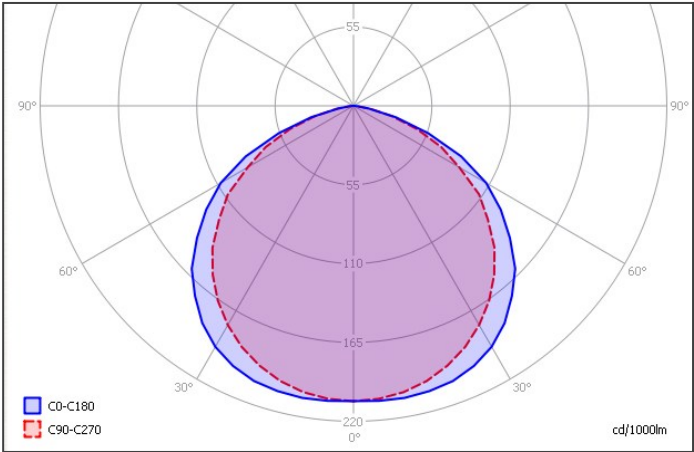
- T8 fluorescent lamps in parallel configuration
- Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected
- In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply
- Recessed mounting set for clear rooms

Fluorescent light fitting

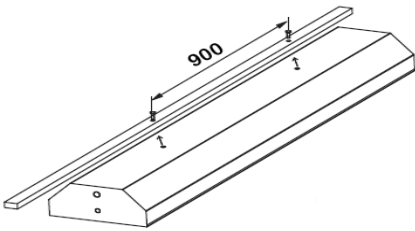
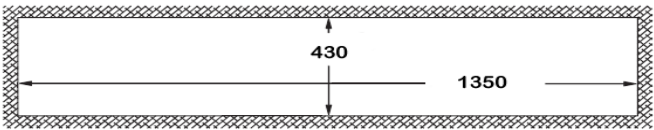
MODEL CODE

Model code	Max. Wattage	Lamp type	Nominal voltage	Luminous flux [lm]	Lamp holder	Nominal operational current	Weight
SIF 236	2x36 W	T8	220 - 240 V	2 x 3350	G13	0,18 A	25 kg
SIF 436	4x36 W			4 x 3350		0,33 A	27 kg

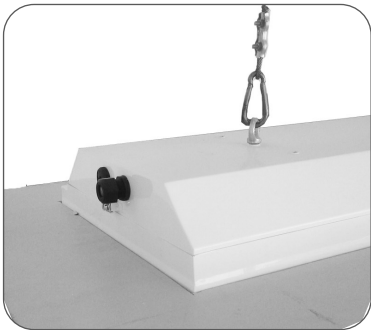
POLAR CURVE



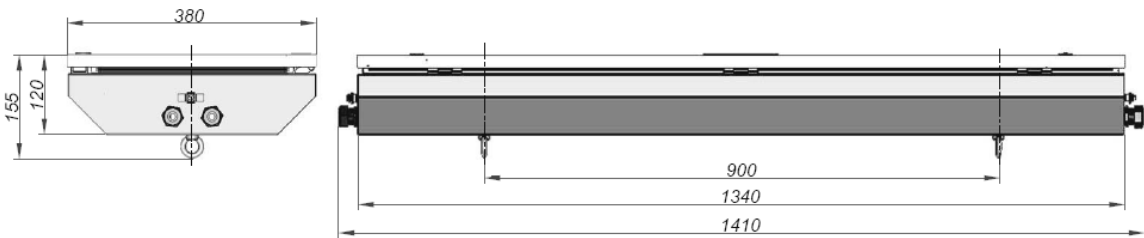
RECESSED LIGHT FITTING



MOUNTING (Pendant, wall/ceiling mounting, recessed)



MOUNTING (Pendant, wall/ceiling mounting, recessed)



SPARE PARTS AND ACCESSORIES

Sketch	Description	Code	Sketch	Description	Code
	Gasket SIF	SIF 10-130		Ex e cable gland SPU 25	SPU 25
	El. ballast SMP 07/12	SMP 06/12		Ex e plug M25	SPC 25
	Ring bolt M8	-			

All technical data is relevant at the time of print.

LED

IP 66



IK08



0403.24 LED20



CONSTRUCTION

Housing: aluminium powder painted casting
 Diffuser: borosilicate glass, silicone gasket
 Protected grid: AISI 316
 Standard version without protected grid

TECHNICAL DATA

Certificate:	EXA 16 ATEX 0015
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex eb mb IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	$-30^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	20 W
Connecting terminals:	terminals L1 + N for $2 \times 4 \text{ mm}^2$ terminals PE for $2 \times 4 \text{ mm}^2$
Cable entry:	2x M25 (1x M25 Exe cable gland, 1x Exe M25 plug)
Weight:	4 kg
Packing:	The packing contains: 1 pcs 360x240x205 mm

MOUNTING

Two brackets with two screws M6

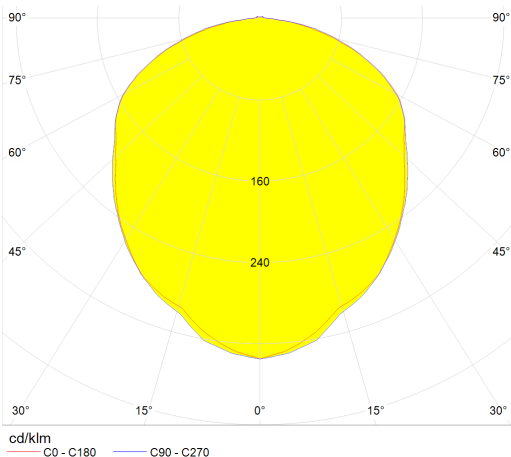
- Application in confined or restricted spaces
- Robust light alloy enclosure weighs only 4 kg
- Allowing the user to mount in areas where the available space is restricted
- Fast and easy installation
- Estimated service life 70 000 hours

Bulkhead LED light fitting

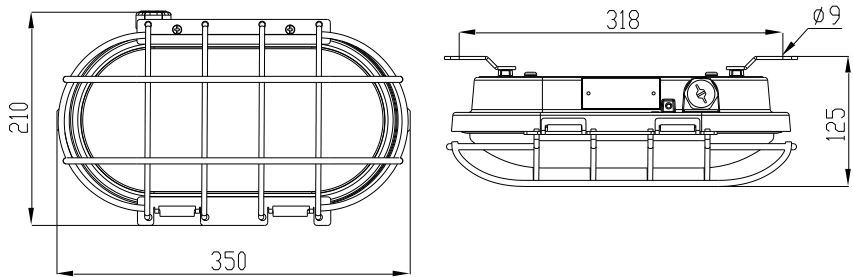
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
0403.24 LED 20-1	20W	230V	2000	0,80

POLAR CURVE



DIMENSION DRAWING (all dimensions in mm)



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	LEDEx 01 modul	0403.24 LED 10-110		Ex e cable gland M25	SPU 25
	Gasket 0403.24 LED	0403.24 LED 10-120		Ex e plug M25	SPC 25
	Glass cover	0403.24 LED 10-130		Bracket for wall	0403.24 LED 10-160
	Protective grid	0403.24 LED 20-120		Bracket for pipe R2"	0403.24 LED 10-170

Example of equivalent "traditional" light sources with Ex LED

LED		A - incandescent light bulb	
0403.24 LED 20		0403.24/10	
	20W 100 lm/W		100W 15 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66



IK08



PLFM LED



- Robust light alloy enclosure weighs only 3,5 kg
- Fast and easy installation
- PLFM 100/3 with E27 lampholder for LED bulb
- Estimated service life for LED module 20W ~ 70 000 h
- LED module with 100lm/W

CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass

Accessories: protected galvanized steel gird (INOX on request), assembly kit for wall, pipe and ceiling mounting

Standard version without protected grid

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0056X
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	12W, 20 W
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² terminals PE for 2 x 4 mm ²
Cable entry:	2x M20 (1x M20 Ex de adapter ADP 23/1 for cable 7-15mm, 1x Exd M20 plug)
Weight:	3,5 kg
Packing:	The packing contains: 2 pcs 440x260x170mm

MOUNTING

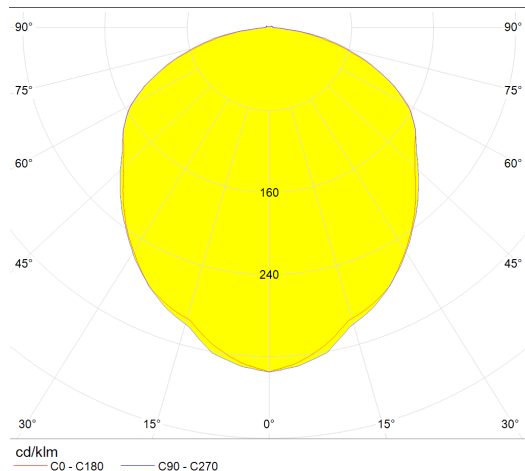
Pendant, on pipe, wall, ceiling

Pendant LED light fitting

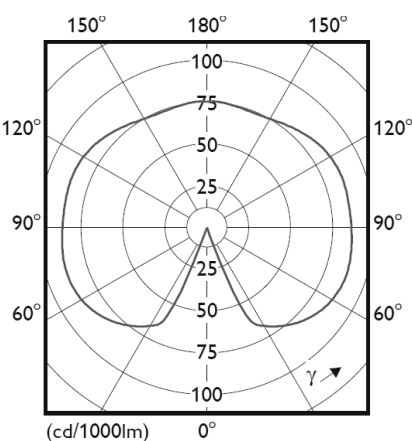
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
PLFM 100/3-.	12 W Osram 13 W Philips	230V	810 1055	0,80
PLFM 20 LED	LED module		2000	

POLAR CURVE

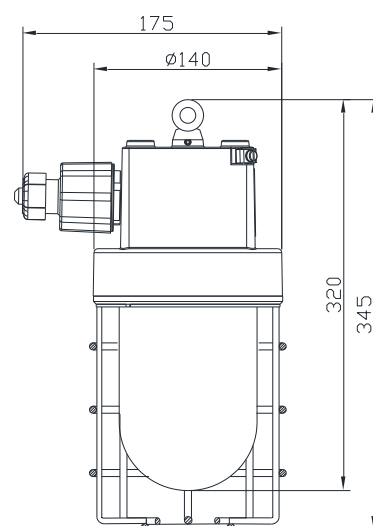


LED module
20W, 2000 lm



Master LEDbulb Osram
12W, 810 lm

DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass PLFM	PLFM 10-120		Ex d metal plug M20	SPC 20
	Wire guard PLFM	PLFM 10-130		LED bulb E27	prema tablici izvedbi
	Gasket PLFM	PLFM 10-140		PLFM mounting bracket for pipe R2"	PLFM 20-120
	PLFM LED modul, set	PLFM 10-170		PLFM mounting bracket (ceiling)	PLFM 20-130
	Adapter ADP 23/1	PLFM 20-110		PLFM mounting bracket (wall)	PLFM 20-140

Example of equivalent "traditional" light sources with Ex LED

LED		QT (halogen)		CFL (compact fluo)	
PLFM 20 LED		PLFM 100 QT		PLFM 100/2	
	17W 100 lm/W		100W 18 lm/W		23W 65 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66



IK08



0401.35 LED 30



- Robust light alloy enclosure weighs only 3,8 kg
- Estimated service life 70 000 hours
- LED module with 100lm/W

CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass,

Accessories: assembly kit for wall, pipe and ceiling mounting

TECHNICAL DATA

Certificate:	In progress
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V
Frequency:	50Hz (60Hz on request)
Rated power:	30 W
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² terminals PE for 2 x 4 mm ²
Cable entry:	2x M25 (1x M25 Ex e cable gland for cable 7-15mm, 1x Exe M25 plug)
Weight:	3,8 kg

MOUNTING

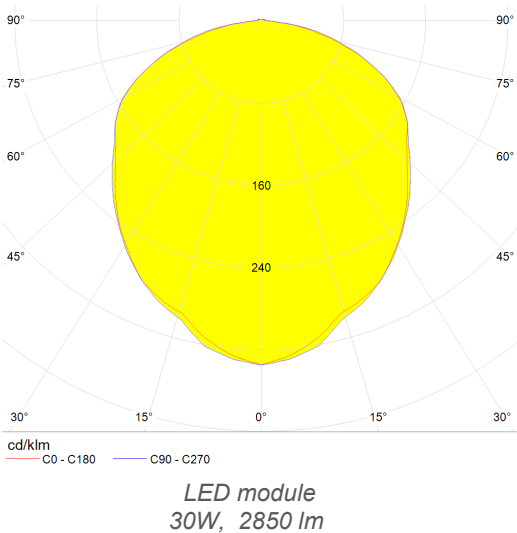
Pendant, on pipe, wall, ceiling

Pendant LED light fitting

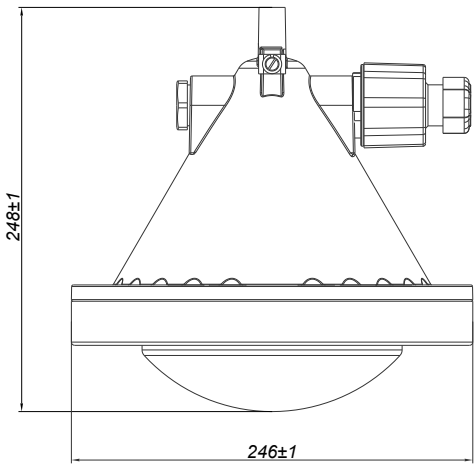
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η
0401.35 LED 30	30 W	230V	2850	0,84

POLAR CURVE



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass 0401.35 LED	0401.35 LED 10-130		Ex e cable gland M25	SPU 25
	LED module 30W	0401.35 LED 10-110		Gasket 0401.35	0401.35 LED 10-120

Example of equivalent "traditional" light sources with Ex LED

LED		HME (mercury)		HIE (metal halide)		QT (halogen)	
0401.35 LED 30		PLFS-T		PLFS-T 100		PLFS-T 200	
	30W 95 lm/W		80W 50 lm/W		70W 80 lm/W		230W 18 lm/W

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

LED

IP 66



IK08

T_a

-40 +50



PLFS 50 LED



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass,

Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

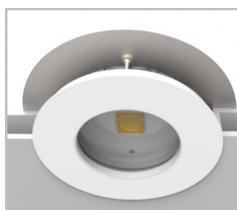
Gasket: silicon

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0028 EAC RU C-HR.AB24.B.03244
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6/T5 Gb Ex tb IIIC T80°C/T85°C Db
Ambient temperature ATEX: EAC:	-40°C ≤ T _a ≤ +40°C / +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	90 - 305 V AC 127 - 431 V DC
Frequency:	50Hz / 60Hz
Rated power:	35W, 50W, 60W, 80W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2x M25 (1x M25 Ex e cable gland for cable 7-15mm, 1x Exe M25 plug)
Weight:	6,8kg (PLFS 50 LED-4 - 11kg)
Packing:	The packing contains: 2 pcs 560 x 270 x 270 mm

MOUNTING

Pendant, on pipe, wall, ceiling, recessed (*clean room LED light fitting*)



- Highest efficiency with luminous efficacy up to 170lm/W
- High colour rendering index CRI 80
- Estimated service life 70 000 hours
- With OVP, OCP, OTP protection
- Autonomous reactivation after recovery

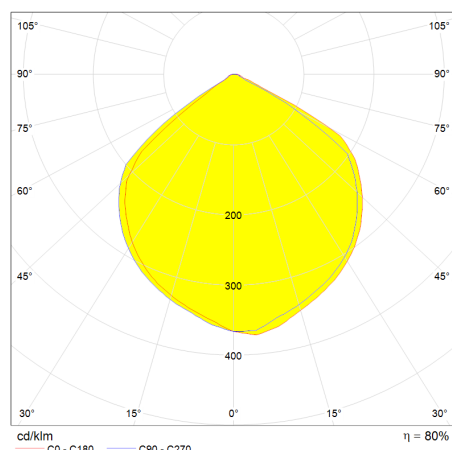
new
LED
more lm/W

Pendant LED light fitting

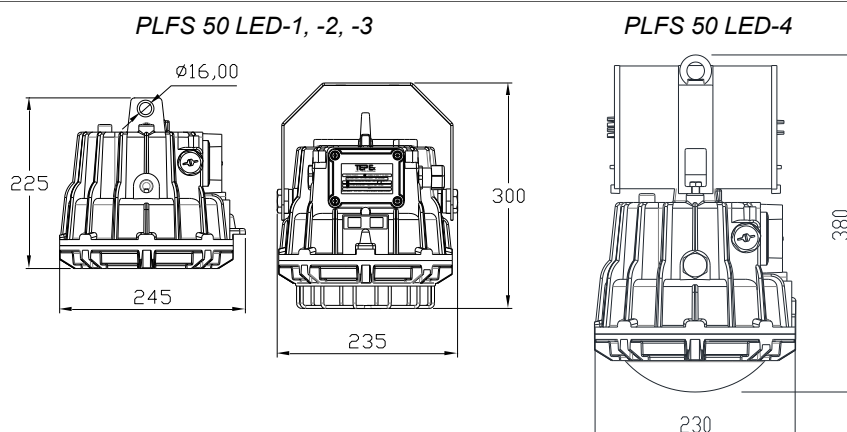
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η	AMBIENT TEMP.
PLFS 50 LED-1	35 W	90-305 V AC 127-431 V DC	5950	0,80	-40°C ÷ +50°C
PLFS 50 LED-2	50 W		8500		
PLFS 50 LED-3	60 W		10 200		40°C ÷ +40°C
PLFS 50 LED-4	80 W		13 600		

POLAR CURVE



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Replacement glass PLFS LED	PLFS LED 10-120		PLFS-T fixing bracket for tube R 1 1/2"	PLFS 20-120
	Wire guard PLFS LED	PLFS LED 10-130		PLFS-T mounting bracket (ceiling and wall mounting)	PLFS 20-130

Example of equivalent "traditional" light sources with Ex LED

LED		HME (mercury))		HIE (metal halide)		QT (halogen) / A	
	PLFS 50 LED-1		PLFS-T 125		PLFS-T 100		PLFS-T 200
	35W 170 lm/W		125W 50 lm/W		100W 80 lm/W		230W QT 18 lm/W
	PLFS 50 LED-3		PLFL 250 HME		PLFS-T 150 HIE		PLFL 500
	60W 170 lm/W		250W 52 lm/W		150W 80 lm/W		500W A 15 lm/W
	PLFS 50 LED-4		PLFL 400 HME		PLFL 250 HIE		
	80W 170 lm/W		400W 50 lm/W		250W 80 lm/W		

The given information is for rough orientation only. In each individual case a lighting calculation is necessary.

All technical data is relevant at the time of print.

FLX 310 LED



CONSTRUCTION

Housing: aluminium powder painted casting

Diffuser: borosilicate glass tube,

Gasket: silicon

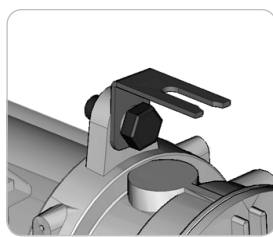
The light fitting is normally supplied with three LED linear sources, two entries M20 and wall/sealing mounting set

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0050X
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C /+50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220-240 V 110V on request
Frequency:	50Hz / 60Hz
Rated power:	3x 12W
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable entry:	2 x M20 or 2 x 3/4"NPT or 2 x M20, with one Ex d plugs and one adapter type ADP 03/24 for cable φ6-15 mm
Weight:	7kg
Packing:	The packing contains: 1 pcs 540x230x200 mm

MOUNTING

Pendant, on pipe, wall, ceiling mounting . Operates in any position.



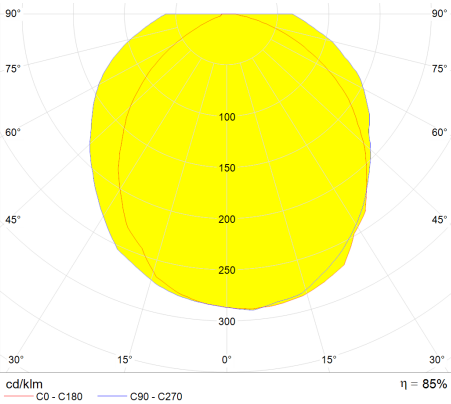
- High colour rendering index CRI >80
- Estimated service life ≥50 000 working hours at t_{amb} = 40°C
- LED 3 x 12W chip -on-board technology with OVP, OCP, OTP protection
- Autonomous activation after recovery
- Suitable for linear lighting up to 20 modules

new
LED
more lm/W

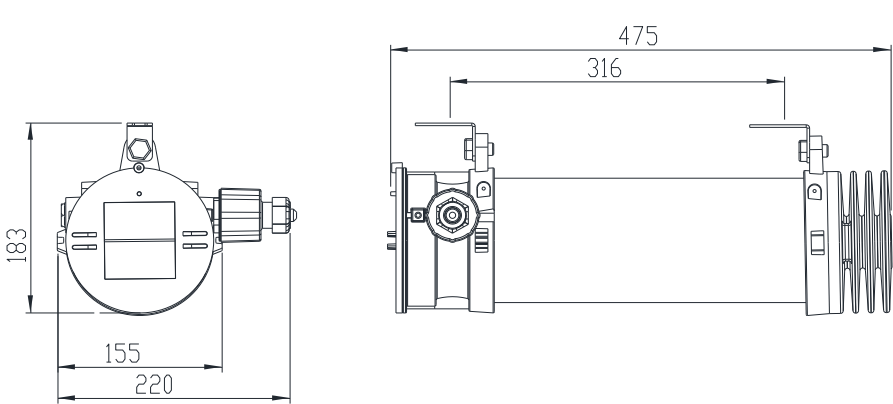
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUTPUT RATIO η	AMBIENT TEMP.
FLX 310 LED	36W	220-240V	3600	0,85	-20°C ÷ +40°C

POLAR CURVE



DIMENSION DRAWING



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLX	FLX1 0-120		External reflector FLX	FLX LED 20-150
	LED module FLX 310	FLX LED10-310		FLX Wall / ceiling mounting set	FLX 20-170
	Protective grid FLX set	FLX LED 20-140		FLX Pipe mounting set	FLX 20-180

LED

IP 66



IK08



-20 +50



CONSTRUCTION

Housing: SMC polyester plastic reinforced with glass fiber, color RAL 7038

Diffuser: PC polycarbonate plastic

Gasket: silicone

Central locking: can be opened/closed using a socket key SW8, hinged lamp cover

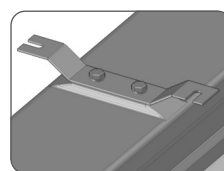
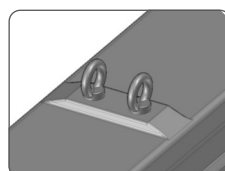
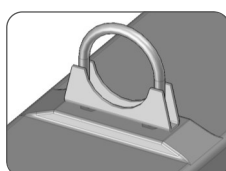
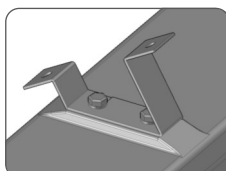
The light fitting is normally supplied with socket key, two Ex e cable glands M25, two Ex e plugs M25 and with mounting set PSF 30-110

TECHNICAL DATA

Certificate:	In progress
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex db eb mb IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +55°C -20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	100-240 VAC 220-250VDC
Frequency:	50-60 Hz
Rated power:	See model code table
Estimated service life:	PSF 28 LED-1, PSF 52 LED-1 60 000 hours PSF 28 LED-2, PSF 52 LED-2 70 000 hours
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters Ø6-15 mm, and two Ex e plugs
Disconnection of the light:	Switch with safety lock; when opening the central lock, all poles of the voltage supply to the ballast are disconnected; contacts of the switching element are NC contacts, they can only be switched on again when the lamp cover and the central locking system are closed. In case of a lamp fault, the electronic ballast disconnects the defective lamp from the power supply.
Packing:	The packing contains: 1 pcs PSF 52 LED: 1420x270x210 mm PSF 28 LED: 825x270x210 mm

MOUNTING

Pendant, on pipe, wall, ceiling



- Central locking with internal switch
- Through-wiring possible
- LED modules with innovative encapsulation
- Estimated service life up to 70 000 hours
- High color rendering index CRI 80
- Luminous efficacy 154lm/W
- With OVP, OCP, OTP protection
- Autonomous reactivation after recovery

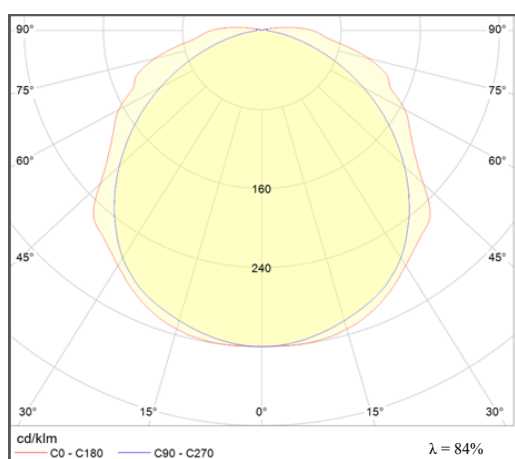
MODEL CODE

MODEL CODE	LED power [W]	VOLTAGE [V]	LUMINOUS FLUX [lm]	LIGHT OUT-PUT RATIO η	AMBIENT TEMP.	WEIGHT
PSF 28 LED-1	26 W	110-240VAC 220-250VDC	4700 lm	0,84	$-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	7,0 kg
PSF 52 LED-1	48 W		7400 lm			10,0 kg

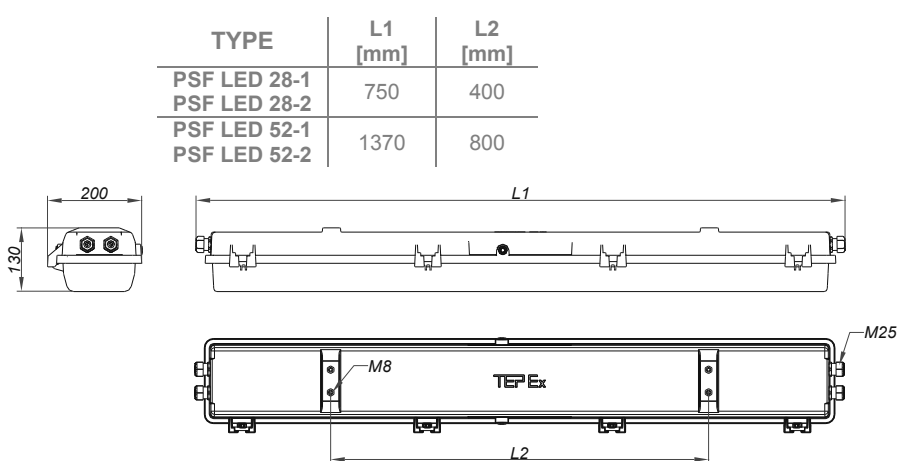
Special types for the ambient temperature $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ and higher LED power .

PSF 28 LED-2	34 W	110-240VAC 220-250VDC	5650 lm	0,84	$-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$	7,0 kg
PSF 52 LED-2	64 W		9150 lm			10,0 kg

POLAR CURVE

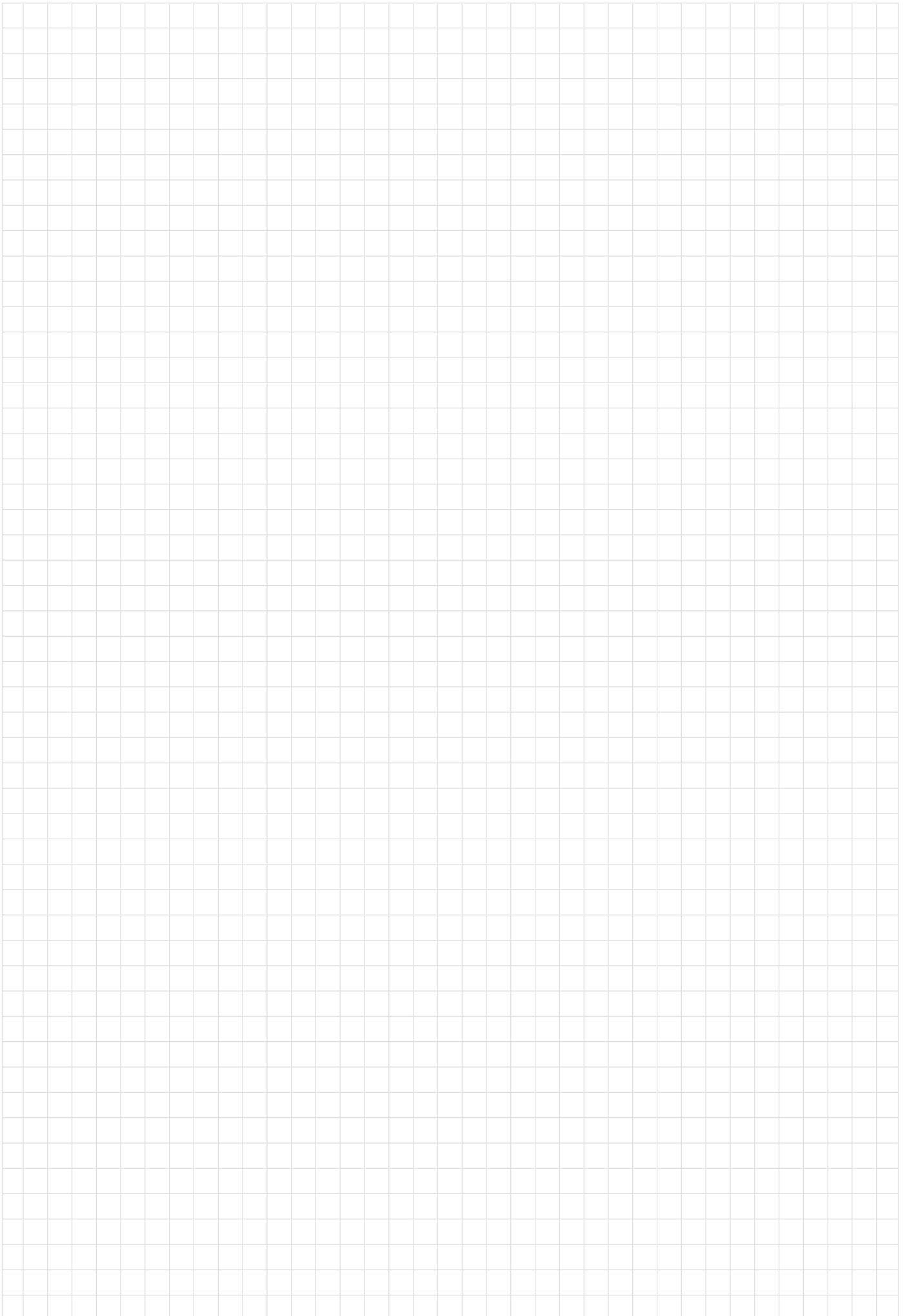


DIMENSION DRAWING (all dimensions in mm)



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Diffuser PSF	PSF LED 28 10-120 PSF LED 52 20-120		Ex e cable gland SPU 25	SPU 25
	Gasket PSF	PSF LED 28 10-130 PSF LED 52 20-130		Ex e plug M25	SPC 25
	Internal reflector with LED module	PSF LED 28 10-140 PSF LED 52 20-140		PSF Ceiling mounting set	PSF 30-110
	LED driver	PSF LED 28 drive PSF LED 52 drive		PSF Pipe mounting set	PSF 30-120
	Terminals 5x2,5mm ²	PSF236 20-150		PSF Wall mounting set	PSF 30-130
	Socket key SW8	PSF236 20-160		Ring bolt M8	PSF 30-140



Installation equipment



IP 66



IK08



- Enclosure made of glass-fibre reinforced polyester resin
- 2 pole OFF switch or changeover switch



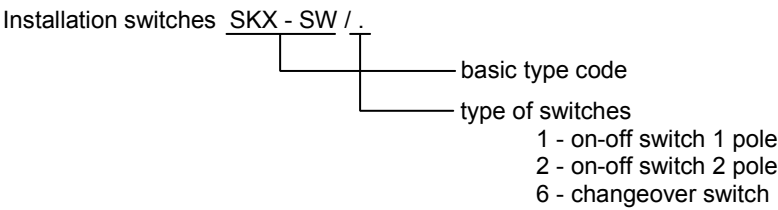
CONSTRUCTION

Enclosure: polyester plastic reinforced with glass fiber, color - black
Cover: with integrated thermoplastic elastomer gasket, closes with four M5 stainless steel screws.

TECHNICAL DATA

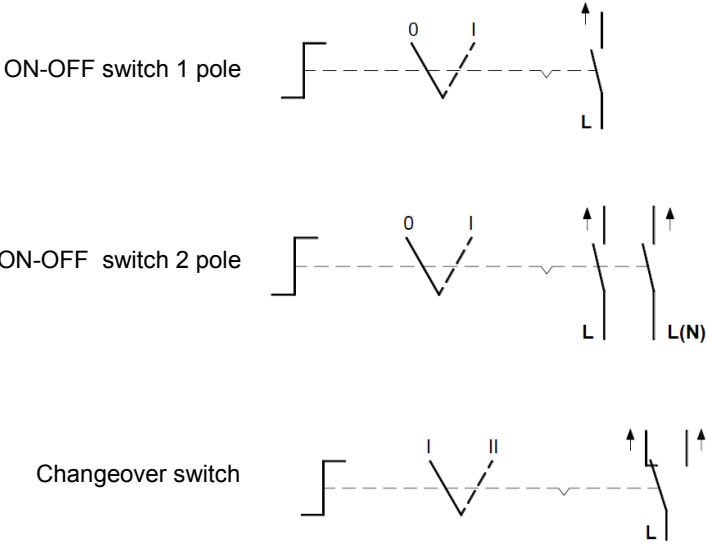
Certificate:	EXA 15 ATEX 0006X
Marking:	0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex d e IIC T6 Gb
Ambient temperature ATEX:	-20°C ≤ T _a ≤ +40/+50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated isolating voltage:	690 V
Thermal current I _{the} :	16 A for -20°C ≤ T _a ≤ +40°C 15 A for -20°C ≤ T _a ≤ +50°C
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
Weight:	App. 0,6kg

MODEL CODE

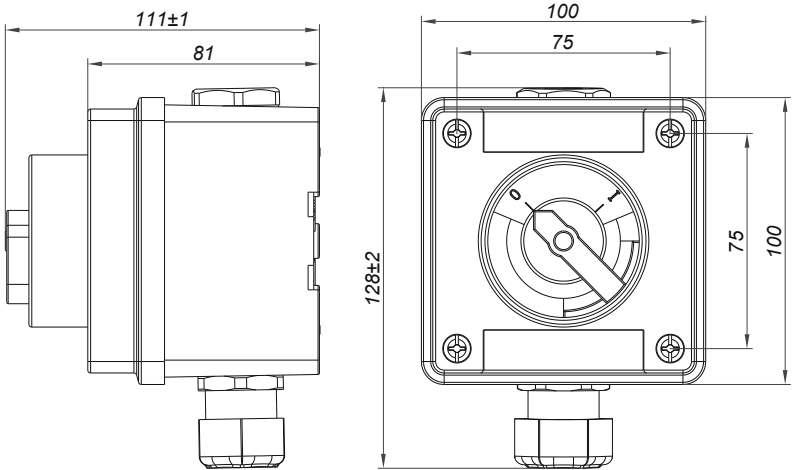


Switching capacity	Rated operating voltage Ue	Rated operating current Ie
AC 5a	230 V	16 A for $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ 15 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
AC 5b	230 V	16 A for $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ 15 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
AC 1	500 V	16 A for $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ 15 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
AC 15	250 V 500 V	6 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ 4 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
DC 13	24 V 60 V 110 V	6 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ 0,8 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$ 0,5 A for $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

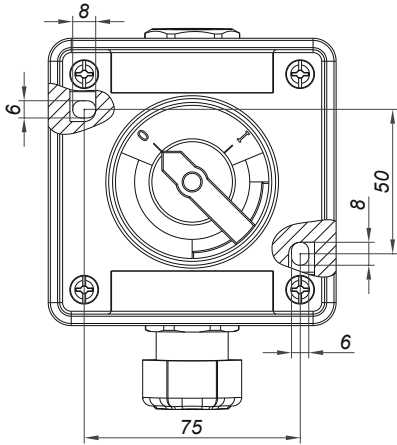
WIRING DIAGRAM



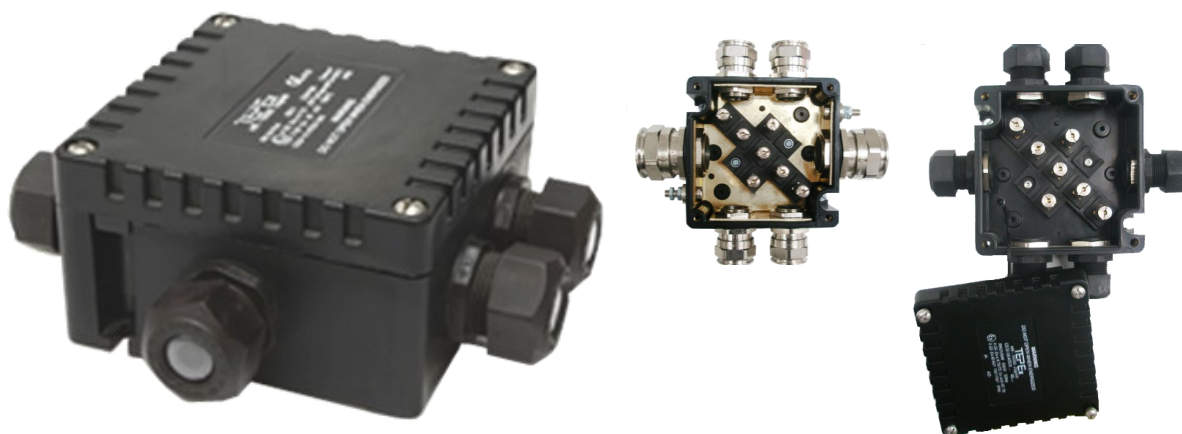
DIMENSION



MOUNTING



IP 66



CONSTRUCTION

Enclosure: PA glass fiber reinforced polyamide, color - black

Cover: PA glass fiber reinforced polyamide with integrated thermoplastic elastomer gasket, closes with four M5 stainless steel screws.

TECHNICAL DATA

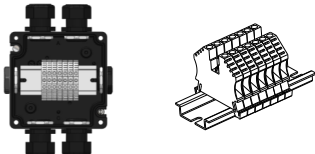
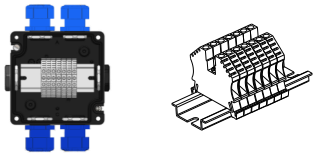
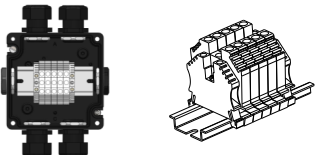
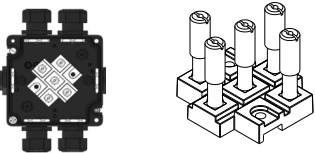
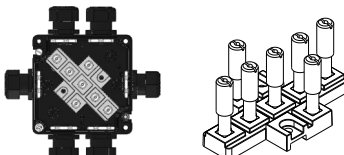
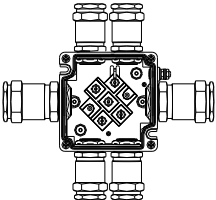
Certificate:	CESI 10 ATEX 040 RU C-HR.AB24.B.03290		
Marking:	CE 0722		
Apparatus category:	II 2G II 2D		
Marking of explosion protection:	Ex e II T6 Ex ia/ib IIC T6 Ex tD A21 T80°C		
Ambient temperature ATEX:	$-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$, $-20^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$ for Exi		
EAC:	$-50^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$		
Degree of protection:	IP 66 category 1		
Resistance to shock:	IK 08		
Protection class :	I (protective earthing)		
Rated voltage:	630 V		
Maximum voltage for Ex i:	60 V		
Maximum current of terminals :	25 A	$T_a \leq 40^{\circ}\text{C}$	RK 01/744,
	20 A	$T_a \leq 50^{\circ}\text{C}$	RK 01/544
	32 A	$T_a \leq 40^{\circ}\text{C}$	RK 01/546
	25 A	$T_a \leq 50^{\circ}\text{C}$	
	20 A	$T_a \leq 40^{\circ}\text{C}$	RK 01/514
	16 A	$T_a \leq 50^{\circ}\text{C}$	
	25 A	$T_a \leq 40^{\circ}\text{C}$	RK 01/516
	20 A	$T_a \leq 50^{\circ}\text{C}$	
Cable entries, cable glands and screw plugs:	6 x M25 for cable $\phi 6-15$ mm ($\phi 13-19$ mm available on request) 6 x M32 for cable $\phi 12-21$ mm ($\phi 17-25$ mm available on request) 4 x M25 for cable $\phi 6-15$ mm ($\phi 13-19$ mm available on request) 4 x M32 for cable $\phi 12-21$ mm ($\phi 17-25$ mm available on request)		
PE terminals (inside of the enclosure):	max. $2 \times 4 \text{ mm}^2 + 2 \times 2,5 \text{ mm}^2$, $3 \times 4 \text{ mm}^2$, $2 \times 6 \text{ mm}^2$		
Weight:	0,55 kg		
Packing:	The packing contains: 14 pcs 435x260x220 mm		

MOUNTING

With two screws through the housing holes $\phi 6$ mm at the peaks the rectangle: 100 x 75 mm

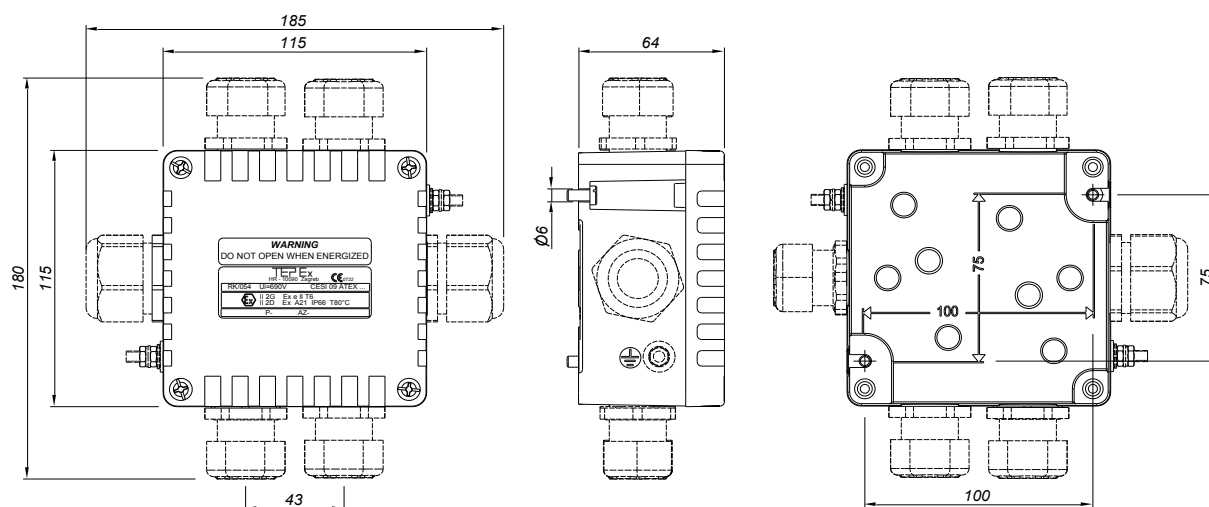
- Enclosures made of PA glass fiber reinforced polyamide
- The cover screws and all other external metal parts are made of stainless steel (AISI 316L)
- Equipped with terminals up to 6mm^2
- Pillar (mantle) terminals

MODEL CODE

TYPE	DESIGN	CABLE GLANDS	NUMBER OF TERMINALS	MAX. CAPACITY PER TERMINAL
RK 01/514		cable glands 4xM25 for cable φ6-15mm, 2xM25 screw plug	5 - 1 x 4mm ² (L1, L2, L3, N, PE)	1x0,5....4mm ² 2x0,5....2,5mm ²
RK01/514 Ex i			5 - 1 x 4mm ² (Blue 1-5)	
RK 01/516			5 - 1 x 6mm ² (L1, L2, L3, N, PE)	1x1,5....6mm ² 2x1,5....4mm ²
RK 01/544		cable glands 4xM25 for cable φ6-15mm	5 - 4 x 4mm ²	4x4mm ² 6x2,5mm ² 1x4mm ² + 2x2,5mm ² + +3x1,5mm ² 1x4mm ² + 5x1,5mm ² 2x4mm ² + 3x2,5mm ²
RK 01/744		cable glands 6xM25 for cable φ6-15mm	7 - 4 x 4mm ²	
RK 01/544-E		2 x M32 cable glands for armoured cable Ø _v 23- 32mm 4 x M25 cable glands for armoured cable Ø _v 17- 23mm	5 - 4x 4mm ²	

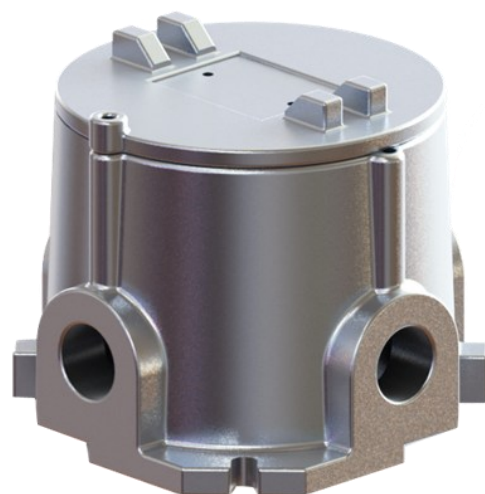
Other configuration available on request

DIMENSION



All technical data is relevant at the time of print.

IP 66



CONSTRUCTION

Enclosure: corrosion resistant grey polyurethanes painted aluminium color RAL 7000
Gasket: Silicon

TECHNICAL DATA

Certificate:	EXA 13 ATEX 0003U/1, IECEx EXA 16.0002U
Marking:	0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d IIC Gb Ex tb IIIC Db
Ambient temperature:	$-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
Service temperature:	$-20^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
External earthing terminal:	max. $2 \times 6 \text{ mm}^2$
Weight:	0,95 kg

MOUNTING

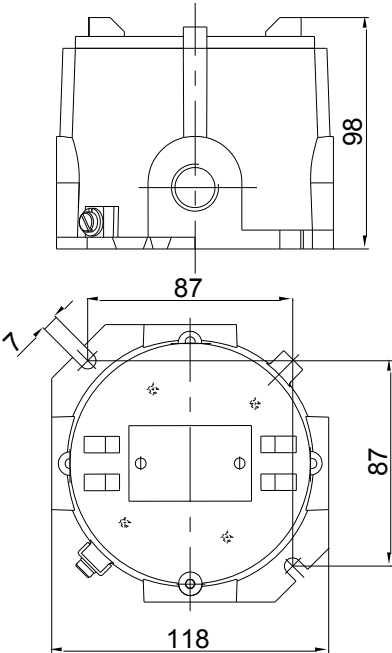
With two screws M6 x 20mm on distance 123 mm

- Ex d enclosure made of saltwater-resistant, copper-free aluminium cast alloy
- In terminal box versions standard cable glands without compound can be used

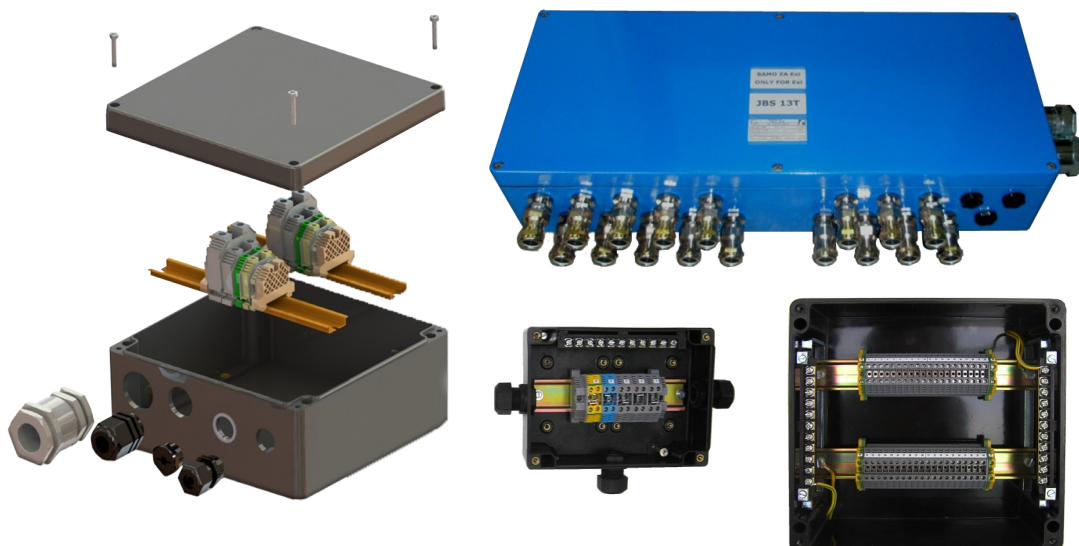
MODEL CODE

TYPE	No. of entries/side	Entries
JBX 01/11	2 / B-D	M20x1,5 - ISO 261
JBX 01/12	3 / B-C-D	
JBX 01/13	4 / A-B-C-D	
JBX 01/31	2 / B-D	3/4" - NPT - ANSI ASME B1.20.1
JBX 01/32	3 / B-C-D	
JBX 01/33	4 / A-B-C-D	
JBX 01/41	2 / B-D	1/2" - NPT - ANSI ASME B1.20.1
JBX 01/42	3 / B-C-D	
JBX 01/43	4 / A-B-C-D	

DIMENSION



IP 66



CONSTRUCTION

Enclosure: SMC glass fiber reinforced polyamide, color - black

Cover: SMC glass fiber reinforced polyamide with integrated thermoplastic elastomer gasket, closes with four M5/M6 stainless steel screws.

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0044, EXA 16 ATEX 0047 EAC RU C-HR.AB24.B.03292
Marking:	0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex eb IIC TG Gb Ex ia/ib IIC TO Gb Ex eb ia/ib IIC T6 cb Ex tb IIIC T80°C Db
Ambient temperature ATEX: EAC:	-20°C ≤ T _a ≤ +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	630 V
Nominal current:	Up to 125 A (depend on size and number of terminals)
Maximum safe voltage U_m for intrinsically safe circuits Exi:	60 V
Cable entries, cable glands and screw plugs:	6 x M25 for cable f6-15 mm (f13-19 mm available on request) 6 x M32 for cable f12-21 mm (f17-25 mm available on request) 4 x M25 for cable f6-15 mm (f13-19 mm available on request) 4 x M32 for cable f12-21 mm (f17-25 mm available on request)
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
N/PE rails inside the enclosure:	2 pcs, 11 terminals 2x4mm ² max.
Weight (without cable glands):	SKX 12/E 0.5kg SKX 13/E 0,7kg SKX 14/E 1.0kg SKX 15/E 1.0 - 1,5kg SKX 16/E 3,5kg SKX 18/E 4,5kg SKX 20/E 7,0kg

MOUNTING

With two/four screws through the housing holes $\phi 6$ mm at the peaks the rectangle:

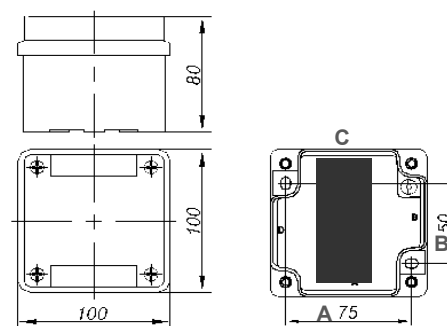
SKX 12: 75 x 50 mm	SKX 16: 235 x 200 mm
SKX 13: 75 x 100 mm	SKX 18: 380 x 200 mm
SKX 14: 75 x 150 mm	SKX 20: 580 x 200 mm
SKX 15: 125 x 150 mm	

Terminal box SKX 12/E

Nominal cross-section of conductor / terminal [mm ²]	Max. number of terminals	Max.ambient temp Ta °C	I _{max} [A]
4/4	5	40	20
		50	18
		55	17

Max. number of mounted cable entries:

Cable gland Side	M16	M20	M25
A-C	2	2	1
B-D	1	1	1

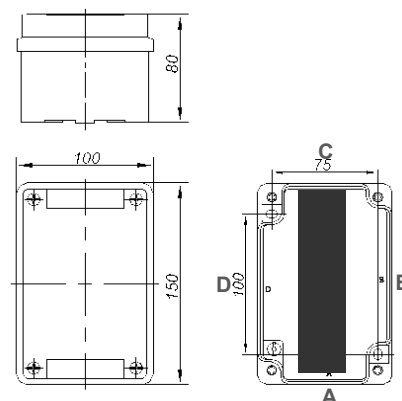


Terminal box SKX 13/E

Nominal cross-section of conductor / terminal [mm ²]	Max. number of terminals	Max.ambient temp Ta °C	I _{max} [A]
4/4	8	40	19
		50	17
		55	16
6/6	8	40	25
		50	17
		55	16

Max. number of mounted cable entries:

Cable gland Side	M16	M20	M25
A-C	2	2	1
B-D	4	3	2

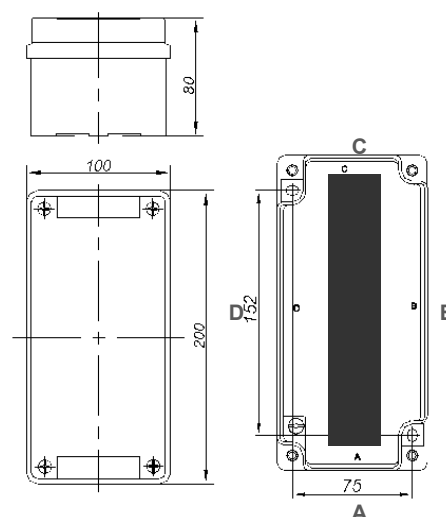


Terminal box SKX 14/E

Nominal cross-section of conductor / terminal [mm ²]	Max. number of terminals	Max.ambient temp Ta °C	I _{max} [A]
4/4	16	40	20
		50	18
		55	16
6/6	16	40	25
		50	22
		55	19

Max. number of mounted cable entries:

Cable gland Side	M16	M20	M25	M32
A-C	2	2	1	1
B-D	6	4	3	2



Terminal box SKX 15/E

Table of permitted combinations of conductors on the principle of maximum rated losses (ambient temperature Ta 40°C)

Nominal cross-section of conductor / terminal [mm ²]	Maximum number of terminals	I _{max} [A]
2,5/2,5	28	12
4/4	24	16
6/6	16	20
10/10	12	33
16/16	12	50
25/25	8	60
35/35	4	80

The maximum number of terminals specified by the measures of the terminal boxes	24 + busbar 22PE	24	16	14	12	8	4
Width of terminal [mm]	5	6	7	10	12	12	15
Allowed number of conductors per terminal	1x2.5-1.5 mm ²	1 x4-1.5 mm ²	1 x6-1.5 mm ²	1 x10-2.5 mm ²	1 x16-2.5 mm ²	1 x 25-6 mm ²	1 x 35-6 mm ²
Width of PE terminal [mm]	6	6	8	10	12	16	16
Width of final terminal [mm]	9						
Space for a terminal on DIN rail without end terminals	max. 140 mm						

- 1) Two conductors are connected on one terminal
- 2) PE conductors and jumpers are not taken in the calculation

It is possible to connect on one terminal smaller nominal cross-section conductors, but the maximum number of conductors and maximum current for the nominal wire size must be respected according to "Table of permitted installation".

Combination of many different nominal cross-section terminals and conductors in one terminal box is allowed. Possible combinations are calculated on the basis of the "Table of permitted installation" so that the total maximum losses and the possibility of a physical installation is possible.

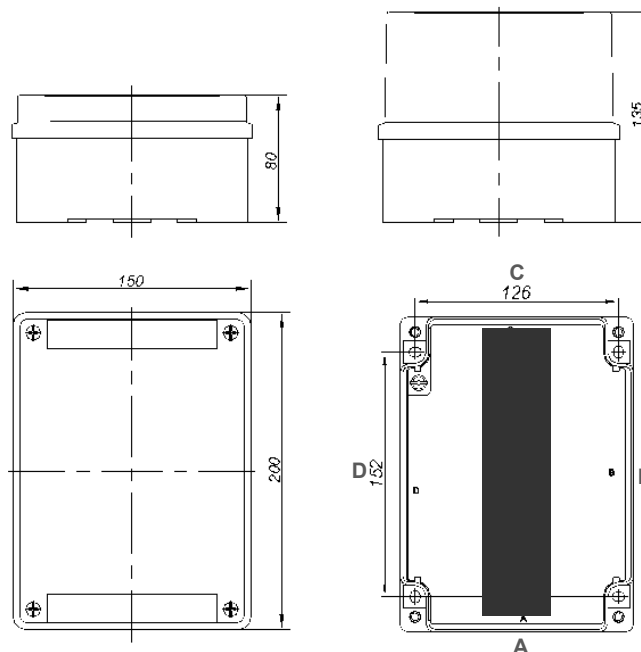
Max. number of mounted cable entries:

DIMENSIONS [mm]

Side	Cable gland	M16	M20	M25	M32	M40
A-C		4	3	2	2	1
B-D		6	4	3	2	2

Side	Cable gland	M16	M20	M25	M32	M40
A-C		4	3	2	2	1
B-D		5	3	3	-	-

*with N/PE rails



Terminal box SKX 16/E

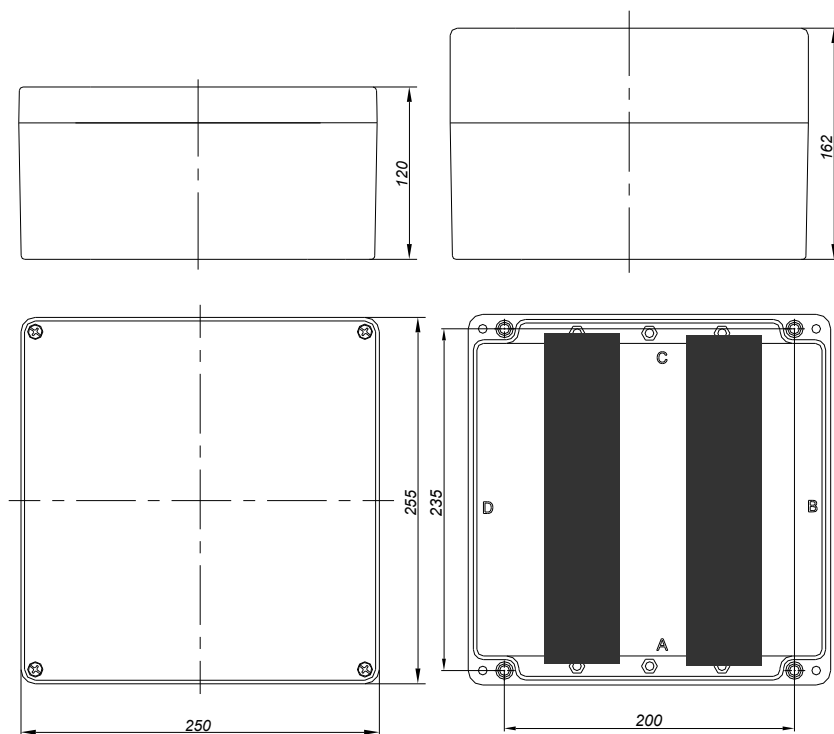
Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	70	-20°C do +40 °C	9
2,5 / 2,5	36		13
2,5 / 2,5	4		18
2,5 / 2,5	70	-20°C do +50 °C	8
2,5 / 2,5	36		11
2,5 / 2,5	4		16
4 / 4	61	-20°C do +40 °C	13
4 / 4	30		18
4 / 4	4		26
4 / 4	61	-20°C do +50 °C	11
4 / 4	30		16
4 / 4	4		22
6 / 6	40	-20°C do +40 °C	18
6 / 6	22		26
6 / 6	4		35
6 / 6	40	-20°C do +50 °C	16
6 / 6	22		22
6 / 6	4		31
10 / 10	37	-20°C do +40 °C	26
10 / 10	17		40
10 / 10	4		48
10 / 10	37	-20°C do +50 °C	22
10 / 10	17		34
10 / 10	4		40
16 / 16	27	-20°C do +40 °C	38
16 / 16	15		52
16 / 16	4		65
16 / 16	27	-20°C do +50 °C	32
16 / 16	15		45
16 / 16	4		56
25 / 25	24	-20°C do +40 °C	52
25 / 25	15		65
25 / 25	4		86
25 / 25	24	-20°C do +50 °C	45
25 / 25	15		56
25 / 25	4		74
35 / 35	16	-20°C do +40 °C	65
35 / 35	10		90
35 / 35	4		105
35 / 35	16	-20°C do +50 °C	56
35 / 35	10		80
35 / 35	4		90
50 / 50	14	-20°C do +40 °C	90
50 / 50	4		120
50 / 50	11		80
50 / 50	4	-20°C do +50 °C	105

Max. number of mounted cable entries:

DIMENSIONS [mm]

Cable Side gland	M20	M25	M32	M40	M50	M63
B-D	9	9	5	3	3	2
A-C	7	5	3	3	1	1



Terminal box SKX 18/E

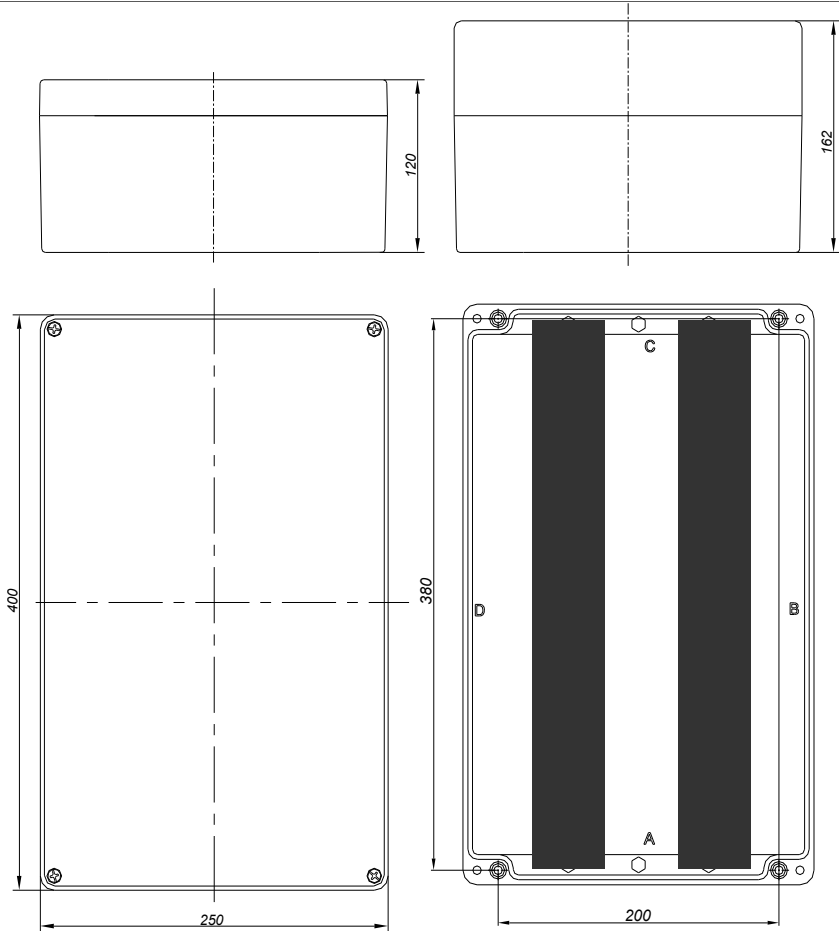
Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	180	-20°C do +40 °C	9
2,5 / 2,5	64		12
2,5 / 2,5	4		16
2,5 / 2,5	108	-20°C do +50 °C	8
2,5 / 2,5	64		10
2,5 / 2,5	4		14
4 / 4	103	-20°C do +40 °C	12
4 / 4	54		16
4 / 4	4		23
4 / 4	103	-20°C do +50 °C	10
4 / 4	54		14
4 / 4	4		20
6 / 6	83	-20°C do +40 °C	16
6 / 6	40		23
6 / 6	4		34
6 / 6	83	-20°C do +50 °C	14
6 / 6	40		20
6 / 6	4		30
10 / 10	68	-20°C do +40 °C	23
10 / 10	32		34
10 / 10	4		48
10 / 10	68	-20°C do +50 °C	20
10 / 10	32		30
10 / 10	4		42
16 / 16	48	-20°C do +40 °C	34
16 / 16	26		48
16 / 16	4		60
16 / 16	48	-20°C do +50 °C	30
16 / 16	26		42
16 / 16	4		50
25 / 25	40	-20°C do +40 °C	48
25 / 25	26		60
25 / 25	4		80
25 / 25	40	-20°C do +50 °C	42
25 / 25	26		50
25 / 25	4		70
35 / 35	36	-20°C do +40 °C	60
35 / 35	20		80
35 / 35	4		105
35 / 35	36	-20°C do +50 °C	50
35 / 35	20		70
35 / 35	4		90
50 / 50	26	-20°C do +40 °C	80
50 / 50	16		110
50 / 50	4		125
50 / 50	26	-20°C do +50 °C	70
50 / 50	16		95
50 / 50	4		100

Max. number of mounted cable entries:

DIMENSIONS [mm]

Cable Side gland	M20	M25	M32	M40	M50	M63
B-D	15	15	9	6	5	4
A-C	7	5	3	3	1	1



Terminal box SKX 20/E

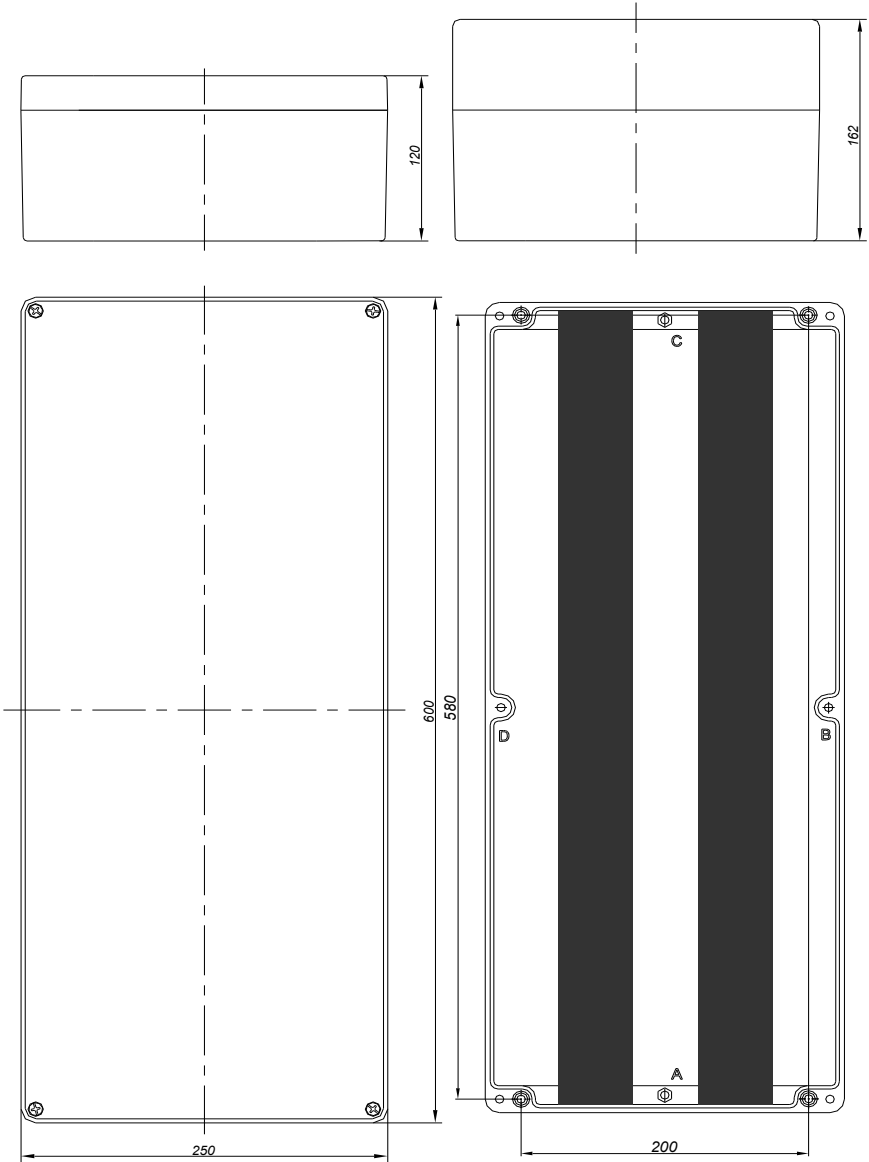
Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	200	-20°C do +40 °C	6
2,5 / 2,5	126		9
2,5 / 2,5	78		12
2,5 / 2,5	4		16
2,5 / 2,5	126	-20°C do +50 °C	8
2,5 / 2,5	78		10
2,5 / 2,5	4		14
4 / 4	180	-20°C do +40 °C	9
4 / 4	122		12
4 / 4	66		16
4 / 4	4		23
4 / 4	122	-20°C do +50 °C	10
4 / 4	66		14
4 / 4	4		20
6 / 6	98	-20°C do +40 °C	16
6 / 6	48		23
6 / 6	4		34
6 / 6	98	-20°C do +50 °C	14
6 / 6	48		20
6 / 6	4		30
10 / 10	80	-20°C do +40 °C	23
10 / 10	36		34
10 / 10	4		48
10 / 10	80	-20°C do +50 °C	20
10 / 10	36		30
10 / 10	4		42
16 / 16	58	-20°C do +40 °C	34
16 / 16	29		48
16 / 16	4		60
16 / 16	58	-20°C do +50 °C	30
16 / 16	29		42
16 / 16	4		50
25 / 25	46	-20°C do +40 °C	48
25 / 25	30		60
25 / 25	4		80
25 / 25	46	-20°C do +50 °C	42
25 / 25	30		50
25 / 25	4		70
35 / 35	41	-20°C do +40 °C	60
35 / 35	23		80
35 / 35	4		105
35 / 35	41	-20°C do +50 °C	50
35 / 35	23		70
35 / 35	4		90
50 / 50	33	-20°C do +40 °C	80
50 / 50	18		110
50 / 50	4		125
50 / 50	33	-20°C do +50 °C	70
50 / 50	18		95
50 / 50	4		100

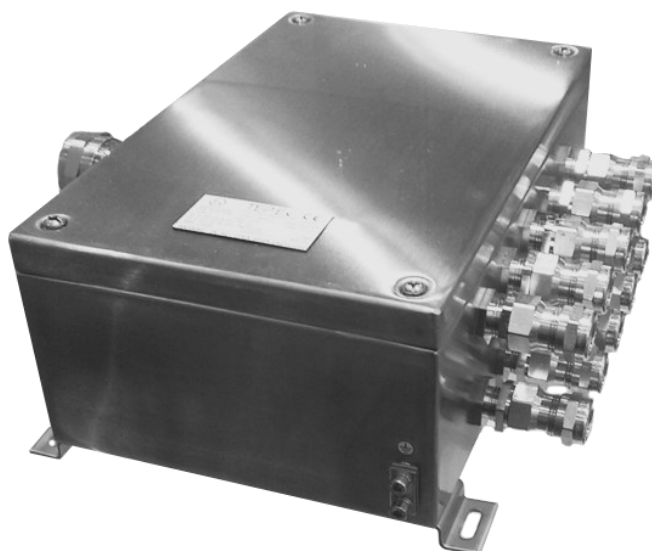
Max. number of mounted cable entries:

DIMENSIONS [mm]

Side	Cable gland	M20	M25	M32	M40	M50	M63
B-D		22	22	12	8	6	6
A-C		7	5	3	3	1	1



IP 66



CONSTRUCTION

Enclosure: Stainless steel AISI 316L, brush finished, thickness 1.5mm
Cover: with integrated thermoplastic elastomer gasket, closes with four M5 stainless steel screws.

TECHNICAL DATA

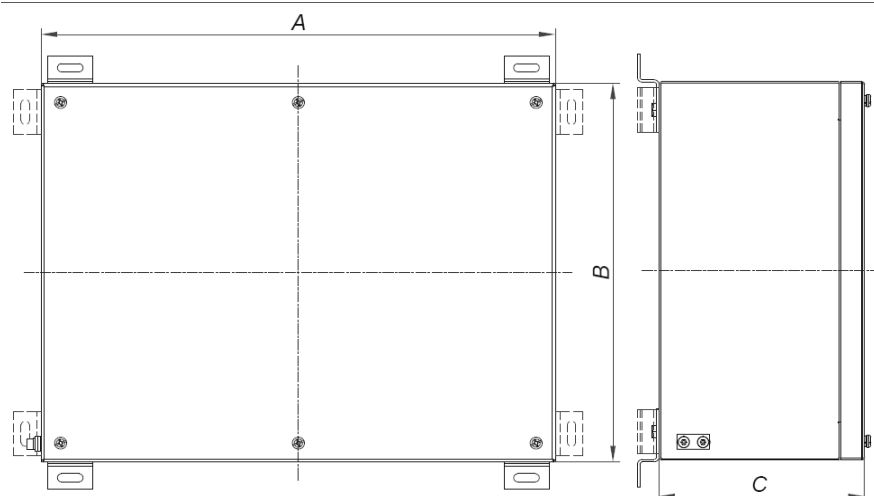
Certificate:	EXA 16 ATEX 0047 EAC RU C-HR.AB24.B.03296
Marking:	0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex eb IIC TG Gb Ex ia/ib IIC TO Gb Ex eb ia/ib IIC T6 cb Ex tb IIIC T80°C Db
Ambient temperature ATEX: EAC:	-20°C ≤ T _a ≤ +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	630 V
Nominal current:	Up to 125 A (depend on size and number of terminals)
Maximum safe voltage U_m for intrinsically safe circuits Exi:	60 V
Cable entries, cable glands and screw plugs:	6 x M25 for cable f6-15 mm (f13-19 mm available on request) 6 x M32 for cable f12-21 mm (f17-25 mm available on request) 4 x M25 for cable f6-15 mm (f13-19 mm available on request) 4 x M32 for cable f12-21 mm (f17-25 mm available on request)
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
N/PE rails inside the enclosure:	2 pcs, 11 terminals 2x4mm ² max.
Weight (without cable glands):	SKX 16I/E 3,1 kg SKX 18I/E-1..... 4,8 kg SKX 18I/E-2 5,4 kg SKX 20I/E 5,6 kg

MOUNTING

With four screws through the housing holes $\phi 8$ mm at the peaks the rectangle:

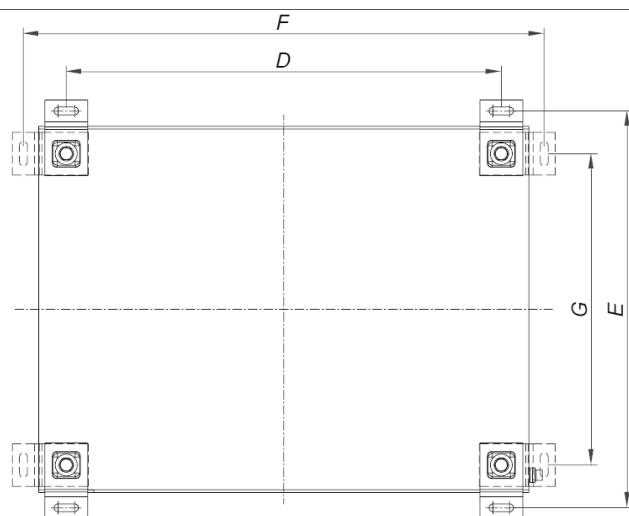
- Enclosures in stainless steel AISI 316L
- 3 basic enclosure sizes
- Fitted according to the customer's requirements

Stainless steel terminal box SKX 16I/E, SKX 18I/E-1, SKX 18I/E-2, SKX 20 I



Type	A[mm]	B[mm]	C[mm]
SKX 16I/E	300	200	120
SKX 18I/E-1	400	200	120
SKX 18I/E-2	400	300	120
SKX 20I/E	600	200	120

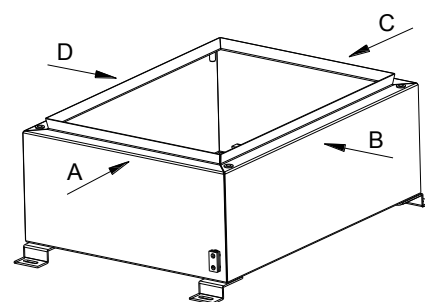
MOUNTING



Type	D[mm]	E[mm]	F[mm]	G[mm]
SKX 16I/E	255	225	330	152
SKX 18I/E-1	355	225	430	152
SKX 18I/E-2	355	325	430	252
SKX 20I/E	555	625	630	152

Max. number of mounted cable entries:

TYPE	SKX 16I/E		SKX 18I/E-1		SKX 18I/E-2		SKX 20I/E	
Dimension	300X200X120		400X200X120		400X300X120		600X200X120	
Cable gland	A-C	B-D	A-C	B-D	A-C	B-D	A-C	B-D
M20x1.5	9	12	9	18	9	18	6	24
M25x1.5	4	10	4	16	4	18	4	20
M32x1.5	3	7	3	10	3	9	3	14
M40x1.5	2	4	2	6	2	6	2	8
M50x1.5	2	3	2	5	2	4	2	6
M60x1.5	1	2	1	3	1	3	2	5



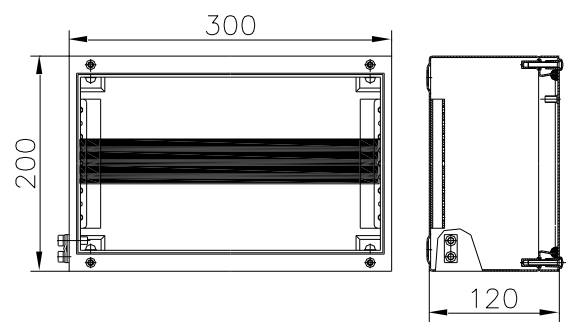
Terminal box SKX 16I/E (300x200x120 mm)

Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	60	-20°C do +40 °C	9
2,5 / 2,5	30		13
2,5 / 2,5	4		18
2,5 / 2,5	60	-20°C do +50 °C	8
2,5 / 2,5	30		11
2,5 / 2,5	4		16
4 / 4	48	-20°C do +40 °C	13
4 / 4	24		18
4 / 4	4		26
4 / 4	48	-20°C do +50 °C	11
4 / 4	24		16
4 / 4	4		22
6 / 6	36	-20°C do +40 °C	18
6 / 6	18		26
6 / 6	4		35
6 / 6	36	-20°C do +50 °C	16
6 / 6	18		22
6 / 6	4		31
10 / 10	30	-20°C do +40 °C	26
10 / 10	14		40
10 / 10	4		48
10 / 10	30	-20°C do +50 °C	22
10 / 10	14		34
10 / 10	4		40
16 / 16	22	-20°C do +40 °C	38
16 / 16	11		52
16 / 16	4		63
16 / 16	22	-20°C do +50 °C	32
16 / 16	11		45
16 / 16	4		54
25 / 25	18	-20°C do +40 °C	52
25 / 25	11		65
25 / 25	4		80
25 / 25	18	-20°C do +50 °C	45
25 / 25	11		56
25 / 25	4		69
35 / 35	14	-20°C do +40 °C	65
35 / 35	8		90
35 / 35	4		94
35 / 35	14	-20°C do +50 °C	56
35 / 35	8		80
35 / 35	4		82
50 / 50	10	-20°C do +40 °C	90
50 / 50	3		12
50 / 50	10	-20°C do +50 °C	80
50 / 50	3		105

Maximum possible number of terminals definite by enclosure dimensions

Maximum possible number of terminals definite by enclosure dimensions	36	30	22	18	15	15	10	8
Width of single terminal [mm]	5	6	7	10	12	12	15	18,5
Allowed cross-section of conductor for single terminal	1x2.5-1.5 mm ²	1 x4-1.5 mm ²	1 x6-1.5 mm ²	1 x10-2.5 mm ²	1 x16-2.5 mm ²	1 x 25-6 mm ²	1 x 35-6 mm ²	1 x 50-10 mm2
Width of PE terminal [mm]	5	6	7	10	12	12	15	18.5
Width of end holder	9							
Space for terminals on DIN rail without end holders	max. 214 mm							



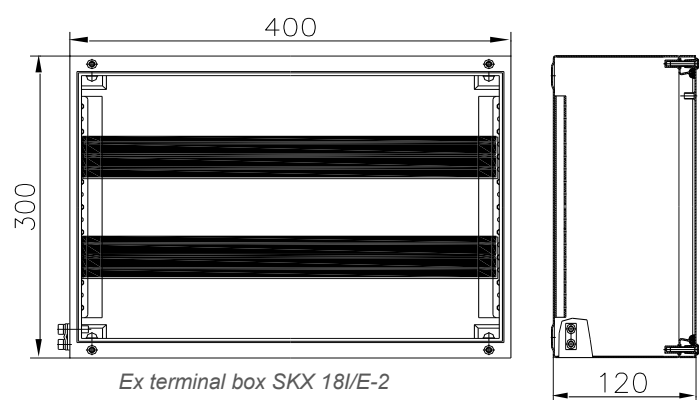
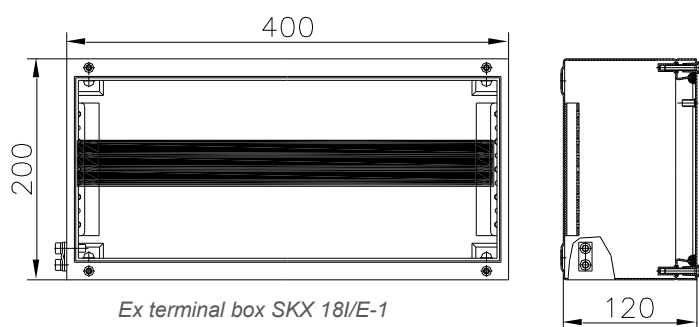
Terminal box SKX 18I/E-1 (400x200x120 mm), SKX 18I/E-2 (400x300x120 mm)

Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	95	-20°C do +40 °C	9
2,5 / 2,5	55		12
2,5 / 2,5	4		16
2,5 / 2,5	95	-20°C do +50 °C	8
2,5 / 2,5	55		10
2,5 / 2,5	4		14
4 / 4	88	-20°C do +40 °C	12
4 / 4	50		16
4 / 4	4		23
4 / 4	88	-20°C do +50 °C	10
4 / 4	50		14
4 / 4	4		20
6 / 6	75	-20°C do +40 °C	16
6 / 6	36		23
6 / 6	4		34
6 / 6	75	-20°C do +50 °C	14
6 / 6	36		20
6 / 6	4		30
10 / 10	60	-20°C do +40 °C	23
10 / 10	27		34
10 / 10	4		48
10 / 10	60	-20°C do +50 °C	20
10 / 10	27		30
10 / 10	4		42
16 / 16	44	-20°C do +40 °C	34
16 / 16	22		48
16 / 16	4		60
16 / 16	44	-20°C do +50 °C	30
16 / 16	22		42
16 / 16	4		50
25 / 25	34	-20°C do +40 °C	48
25 / 25	21		60
25 / 25	4		80
25 / 25	34	-20°C do +50 °C	42
25 / 25	21		50
25 / 25	4		70
35 / 35	31	-20°C do +40 °C	60
35 / 35	17		80
35 / 35	4		105
35 / 35	31	-20°C do +50 °C	50
35 / 35	17		70
35 / 35	4		90
50 / 50	25	-20°C do +40 °C	80
50 / 50	13		110
50 / 50	4		125
50 / 50	25	-20°C do +40 °C	70
50 / 50	13		95
50 / 50	4		100

Maximum possible number of terminals definite by enclosure dimensions

Maximum possible number of terminals definite by enclosure dimensions	64	54	40	32	26	26	20	16
Width of single terminal [mm]	5	6	7	10	12	12	15	18,5
Allowed cross-section of conductor for single terminal	1x2.5-1.5 mm ²	1 x4-1.5 mm ²	1 x6-1.5 mm ²	1 x10-2.5 mm ²	1 x16-2.5 mm ²	1 x 25-6 mm ²	1 x 35-6 mm ²	1 x 50-10 mm ²
Width of PE terminal [mm]	5	6	7	10	12	12	15	18.5
Width of end holder	9							
Space for terminals on DIN rail without end holders	max. 300 mm							



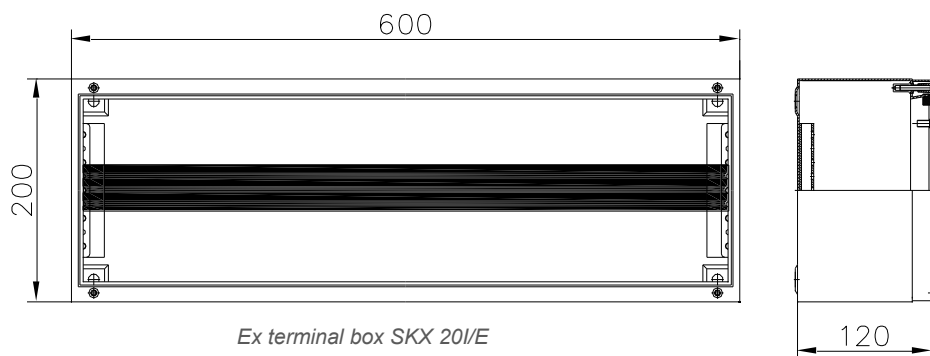
Terminal box SKX 18I/E-1 (400x200x120 mm)

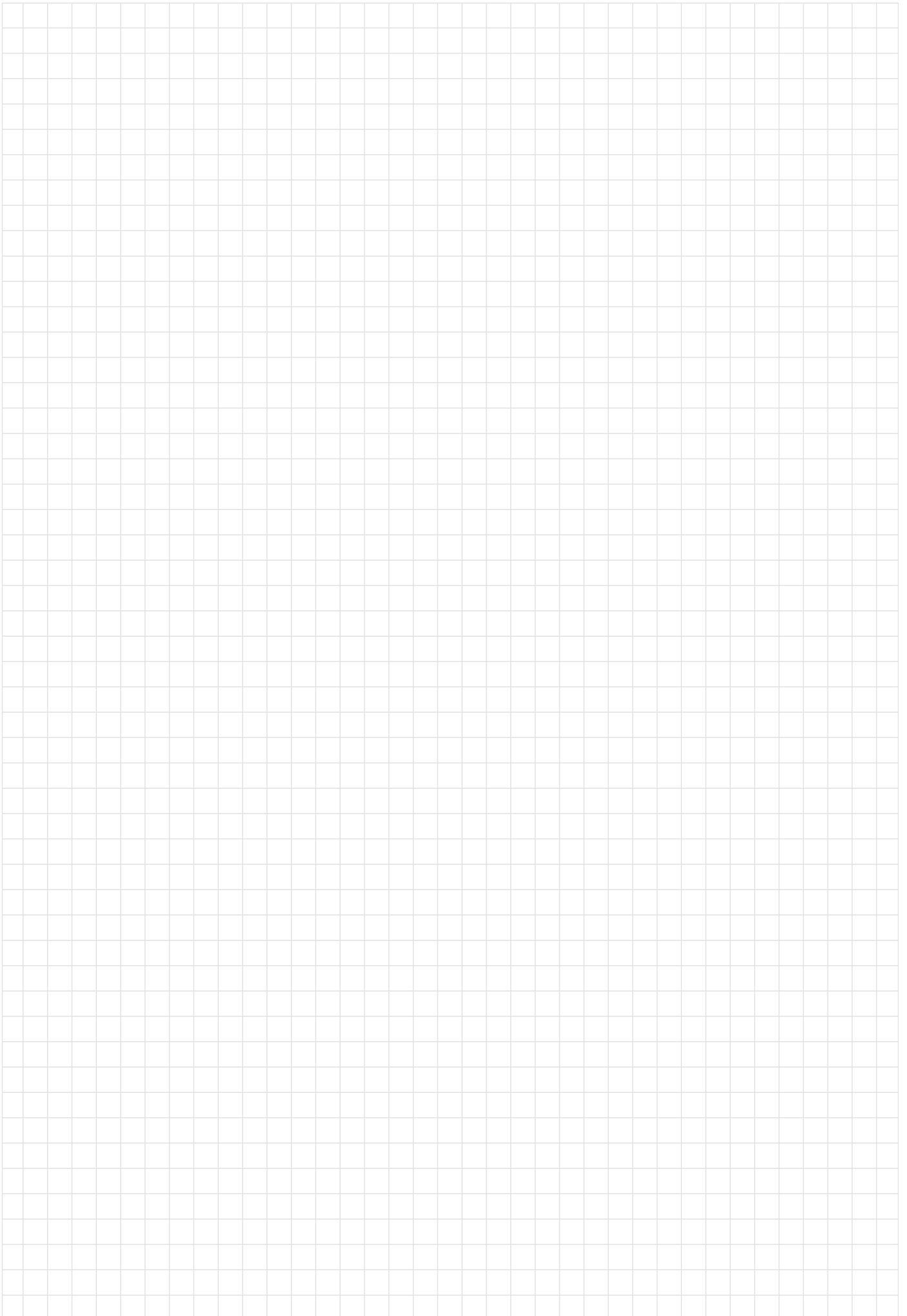
Table of allowed number of terminals

Nominal cross section of conductors / terminals (mm ²)	Maximum number of terminals	Ambient temperature Ta[°C]	I _{max} [A]
2,5 / 2,5	200	-20°C do +40 °C	6
2,5 / 2,5	102		9
2,5 / 2,5	60		12
2,5 / 2,5	4	-20°C do +40 °C	16
2,5 / 2,5	102		8
2,5 / 2,5	60		10
2,5 / 2,5	4	-20°C do +50 °C	14
4 / 4	180		9
4 / 4	96		12
4 / 4	53	-20°C do +40 °C	16
4 / 4	4		23
4 / 4	96		10
4 / 4	53	-20°C do +50 °C	14
4 / 4	4		20
6 / 6	80		16
6 / 6	38	-20°C do +40 °C	23
6 / 6	4		34
6 / 6	80		14
6 / 6	38	-20°C do +50 °C	20
6 / 6	4		30
10 / 10	65		23
10 / 10	29	-20°C do +40 °C	34
10 / 10	4		48
10 / 10	65		20
10 / 10	29	-20°C do +50 °C	30
10 / 10	4		42
16 / 16	47		34
16 / 16	24	-20°C do +40 °C	48
16 / 16	4		60
16 / 16	47		30
16 / 16	24	-20°C do +50 °C	42
16 / 16	4		50
25 / 25	37		48
25 / 25	23	-20°C do +40 °C	60
25 / 25	4		80
25 / 25	37		42
25 / 25	23	-20°C do +50 °C	50
25 / 25	4		70
35 / 35	33		60
35 / 35	18	-20°C do +40 °C	80
35 / 35	4		105
35 / 35	33		50
35 / 35	15	-20°C do +50 °C	70
35 / 35	4		90
50 / 50	26		80
50 / 50	14	-20°C do +40 °C	110
50 / 50	4		125
50 / 50	26		70
50 / 50	14		95
50 / 50	4		100

Maximum possible number of terminals definite by enclosure dimensions

Maximum possible number of terminals definite by enclosure dimensions	100	86	66	50	40	40	30	26
Width of single terminal [mm]	5	6	7	10	12	12	15	18,5
Allowed cross-section of conductor for single terminal	1x2.5-1.5 mm ²	1 x4-1.5 mm ²	1 x6-1.5 mm ²	1 x10-2.5 mm ²	1 x16-2.5 mm ²	1 x 25-6 mm ²	1 x 35-6 mm ²	1 x 50-10 mm ²
Width of PE terminal [mm]	5	6	7	10	12	12	15	18,5
Width of end holder	9							
Space for terminals on DIN rail without end holders	max. 500 mm							





Control units



IP 66



- Enclosures made of glass-fibre reinforced polyester resin
 - 4 basic enclosure sizes
 - Alone or in various combinations of merged set
 - Equipped with built-in devices
- ⇒ Control devices
- ⇒ Indicating lamps
- ⇒ Pushbuttons
- ⇒ Control switches
- ⇒ Ammeters

SKX 12 ... SKX 15



CONSTRUCTION

Enclosure: polyester plastic reinforced with glass fiber, color - black
Cover: with integrated thermoplastic elastomer gasket, closes with four M5/M6 stainless steel screws.

TECHNICAL DATA

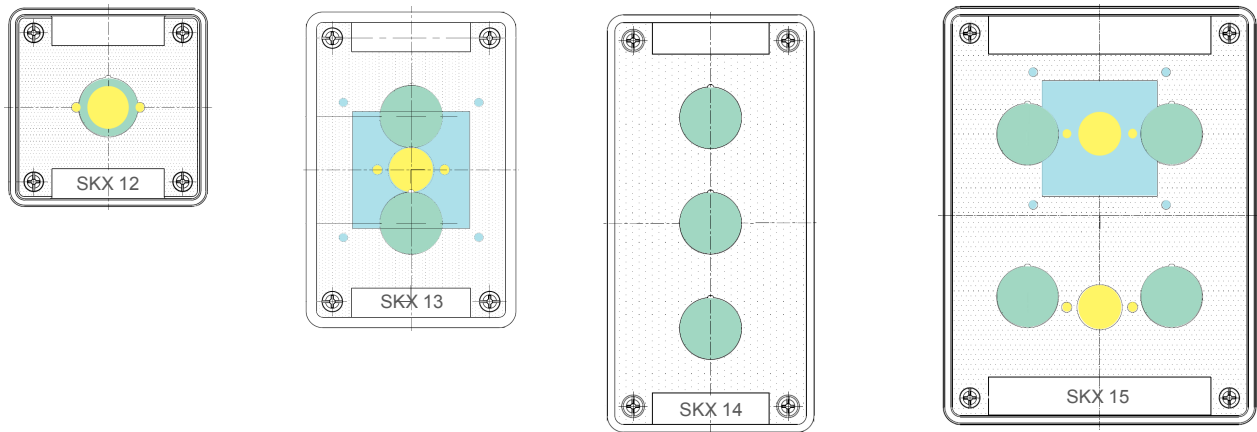
Certificate:	CESI 12 ATEX 017X, EXA 13 ATEX 0029, EAC RU C-HR.AB24.B.03291
Marking:	0722
Apparatus category:	II 2GD
Marking of explosion protection:	II 2G Ex d e IIC T6 Gb II 2G Ex d e mb IIC T6 Gb II 2G Ex e IIC T6 Gb II 2G Ex ia/ib IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Ambient temperature ATEX: EAC:	-20°C ≤ T _a ≤ +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	630 V AC (with mantle terminals block SL5, SL8 U _i = 400V AC)
Thermal current I_{the} :	16 A max. at T _{amb} -20°C ÷ +40°C 10 A max. at T _{amb} -20°C ÷ +50°C
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
Weight (only GRP boxes):	SKX 12 0.5 kg SKX 13 0,7 kg SKX 14 1.0 kg SKX 15 1.0 kg

MOUNTING

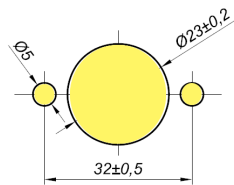
With screw kit through the housing holes $\phi 6$ mm at the peaks the rectangle:

SKX 12: 75 x 50 mm
SKX 13: 75 x 100 mm
SKX 14: 75 x 150 mm
SKX 15/15H: 125 x 150 mm

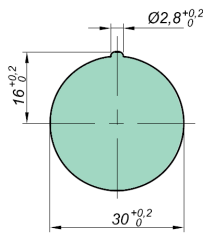
Possible combinations and layout of indicators and actuators components



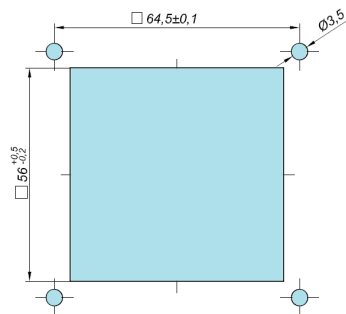
* mounting proposals and dimensions



Switch actuator SMO 17/
Switch mounting

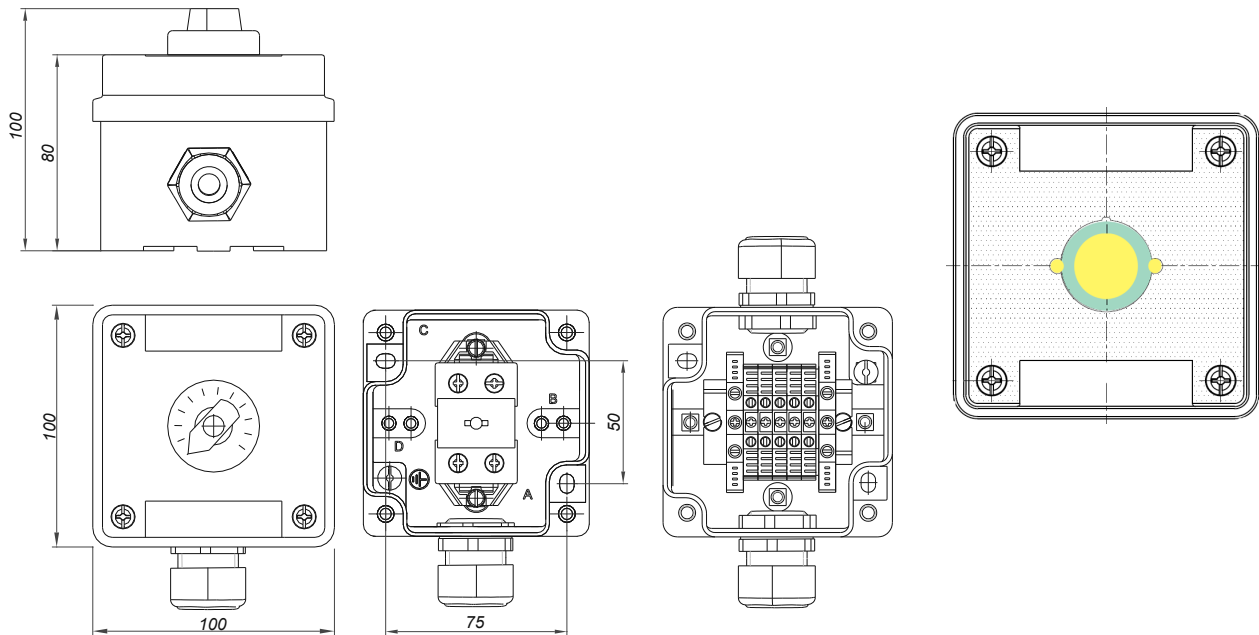


Pushbutton actuator SPO 01/
Front element of signal lamp SPO 02/
Pushbutton, signal lamp and potentiometer mounting



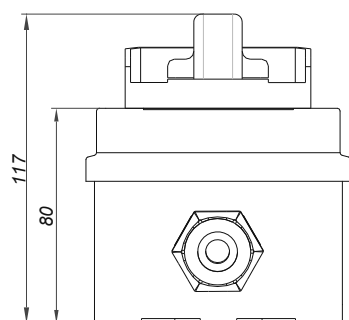
Front element of measuring instrument
(AM, VM) SAM 72
Measuring instrument mounting AM, VM

Enclosure type SKX 12

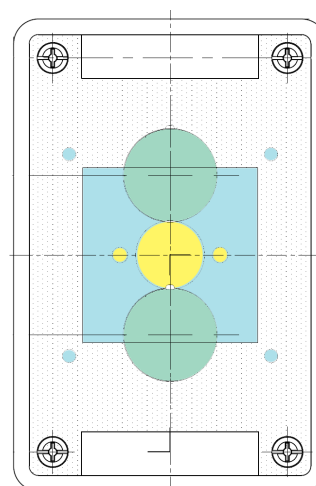
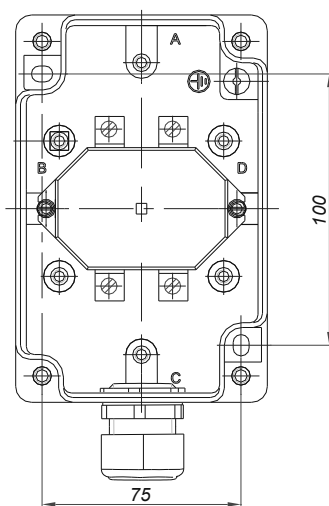
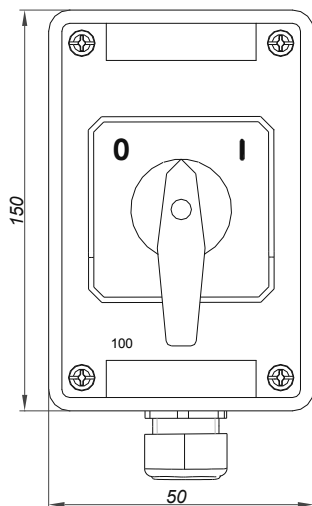


Max. No. of cable glands			
cable gland side	M16	M20	M25
A-C	2	2	1
B-D	1	1	1

Enclosure type SKX 13



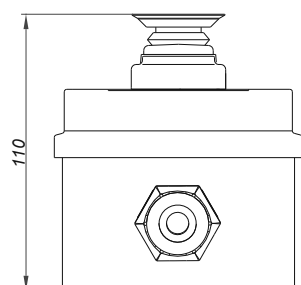
Control unit SKX 13/10
Switch SMS 03/1, switch actuator SMO 17/1,
cable gland SPU 25



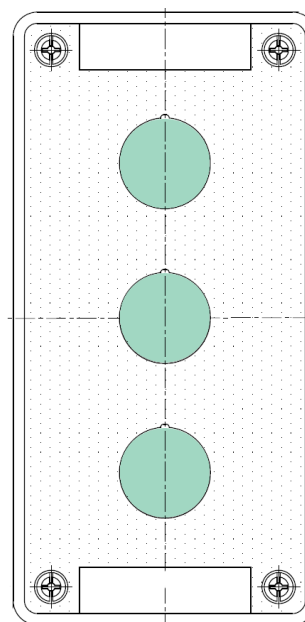
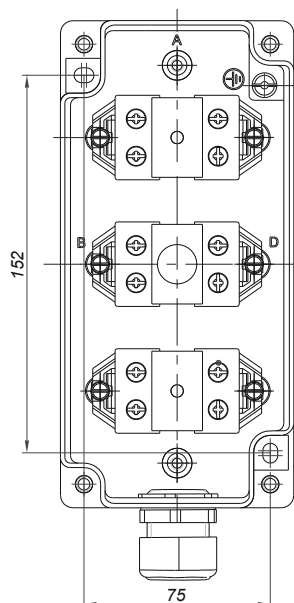
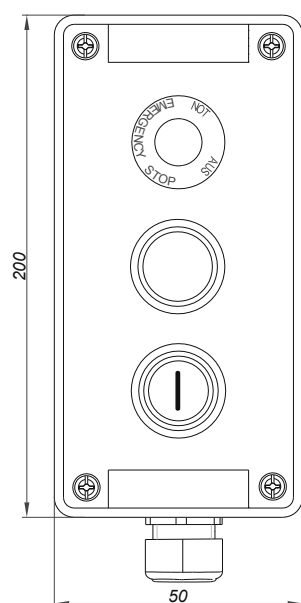
Max. No. of cable glands

cable gland side	M16	M20	M25
A-C	2	2	1
B-D	4	3	2

Enclosure type SKX 14



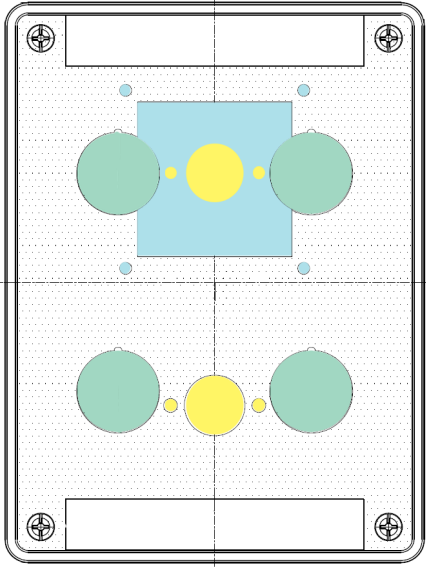
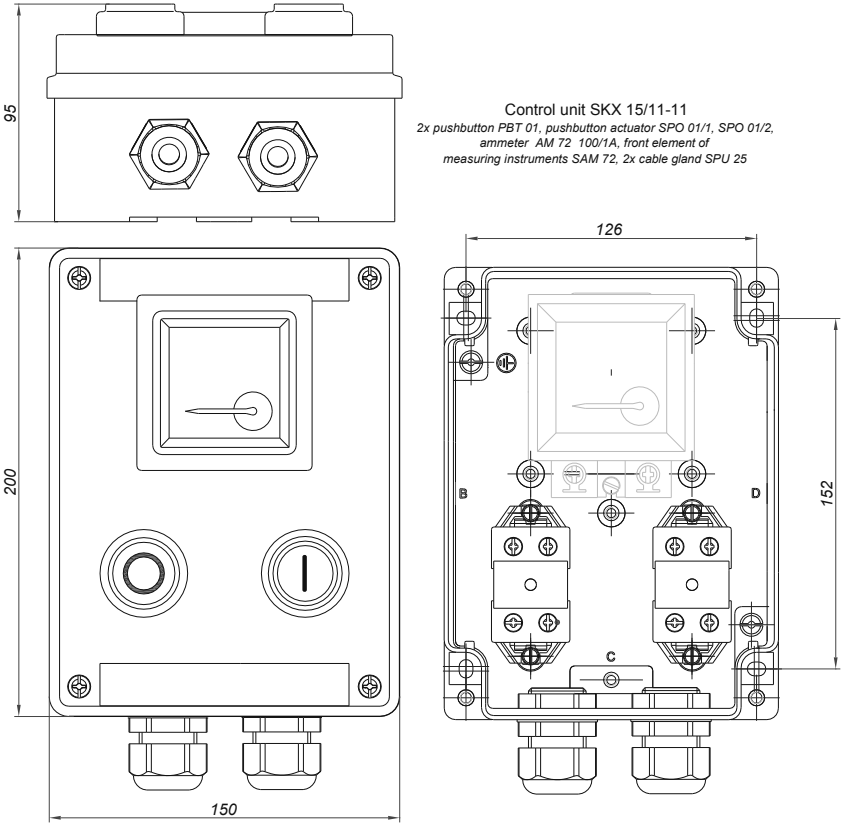
Control unit SKX 14/MSRU
2x pushbutton PBT 01, pushbutton actuator SPO 01/1,
mushroom-head pushbutton actuator,
1x signal lamp SLP 01, front element SPO 02/02
cable gland SPU 25



Max. No. of cable glands

cable gland side	M16	M20	M25	M32
A-C	2	2	1	1
B-D	6	4	3	2

Enclosure type SKX 15

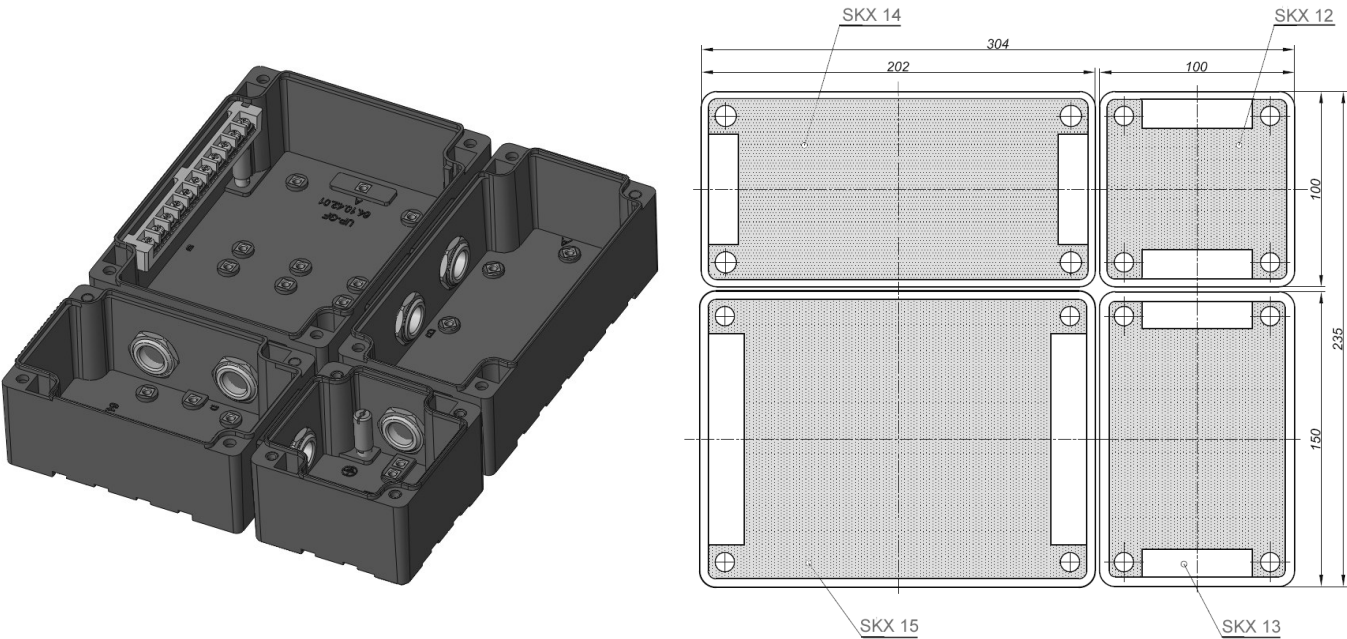


Max. No. of cable glands					
cable gland side	M16	M20	M25	M32	M40
A-C	4	3	2	2	1
B-D	6	4	3	2	2

* with built-in N/PE busbar

cable gland side	M16	M20	M25	M32	M40
A-C	4	3	2	2	1
B-D	5	3	3	-	-

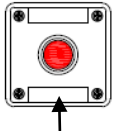
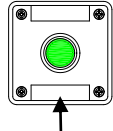
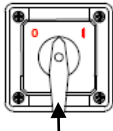
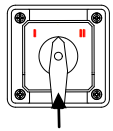
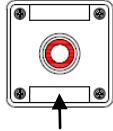
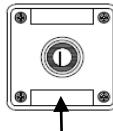
Various combinations of merged set (combination) of SKX enclosures



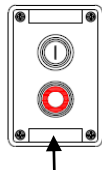
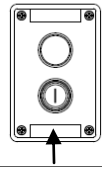
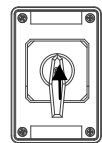
MODEL CODE

The program consists of serial control units and control units according to customer's request.

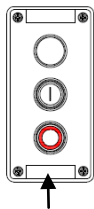
SKX 12/..

Type	Build-in components and actuator / indicator	Overview
SKX 12/1	Signal lamp SLP - red SPO 02/1 - cable gland SPU 25	
SKX 12/2	Signal lamp SLP - green SPO 02/2 - cable gland SPU 25	
SKX 12/3	Signal lamp SLP - white SPO 02/4 - cable gland SPU 25	-
SKX 12/21	Control switch SMS 03/1 - switch actuator SMO 17/1 - cable gland SPU 25	
SKX 12/22	Serial switch SMS 03/8 - switch actuator SMO 17/5 - cable gland SPU 25	0 - I - II - III
SKX 12/23	Control switch SMS 03/6 - switch actuator SMO 17/2 - cable gland SPU 25	
SKX 12/31	Pushbutton PBT 01 - Key-operated mushroom-head pushbutton actuator GHG 410 1906 R0005 - cable gland SPU 25	-
SKX 12/32	Pushbutton PBT 01 - pushbutton actuator SPO 01/1 - cable gland SPU 25	
SKX 12/33	Pushbutton PBT 01 - pushbutton actuator SPO 01/2 - cable gland SPU 25	
SKX 12/34	Pushbutton PBT 01 - Mushroom-head pushbutton actuator GHG 410 1905 R0005 - cable gland SPU 25	-
SKX 12/35	Pushbutton PBT 01 - Mushroom-head pushbutton actuator GHG 410 1906 R0005 with protector - 2x cable gland SPU 20	-
SKX 12/36	Pushbutton PBT 011 - Key-operated pushbutton GHG 410 1906 R0005 - 2x cable gland SPU 20	-
SKX 12/37	Potentiometer GHG 4101901 R0193 - GHG 410 1944 R0010 - cable gland SPU 25	-
SKX 12/62	5x4 mm2 EURO 4/35 grey on rail TH 35-7,5 - 2x SPU 25	-
SKX 12/63	5x4 mm2 EURO 4/35 blue on rail TH 35-7,5 - 2x SPU 25 blue	-

SKX 13/..

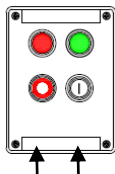
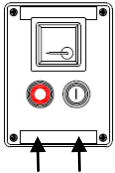
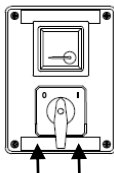
Type	Build-in components and actuator / indicator	Overview
SKX 13/1	2x pushbutton PBT 01 - SPO 01/1 - SPO 01/2 - cable gland SPU 25	
SKX 13/11	Pushbutton PBT 01 - SPO 01/1 - Signal lamp SLP - Front element of signal lamp SPO 02/2 - cable gland SPU 25	
SKX 13/21	Mantle terminals SL8 - 6x cable gland SPU 25	-
SKX 13/71	Switch GHG 23. ...R.... (Ex 23 4 024) - switch actuator SMO 17/2 - cable gland SPU 25	-
SKX 13/72	Switch GHG 23. ...R.... (Ex 23 8 067) - switch actuator SMO 17/1 - cable gland SPU 25	-
SKX 13/10	Switch SMS 03/1 - switch actuator SMO 17/1 - cable gland SPU 25	
SKX 13/20	SMS 03/4 - SMO 17/2 - SPU 25	
SKX 13/30	SMS 03/5 - SMO 17/2 - SPU 25	
SKX 13/40	SMS 03/6 - SMO 17/2 - SPU 25	
SKX 13/60	SMS 03/3 - SMO 17/3 - SPU 25	
SKX 13/70	SMS 03/2 - SMO 17/1 - SPU 25	
SKX 13/80	SMS 03/7 - SMO 17/1 - SPU 25	
SKX 13/100	SMS 03/8 - SMO 17/5 - SPU 25	
SKX 13/110	SMS 03/9 - SMO 17/1 - SPU 25	
SKX 13/120	SMS 03/11 - SMO 17/2 - SPU 25	

SKX 14/..

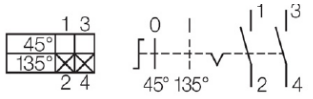
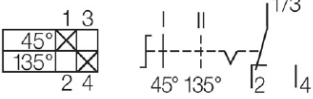
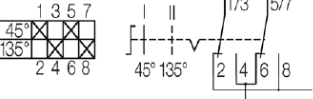
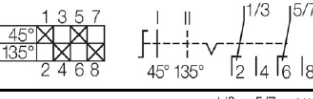
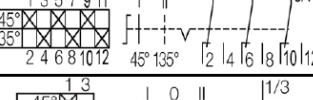
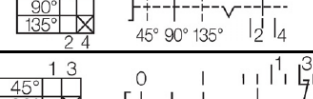
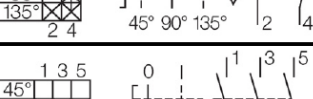
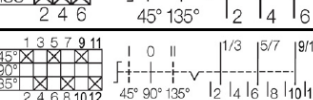
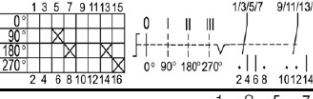
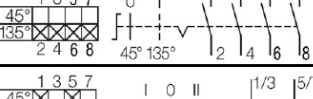
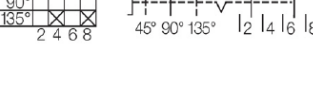
Type	Build-in components and actuator / indicator	Overview
SKX 14/1	2x pushbutton PBT 01 - SPO 01/1 - SPO 01/2 - Signal lamp SLP - SPO 02/2 - cable gland SPU 25	
SKX 14/11	3x pushbutton PBT 01 - pushbutton actuator SPO 01/1 - SPO 01/2 - SPO 01/3 - cable gland SPU 25	
SKX 14/21	Mantle terminals SL 8 - 8x cable gland SPU 25	-
SKX 14/22	3x signal lamp SLP front element of signal lamp SPO 02/1 - SPO 02/2 - SPO 02/3 - cable gland SPU 25	
SKX 14/31	3x pushbutton PBT 01 - pushbutton actuator SPO 01/1 - SPO 01/2 Mushroom-head pushbutton actuator GHG 410 1906 R0005 - cable gland SPU 25	-

SKX 12 ... SKX 15

SKX 15/..

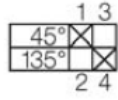
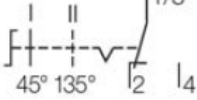
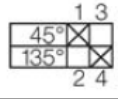
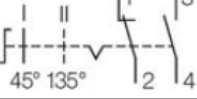
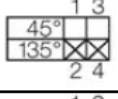
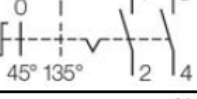
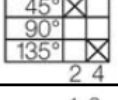
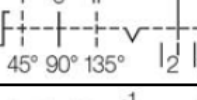
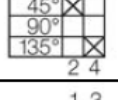
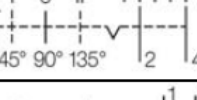
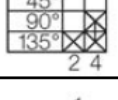
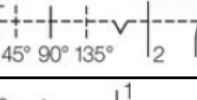
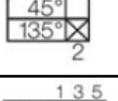
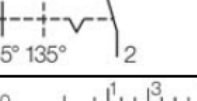
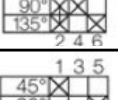
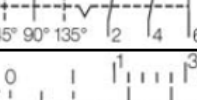
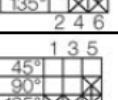
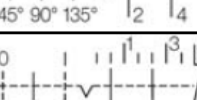
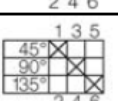
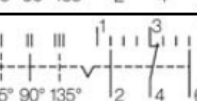
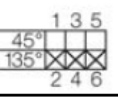
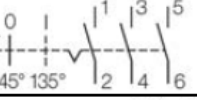
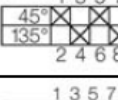
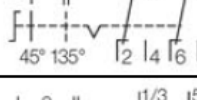
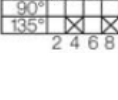
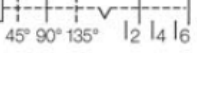
Type	Build-in components and actuator / indicator	Overview
SKX 15/1	2x pushbutton PBT 01 - SPO 01/1 - SPO 01/2 - 2x signal lamp SLP - 02/1 - SPO 02/2 - 2x cable gland SPU 25	
SKX 15/11-11	2x pushbutton PBT 01 - pushbutton actuator SPO 01/1 - SPO 01/2 - ammeter AM 72 100/1A - 2x cable gland SPU 25	
SKX 15/11-12	2xPBT 01 - SPO 01/1 - SPO 01/2 - AM 72 50/1 A - 2xSPU 25	
SKX 15/11-21	2xPBT 01 - SPO 01/1 - SPO 01/2 - AM 72 100/5 A - 2xSPU 25	
SKX 15/11-22	2xPBT 01 - SPO 01/1 - SPO 01/2 - AM 72 50/1 A - 2xSPU 25	
SKX 15/21-11	Switch GHG 23. ..R.. - switch actuator SMO 17/1 - ammeter AM 72 100/1 A - 2x uvodnica SPU 25	
SKX 15/21-12	Switch GHG 23. ...R... - switch actuator SMO 17/1 - ammeter AM 72 100/1 A - 2x uvodnica SPU 25	
SKX 15/21-21	Switch GHG 23. ...R.... - Switch actuator SMO 17/1 - ammeter AM 72 100/5 A - 2x uvodnica SPU 25	
SKX 15/21-22	Switch GHG 23. ...R.... - switch actuator SMO 17/1 - ammeter AM 72 50/5 A - 2x cable gland SPU 25	
SKX 15/34	4x pushbutton PBT/1 - 2xSPO 01/1 - 2xSPO 01/2 - 2x cable gland SPU 25	-
SKX 15/41	Switch SMS 03/1 - 2x terminal EURO E16-25 - 2x cable gland SPU 25	-
SKX 15/50	Switch SMS 03/12 - SMO 17/2 - cable gland SPU 25	-
SKX 15/90	Switch SMS 03/10 - SMO 17/3 - cable gland SPU 25	-
SKX 15/51	Switch SMS 03/9 - SMO 17/1 - 2x pushbutton PBT/1 - SPO 01/1 - SPO01/2 - 2x cable gland SPU 25	-
SKX 15/61	Switch GHG 23. ...R.... (Ex 23 4 024) - SMO 17/2 - 5x terminal EURO E4 - cable gland SPU 25	-
SKX 15/62	Switch GHG 23. ...R.... (Ex 23 8 067) - SMO 17/1 - 5x terminal EURO E4 - cable gland SPU 25	-
SKX 15/65	4x mantle terminals SL5 - 8x cable gland SPU 25	-

BUILD-IN COMPONENTS

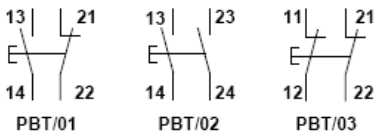
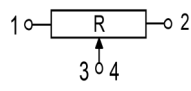
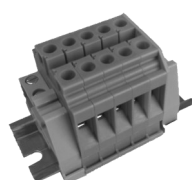
Description, type	Schema / type	Overview
Control switch SMS 03/. II 2G I M2 Ex de I/IIC Gb Mb •Rated voltage: 630 V AC •Rated current: 16 A •Terminals: 2,5 mm ²		SMS 03/1
		SMS 03/4
		SMS 03/5
		SMS 03/6
		SMS 03/12
		SMS 03/3
		SMS 03/2
		SMS 03/7
		SMS 03/10
		SMS 03/8
		SMS 03/9
		SMS 03/11



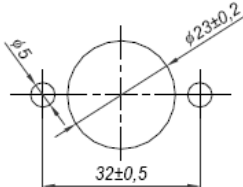
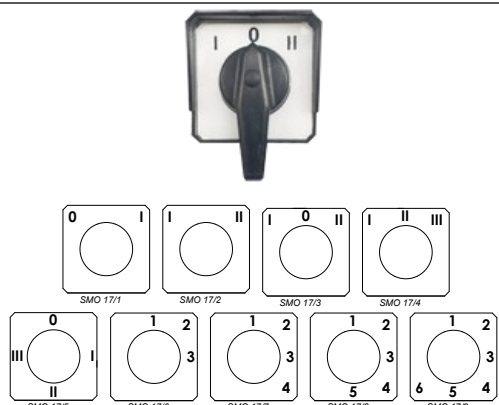
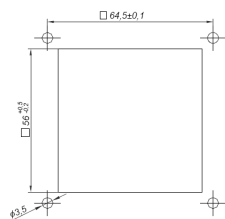
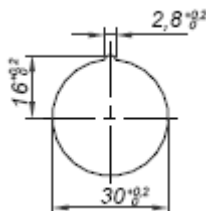
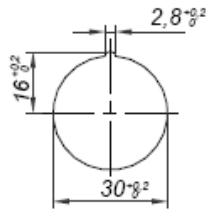
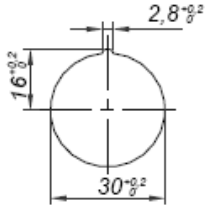
BUILD-IN COMPONENTS

Description, type	Schema	Overview
Control switch GHG 23. II 2GD Ex de IIC •Rated voltage: 690 V AC •Rated current : 10 A •Terminals: 2,5 mm ²	  060	
	  062	
	  065	
	  061	
	  063	
	  067	
	  011	
	  034	
	  037	
	  049	
	  023	
	  019	
	  033	
	  024	

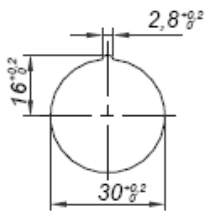
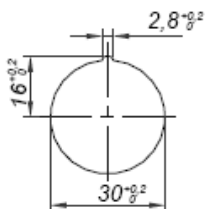
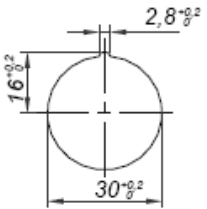
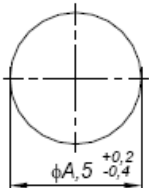
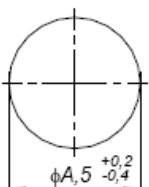
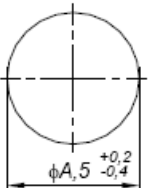
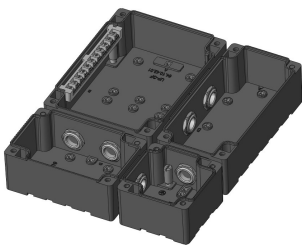
BUILD-IN COMPONENTS

Description, type	Schema	Overview
Pushbutton PBT/. - Rated voltage: 630V AC - Rated current: 16A - Terminals: 2,5 mm²		
Signal lamp SLP - Rated voltage: 12-250 V AC/DC - Max. current: 20-8 mA - Terminals: 2,5 mm²		
Potentionmeter PBT/POT - Rated voltage: 315 V AC/DC - Rated power: 1W - Scale: 0-100% / 270° - Tolerance: ±20% - Characteristic: linear - Terminals: 2,5 mm²	 Resistance R: 1,0 kΩ 2,2 kΩ 4,7 kΩ 10 kΩ 470 kΩ	
Measuring instruments AM 72, VM 72 - Measuring range: AM: n/1 A, 0-20 mA, 0-25 A direct 4-20 mA VM: n/1A, 6-415V, 6-660 V - Scale: according to customer demand - Terminals: 1,5 - 4 mm²	-	
Mantle terminals SL5, SL8 - Rated voltage: 400 V - Rated current: 16 A AC - Terminals: 4 mm² - Max. No. of wire under one clamp: 2x4mm² + 2x2,5mm², 3x4mm²	-	
Terminals TH 35-7.5 5 terminals 4mm² 2 terminals 16mm² - Rated voltage: 690 V AC - Rated current: 16 A	-	
N/PE busbar (only for SKX 15) 11x max. 2x4mm²	-	

ACTUATORS AND INDICATORS

Description, type	Mounting	Overview																																
Switch actuator SMO 17/. II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db																																		
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Key-operated pushbutton actuator GHG 410 1904 R0012 II 2GD Ex e II IP66																																		

BUILD-IN COMPONENTS

Description, type	Mounting	Overview
Mushroom-head pushbutton actuator GHG 418 815 ..R .. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Key-operated mushroom-head pushbutton actuator GHG 418 815 ..R.. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Potentiometer acuator GHG 410 1944 R0010 II 2GD Ex e II IP66		
Cable gland SPU ISO 16 - ISO 40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Cable gland for armoured cable SPU A ISO 16 - ISO 40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Plug SPC .. ISO 16 - ISO M40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Connection part SKX		

IP 66



- Enclosures made of glass-fibre reinforced polyester resin or stainless steel **AISI 316L**
- 3 basic enclosure sizes in GRP
- 3 basic enclosure sizes in stainless steel
- Alone or in various combinations of merged set
- Equipped with built-in components
 - ⇒ Control devices
 - ⇒ Indicating lamps
 - ⇒ Pushbuttons
 - ⇒ Switches
 - ⇒ Ammeters
- Version with hinged doors

SKX 16, 18, 20



CONSTRUCTION

Enclosure: polyester plastic reinforced with glass fiber, color - black

Stainless steel AISI 316L, brush finished, thickness 1.5mm

Cover: with integrated thermoplastic elastomer gasket, closes with four/six M5/M6 stainless steel screws.

TECHNICAL DATA

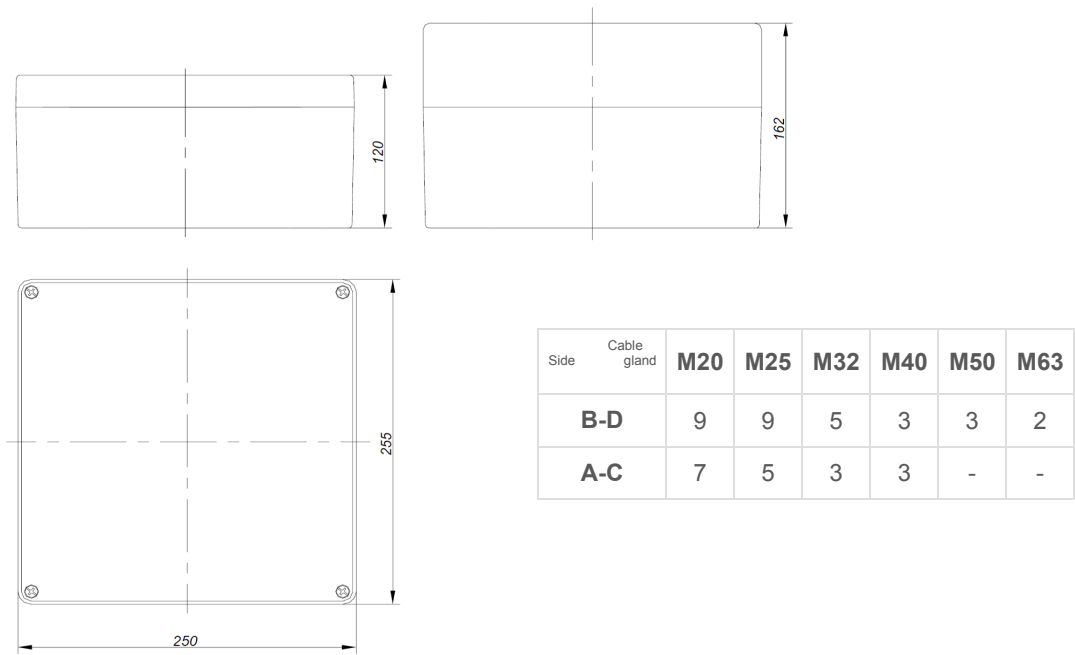
Certificate:	EXA 13 ATEX 0029, EXA 15 ATEX 0036 RU C-HR.AB24.B.03291, RU C-HR.AB24.B.03294
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e mb ia/ib IIC T4...T6 Gb Ex tb IIIC T80°C Db
Ambient temperature ATEX: EAC:	-20°C ≤ T _a ≤ +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	690 V AC (with mantle terminals block SL5, SL8 U _i = 400V AC)
Nominal current:	Up to 80 A
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
Connection:	Depending on order requirements at the built-in components or at the terminal blocks. The rated operational voltage, the rated operational current and the rated cross-section depend on the terminal type used and the explosion protected components.

Control units SKX 16, SKX 18, SKX 20 are Ex combinations configured according to customer demand. Type designation consists of a basic type designation - SKX 16, SKX 18, SKX 20, "I" for enclosure made of SS AISI 316L and SRU number that represents the number of production and assigns to the increment.

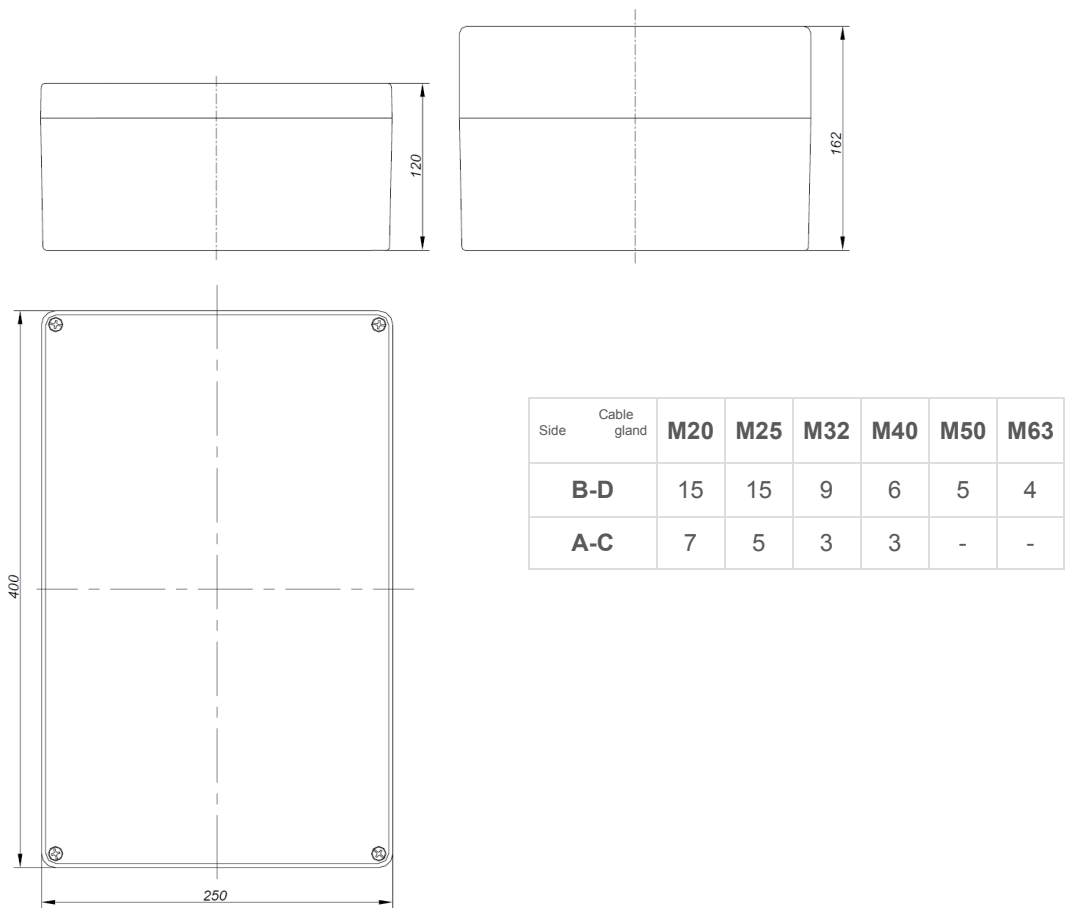
Example: SKX 18 I / SRU -1280

- ⇒ managing the combination of the housing **MMK 403016**
- ⇒ **I** - stainless steel enclosure AISI 316L
- ⇒ performed by production number **1280**

GRP enclosure SKX 16

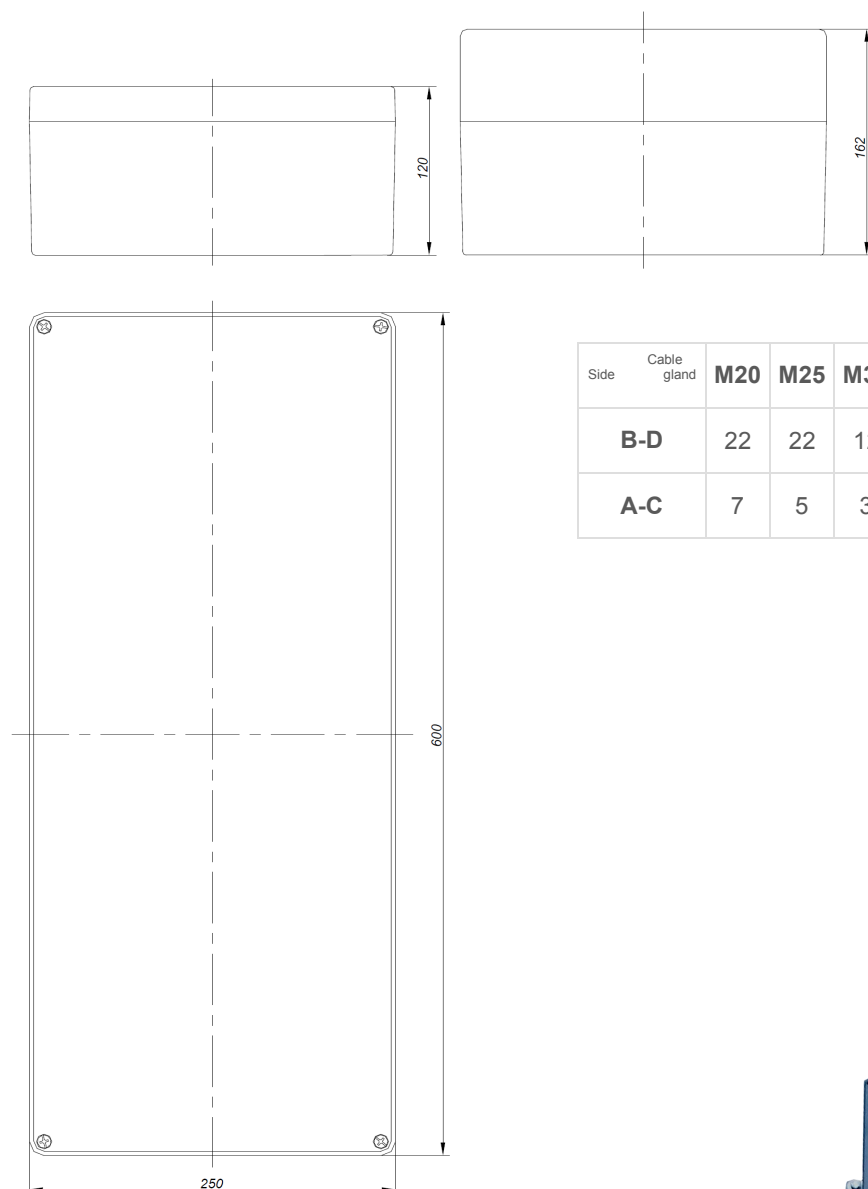


GRP enclosure SKX 18



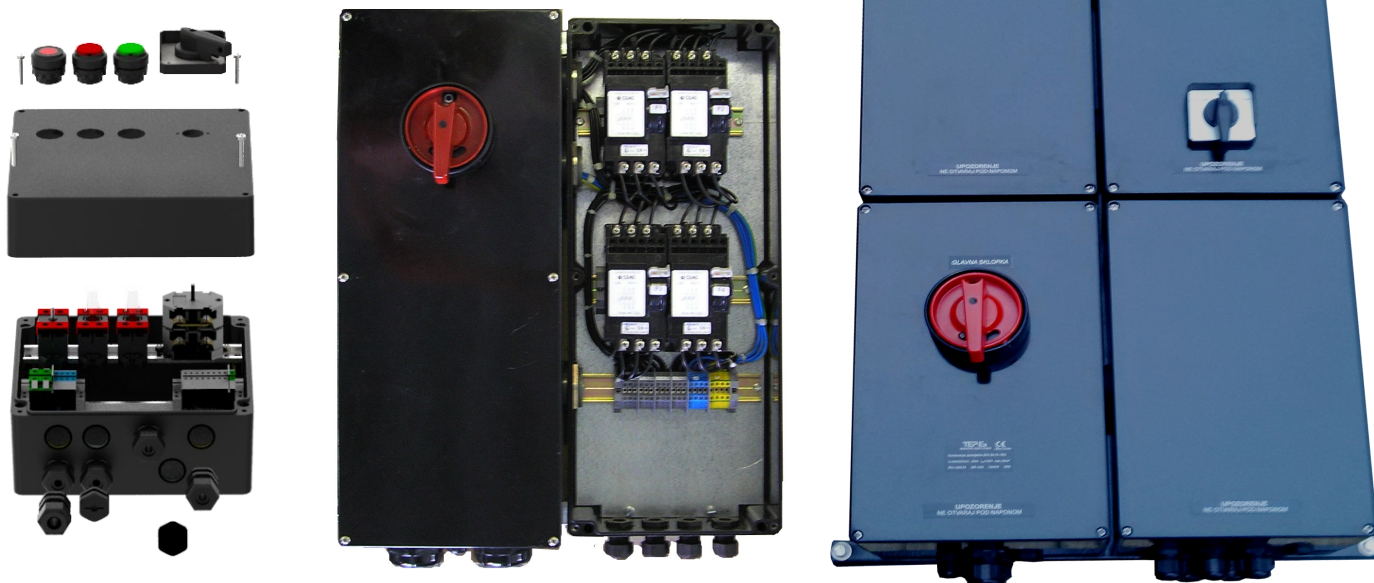
SKX 16, 18, 20

GRP enclosure SKX 20

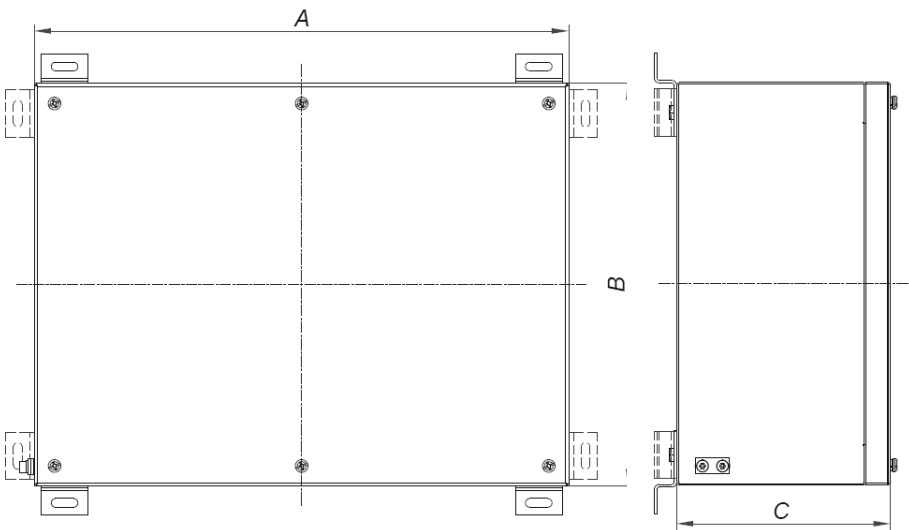


Side	Cable gland	M20	M25	M32	M40	M50	M63
B-D		22	22	12	8	6	6
A-C		7	5	3	3	-	-

Example: Ex control units with GRP enclosures

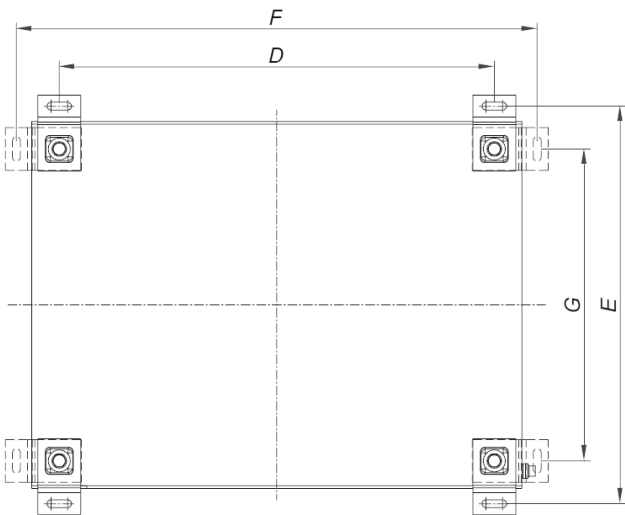


Stainless steel AISI 316L enclosure SKX 16 I, SKX 18 I, SKX 20 I



	A[mm]	B[mm]	C[mm]
SKX 16 I	300	200	120
SKX 18 I	400	300	160
SKX 20 I	600	400	160

MOUNTING

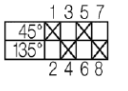
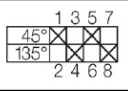
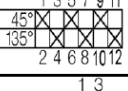
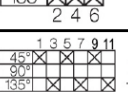
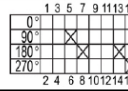
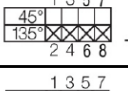
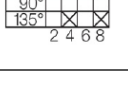
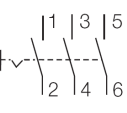
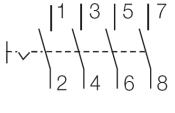
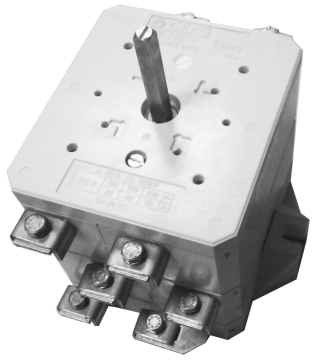


	D[mm]	E[mm]	F[mm]	G[mm]
SKX 16 I	255	227	330	152
SKX 18 I	355	327	430	252
SKX 20 I	555	427	630	352

Example: Ex control units with stainless steel AISI 316L enclosures

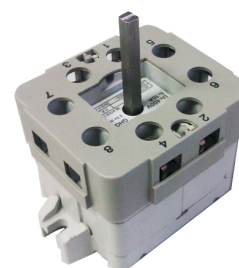


BUILD-IN COMPONENTS

Description, type	Schema	Overview
Control switch SMS 03/. II 2G I M2 Ex de I/IIC Gb Mb • Rated voltage: 630 V AC • Rated current: 16 A • Terminals: 2,5 mm ²	SHEMA  TYPE SMS 03/1	
	 TYPE SMS 03/4	
	 TYPE SMS 03/5	
	 TYPE SMS 03/6	
	 TYPE SMS 03/12	
	 TYPE SMS 03/3	
	 TYPE SMS 03/2	
	 TYPE SMS 03/7	
	 TYPE SMS 03/10	
	 TYPE SMS 03/8	
	 TYPE SMS 03/9	
	 TYPE SMS 03/11	
Main current switch GHG 260 • Rated voltage: 690 V AC • Rated current : 40 - 80 A • Terminals: 16 - 25 mm ²	 	

BUILD-IN COMPONENTS

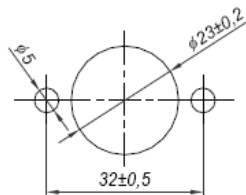
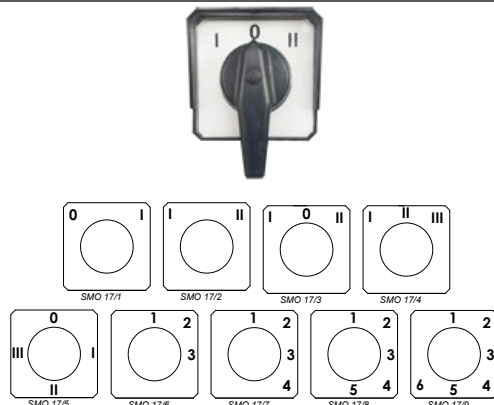
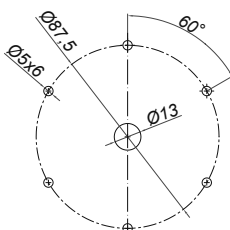
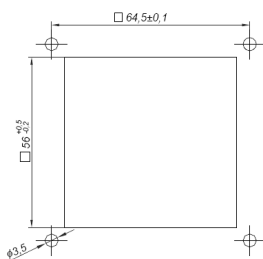
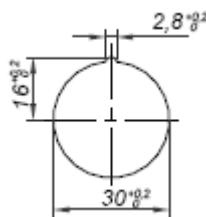
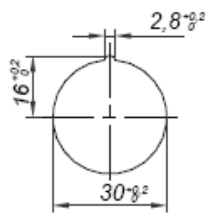
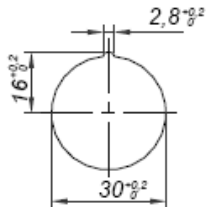
Description, type	Schema	Overview
Control switch GHG 23. II 2GD Ex de IIC •Rated voltage: 690 V AC •Rated current : 10 A •Terminals: 2,5 mm ²		060
		062
		065
		061
		063
		067
		011
		034
		037
		049
		023
		019
		033
		024



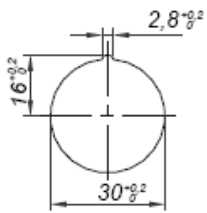
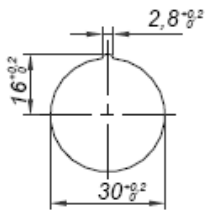
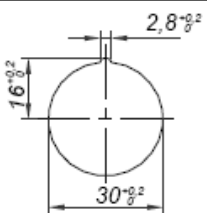
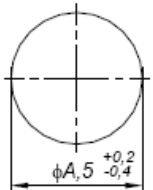
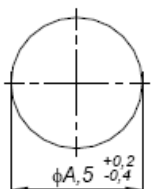
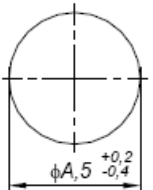
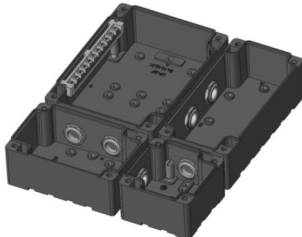
BUILD-IN COMPONENTS

Description, type	Schema	Overview
Pushbutton PBT/. - Rated voltage: 630V AC - Rated current: 16A - Terminals: 2,5 mm²		
Signal lamp SLP - Rated voltage: 12-250 V AC/DC - Max. current: 20-8 mA - Terminals: 2,5 mm²		
Potentionmeter PBT/POT - Rated voltage: 315 V AC/DC - Rated power: 1W - Scale: 0-100% / 270° - Tolerance: ±20% - Characteristic: linear - Terminals: 2,5 mm²	Resistance R: 1,0 kΩ 2,2 kΩ 4,7 kΩ 10 kΩ 470 kΩ	
Measuring instruments AM 72, VM 72 - Measuring range: AM: n/1 A, 0-20 mA, 0-25 A direct 4-20 mA VM: n/1A, 6-415V, 6-660 V - Scale: according to customer demand - Terminals: 1,5 - 4 mm²	-	
Mantle terminals SL5, SL8 - Rated voltage: 400 V - Rated current: 16 A AC - Terminals: 4 mm² - Max. No. of wire under one clamp: 2x4mm² + 2x2,5mm², 3x4mm²	-	
Terminals TH 35-7.5 5 terminals 4mm² 2 terminals 16mm² - Rated voltage: 690 V AC - Rated current: 16 A	-	
N/PE busbar (only for SKX 15) 11x max. 2x4mm²	-	

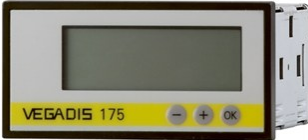
ACTUATORS AND INDICATORS

Description, type	Mounting	Overview																						
Switch actuator SMO 17/. II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db																								
Switch actuator GHG 260 1006																								
Front element of measuring instruments SAM 72 II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db																								
Puschbitton actuator SPO 01/. II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db		<table><tr><th colspan="2">Type SPO 01/.</th></tr><tr><td>SPO 01/01</td><td>0</td></tr><tr><td>SPO 01/02</td><td>I</td></tr><tr><td>SPO 01/03</td><td>II</td></tr><tr><td>SPO 01/04</td><td>RED</td></tr><tr><td>SPO 01/05</td><td>GREEN</td></tr><tr><td>SPO 01/06</td><td>WHITE</td></tr><tr><td>SPO 01/07</td><td>START</td></tr><tr><td>SPO 01/08</td><td>STOP</td></tr><tr><td>SPO 01/09</td><td>ON</td></tr><tr><td>SPO 01/10</td><td>OFF</td></tr></table>	Type SPO 01/.		SPO 01/01	0	SPO 01/02	I	SPO 01/03	II	SPO 01/04	RED	SPO 01/05	GREEN	SPO 01/06	WHITE	SPO 01/07	START	SPO 01/08	STOP	SPO 01/09	ON	SPO 01/10	OFF
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SPO 01/08	STOP																							
SPO 01/09	ON																							
SPO 01/10	OFF																							
Front element of signal lamp SPO 02/. II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db		<table><tr><th colspan="2">Type SPO 02/.</th></tr><tr><td>SPO 02/01</td><td>RED</td></tr><tr><td>SPO 02/02</td><td>GREEN</td></tr><tr><td>SPO 02/03</td><td>YELLOW</td></tr><tr><td>SPO 02/04</td><td>TRANSPARENT</td></tr></table>	Type SPO 02/.		SPO 02/01	RED	SPO 02/02	GREEN	SPO 02/03	YELLOW	SPO 02/04	TRANSPARENT												
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Key-operated pushbutton actuator GHG 410 1904 R0012 II 2GD Ex e II IP66																								

ACTUATORS AND INDICATORS

Description, type	Mounting	Overview
Mushroom-head pushbutton actuator GHG 418 815 ..R .. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Key-operated mushroom-head pushbutton actuator GHG 418 815 ..R.. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Potentiometer actuator GHG 410 1944 R0010 II 2GD Ex e II IP66		
Cable gland SPU ISO 16 - ISO 40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Cable gland for armoured cable SPU A ISO 16 - ISO 40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Plug SPC .. ISO 16 - ISO M40 II 2G II 2D Ex e I/IIC Gb Ex t IIIC Db		
Connection part SKX		

BUILD-IN COMPONENTS

Description, type	Schema	Overview
Main fuse NH0 300XX, NH0, 301XX	-	
BUILD IN SOCKET 16 A (3p/5p), 32A (4p) II 2G Ex de IIC II 2D Ex tD A21 IP66 T80°C	-	
RESIDUAL CURRENT CIRCUIT BREAKERS 2p/4p 25/40/63 A, 30 mA, 10 kA with or without auxiliary contact II 2G Ex d e IIC Gb	-	
DIGITAL INDIKATOR VEGADIS 175 Ex II 1G EEx ia IIC T6	-	
HRC FUSE, Ex d HOUSING 3p NH00C the base and fuse II 2G Ex de IIC I M2 Ex de I	-	

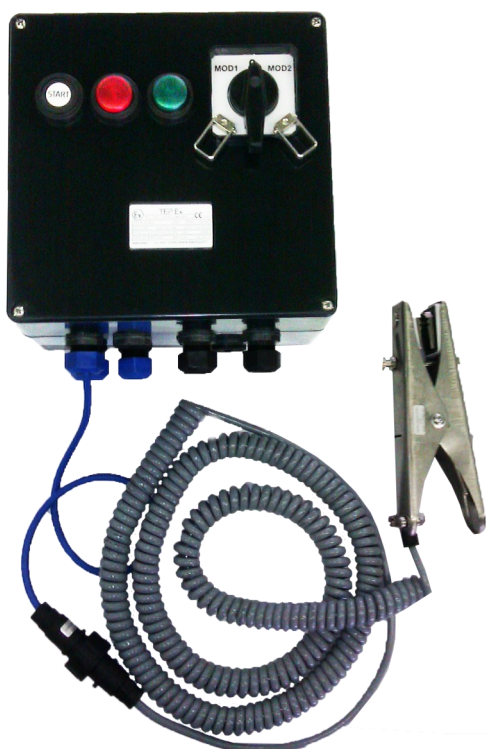
IP 66



IK08



- Active grounding system for static grounding and permanent monitoring
- Permanent removal of electrostatic charge during filling or emptying tanks (road tracks, railcar tanks, barrels)
- Two output contacts



CONSTRUCTION

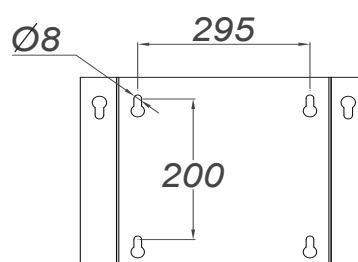
Enclosure: polyester plastic reinforced with glass fiber, color - black
Cover: with integrated Thermoplastic elastomer gasket, closes with four M6 stainless steel screws.

TECHNICAL DATA

Certificate:	Ex CESI 11 ATEX 041, EAC RU C-HR.AB24.B.03293
Marking:	CE 0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex d e [ib] mb IIC T5 Gb
Ambient temperature ATEX:	$-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
EAC:	$-50^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	230 V $\pm$ 10%
Rated current:	50 mA
Frequency:	50Hz
Output circuit:	2 NO/NC Un=250VAC, In=8A / 230V, 4A at cos ϕ =0.4
Cable entry:	3 x M25 - power supply, two output circuit 4 x M25 - 2x connection clamp , 2x wire to equipotential busbar or grounding
Weight:	6 kg (without clamp and cable) weight of clamps with 10 m cable ca. 2,5 kg
Packing:	The packing contains: 1 pcs 430x350x230 mm

MOUNTING

Wall bracket with four screws

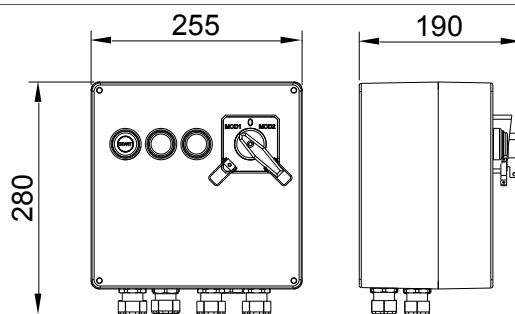


Grounding and grounding control device

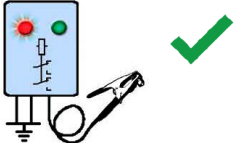
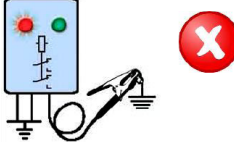
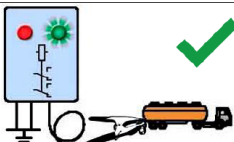
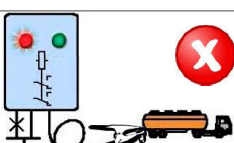
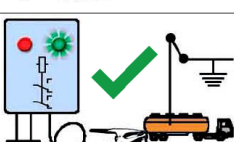
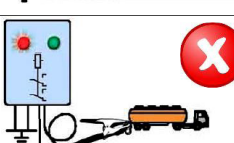
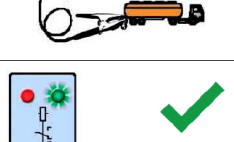
MODEL CODE

DIMENSION DRAWING (all dimensions in mm)

MODEL CODE	DESCRIPTION
GGCD-01/K1	Type with one a clamp K1 with 10m spiral cable
GGCD-01/K2	Type with two clamps K1 with 2x10m spiral cable

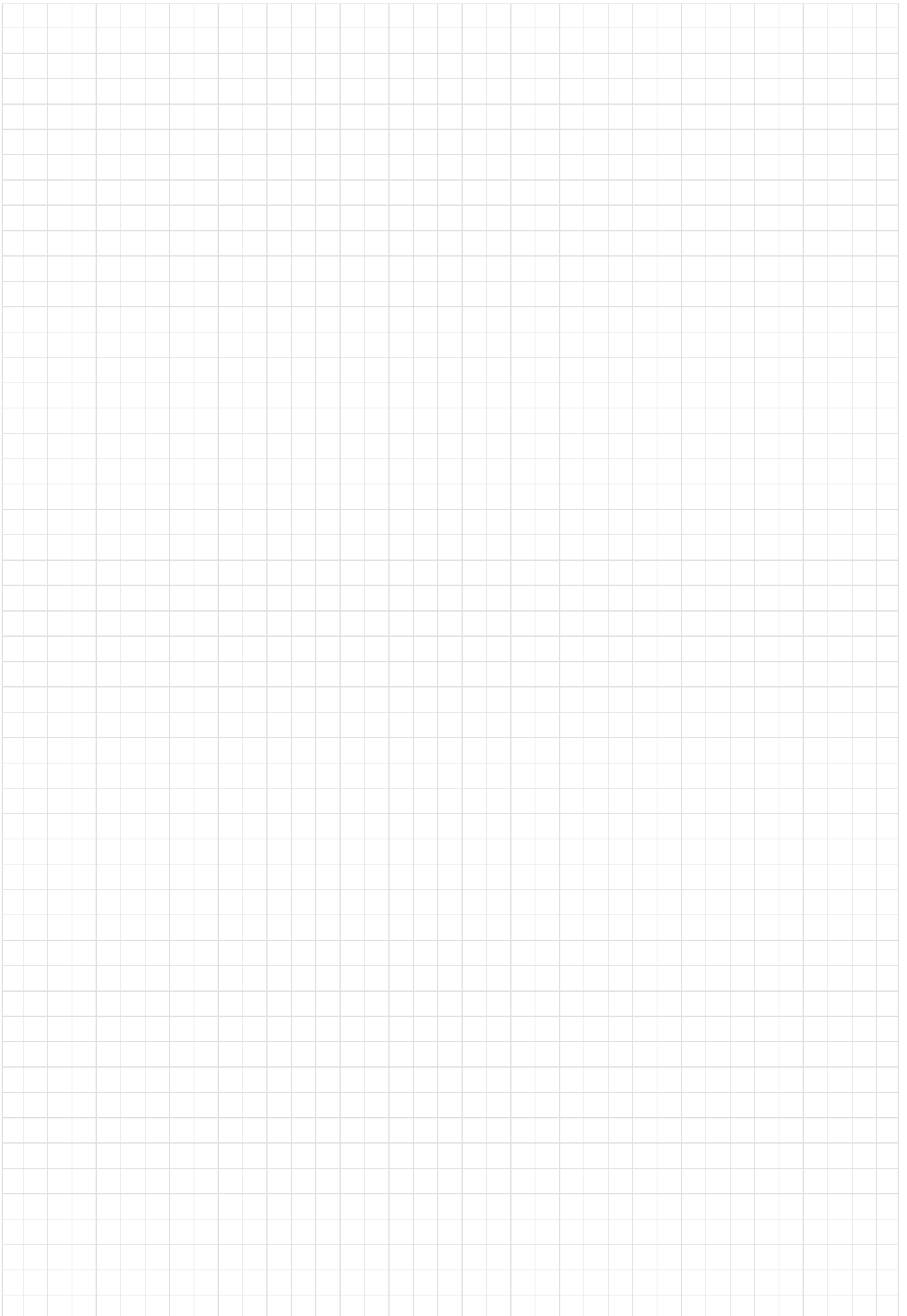


Principle of work for GGCD-01/..

State of earthing process		Reaction of the earthing monitoring device
	GGCD 01/K1 is not correct connected and turned ON. Clamp is not connected, grounding equipment not in use	Earthing incorrect • Red indicating lamp ON • Green indicating lamp OFF • Contact OPEN
	GGCD 01/K1 is correct connected and turned ON, but clamp is directly grounded, e.g. via the loading platform	Earthing incorrect (only MOD 2) • Red indicating lamp ON • Green indicating lamp OFF • Contacts OPEN
	GGCD 01/K1 is correct connected and turned ON. Clamp connected to tank vehicle.	Earthing OK • Red indicating lamp OFF • Green indicating lamp ON • Contacts CLOSED
	GGCD 01/K1 is correct connected and turned ON, but cable to the grounding is disconnected.	Earthing incorrect • Red indicating lamp ON • Green indicating lamp OFF • Contacts OPEN
	GGCD 01/K1 is correct connected and turned ON. Clamp connected to tank vehicle. Tank vehicle is grounded subsequently (e.g. via the loading arm).	Earthing OK • Red indicating lamp OFF • Green indicating lamp ON • Contacts CLOSED
	GGCD 01/K2 is correct connected and turned ON. Two clamps are connected on two separate object grounding.	Earthing incorrect • Red indicating lamp ON • Green indicating lamp OFF • Contacts OPEN
	GGCD 01/K2 is correct connected and turned ON. Two clamps are connected on one object grounding.	Earthing OK • Red indicating lamp OFF • Green indicating lamp ON • Contacts CLOSED



All technical data is relevant at the time of print.



An aerial photograph of a large offshore oil platform in the middle of a deep blue ocean. The platform is a complex of white metal structures, including a helipad on the left, various storage tanks, and a network of pipes and walkways. A yellow crane is visible on the upper part of the structure. A semi-transparent blue rectangular box is overlaid on the upper right portion of the image, containing white text. The platform's legs are visible at the bottom, extending into the water.

Distribution cabinets Busbar enclosures

IP 66



IM2

- Enclosure in sheet steel
- 5 basic enclosure sizes
- Enclosures can be combined (modular system)
- Available as empty enclosures or as completely fitted and wired control and distribution units
- For use in underground mines
- Cable entries available:

Direct : cable glands,

Indirect : via Ex e enclosure multiwire bushing, conductor insulator



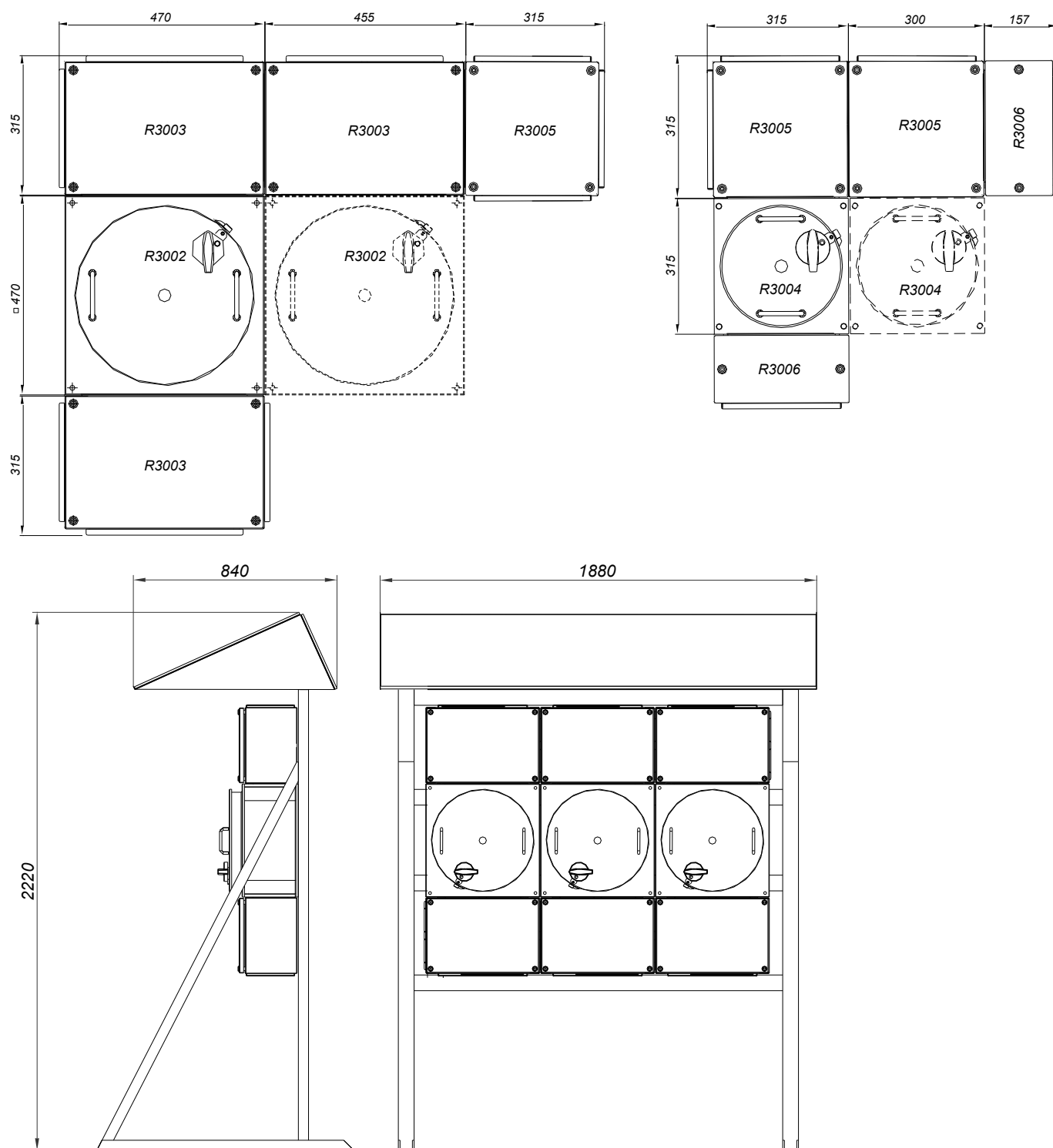
CONSTRUCTION

Enclosure: sheet steel (Exd enclosure 12mm thickness, Exe enclosure 3mm thickness)
Gasket: EPDM formed gasket

TECHNICAL DATA

Certificate:	Ex EXA 14 ATEX 0050X, RU C-HR.AB24.B.03297
Marking:	CE 0722
Apparatus category:	II 2G II 2D I M2
Marking of explosion protection:	Ex de I/IIC T6 Gb Mb Ex tb IIIC Db
Ambient temperature ATEX: EAC:	-20°C ≤ T _a ≤ +50°C -50°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 09
Protection class :	I (protective earthing)
Rated voltage:	Up to 690 V AC
Rated current:	Up to 500 A (depends upon built-in device)
Terminal cross-section:	240 mm ²
Weight:	
- Enclosure R3002	70 kg
- Enclosure R3003	18 kg
- Enclosure R3004	47 kg
- Enclosure R3005	15 kg
- Enclosure R3006	9 kg
Color:	Yellow, RAL1016 (other color on request)

DIMENSION DRAWING (all dimensions in mm)



Free-standing modular system with protection canopy

A distribution cabinets type R3002 and R3004 is made of steel with Ex d flameproof protection type. Closing of the cabinet is of threaded type and is protected against opening by lock switch, so that it can be opened only when it is not under voltage. The units is protected against corrosion by its painting inside and outside. Ex d steel enclosures (type R3002 and R3004) and Ex e sheet steel enclosures (type R3003, R3005, R3006) can be used as single enclosures and combinations.

The dimensions of the enclosures are so designed that they can be combined into a large modular unit. A large number of components, such as contactors, switches, instruments and PLCs can be built into these enclosures. Naturally, customer-supplied equipment can also be incorporated into the layout. The equipment layout is designed by us to customer's requirements. Cable entry is either direct (cable glands or conduit entries) or indirect via an Ex e enclosures type R3003, R3005, R3006.

The "flameproof" type protection 'Ex d' is based on the principle that electrical components which may cause sparks or arcing in normal operation (switches, contactors etc.) are in an enclosure constructed so that it will contain an explosion of flammable gas or vapor and will not permit ignition of a surrounding explosive atmosphere. Further, the temperature of the outside surface of the enclosures must not exceed the prescribed temperature limit for the appropriate temperature class. That means, the heat loss from the components fitted must not exceed a specified value.

Data required for the layout of control and distribution boards

We produce distribution cabinets accordint to customer requirements and basis to the project data:

- the required minimum type of protection
- as appropriate, details of the hazardous atmosphere for which the equipment must be suitable
- single line or wiring diagram
- schematic for control systems
- operating, auxiliary and control voltages
- frequency
- power and current ratings of connected loads
- quantities and types of components required, e.g. contactors, switches, circuit-breakers, fuses, thermal relays, instruments, terminals etc
- quantity and types of cables
- number and size of conductors
- quantity and location of entries (from top, bottom, side, centre)
- environmental conditions
- method of installation

TYPE OF INSTALLATION



A) temporary

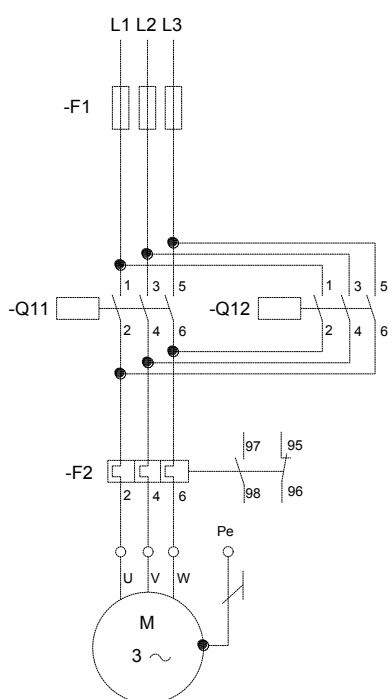


B) wall-mounted

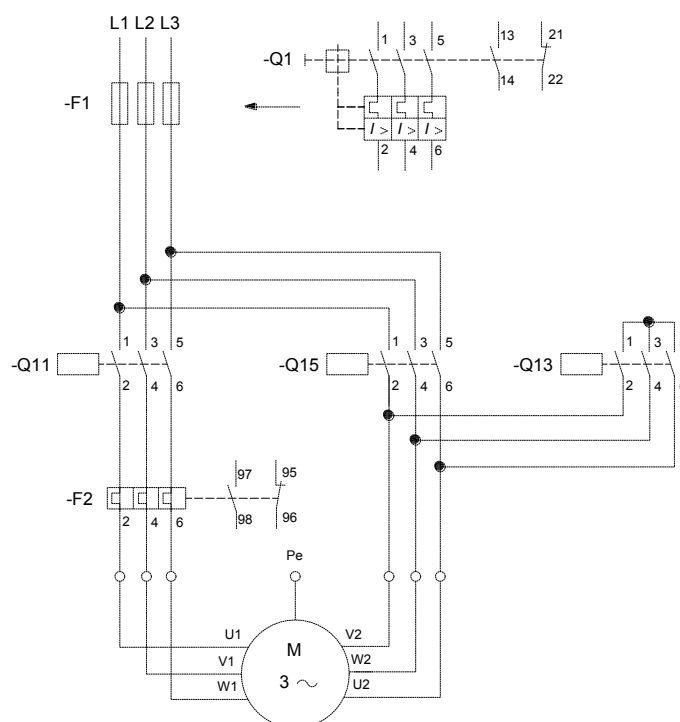


C) free-standing
With or without protection canopy

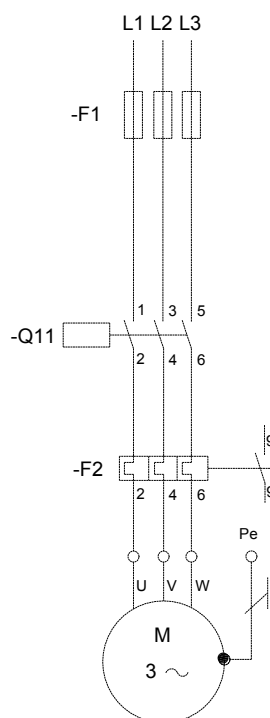
Examples of wiring diagram for distribution cabinets



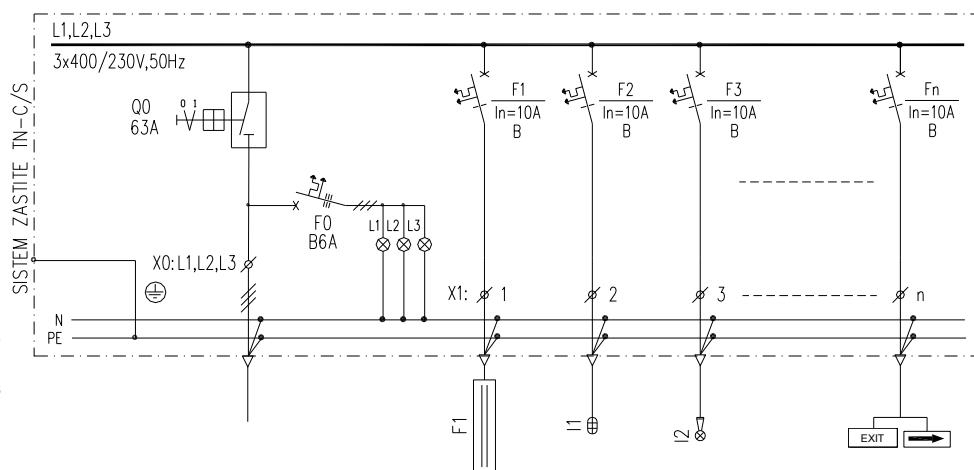
A) Direct on line start of three phase motor;
two directions of rotation



B) STAR-DELTA switching of three phase motor



C) Direct on line start of three phase motor



D) Light fittings control panel

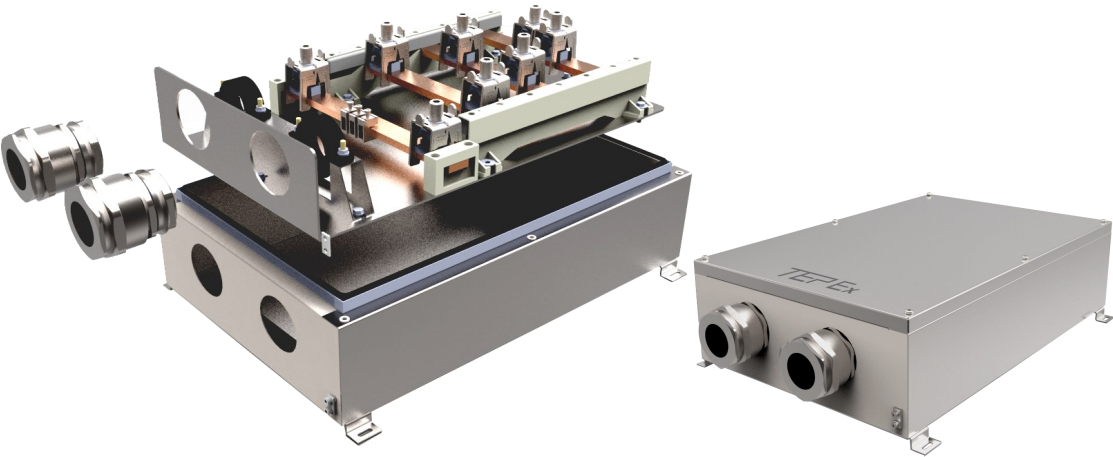
IP 66

IK 09

T_a +50
C_a -40

Ex
ATEX

- For terminals from 50... 300 mm²
- Rated operational current up to max. 450 A depending on enclosure version and size



CONSTRUCTION

Enclosure: Stainless steel AISI 316L, 1.5mm
Gasket: EPDM formed gasket

TECHNICAL DATA

Certificate:	Ex EXA 14 ATEX 0002
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature ATEX:	-20°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 09
Protection class :	I (protective earthing)
Nominal voltage U _n :	690 V ±10%

Table of maximum currents:

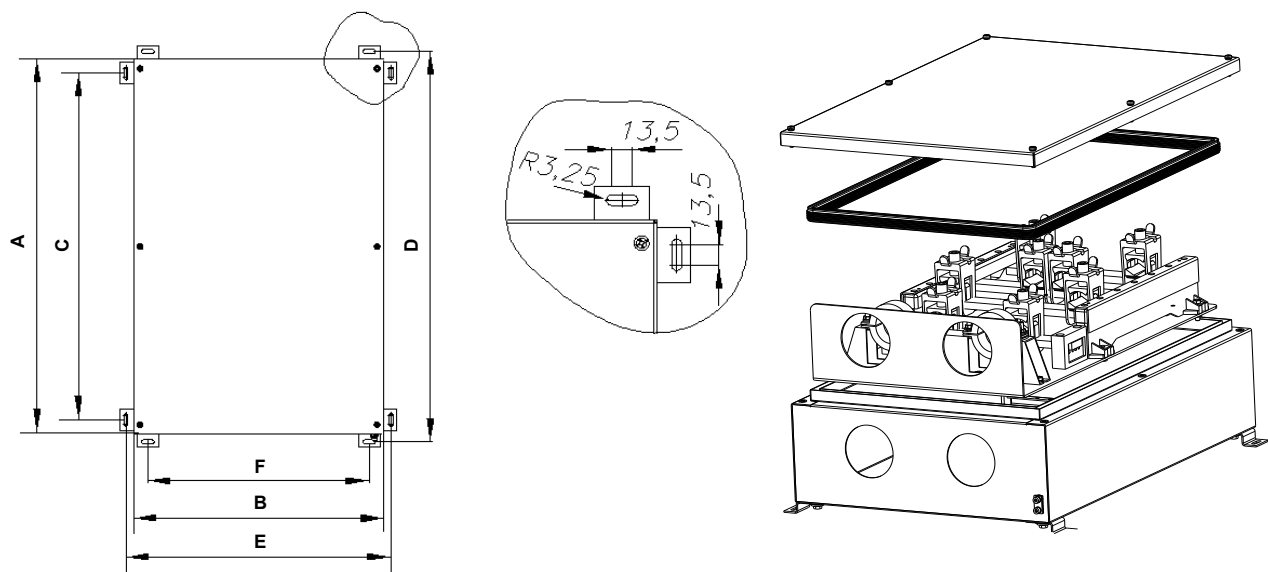
Terminal	Cross section	t _{amb} -40°C do +40°C	t _{amb} -40°C do +50°C
300mm ²	240 mm ²	450 A	425 A
	185 mm ²	440 A	390 A
	150 mm ²	400 A	350 A
	120 mm ²	350 A	300 A
120 mm ²	95 mm ²	300 A	250 A
	70 mm ²	220 A	185 A
	50 mm ²	160 A	130 A
	35 mm ²	100 A	80 A

MODEL CODE

SKX xxxxxxxx- . / ...

- number of cable entries
- number and size of terminals
- type and design of enclosure
SKX 604016 (600x400x160 mm)
SKX 1008020 (1000x800x160 mm)

DIMENSION DRAWING (all dimensions in mm)

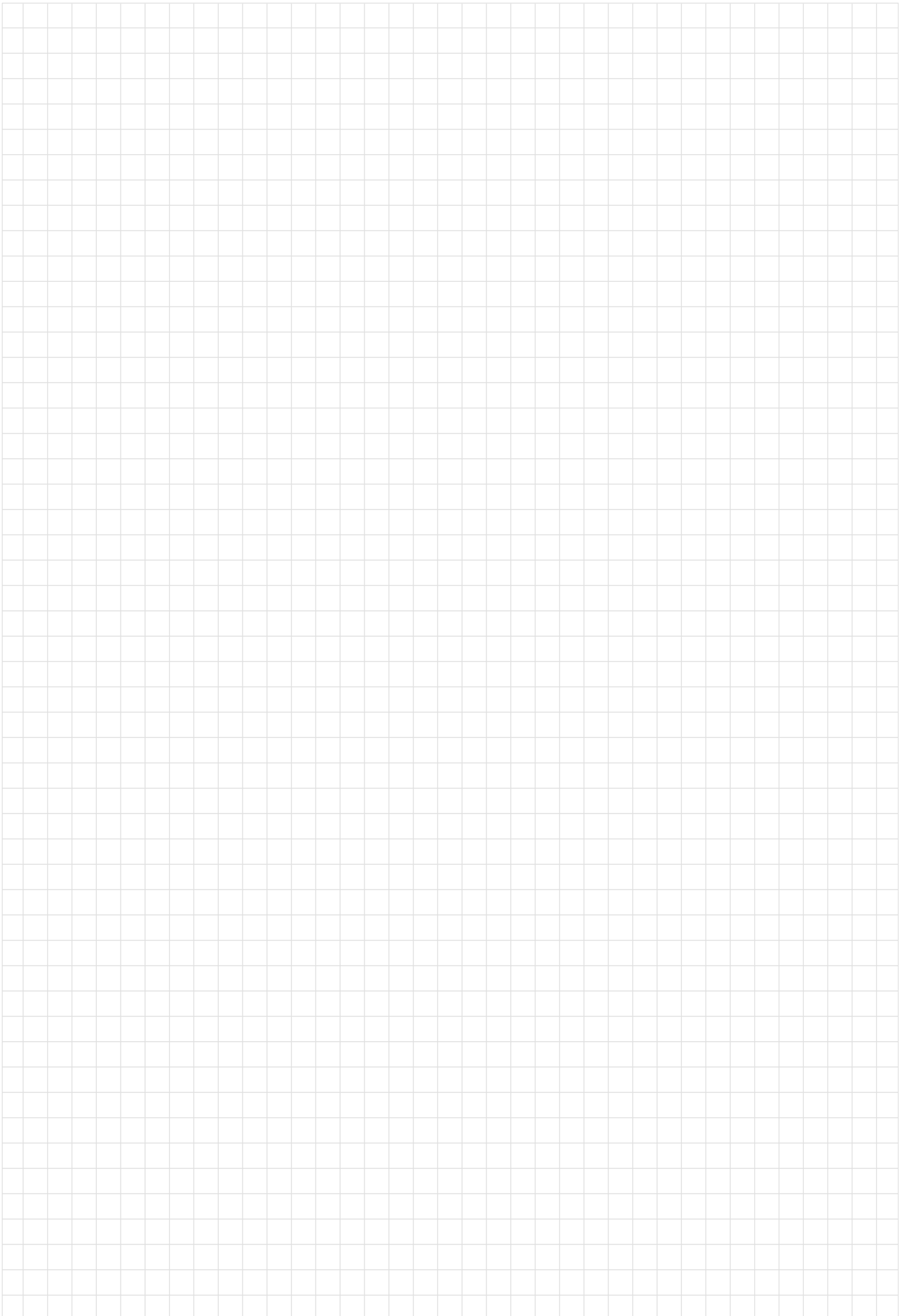


Type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
SKX 604016	800	600	555	622	422	355
SKX 1008020	1000	800	955	1022	822	755

SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover	SKX 604016/10-100		Terminal 35 mm ²	SKX 604016/10-170
	Gasket	SKX 604016/10-110		Terminal 120 mm ²	SKX 604016/10-180
	Cover screw M5x25	SKX 604016/10-120		Terminal 300 mm ²	SKX 604016/10-190
	Mounting set	SKX 604016/10-130		Strain relief set 3/4"	SKX 604016/10-200
	Busbar holder PE	SKX 604016/10-140		Strain relief set 1"	SKX 604016/10-210
	Busbar holder	SKX 604016/10-150		Strain relief set 5/4"	SKX 604016/10-220
	Busbar Cu 30x10	SKX 604016/10-160		Strain relief set 6/4"	SKX 604016/10-230

All technical data is relevant at the time of print.



A low-angle photograph of a tall industrial distillation column in a refinery. The column is silver-colored with multiple yellow safety ladders and platforms. A complex network of silver pipes and valves surrounds the base and sides of the column. The sky is clear and blue.

Signalling devices Plugs and sockets Accessories



IP 66



- Loud signal horn with typical horn tone
- Lower weight, robust and corrosion proof design
- Insulation class II, no equipotential bonding required

dHH, mHPT



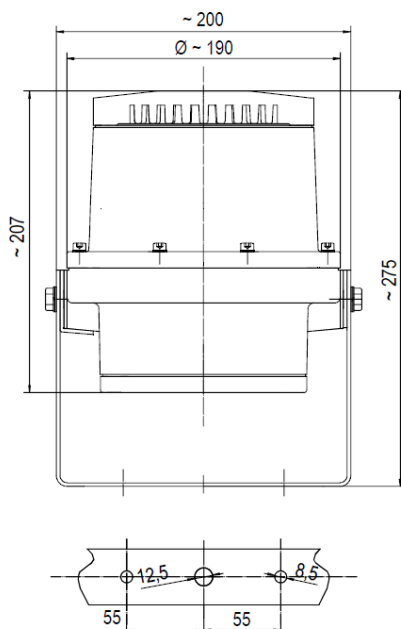
CONSTRUCTION

Glassfibre reinforced polyester

TECHNICAL DATA type dHH

Certificate:	PBT 01 ATEX 1133
Marking:	CE ₀₁₀₂
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex de IIC T5, T6 Gb Ex tb IIIC T95 °C, T80 °C Db
Ambient temperature:	-25 °C ≤ T _a ≤ +75 °C
Degree of protection:	IP 66
Rated voltage:	6V AC/DC ÷ 220V AC/DC
Terminals:	2,5mm ²
Cable entries:	1 x cable gland M20x1,5 , 1 x plug M20 x1,5
Weight:	5,5 kg

DIMENSION



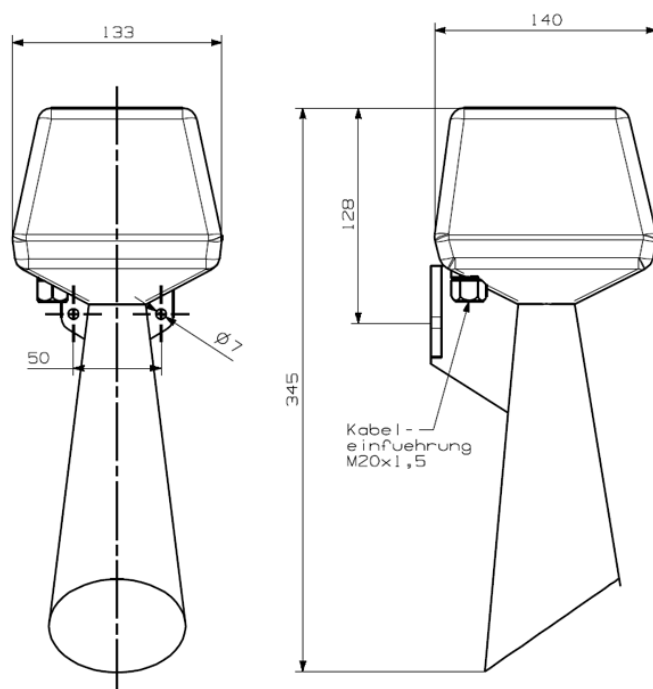
mounting bracket 4VA stainless

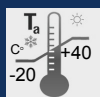


TECHNICAL DATA type mHPT

Certificate:	PBT 01 ATEX 1133
Marking:	CE ₀₁₀₂
Apparatus category:	II 2G
Marking of explosion protection:	Ex e mb IIC T5
Ambient temperature:	-20 °C ≤ T _a ≤ +70 °C
Degree of protection:	IP 54
Rated voltage:	24V DC, 115 V AC, 230 V AC
Terminals:	2,5mm ²
Cable entries:	1 x cable gland M20x1,5
Weight:	1,5 kg

DIMENSION





IP 66



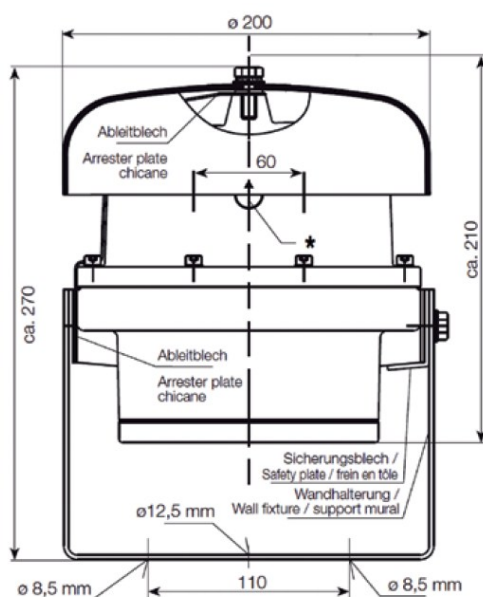
- Loud signal bell with typical bell tone
- Insulation class II, no equipotential bonding required

**CONSTRUCTION**

Glassfibre reinforced polyester

TECHNICAL DATA type dHW

Certificate:	PBT 01 ATEX 1134
Marking:	CE ⁰¹⁰²
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex de IIC T6 Ex tD A21 IP66 T80 °C
Ambient temperature:	-20 °C ≤ T _a ≤ +40 °C
Degree of protection:	IP 66
Rated voltage:	6V AC/DC ÷ 220V AC/DC
Terminals:	2,5mm ²
Cable entries:	1 x cable gland M20x1,5 , 1 x plug M20 x1,5
Weight:	6 kg

DIMENSION

mounting bracket 4VA stainless



All technical data is relevant at the time of print.

IP 66



IK 09



- Explosion-proof telephone for universal applications in the industry (onshore and off-shore)
- Resistant against high temperature differences, humidity, seawater, acids, alkalis etc.
- 10 ringing tone melodies selectable
-



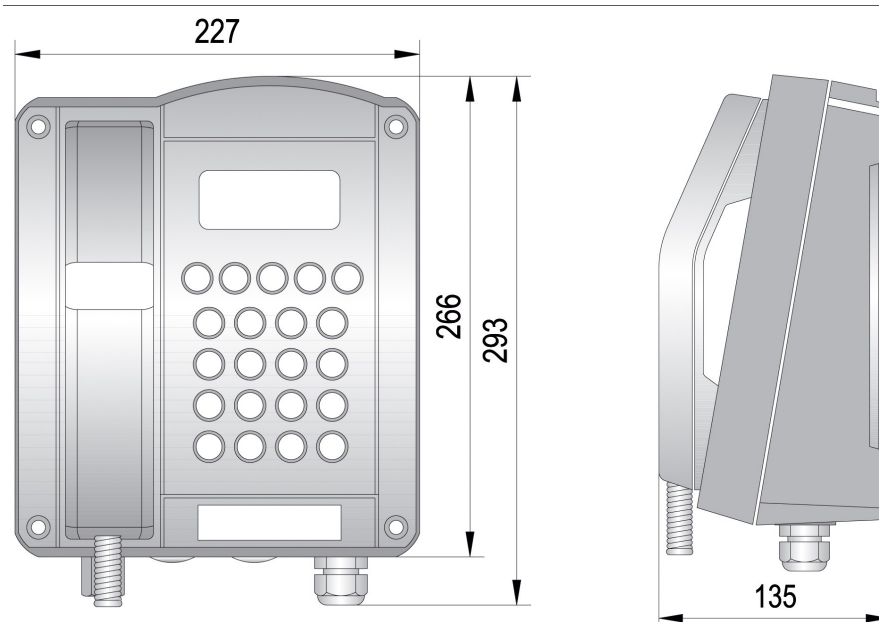
CONSTRUCTION

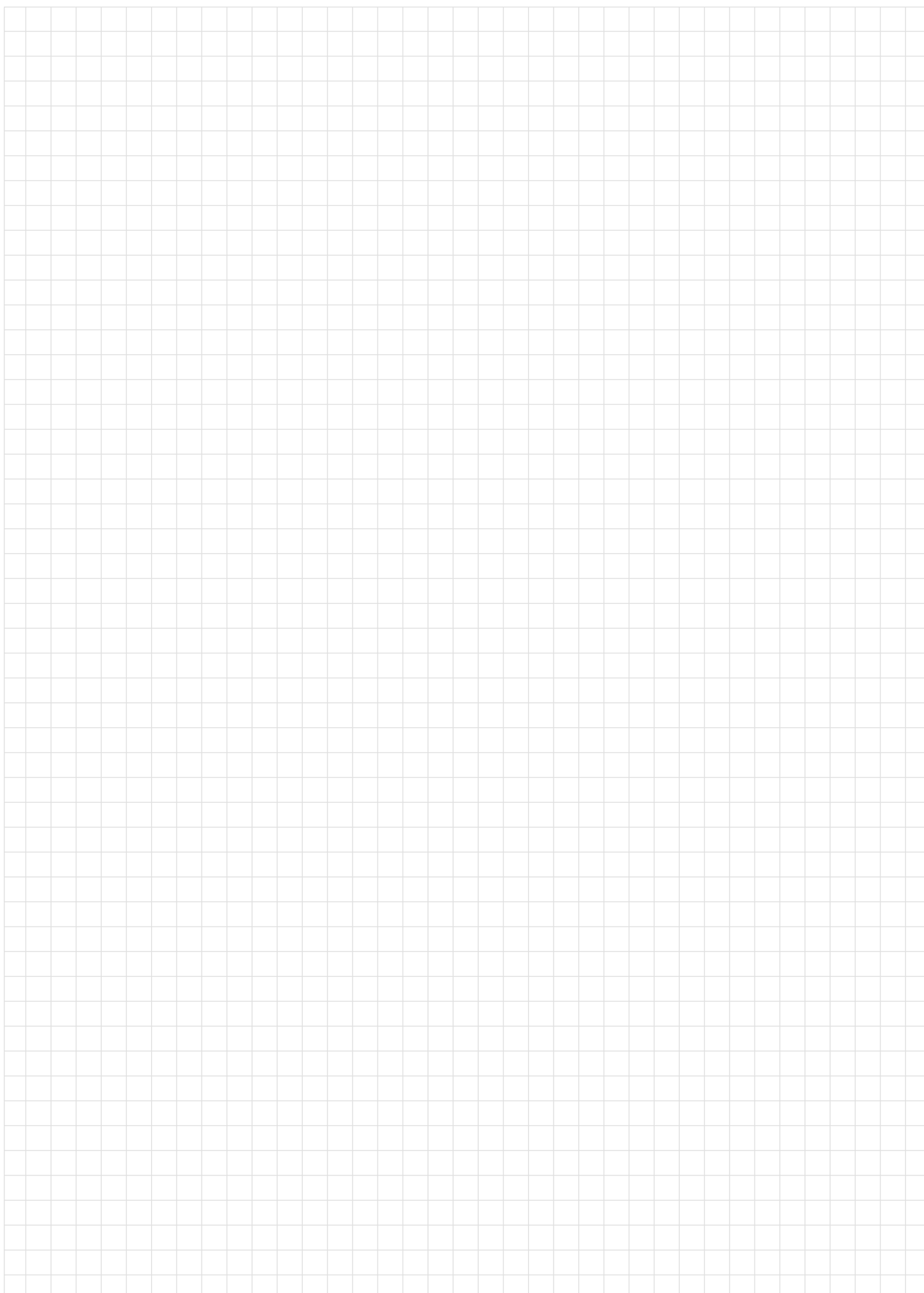
Glassfibre reinforced polyester

TECHNICAL DATA type dST1

Certificate:	DMT 03 ATEX E 034
Marking:	CE ⁰¹⁵⁸
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex e mb [ib] IIC T5 Gb Ex tb [ib] IIIC T100°C Db
Ambient temperature:	-25 °C ≤ T _a ≤ +60°C
Degree of protection:	IP 66
Rated voltage:	24 V DC-66 V DC
Terminals:	4 mm ²
Cable entries:	1 x M20x1,5 2 x blind plug M20x1,5
Weight:	5,5 kg

DIMENSION





All technical data is relevant at the time of print.

DF1013 / DF104 / DS-14



TECHNICAL DATA type DF1013

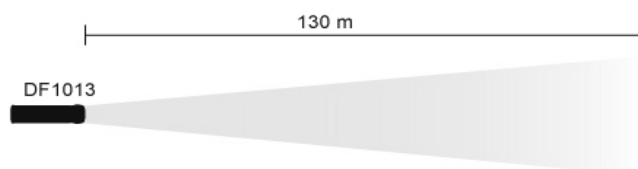
Apparatus category:	II 1G
Marking of explosion protection:	Ex ia IIC T4 Ga
Ambient temperature:	-20 °C ≤ T _{amb} ≤ +40°C
Degree of protection:	IP 68
Luminous flux:	60 lm
Length of light beam:	130 m
Battery:	4x AA type
Autonomy:	app. 14 hours
Weight:	100 g (without battery)
Dimension:	175x45x45 mm



Push Button



LED



TECHNICAL DATA type DF104

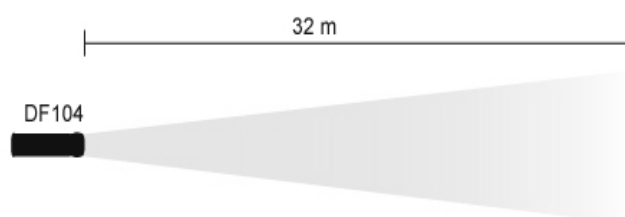
Apparatus category:	II 1G
Marking of explosion protection:	 Ex ia IIC T4 Ga
Ambient temperature:	$-20\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +40\text{ }^{\circ}\text{C}$
Degree of protection:	IP 68
Luminous flux:	43 lm
Lenght of light beam:	32 m
Battery:	3x C type
Autonomy:	app. 70 hours
Weight:	190 g (without battery)
Dimension:	220x60x85 mm



12 Ø5 LEDs



Push Button



TECHNICAL DATA type DS-14 (headlamp)

Apparatus category:	II 1G
Marking of explosion protection:	 Ex ia IIC T4 Ga
Ambient temperature:	$-20\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +40\text{ }^{\circ}\text{C}$
Degree of protection:	IP 67
Luminous flux:	75lm / low mode , 150lm / High mode
Lenght of light beam:	75m / 100m
Battery:	3x AAA type
Autonomy:	app. 4 hours
Weight:	145 g (without battery)
Dimension:	80x50x45 mm



HELMET MOUNTABLE



RUBBERISED BUTTON



SMOOTH REFLECTION



LOCKING BATTERY
COMPARTMENT

IP 66



IK 09



- Plugs and sockets receptacles 16A to 63A, 12V to 690V
- All sockets incorporate switching technology that prevents removal of the plug under electrical load and does not disturb the potentially explosive atmospheres



CONSTRUCTION

Socket/ 2P - 2P+E - 3P: polycarbonate
 Socket / 3P+E - 3P+N+E: SMC
 Plug, mobile socket, flush socket: polyamide

TECHNICAL DATA

Certificate:	LCIE 02 ATEX 6068, LCIE 02 ATEX 0001U
Marking:	CE 50228
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex de IIC T6 Ex tD A21 T68°C
Ambient temperature:	-40 °C ≤ T _{amb} ≤ +55°C
Degree of protection:	IP 66
Impact resistance:	IK09

Plug



Wall socket



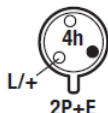
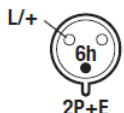
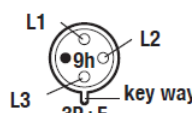
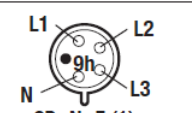
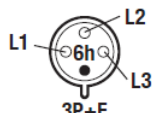
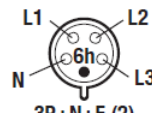
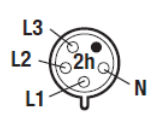
Mobile socket



Flush socket

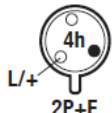
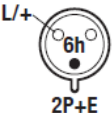
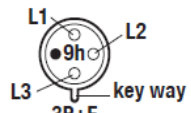
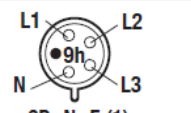
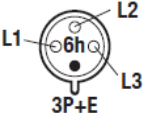
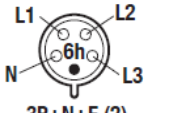


MODEL CODE / 16A

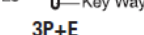
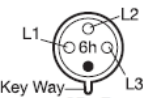
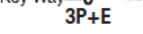
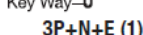
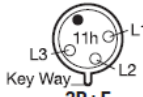
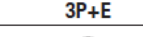
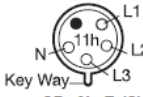
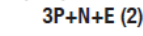
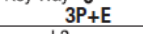
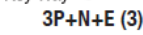
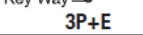
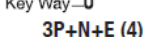
Description	Pin Configuration	Weight kg (lb)	Volume dm ³ (in ³)	Catalog Number	
				IECEx	NBR
Low Voltage: LV					
100/130 Vac 50/60 Hz — Yellow					
Wall Socket		0.6 (1.3)	3.8 (231.89)	PRE316RY	NPRES16RY
Plug		0.2 (0.4)	0.6 (36.61)	PRE316PY	NPRES16PY
Mobile Socket		0.4 (0.9)	1.3 (79.33)	PRE316MY	NPRES16MY
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE316FY	NPRES16FY
200/250 Vac 50/60 Hz — Blue					
Wall Socket		0.6 (1.3)	3.8 (231.89)	PRE316RB	NPRES16RB
Plug		0.2 (0.4)	0.6 (36.61)	PRE316PB	NPRES16PB
Mobile Socket		0.4 (0.9)	1.3 (79.33)	PRE316MB	NPRES16MB
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE316FB	NPRES16FB
200/250 Vac 50/60 Hz — Blue					
Wall Socket		1.5 (3.3)	4.7 (286.81)	PRE416RB	NPRES16RB
Plug		0.6 (1.3)	0.6 (36.61)	PRE416PB	NPRES16PB
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MB	NPRES16MB
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE416FB	NPRES16FB
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RB	NPRES16RB
Plug		0.3 (0.7)	1.3 (79.33)	PRE516PB	NPRES16PB
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MB	NPRES16MB
Flush Socket		(1) 120/208 V - 144/250 Vac 50/60 Hz	0.2 (0.4)	1.3 (79.33)	PRE516FB
380/415 Vac 50/60 Hz — Red					
Wall Socket		1.5 (3.3)	4.7 (286.81)	PRE416RR	NPRES16RR
Plug		0.2 (0.4)	0.6 (36.61)	PRE416PR	NPRES16PR
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MR	NPRES16MR
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE416FR	NPRES16FR
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RR	NPRES16RR
Plug		0.3 (0.7)	1.3 (79.33)	PRE516PR	NPRES16PR
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MR	NPRES16MR
Flush Socket		(2) 200/346 V - 240/415 Vac 50/60 Hz	0.3 (0.7)	1.3 (79.33)	PRE516FR
480/500 Vac 50/60 Hz — Black					
Wall Socket		1.5 (3.3)	4.7 (286.81)	PRE416RN	NPRES16RN
Plug		0.2 (0.4)	0.6 (36.61)	PRE416PN	NPRES16PN
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MN	NPRES16MN
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE416FN	NPRES16FN
50/500 Vac 300/500 Hz — Green					
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RG	NPRES16RG
Plug		0.2 (0.4)	0.6 (36.61)	PRE516PG	NPRES16PG
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MG	NPRES16MG
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE516FG	NPRES16FG

All technical data is relevant at the time of print.

MODEL CODE / 32A

Description	Pin Configuration	Weight kg (lb)	Volume dm ³ (in ³)	Catalog Number	
				IECEX	NBR
100/130 Vac 50/60 Hz — Yellow					
Wall Socket		1.9 (4.19)	7.0 (427.17)	PRE332RY	NPRE332RY
Plug		0.5 (1.10)	4.0 (244.09)	PRE332PY	NPRE332PY
Mobile Socket		0.8 (1.76)	3.2 (195.28)	PRE332MY	NPRE332MY
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE332FY	NPRE332FY
200/250 Vac 50/60 Hz — Blue					
Wall Socket		1.9 (4.19)	7.0 (427.17)	PRE332RB	NPRE332RB
Plug		0.5 (1.10)	4.0 (244.09)	PRE332PB	NPRE332PB
Mobile Socket		0.8 (1.76)	3.2 (195.28)	PRE332MB	NPRE332MB
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE332FB	NPRE332FB
Wall Socket		1.9 (4.19)	7.0 (427.17)	PRE432RB	NPRE432RB
Plug		0.5 (1.10)	4.0 (244.09)	PRE432PB	NPRE432PB
Mobile Socket		0.8 (1.76)	3.2 (195.28)	PRE432MB	NPRE432MB
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE432FB	NPRE432FB
Wall Socket		1.9 (4.19)	7.0 (427.17)	PRE532RB	NPRE532RB
Plug		0.5 (1.10)	4.0 (244.09)	PRE532PB	NPRE532PB
Mobile Socket		1.0 (2.20)	4.0 (244.09)	PRE532MB	NPRE532MB
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE532FB	NPRE532FB
380/415 Vac 50/60 Hz — Red					
Wall Socket		2.0 (4.41)	7.0 (427.17)	PRE432RR	NPRE432RR
Plug		0.4 (0.88)	4.0 (244.09)	PRE432PR	NPRE432PR
Mobile Socket		0.8 (1.76)	3.2 (195.28)	PRE432MR	NPRE432MR
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE432FR	NPRE432FR
Wall Socket		2.0 (4.41)	7.0 (427.17)	PRE532RR	NPRE532RR
Plug		0.5 (1.10)	4.0 (244.09)	PRE532PR	NPRE532PR
Mobile Socket		1.0 (2.20)	4.0 (244.09)	PRE532MR	NPRE532MR
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE532FR	NPRE532FR
480/500 Vac 50/60 Hz — Black					
Wall Socket		2.0 (4.41)	7.0 (427.17)	PRE432RN	NPRE432RN
Plug		0.4 (0.88)	4.0 (244.09)	PRE432PN	NPRE432PN
Mobile Socket		1.0 (2.20)	4.0 (244.09)	PRE432MN	NPRE432MN
Flush Socket		0.6 (1.32)	2.7 (164.76)	PRE432FN	NPRE432FN

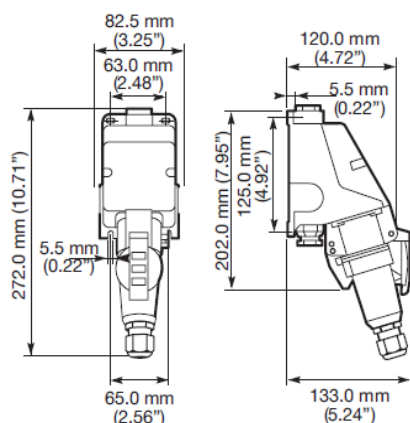
MODEL CODE / 63A

Description	Pin Configuration	Weight kg (lb)	Volume dm ³ (in ³)	Catalog Number	
				IECEX	NBR
200/250 Vac 50/60 Hz — Blue					
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE463RBU5	NPRE463RBU5
Plug		1.0 (2.20)	7.0 (427.17)	PRE463PB	NPRE463PB
380/415 Vac 50/60 Hz — Red					
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE463RRU5	NPRE463RRU5
Plug		1.0 (2.20)	7.0 (427.17)	PRE463PR	NPRE463PR
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE563RRU5	NPRE563RRU5
Plug		1.0 (2.20)	7.0 (427.17)	PRE563PR	NPRE563PR
(1) 200/346 V – 240/415 Vac 50/60 Hz					
440/460 Vac 60 Hz — Red					
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE463RR1U5	NPRE463RR1U5
Plug		1.0 (2.20)	7.0 (427.17)	PRE463PR1	NPRE463PR1
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE563RR1U5	NPRE563RR1U5
Plug		1.0 (2.20)	7.0 (427.17)	PRE563PR1	NPRE563PR1
(2) 250/440 V – 265/460 Vac 60 Hz					
480/500 Vac 50/60 Hz — Black					
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE463RNU5	NPRE463RNU5
Plug		1.0 (2.20)	7.0 (427.17)	PRE463PN	NPRE463PN
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE563RNU5	NPRE563RNU5
Plug		1.0 (2.20)	7.0 (427.17)	PRE563PN	NPRE563PN
(3) 277/480 V – 288/500 Vac 50/60 Hz					
600/690 Vac 50/60 Hz — Black					
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE463RN1U5	NPRE463RN1U5
Plug		1.0 (2.20)	7.0 (427.17)	PRE463PN1	NPRE463PN1
Wall Socket		8.0 (17.64)	26.0 (1586.62)	PRE563RN1U5	NPRE563RN1U5
Plug		1.0 (2.20)	7.0 (427.17)	PRE563PN1	NPRE563PN1
(4) 347/600 V – 400/690 Vac 50/60 Hz					

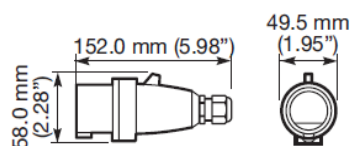
DIMENSION / 16A

16A — 2P — 2P+E — 3P Versions

Wall Mounting Sockets

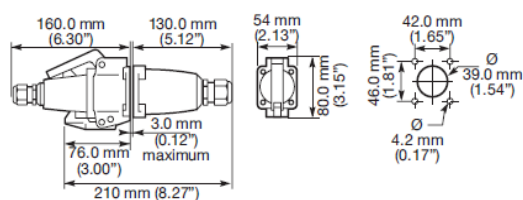


Plugs

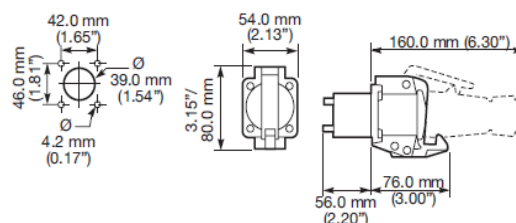


Mobile Sockets

Can be mounted on panel - 0.12"/3.0 mm thickness maximum

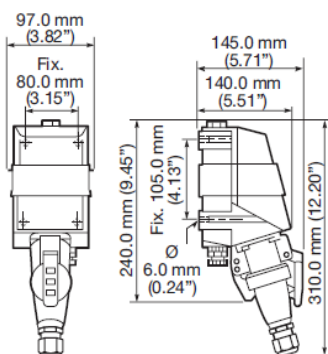


Flush Sockets

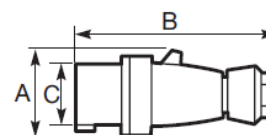


16A — 3P+E — 3P+N+E Versions

Wall Mounting Sockets



Plugs

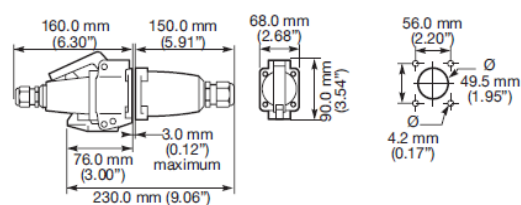


Dimensions in Millimeters (Inches)

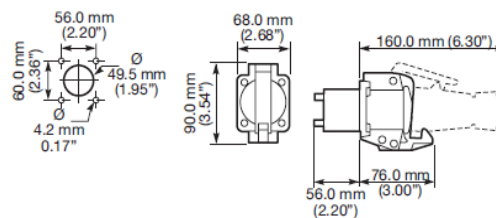
	A	B	C
3 P + E	66.0 (2.60)	154.0 (6.06)	55.5 (2.19)
3 P + N + E	73.0 (2.87)	166.0 (6.54)	62.0 (2.44)

Mobile Sockets

Can be mounted on panel - 3.0 mm (0.12") thickness maximum



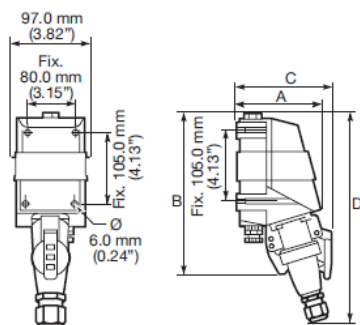
Flush Sockets



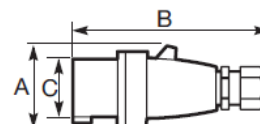
DIMENSION / 32A

32A — 2P+E — 3P+E — 3P+N+E Versions

Wall Mounting Sockets



Plugs



Dimensions in Millimeters (Inches)

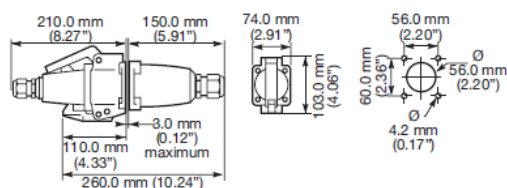
	A	B	C	D
2 P + E	140.0 (5.51)	275.0 (10.83)	155.0 (6.10)	370.0 (14.67)
3 P + E	140.0 (5.51)	275.0 (10.83)	155.0 (6.10)	370.0 (14.67)
3 P + N + E	140.0 (5.51)	275.0 (10.83)	165.0 (6.50)	375.0 (14.76)

Dimensions in Millimeters (Inches)

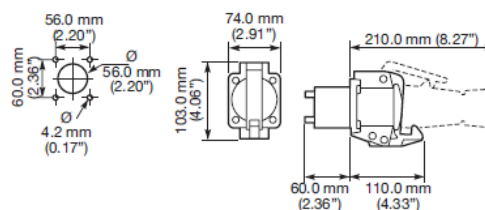
	A	B	C
2 P + T	80.0 (3.15)	170.0 (6.69)	67.0 (2.64)
3 P + T	80.0 (3.15)	170.0 (6.69)	67.0 (2.64)
3 P + N + T	80.0 (3.15)	195.0 (7.68)	74.0 (2.91)

Mobile Sockets

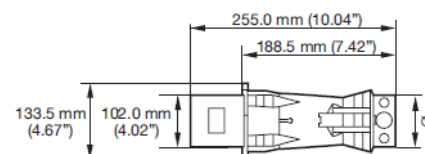
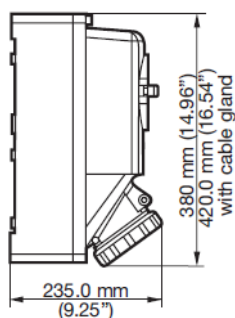
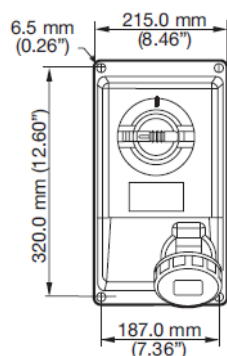
Can be mounted on panel - 3.0 mm (0.12") thickness maximum



Flush Sockets



DIMENSION / 63A



IP 66



IK 08



- For electrical connection between Exd and Exe enclosure without usage of the special Exd cable glands
- Multi-core bushing with external thread M 20 or ½ " NPT and mounted connection terminals designed in type of protection increased safety "e".



CONSTRUCTION

Enclosure: PA cover
Multi-core bushing: brass nickel plated (SS AISI 316 on special request)

TECHNICAL DATA

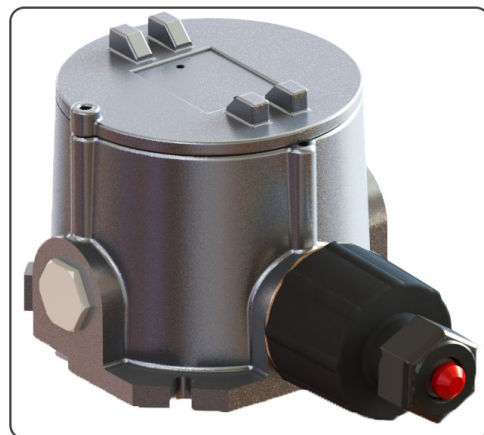
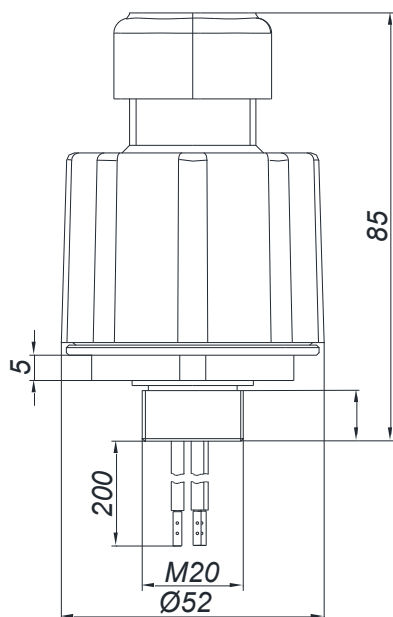
Certificate:	Ex EXA 14 ATEX 0043U
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex Ex d e IIC Gb Ex tb IIIC Db
Service temperature:	-20 °C ≤ T _{service} ≤ +60 °C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	400V
Rated current:	16 A
Connection terminal :	L1, L2, L3, N, PE , 2 x max.2,5 mm ²
Cable gland:	For cable φ6-15 mm

MODEL CODE

TYPE	WIRING	WIRE LENGHT (Ex d side)
ADP 22	2x1.5mm ² ; black, black	200 mm
ADP 23	3x1.5mm ² ; brown, blue, yellow-green	
ADP 24	4x1.5mm ² ; black, brown, blue, yellow-green	

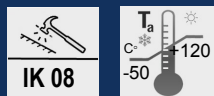
Other configurations available on request

DIMENSION DRAWING (all dimensions in mm)



OVERVIEW OF APPLICATIONS

All technical data is relevant at the time of print.



- For electrical connection between flameproof enclosures or between flameproof enclosure and enclosure with another type of protection



CONSTRUCTION

Brass body (SS AISI 316 on special request)

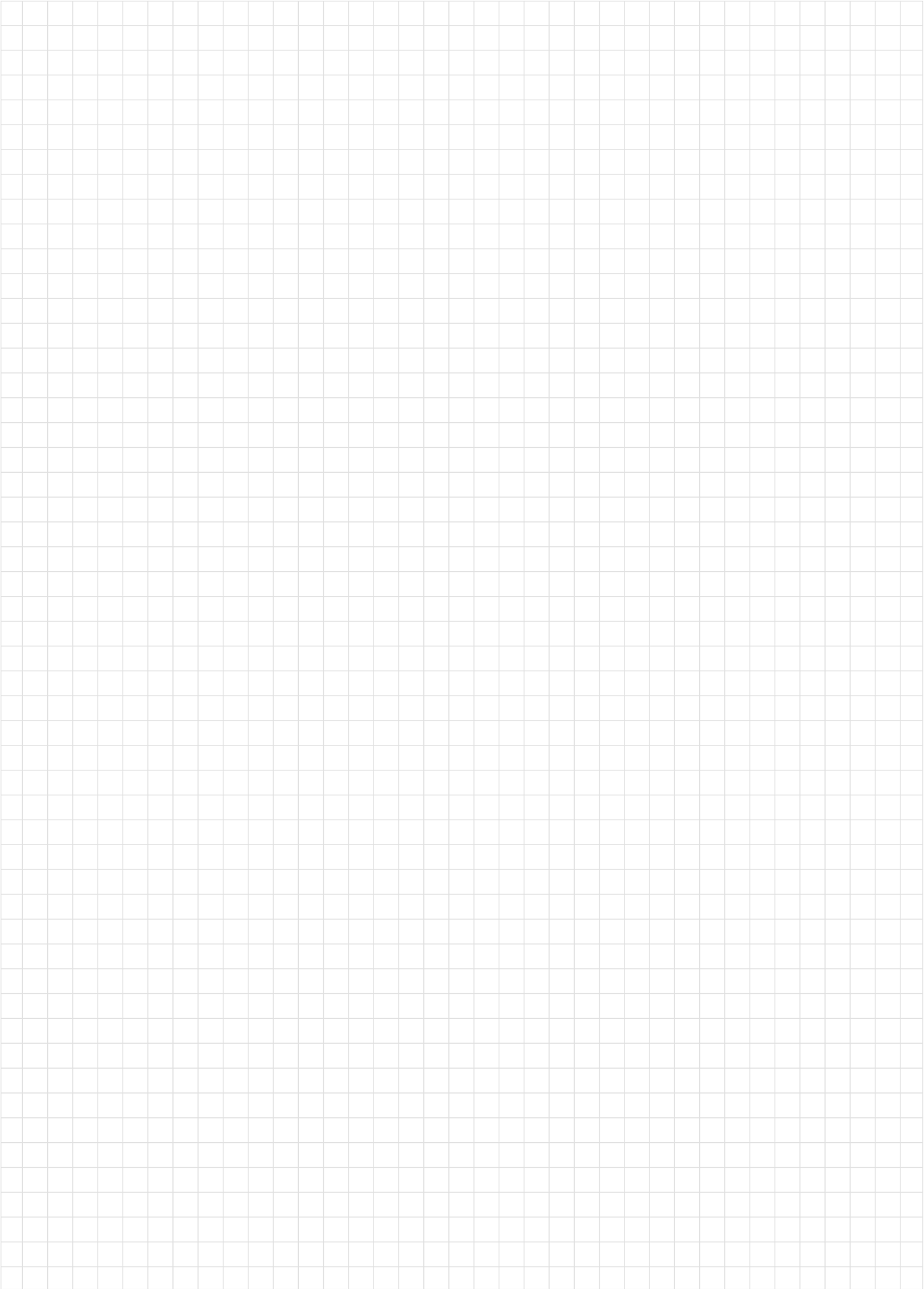
TECHNICAL DATA

Certificate:	Ex EXA 16 ATEX 0002U, IECEx EXA 16.0003U
Marking:	CE 0722
Apparatus category:	II 2G I M2
Marking of explosion protection:	Ex db IIC Gb Ex db I Mb
Service temperature:	$-50^{\circ}\text{C} \leq T_{\text{service}} \leq +120^{\circ}\text{C}$
Rated voltage U_o / U :	400/1000 V AC
Rated current I_o :	Determined by technical data of device
Wire:	- rated cross-section 1,5 - 50 mm ² - type RADOX 155 or BETAtherm 155 IEC 60228 class 5

MODEL CODE

TYPE	NUMBER AND CROSS-SECTION OF WIRES	SIZE OF THREAD/ THREAD LENGTH (mm)	KEY SIZE AF/ BUSHING LENGTH (mm)	WIRE LENGTH (THREAD SIDE) (mm)	TOTAL WIRE LENGTH (mm)
RSM 21	4 x 1,5mm ²	M25x1,5-6g/18	OK 30 / 30	150	330
RSM 23	6 x 1,5mm ²				
RSM 25	8 x 1,5mm ²				
RSM 30	10 x 1,5mm ²	M33x1,5-6g/18	OK 36 / 30	150	330
RSM 31	12 x 1,5mm ²				
RSM 33	6 x 2,5 mm ²				
RSM 35	6 x 4 mm ²	M36x1,5-6g/18	OK 41 / 30	110	3x440 + 3x310
RSM 37	6 x 6 mm ²				
RSM 41	6 x 10 mm ²				
RSM 51	6 x 16mm ²	M42x1,5-6g/18	OK 46 / 30	150	480
RSM 53	3 x 25mm ²				
RSM 55	3 x 35mm ²				
RSM 61	6 x 25mm ²	M50x1,5-6g/18	OK 55 / 30	150	480
RSM 63	6 x 35mm ²				
RSM 65	3 x 50mm ²				
RSM 91	12 x 1,5mm ²	2 x M32x1,5-6g/18	OK 41 / 54	500	1030

Other configurations available on request



All technical data is relevant at the time of print.

IP 20



- Ex electronica ballast for T8 fluorescent tube 18, 36 and 58 W
- 18W and 36W in parallel configuration
- With overcurrent, overvoltage and over temperature protection

SMP



CONSTRUCTION

SMP enclosure: plastic PA6

TECHNICAL DATA

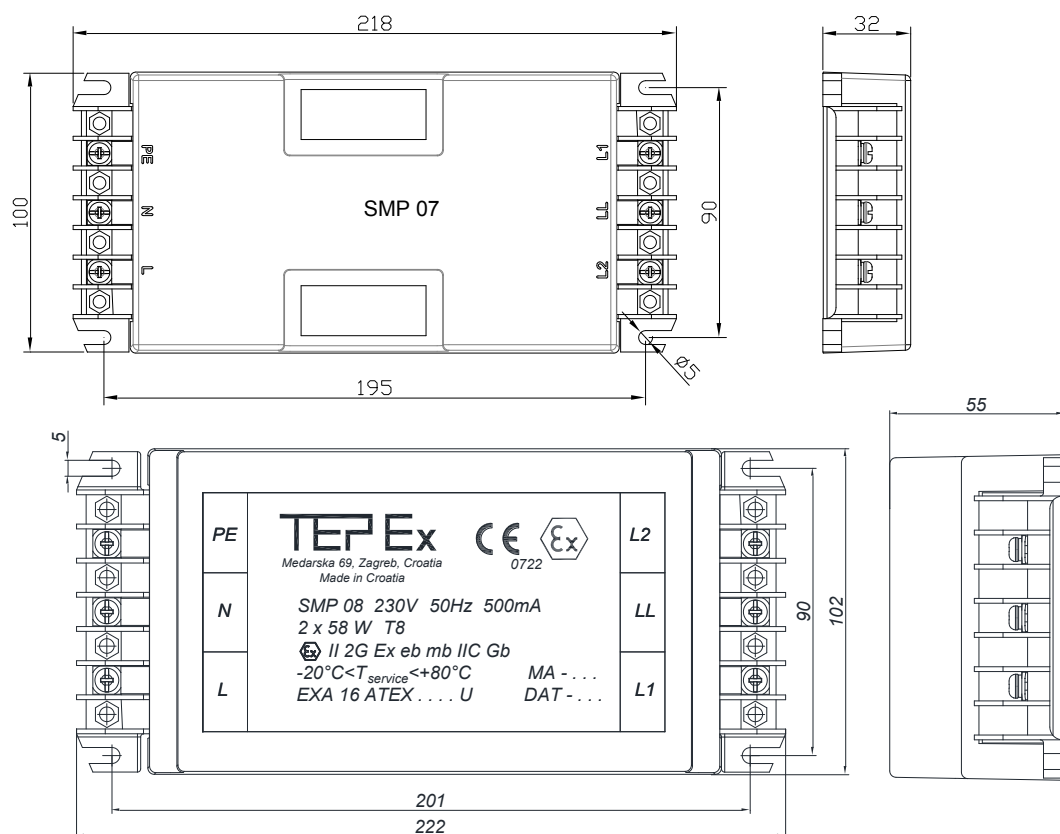
Certificate:	Ex EXA 13 ATEX 0016U
Marking:	CE 0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex db IIC Gb Ex db I Mb
Ambient temperature:	$-25^{\circ}\text{C} \leq T_{\text{amb}} \leq +70^{\circ}\text{C}$
Degree of protection:	IP 20
Frequency:	50-60 Hz
Protection class :	I (protective earthing)
Lamps type:	Fluo lamps T8 1-2 x 18/36/58 W
Power factor:	$\lambda \sim 0.95$
BLF - Ballast lumen factor:	$\sim 97\%$
Estimated service life:	100 000 hours at $T_{\text{amb}}=65^{\circ}\text{C}$ 60 000 hours at $T_{\text{amb}}=70^{\circ}\text{C}$
Connection terminal:	1,0-2.5mm ² , PE terminal



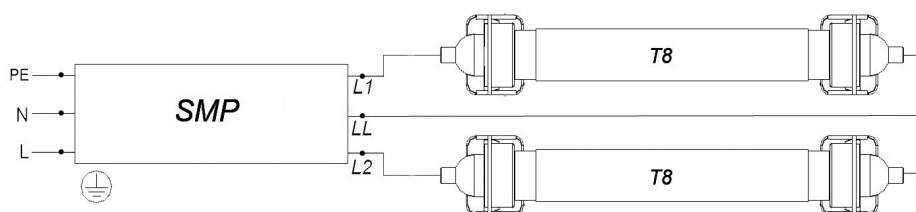
MODEL CODE

TYPE	LAMP TYPE	
SMP 07/11	1 x 18/36W T8	Parallel configuration / double channel
SMP 07/12	2 x 18/36W T8	
SMP 08	2 x 58W T8	Single channel

DIMENSION DRAWING (all dimensions in mm)



WIRING DIAGRAM



IP 68



- Ex e plastic cable glands
- Ex d metal cable glands for armored cable

SPU/SPC



PLASTIC CABLE GLANDS Exe

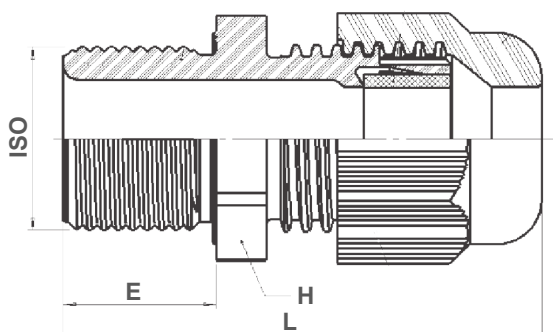
Polyamide body / neoprene gasket

TECHNICAL DATA

Apparatus category:	II 2GD
Marking of explosion protection:	Ex e
Ambient temperature:	$-35\text{ °C} \leq T_{\text{amb}} \leq +95\text{ °C}$
Degree of protection:	IP 68

MODEL CODE

THREADS	CLAMPING RANGE	H (mm)	E (mm)	L (mm)	RAL 5012	RAL 9005
M12	4,0 - 6,0	15	15	39	F7431200E	F8031200E
M16	6,0 - 10,0	22	15	44	F7431600E	F8031600E
M20	7,0 - 12,0	24	15	45	F7432050E	F8032050E
M25	10,0 - 18,0	33	15	53	F7432500E	F8032500E
M25	6,00 - 15,0	33	15	53	SPU 25 B	SPU 25
M32	17,0 - 24,0	42	15	57	F7433200E	F8033200E
M40	17,0 - 31,0	53	16	68	F7434000E	F8034000E
M50	24,5 - 37,0	50	16	71	F7435000E	F8035000E
M63	34,0 - 47,0	70	16	72	F7436300E	F8036300E



Cable glands, plugs, adapters, reducers, locknuts



METAL Ex d/e CABLE GLANDS (double sealing, for armoured cable) type 4F

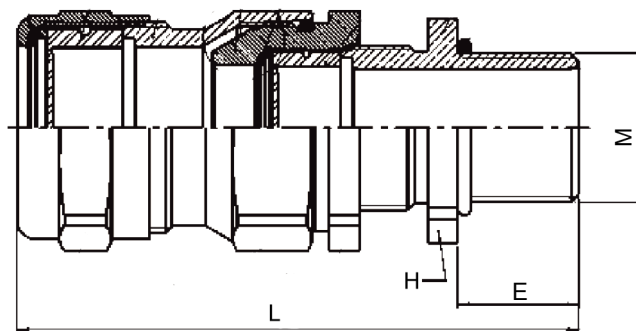
Brass nickel plated (AISI 316 on special request)

TECHNICAL DATA

Apparatus category:	II 2GD
Marking of explosion protection:	 Ex d/e
Ambient temperature:	$-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +95^{\circ}\text{C}$
Degree of protection:	IP 68

MODEL CODE

THREADS	CLAMPING RANGE	H (mm)	E (mm)	CODE
M16	7,0 - 12,0	20	16	4114169
M20	9,0 - 16,0	24	16	4114219
M20	13,0 - 21,0	28	16	4114229
M25	13,0 - 21,0	30	16	4114279
M25	17,0 - 27,5	36	16	4114279
M32	22,0 - 34,0	44	16	4114339
M40	28,0 - 41,0	50	16	4114419
M50	34,0 - 48,0	64	16	4114519
M63	39,0 - 54,0	70	16	4114639
M63	48,0 - 65,0	80	16	4114649
M75	55,0 - 74,0	90	18	4114769

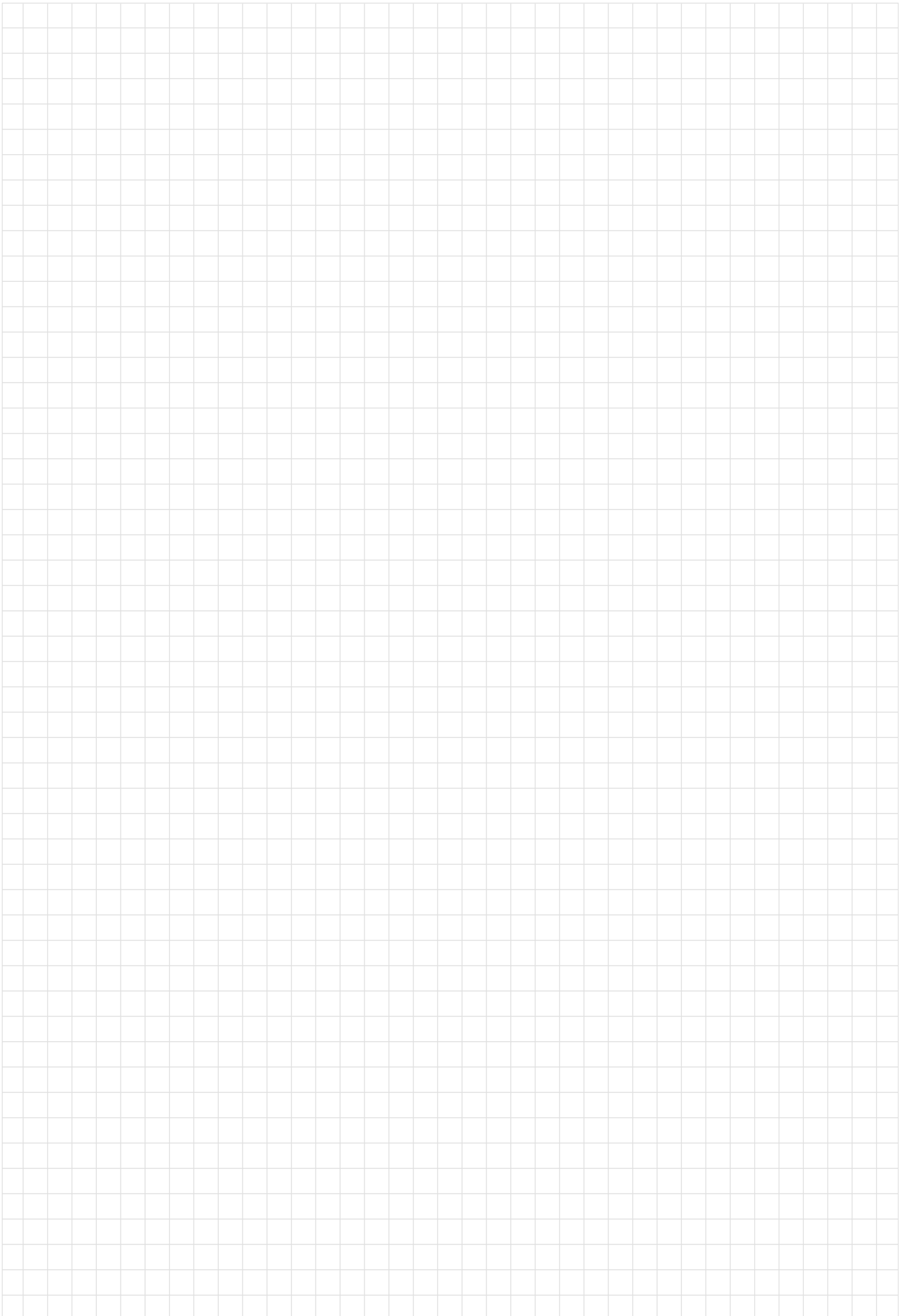


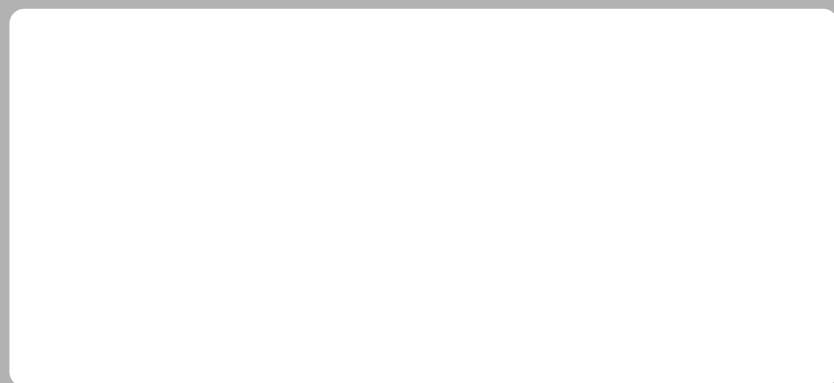
OTHER ACCESSORIES



Other accessories (Exd metal plugs, Exe plastic plugs, adapters, reducers, locknuts, earth tags) are available according to customer request.

All technical data is relevant at the time of print.





TEP Ex

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