

TEPEX

II 2G
II 2D

Zone 1, 2, 21, 22



Ex d e mb IIC T4 Gb
Ex tb IIC T80°C Db

IP 66 category 1

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 94/9/EC** 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.

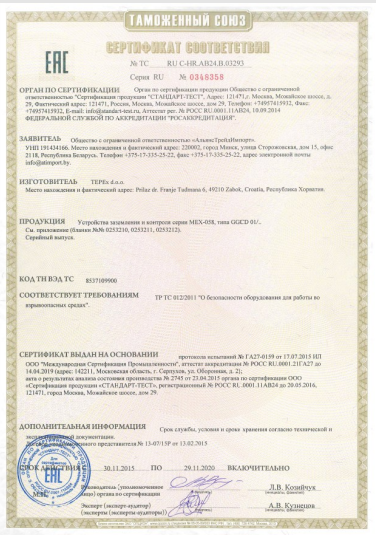
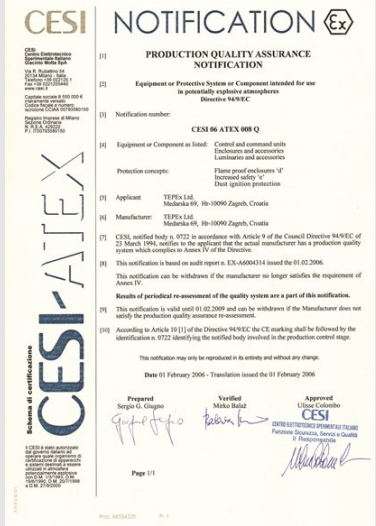


Based on our long history in producing supreme quality explosion protected electrical equipment, we are ready to deal with every demand or specific requirement of our customers.

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.



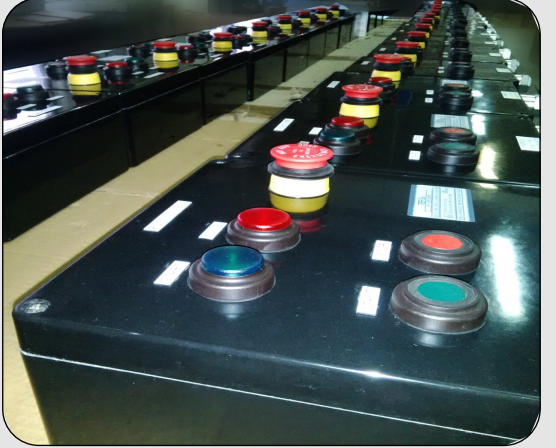
Production



Equipment installed in areas at risk of explosion must ensure public safety. 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 94/9 EC, also obtained the certifications for the Russian market (Custom union), EAC.



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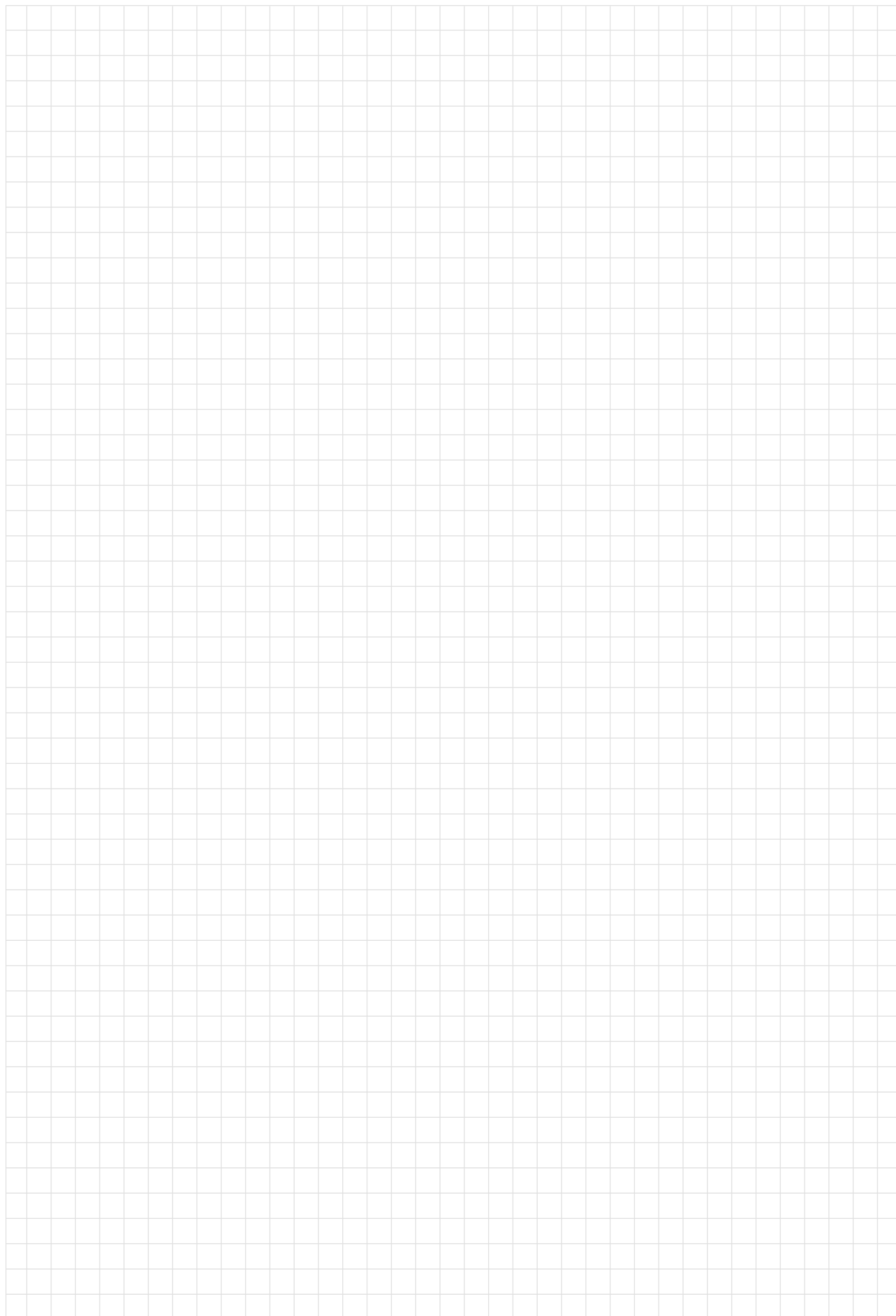
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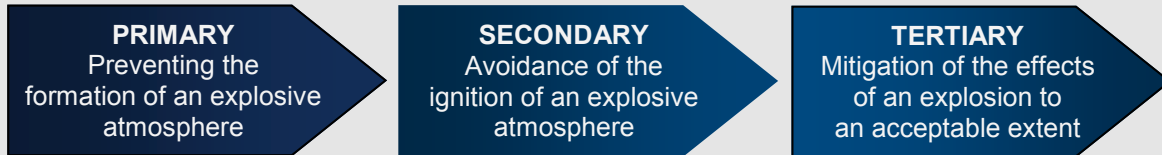


GUIDE FOR EXPLOSION PROTECTION

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 a 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
	3G, 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

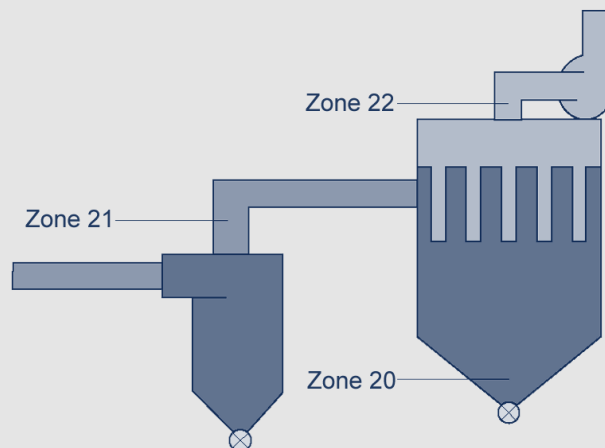
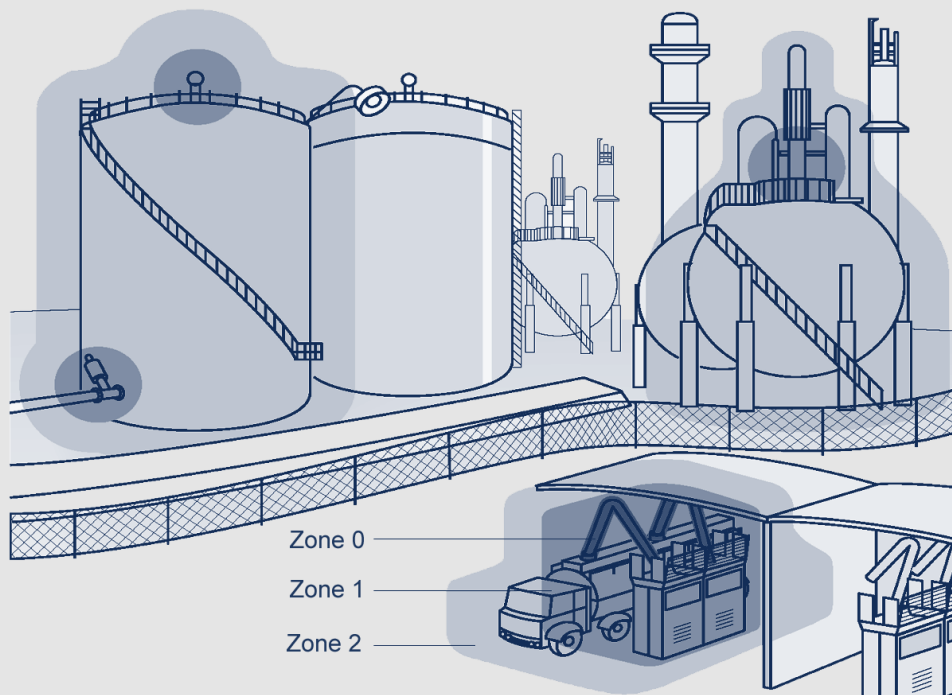
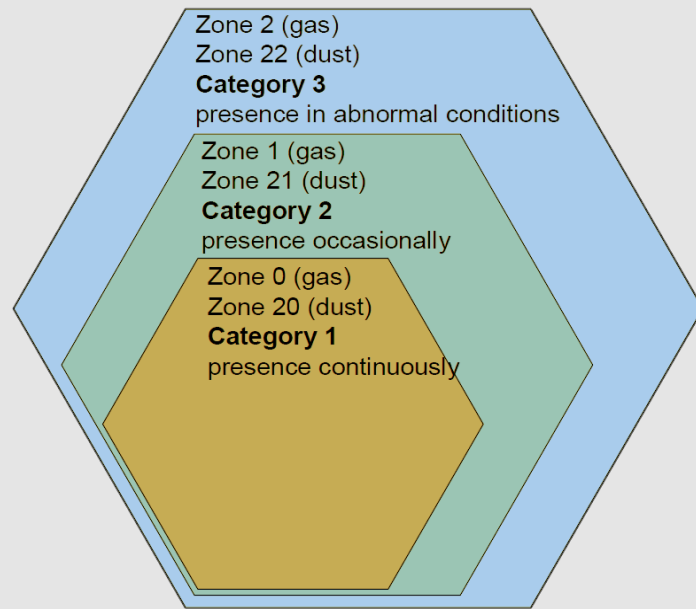
Type of protection

Types of protection for explosive atmosphere of flammable gases, vapours, 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	/

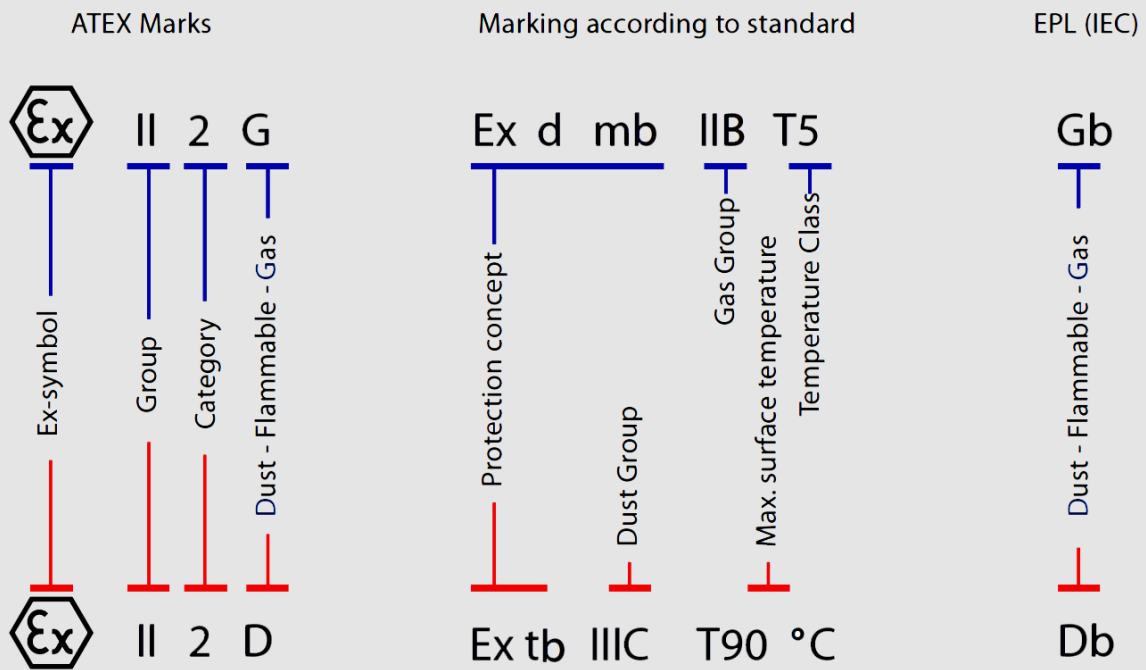
GUIDE FOR EXPLOSION PROTECTION


EXAMPLES OF A CLASSIFICATION INTO ZONES

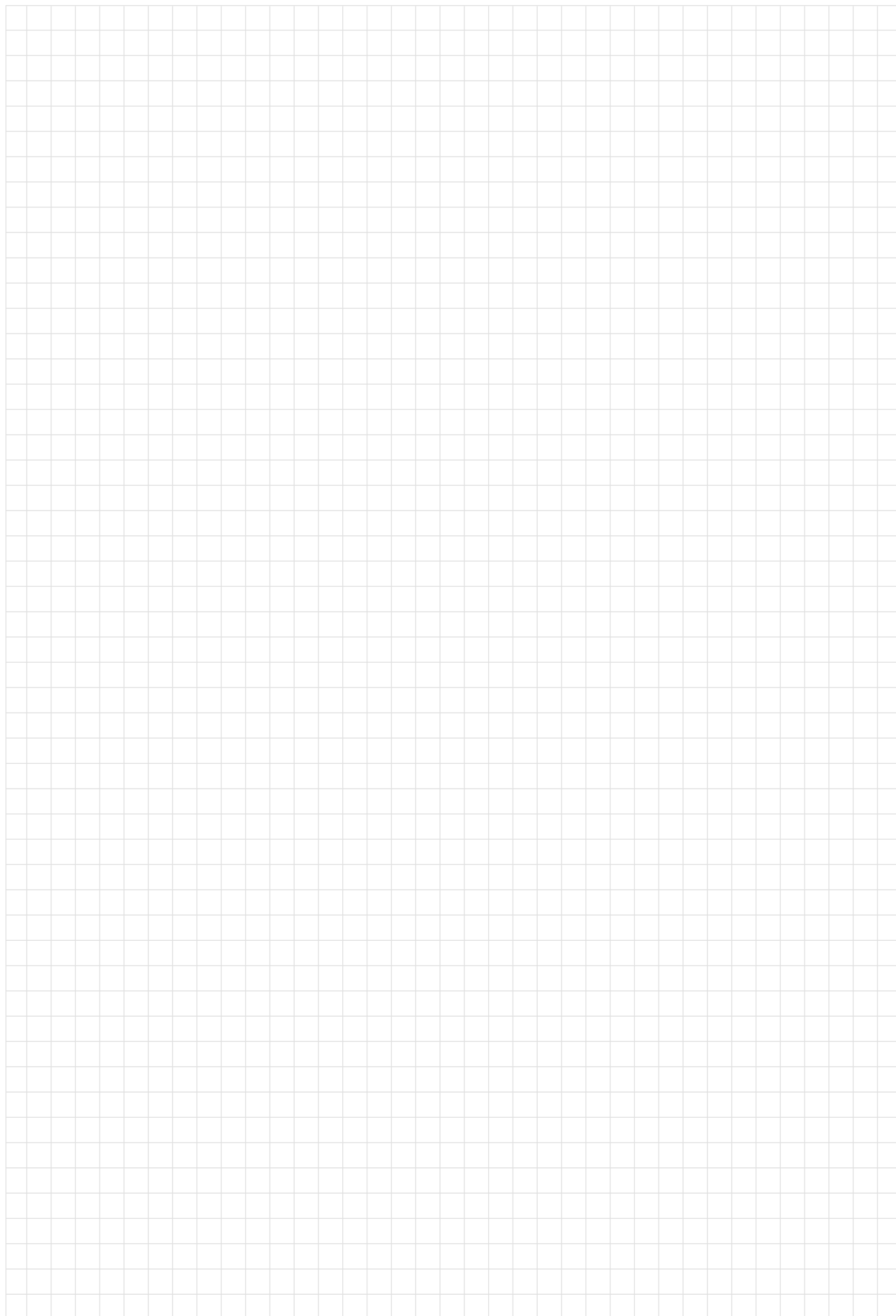


Above drawings are examples only and must not be used as a model for an actual plant whose design is, in every case, the responsibility of the constructor and operator.

Typical Electrical Equipment Marking According to ATEX 94/9/EC



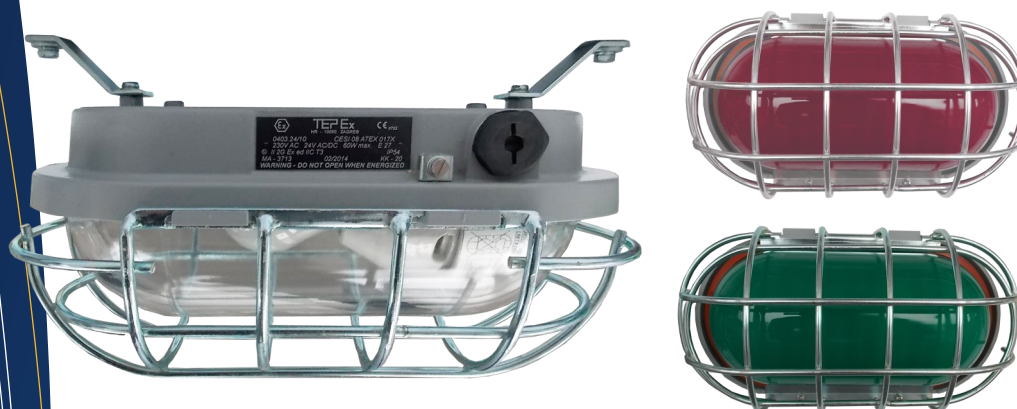
No.	Description
1	Manufacturer's name and address
2	Product identification
3	Technical data
4	Indication of the Equipment Category and Hazardous Atmosphere
5	Marking of explosion protection
6	Conformity symbol , EU symbol 
7	Notified body (ExNB)
8	Standard ambient temperature (-20 ÷ +40°C), unless stated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





**PENDANT LIGHT FITTINGS
FLOODLIGHTS**






APPLICATION

The bulkhead light fitting type 0403.24 is intended for use in places with an explosive gas and dust atmosphere, in mines susceptible to firedamp. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

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:	CESI 08 ATEX 017X
Marking:	CE 0722
Apparatus category:	II 2GD, I M2
Marking of explosion protection:	 Ex d e IIC T3...T2 Gb Ex tb IIIC T190°C...T290°C Db Ex d e I Mb
Ambient temperature:	-30°C ≤ T _a ≤ +40°C -30°C ≤ T _a ≤ +60°C
Degree of protection:	IP 64 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	250V ±10% AC 24V ±10% AC/DC
Frequency:	50Hz (60Hz on request)
Rated power:	See selection table
Lamps:	Incandescent lamps, E 27 lampholder, for 25W, 40W, 60W, 100W Halogen lamps, E 27 lampholder, for 100W
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² flexible/solid terminals PE for 2 x 4 mm ² flexible/solid 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

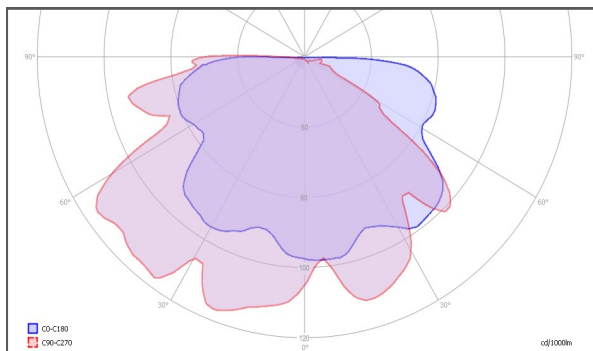
0403.24



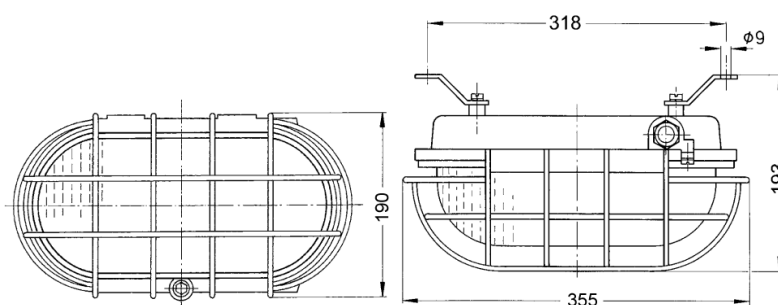
EXA 15 ATEX 0070X

**MODEL CODE**

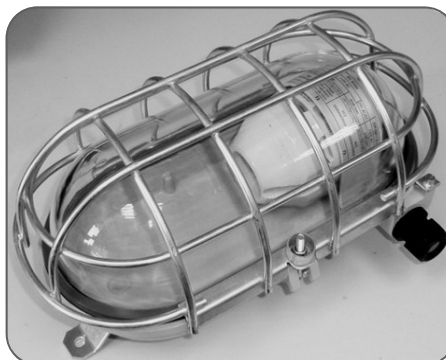
MODEL CODE	APPARATUS CATEGORY	EXPLOSION PROTECTION	RATED VOLTAGE	LAMPS (E27)	LUMINUS FLUX [lm]	WEIGHT
0403.24/10	II 2G	Ex e d IIC T2,T3	24 V DC 230 V AC	100W max. EN60064 60W max. DIN 49810 BI.4	1500 800	4,3 kg
0403.24/11,12 (red or green glass)	II 2G	Ex e d IIC T3	230 V AC	60W max. DIN 49810 BI.4 40W max. DIN 49810 BI.4	800 450	4,3 kg
0403.24/20	I M2	Ex e d I	230 V AC	100W max. EN60064	1500	7,5 kg

POLAR CURVE

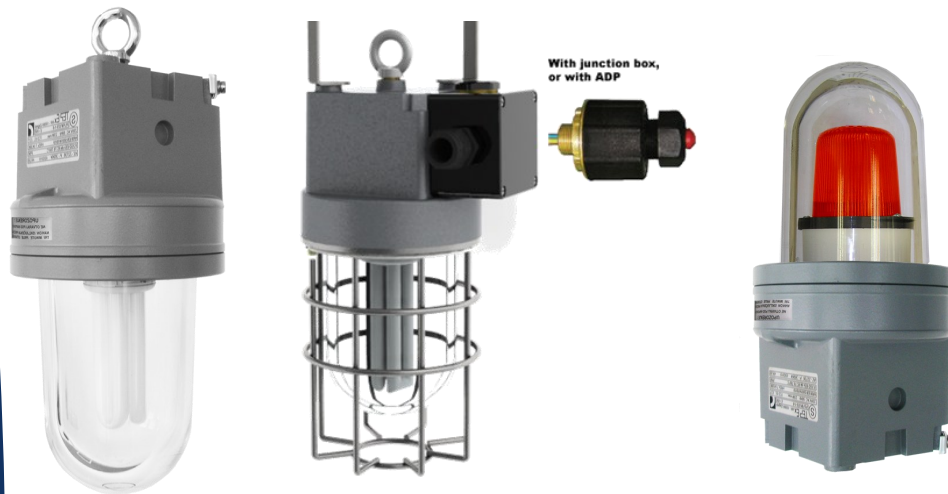
Rated luminous flux: 1160lm (100W), 580lm (60W)
Efficiency in operation: approx. 60%

DIMENSION DRAWING (all dimensions 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



APPLICATION

The pendant light fitting type PLFM is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

CONSTRUCTION

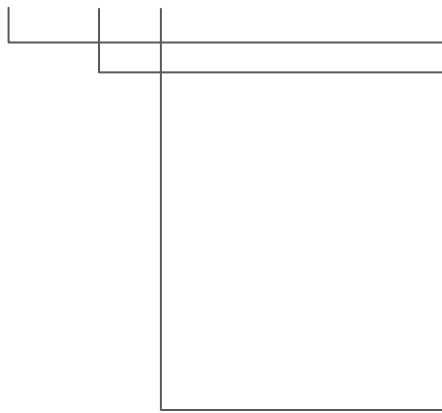
Housing: aluminium powder painted casting

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
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> Ex </div> <div> II 2G Ex d e IIC T6-T3 Gb II 2G Ex d IIC T6-T3 Gb II 2D Ex tb IIIC T80°C/T155°C Db </div> </div>
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:	-230 V (-10% / +6%) / 50 Hz - PLFM FLASH - . see selection table
Frequency:	50Hz (60Hz on request)
Rated power:	See selection table
Cable entries:	two entries M20
Connecting terminals:	L, N, PE; max. 2 x 2,5 mm ² solid, flexible terminal for external -PA connection; max 2x6 mm ²
Cable gland and plug:	one Ex d plug and one Ex d e adapter, type ADP 03/23, for cable φv 6-15 mm
Weight:	3,5 kg → PLFM 100/, PLFM FLASH-. 4,5 kg → PLFM 20 LED-., PLFM 70 HSE-.
Packing:	The packing contains: 2 pcs 440x260x170 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-II high pressure sodium discharge lamp 50W.

Type of entries:

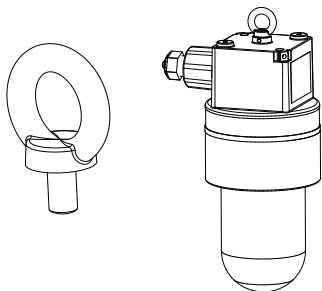
- 1 – indirect entry – type with Ex e junction box,
- 2 – indirect entry – type with Ex d adapter ADP 23/1,
- 3 – direct entry – type with Ex d cable gland.

MODEL CODE

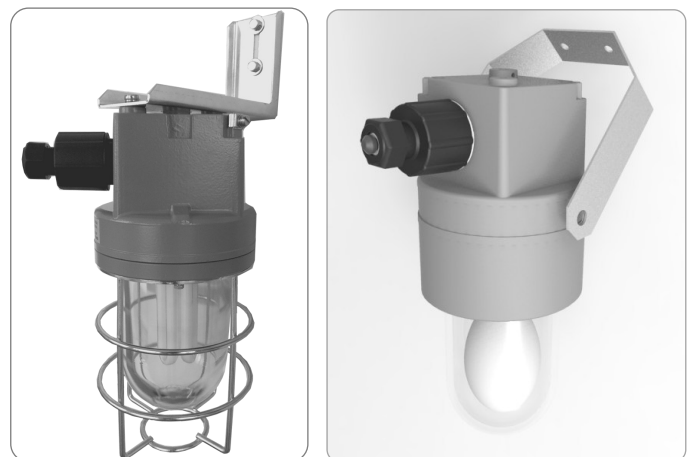
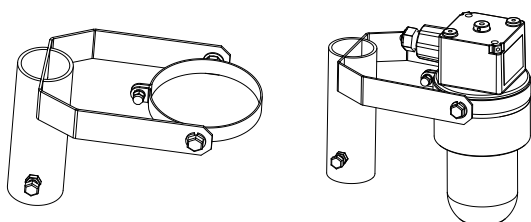
Model code	Max. wattage	LBT marking	Nominal voltage	Luminous flux	Lamp holder	Temp. class (gas)	
						T _a =40°C	T ₀ MAX (dust) T _a =40°C
PLFM 100 - .	100 W	A	230V	1340 lm	E27	T4	130°C
	116 W Osram 105 W Philips	A ECO	230 V	2135 lm Osram 1980 lm Philips	E27	T4	130°C
	100 W	QT	230 V	1800 lm Osram	E27	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**

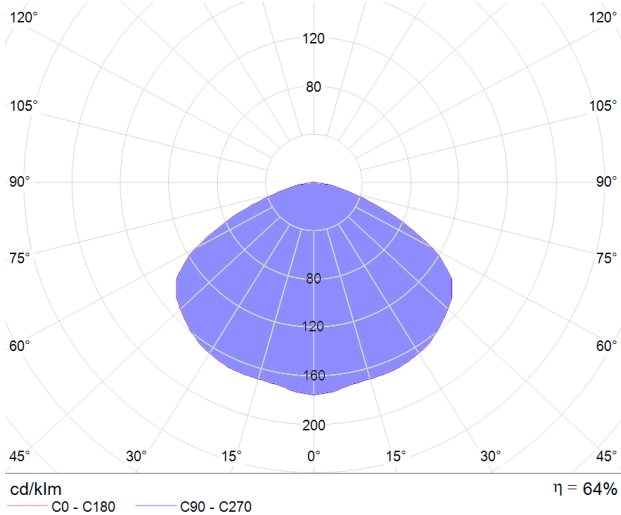
With vertical suspension on the bolt with ring bolt head M8
Wall mounting bracket



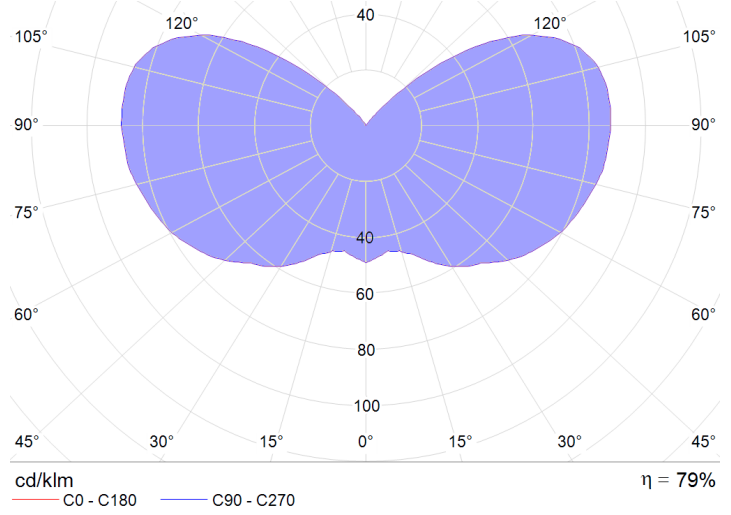
Mounting on the tube 2" and blocking it with two M10 screws



POLAR CURVE

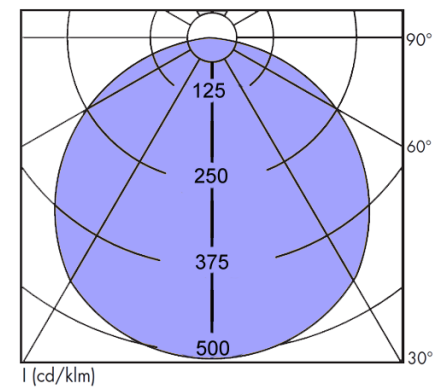
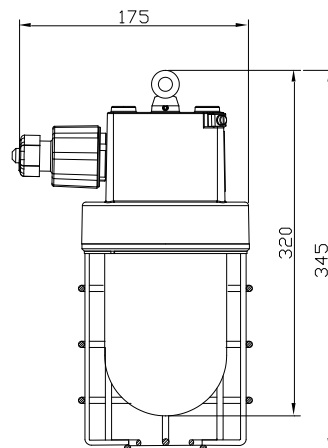
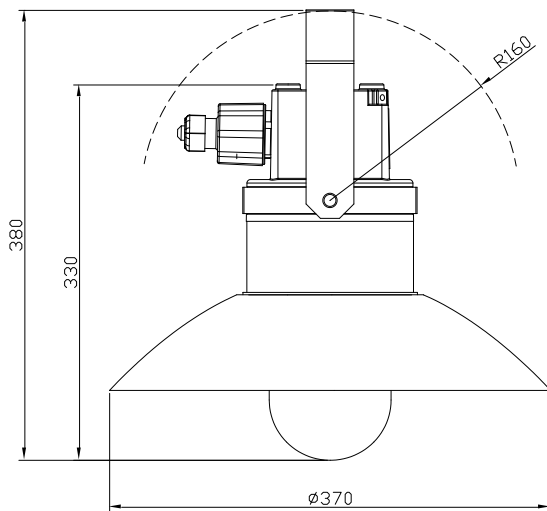


PLFM 100-., PLFM 70 HSE
With external reflector



PLFM 100-., PLFM 70 HSE
Without external reflector

DIMENSION DRAWING (all dimensions in mm)



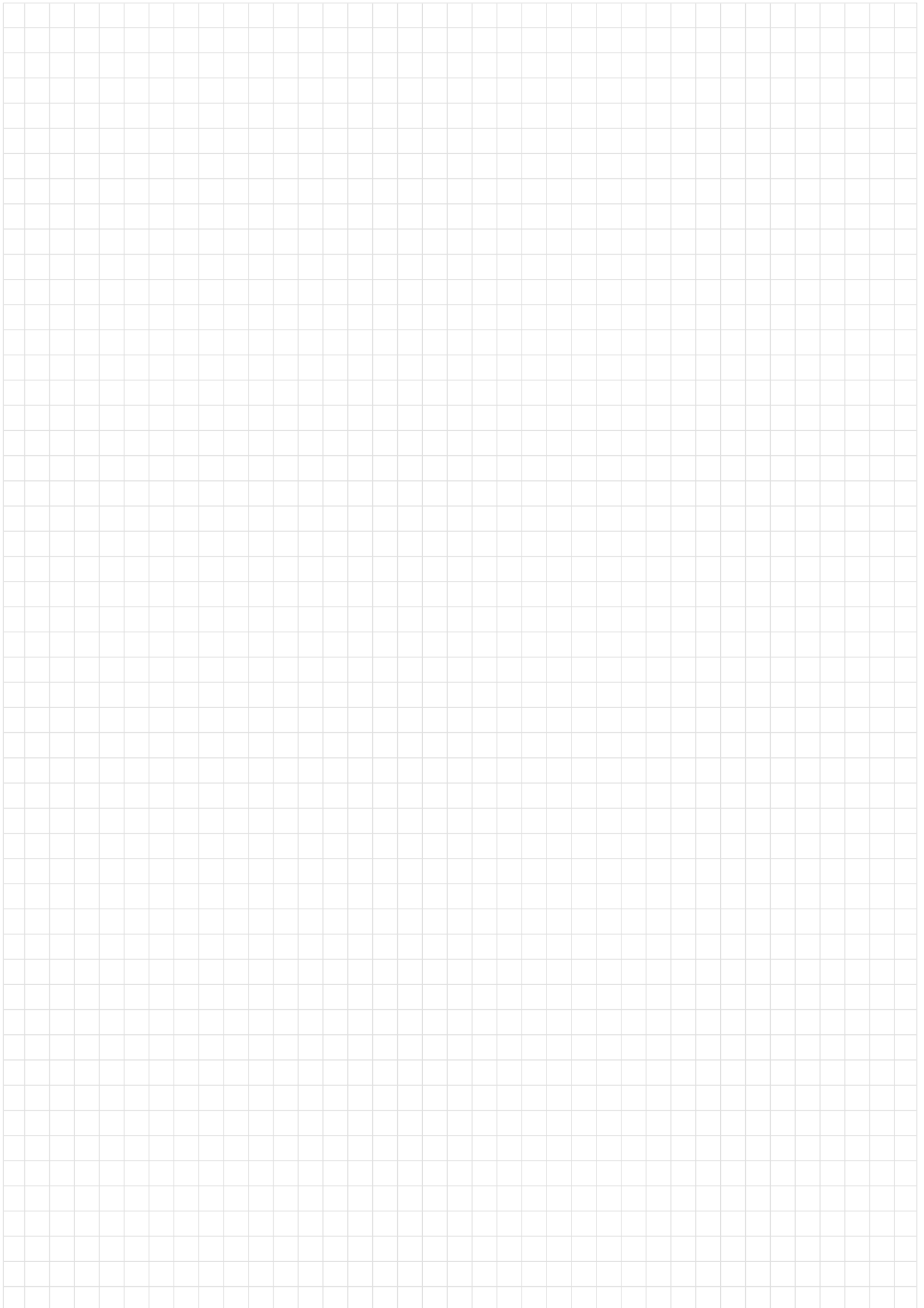
PLFM 20 LED, 1300 lm

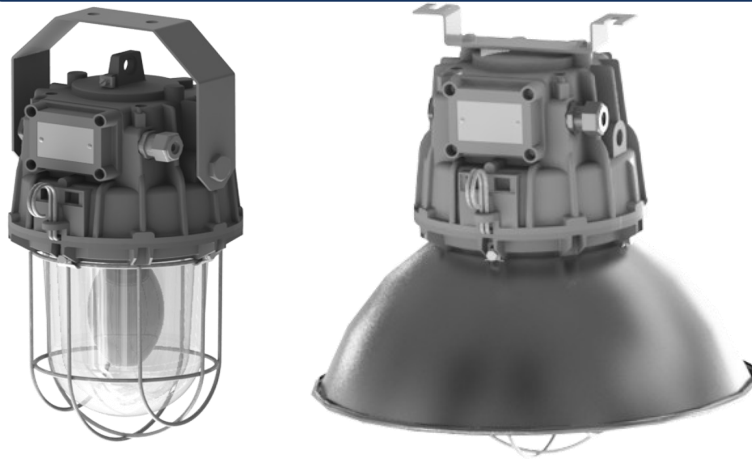
SPARE PARTS AND ACCESSORIES

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
	Junction box ADP 23	PLFM 20-110		PLFM mounting bracket (wall mounting)	PLFM 20-140



EXA 14 ATEX 0056X





APPLICATION

The pendant light fitting type PLFS is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

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
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	II 2G Ex d e IIC T4,T5,T6 II 2D Ex tD A21 IP66 T80°C / T130°C II 2G Ex d e IIC T3/T4
Ambient temperature:	-20°C ≤ Ta ≤ +40°C / +50°C - according to selection table
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:	according to table
Cable entries:	two entries Ex e M25x1,5 according EN 60423
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 or plug 3,5 Nm
Cover fixing:	M 6, Hexagonal screw; without switch
Weight:	8,6 kg
Packing:	The packing contains: 2 pcs 610x390x280 mm

MOUNTING

Pendant, on pipe, wall, ceiling mounting

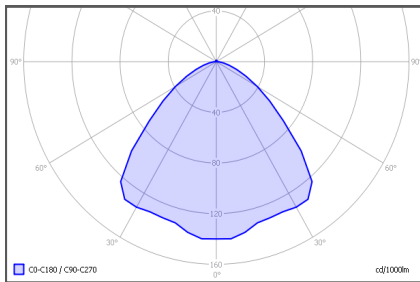
Allow inclination ±45° of vertical mounting



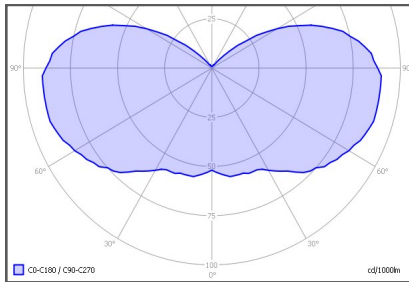
CESI 06 ATEX 052

**MODEL CODE**

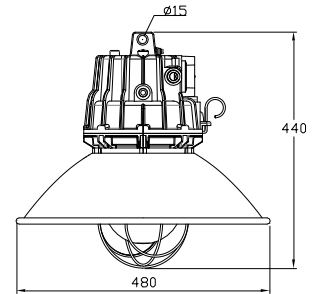
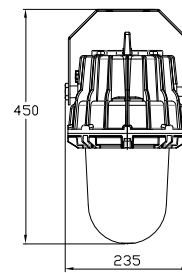
MODEL CODE	WATTAGE	LAMP TYPE	LUMINOUS FLUX [lm]	LAMP HOLDER	TEMPERATURE CLASS (gas)		T ₀ MAX (dust)		
					T _a =40°C	T _a =50°C	T _a =40°C		
PLFS-T/200	max. 200 W	A	2500	E27	T4	T4	130°C		
	max. 230 W	QT	4200			T3			
	max. 160 W	LME	3150			T4			
	max. 30 W	TC-TSE	2300		T6	-	80°C		
PLFS-T/125	125 W	HME	6700		T4	-	130°C		
	110 W	HSE-I	9500			-			
PLFS-T/100	100 W	HSE	9000			-		-	-
		HIE	8400			-			
PLFS-T/70	70 W	HSE	5800		T5	T4	95°C		
		HIE	5500						
PLFS-T/150	150 W	HIE	12500	T4	-	130°C			
PLFS-T/ FLASH	15 W / 11 J (in total)	XENON	-	-	T6	-	80°C		

POLAR CURVE, DIMENSION DRAWING [mm]

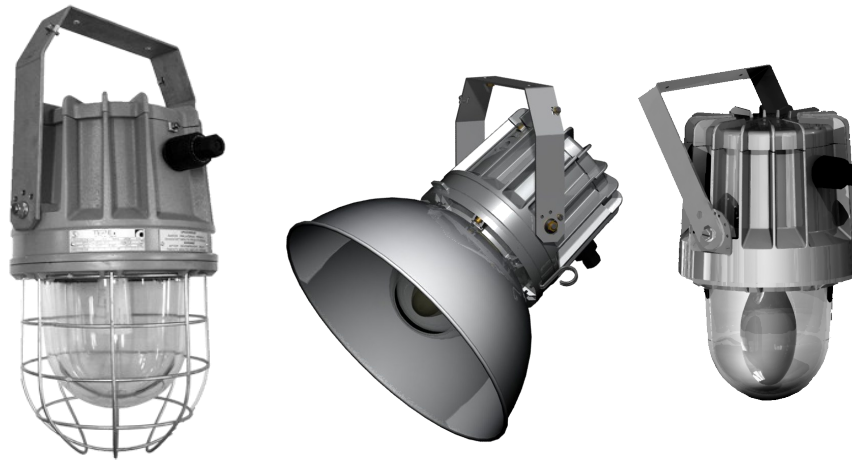
With external reflector



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			



APPLICATION

The luminaire is designed to light the industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors and flammable fogs mixed with air.
Hazardous zones: 1,2, 21, 22.

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
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T3-T4 Gb Ex tb IIIC T140°C-150°C Db
Ambient temperature:	-40°C ≤ Ta ≤ +50°C - according to selection table
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 selection table
Power factor:	cos φ= 0,95 , compensated
Cable entries:	Two entries M20, with one Ex d plug and one Ex d e adapter, type ADP 03/23, for cable φv 6-15 mm
Connecting terminals:	L, N, PE; max. 2 x 2,5 mm ² solid, flexible, terminal for external -PA connection; max 2x6mm ² , tightening torque for screw clamp 2,2 Nm
Cable gland and plug:	II 2GD Ex e M25 IP66 tightening torque for gland screw 2,5 Nm, tightening torque for gland or plug 3,5 Nm
Weight:	23 kg
Packing:	The packing contains: 1 pcs 570x405x400 mm

MOUNTING

Pendant, on pipe, wall, ceiling mounting
Allow inclination ±45° of vertical mounting



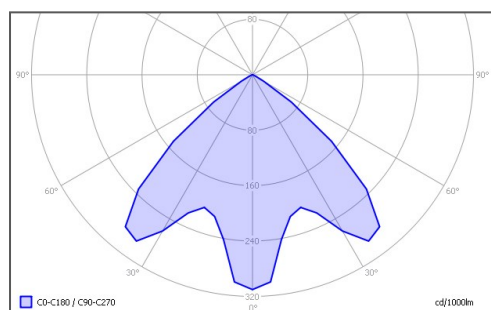
EXA 14 ATEX 0001



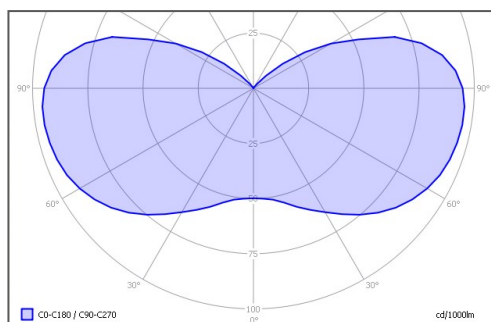
MODEL CODE

MODEL CODE	WATTAGE	LAMP TYPE	LUMINOUS FLUX [lm]	LAMP HOLDER	TEMPERATURE 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					
PLFL/500 A,QT	500 W	A	8400				150°C
		QT	10250				

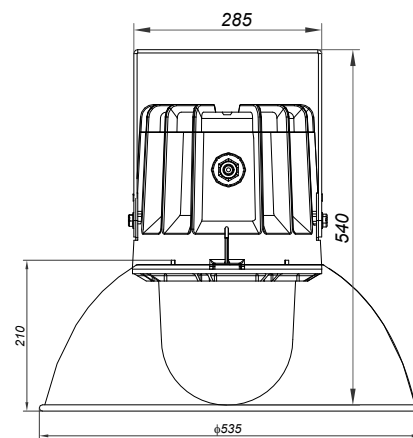
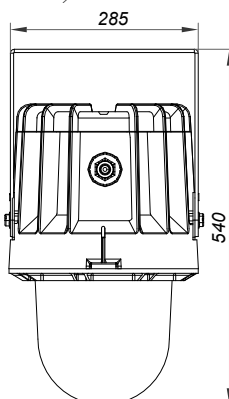
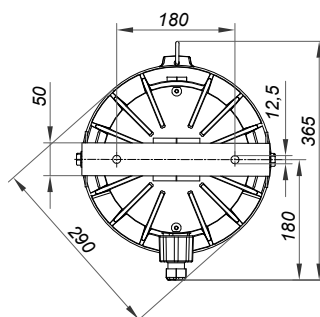
POLAR CURVE, DIMENSION DRAWING [mm]



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
	Junction box 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



APPLICATION

The floodlight is designed to light the industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors and flammable fogs mixed with air.
 Hazardous zones: 1, 2, 21, 22.

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
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	II 2G Ex d e IIC T3/T4; Ex d IIC T4/T3 II 2D Ex tD A21 IP66 T190°C/T130°
Ambient temperature:	-20°C ≤ Ta ≤ +40°C - according to selection table
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 selection table
Power factor:	RLF/... HIT,HST,HME,QT - cos φ > 0,9 ind. RLF/... QL - λ > 0,92 THD < 10 %
Cable entries:	RLF/... HIT,HST,HME,QT - three entries M20, with two Ex d plug and one Ex de adapter, type ADP 03/23, for cable φ6-15 mm RLF/... QL - two entries M25 into Ex e junction box with one Ex e cable gland , type SPU 25, for cable φv 6-15 mm and one Ex e plug, type SPC 25
Connecting terminals:	RLF/... HIT,HST,HME,QT -clamps in Ex de adapter for connection L1, L2, N, PE, 2,5mm2 max. / clamp - solid, stranded; tightening torque for clamp screw 1,2 Nm;
Weight:	See selection table
Packing:	The packing contains: 1 pcs 600x400x300 mm

MOUNTING

Pendant, on pipe, wall, ceiling mounting
 Wall or ceiling mounting is possible with RLF carrier and M12 screws. Also, it is possible to fixate luminaire to 2" pipe or other round surface with U-Bolts.



EXA 14 ATEX 0047



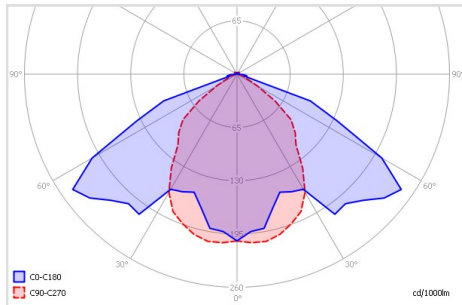
0722



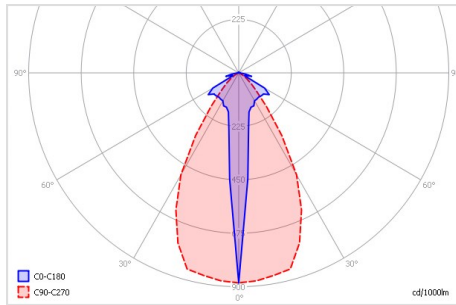
MODEL CODE

MODEL CODE	WATTAGE	LAMP TYPE	LUMINOUS FLUX [lm]	LAMP HOLDER	TEMPERATURE 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	500 W	IQT	10 250		QL	T4	130°C
RLF/300 IQT	300 W		5 600				
RLF/85 QL	85 W	QL	6300				
RLF/165 QL	165 W	QL	12000				

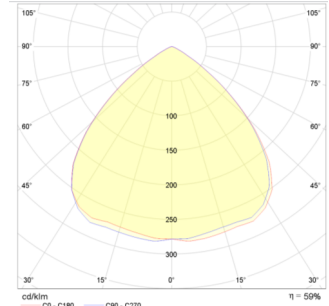
POLAR CURVE, DIMENSION DRAWING [mm]



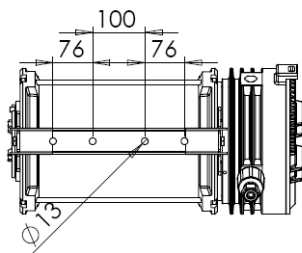
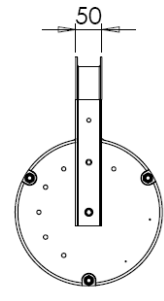
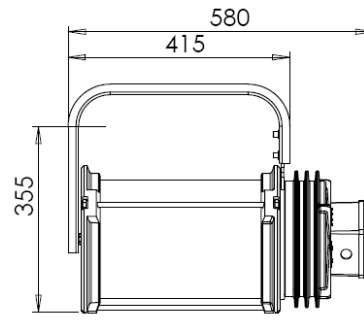
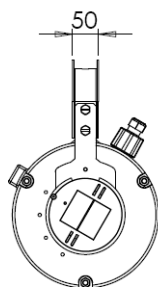
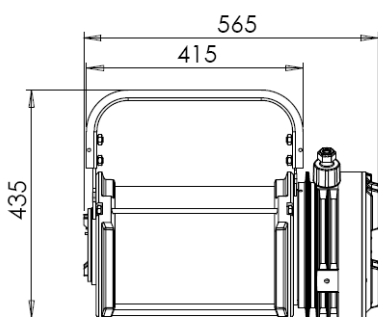
Wide beam reflector



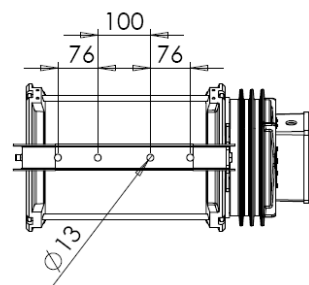
Narrow beam reflector



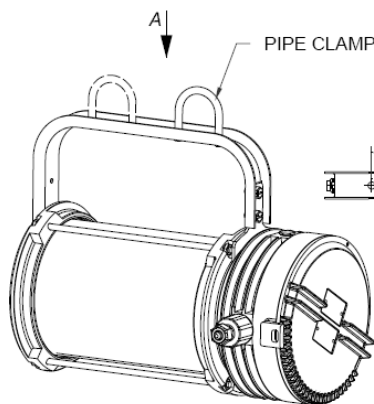
QL 165 W



RLF/...

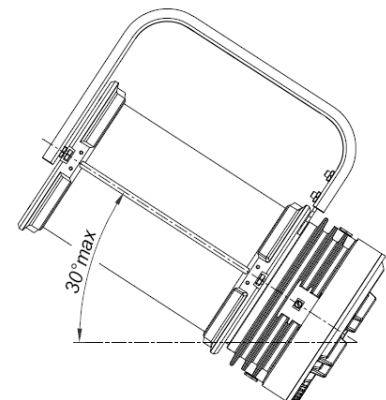
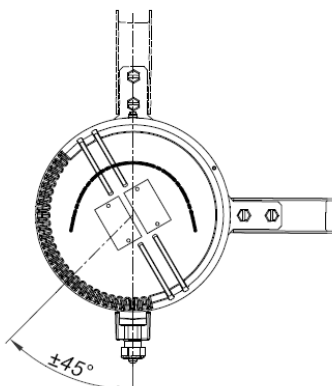
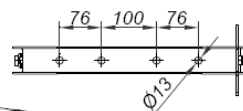


RLF/..QL



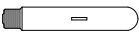

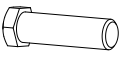





PIPE CLAMP max. 2"

View "A"






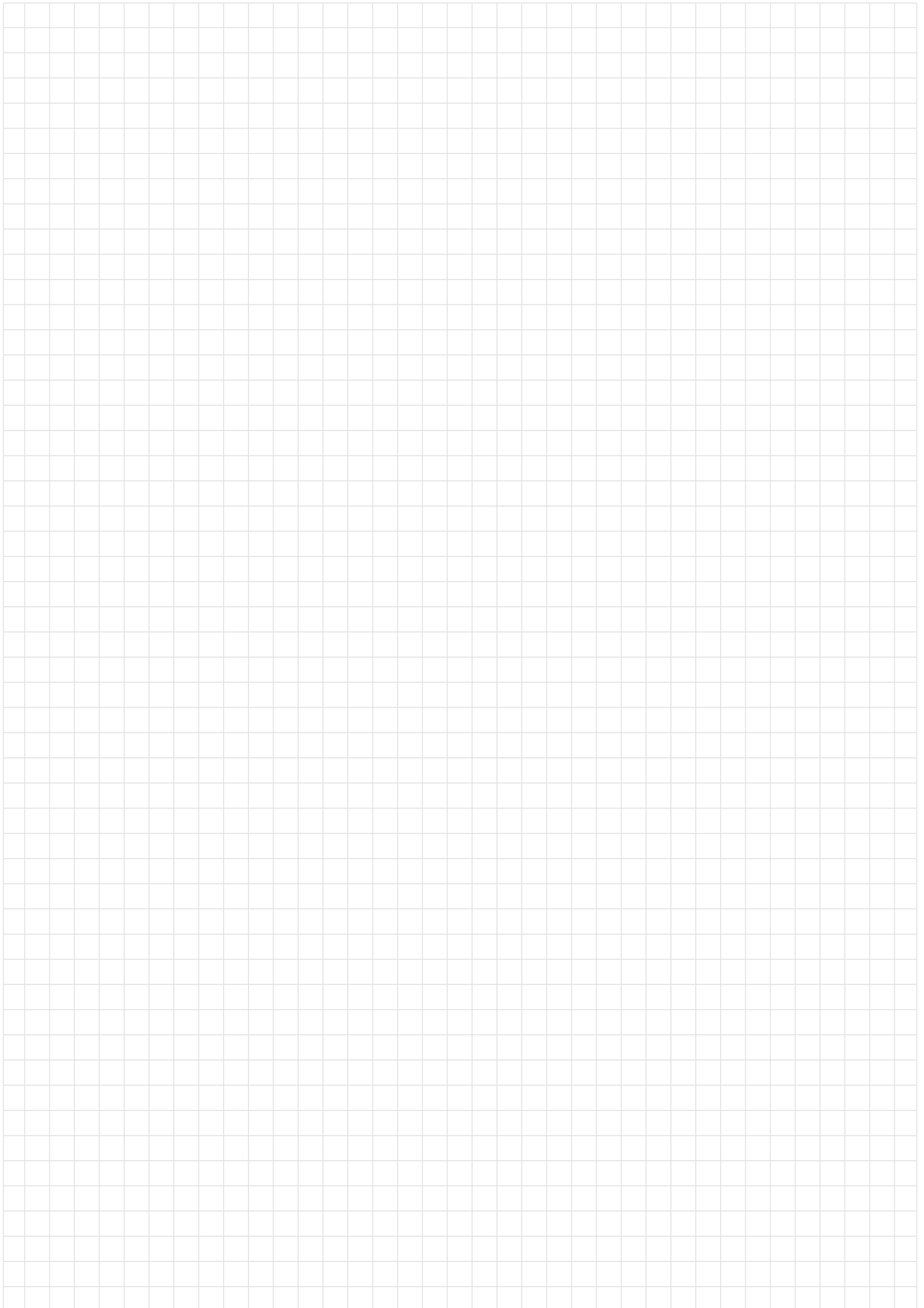
SPARE PARTS AND ACCESSORIES

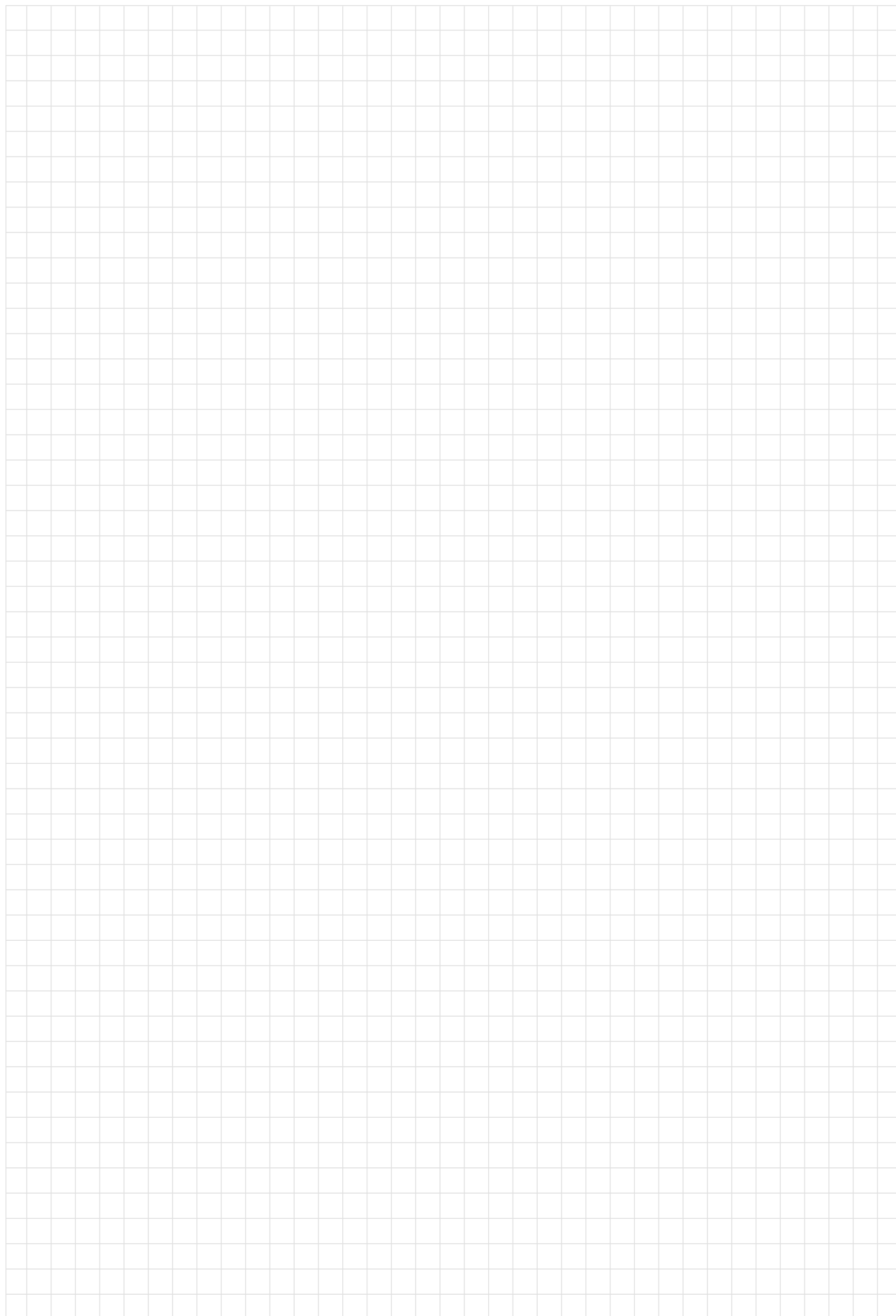
If it is not ordered differently, floodlight **RLF/ ... HIT,HST,HME,QT** presume floodlight with RLF carrier, one Ex de adapter ADP 03/32 and two Ex d plugs, without light source and mounting accessories. Manufacturer will deliver spare parts and accessories on buyer request.

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.

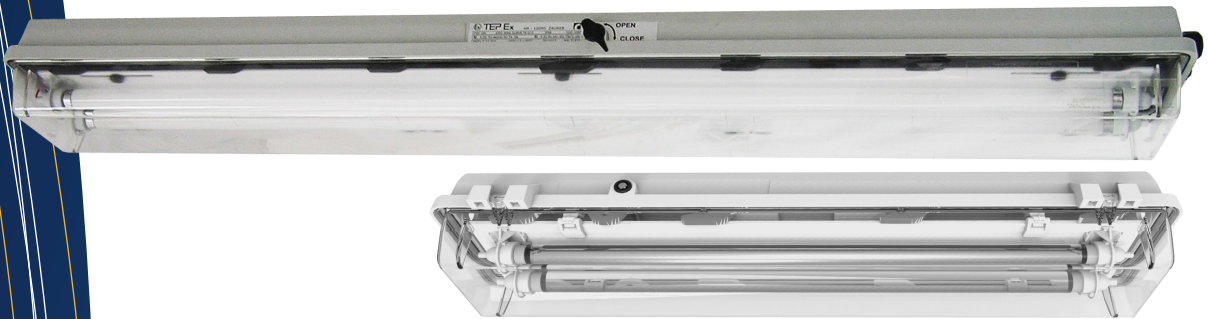
SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	MMK 13 gasket	RLF QL 10-110		Ex e plug M25	SPC 25
	Ex e cable gland M25	SPU 25			







FLUORESCENT LIGHT FITTINGS



APPLICATION

The fluorescent light fitting type PSF is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

Ex fluorescent light fitting type PSF is used as fluorescent lighting fitting with two T8 (φ26mm), 18/36W - 2G13, fluorescent lamps in parallel configuration.

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 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
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:	-20°C ≤ T _a ≤ +50°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%
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, in accordance with EN 62444
Through wiring:	3 x 2,5 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 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 236 : 1420x270x210 mm PSF 218 : 825x270x210 mm

PSF



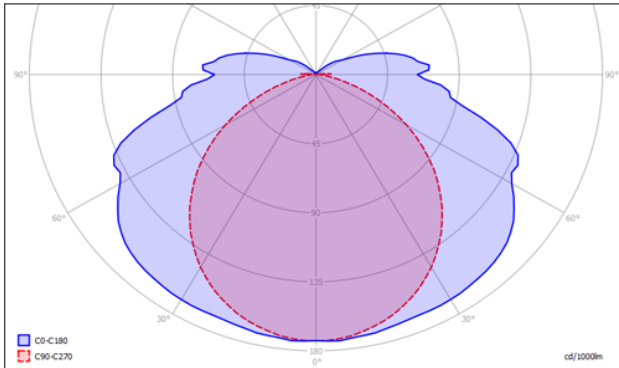
EXA 13 ATEX 0014



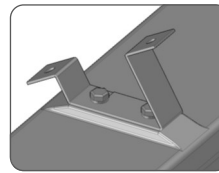
MODEL CODE

MODEL CODE	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

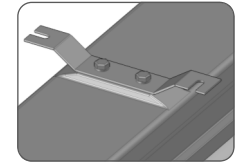
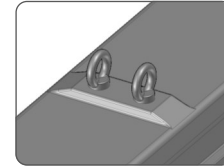
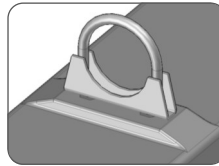
POLAR CURVE



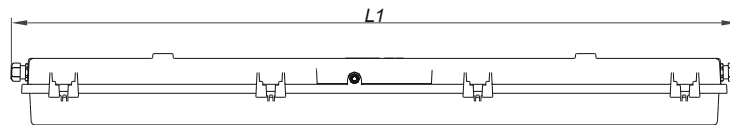
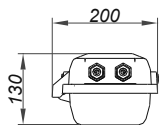
MOUNTING



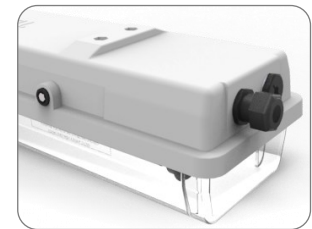
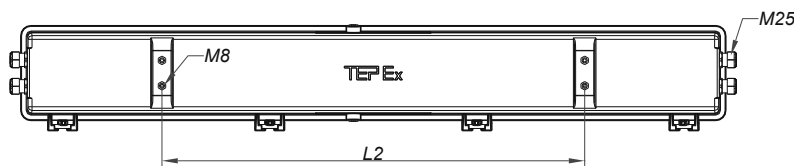
Pendant, on pipe, wall, ceiling



DIMENSION DRAWING (all dimensions in mm)

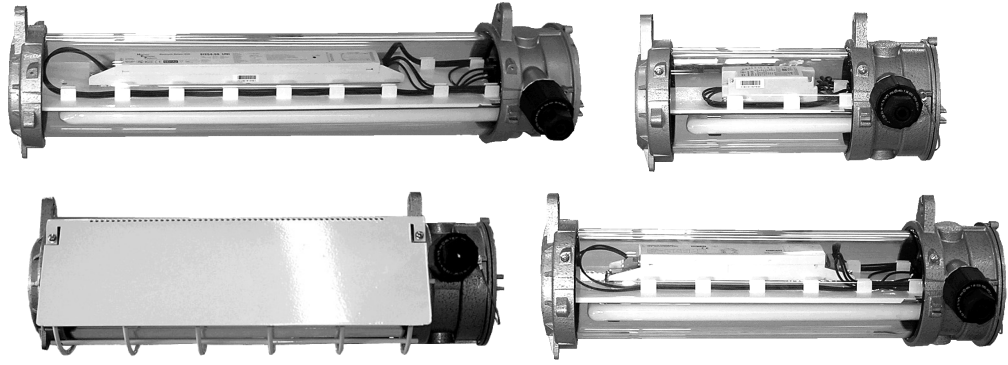


	L1 [mm]	L2 [mm]
PSF 218	750	400
PSF 236	1370	800



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 07/12	SMP 06/12		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
				PSF Pendant mounting set	PSF 30-150



APPLICATION

The luminaire is designed to light the industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors and flammable fogs mixed with air.

Hazardous zones: 1, 2, 21, 22.

Ex fluorescent light fitting type FLX is used as fluorescent lighting fitting with two TC-TSE fluorescent compact lamps 18W,24W,36W, 40W, 55W with 2G11 lampholder.

CONSTRUCTION

Housing: corrosion resistant grey polyurethanes painted aluminium color RAL 7000

Diffuser: borosilicate glass tube

Gasket: silicon

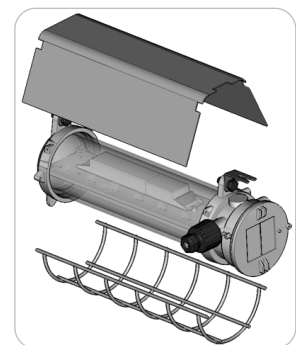
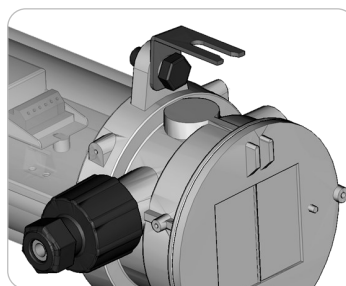
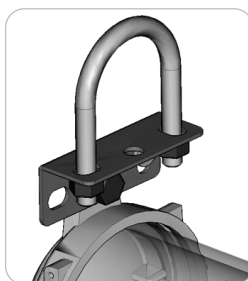
The light fitting is normally supplied with two light sources, two entries M20 and wall/sealing mounting set.

TECHNICAL DATA

Certificate:	CESI 06 ATEX 051-01/09
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T5/T6 Ex d IIC T5/T6 tD A21 T95°C/T80°C
Ambient temperature:	-20°C ≤ T _a ≤ +50°C
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 selection table
Power factor:	λ=0,99
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, according to EN 60079-1, ISO 965-1, ISO 965-3 or 2 x 3/4"NPT, according to ANSI/ASME B1.20.1 or 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 EEI:	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

MOUNTING

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





CESI 06 ATEX 051

**MODEL CODE**

FLX . . . / . . .

Basic type code**Number of fluorescent tubes in lamp:**

- 1 – one tube
- 2 – two tubes

Nominal wattage of tube:

- 18 - 18 W TC-L
- 24 - 24 W TC-L
- 36 - 36 W TC-L
- 40 - 40 W TC-L
- 55 - 55 W TC-L

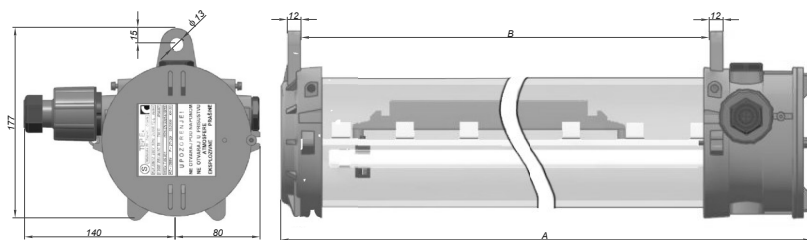
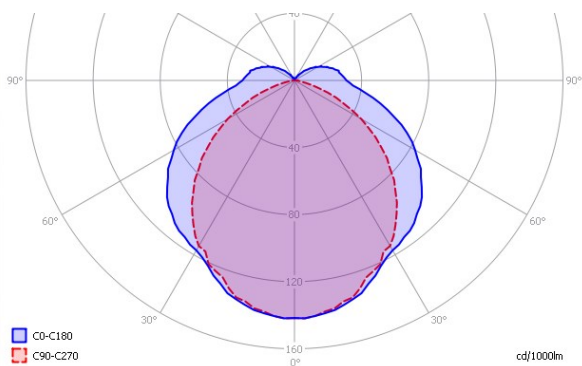
Type of ballast:

- 0 - magnetic ballast with starter (EEI=B2) (only for types FLX .18, FLX .24, FLX .36)
- 1 - electronic ballast with preheat start (EEI=A2)

Type of entries:

- 0 - Ex d threaded cable entries 2x M20, ISO 965-1, ISO 965-3
- 1 - Ex d threaded cable entries 2x 3/4"NPT, ANSI/ASME B1.20.1
- 2 - Ex d cable entries 2x M20, ISO 965-1, ISO 965-3 with one Ex de adapter type ADP 03/24 and one Ex d plug

MODEL CODE	WATTAGE	LAMP TYPE	NOMINAL VOLTAGE	LUMINOUS FLUX [lm]	LAMP HOLDER	A	B	WEIGHT
FLX 218	2x18 W	TC-TSE	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)**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
	Junction box ADP 23	FLX 10-160			



APPLICATION

The fluorescent light fitting type SIF is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

Ex fluorescent light fitting type SIF is used as fluorescent lighting fitting with two/four T8 fluorescent lamps in parallel configuration.

CONSTRUCTION

Housing: powder-coated sheet steel , color RAL 9000

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

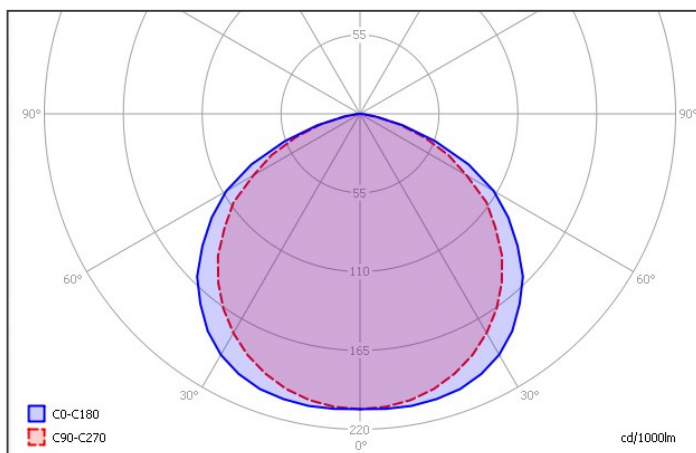
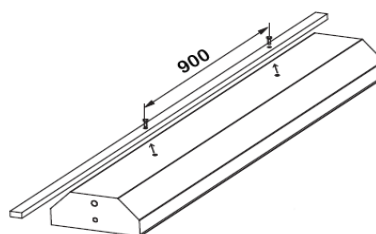
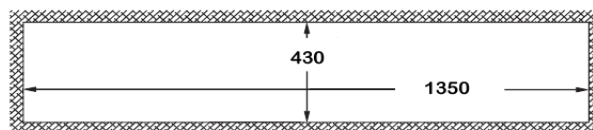
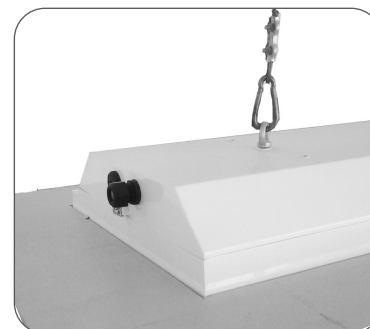
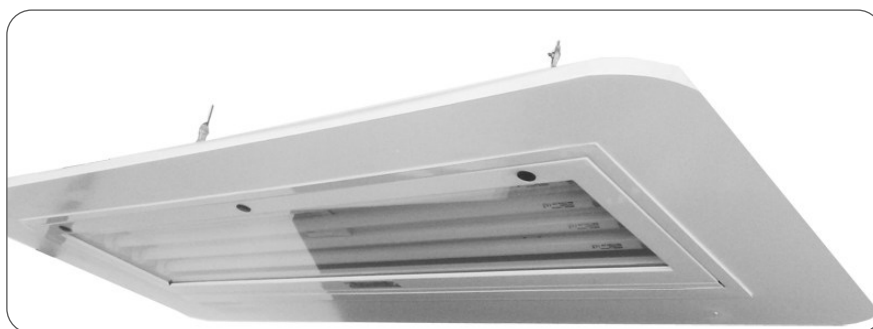
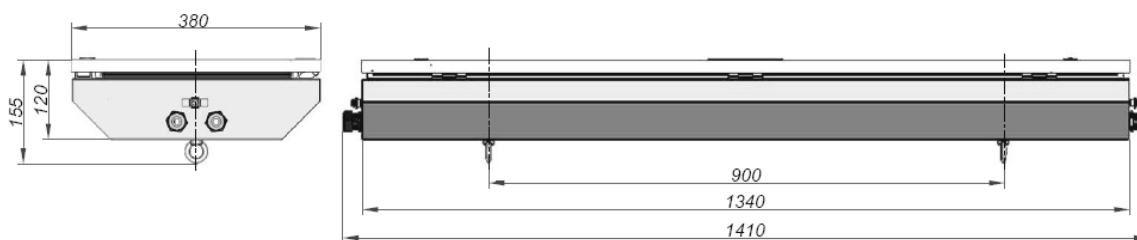
Certificate:	EXA 13 ATEX 0015
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e mb IIC T4 Gb Ex tb IIIC T80°C Db
Ambient temperature:	$-30^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$
Degree of protection:	IP 66 in accordance with EN 60529+A1, category 1
Resistance to shock:	IK 08 in accordance with EN 62262
Protection class :	I (protective earthing) in accordance with EN 60598-1
Rated voltage:	220...240 V ($\pm 10\%$)
Frequency:	50/60 Hz
Power factor:	$\lambda=0,95$
Ballast lumen factor:	97,4%
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. 4 mm ²
Cable entry:	Two entries Ex e M25x1,5 for cable diameters $\varnothing 6-15$ mm, and two Ex e plugs, in accordance with EN 62444:2013
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



EXA 13 ATEX 0015

**MODEL CODE**

MODEL CODE	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)****DIMENSION DRAWING (all dimensions in mm)****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	-			



DESCRIPTION

The emergency fluorescent light fitting type PSF E is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1,2, 21, 22.

Ex fluorescent light fitting type PSF E is used as emergency light fitting with >1,5h or 3h autonomy.

CONSTRUCTION

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

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

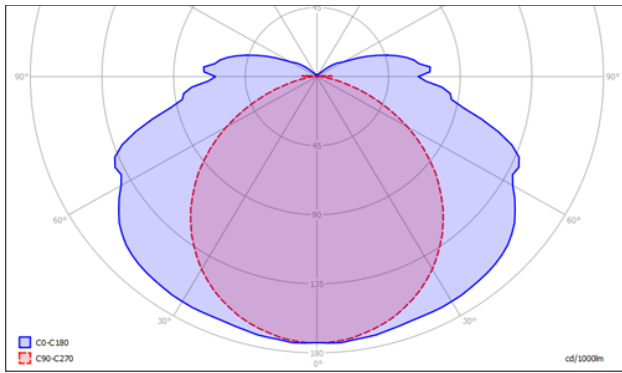
Certificate:	ATEX
Marking:	CE 0722
Apparatus category:	II 2GD
Explosion protection:	Ex d e mb IIC T4 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class:	I (procreative earthing)
Rated voltage:	220...240 V (±10%)
Frequency:	50/60 Hz
Power factor:	λ=0,95
Ballast lumen factor BLF:	97,4%
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
Emergency modul estimated service life:	70 000 h at T _{amb} =40°C
Terminals:	L1, L2, L3, N, PE - max. 2,5 mm ²
Cable entries:	2 x cable glands Ex e M25x1,5, for cable Ø8-17 mm, 2 x plugs Ex e
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.
Piktogram:	300x150mm
Packing:	The packing contains: 1 pcs PSF 236 E : 1420x270x210 mm PSF 218 E : 825x270x210 mm

PSF E

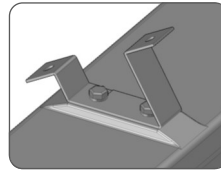
MODEL CODE

TYPE	WATTAGE	LAMP TYPE	NOMINAL VOLTAGE	LUMINOUS FLUX [lm]	LUMINOUS FLUX bat. mod [lm]	LAMP HOLDER	NOMINAL OPERATIONAL CURRENT	WEIGHT
PSF 218 E	2 x 18 W	T8	220-240 V	2 x 1350	1,5h 60% (800lm) 3h 40% (550lm)	G13	0,18 A	9,0 kg
PSF 236 E	2 x 36 W			2 x 3350	1,5h 60% (2000lm) 3h 30% (1000lm)			

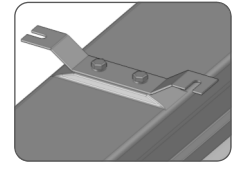
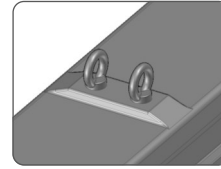
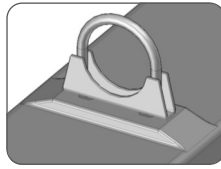
POLAR CURVE



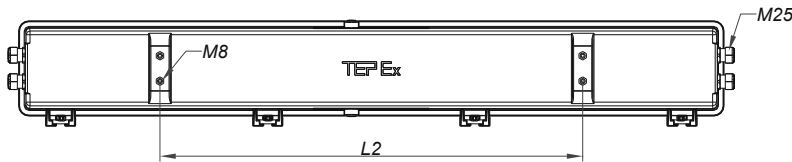
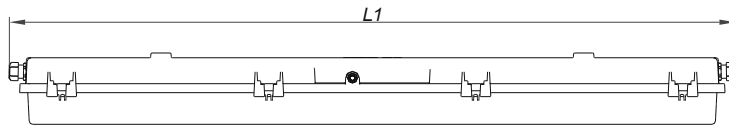
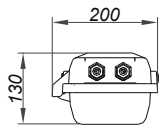
MOUNTING



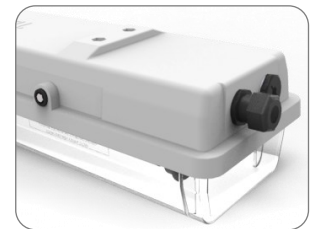
Pendant, on pipe, wall, ceiling



DIMENSION DRAWING [mm]



	L1 [mm]	L2 [mm]
PSF 218 E	750	400
PSF 236 E	1370	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
	Emergency modul + battery	SMPE 15-1 SMPE 15-2 BATEX 01-1 BATEX 01-2		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
	Metal cable glands for armoured cable M25 (13-21mm)	PSF 30-160		PSF Pendant mounting set	PSF 30-150



APPLICATION

The LED light fitting type FLXE 118 LED is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

Ex light fitting is used as emergency **LED** light fitting with **>3h autonomy**.

CONSTRUCTION

Housing: corrosion resistant grey polyurethanes painted aluminium, color RAL 7000

Diffuser: borosilicate glass tube

Gasket: Silicon

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

TEST button for testing the emergency light function.

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0001X
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	According to „MODEL CODE“
Frequency:	50-60 Hz
Rated power:	2x 1.2W
Lumen output:	network grid power supply / battery power supply : 200 lm
Connecting terminals:	L1, L2, L3, N, PE - max. 2,5 mm ² PE for outside earthing max. 2 x 6 mm ²
Rated autonomy:	> 3 hours
Battery:	Ni-MH 3,6V/2.2Ah, build in light fitting, microprocessor controlled charging, discharging and control of battery
Recharging time:	24 hours (20 hours >90% rated autonomy)
Cable entry:	2 x M20, according to EN 60079-1, ISO 965-1, ISO 965-3 or 2 x 3/4"NPT, according to ANSI/ASME B1.20.1 or 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 EEI:	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+A2, EN 61000-3-3

MOUNTING

Pendant, on pipe, wall, ceiling mounting

Operates in any position.



MODEL CODE

FLXE 118 LED

Emergency description (pictogram)
in accordance with DIN 4844

0	With red tape	5	
1		6	
2		7	
3		8	
4			

Rated voltage:

- 0 ... 24 V AC/DC
- 1 ... 60 V AC/DC
- 3 ... 110 - 127 V AC/DC
- 4 ... 220 - 240 V AC/DC

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 adaptera ADP 24 (for cable 6-15mm)
- 3 ... 2x Ex de adaptera ADP 24 (for cable 6-15mm) through wiring

The lamp can operate with two types of connection:

a) Maintained (Dauerschaltung)

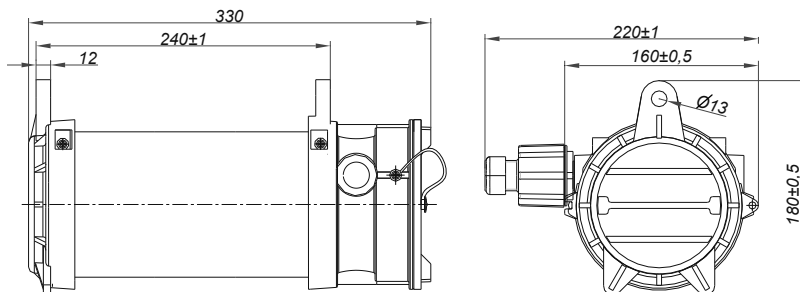
The light fitting can be used for general and orientation lighting with mains power supply via L' (installation switch). In case of voltage drop or an interruption in the mains power supply L, the light fitting will continue to operate in battery-powered mode, regardless of the status of installation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

b) Non maintained (Bereitschaftschaltung)

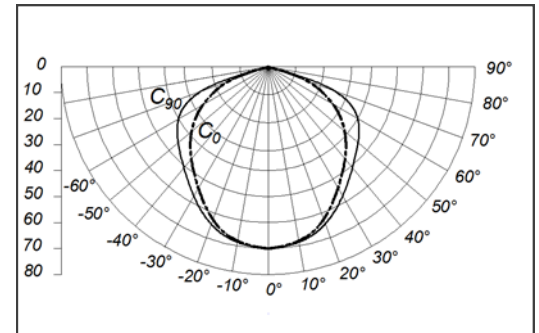
In case of voltage drop or an interruption in the mains power supply L, the light fitting will operate only in battery-powered mode.

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.

DIMENSION DRAWING (all dimensions in mm)

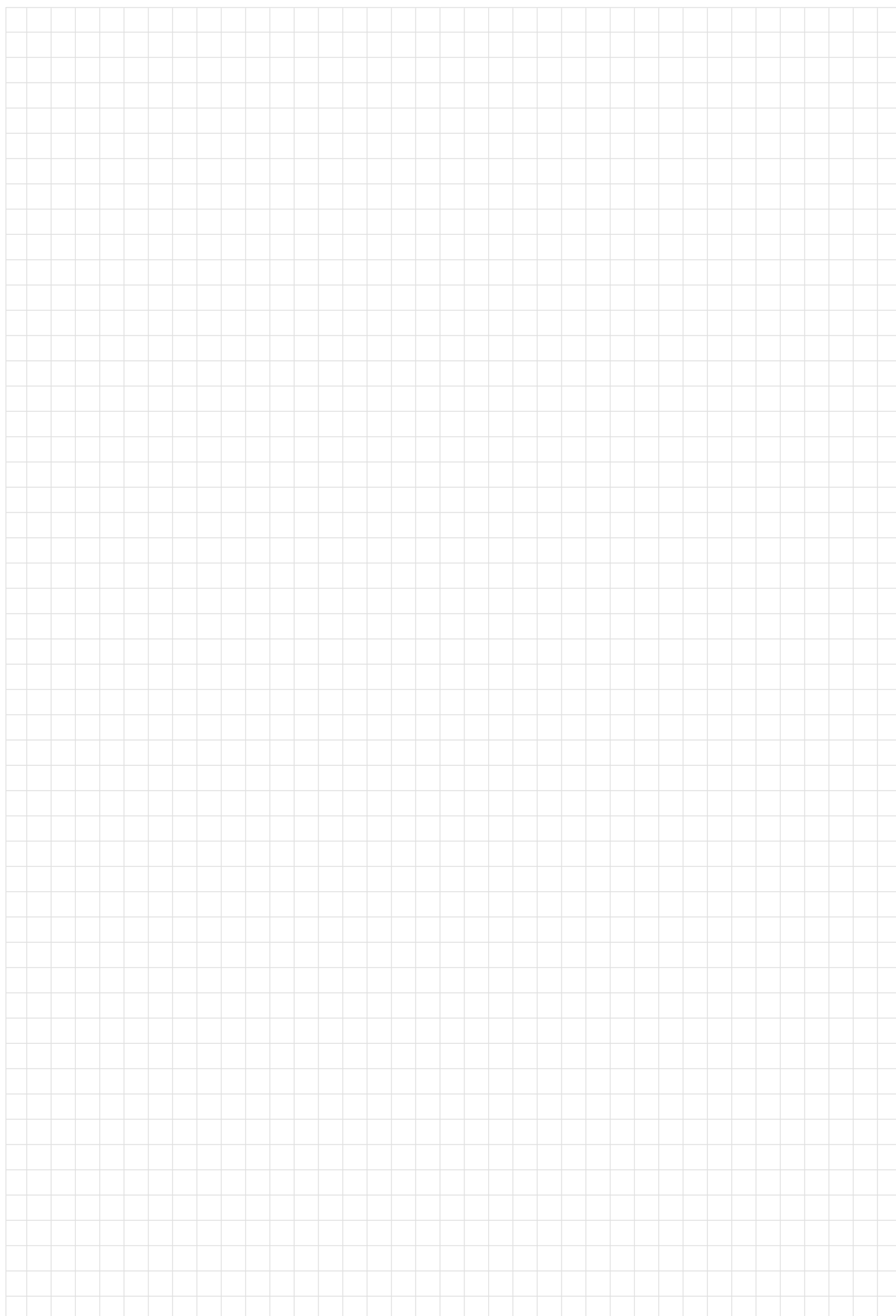


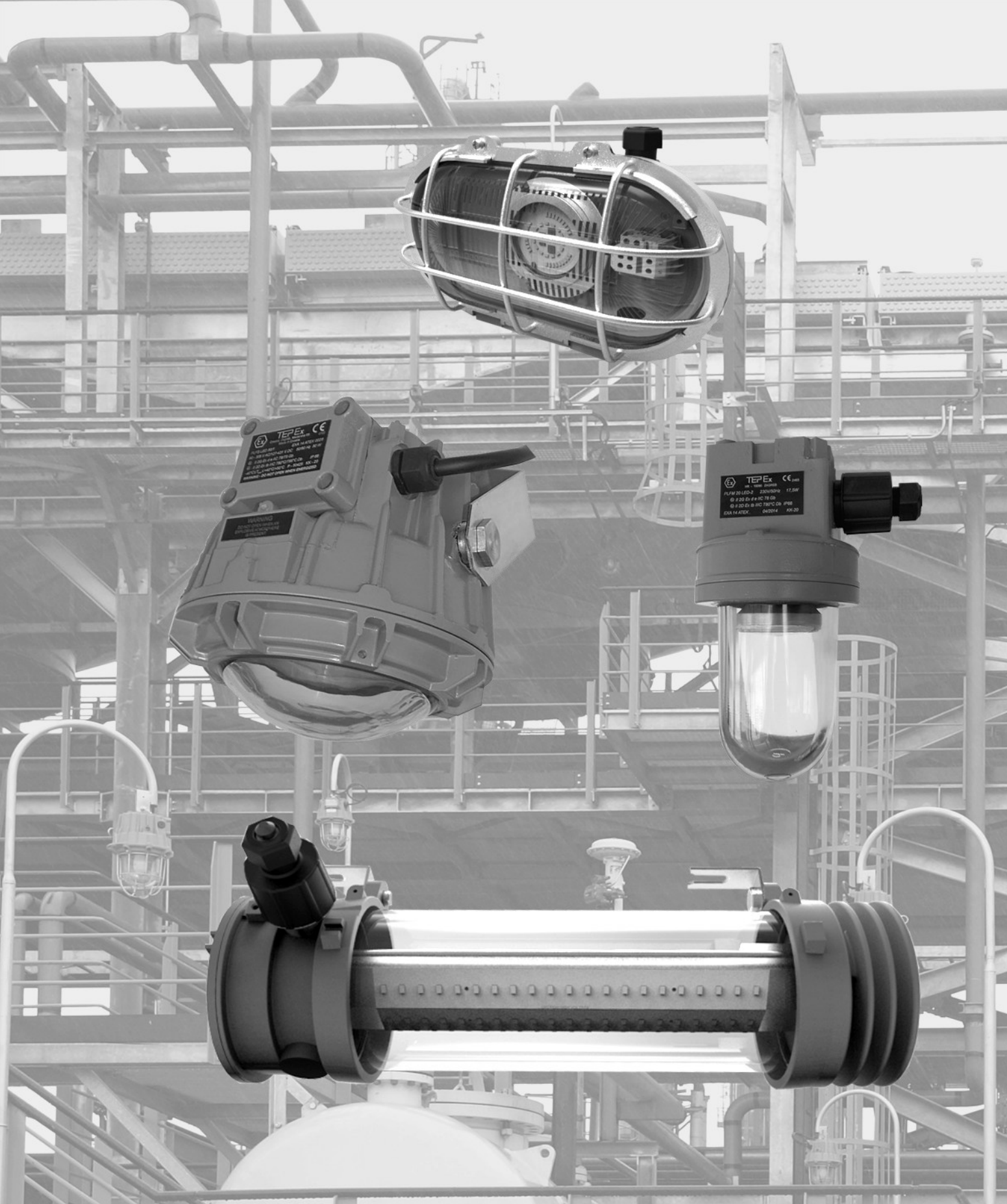
ISOCANDELA CURVE [l/cd]



SPARE PARTS AND ACCESSORIES

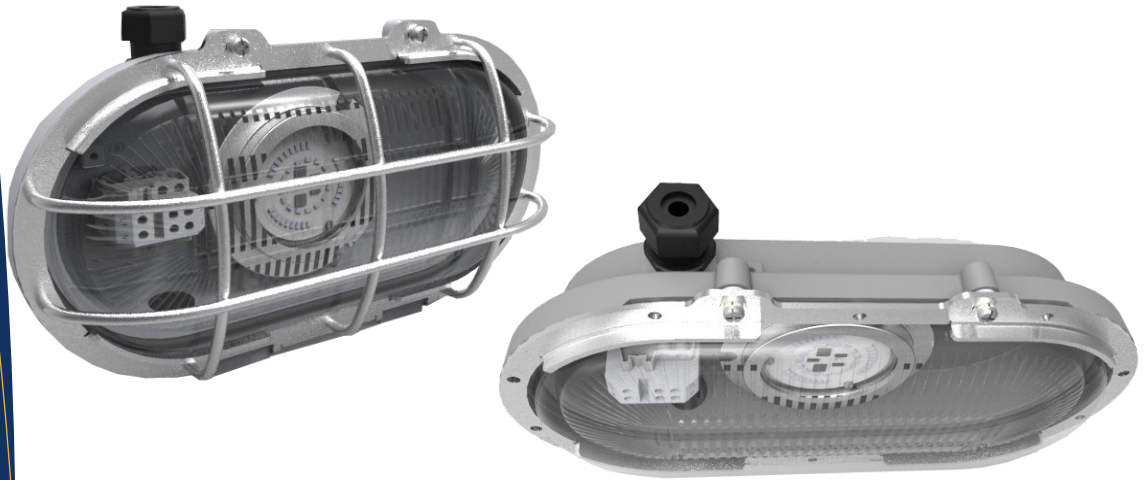
SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLXE	FLXE10-120		Ex d cable gland SPU 20	SPU 20
	Base plate FLXE/...	FLXE10-130		Ex d plug M20	SPC 20
	Protective grid FLXE set	FLXE20-140		FLXE Wall / ceiling mounting set	FLXE20-170
	External reflector FLXE	FLXE20-150		FLXE Pipe mounting set	FLXE20-180
	Junction box ADP 24	ADP10-160			





LED LIGHT FITTINGS





APPLICATION

The bulkhead light fitting type 0403.24 LED is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.
Hazardous zones: 1, 2, 21, 22.

CONSTRUCTION

Housing: aluminium powder painted casting
Diffuser: borosilicate glass protected with steel grid

TECHNICAL DATA

Certificate:	In progress
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex e mb IIC T5 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-30°C ≤ Ta ≤ +40°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing) in accordance with EN 60598-1
Rated voltage:	230V
Frequency:	50Hz (60Hz on request)
Rated power:	20 W
Cable entries:	1 x M25x1.5 cable gland (through-wiring possible) 1 x M25x1.5 plug
Connecting terminals:	terminals L1 + N for 2 x 4 mm ² flexible/solid terminals PE for 2 x 4 mm ² flexible/solid tightening torque for screw clamp 2,2 Nm
Weight:	4,0 kg
Packing:	The packing contains: 1 pcs 360x240x205 mm

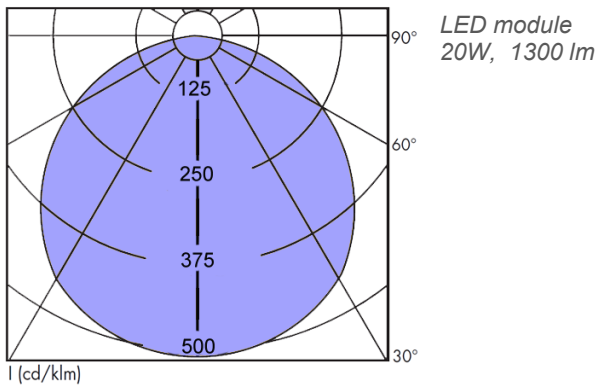
MOUNTING

Two brackets with two screws M6.

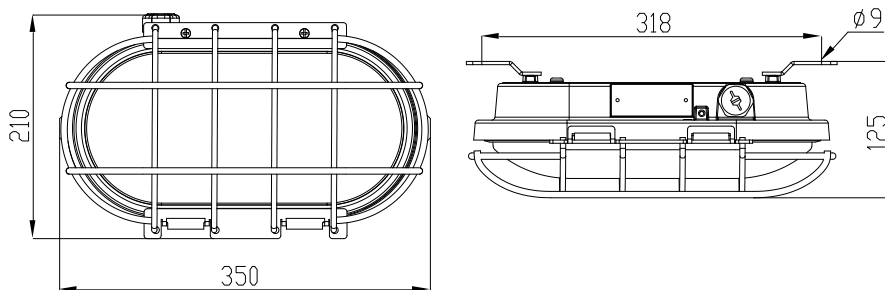
MODEL CODE

MODEL CODE	WATTAGE LED module	NOMINAL VOLTAGE	LUMINOUS FLUX [lm]	TEMPERATURE CLASS (gas)	
				T _a =40°C	T ₀ MAX (dust) T _a =40°C
0403.24 LED 20-1 transparent glass	20 W	230V	1300	T6	80°C
0403.24 LED 20-2 green glass					
0403.24 LED 20-3 red glass					

POLAR CURVE



DIMENSION DRAWING (all dimensions in mm)



SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Ex LED module	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
	Replacement glass	0403.24 LED 10-130			



APPLICATION

The pendant light fitting type PLFM LED is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

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
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	II 2G Ex d e IIC T6-T3 Gb II 2G Ex d IIC T6-T3 Gb II 2D Ex tb IIIC T80°C/T155°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:	See selection table
Frequency:	50Hz (60Hz on request)
Rated power:	See selection table
Cable entries:	two entries M20
Connecting terminals:	L, N, PE; max. 2 x 2,5 mm ² solid, flexible terminal for external -PA connection; max 2x6 mm ² tightening torque for screw clamp 2,2 Nm
Cable gland and plug:	one Ex d plug and one Ex de adapter, type ADP 03/23, for cable φv 6-15 mm
Weight:	3,4 kg
Packing:	The packing contains: 2 pcs 440x260x170mm

MOUNTING

Pendant, on pipe, wall, ceiling



EXA 14 ATEX 0056X

CE 0722

IP 66



E 27

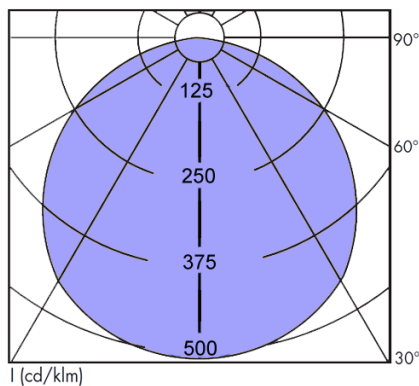
-20°C

+40°C

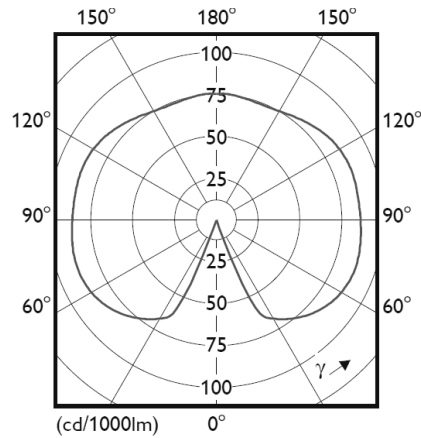
MODEL CODE

MODEL CODE	WATTAGE	LAMP TYPE	NOMINAL VOLTAGE	LUMINOUS FLUX [lm]	TEMPERATURE CLASS (gas)		T ₀ MAX (dust)
					T _a =40°C		T _a =40°C
PLFM 100/3-	12 W Osram	E27 LED	230V	810	T6	80°C	
	13 W Philips			1055			
PLFM 20 LED	20 W	LED MODUL	230V	1300			

POLAR CURVE

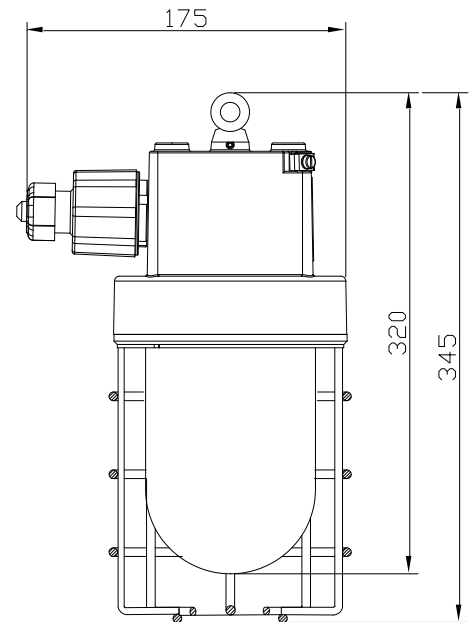


Vossloh-Schwabe
LED module
20W, 1300 lm



Master LEDbulb Osram
12W, 800 lm

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		LED Light bulb	According to type table
	PLFM LED module, set	PLFM 10-170		PLFM fixing bracket for tube R2"	PLFM 20-120
	Junction box ADP 23	PLFM 20-110		PLFS-T mounting bracket (ceiling mounting)	PLFM 20-130
				PLFS-T mounting bracket (wall mounting)	PLFM 20-140



APPLICATION

The pendant light fitting type PLFS LED is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1,2, 21, 22.

CONSTRUCTION

Housing: aluminum powder painted casting



Diffuser: borosilicate glass

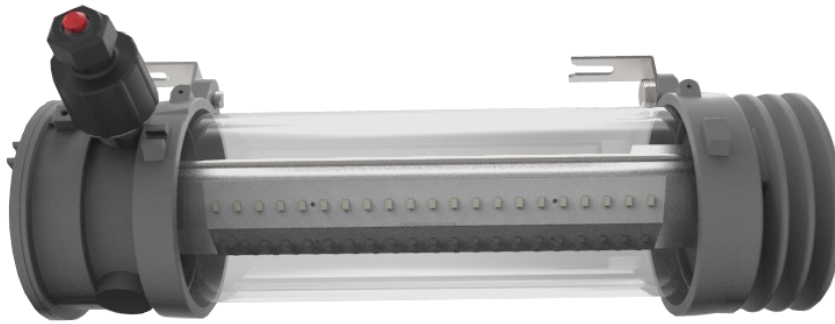
Accessories: protected galvanized steel gird, assembly kit for wall, pipe and ceiling mounting

Gasket: silicon

LED components: LED-Bridgelux, LED-BJB, LED driver-MW, TI-Amasan

TECHNICAL DATA

Certificate:	EXA 14 ATEX 0028
Marking:	 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	 II 2G Ex d e IIC T6/T5 Gb II 2D Ex tb IIIC T80°C/T85°C Db
Ambient temperature:	-40°C ≤ Ta ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
LED driver:	With OVP, OCP, OTP protection An autonomous activation after recovery
Rated voltage:	90 - 305 V AC 127 - 130 V DC
Frequency:	50/60 Hz
Rated power:	50W
Power factor:	cos φ > 0,96
Nominal luminous flux:	5000 lm, at t _{amb} =25 °C
Average lifetime :	70 000 hours
Cable entrys:	2 x M25x1.5 - ISO 25
Connecting terminals:	L1, L2, L3, N; max. 2 x 2,5 mm ² solid, flexible PE terminal ; max 2x6mm ² External PA terminal -PA; max 2x6mm ²
Cable glands and plugs:	1x cable gland ISO 25 (for cable φ 6-15mm) 1x plug ISO 25
Waight:	6,8 kg
Packing:	The packing contains: 3 pcs 610x390x280 mm



APPLICATION

The LED light fitting type FLX 310 LED is intended for use in places with an explosive gas and dust atmosphere. The light fitting is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous zones: 1, 2, 21, 22.

CONSTRUCTION

Housing: corrosion resistant grey polyurethanes painted aluminium, color RAL 7000

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

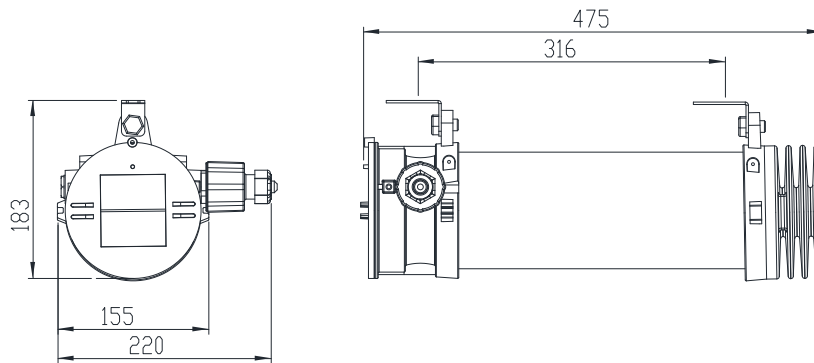
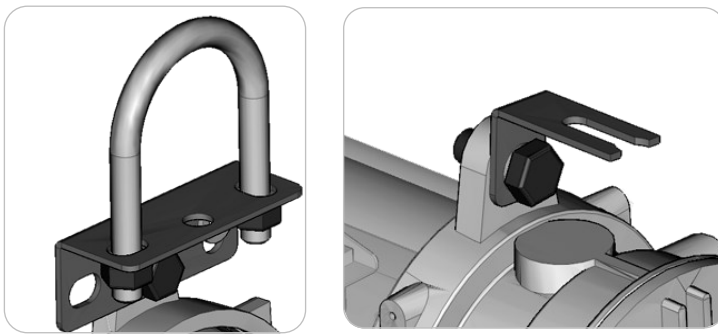
Certificate:	EXA 15 ATEX 0050X
Marking:	CE 0722
Apparatus category:	II 2GD
Marking of explosion protection:	Ex d e IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class :	I (protective earthing)
Rated voltage:	220-240 V 110V on request
Frequency:	50-60 Hz
Power factor:	λ=0,99
Rated power:	3x 10W
Lumen output:	3000 lm
Maximum number of light fittings connection in line	Suitable for linear lighting up to 20 modules
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, according to EN 60079-1, ISO 965-1, ISO 965-3 or 2 x 3/4"NPT, according to ANSI/ASME B1.20.1 or 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 d e adapter ADP 03/24 - 4 x 2,5 mm ² , max. 16 A,
Weight:	7 kg
Packing:	The packing contains: 1 pcs 540x230x200 mm



EXA 15 ATEX 0050X

**MODEL CODE**

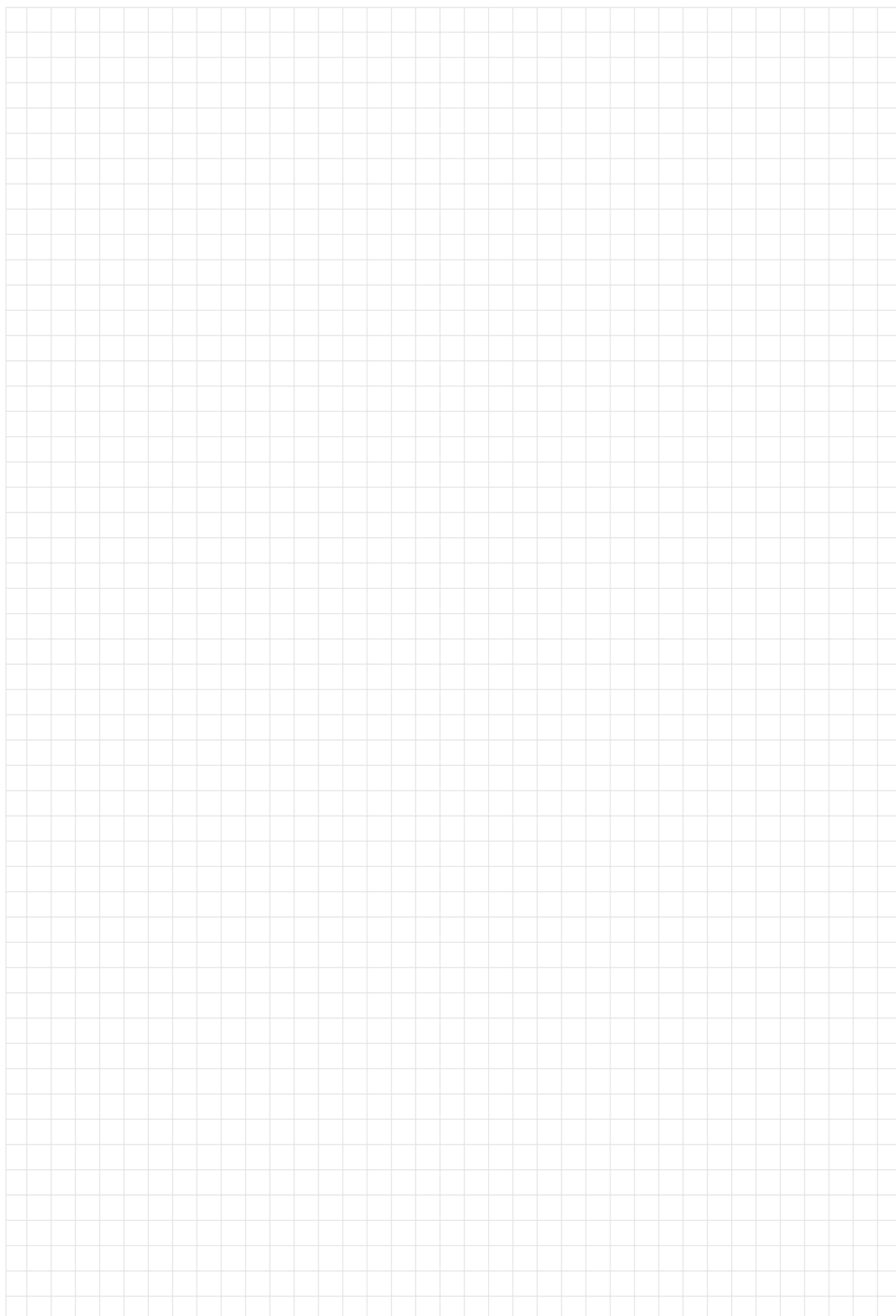
TYPE	WATTAGE	LUMINOUS FLUX [lm] $t_{amb}=25^{\circ}\text{C}$	AMBIENT TEMP.	CRI The color rendering index	CCT (Correlated color temperature) [K]
FLX 310 LED	3x 10W	3x 1010	-20°C ÷ 40°C	>80	4000

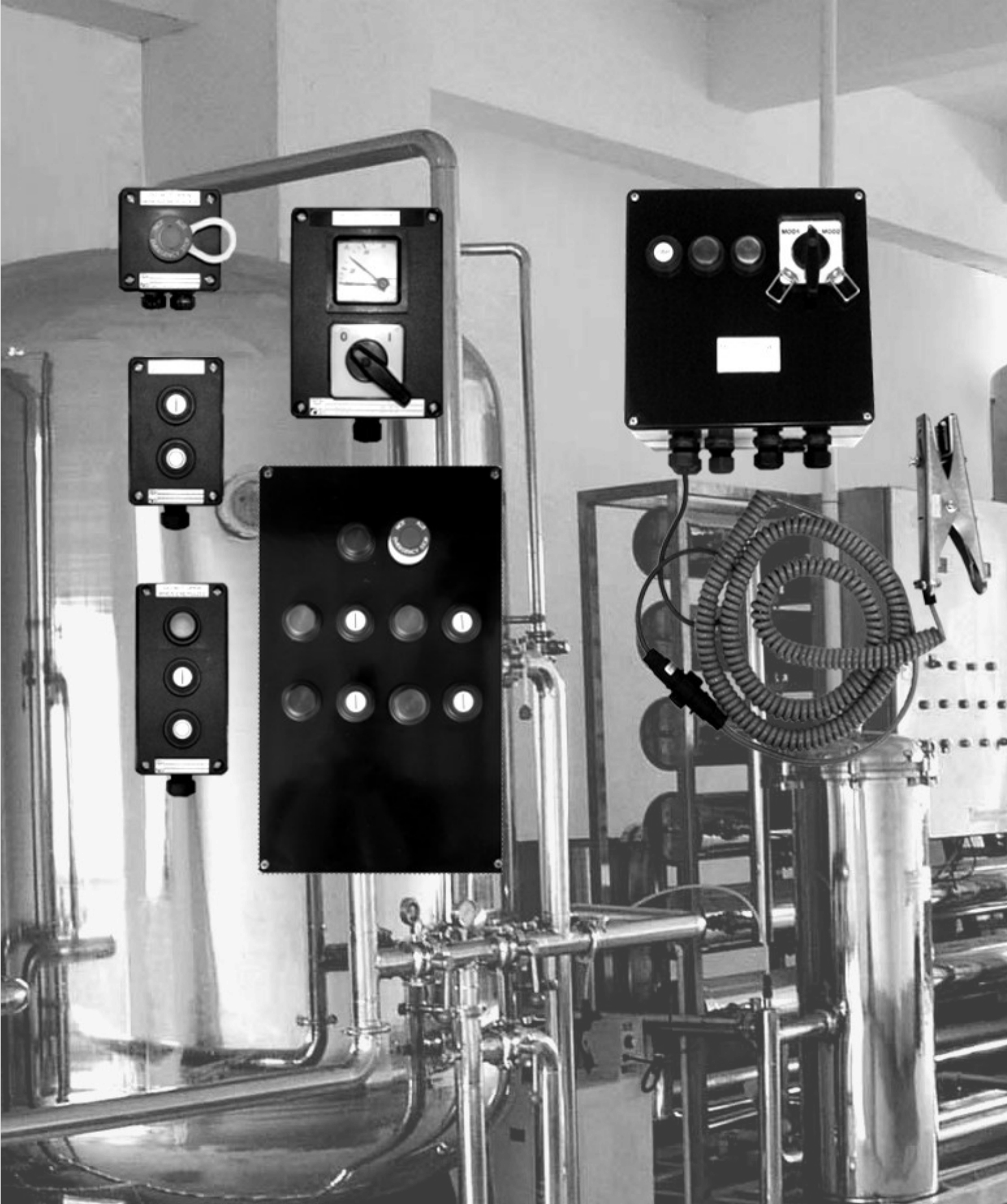
DIMENSION DRAWING (all dimensions in mm)**MOUNTING**

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

SPARE PARTS AND ACCESSORIES

SKETCH	DESCRIPTION	CODE	SKETCH	DESCRIPTION	CODE
	Cover gasket FLX	FLX10-120		Ex d cable gland SPU 20	SPU 20
	Base plate FLX 310	FLX LED10-310		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
	Junction box ADP 24	ADP10-160			





**CONTROL UNITS
GROUNDING CONTROL DEVICE**



APPLICATION

Explosion protected control units type SKX 12 – SKX 15, alone or in various combinations of merged set (combination) are intended for the control, distribution and signaling in the power circles in places with an explosive gas and dust atmosphere. Control units are designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Hazardous areas 1, 2, 21, 22.

CONSTRUCTION

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

Cover: with integrated Thermoplastic elastomer gasket, closes with four M5 stainless steel screws.

Due to the four available sizes and the modular design, the devices can be used for almost every application. Built-in components, actuators and indicator components can be mounted in or on Ex e enclosures or combination of merged enclosures. Possible combinations and schedules built-in components, actuators and indicator components is determined by the certification documentation. Control units usually aren't wired.

TECHNICAL DATA

Certificate:	CESI 13 ATEX 017X, EXA 13 ATEX 0029
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex e IIC or Ex de IIC, Ex de mb IIC, Ex ia/ib IIC T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20 °C ≤ T _a ≤ +50 °C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class:	I (protective earthing)
Rated insulation voltage U_i:	690 V AC (type with mantle terminals type SL U _i =400V AC)
Rated current I_{th}:	Up to 16 A (SKX 12-15) Up to 80A (SKX 16-20)
PE terminals (inside of the enclosure):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
Cover fixing:	4xM5/M6 cheese head screw, stainless steel A2
Color:	black, RAL 9005
Weight (only GRP boxes):	SKX 12 0.5 kg SKX 13 0,7 kg SKX 14 1.0 kg SKX 15 1.0 kg SKX 16 3,5 kg SKX 18 4,5 kg SKX 20 7,0 kg

MOUNTING With screw kit through the housing holes f6 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 15/15H: 125 x 150 mm	

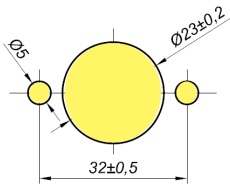


INSTRUCTIONS FOR DESIGN OF CONTROL UNITS type SKX 12/.. - 15/..

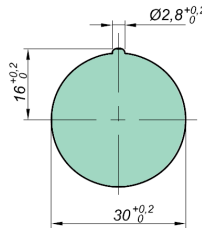
Products according to special request of the customer have the type designation which consists of a basic type designation: **SKX 12, SKX13, SKX 14, SKX 15 and MSRU** number that represents the production number assigned by the manufacturer. The customer in the order defined the configuration, eg:
In to enclosure MMK 15 is installed switch SMS 03/3 with the switch actuator SMO 17/3, signal lamps SLP with a red front element SPO 02/01 and green SPO 02/02. On side A two cable glands ISO 25, and on side C two ISO plugs M25

Designation for ordering: MMK15 + SMS03/3 + SMO17/3 + 2xPBT/01+ SPO02/1 + SPO02/2 + A 2xSPU25 + C 2xSPC25

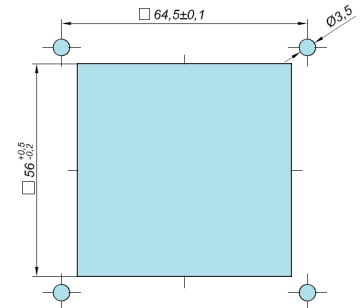
*** mounting proposals and dimensions**



Switch actuator SMO 17/3.
Switch mounting

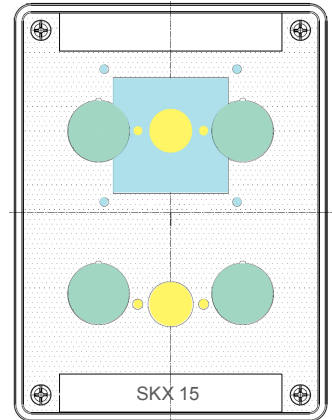
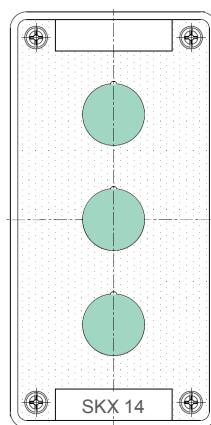
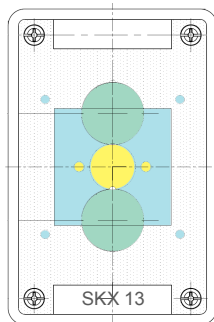
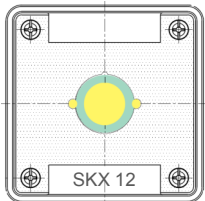


Pushbutton actuator SPO 01/3.
Front element of signal lamp SPO 02/1.
Pushbutton, signal lamp and potentiometer mounting

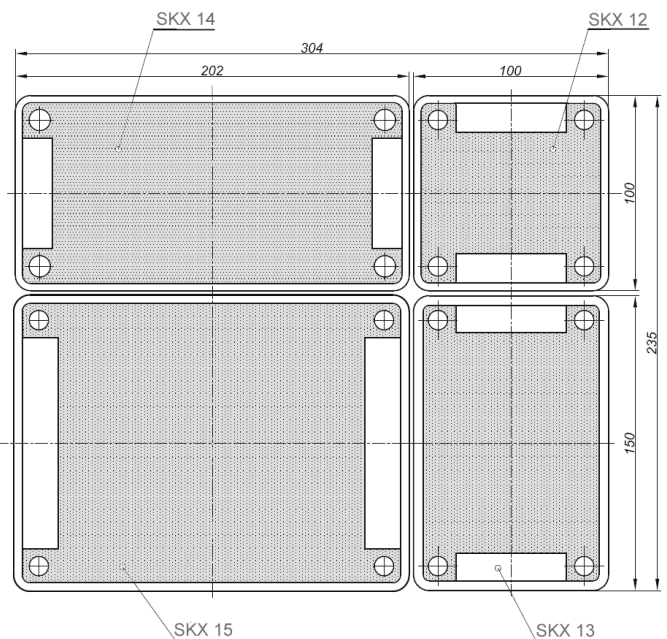
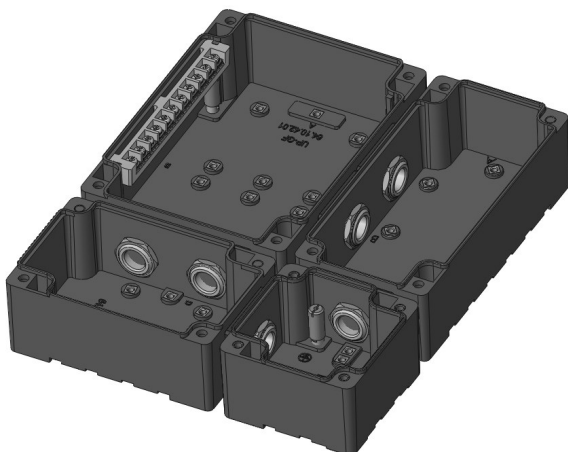


Front element of measuring instrument (AM, VM) SAM 72
Measuring instrument mounting AM, VM

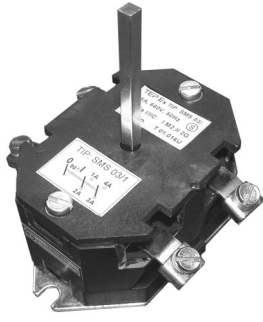

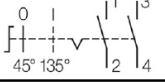

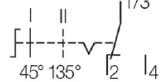

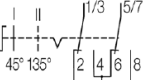

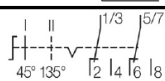

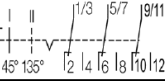

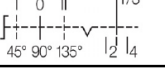

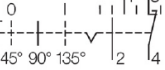

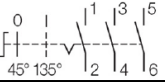

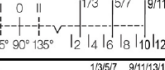

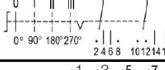

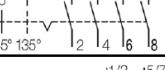


. Possible combinations and layout of indicators and actuators components




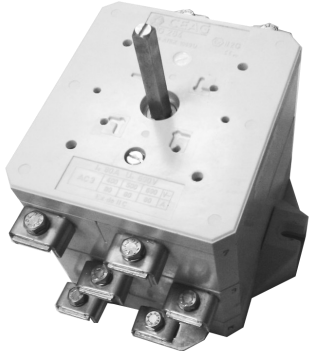
Various combinations of merged set (combination) of SKX enclosures



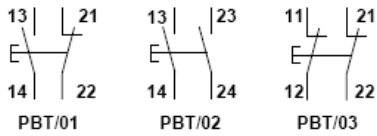



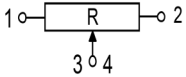





BUILD-IN COMPONENTS

Description, type	Schema		Overview	
<p>Control switch SMS 03/.</p> <p>II 2G I M2 Ex de I/IC Gb Mb</p> <ul style="list-style-type: none"> • Rated voltage: 630 V AC • Rated current: 16 A • Terminals: 2,5 mm² 	SHEMA	TYPE		
				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
<p>Control switch GHG 23.</p> <p>II 2GD Ex de IIC</p> <ul style="list-style-type: none"> Rated voltage: 690 V AC Rated current : 10 A Terminals: 2,5 mm² 		
<p>Main current switch GHG 260</p> <ul style="list-style-type: none"> Rated voltage: 690 V AC Rated current : 40 - 80 A Terminals: 16 - 25 mm² 		

BUILD-IN COMPONENTS

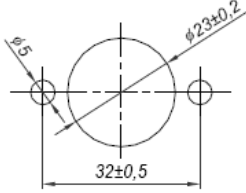
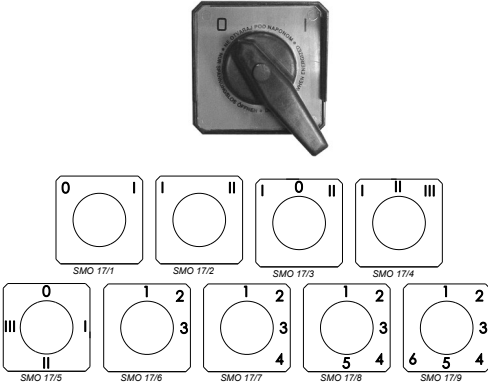
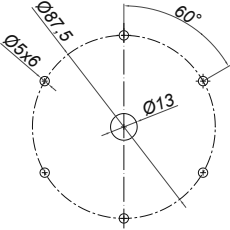

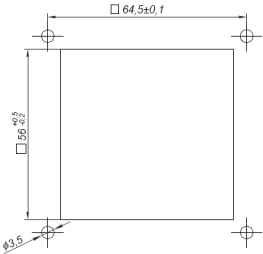
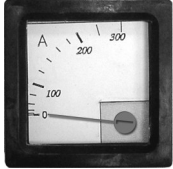
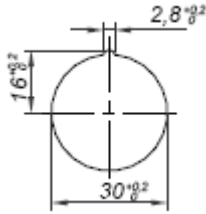

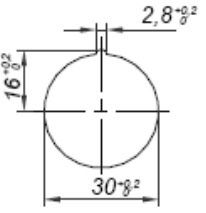

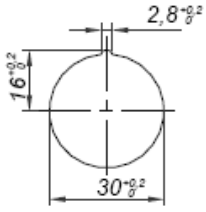

Description, type	Schema	Overview
<p>Pushbutton PBT/.</p> <ul style="list-style-type: none"> Rated voltage: 630V AC Rated current: 16A Terminals: 2,5 mm² 		
<p>Signal lamp SLP</p> <ul style="list-style-type: none"> Rated voltage: 12-250 V AC/DC Max. current: 20-8 mA Terminals: 2,5 mm² 		
<p>Potionmeter PBT/POT</p> <ul style="list-style-type: none"> Rated voltage: 315 V AC/DC Rated power: 1W Scale: 0-100% / 270° Tolerance: ±20% Characteristic: linear Terminals: 2,5 mm² 	 <p>Resistance R:</p> <ul style="list-style-type: none"> 1,0 kΩ 2,2 kΩ 4,7 kΩ 10 kΩ 470 kΩ 	
<p>Measuring instruments AM 72, VM 72</p> <ul style="list-style-type: none"> 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 	<p>-</p>	
<p>Mantle terminals SL5, SL8</p> <ul style="list-style-type: none"> Rated voltage: 400 V Rated current: 16 A AC Terminals: 4 mm² Max. No. of wire under one clamp: 2x4mm² + 2x2,5mm², 3x4mm² 	<p>-</p>	
<p>Terminals TH 35-7.5</p> <ul style="list-style-type: none"> 5 terminals 4mm² 2 terminals 16mm² Rated voltage: 690 V AC Rated current: 16 A 	<p>-</p>	
<p>N/PE busbar (only for SKX 15)</p> <ul style="list-style-type: none"> 11x max. 2x4mm² 	<p>-</p>	



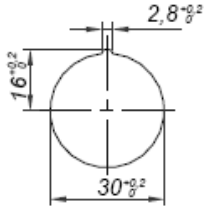

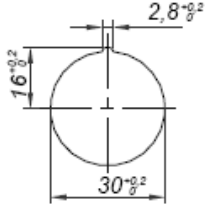

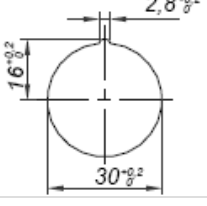

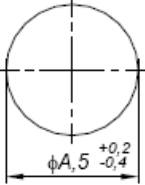

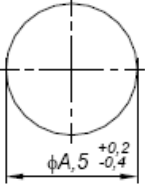

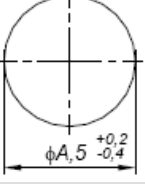



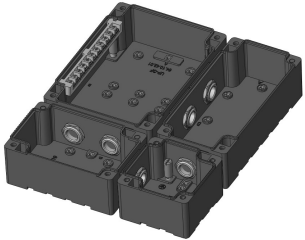
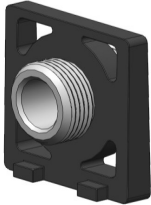
CESI 13 ATEX 017X
EXA 13 ATEX 0029



ACTUATORS AND INDICATORS

Description, type	Mounting	Overview																				
<p>Switch actuator SMO 17/.</p> <p>II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db</p>																						
<p>Switch actuator GHG 260 1006</p>																						
<p>Front element of measuring instruments SAM 72</p> <p>II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db</p>																						
<p>Pushbutton actuator SPO 01/.</p> <p>II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db</p>		<p>Type SPO 01/.</p> <table border="1" data-bbox="1195 1338 1479 1671"> <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> 	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
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																					
<p>Front element of signal lamp SPO 02/.</p> <p>II 2G II 2D I M2 Ex e I/IIC Gb Mb Ex t IIIC Db</p>		<p>Type SPO 02/.</p> <table border="1" data-bbox="1195 1731 1479 1862"> <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> 	SPO 02/01	RED	SPO 02/02	GREEN	SPO 02/03	YELLOW	SPO 02/04	TRANSPARENT												
SPO 02/01	RED																					
SPO 02/02	GREEN																					
SPO 02/03	YELLOW																					
SPO 02/04	TRANSPARENT																					
<p>Key-operated pushbutton actuator GHG 410 1904 R0012</p> <p>II 2GD Ex e II IP66</p>																						

ACTUATORS AND INDICATORS

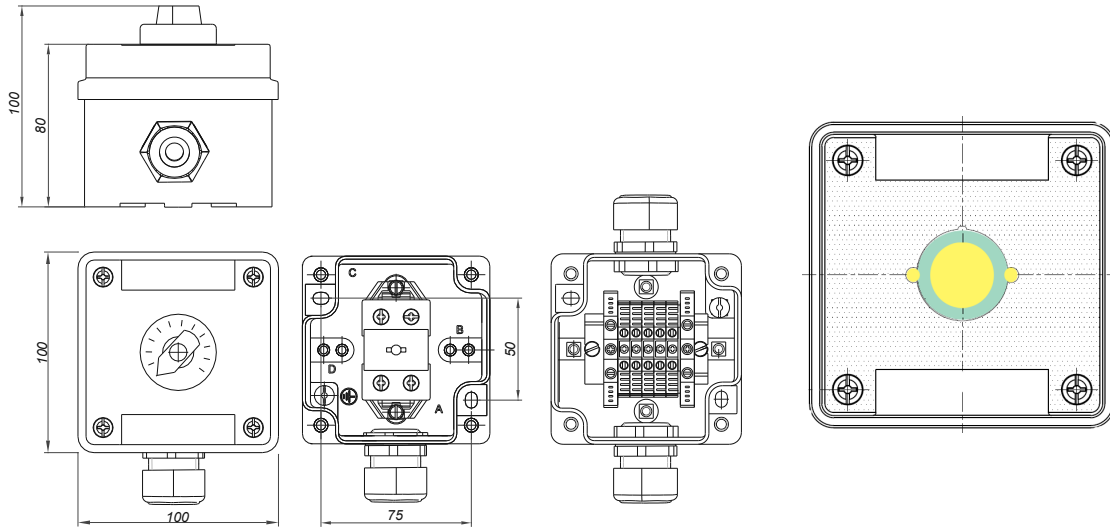
Description, type	Mounting	Overview
Mushroom-head pushbutton actuator GHG 418 815 ..R.. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Key-operated mushroom-head pushbutton actuator GHG 418 815 ..R.. (EMERGENCY-STOP) II 2GD Ex e II IP66		
Potentiometer actuator GHG 410 1944 R0010 II 2GD Ex e II IP66		
Cable gland SPU ISO 16 - ISO 40 II 2G II 2D Ex e I/II C Gb Ex t III C Db		
Cable gland for armoured cable SPU A ISO 16 - ISO 40 II 2G II 2D Ex e I/II C Gb Ex t III C Db		
Plug SPC .. ISO 16 - ISO M40 II 2G II 2D Ex e I/II C Gb Ex t III C Db		
Main fuse NH0 300XX, NH0, 301XX		
Connection part SKX		



CESI 13 ATEX 017X
EXA 13 ATEX 0029



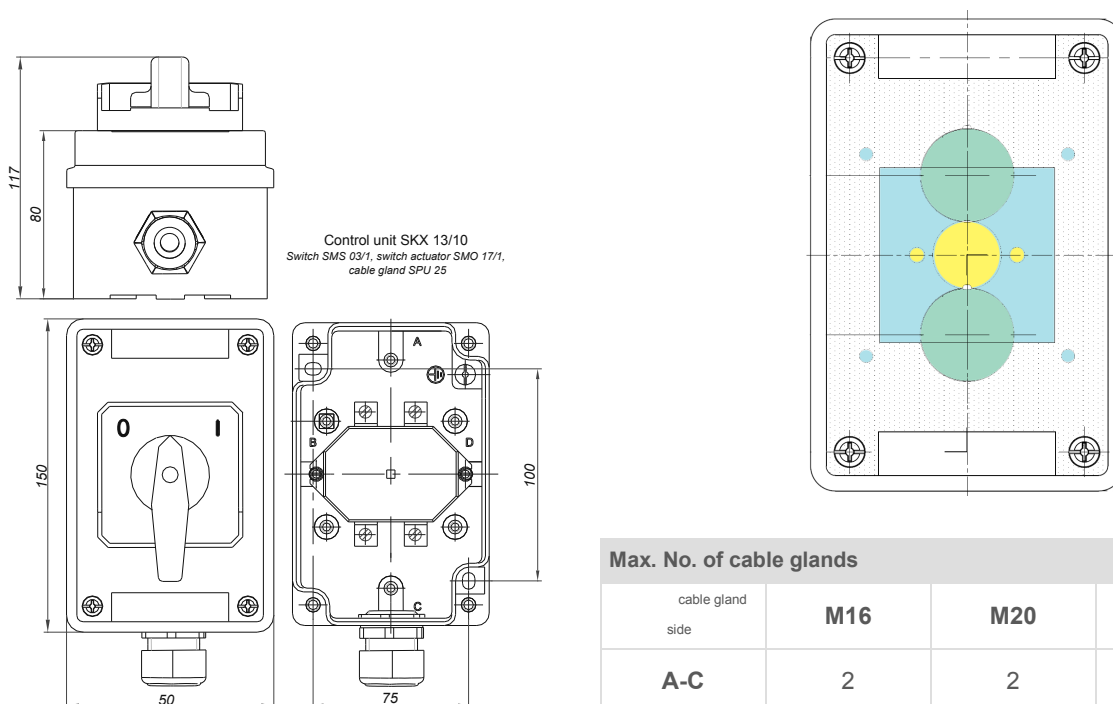
Enclosure type SKX 12



Max. No. of cable glands

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

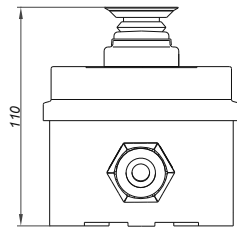
Enclosure type SKX 13



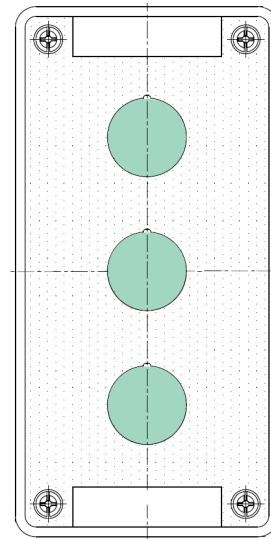
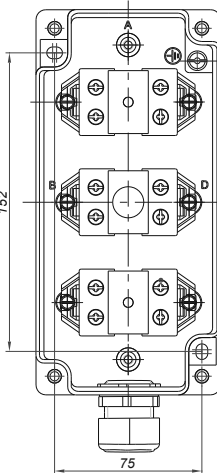
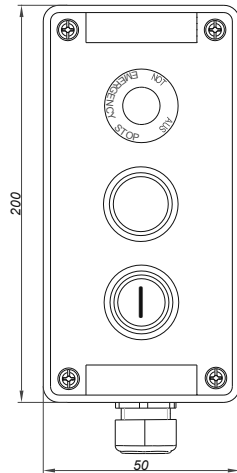
Max. No. of cable glands

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

Enclosure type SKX 14



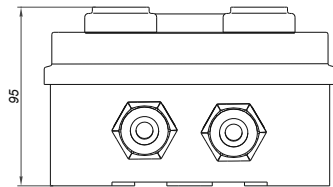
Control unit SKX 14/MSRU
 2x pushbutton PBT 01, pushbutton actuator SPO 01/1,
 mushroom-head pushbutton actuator,
 1x signal lamp SLP 01, front element SPO 02/02
 cable gland SPU 25



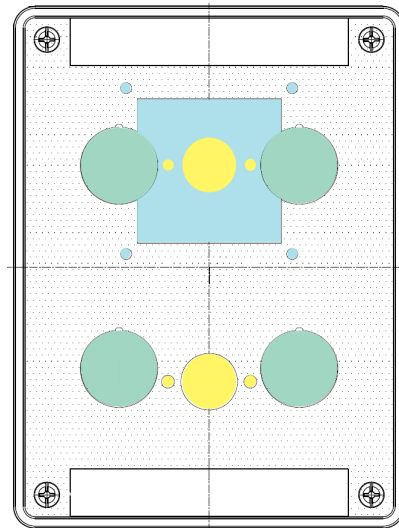
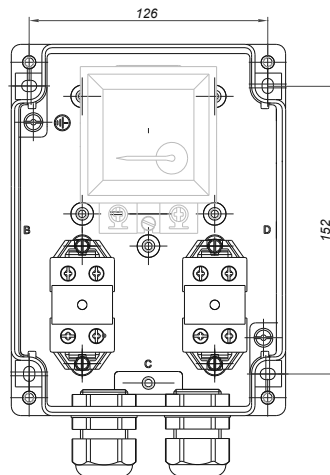
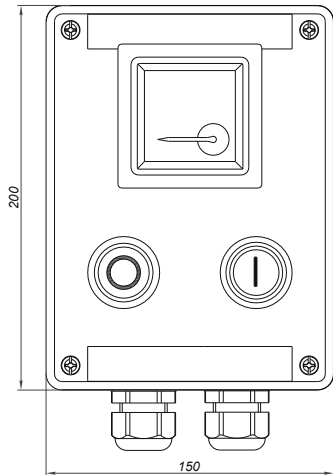
Max. No. of cable glands

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

Enclosure type SKX 15



Control unit SKX 15/11-11
 2x pushbutton PBT 01, pushbutton actuator SPO 01/1, SPO 01/2,
 ammeter AM 72 100/1A, front element of
 measuring instruments SAM 72, 2x cable gland SPU 25



Max. No. of cable glands

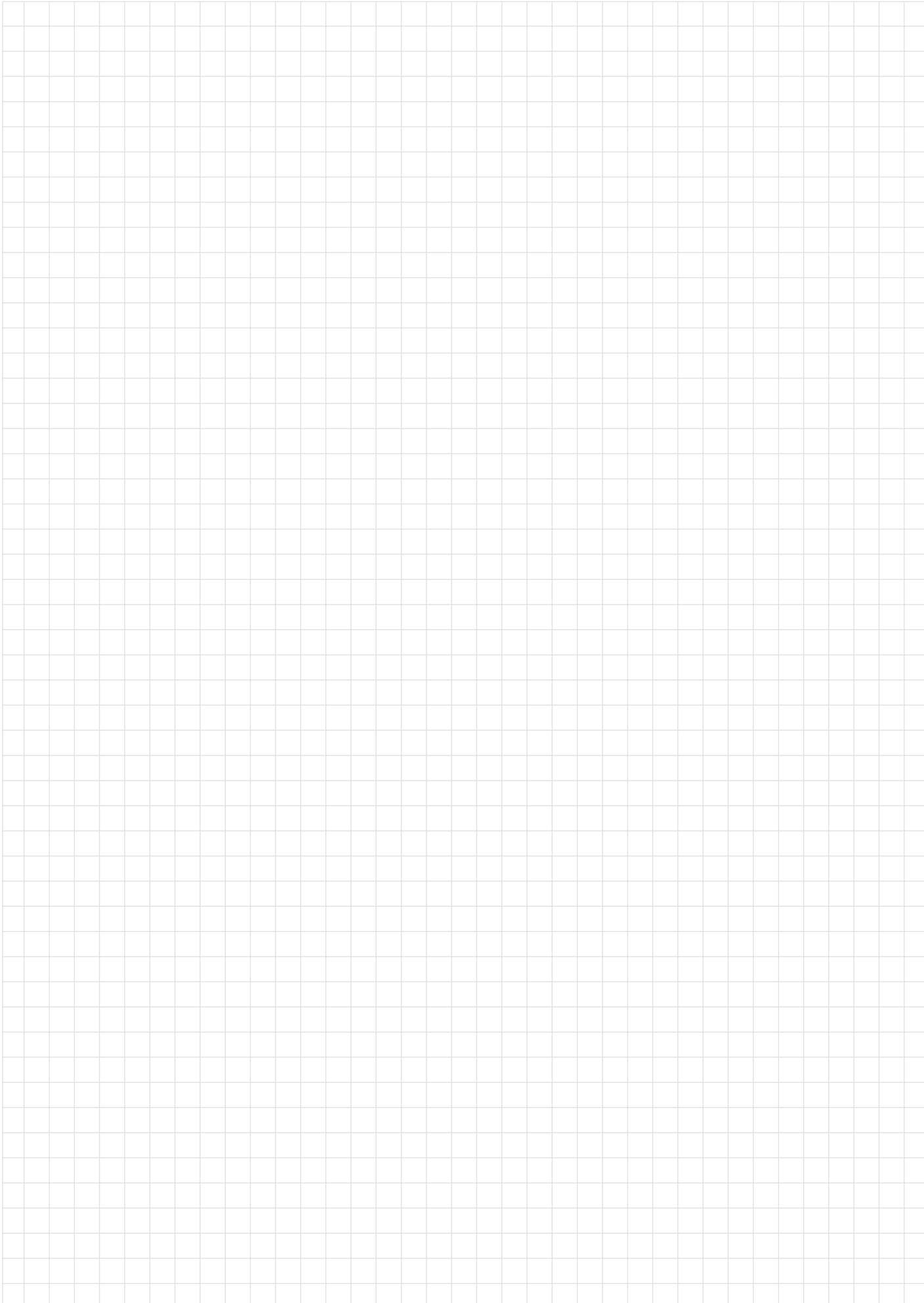
cable gland side	M16	M20	M25	M32	M40
A-C	4	3	2	2	1
B-D	6	4	3	2	2

* 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	-	-

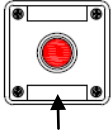
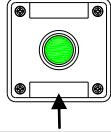
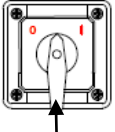
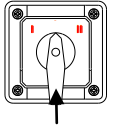
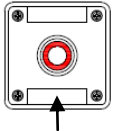
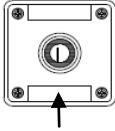


CESI 13 ATEX 017X
EXA 13 ATEX 0029



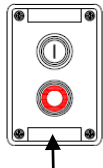
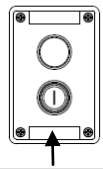
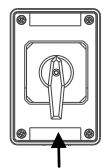
STANDARD PRODUCTS OF CONTROL UNITS

SKX 12/ ..

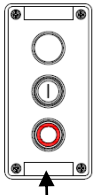
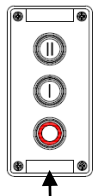
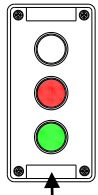
Type	Build-in components and actuator / indicator	Overview
SKX 12/1	Signal lamp SLP - red SPO 02/1 - cable gland SPU 25	
SKX 12/2	Signal lamp SLP - green SPO 02/2 - cable gland SPU 25	
SKX 12/3	Signal lamp SLP - white SPO 02/4 - cable gland SPU 25	-
SKX 12/21	Control switch SMS 03/1 - switch actuator 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 13/ ..

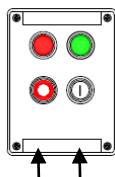
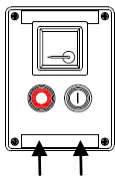
Type	Build-in components and actuator / indicator	Overview
SKX 13/1	2x pushbutton PBT 01 - SPO 01/1 - SPO 01/2 - cable gland SPU 25	
SKX 13/11	Pushbutton PBT 01 - SPO 01/1 - Signal lamp SLP - Front element of signal lamp SPO 02/2 - cable gland SPU 25	
SKX 13/21	Mantle terminals SL8 - 6x cable gland SPU 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 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	-

INSTRUCTIONS FOR DESIGN OF LOW VOLTAGE SWITCHGEAR AND CONTROL GEAR ASSEMBLIES
 type SKX 16/.., SKX 18/.., SKX 20/..


In and on Ex e enclosure or combination of multiple enclosures, interconnected by bushing, are mounted "Ex e d m ia/ib" and Ex e built-in components, actuators and indicators.

There are no limitation in orientation of enclosure/combination of multiple enclosures, (longer side of enclosure is mounted horizontally or vertically) and the manner of which the mounting is set to the surface.

In horizontal orientation of enclosure, built-in components and actuators and indicators are mounted in maximum two rows.

In vertical orientation of enclosure, built-in components and actuators and indicators are mounted in maximum:

SKX 16 - 2 rows

SKX 18 - 3 rows

SKX 20 - 5 rows

The actual number of mounted rows depends on the device configuration.

Circuit breaker 3p/4p $I_{th} = 40\text{ A}, 80\text{ A}$ with its matching actuator or block NH 00 main fuse always occupies two hole rows,

Actuators and indicators – circuit breaker which are not connected with the actuator, always occupies one and a half row. In one row there can be maximally be:

SKX 16 - 6 pols, horizontal and vertical orientation of the enclosure,

SKX 18 - 12 pols vertical, 8 pols horizontal orientation of the enclosure,

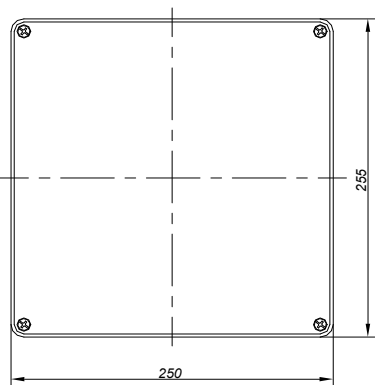
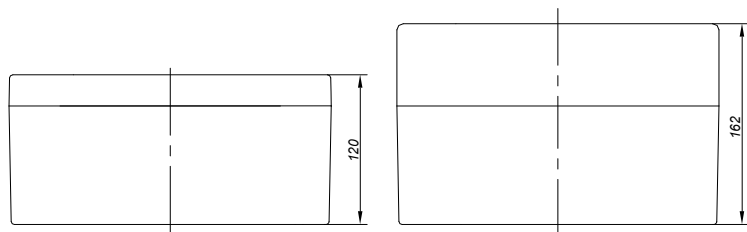
SKX 20 - 18 pols vertical, 12 pols horizontal orientation of the enclosure.

We design systems to suit your requirements on the basis of the data you supply us with:

- 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

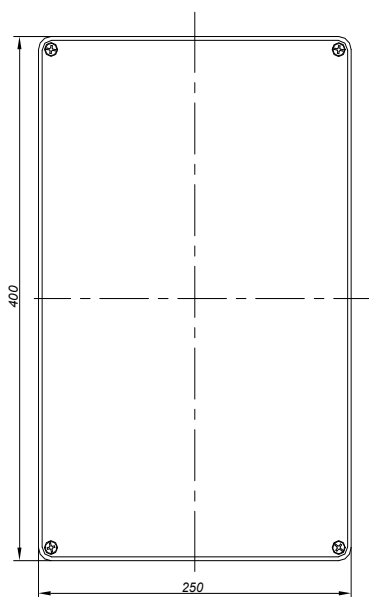
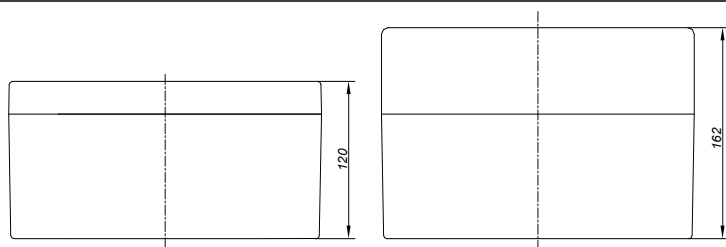


Enclosure type SKX 16



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

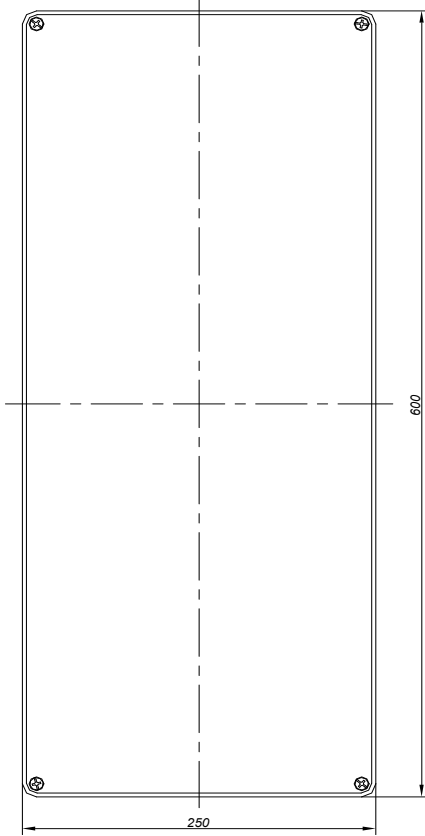
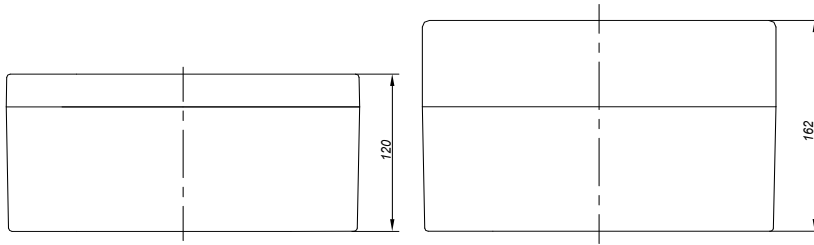
Enclosure type SKX 18



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



Enclosure type 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	-	-



APPLICATION

Explosion protected control units type SKX INOX are intended for the control, distribution and signaling in the power circles in places with an explosive gas and dust atmosphere. Control units are designed for use in the industrial areas and facilities, indoor and outdoor spaces.
Hazardous areas 1, 2, 21, 22.

CONSTRUCTION

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

TECHNICAL DATA

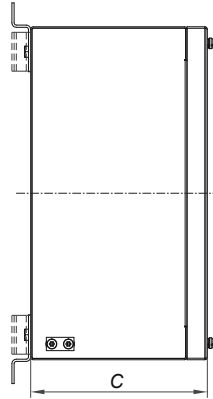
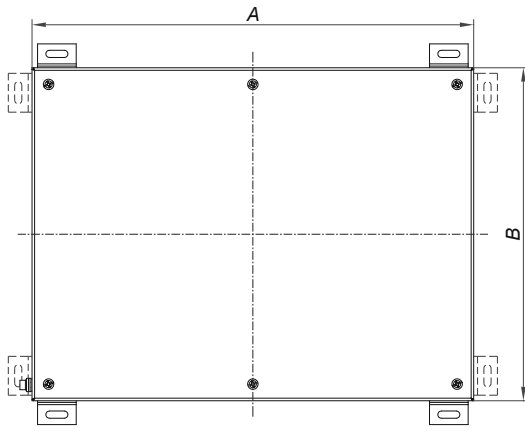
Certificate:	EXA 15 ATEX 0036
Marking:	CE 0722
Apparatus category:	Ex II 2GD
Marking of explosion protection:	Ex d e mb ia/ib IIC T4...T6 Gb Ex tb IIIC T80°C Db
Ambient temperature:	-20 °C ≤ T _a ≤ +50 °C
Degree of protection:	IP 66 kategorija 1
Resistance to shock:	IK 09
Protective class:	I (zaštitno uzemljenje)
Nominal voltage U _n :	690 V
PE terminal (inte./ext.):	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²

MODEL CODE

Control combinations SKX 16I, SKX 18I, SKX 20I, are the products configured according to customer demand.

Type designation consists of a basic type designation - SKX 16I od SKX 18I or SKX 20I + SRU number that represents the manufacturing number and is assigned by increment, for example:

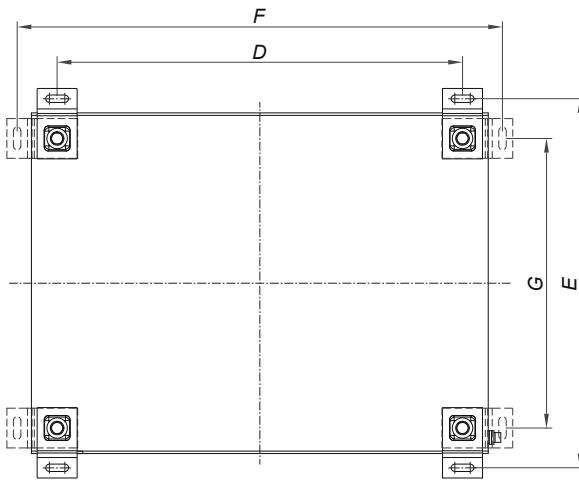
- SKX 18I / SRU - 1280 - a combination of control in the housing MMK 403016 performed by production number 1280

DIMENSION


	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

With screw kit through the 12/7 mm openings on the enclosure in the tips of rectangle



	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

SPARE PARTS AND ACCESSORIES

- Enclosure lid gasket SKX 16I/SRU...:
- Ex e II cable gland M16, M20, M25, M32, M40, M50, M63 set
- Ex e II plug M16, M20, M25, M32, M40, M50, M63 set
- Ex e II connection terminal Connectwell CTS6UN
- Lid screw – combi screw M5x25 (Z4) - 4.8 A2



APPLICATION

Explosion protected installation switches, type SKX-SW/1, SKX-SW/2, SKX-SW/6 are use for on and off light circuits up to 16A in industrial with potentially explosive atmosphere in Zones 1, 2

CONSTRUCTION

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

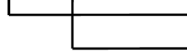
Cover: with integrated Thermoplastic elastomer gasket, closes with four M5 stainless steel screws.

TECHNICAL DATA

Certificate:	EXA 15 ATEX 0006X
Marking:	CE 0722
Apparatus category:	Ex II 2G
Marking of explosion protection:	Ex d e IIC T6 Gb
Ambient temperature:	-20 °C ≤ T _a ≤ +50 °C
Degree of protection:	IP 54
Resistance to shock:	IK 08
Protective class:	I (PE-protective earthing)
Nominal voltage U _i :	690 V
Rated thermal current I _{th} :	16 A za -20°C ≤ T _a ≤ +40°C 15 A za -20°C ≤ T _a ≤ +50°C
PE terminal within housing:	max. 2x4 mm ² +2x2,5 mm ² , 3x4 mm ² , 2x6 mm ²
Screw of cover:	4xM5/10 (Z4)-4.8 A2 combi screw
Color:	black, RAL 9005
Weight:	0,6 kg

Switching capacity	Rated operating voltage U _e	Rated operating current I _e
AC 5a	230 V	16 A za -20°C ≤ T _a ≤ +40°C
		15 A za -20°C ≤ T _a ≤ +50°C
AC 5b	230 V	16 A za -20°C ≤ T _a ≤ +40°C
		15 A za -20°C ≤ T _a ≤ +50°C
AC 1	500 V	16 A za -20°C ≤ T _a ≤ +40°C
		15 A za -20°C ≤ T _a ≤ +50°C
AC 15	250 V	6 A za -20°C ≤ T _a ≤ +50°C
	500 V	4 A za -20°C ≤ T _a ≤ +50°C
DC 13	24 V	6 A za -20°C ≤ T _a ≤ +50°C
	60 V	0,8 A za -20°C ≤ T _a ≤ +50°C
	110 V	0,5 A za -20°C ≤ T _a ≤ +50°C

SKX SW

**MODEL CODE**Instalation switches SKX-SW/.

-basic type code:

-type of switches

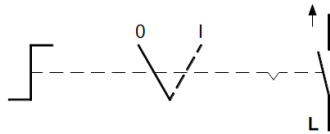
1- on-off switch 1 pole

2- on-off switch 2 pole

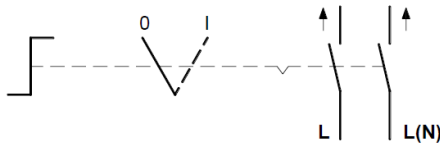
6- two-way switch

WIRING DIAGRAM

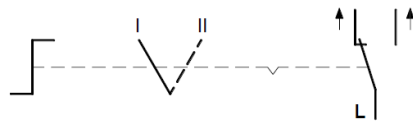
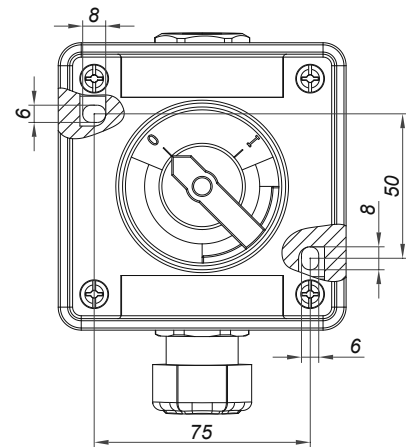
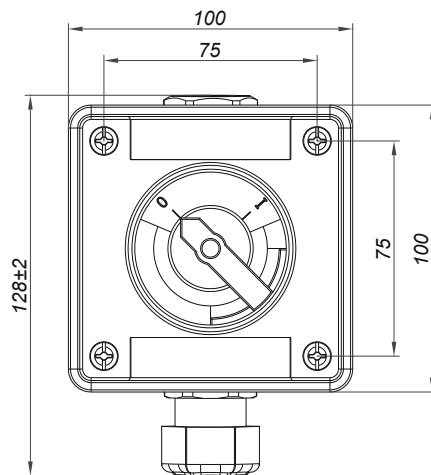
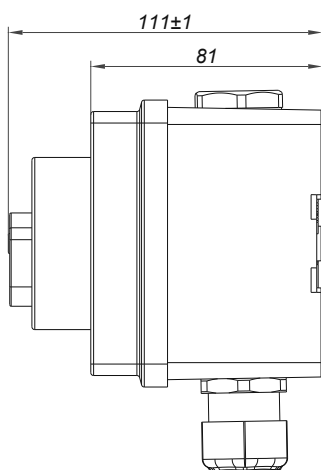
ON-OFF switch 1 pole



ON-OFF switch 2 pole



Two-way switch

**DIMENSION****MOUNTING**



APPLICATION

Explosion protected grounding and grounding control device type GGCD-01/.. together with clamp make active grounding system for static grounding and permanent monitoring is intended for use in places with an explosive gas and dust atmosphere. The GGCD is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

Explosion protected grounding and grounding control device type GGCD-01/.., intended for the permanent removal of electrostatic charge that may occur during filling or emptying tanks (road tanks, railcar tanks, barrels). The system provides the conditions for starting the production process only if the insured continuity control loop earthing resistance and jaw of clamp for grounding.

CONSTRUCTION

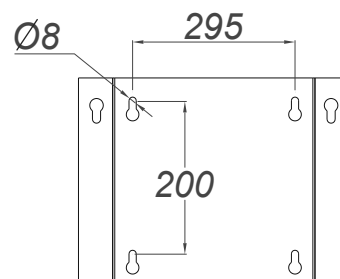
Enclosure: polyester plastic reinforced with glass fiber, color - black

Cover: with integrated Thermoplastic elastomer gasket, closes with four M6 stainless steel screws.

TECHNICAL DATA

Certificate:	⊕ CESI 11 ATEX 041
Marking:	CE 0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex d e [ib] mb IIC T5 Gb
Ambient temperature:	-20 °C ≤ T _a ≤ +50 °C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 08
Protection class:	I (protective earthing)
Rated voltage:	230V ± 10%
Rated current:	50 mA
Frequency:	50Hz
Output circuit:	2 NO/NC U _n =250 V AC, I _n =8 A / 230 V, 4 A at cosφ=0.4
Push button START:	Starting the system, control the time about 10s
Signal lamps:	Red: blinking inside control time (10 sec - MOD2), contacts NO are open, contacts NC are closed, continuous operation (MOD1 and MOD 2), contacts NO are open, contacts NC are closed Green: continuous operation (MOD1 and MOD 2), contacts NO are closed, contacts NC are open
Cable entries:	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

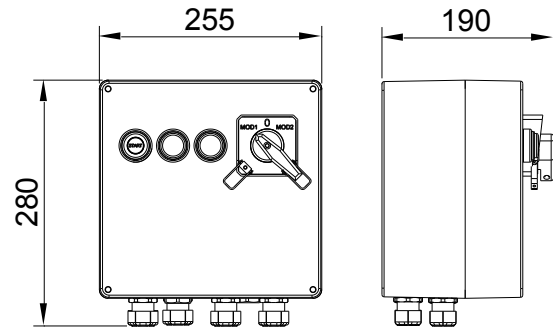
MOUNTING



GGCD

MODEL CODE
DIMENSION

TYPE	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

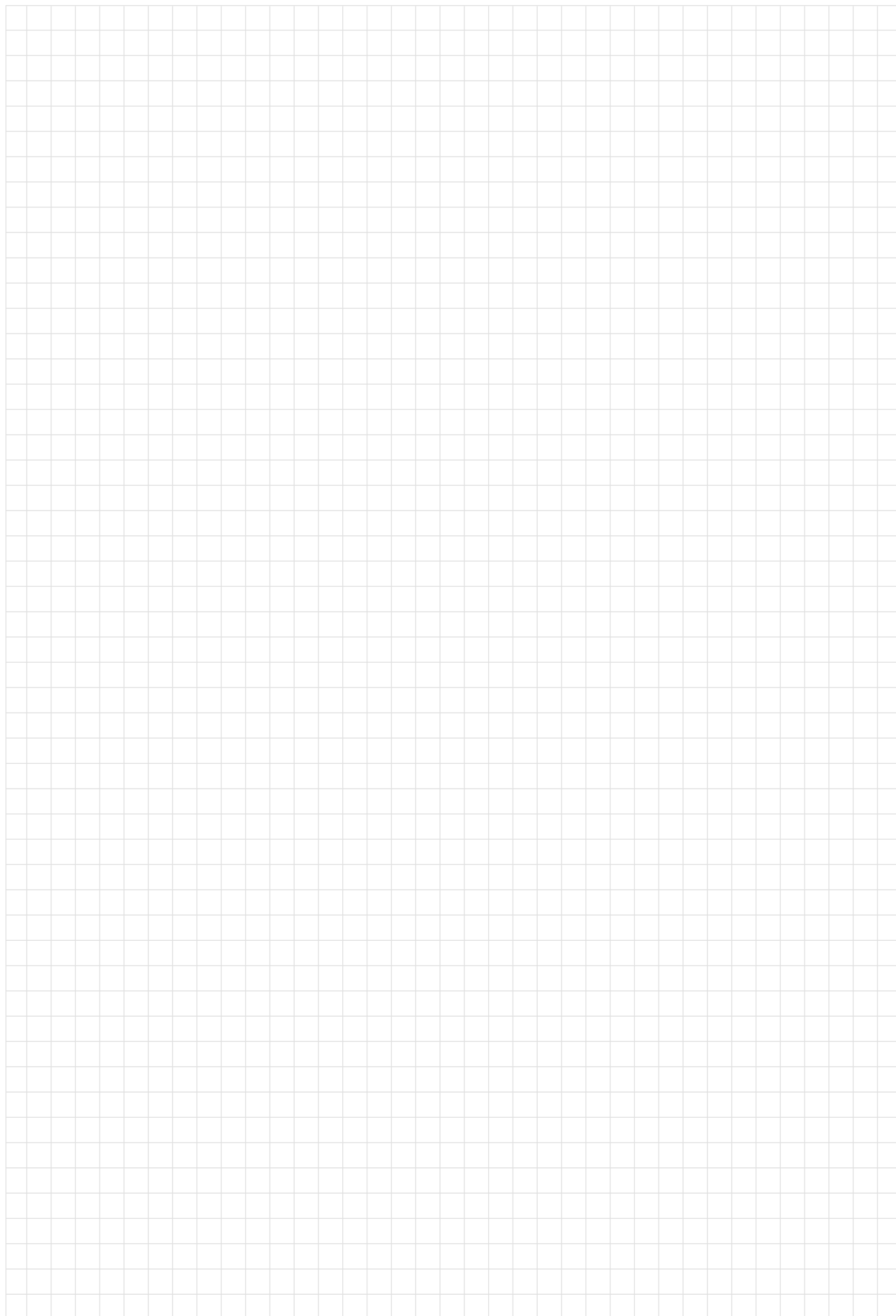

ACCESSORIES:

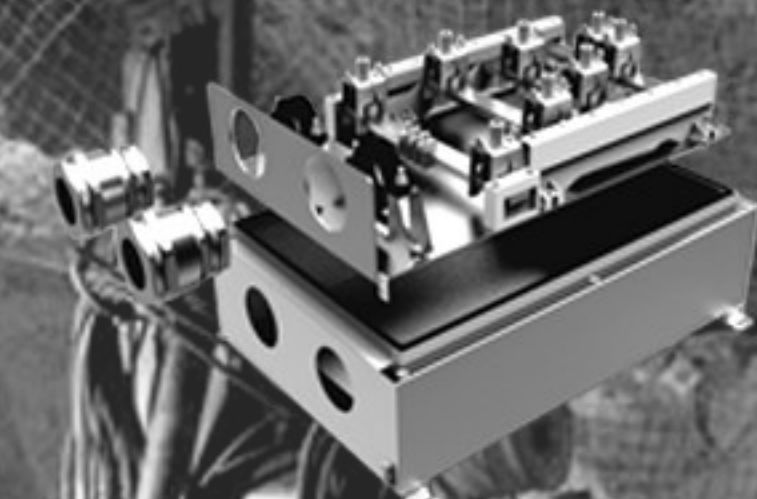
1. Cable reel - 20m with plugs for connection to GGCD
2. Metal cable glands for armoured cable Ex e II
3. Dislocated monitoring system

Principle of work for GGCD-01/..

indication on the device	response device
	Clamps are not connected <ul style="list-style-type: none"> • bright red light • disabled transport
	Clamps are short-circuited with the earthing construction (for example, the iron fence) <ul style="list-style-type: none"> • bright red light • disabled transport
	Tank is connected via the device GGCD-01 <ul style="list-style-type: none"> • bright green light • transport allowed
	Tank is connected via the device GGCD-01 but cable to the grounding or busbar is broken <ul style="list-style-type: none"> • bright red light • disabled transport
	Tank is connected via the device GGCD-01 + successively ground through, for example, "loading arm" <ul style="list-style-type: none"> • bright green light • transport allowed







**TERMINAL BOXES
DISTRIBUTION CABINETS**



APPLICATION

Explosion protected junction boxes RK 01/... are intended for carrying and distributing electrical power in places with an explosive gas and dust atmosphere. The junction box is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

The junction box RK 01/... are fitted with pillar (mantle) terminals or terminal blocks for cable up to 6mm². For cable with armored cable there are junction boxes available with internal metal plate and external earthing terminal.

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.

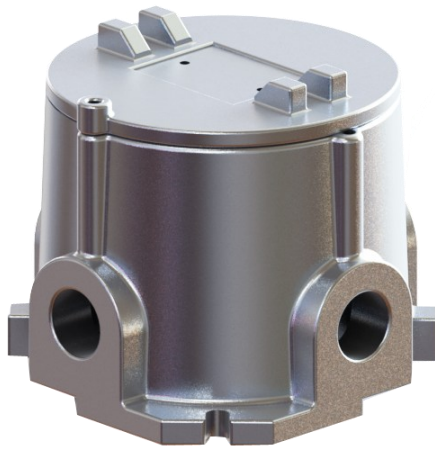
TECHNICAL DATA

Certificate:	CESI 10 ATEX 040	
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:	-20°C ≤ Ta ≤ +40°C or +50°C -40°C ≤ Ta ≤ +50°C, with specially designed cable glands -40°C ≤ Ta ≤ +70°C, for Ex i, with specially designed glands	
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	
Nominal cross-section:	4 mm ² RK01/514, RK01/514 Exi, RK01/544, RK01/744 6 mm ² RK01/516	
Terminal rated current:	RK01/744, RK01/544 RK01/544E	Ta ≤ 40°C 22 A Ta ≤ 50°C 18 A
	RK01/514	Ta ≤ 40°C 20 A Ta ≤ 50°C 16 A
	RK01/516	Ta ≤ 40°C 25 A Ta ≤ 50°C 20 A
Cable current load capacity:	1.5 mm ² - 16 A 2.5 mm ² - 20 A 4 mm ² - 25 A 6 mm ² - 32 A	
Cable entries, cable glands and screw plugs:	Cable entries in accordance with EN 60423 Cable glands in accordance with EN 50262 6 x M25 for cable φ6-15 mm (φ13-19 mm available on request) 6 x M32 for cable φ12-21 mm (φ17-25 mm available on request) 4 x M25 for cable φ6-15 mm (φ13-19 mm available on request) 4 x M32 for cable φ12-21 mm (φ17-25 mm available on request)	
External earthing terminal:	2x6 mm ² max., cable lug 6-6, DIN 46234 (on type RK01/544-E)	
Weight:	0,55 kg 0,80 kg with internal metal plate	
Packing:	The packing contains: 14 pcs 435x260x220 mm	

MOUNTING

With two screws through the housing holes φ6 mm at the peaks the rectangle:
100 x 75 mm

RK



APPLICATION

Explosion proof junction box type JBX 01 is empty Ex d enclosure (component) in which are installed industry-standard performance equipment (low voltage switching devices, electrical appliances).

The junction box is intended for use in places with an explosive gas and dust atmosphere. The junction box is designed for use in the industrial areas and facilities, indoor and outdoor spaces.

CONSTRUCTION

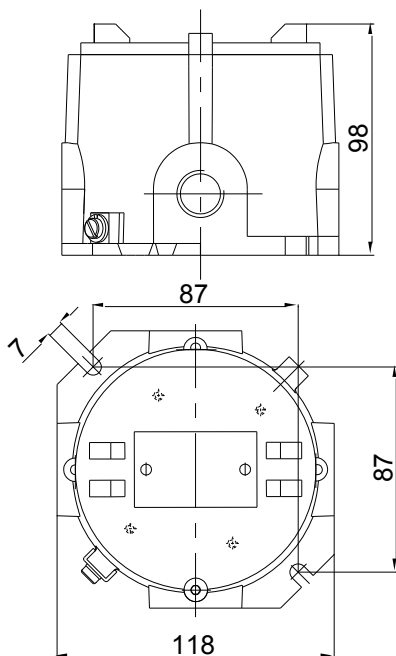
Enclosure: corrosion resistant grey polyurethanes painted aluminium color RAL 7000
Gasket: Silicon

TECHNICAL DATA

Certificate:	EXA 13 ATEX 0003U
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex d IIC Gb Ex tb IIIC Db
Ambient temperature:	-20°C ≤ Ta ≤ +60°C
Service temperature:	-20°C ≤ Ta ≤ +80°C
Degree of protection:	IP 66 category 1
Protection class :	I (protective earthing)
External earthing terminal:	max. 2 x 6 mm ²
Color:	Gray, RAL 7001
Weight:	1,0 kg

DIMENSION

MODEL CODE



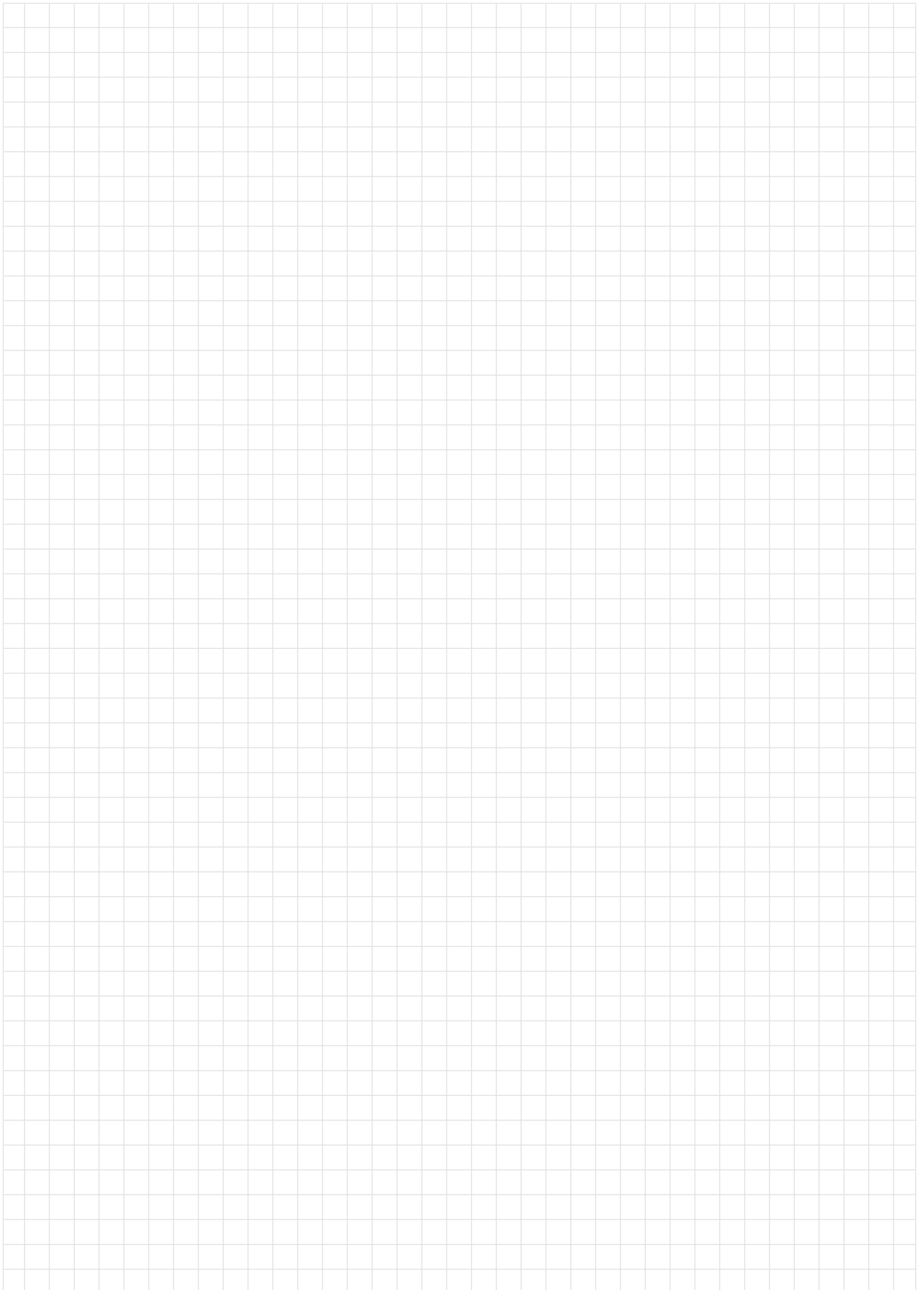
TYPE	No. of entries/side	Entries
JBX 01/11	2 / B-D	M20x1,5 - ISO 261
JBX 01/12	3 / B-C-D	
JBX 01/13	4 / A-B-C-D	
JBX 01/31	2 / B-D	3/4" - NPT - ANSI ASME B1.20.1
JBX 01/32	3 / B-C-D	
JBX 01/33	4 / A-B-C-D	
JBX 01/41	2 / B-D	1/2" - NPT - ANSI ASME B1.20.1
JBX 01/42	3 / B-C-D	
JBX 01/43	4 / A-B-C-D	



EXA 13 ATEX 0003U



0722



**APPLICATION**

The terminal boxes are intended for the distribution of electrical energy, e.g. light circuits, heating circuits, control circuits, intrinsically safe circuits in places with an explosive gas and dust atmosphere, in hazardous areas 1, 2, 21, 22. Enclosure of glass fiber-reinforced polyester resin can be supplied in 7 sizes with various heights and they are suitable for fixed mounting. The terminal boxes are fitted to order with terminals and cable glands. For armored cables all terminal boxes are available with internal metal plate and cable glands for armored cables.

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
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	II 2G Ex e IIC T6 Gb II 2G Ex ia/ib IIC T6 Gb II 2G Ex e ia/ib IIC T6 Gb
Ambient temperature:	-20°C ≤ Ta ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 07
Protection class:	I (protective earthing)
Rated voltage:	Up to 750 V AC
Rated current:	In accordance with table
Surface resistance:	< 10 ⁹ Ω
Rated cross-section:	max. nominal cross-section 50 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

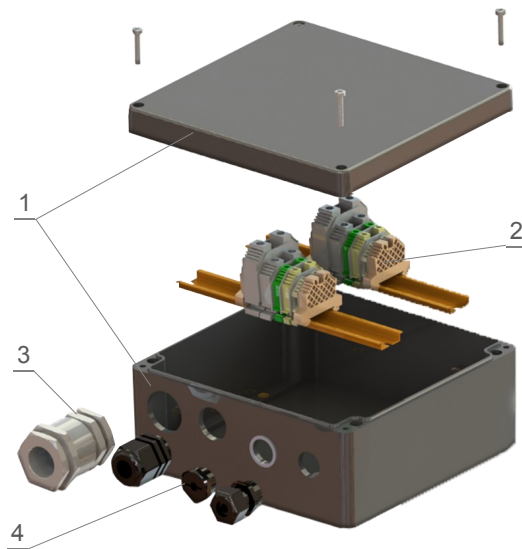
With two/four screws through the housing holes $\phi 6$ mm at the peaks the rectangle:

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	



SPARE PARTS AND ACCESSORIES

1. Enclosure, cover gasket
2. Ex e terminals
3. Ex e cable glands (metal, plastic)
4. Ex e plugs



Terminal box SKX 12/E

Explosion protected terminal box type SKX 12/E, are intended for connection and distribution cables up to the nominal cross section of 4mm².

Conductor connection to the terminals:

2,5 mm²; 1 x 1 – 2,5 mm² and 2 x 1 – 1 mm²
 4 mm²; 1 x 1 – 4 mm² and 2 x 1 – 1,5 mm²

Length of removing insulation on the conductor and torque tightening the screw terminals:

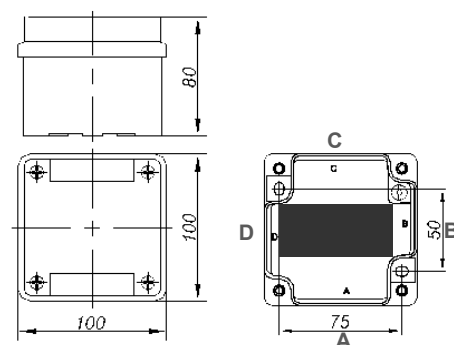
2,5 mm² - 10 mm - 0,5 Nm
 4 mm² - 10 mm - 0,6 Nm

Max. number of line-up terminals wich can be fitted in SKX 12/E01:
 5+2 PE terminals - 4mm², max rated current 20A

Max. number of mounted cable entries:

DIMENSIONS [mm]

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



Terminal box SKX 13/E

Explosion protected terminal box type SKX 13/E, are intended for connection and distribution cables up to the nominal cross section of 6mm².

Conductor connection to the terminals:
 2,5 mm²; 1 x 1 – 2,5 mm² and 2 x 1 – 1 mm²
 4 mm²; 1 x 1 – 4 mm² and 2 x 1 – 1,5 mm²
 6 mm²; 1 x 1 – 6 mm² and 2 x 1 – 2,5 mm²

Length of removing insulation on the conductor and torque tightening the screw terminals:
 2,5 mm² - 10 mm - 0,5 Nm
 4 mm² - 10 mm - 0,6 Nm
 6 mm² - 12 mm - 1,2 Nm

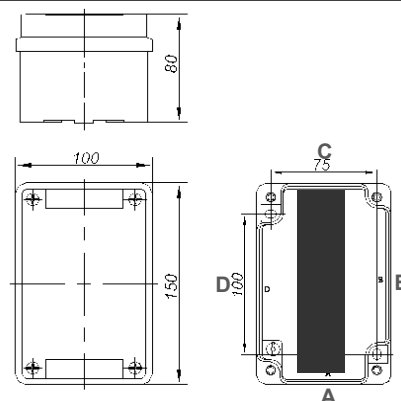
Max. number of line-up terminals which can be fitted in SKX 13/E:

SKX 13/E01 - 8+2 PE terminals - 4mm², max rated current 20A
 SKX 13/E02 - 8+2 PE terminals - 6mm², max rated current 25A

Max. number of mounted cable entries:

DIMENSIONS [mm]

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



Terminal box SKX 14/E

Explosion protected terminal box type SKX 14/E, are intended for connection and distribution cables up to the nominal cross section of 6mm².

Conductor connection to the terminals:
 2,5 mm²; 1 x 1 – 2,5 mm² and 2 x 1 – 1 mm²
 4 mm²; 1 x 1 – 4 mm² and 2 x 1 – 1,5 mm²
 6 mm²; 1 x 1 – 6 mm² and 2 x 1 – 2,5 mm²

Length of removing insulation on the conductor and torque tightening the screw terminals:
 2,5 mm² - 10 mm - 0,5 Nm
 4 mm² - 10 mm - 0,6 Nm
 6 mm² - 12 mm - 1,2 Nm

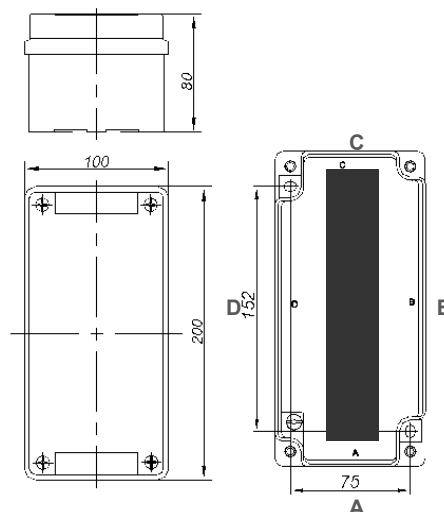
Max. number of line-up terminals which can be fitted in SKX 13/E:

SKX 14/E01 - 16+4 PE terminals - 4mm², max rated current 20A
 SKX 14/E02 - 16+4 PE terminals - 6mm², max rated current 25A

Max. number of mounted cable entries:

DIMENSIONS [mm]

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



**Terminal box SKX 15/E**

Explosion protected terminal box type SKX 15/E, are intended for connection and distribution cables up to the nominal cross section of 25mm².

Conductor connection to the terminals:

2,5 mm ² ; 1 x 1	-	2,5 mm ²	and	2 x 1	-	1 mm ²
4 mm ² ; 1 x 1	-	4 mm ²	and	2 x 1	-	1,5 mm ²
6 mm ² ; 1 x 1	-	6 mm ²	and	2 x 1	-	2,5 mm ²
10 mm ² ; 1 x 1,5	-	10 mm ²	and	2 x 1,5	-	4, mm ²
16 mm ² ; 1 x 1,5	-	16 mm ²	and	2 x 1,5	-	4 mm ²
25 mm ² ; 1 x 1,5	-	25 mm ²	and	2 x 1,5	-	4 mm ²

Length of removing insulation on the conductor and torque tightening the screw terminals:

2,5 mm ²	-	10 mm	-	0,5 Nm
4 mm ²	-	10 mm	-	0,6 Nm
6 mm ²	-	12 mm	-	1,2 Nm
10 mm ²	-	12 mm	-	2,0 Nm
16 mm ²	-	14 mm	-	3,0 Nm
25 mm ²	-	14 mm	-	3,0 Nm

Terminal fittings, number of conductors which can be fitted depending on conductor cross-section and continues current

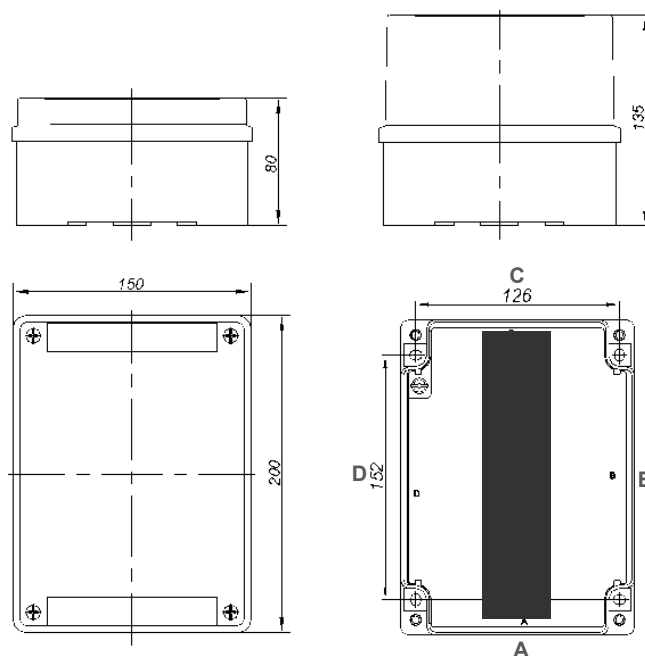
Max. current [A]	CROSS SECTION [mm ²]										
	Rated cross section of conductors - rated cross section of terminals										
	2,5	4	6	10	16	25					
13	48	Allowed combinations									
16	8						48				
18	4						24	48			
21	8						32	42			
33							8	24	42		
50								8	24	16	
63	Unallowable combinations						8	8			
77								4			
Max. number of terminals depending of the enclosure size	24 + rails 2x24 PE						24 + rails 2x24 PE	16	14	12	8

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

Explosion protected terminal box type SKX 16/E, are intended for connection and distribution cables up to the nominal cross section of 35mm².

Conductor connection to the terminals:

2,5 mm ² ; 1 x 1	-	2,5 mm ²	and	2 x 1	-	1 mm ²
4 mm ² ; 1 x 1	-	4 mm ²	and	2 x 1	-	1,5 mm ²
6 mm ² ; 1 x 1	-	6 mm ²	and	2 x 1	-	2,5 mm ²
10 mm ² ; 1 x 1,5	-	10 mm ²	and	2 x 1,5	-	4 mm ²
16 mm ² ; 1 x 1,5	-	16 mm ²	and	2 x 1,5	-	4 mm ²
25 mm ² ; 1 x 1,5	-	25 mm ²	and	2 x 1,5	-	4 mm ²
35 mm ² ; 1 x 2,5	-	35 mm ²	and	2 x 2,5	-	6 mm ²

Length of removing insulation on the conductor and torque tightening the screw terminals:

2,5 mm ²	-	10 mm	-	0,5 Nm
4 mm ²	-	10 mm	-	0,6 Nm
6 mm ²	-	12 mm	-	1,2 Nm
10 mm ²	-	12 mm	-	2,0 Nm
16 mm ²	-	14 mm	-	3,0 Nm
25 mm ²	-	14 mm	-	3,0 Nm
35 mm ²	-	17 mm	-	5,0 Nm

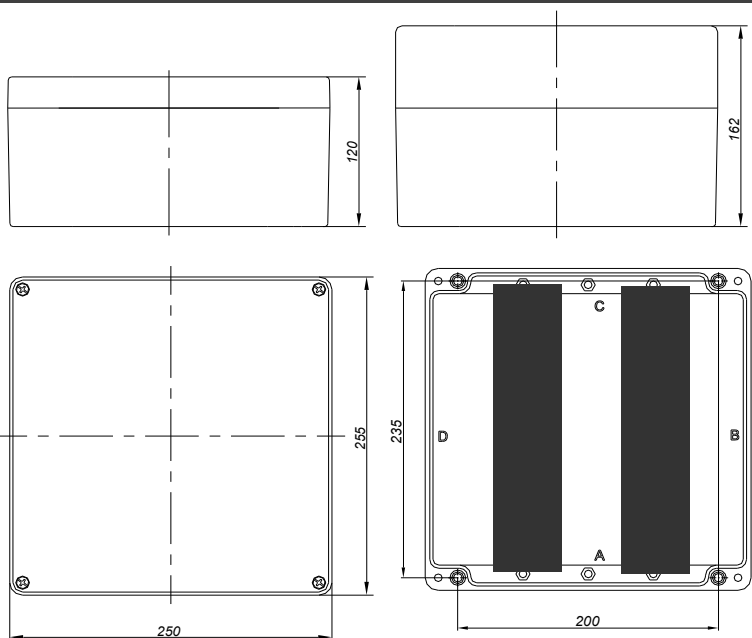
Terminal fittings, number of conductors which can be fitted depending on conductor cross-section and continues current

Max. current [A]	CROSS SECTION [mm ²]													
	Rated cross section of conductors - rated cross section of terminals													
	2,5	4	6	10	16	25	35							
6	Allowed combinations													
10								140						
14								72	122					
20									60	80				
27										44	78			
40											36			
54								Unallowable combinations				54		
69												30	48	32
96													30	20
Max. number of terminals depending of the enclosure size								80	66	57	44	16	16	12
	double row assembly				single row assembly									

Max. number of mounted cable entries:

DIMENSIONS [mm]

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



**Terminal box SKX 18/E**

Explosion protected terminal box type SKX 18/E, are intended for connection and distribution cables up to the nominal cross section of 70mm².

Conductor connection to the terminals: 35 mm²; 1 x 2,5 – 35 mm² and 2 x 2,5 – 6 mm²
50
70

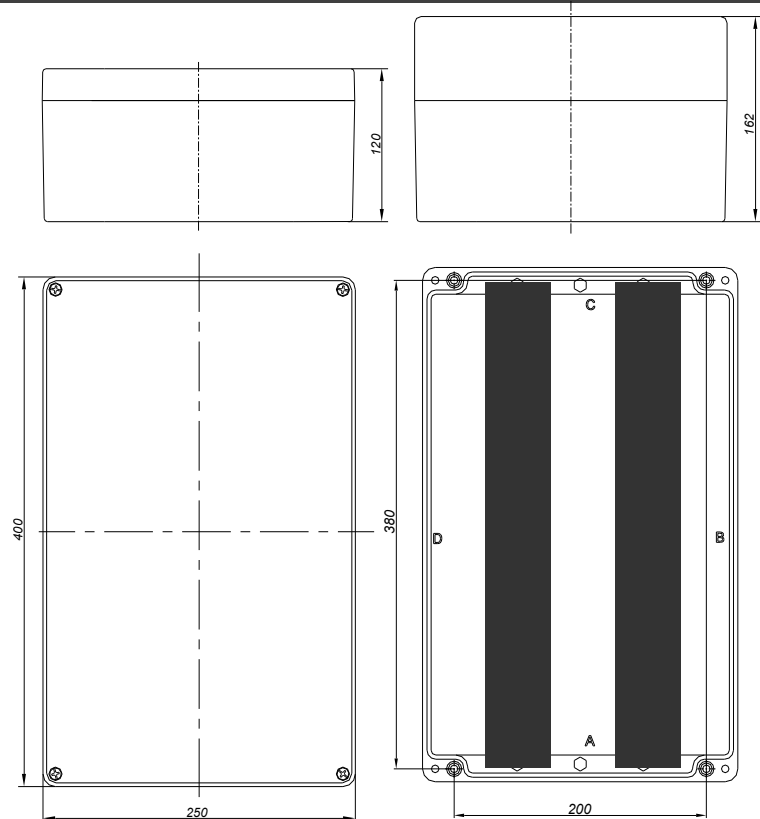
Length of removing insulation on the conductor and torque tightening the screw terminals: 35 mm² - 17 mm - 5,0 Nm
50
70

Terminal fittings, number of conductors which can be fitted depending on conductor cross-section and continues current

Max. current [A]	CROSS SECTION [mm ²]								
	Rated cross section of conductors - rated cross section of terminals								
	2,5	4	6	10	16	25	35	50	70
6	264								
10	216	244							
13	128	206							
18		108	166						
26			108	136					
38				64	96				
52	Unallowable combinations				52	86			
67						52	72		
90							40	52	24
116								32	8
Max. number of terminals depending of the enclosure size	128	106	92	70	52	25	25	12	8
	double row assembly					single row assembly			

Max. number of mounted cable entries:**DIMENSIONS [mm]**

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



Terminal box SKX 20/E

Explosion protected terminal box type SKX 20/E, are intended for connection and distribution cables up to the nominal cross section of 70mm².

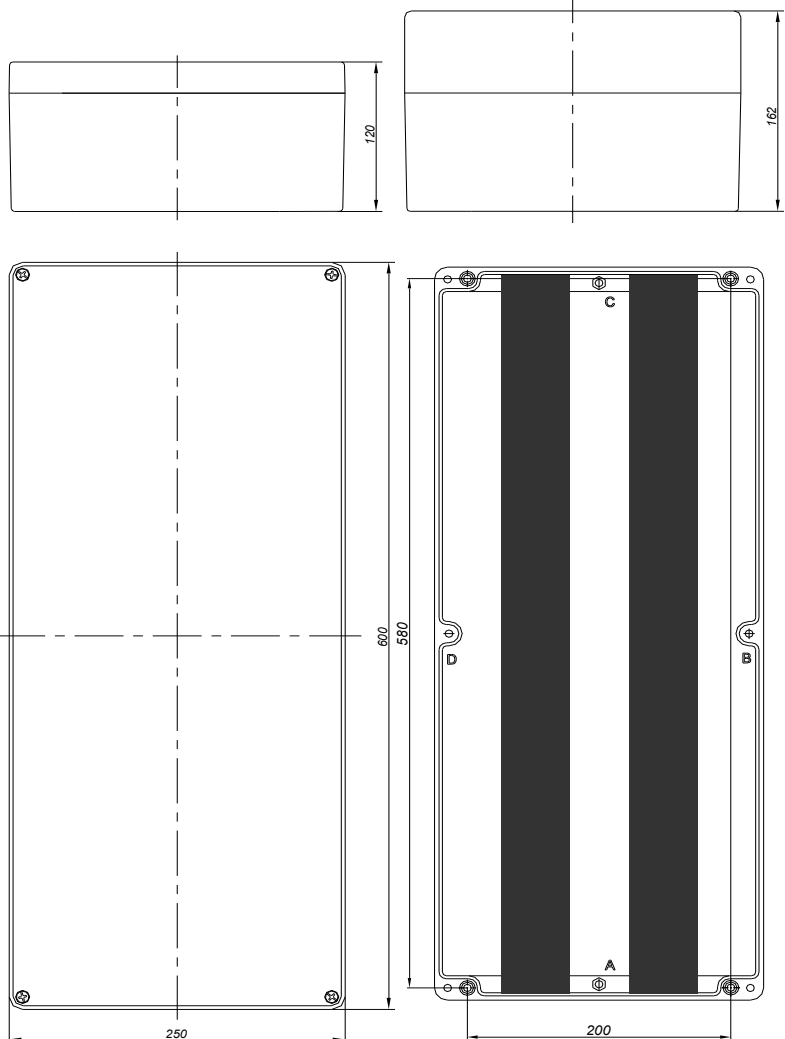
Terminal fittings, number of conductors which can be fitted depending on conductor cross-section and continues current

Max. current [A]	CROSS SECTION [mm ²]																
	Rated cross section of conductors - rated cross section of terminals																
	2,5	4	6	10	16	25	35	50	70								
10	288	Allowed combinations															
12	200									304							
16										172	272						
23											132	218					
34												100	158				
48													80	132			
62	Unallowable combinations												80	106			
83															60	82	36
105																52	24
Max. number of terminals depending of the enclosure size	128									106	92	70	52	25	25	12	8
	double row assembly					single row assembly											

Max. number of mounted cable entries:

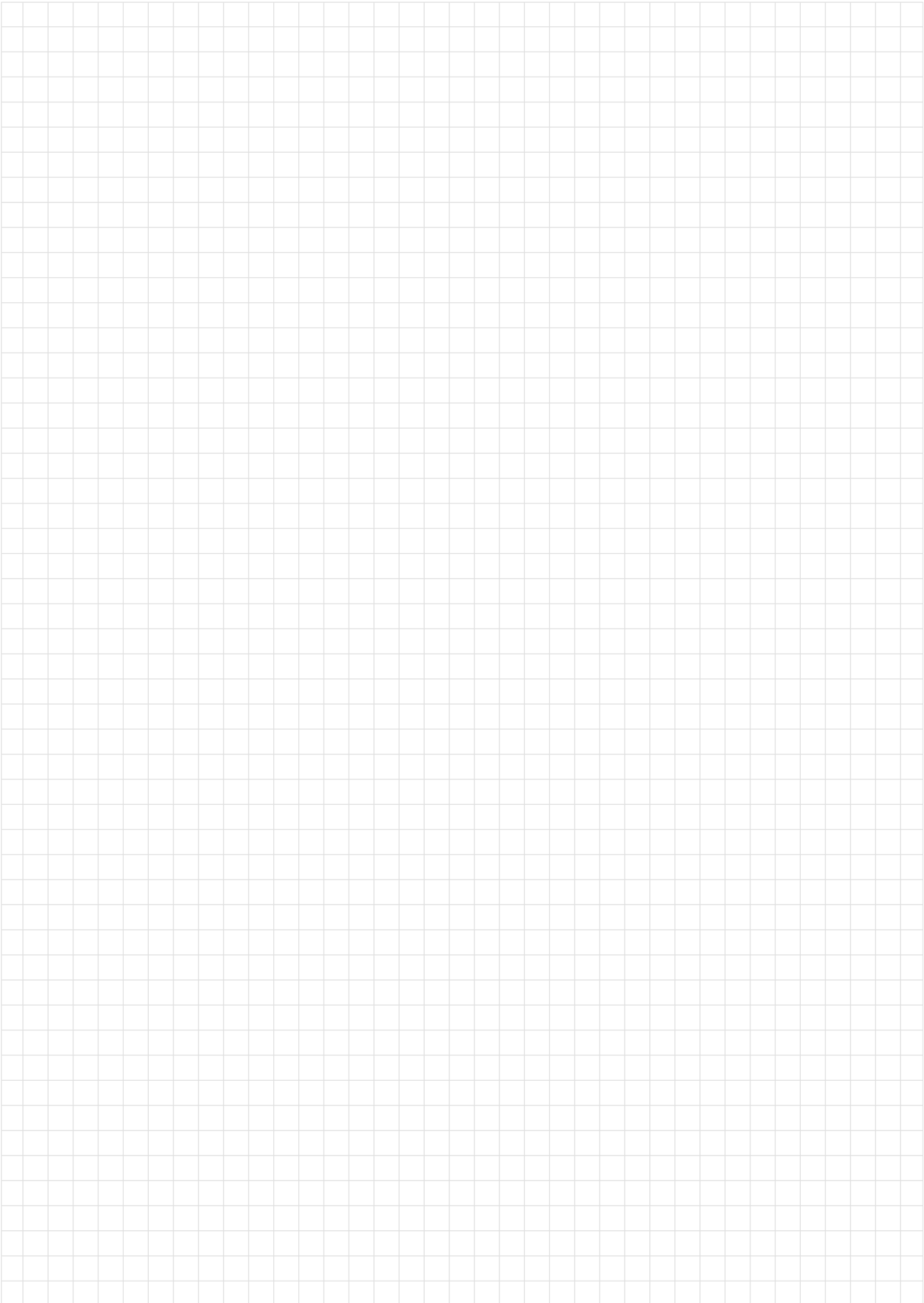
DIMENSIONS [mm]

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





EXA 15 ATEX 0044





APPLICATION

Ex stainless steel terminal boxes are intended for carrying and distributing electrical power in places with an explosive gas and dust atmosphere. The SS terminal boxes are designed for use in the industrial areas and facilities, indoor and outdoor spaces.

CONSTRUCTION

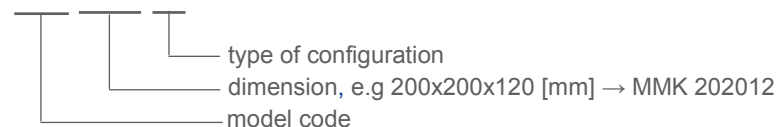
Enclosure: Stainless steel AISI 316L, brush finished, thickness 1.5mm
Gasket: EPDM formed gasket

TECHNICAL DATA

Certificate:	EXA 13 ATEX 0053U
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex e II T6, Ex e ia IIC T6, Ex ia IIC T6 tD A21 T80°C
Ambient temperature:	-40°C ≤ T _a ≤ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 10
Protective class:	I (protective earthing)
Cable entries:	according to specification
Protection class:	I (protective earthing)

MODEL CODE (for empty enclosure)

MMK / ..



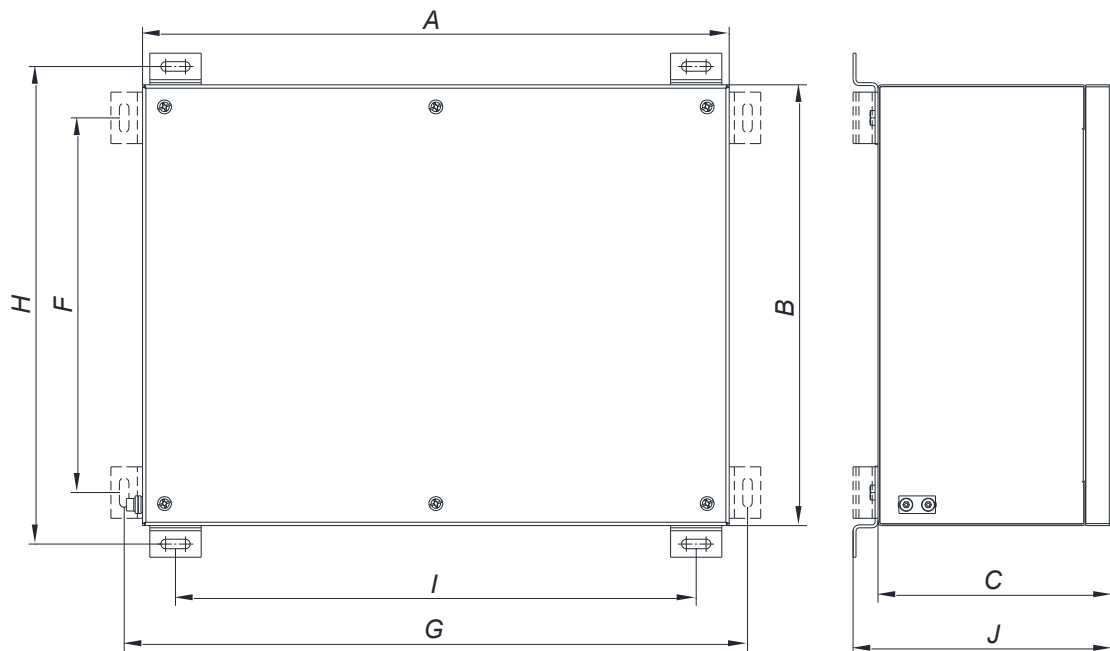


EXA 13 ATEX 0053U

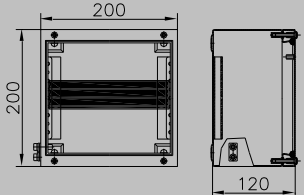
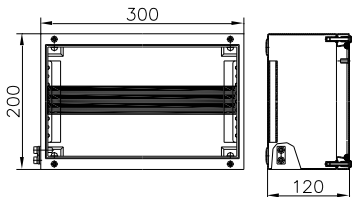
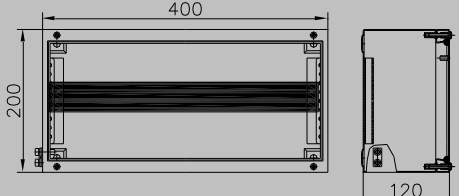
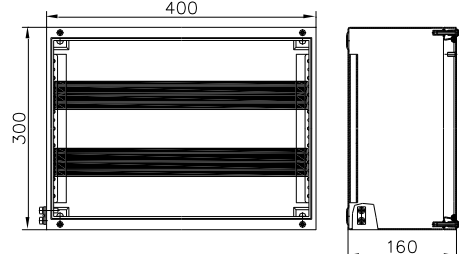
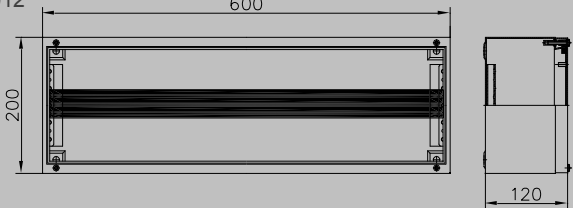


DIMENSION [mm]

MMK	A	B	C	F	G	H	I	J	[kg]
202012	200	200	120	152	225	222	155	138	2,8
302012	300	200	120	152	325	322	255	138	3,1
302016	300	200	160	152	325	322	255	178	3,8
402012	400	200	120	152	425	422	355	138	4,8
402016	400	200	160	152	425	422	355	178	5
403012	400	300	120	252	425	422	355	138	5,4
403016	400	300	160	252	425	422	355	178	5,8
602012	600	200	120	152	625	622	555	138	5,6
602016	600	200	160	152	625	622	555	178	7,1
604016	600	400	160	352	625	622	555	178	12,1

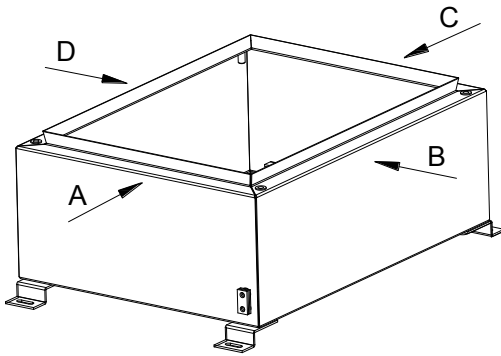


Terminal boxes up to 35 mm²

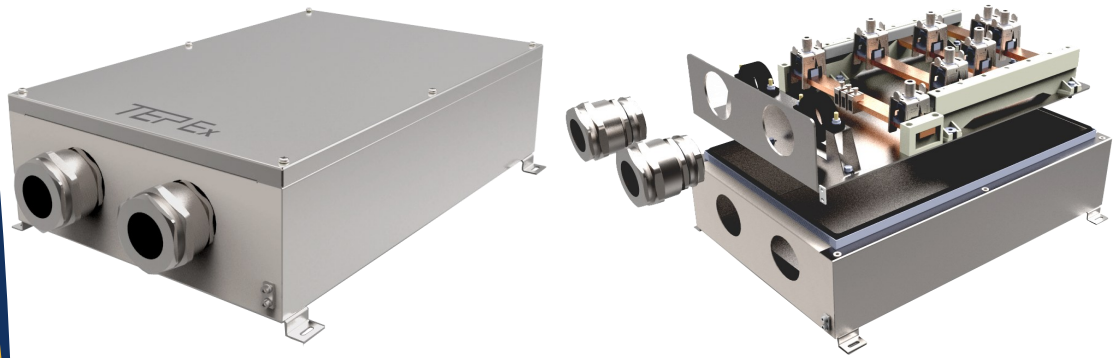
		Max. number of terminals					
Cross section [mm ²]		2.5	4	6	10	16	35
TYPE	Max. current [A]	16	20	25	35	50	80
SKX 202012		30	25	19	15	12	-
SKX 302012		50	42	31	25	21	16
SKX 402012		70	58	44	35	29	22
SKX 403016		140	116	88	70	58	44
SKX 602012		110	92	69	56	46	34



Max. number of possible entries of the enclosures



TYPE Dimension	SKX 202012 200X200X120				SKX 302012 300X200X120				SKX 402012 400X200X120				SKX 403016 400X300X160				SKX 602012 600X200X120			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Cable gland																				
M20x1.5	6	8	6	8	6	12	6	12	6	18	6	18	15	30	15	30	6	24	6	24
M25x1.5	4	6	4	6	4	10	4	10	4	16	4	16	14	24	14	24	4	20	4	20
M32x1.5	3	4	3	4	3	7	3	7	3	10	3	10	8	14	8	14	3	14	3	14
M40x1.5	2	3	2	3	2	4	2	4	2	6	2	6	6	10	6	10	2	8	2	8
M50x1.5	-	-	-	-	1	2	1	2	1	3	1	3	3	4	3	4	1	4	1	4
M60x1.5	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	3	-	-	-	-



APPLICATION

Busbar enclosures type SKX ...-/... are intended for connection and junction cables cross section from 35 mm² up to 300 mm², in places with an explosive gas and dust atmosphere.

Busbar enclosures are designed for use in the industrial areas and facilities, indoor and outdoor spaces.

CONSTRUCTION

Enclosure: Stainless steel AISI 316L, 1.5mm

Gasket: EPDM formed gasket

TECHNICAL DATA

Certificate:	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:	-20°C ÷ +50°C
Degree of protection:	IP 66 category 1
Resistance to shock:	IK 10
Nominal voltage U _n :	690 V AC ±10%
Cable entries:	according to specification
Protection class:	I (protective earthing)

MODEL CODE

SKX xxxxxxxx- . / ...

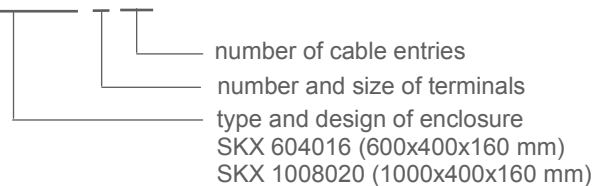
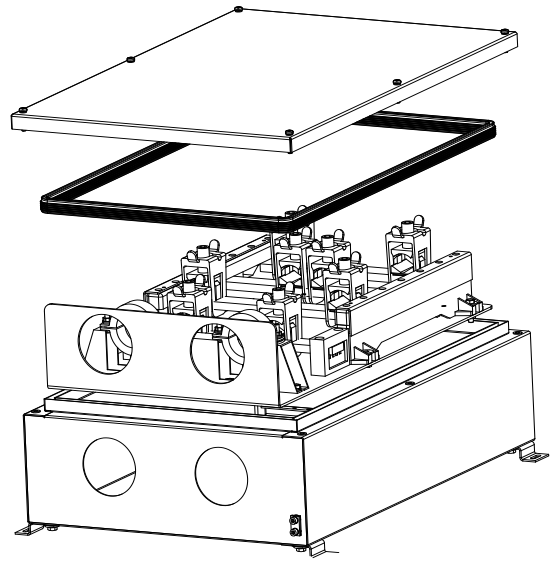
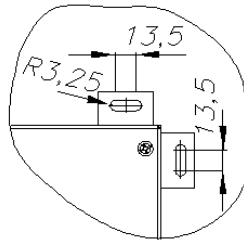
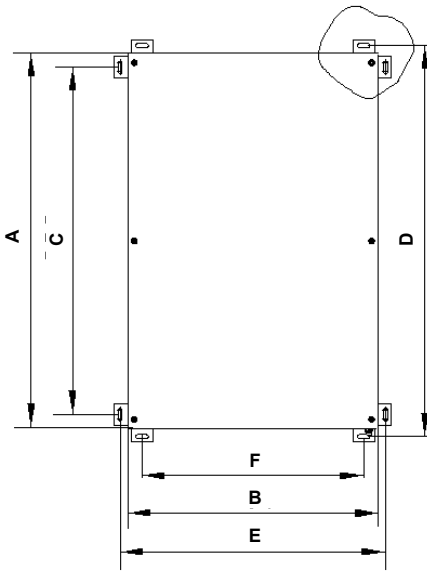


Table of maximum currents:

Terminal	Cross section	t _{amb} -20°C do +40°C	t _{amb} -20°C do +50°C
300mm ²	240 mm ²	400 A	350 A
	185 mm ²	350 A	300 A
185 mm ²	150 mm ²	300 A	250 A
	120 mm ²	250 A	200 A
120 mm ²	95 mm ²	200 A	160 A
	70 mm ²	150 A	125 A
	50 mm ²	125 A	100 A
	35 mm ²	100 A	80 A

DIMENSION [mm]


Type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
SKX 604016	800	600	555	622	422	355
SKX 10008020	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 185 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

R3002 / R3006



- 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
- Cable entries available:
Direct : cable glands,
Indirect : via Ex e enclosure multiwire bushing, conductor insulator

APPLICATION

The „flameproof“ Ex d distribution cabinets type R3002 and R3004 can be used in Zone 1, 2, 21,22.

They are used for:

- Electrical motor drivers
- Lighting control
- Electric power distributing and control
- Electric power measuring and control
- Technological process control

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.

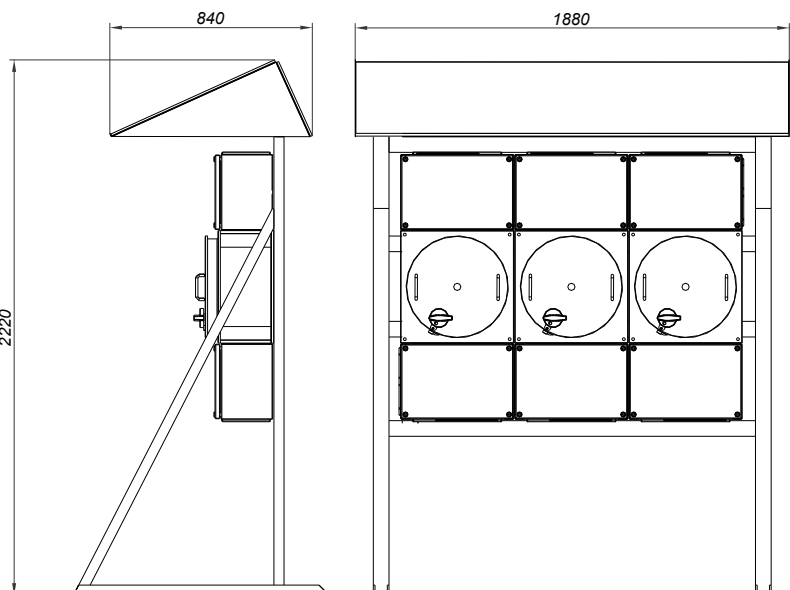
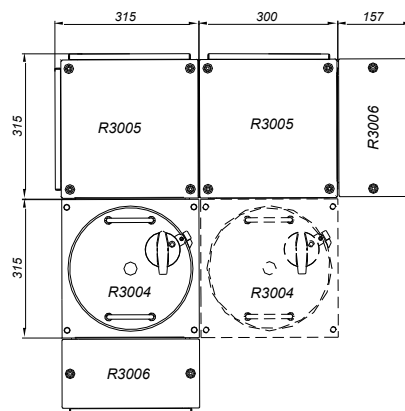
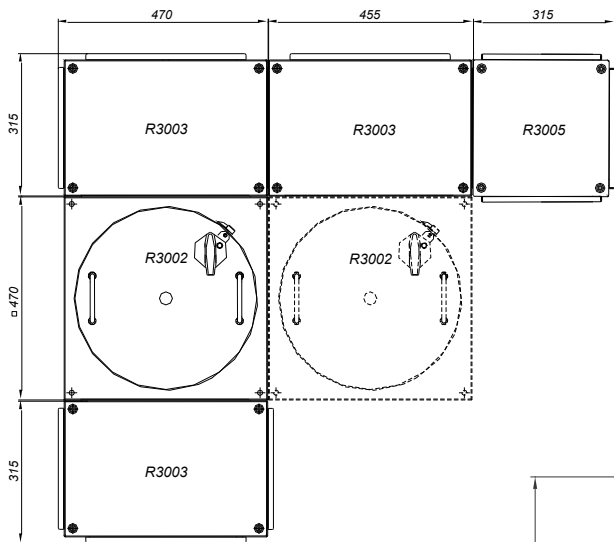
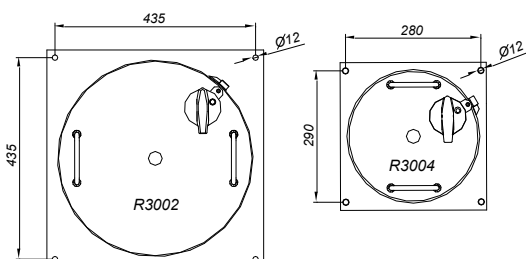
The "flameproof" type protection 'Ex d' is based on the principle that electrical components which may cause sparks or arcing in normal operation (switches, contactors etc.) are in an enclosure constructed so that it will contain an explosion of flammable gas or vapor and will not permit ignition of 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.



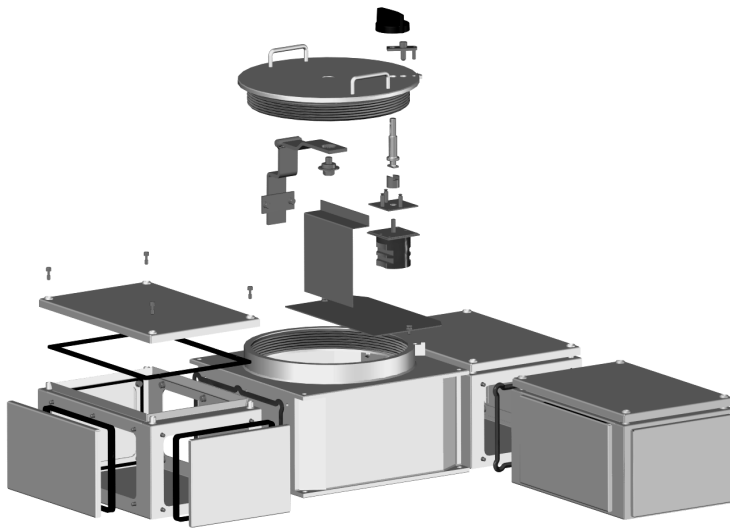
EXA 14 ATEX 0050X

**TECHNICAL DATA**

Certificate:	EXA 14 ATEX 0050X
Marking:	CE 0722
Apparatus category:	II 2GD I M2
Marking of explosion protection:	Ex de I/IIC T6 Gb Mb Ex tb IIIC Db
Ambient temperature:	-20°C ≤ T _{amb} ≤ +40°C
Degree of protection:	IP 66 category 1
Rated voltage:	Up to 690 V AC
Rated current:	Up to 500 A (depends upon built-in device)
Terminal cross-section:	240 mm ²
Protection class:	I (protective earthing)
Dimension (LxWxH) without cable glands:	
- Enclosure R3002	470 x 470 x 330 mm
- Enclosure R3003	500 x 345 x 240 mm
- Enclosure R3004	315 x 315 x 333 mm
- Enclosure R3005	330 x 345 x 240 mm
- Enclosure R3006	240 x 315 x 200 mm
Weight:	
- Enclosure R3002	70 kg
- Enclosure R3003	18 kg
- Enclosure R3004	47 kg
- Enclosure R3005	15 kg
- Enclosure R3006	9 kg
Enclosure material:	
- Ex d enclosure	Steel 12 mm
- Ex e enclosure	Sheet steel 2.5 mm
Color:	Yellow, RAL1016 (other color on request)

DIMENSION [mm]**FIXING DIMENSIONS [mm]**

SPARE PARTS



- Ex e sheet steel enclosures (type R3003, R3005, R3006)
- Seals for flanges
- Seals for covers
- Conductor insulator
- Multiwire bushings
- Cable glands
- Actuators and indicator elements
- Built-in components

TYPE OF INSTALLATION



A) temporary



B) wall-mounted



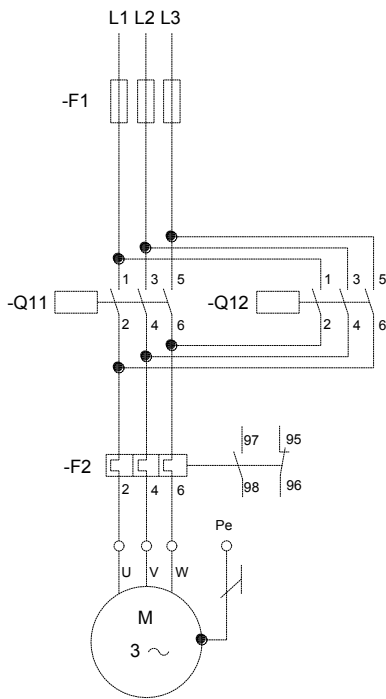
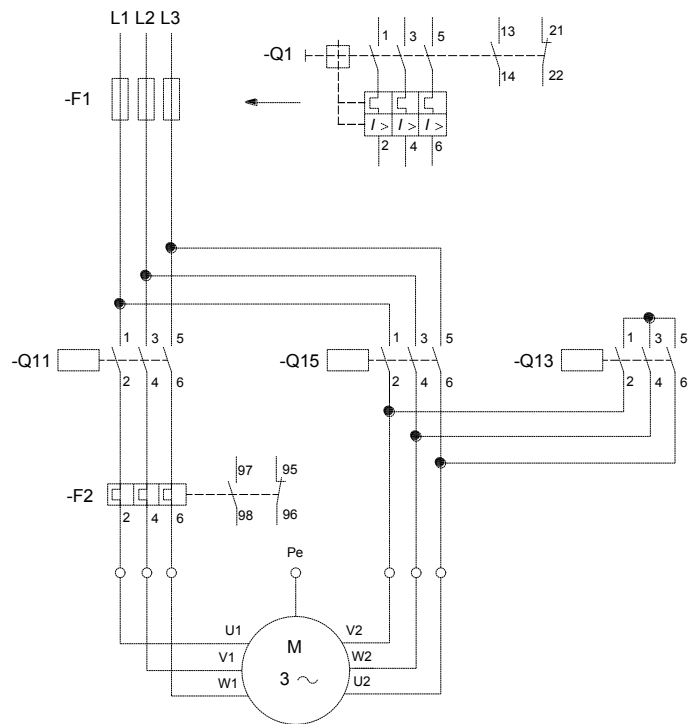
C) free-standing
With or without protection canopy

Data required for the layout of control and distribution boards

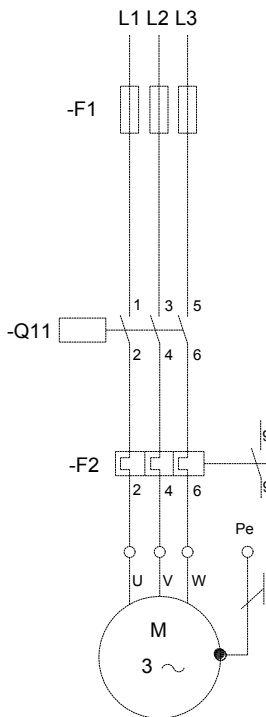
We design systems to suit your requirements on the basis of the data you supply us with:

- 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

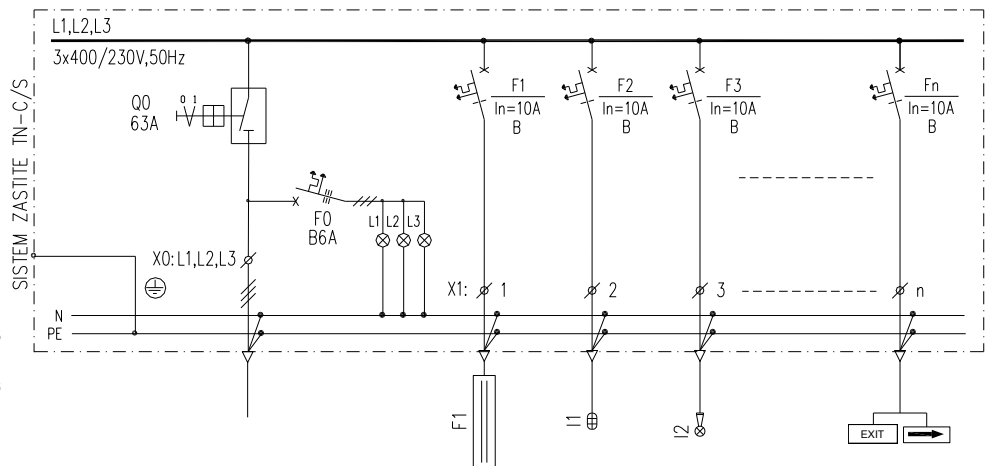
Examples of wiring diagram for distribution cabinets

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

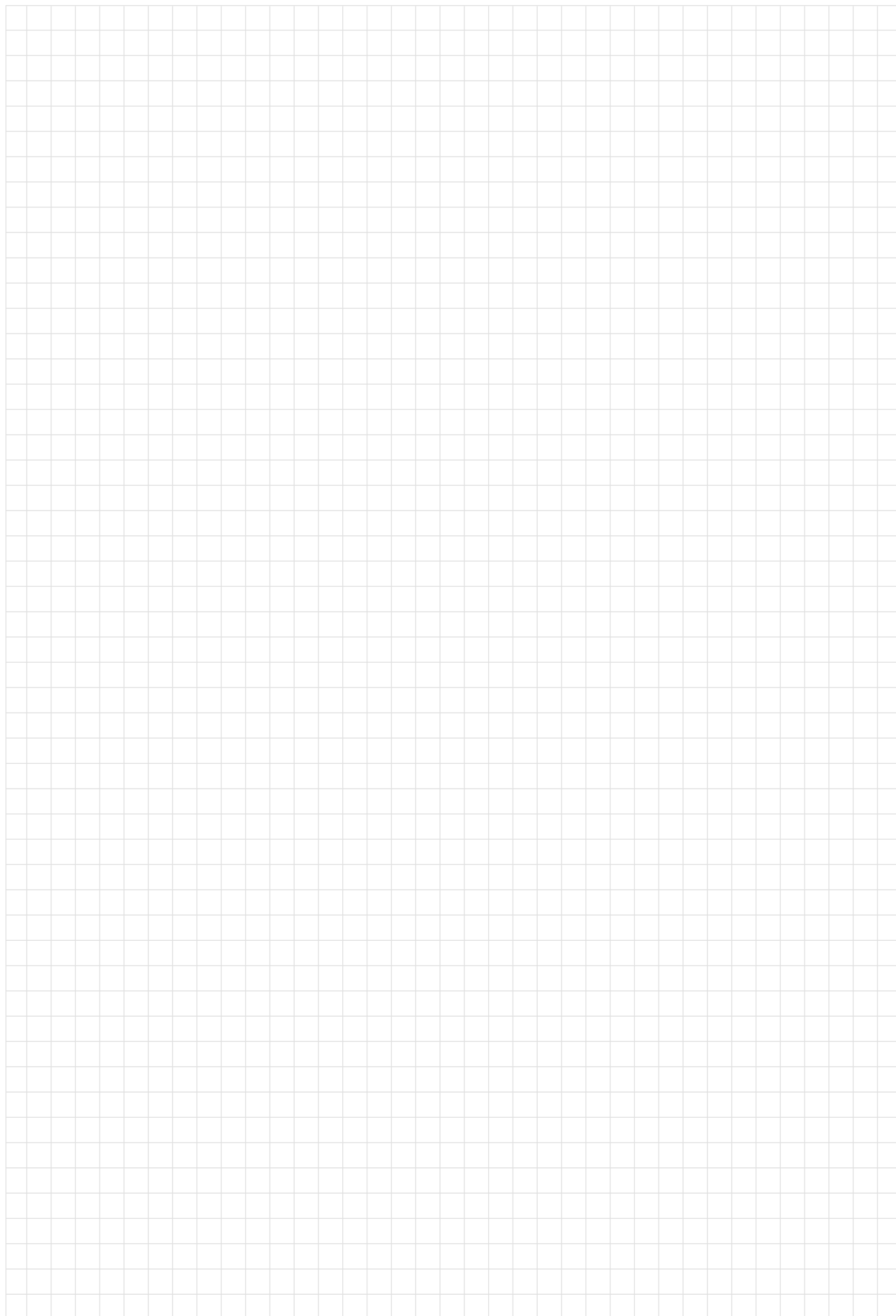
B) STAR-DELTA switching of three phase motor



C) Direct on line start of three phase motor



D) Light fittings control panel





OTHER Ex PRODUCTS



APPLICATION

Explosion proof adapter ADP2. is intended for electrical connection between Ex d enclosure and Ex e adapter terminal without usage of the special Ex d cable glands.

Ex adapter is intended for use in places with an explosive gas and dust atmosphere, in the industrial areas and facilities, indoor and outdoor spaces.

CONSTRUCTION

Bushing with outer thread (M20, NPT 1/2", BSP 1/2") and cemented wiring makes enclosure of adapter on which cable terminal is mounted. The space with cable terminal is sealed in adapter enclosure. Cable gland M25, type SPU 25 is mounted on adapter enclosure.

TECHNICAL DATA

Certificate:	CESI 09 ATEX 068U
Marking:	CE 0722
Apparatus category:	II 2G II 2D
Marking of explosion protection:	Ex de IIC Ex tD A21 IP66
Service temperature:	-20 °C ≤ T _{service} ≤ +60 °C
Degree of protection:	IP 66
Rated voltage U _e :	400 V AC
Rated current I _e :	16 A
Connection terminal :	L1, L2, L3, N, PE , 2 x max.2,5 mm ²
Adapter wiring:	2 / 3 / 4 x 1,5 mm ² RADOX 155
Adapter thread:	M 20x1,5-6g according to ISO 965-1, ISO 965-3 G 1/2 according to ISO 228-1 1/2" NPT according to ANSI/ASME B1.20.1
Cable gland:	For cable φ6-15 mm
Dimension:	φ52x85mm

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	

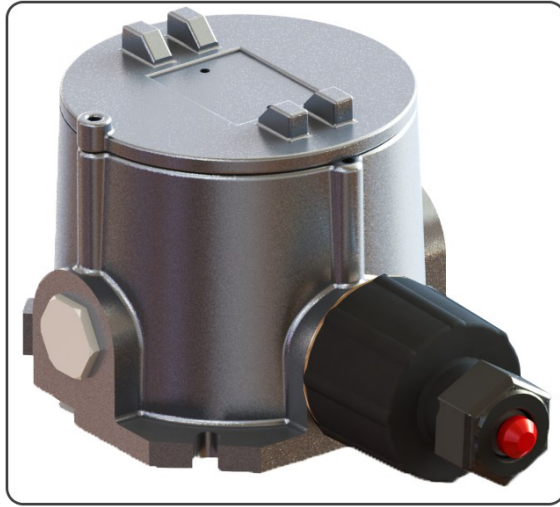
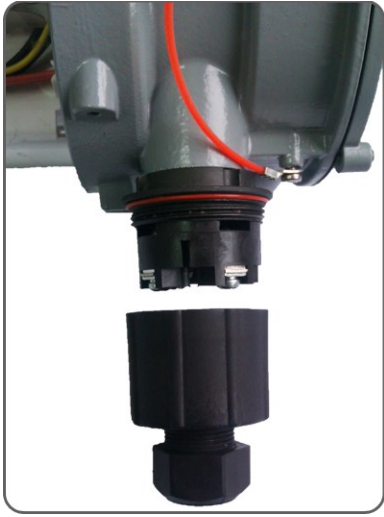
Other configurations available on request



CESI 09 ATEX 068U



OVERVIEW OF APPLICATIONS





APPLICATION

Explosion proof multiwire bushing RSM/.. is Ex d component used for electrical connection between Ex d enclosures or between Ex d enclosure and Exe terminal box.

The bushing is described by the model code depending on the thread size, number and cross section of the wires.

It is intended for use in places with an explosive gas and dust atmosphere, in mines susceptible to firedamp

TECHNICAL DATA

Certificate:	CESI 09 ATEX 068U
Marking:	CE 0722
Apparatus category:	I M2 II 2G
Marking of explosion protection:	Ex d I Mb Ex d IIC Gb
Service temperature:	-20 °C ≤ T _{service} ≤ +95 °C
Rated insulation voltage U_i:	1000 V AC
Rated current I_b:	Determined by technical data of device
Wire:	- rated cross-section 1,5 - 35 mm ² - type RADOX 155 or BETAtherm 155 IEC 60228 class 5

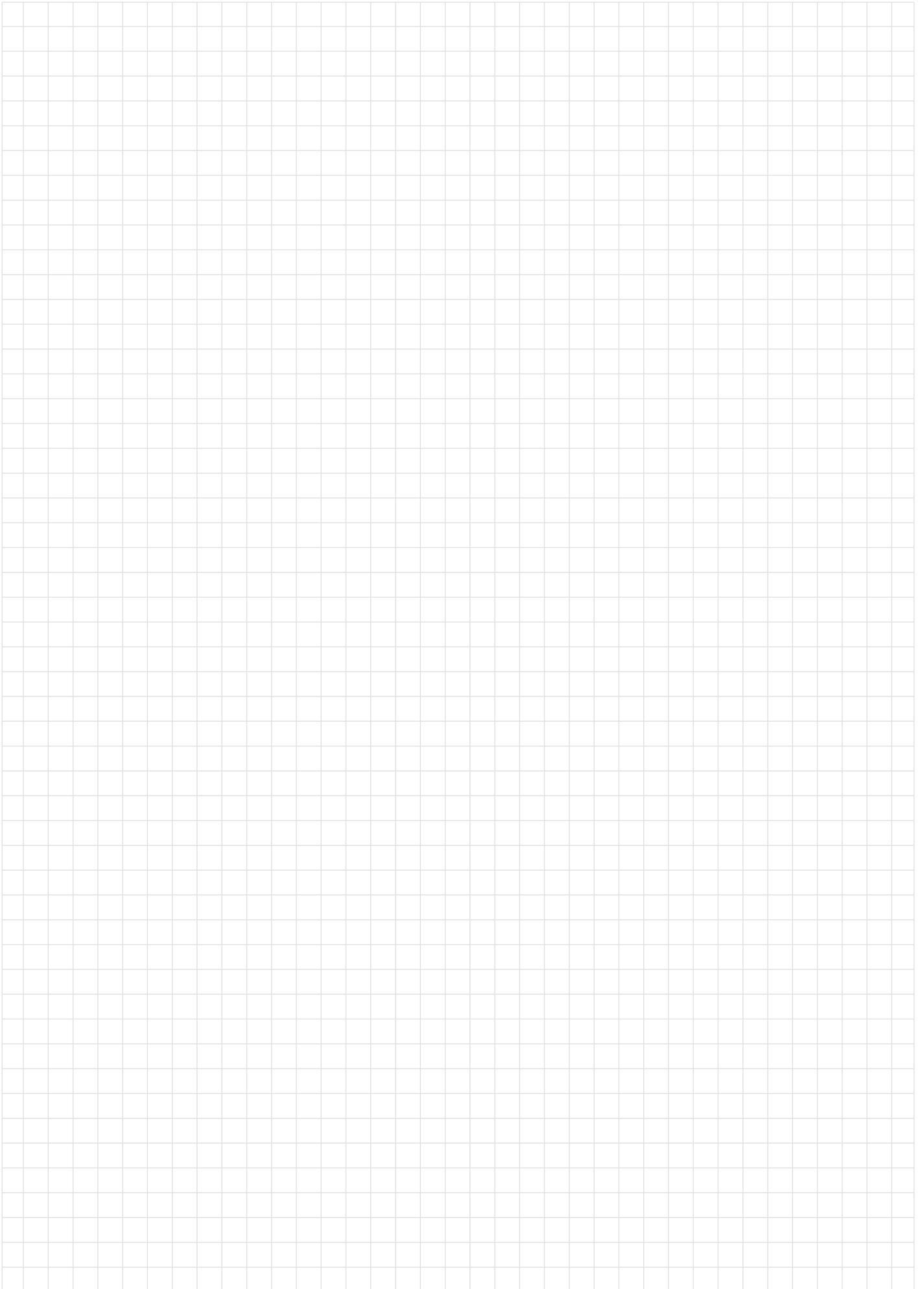
MODEL CODE

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 04	6x1,5mm ²	M25x1,5 - 6g / 14,5	OK30 / 30	150	330
RSM 05	8x1,5mm ²	M25x1,5 - 6g / 14,5	OK30 / 30	150	330
RSM 07	6x4mm ²	M33x1,5 - 6g / 14,5	OK36 / 30	300	530
RSM 08	6x6mm ²	M33x1,5 - 6g / 14,5	OK36 / 30	300	530
RSM 10	6x10mm ²	M36x1,5 - 6g / 14,5	OK41 / 30	300	530
RSM 11	6x16mm ²	M36x1,5 - 6g / 14,5	OK41 / 30	300	530
RSM 13	6x25mm ²	M42x1,5 - 6g / 14,5	OK46 / 30	200	430
RSM 14	6x35mm ²	M42x1,5 - 6g / 14,5	OK46 / 30	200	430

Other configurations available on request



CESI 09 ATEX 068U





APPLICATION

The electronic ballast SMP 07 is intended for explosion proof applications. The electronic ballast are intended for use in places with an explosive gas atmosphere.

The SMP ballast meets all requirements of EN 60079-0:2009, EN 60079-7:2007, EN 60079-18:2009 and related industrial standards.

CONSTRUCTION

SMP 07 enclosure: plastic PA6

TECHNICAL DATA

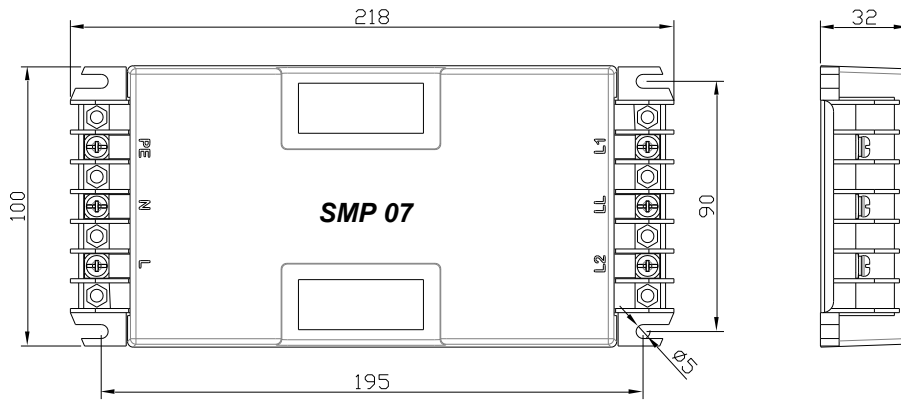
Certificate:	EXA 13 ATEX 0016 U
Marking:	CE 0722
Apparatus category:	II 2G
Marking of explosion protection:	Ex e mb IIC T4 Gb
Ambient temperature:	-25 °C ≤ T _{amb} ≤ +70 °C
Degree of protection:	IP 20
Rated voltage:	220-240 V ±10%
Frequency:	50-60 Hz
Protection class:	I (protective earthing)
Lamps type:	Fluo lamps T8 1-2 x 18/36/58W, in parallel configuration
Power factor:	λ~0.95
BLF - Ballast lumen factor:	~ 97 %
Estimated service life:	100 000 hours at T _{amb} =65°C 60 000 hours at T _{amb} =70°C
Connection terminal:	1,0-2.5mm ² solid, stranded, flexible , PE terminal
Weight:	SMP 07 - 0,8 kg
With overcurrent, overvoltage and overtemperature protection	

MODEL CODE

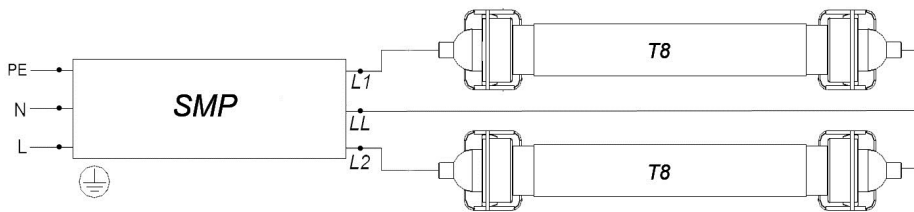
TYPE	LAMP TYPE	Dimension A	Dimension B
SMP 07/11	1 x 18/36W T8	218	195
SMP 07/12	2 x 18/36W T8	218	195

SMP

DIMENSION



WIRING DIAGRAM



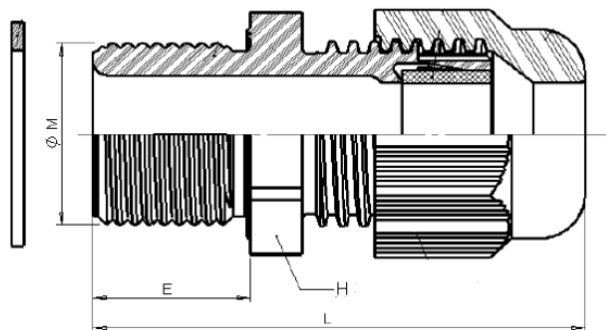


PLASTIC Ex e CABLE GLANDS

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
Material:	Polyamide/neopren

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

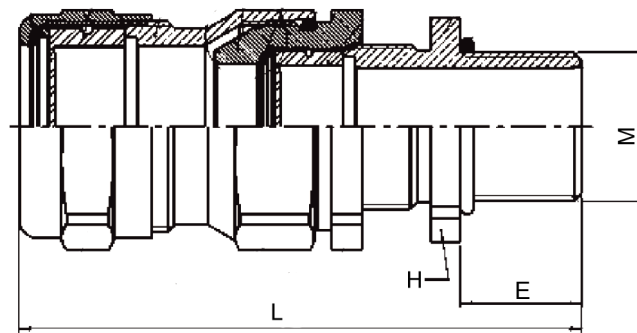


METAL Ex d/e CABLE GLANDS (double sealing, for armoured cable) type 4F

Apparatus category:	II 2GD
Marking of explosion protection:	Ex d/e
Ambient temperature:	-40 °C ≤ T _{amb} ≤ +95 °C
Degree of protection:	IP 68
Material:	Brass nickel plated

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





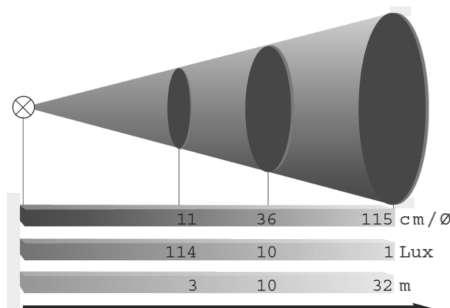
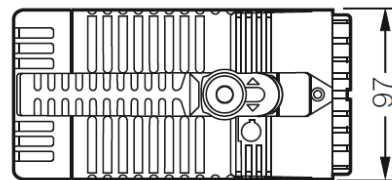
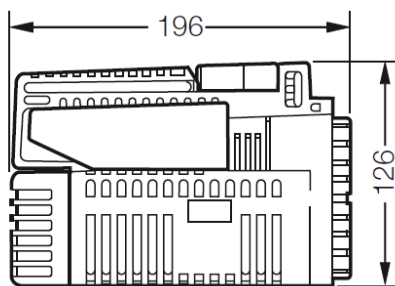
HF 9 Basic

APPLICATION

Explosion protected torchlights type HF9 BASIC are designed for inspection and maintenance work in industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors mixed with air.
Hazardous zones: 1,2.

TECHNICAL DATA type HE 9 Basic

Certificate:	BVS 11 ATEX E 087
Marking:	CE
Apparatus category:	II 2G
Marking of explosion protection:	Ex e ib IIC T4 Gb
Ambient temperature:	-20 °C ≤ T ≤ +40 °C
Degree of protection:	IP 65
Lamp type:	4,0V/0,82A halogen
Length of light beam:	32 m
Battery:	Li-Ion 3,75V/4.8Ah
Autonomy:	app 5 hours
Weight:	0,75 kg (with battery)
Charger:	Plug-in 100-240V, 50/60Hz, 6W Charging time: app 14 hours





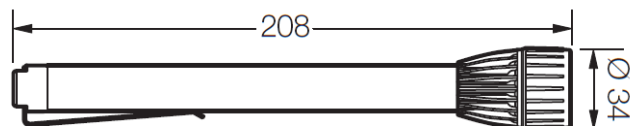
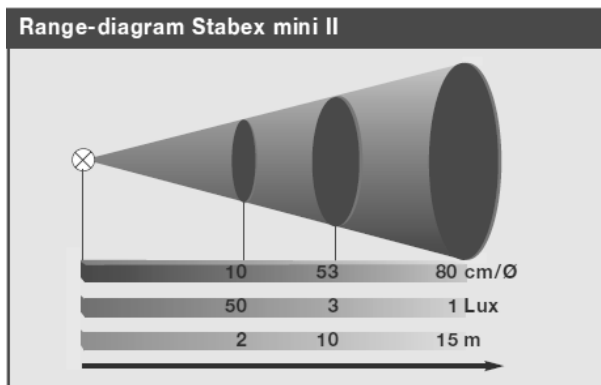
STABEX mini LED



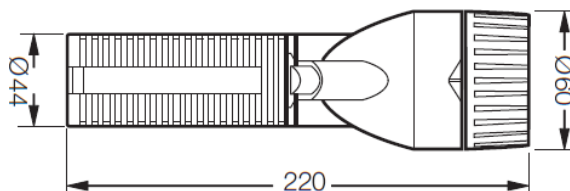
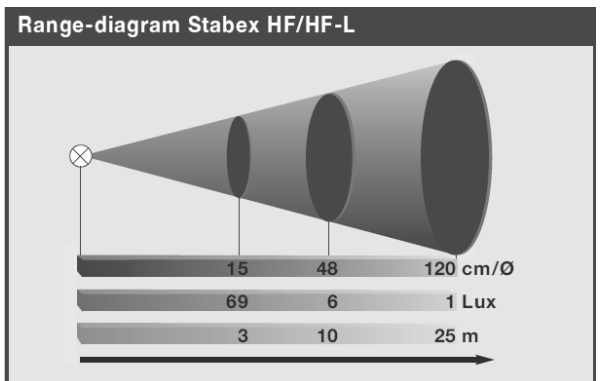
STABEX HF

TECHNICAL DATA	STABEX mini LED	STABEX HF
Certificate:	BVS 08 ATEX E 158	PTB 98 ATEX 2062
Marking:	CE	
Apparatus category:	II 1G	II 2G , II 1D
Marking of explosion protection:	Ex II 1G Ex ia IIC T4 Ga	Ex e ib IIC T4 , Ex tD A20 IP65 T90 °C
Ambient temperature:	-20 °C ≤ T ≤ +40 °C	
Degree of protection:	IP 68	
Luminous flux:	60 lm (Osram 1W LED)	17 lm
Length of light beam:	15 m	25 m
Battery:	2x AA battery	2x D baterije
Autonomy:	app. 8 hours	app. 12 sati
Weight:	100 g (without battery)	
Dimension:	208 x Ø 34 mm	220 x Ø 60 mm

Range-diagram Stabex mini II



Range-diagram Stabex HF/HF-L





APPLICATION

Explosion protected torchlights type DF104 and DF1013 , are designed for inspection and maintenance work in industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors mixed with air.
Hazardous zones: 0,1,2.

TECHNICAL DATA type DF104

Certificate:	ATEX
Marking:	CE 0539
Apparatus category:	II 1G
Marking of explosion protection:	Ex II 1G Ex ia IIC T4 Ga
Ambient temperature:	-20 °C ≤ T ≤ +40 °C
Degree of protection:	IP 68
Luminous flux:	43 lm
Length of light beam:	32 m
Battery:	3x C battery
Autonomy:	app 70 hours
Weight:	190 g (without battery)
Dimension:	220x60x85 mm



12 Ø5 LEDs



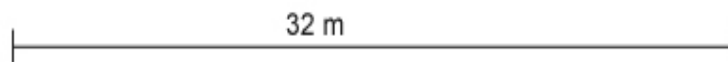
Push Button



Clamp



Two Ways Position Clip



DF



ATEX



0539

**TECHNICAL DATA type DF1013**

Certificate:	ATEX
Marking:	0539
Apparatus category:	II 1G
Marking of explosion protection:	II 1G Ex ia IIC T4 Ga
Ambient temperature:	-20 °C ≤ T ≤ +40 °C
Degree of protection:	IP 68
Luminous flux:	60 lm (Osram 1W LED)
Length of light beam:	130 m
Battery:	4x AA battery
Autonomy:	app. 14 hours
Weight:	100 g (without battery)
Dimension:	175x45x45 mm



Push Button



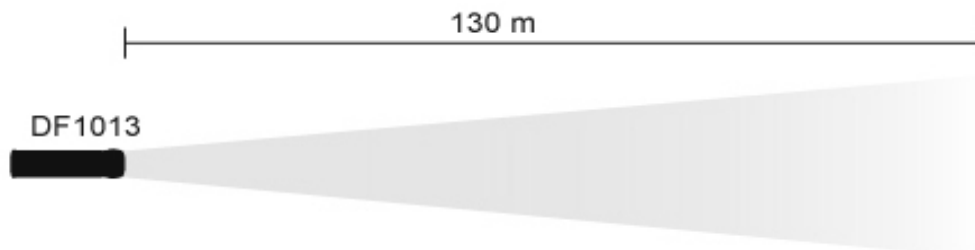
Lamp



Waterproof



Useful





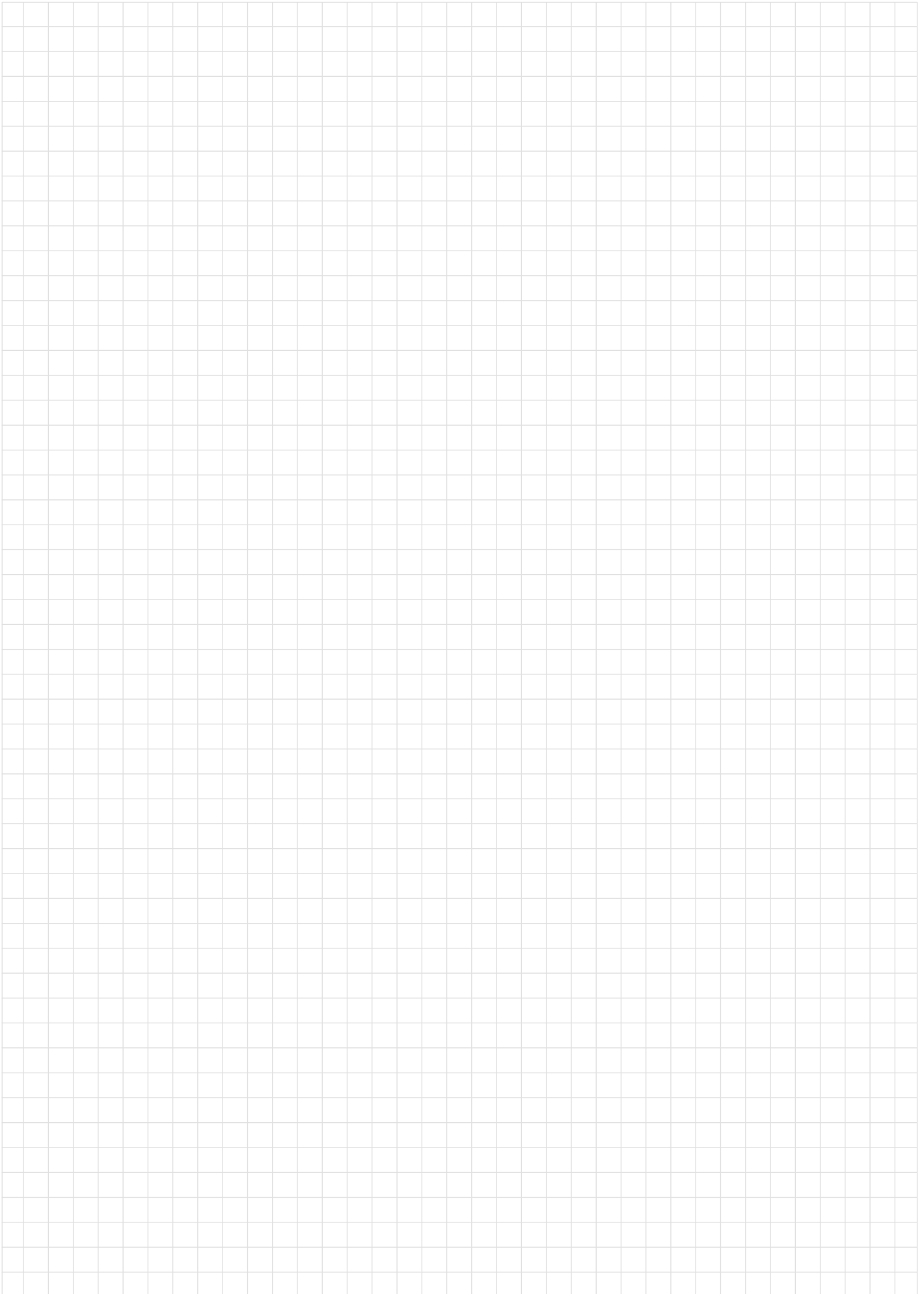
APPLICATION

Explosion protected headlamp type DS-14, are designed for inspection and maintenance work in industrial areas and facilities, also outdoor spaces with an explosion hazard of gases, vapors mixed with air.
Hazardous zones: 0,1,2.

TECHNICAL DATA type DS14

Certificate:	ATEX
Marking:	CE 0539
Apparatus category:	II 1G
Marking of explosion protection:	Ex II 1G Ex ia IIC T4
Ambient temperature:	-20 °C ≤ T ≤ +40 °C
Degree of protection:	IP 67
Luminous flux:	75lm / low mode , 150lm / High mode
Length of light beam:	75m / 100m
Battery:	3x AAA
Autonomy:	app 4 haours
Weight:	145 g (without battery)
Dimension:	80x50x45 mm

DS-14





APPLICATION

Explosion proof plug and socket receptacles 16A to 63A, 12V to 690V help provide electrical energy within hazardous area zone 1 and zone 2 (Gas) zone 21 and zone 22 (Dust), where it is most needed, for static and non-stationary electrical apparatus even with high requirements on the energy/power supply.

TECHNICAL DATA

Certificate: LCIE 02 ATEX 6068, LCIE 02 ATEX 0001U

Marking:  50228

Apparatus category: II 2GD

Marking of explosion protection:  II 2G Ex de IIC T6
II 2D Ex tD A21 T68°C

Ambient temperature: -40 °C ≤ T ≤ +55 °C

Degree of protection: IP 66

Impact resistance: IK09

Material:

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



PLUG



MOBILE SOCKET



SOCKET



FLUSH SOCKET



ATEX


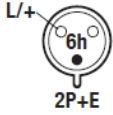
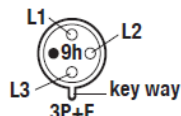
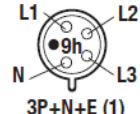
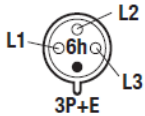
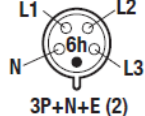



50228

**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	NPRE316RY
Plug		0.2 (0.4)	0.6 (36.61)	PRE316PY	NPRE316PY
Mobile Socket		0.4 (0.9)	1.3 (79.33)	PRE316MY	NPRE316MY
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE316FY	NPRE316FY
200/250 Vac 50/60 Hz – Blue					
Wall Socket		0.6 (1.3)	3.8 (231.89)	PRE316RB	NPRE316RB
Plug		0.2 (0.4)	0.6 (36.61)	PRE316PB	NPRE316PB
Mobile Socket		0.4 (0.9)	1.3 (79.33)	PRE316MB	NPRE316MB
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE316FB	NPRE316FB
200/250 Vac 50/60 Hz – Blue					
Wall Socket		1.5 (3.3)	4.7 (286.81)	PRE416RB	NPRE416RB
Plug		0.6 (1.3)	0.6 (361.6)	PRE416PB	NPRE416PB
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MB	NPRE416MB
Flush Socket		0.2 (0.4)	1.3 (79.33)	PRE416FB	NPRE416FB
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RB	NPRE516RB
Plug		0.3 (0.7)	1.3 (79.33)	PRE516PB	NPRE516PB
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MB	NPRE516MB
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	NPRE416RR
Plug		0.2 (0.4)	0.6 (361.6)	PRE416PR	NPRE416PR
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MR	NPRE416MR
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE416FR	NPRE416FR
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RR	NPRE516RR
Plug		0.3 (0.7)	1.3 (79.33)	PRE516PR	NPRE516PR
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MR	NPRE516MR
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	NPRE416RN
Plug		0.2 (0.4)	0.6 (361.6)	PRE416PN	NPRE416PN
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE416MN	NPRE416MN
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE416FN	NPRE416FN
50/500 Vac 300/500 Hz – Green					
Wall Socket		1.6 (3.5)	4.7 (286.81)	PRE516RG	NPRE516RG
Plug		0.2 (0.4)	0.6 (361.6)	PRE516PG	NPRE516PG
Mobile Socket		0.6 (1.3)	4.0 (244.09)	PRE516MG	NPRE516MG
Flush Socket		0.3 (0.7)	1.3 (79.33)	PRE516FG	NPRE516FG

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



ATEX



50228

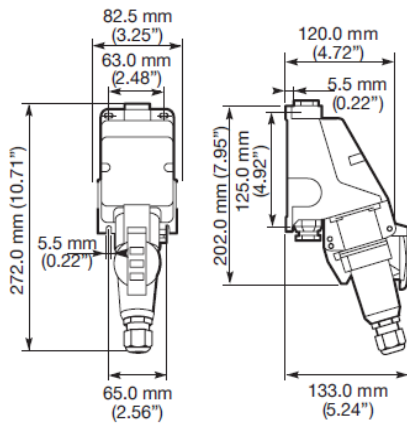
**MODEL CODE / 63A**

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
<i>(1) 200/346 V – 240/415 Vac 50/60 Hz</i>					
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
<i>(2) 250/440 V – 265/460 Vac 60 Hz</i>					
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
<i>(3) 277/480 V – 288/500 Vac 50/60 Hz</i>					
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
<i>(4) 347/600 V – 400/690 Vac 50/60 Hz</i>					

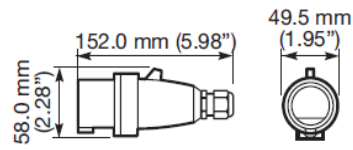
DOMENSION / 16A

16A – 2P – 2P+E – 3P Versions

Wall Mounting Sockets

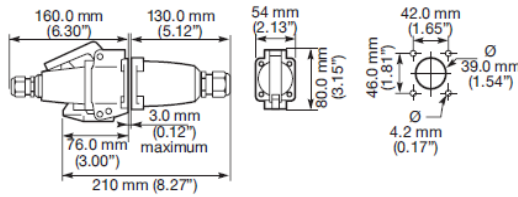


Plugs

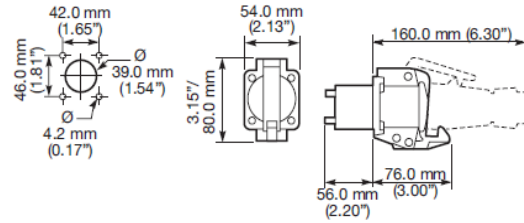


Mobile Sockets

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

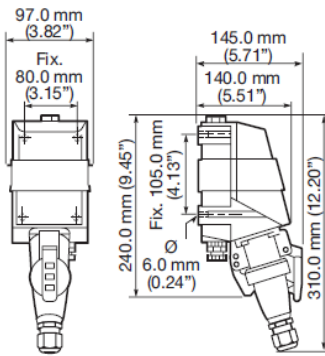


Flush Sockets

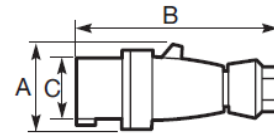


16A – 3P+E – 3P+N+E Versions

Wall Mounting Sockets



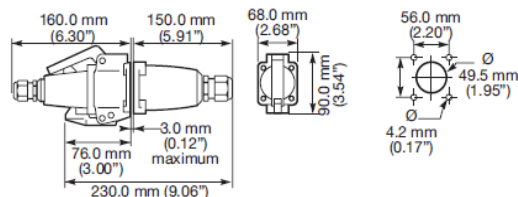
Plugs



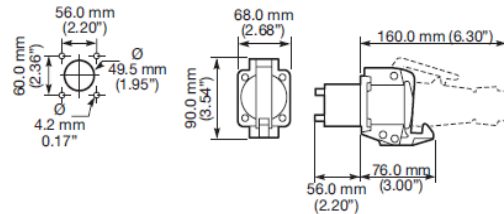
Dimensions in Millimeters (Inches)			
	A	B	C
3 P + E	66.0 (2.60)	154.0 (6.06)	55.5 (2.19)
3 P + N + E	73.0 (2.87)	166.0 (6.54)	62.0 (2.44)

Mobile Sockets

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



Flush Sockets

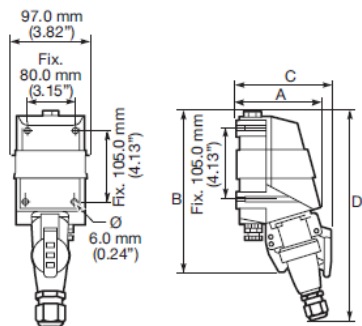
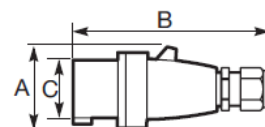




ATEX



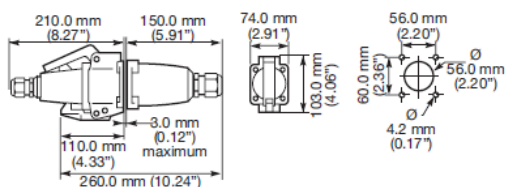
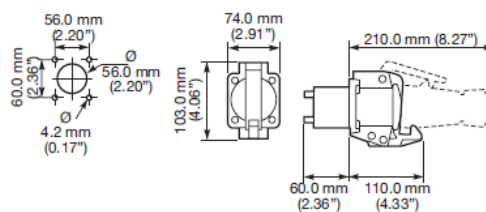
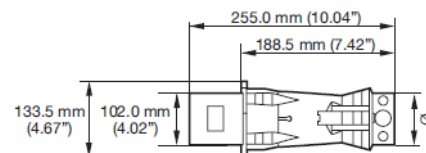
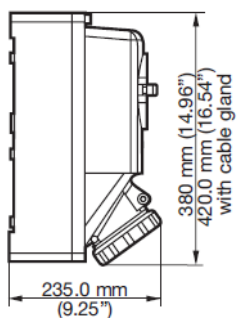
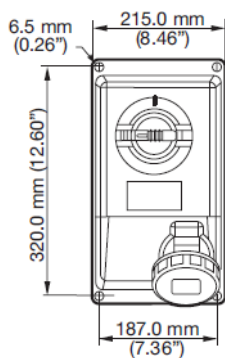
50228

**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****DIMENZIJE / 63A**



APPLICATION

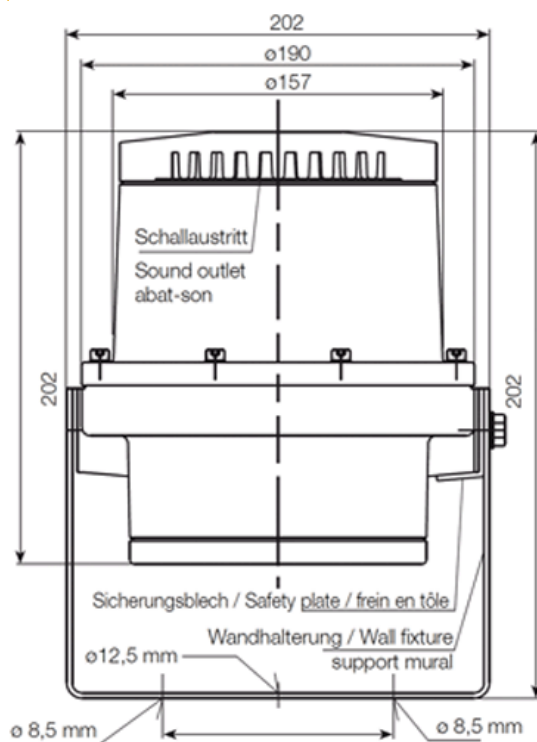
Loud signal horn with typical horn tone
 For use in explosion endangered areas of zone 1 and 2. Modular system with synthetic housing made of glassfibre reinforced polyester. Flameproof chamber „d“ – terminal connection chamber in protection class increased safety „e“. Lower weight – robust and corrosion proof design
 Insulation class II – no equipotential bonding required.



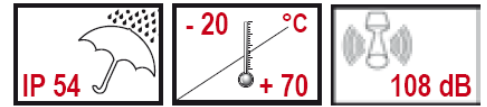
TECHNICAL DATA

Certificate:	ATEX
Marking:	CE
Apparatus category:	II 2GD
Marking of explosion protection:	II 2 G Ex d e IIC T5, T6 Gb II 2 D Ex tb IIIC T95°C, T80°C Db
Service temperature:	-25 °C ≤ T _{service} ≤ +75 °C
Degree of protection:	IP 66
Rated voltage:	6V AC/DC ÷ 220V AC/DC
Terminals:	2,5mm ²
Protection class:	I (protective earthing))
Cable entries:	1 x cable gland M20x1,5 , 1 x plug M20 x1,5
Weight:	5,5 kg

DIMENSION



mounting bracket 4VA stainless



APPLICATION

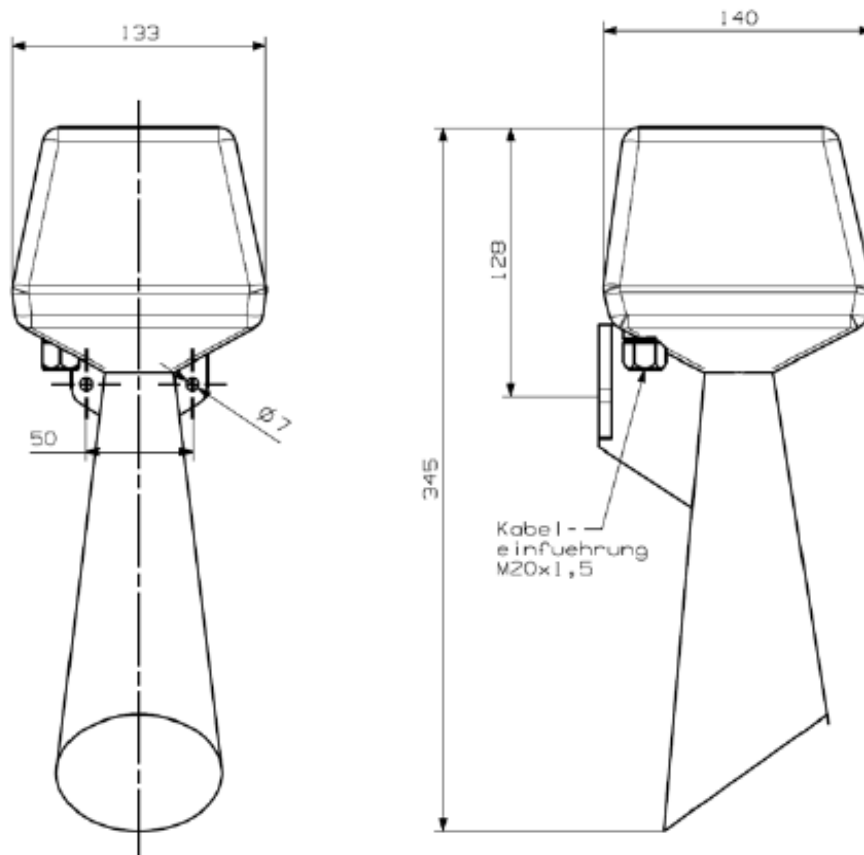
Explosion protected signal horn type **mHPT** is intended for use in places with an explosive gas atmosphere, in the industrial areas and facilities, indoor and outdoor spaces.

- housing made of impact resistant synthetics

TECHNICAL DATA

Certificate:	ATEX
Marking:	CE
Apparatus category:	II 2G
Marking of explosion protection:	Ex e mb IIC T5 IP66
Service temperature:	-25°C ≤ T _{service} ≤ +60°C
Degree of protection:	IP 54
Rated voltage:	24 V DC, 115 V AC, 230 V AC
Terminals:	2,5mm ²
Protection class:	I (protective earthing)
Cable entries:	1 x cable gland M20x1,5
Weight:	1,5 kg

DIMENSION





APPLICATION

Explosion protected signal bell type **dHW**, is intended for use in places with an explosive gas and dust atmosphere, in the industrial areas and facilities, indoor and outdoor spaces.

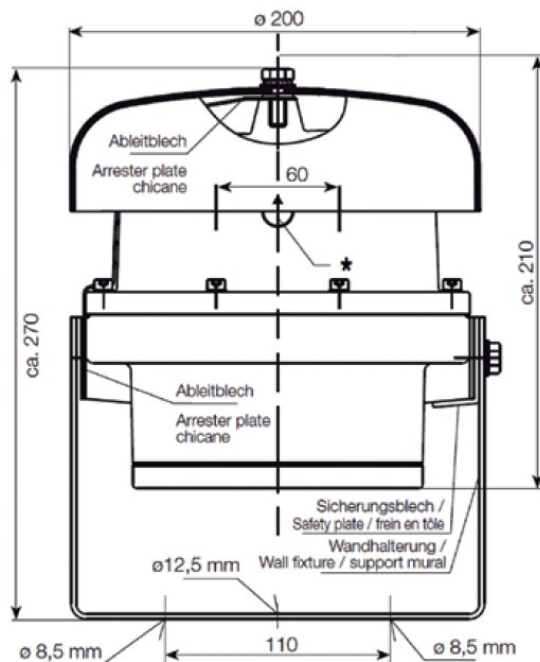
- modular system with synthetic housing made of glassfibre reinforced polyester

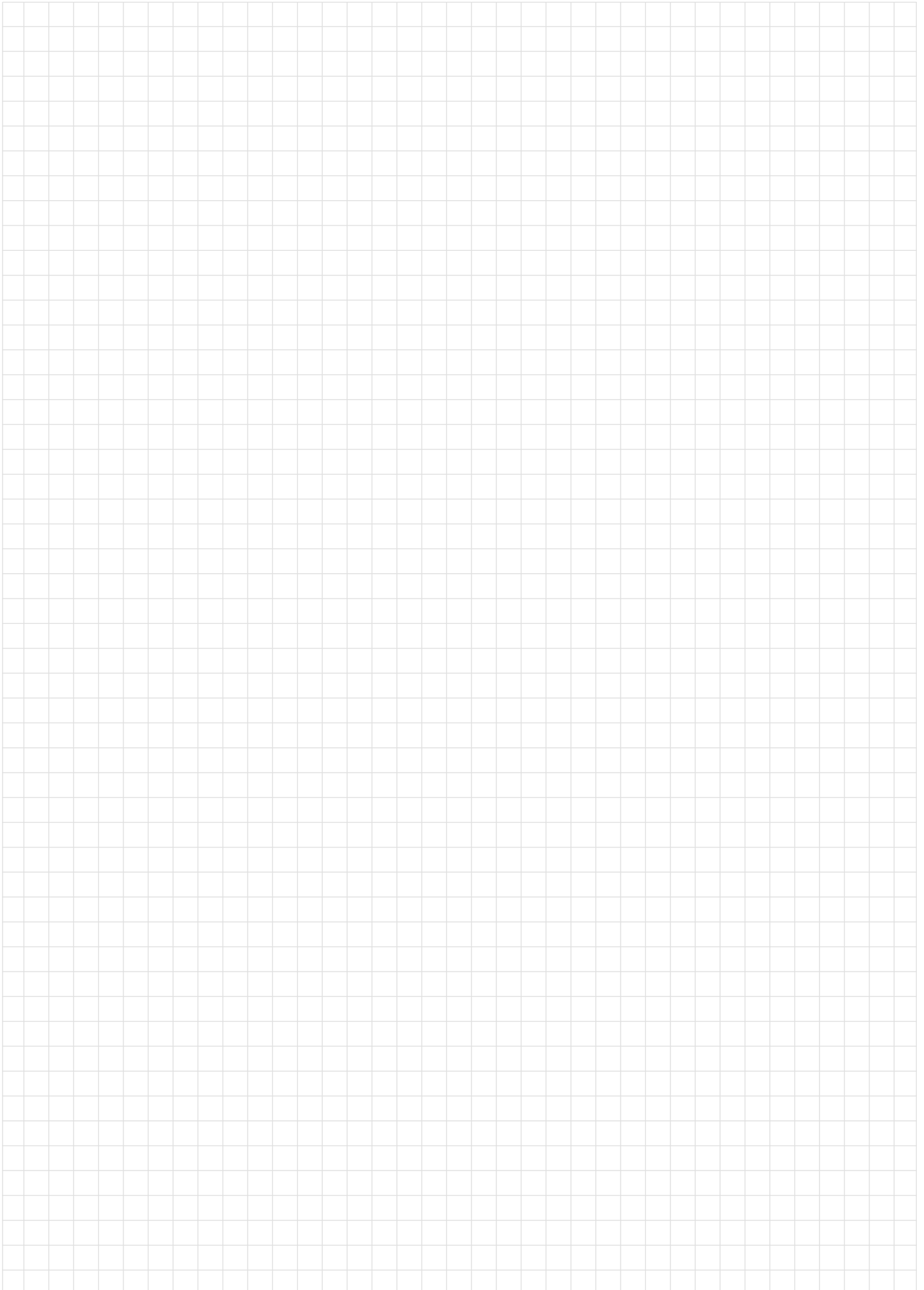


TECHNICAL DATA

Certificate:	ATEX
Marking:	CE
Apparatus category:	II 2GD
Marking of explosion protection:	Ex de IIC T6 Ex tD A21 T80°C
Service temperature:	-25 °C ≤ T _{service} ≤ +40 °C
Degree of protection:	IP 66
Rated voltage:	6V AC/DC ÷ 220V AC/DC
Terminals:	1,0 - 2,5mm ²
Protection class:	I (protective earthing)
Cable entries:	1 x cable gland M20x1,5 , 1 x plug M20 x1,5
Weight:	6,0 kg

DIMENSION







APPLICATION

Explosion protected telephone type **dST1** is intended for use in places with an explosive gas and dust atmosphere, in the industrial areas and facilities, indoor and outdoor spaces.

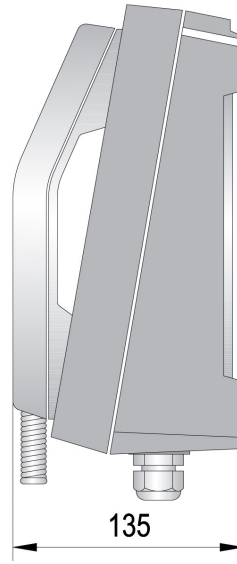
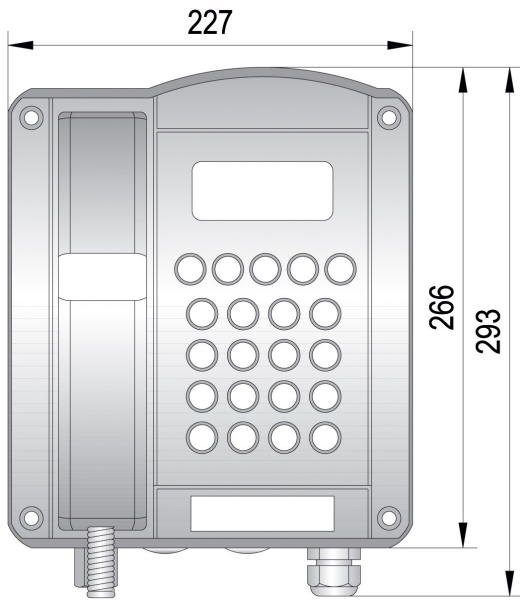
- weatherproof telephone for industrial areas in rugged ambient conditions
- very robust impact protected telephone housing (impact protection IK 09)
- freely programmable, well readable alphanumeric display
- model without keypad available as emergency telephone
- comfort telephone functions as in office communication
- ringing sound pressure level approx. 90 dB (A) in 1 m
- 10 ringing tone melodies selectable
- listening by loudspeaker: max. 70 dB (A) in 1 m
- telephone directory - max. 50 entries (names and numbers)

TECHNICAL DATA


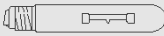
Certificate:	ATEX
Marking:	CE
Apparatus category:	II 2G
Marking of explosion protection:	Ex em [ib] IIC T6 IP66
Ambient temperature:	-25 °C ≤ T _{amb} ≤ +60°C
Line voltage:	24 V DC - 66 V DC
Ringing voltage:	Do 90 VAC 25/50 Hz
Resistance to shock:	IK 09
Degree of protection:	IP 66
Ringing sound pressure level:	90 dB in 1 m, 2.4kHz, 10 ringing tone melodies selectable
Terminals:	4 mm ²
Cable entries:	1 x cable glands M20x1,5 , 1 x plug M20 x1,5
Sistem biranja:	PD-DTMF
Enclosure:	Polyester with glass fibre
Keypad:	metallic, / 21 buttons
Weight:	5,5 kg


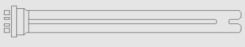
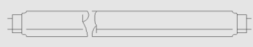

dST1

DIMENSION



List of light sources for TEPEX luminaires

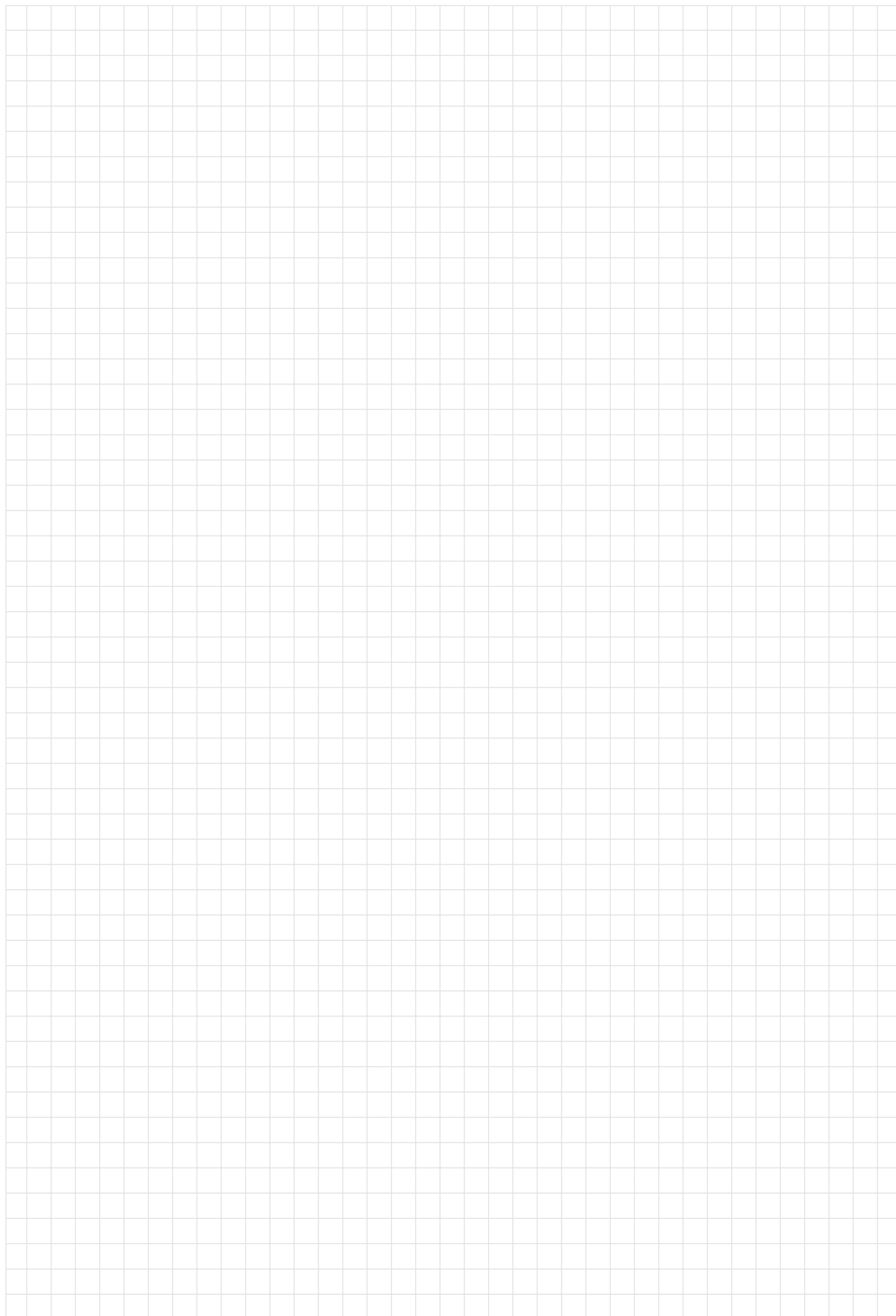
LIGHT SOURCES			TECHNICAL DATA		
LAMP TYPE (according to ZVEI)	CHARACTERISTICS	LAMP BASE	POWER [W]	FLUX [lm]	
A  Incandescent lamps	<ul style="list-style-type: none"> Life time : 1000 hours Luminous efficiency : between 11 and 19 lm/W 	E27	40	415	
			60	780	
			75	1055	
			100*	1470	
			150*	2160	
		E40	500*	8400	
QT  Halogen lamps	<ul style="list-style-type: none"> Life time : 2000 hours Luminous efficiency : between 17 and 20,5 lm/W 	E27	75	1050	
			150	2400	
		E40	500	10250	
LME Mixed discharge lamps	<ul style="list-style-type: none"> Life time : 6000 hours Luminous efficiency : between 11 and 16 lm/W Re-ignition time: 5min Color temperature: 3500 to 3800K 	E27	100	1100	
			160	3150	
		E40	250	5500	
HME Mercury vapor discharge lamps  	<ul style="list-style-type: none"> Life time : 16000 - 24000 hours Luminous efficiency : between 50 and 56 lm/W Re-ignition time: 10min Min. ignition temp: -25°C Color temperature: 3000 to 4000K 	E27	80	3700	
			125	6700	
		E40	250	13000	
			400	22000	
HME HP sodium discharge lamps  	<ul style="list-style-type: none"> Life time : 12000 - 24000 hours Luminous efficiency : between 65 and 140 lm/W Re-ignition time: 1-10min Min. ignition temp: -25°C Color temperature: 2000 to 2200K 	E27	70	5800	
			100 tubular	13000	
			150	15500	
		E40	150 tubular	15500-17200	
			250	30000	
			250 tubular	33000	
			400	54000	
400 tubular	56500				
HIE Metal halide (halogen) lamps  	<ul style="list-style-type: none"> Life time : 2000 - 6000 hours Luminous efficiency : between 68 and 78 lm/W Re-ignition time: 15min Min. ignition temp: -25°C Color temperature: 4000 to 4500K 	E27	70	5500	
			100	8400	
			150	12500	
		E40	250 tubular	24500	
			400	34000	
			400 tubular	35000	

LIGHT SOURCES			TECHNICAL DATA		
LAMP TYPE (according to ZVEI)		CHARACTERISTICS	LAMP BASE	POWER [W]	FLUX [lm]
TC-TSE	 Compact fluorescent lamps with integral power supply	<ul style="list-style-type: none"> Life time : 8000 hours Luminous efficiency : between 40 and 65 lm/W Color temperature: 2700K 	E27	23	1500
				30	2300
TC-TSE	 Cylindrical compact fluorescent lamps	<ul style="list-style-type: none"> Life time : 6000 - 9000 hours Luminous efficiency : between 41 and 87 lm/W Color temperature: 2700K 	2G11	18	1200
				24	1800
				36	2900
				40	3600
				55	4700
-	 Tubular fluorescent lamps	<ul style="list-style-type: none"> Life time : 6000 - 9000 hours Lamps 26mm dia. Luminous efficiency : between 64 and 83 lm/W Re-ignition time: 1-10min Min. ignition temp: -25°C Color temperature: 4000K 	G13	18	1300
				36	3200
QL	 Induction lamps	<ul style="list-style-type: none"> Life time : up to 100 000 hours Lamps diameter 110 / 130 mm Luminous efficiency : between 86 lm/W Min. ignition temp: -40°C Color temperature: 4000 K 	-	85	6200
				165	12000

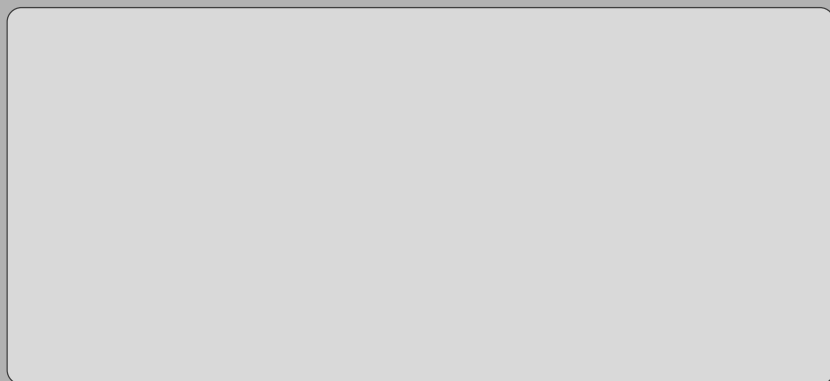
Lamp data: Philips, Osram, GE Sylvania, Eye.

* After September 1, 2009, incandescent lamps over 100 watts will no longer be available in the European Union according to the Directive EUP 2005 32/EC.

Long life sources on request.



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