CEAG Products
for Dust Ex-Applications

CROUSE-HINDS
SERIES

Dust - an Explosive Risk

Safe Solutions from
Eaton's Crouse-Hinds Division

Powering Business Worldwide

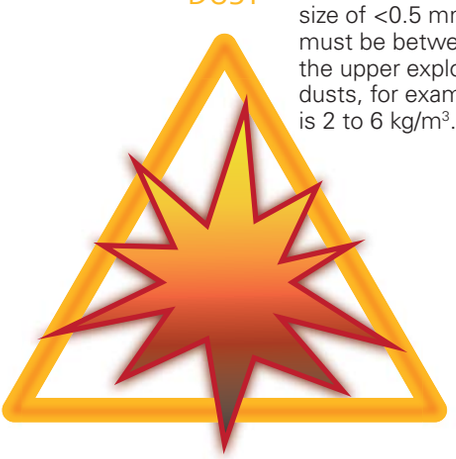
What can happen in areas with dust?

Dust explosions are more dangerous and more common than you think. Approximately 2,000 dust explosions occur every year in the EU with average damages of more than 50,000 € per accident. In an explosion at the Rolandmühle in Bremen (Germany), 14 people died, 17 were injured amd damages of 50 million Euro were caused.

An analysis of almost 600 damages causes in Germany revealed that 31 % were caused by wood dust, 25 % by fodder and food dusts, 13 % by plastic dust and 9 % by coal dust. Silos, dedusting and conveyor systems, mills, drying kilns, heatings, saws, carpentry shops and mixing systems are particularly affected.

How does a dust explosion occur?

A dust explosion needs three things: air, combustible dust and a source of ignition. Just one spark may be enough.



DUST

A cloud of combustible substances with a particle size of <0.5 mm. The concentration of this dust cloud must be between the lower explosion limit (LEL) and the upper explosion limit (UEL). The LEL for many food dusts, for example is between 30 and 60 g/m^3, the UEL is 2 to 6 kg/m^3.

AIR OXYGEN

A sufficient amount of air oxygen.

IGNITION SOURCE

A suitable ignition source, e.g. an electrical spark which may occur when pulling a plug out of a socket or a hot surface (e.g. 150°C to 400 °C).

Dust is almost everywhere.

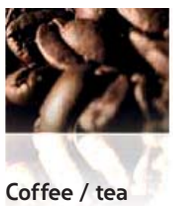
Where does dust exist?

Combustible and explosive dusts occur more often than you think. For example during the processing of – wood and fibre materials, foods, beverages, tobacco and fodder, coal, metals and metal alloys. But technical chemical products of plastic, resin and rubber can create combustible dusts and explosive atmospheres.



Carbon dust

Sugar

Flour

Coffee / tea

Custard powder

Aluminum dust

When can dust explode?

Combustible dust-air mixtures have different ignition temperatures. The surface temperature of the equipment in areas with a risk of dust explosion may reach 2/3rd of the minimum ignition temperature of the surrounding dust-air mixture at the maximum and with a 5 mm thick layer of dust must be at least 75 °K below the minimum ignition temperature of the dust (glow temperature). It is therefore the owner's job to ensure that the cleaning and maintenance intervals of installations with a dust explosion risk are scheduled so that no dust layers thicker than 5 mm are allowed to form. At higher dust deposits the minimum ignition temperature (glow temperature) of the dusts are reduced drastically. Examples for the ignition and glow temperatures can be taken from the table below.

Dust type (name of the solid)	Minimum ignition temperature of a dust layer (glow temperature)	Minimum ignition temperature of a dust cloud
Natural products (examples)		
Cellulose	370	500
Coal	270	590
Cocoa	460	580
Cork	300	470
Cotton	350	560
Flour	470	410
Fodder	295	520
Grain	290	420
Milk powder (full, spray)	330	520
Paper	335	570
Peat	320	500
Sawdust	300	400
Starch	530	380
Sugar	360	450
Tea	300	510
Tobacco	300	450
Chemical-technical prodcuts (examples)		
Laminate (grinding dust)	330	510
Petrol coke	280	690
Polyvinyl acetate	340	500
Polyvinyl chloride	430	680
Rubber	220	460
Soot	385	620
Sulfur	280	280
Metals (examples)		
Aluminum	280	530
Bronze	260	390
Iron	300	310
Magnesium	410	610
Manganese	285	330
Zinc	440	570

Source: BIA- Report (excerpt) combustion and explosion variables
Issued by: HVBG

Be informed and be well prepared against the danger of dust.

You are responsible.

You the owner are responsible for the protection of the work force and safety of your plant according to the European ATEX directive 1999/92/EC (ATEX 137).

This work force protection directive also covers electrical installations in areas where there is a risk of dust explosion. This EC directive has become valid in all member states by national laws and regulations and supplements the product-related (technical) work protection as it is governed by the ATEX directive 2014/34/EU among other things (characteristic requirements). The work protection directive 1999/92/EC also governs the carrying out of a risk assessment and division of Ex-areas into zones. In accordance with this directive, only appropriately certified electrical equipment may be used in areas with a risk of dust explosion.

Owner requirements

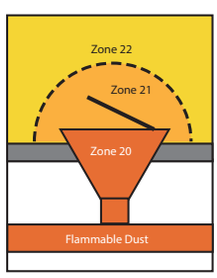
Requirements for owners of installations at risk from dust explosions. The goal of the compulsory directive 1999/92/EG is to guarantee employee health and safety.

- Identify risks of explosion
- Implement explosion protection measures such as avoiding sources of ignition (secondary explosion protection)
- Create a test plan
- Create an explosion protection document
- Use suitable production equipment
- Define zones in areas at risk from dust explosions

ZONE 20 Area in which an explosive atmosphere in the form of a cloud made up of combustible dust in the air is present at all times, over long periods or frequently.

ZONE 21 Area in which, during normal operation, an explosive atmosphere can occasionally build up in the form of a cloud made up of combustible dust in the air.

ZONE 22 Area in which, during normal operation, an explosive atmosphere does not usually build up in the form of a cloud made up of combustible dust in the air or only occurs for short periods of time.



Dust norms and standards

The new standard EN 60079-31 supersedes the previously valid dust standard EN 61241...

This new standard must be observed because a high risk potential in dust explosion areas is involved in which peoples' lives are in danger.

The standard takes into account that the demands on the electrical equipment in areas with a risk of dust explosion are increased in comparison with the industrial standard and the previous standard EN 61241.

This obliges the owner to use products which correspond to and conform with the EN 60079-31 standard exclusively for new installations.

Which individual demands have changed exactly?

- Impact strength of the housings
- Electrostatic discharge capability of the housings
- Aging resistance of the plastics used

In order to always be on the safe side in future, the dust Ex-equipment of the Eaton brand comply with the new EN 60079-31 standards for the dust ignition protection type „protection by enclosure" (tD) and are approved accordingly.

Dust explosion-protected equipment of Eaton's Crouse-Hinds Series is of course subject to extensive quality assurance measures. We naturally have a quality management certified by DIN EN ISO 9001:2008 and DIN EN ISO IEC 80079-34 with additional regular auditing by an independent test body (ATEX Audit). Our dust explosion-protected light fittings and electrical equipment comply with the latest standards and have all the important national and international approvals. For instance, our products are subjected to a conformity evaluation process for use in dust Ex-areas in which a named independent body tests their technical suitability for use in Ex-areas of zones 20, 21 and 22 (device category 1D/2D/3D). With the EC type test certificate or type test certificate / declaration of conformity, the test body certifies the appropriate suitability and grants approval.

We help you with our solutions and products.

In connection with building and organizational measures and by choosing suitable equipment certified for use in dust Ex-areas the risk of an explosion can be minimized. Eaton offers you a wide selection of electrical equipment for safe use in dust Ex-areas.

Lighting

Risks can only be recognized and accidents avoided under good visibility conditions. Therefore good lighting is a must, especially in areas where operations favor the development of dust. Our dust explosion-protected light fittings and downlights provide reliable light here whilst emergency exit luminaires safely show the way in case of a power failure.

Control & Apparatus

Occupational safety always has top priority. For this reason, whenever it is necessary to carry out maintenance, cleaning or repair work in dust areas, it must be possible to isolate machines and installations from the electrical power supply in an absolutely safe and reliable way.

Connectivity

The robust and dust protected enclosures can withstand chemical and mechanical stresses and strains that are the same as those that also occur in hazardous areas. Easy installation of wall sockets, variable cable entries and generously dimensioned connection terminals allow a cost-efficient use of apparatus in dust environments.

Your single source provider.

VMV LED for Zone 21 and 22

Primary applications

The energy-saving VMV pendant light fittings and floodlights with LED technology are ideal for all general lighting applications in hazardous dust areas in zones 21 and 22.

Features

- Several lumen output from 3,000 lm up to 26,000 lm
- Multiple drivers for best safety
- High efficient heat sink design for optimized thermal management
- Wide temperature range according to type from -40 °C up to +65 °C
- High degree of protection IP66 for harsh environments
- Long lifetime up to more than 200,000 h
- Several optics available

Enclosure Type 1

Enclosure Type 3

Enclosure Type 2

Technical data

VMV LED

	VMV LED 3L - 11L	VMV LED 13L - 17L	VMV LED 20L - 25L
EC-Type Examination Certificate (dust)	DEMKO 13 ATEX 1475031X	DEMKO 14 ATEX 2274231X	DEMKO 14 ATEX 2274231X
IECEx Certificate of Conformity	IECEx UL 13.0052X	IECEx UL 14.0031X	IECEx UL 14.0031X
Marking accd. to 2014/34/EU	Ex II 3 G Ex nA nR IIC T6/T5 Gc Ex II 2 D Ex tb IIIC T92/T87/72°C Db IP66	Ex II 3 G Ex nA nR IIC T6/T5 Gc Ex II 2 D Ex tb IIIC T92/T87/72°C Db IP66	Ex II 3 G Ex nA nR IIC T6/T5 Gc Ex II 2 D Ex tb IIIC T92/T87/72°C Db IP66
Marking accd. to IECEx	Ex nA nR IIC T6 Gc / Ex tb IIIC T87°C/T72 °C Db IP66	Ex nA nR IIC T6/T5 Gc / Ex tb IIIC T81°C/T66 °C Db IP66	Ex nA nR IIC T6/T5 Gc / Ex tb IIIC T86°C/T71 °C Db IP66
Permissible ambient temperature	-40 °C up to +65 °C	-40 °C up to +55 °C	-40 °C up to +55 °C
Lifetime fixture	200,000 h at t_a = +25 °C 60,000 h at t_a = +65 °C	170,000 h at t_a = +25 °C 60,000 h at t_a = +55 °C	170,000 h at t_a = +25 °C 60,000 h at t_a = +55 °C
Rated voltage	120- 277 V AC / 108- 250 V DC	100- 277 V AC / 108- 250 V DC	100- 277 V AC / 108- 250 V DC
Frequency	50- 60 Hz	50- 60 Hz	50- 60 Hz
Power	[1]	[1]	[1]
Power factor cos φ	> 0.9	> 0.9	> 0.9
Circuit	electronic driver	electronic driver	electronic driver
Protection class	I	I	I
Lamp / Illuminant	LED System, scope of delivery	LED System, scope of delivery	LED System, scope of delivery
Light colour / CRI	5000 K/70, 3000 K/80 on request	5000 K/70, 3000 K/80 on request	5000 K/70, 3000 K/80 on request
Rated luminous flux of the luminaire	[1]	[1]	[1]
Dimensions (L x W x H)	280 x 295 x 230 mm	381 x 381 x 197 mm	381 x 381 x 274 mm
Connecting terminals	L, N, PE max. 2 x 2.5 mm²	L, N, PE max. 2 x 2.5 mm²	L, N, PE max. 2 x 2.5 mm²
Enclosure colour	grey/black	grey/black	grey/black
Enclosure material	Copper-free aluminium with epoxy-powder coating	Copper-free aluminium with epoxy-powder coating	Copper-free aluminium with epoxy-powder coating
Weight	8.1 kg	16.3 kg	20.0 kg
Degree of protection accd. to EN 60529	IP66	IP66	IP66
Protective cover / protective bowl	Heat- and impact-resistant glass [2]	Heat- and impact-resistant glass [2]	Heat- and impact-resistant glass [2]

[1] See table ordering details

[2] Polycarbonate lens on request

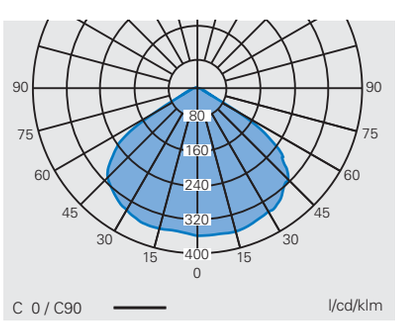
Models

Ordering details - VMV LED

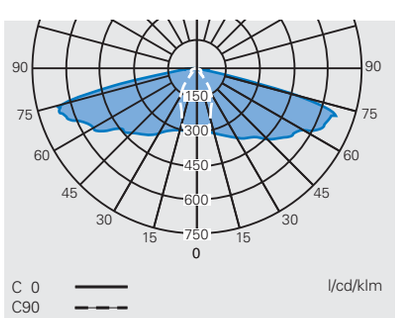
Type	Lamp / illuminant	Rated luminous flux of the luminaire	Weight	Cable gland / thread	Screw plugs	Enclosure type	Order No.
VMV LED lamp module with LED's (without top mounting, please order separately)							
VMV LED 3L	29 W Typ V	3.515 lm	8.1 kg	-	-	1	1 2364 745
VMV LED 5L	43 W Typ V	5.335 lm	8.1 kg	-	-	1	1 2364 746
VMV LED 7L	55 W Typ V	7.260 lm	8.1 kg	-	-	1	1 2365 201
VMV LED 9L	85 W Typ V	9.226 lm	8.1 kg	-	-	1	1 2365 202
VMV LED 11L	113 W Typ V	11.440 lm	8.1 kg	-	-	1	1 2396 576
VMV LED 13L	130 W Typ V	13.266 lm	16.3 kg	-	-	2	1 2442 415
VMV LED 17L	168 W Typ V	18.793 lm	16.3 kg	-	-	2	1 2442 952
VMV LED 21L	196 W Typ V	22.110 lm	20.0 kg	-	-	3	1 2442 986
VMV LED 25L	232 W Typ V	26.531 lm	20.0 kg	-	-	3	1 2443 020
VMV LED 3L	29 W Typ I	3.360 lm	8.1 kg	-	-	1	1 2374 698
VMV LED 5L	43 W Typ I	5.045 lm	8.1 kg	-	-	1	1 2375 046
VMV LED 7L	55 W Typ I	6.844 lm	8.1 kg	-	-	1	1 2375 106
VMV LED 9L	85 W Typ I	8.823 lm	8.1 kg	-	-	1	1 2375 186
VMV LED 11L	113 W Typ I	10.730 lm	8.1 kg	-	-	1	1 2401 259
VMV LED 13L	130 W Typ I	12.842 lm	16.3 kg	-	-	2	1 2442 930
VMV LED 17L	168 W Typ I	18.195 lm	16.3 kg	-	-	2	1 2442 963
VMV LED 21L	196 W Typ I	21.404 lm	20.0 kg	-	-	3	1 2442 997
VMV LED 25L	232 W Typ I	25.685 lm	20.0 kg	-	-	3	1 2443 031
VMV LED 3L	29 W Typ III	3.309 lm	8.1 kg	-	-	1	1 2374 782
VMV LED 5L	43 W Typ III	4.468 lm	8.1 kg	-	-	1	1 2375 047
VMV LED 7L	55 W Typ III	6.741 lm	8.1 kg	-	-	1	1 2375 107
VMV LED 9L	85 W Typ III	8.618 lm	8.1 kg	-	-	1	1 2375 187
VMV LED 11L	113 W Typ III	10.660 lm	8.1 kg	-	-	1	1 2402 998
VMV LED 13L	130 W Typ III	12.493 lm	16.3 kg	-	-	2	1 2442 941
VMV LED 17L	168 W Typ III	17.699 lm	16.3 kg	-	-	2	1 2442 974
VMV LED 21L	196 W Typ III	20.822 lm	20.0 kg	-	-	3	1 2442 909
VMV LED 25L	232 W Typ III	24.987 lm	20.0 kg	-	-	3	1 2443 042

Type	Content	Weight	Cable gland / thread	Screw plugs	Order No.
VMV LED top mounting module, (without lamp module, please order separately)					
JM5	top mounting module for 1½" pole mounting, 25°	1.60 kg	1 x ¾'' thread	-	22 250
PM5	top mounting module for 1½" pole mounting, straight	2.50 kg	1 x ¾'' thread	-	00 080
CM20	top mounting module with M20 ceiling mounting	1.30 kg	4 x M20 thread	4 x M20 thread	1 1843 088
TWM20	top mounting module with M20 wall mounting	2.00 kg	4 x M20 thread	4 x M20 thread	1 1832 237
S812	mounting bracket (can only be used with top mounting module CM20)	1.00 kg	-	-	1 2268 927
JGA5520	Pole adapter for M20 cable gland (JM5/PM5)	0.45 kg	1½" NPT pole thread, 1 x M20 thread	-	1 1826 774
JGA5525	Pole adapter for M25 cable gland (JM5/PM5)	0.45 kg	1½" NPT pole thread, 1 x M25 thread	-	1 1826 777

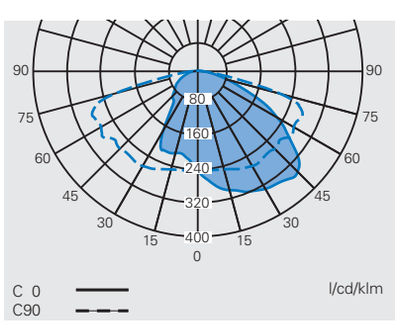
Polar curve, Type V, I and III



Polar curve VMV LED Type V



Polar curve VMV LED Type I



Polar curve VMV LED Type III

nLLK 08 Series for Zone 21 and 22

Primary applications

The lighting solution for hazardous dust areas. In zones 21 and 22 the linear luminaires series nLLK 08 for fluorescent lamps combines the latest lighting technology with the requirements of a harsh and hazardous environment. This luminaire is available both as a ceiling mounted luminaire (nLLK), as well as a pole mounted light fitting (nLLM) in 3 sizes (18, 36 or 58 W).

Features

- Cost-effective installation due to single-ended through-wiring
- EVG with EOL monitoring
- Double-sided safety lock
- Safety interlocking system due to an integrated forced isolating switch
- High degree of protection IP66
- Connection to CEAG emergency light monitoring systems possible (V-CG-S)

Technical data

nLLK 08 series

	nLLK 08018/18 (2 x 18 W)	**nLLK 08036 (1 x 36 W) / nLLK 08036/36 (2 x 36 W)**	**nLLK 08058 (1 x 58 W) / nLLK 08058/58 (2 x 58 W)**
Type Examination Certificate	BVS 09 ATEX E 147	BVS 09 ATEX E 147	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162	BVS 09 ATEX E 162	BVS 09 ATEX E 162
IECEx Certificate of Conformity	IECEx BVS 11.0065 IECEx BVS 12.0069	IECEx BVS 11.0065 IECEx BVS 12.0069	IECEx BVS 11.0065 IECEx BVS 12.0069
Marking accd. to 2014/34/EU	Ex II 3 G Ex nA e IIC T4 Gc Ex II 2 D Ex tb IIIC T80 °C Db	Ex II 3 G Ex nA e IIC T4 Gc Ex II 2 D Ex tb IIIC T80 °C Db	Ex II 3 G Ex nA e IIC T4 Gc Ex II 2 D Ex tb IIIC T80 °C Db
Marking accd. to IECEx	Ex nA e IIC T4 Gc Ex tb IIIC T80°C Db	Ex nA e IIC T4 Gc Ex tb IIIC T80°C Db	Ex nA e IIC T4 Gc Ex tb IIIC T80°C Db
Permissible ambient temperature	-25 °C up to +55 °C	-25 °C up to +55 °C	-25 °C up to +50 °C /-25 °C up to +45 °C
IK-class according to EN 50102	IK 10 ≙ 20 J	IK 10 ≙ 20 J	IK 10 ≙ 20 J
Rated voltage	220- 240 V AC 220- 240 V DC	220- 240 V AC 220- 240 V DC	220- 240 V AC 220- 240 V DC
Rated current	0.16 A	0.16 A / 0.34 A	0.27 A / 0.53 A
Frequency	50- 60 Hz	50- 60 Hz	50- 60 Hz
Power factor cos φ	≥ 0.95	≥ 0.95	≥ 0.95
Circuit	EVG	EVG	EVG
Protection class	I	I	I
Lamp / Illuminant	2 x T26 / 18 W (T8)	1 x T26 / 36 W (T8) / 2 x T26 / 36 W (T8)	1 x T26 / 58 W (T8) / 2 x T26 / 58 W (T8)
Rated luminous flux [1]	2700 lm	3350 lm / 6700 lm	5200 lm / 10400 lm
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm	1660 x 188 x 130 mm
Connecting terminals	L1, N, PE (optional L1, L2, L3, N, PE); screw terminal max. 2 x 6 mm² single wire (L1, L2, L3, L, N, PE)	L1, N, PE (optional L1, L2, L3, N, PE); screw terminal max. 2 x 6 mm² single wire (L1, L2, L3, L, N, PE)	L1, N, PE (optional L1, L2, L3, N, PE); screw terminal max. 2 x 6 mm² single wire (L1, L2, L3, L, N, PE)
Enclosure colour; material	grey, RAL 7035; glass-fibre reinforced polyester	grey, RAL 7035; glass-fibre reinforced polyester	grey, RAL 7035; glass-fibre reinforced polyester
Cable glands / gland plates / enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic), option: M20 x 1.5 metal thread	Ex-e cable glands M25 x 1.5 (plastic), option: M20 x 1.5 metal thread	Ex-e cable glands M25 x 1.5 (plastic), option: M20 x 1.5 metal thread
Degree of protection accd. to EN 60529	IP66	IP66	IP66
Protective cover / protective bowl	Polycarbonate	Polycarbonate	Polycarbonate

[1] depends on used lamps

Models

Ordering details - nLLK 08 series

Type	Content	Terminals	Through wiring single-ended	Through wiring twin-ended	Cable gland/ thread	Threaded plug	Blanking plug	Order No.
nLLK 08018/18								
nLLK 08018/18 (2 x 18 W)	1/3-1K	1 x 3	x	-	1 x M25, plastic	1 x M25		1 3465 218 001
nLLK 08018/18 (2 x 18 W)	2/5-2K	2 x 5	-	x	2 x M25, plastic	2 x M25	1	1 3465 218 011
nLLK 08018/18 (2 x 18 W)	2/6-2M [1)]	2 x 6	-	x	4 x M20, metal thread	2 x M20		1 3465 218 021
nLLK 08018/18 (2 x 18 W)	1/3-1M [1)]	1 x 3	x	-	2 x M20, metal thread	1 x M20		1 3465 218 031
nLLK 08036								
nLLK 08036 (1 x 36 W)	1/3-1K	1 x 3	x	-	1 x M25, plastic	1 x M25		1 3465 136 001
nLLK 08036 (1 x 36 W)	2/5-2K	2 x 5	-	x	2 x M25, plastic	2 x M25	1	1 3465 136 011
nLLK 08036 (1 x 36 W)	2/6-2M [1)]	2 x 6	-	x	4 x M20, metal thread	2 x M20		1 3465 136 021
nLLK 08036/36								
nLLK 08036/36 (2 x 36 W)	1/3-1K	1 x 3	x	-	1 x M25, plastic	1 x M25		1 3465 236 001
nLLK 08036/36 (2 x 36 W)	2/5-2K	2 x 5	-	x	2 x M25, plastic	2 x M25	1	1 3465 236 011
nLLK 08036/36 (2 x 36 W)	2/6-2M [1)]	2 x 6	-	x	4 x M20, metal thread	2 x M20		1 3465 236 021
nLLK 08036/36 (2 x 36 W)	1/6-2M [1)]	1 x 3	x	-	2 x M20, metal thread	1 x M20		1 3465 236 031
nLLM 080... Pole mounting light fitting								
nLLM 08018/18 (2 x 18 W)	1/3-1K	1 x 3	-	x	1 x M25, plastic	-		1 3465 218 101
nLLM 08036/36 (2 x 136W)	1/3-1K	1 x 3	-	x	1 x M25, plastic	-		1 3465 236 101
nLLK 08058								
nLLK 08058 (1 x 58 W)	1/3-1K	1 x 3	x	-	1 x M25, plastic	1 x M25		1 3465 158 001
nLLK 08058 (1 x 58 W)	2/5-2K	2 x 5	-	x	2 x M25, plastic	2 x M25	1	1 3465 158 011
nLLK 08058 (1 x 58 W)	2/6-2M [1)]	2 x 6	-	x	4 x M20, metal thread	2 x M20		1 3465 158 021
nLLK 08058/58								
nLLK 08058/58 (2 x 58 W)	1/3-1K	1 x 3	x	-	1 x M25, plastic	1 x M25		1 3465 258 001
nLLK 08058/58 (2 x 58 W)	2/5-2K	2 x 5	-	x	2 x M25, plastic	2 x M25	1	1 3465 258 011
nLLK 08058/58 (2 x 58 W)	2/6-2M [1)]	2 x 6	-	x	4 x M20, metal thread	2 x M20		1 3465 258 021

Scope of delivery without lamp and fixing accessories
Metal cable glands see catalogue part 2: 2.3.12 ff
[1)] with metal thread, without cable gland

EXIT 2 Series for Zone 22

Primary applications

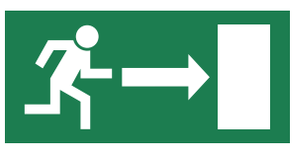
Leading the way in hazardous areas. The EXIT series of explosion protected escape sign luminaires fulfils the requirements of ATEX Directive 2014/34/EU and EN 60598, Section 2.22 for emergency lighting luminaires. The luminaires are suited for marking escape routes and exits in hazardous areas.

Features

- All-plastic polycarbonate housing
- Power-saving LED technology, maintenance-free throughout service life
- High degree of protection IP66
- Luminaire with self-contained battery unit and automatic function monitoring
- Connection and monitoring with CEAG emergency lighting supply systems possible

Pictogram accord. to ISO 7010

Pictogram accord. to DIN 4844



Pictogram accord. to EN 1838

Technical data

EXIT 2 series

	EXIT 2/ EXIT 2 24 V	EXIT 2 N	EXIT 2 V-CG-S
EC-Declaration of Conformity	CCH 13 ATEX 1019	CCH 13 ATEX 1019	CCH 13 ATEX 1019
Marking accd. to 2014/34/EU	Ⓔx II 3 G Ex e ic mc IIC T6/T5 Gc Ⓔx II 3 D Ex tc IIIC T80°C Dc	Ⓔx II 3 G Ex e ic mc IIC T5/T4 Gc Ⓔx II 3 D Ex tc IIIC T80°C Dc	Ⓔx II 3 G Ex e ic mc IIC T6/T5 Gc Ⓔx II 3 D Ex tc IIIC T80°C Dc
Permissible ambient temperature specified data	-20 °C up to +40°C (T6) -20 °C up to +50°C (T5)	-20 °C up to +40°C (T5) -20 °C up to +50°C (T4) +5 °C up to 35 °C	-20 °C up to +40°C (T6) -20 °C up to +50°C (T5)
Battery		12 V/800 mAh NC-Accu	
Rated power consumption	approx. 6 VA	approx. 8 VA	approx. 6 VA
Rated voltage	110 V- 277 V AC 110 V- 250 V DC	110 V- 277 V AC 110 V- 250 V DC	220 V- 254 V AC 195 V- 250 V DC
Rated voltage EXIT 24 V	12- 24 V DC (-15 % / + 20 %)		
Rated current AC/DC	220 V = 20 mA, 110 V = 40 mA	220 V = 27 mA, 110 V = 54 mA	220 V = 20 mA, 110 V = 40 mA
Frequency	DC and 50- 60 Hz (AC)	DC and 50- 60 Hz (AC)	DC and 50- 60 Hz (AC)
Charging duration for capacity > 90 %		24 h	
Power factor cos φ	≥ 0.95	≥ 0.95	≥ 0.95
Circuit	electronic power supply	electronic power supply	electronic power supply
Protection class	I	I	I
Viewing distance	25 m	25 m	25 m
Lamp / Illuminant	high output-LEDs, white	high output-LEDs, white	high output-LEDs, white
Rated emergency lighting duration		approx. 3 h	
Dimensions (L x W x H)	356 x 175 x 76 mm	356 x 175 x 76 mm	356 x 175 x 76 mm
Connecting terminals	3 x loop terminal 2 x 2.5 mm²	3 x loop terminal 2 x 2.5 mm²	3 x loop terminal 2 x 2.5 mm²
Enclosure colour	grey, RAL 7035	grey, RAL 7035	grey, RAL 7035
Enclosure material	Polycarbonate	Polycarbonate	Polycarbonate
Cable glands / gland plates / enclosure drilling	1 x Ex-e cable glands M20 x 1.5 (plastic) / 1 x Ex-e screw plug M20 optional 2 x M20 x1.5 metal thread, 1 x screw plug M20	1 x Ex-e cable glands M20 x 1.5 (plastic) / 1 x Ex-e screw plug M20 optional 2 x M20 x1.5 metal thread, 1 x screw plug M20	1 x Ex-e cable glands M20 x 1.5 (plastic) / 1 x Ex-e screw plug M20 optional 2 x M20 x1.5 metal thread, 1 x screw plug M20
Degree of protection accd. to EN 60529	IP66	IP66	IP66
Protective cover / protective bowl	Polycarbonate	Polycarbonate	Polycarbonate

Models

Ordering details - EXIT 2 series

Type	Scope of delivery	Plastic cable glands M20	Screw plug M20	Metal thread M20	Standard pictogram ISO 7010 Order No.
EXIT 2	including cover with silk-screen pictogram (arrow 3h)	1 x M20	1 x M20		1 2193 000 021
	including cover with silk-screen pictogram (arrow 9h)	1 x M20	1 x M20		1 2193 000 022
	including cover with silk-screen pictogram (arrow 6h)	1 x M20	1 x M20		1 2193 000 023
	including cover, clear, without pictogram	1 x M20	1 x M20		1 2193 000 004
	including cover with silk-screen pictogram (arrow 3h)			2 x M20	1 2193 000 121
	including cover with silk-screen pictogram (arrow 9h)			2 x M20	1 2193 000 122
	including cover with silk-screen pictogram (arrow 6h)			2 x M20	1 2193 000 123
	including cover, clear, without pictogram			2 x M20	1 2193 000 104
EXIT 2 24 V	including cover with silk-screen pictogram (arrow 3h)	1 x M20	1 x M20		1 2193 024 021
	including cover with silk-screen pictogram (arrow 9h)	1 x M20	1 x M20		1 2193 024 022
	including cover with silk-screen pictogram (arrow 6h)	1 x M20	1 x M20		1 2193 024 023
	including cover, clear, without pictogram	1 x M20	1 x M20		1 2193 024 004
	including cover with silk-screen pictogram (arrow 3h)			2 x M20	1 2193 024 121
	including cover with silk-screen pictogram (arrow 9h)			2 x M20	1 2193 024 122
	including cover with silk-screen pictogram (arrow 6h)			2 x M20	1 2193 024 123
	including cover, clear, without pictogram			2 x M20	1 2193 024 104
EXIT 2 N	including cover with silk-screen pictogram (arrow 3h)	1 x M20	1 x M20		1 2193 030 021
	including cover with silk-screen pictogram (arrow 9h)	1 x M20	1 x M20		1 2193 030 022
	including cover with silk-screen pictogram (arrow 6h)	1 x M20	1 x M20		1 2193 030 023
	including cover, clear, without pictogram	1 x M20	1 x M20		1 2193 030 004
	including cover with silk-screen pictogram (arrow 3h)			2 x M20	1 2193 030 121
	including cover with silk-screen pictogram (arrow 9h)			2 x M20	1 2193 030 122
	including cover with silk-screen pictogram (arrow 6h)			2 x M20	1 2193 030 123
	including cover, clear, without pictogram			2 x M20	1 2193 030 104
EXIT 2 V-CG-S	including cover with silk-screen pictogram (arrow 3h)	1 x M20	1 x M20		1 2193 020 021
	including cover with silk-screen pictogram (arrow 9h)	1 x M20	1 x M20		1 2193 020 022
	including cover with silk-screen pictogram (arrow 6h)	1 x M20	1 x M20		1 2193 020 023
	including cover, clear, without pictogram	1 x M20	1 x M20		1 2193 020 004
	including cover with silk-screen pictogram (arrow 3h)			2 x M20	1 2193 020 121
	including cover with silk-screen pictogram (arrow 9h)			2 x M20	1 2193 020 122
	including cover with silk-screen pictogram (arrow 6h)			2 x M20	1 2193 020 123
	including cover, clear, without pictogram			2 x M20	1 2193 020 104

GHG 981 0048* Series for Zone 22

Primary applications

Eaton's GHG 981 safety switches have been approved for use in explosive dust atmospheres in Zone 22 and with their padlocking facilities they can be used as a load break switch to provide the safety you require. The safety switches are certified according the latest standard DIN EN 62626-1 class 1.

Features

- From 25 A up to 700 A
- Full AC 23 and AC 3 motor switching capacity
- Can be locked in the "OFF" position
- High degree of protection IP 66
- Reliable corrosion protection
- Easy-to-install design
- Easily accessible connection terminals
- Additional leading or lagging auxiliary contact guarantees double safety for extreme switching conditions

Accessories

- Plastic cable glands M20 up to M63
- Metal threads

25 A
Stainless steel

25 A
Sheet steel

25 A
GRP (plastic)

40 A
Stainless steel

40 A
Sheet steel

40 A
GRP (plastic)

Technical data

GHG 981 in plastic and metal design

Marking accd. to 94/9/EC	Ⓔx II 3 D Ex tc IIIC T80 °C Dc
Type Examination Certificate	CCH 15 ATEX 1001
Permissible ambient temperature	-55 °C up to +55 °C
Rated voltage	up to 690 V
Rated current	see table right
Frequency	50 / 60 Hz
Degree of protection accd. to EN 60529	IP66
Auxiliary contact	1 x NO making- lagging, breaking- leading 1 x NC making- leading, breaking- lagging
Padlocking facility	can be locked in OFF position with 3 commercially available padlocks (Ø max. 6 mm)
Enclosure colour	GRP (Plastic) = black / sheet steel = RAL 7032 / stainless steel 316L = electro-polished

80 A
Stainless steel

100 A
Sheet steel

250 A
Stainless steel

630 A
Sheet steel

700 A
Sheet steel

Models

25 A - 160 A

Rated current	Pole	Cable entry/ cable glands	Glass-fibre reinforced polyester	Sheet steel polyester powder coated	Stainless steel AISI 316L, electro-polished
25 A	3-pole	2xM32 / 1xM25	GHG 981 0048 R1211	GHG 981 0048 R1214	GHG 981 0048 R1217
	4-pole	2xM32 / 1xM25	GHG 981 0048 R1212	GHG 981 0048 R1215	GHG 981 0048 R1218
	6-pole	4xM32 / 1xM25	GHG 981 0048 R1213	GHG 981 0048 R1216	GHG 981 0048 R1219
40 A	3-pole	2xM40 / 1xM25	GHG 981 0048 R1221	GHG 981 0048 R1224	GHG 981 0048 R1227
	4-pole	2xM40 / 1xM25	GHG 981 0048 R1222	GHG 981 0048 R1225	GHG 981 0048 R1228
	6-pole	4xM40 / 1xM25	GHG 981 0048 R1223	GHG 981 0048 R1226	GHG 981 0048 R1229
80 A	3-pole	2xM50 / 1xM25	GHG 981 0048 R1231	GHG 981 0048 R1234	GHG 981 0048 R1237
	4-pole	2xM50 / 1xM25	GHG 981 0048 R1232	GHG 981 0048 R1235	GHG 981 0048 R1238
	6-pole	4xM50 / 1xM25	GHG 981 0048 R1233	GHG 981 0048 R1236	GHG 981 0048 R1239
100 A	3-pole	2xM50 / 1xM25	GHG 981 0048 R0241	GHG 981 0048 R0244	GHG 981 0048 R0247
	4-pole	2xM63 / 1xM25	GHG 981 0048 R0242	GHG 981 0048 R0245	GHG 981 0048 R0248
	6-pole	4xM50 / 1xM25	GHG 981 0048 R0243	GHG 981 0048 R0246	GHG 981 0048 R0249
160 A	3-pole	2xM63 / 1xM25	GHG 981 0048 R0251	GHG 981 0048 R0254	GHG 981 0048 R0257
	4-pole	2xM63 / 1xM25	GHG 981 0048 R0252	GHG 981 0048 R0255	GHG 981 0048 R0258
	6-pole	4xM50 / 1xM25	GHG 981 0048 R0253	GHG 981 0048 R0256	GHG 981 0048 R0259

250 A - 700 A

Rated current	Pole	Cable entry/ cable glands	Sheet steel polyester powder coated	Stainless steel AISI 316L, electro-polished
250 A	3-pole	2xM63 / 1xM25	GHG 981 0048 R0264	GHG 981 0048 R0267
	4-pole	2xM63 / 1xM25	GHG 981 0048 R0265	GHG 981 0048 R0268
	6-pole	4xM63 / 1xM25	GHG 981 0048 R0266	GHG 981 0048 R0269
400 A	3-pole	2xM63 / 1xM25	GHG 981 0048 R0274	GHG 981 0048 R0277
	4-pole	2xM63 / 1xM25	GHG 981 0048 R0275	GHG 981 0048 R0278
	6-pole	4xM63 / 1xM25	GHG 981 0048 R0276	GHG 981 0048 R0279
630 A	3-pole	4xM80 / 1xM25	GHG 981 0048 R0284	GHG 981 0048 R0287
	4-pole	4xM80 / 1xM25	GHG 981 0048 R0285	GHG 981 0048 R0288
700 A	3-pole	4xM80 / 1xM25	GHG 981 0048 R0294	GHG 981 0048 R0297
	4-pole	4xM80 / 1xM25	GHG 981 0048 R0295	GHG 981 0048 R0298

Plugs & receptacles Plastic version for Zone 22

Primary applications

A safe contact- Providing electrical energy there, where it is most needed – even in explosion hazardous areas for the zone 22. Portable electrical apparatus have generally high requirements on the energy/power supply. Crouse-Hinds plugs and sockets offer more, apart from the proven technology, this product series is defined by its innovative details.

Features

- Full AC-3 switching capacity
- Safety standard IP66 applies also in plug-in state
- Self-cleaning lamellar contacts, low transition resistance
- All-pole on/off switching
- Easy plugging

Accssories

- Protective canopy
- Mounting plate
- Plug cap

Protective canopy

Mounting plate

Plug cap

Wallsocket

Flange socket

Plug

Coupler

Technical data

Ex plugs and receptacles from 16 A up to 125 A

Marking accd. to 2014/34/EU	Ⓔx II 3 D Ex tc IIIC T80 °C Dc IP66	
Type Examination Certificate	16 A	Wall socket, plug and coupler: BVS 07 ATEX E 115 Receptacle: BVS 07 ATEX E 126 U
	32 A	Wall socket, plug and coupler: BVS 07 ATEX E 116 Receptacle: BVS 07 ATEX E 127 U
	63 A	Wall socket and plug: BVS 07 ATEX E 117
	125 A	Wall socket and plug: BVS 07 ATEX E 118
Permissible ambient temperature	-20 °C up to +40 °C[1)]	
Rated voltage	up to 400 V (3-pole) / 690 V (4-pole) / 500 V (5-pole)	
Rated current	up to 16 A / 32 A / 63 A / 125 A	
Frequency	50 / 60 Hz	
Switch rating AC-3	16 A up to 400 V	
Back up fuse, max.	16 A	without thermal protection: 16 A with thermal protection: 35 A gG (rated current 16 A set to)
	32 A	without thermal protection: 35 A with thermal protection: 50 A gG (rated current 32 A set to)
	63 A	without thermal protection: 63 A with thermal protection: 80 A gL (rated current 63 A set to)
	125 A	without thermal protection: 125 A with thermal protection: 160 A gG (rated current 125 A set to)
Insulation class	I	
Degree of protection (accd. to EN 60529)	IP66	

[1)] Other ambient temperature on request.

Models

Ordering details - wallsockets without auxiliary contacts, flange sockets, coupler, plugs

Rated current	Rated voltage	Pole	Wallsocket without aux. contact; KU	Wallsocket without aux. contact; ME	Flange socket	Coupler	Plug
16 A	200- 250 V	3-pole	D22 516 4306 R0001	D22 516 4306 R3001	D22 516 8306 R0001	D22 516 3306 R0001	D22 516 7306 R0001
	380- 415 V	4-pole	D22 516 4406 R0001	D22 516 4406 R3001	D22 516 8406 R0001	D22 516 3406 R0001	D22 516 7406 R0001
	200- 250 V 380- 415 V	5-pole	D22 516 4506 R0001	D22 516 4506 R3001	D22 516 8506 R0001	D22 516 3506 R0001	D22 516 7506 R0001
32 A	380- 415 V	4-pole	D22 517 4406 R0001	D22 517 4406 R3001	D22 517 8406 R0001	D22 517 3406 R0001	D22 517 7406 R0001
	200- 250 V 380- 415 V	5-pole	D22 517 4506 R0001	D22 517 4506 R3001	D22 517 8506 R0001	D22 517 3506 R0001	D22 517 7506 R0001
63 A	380- 415 V	4-pole	D22 518 4406 R0001	D22 518 4406 R3001	D22 518 8406 R0001	D22 518 3406 R0001	D22 518 7406 R0001
	200- 250 V 380- 415 V	5-pole	D22 518 4506 R0001	D22 518 4506 R3001	D22 518 8506 R0001	D22 518 3506 R0001	D22 518 7506 R0001
125 A	380- 415 V	4-pole	D22 519 4406 R0001	D22 519 4406 R3001	D22 519 8406 R0001	D22 519 3406 R0001	D22 519 7406 R0001
	200- 250 V 380- 415 V	5-pole	D22 519 4506 R0001	D22 519 4506 R3001	D22 519 8506 R0001	D22 519 3506 R0001	D22 519 7506 R0001

Ordering details - wallsockets with auxiliary contacts

Rated current	Rated voltage	Pole	Wallsocket with aux. contact; KH
16 A	380- 415 V	4-pole	D22 516 4406 R0501
	200- 250 V / 380- 415 V	5-pole	D22 516 4506 R0501
32 A	380- 415 V	4-pole	D22 517 4406 R0501
	200- 250 V / 380- 415 V	5-pole	D22 517 4506 R0501
63 A	380- 415 V	4-pole	D22 518 4406 R0501
	200- 250 V / 380- 415 V	5-pole	D22 518 4506 R0501
125 A	380- 415 V	4-pole	D22 519 4406 R0501
	200- 250 V / 380- 415 V	5-pole	D22 519 4506 R0501

Definition of cable entries

Rated current	KU	ME	KH
16 A	1 x plastic cable glands M25, for Ø 8-17 mm 1 x M25 plastic Ex-screw plug	2 x metal thread M20 with plastic screw plug	2 x plastic cable glands M25, for Ø 8-17 mm auxiliary contact, 1 NO
32 A	1 x plastic cable glands M40 for Ø 17-28 mm 1 x M40 plastic Ex-screw plug	2 x metal thread M32 with plastic screw plug	1 x plastic cable glands M40, for Ø 17-28 mm 1 x plastic cable glands M25 for Ø 8-17 mm, with auxiliary contact
63 A	1 x plastic cable glands M50, for Ø 22-35 mm 1 x M50 plastic Ex-screw plug	2 x metal thread M40 with plastic screw plug	1 x plastic cable glands M50, for Ø 22-35 mm 1 x plastic cable glands M25 for Ø 8-17 mm, with auxiliary contact
125 A	1 x plastic cable glands M63, for Ø 27-48 mm 1 x M40 plastic Ex-screw plug	2 x metal thread M50 with plastic screw plug	1 x plastic cable glands M63, for Ø 27-48 mm 1 x plastic cable glands M25 for Ø 8-17 mm, with auxiliary contact

Other voltage ranges on request.
KU = plastic cable glands, Ex-screw plug plastic
KH = plastic cable glands, auxiliary contact, 1 NO
ME = metal thread with Ex-screw plug plastic

Accessories

Accessories for 16 A & 32 A products

Rated current	Accessorie	Type	Application	Order-No.
16 A	Mounting plates for wall socket	Size 4	for wall mounting	GHG 610 1953 R0126
		Size 4	for trellis mounting	GHG 610 1953 R0126
		Size 4	for pipe clamp	GHG 610 1953 R0130
	Plug cap	3-pole		GHG 510 1901 R0001
		4-pole		GHG 510 1901 R0002
		5-pole		GHG 510 1901 R0003
	Mounting plates	OU 10	Set for 1" (Ø 27-30 mm) for mounting plates with pipe fixing	GHG 610 1953 R0020
	Protective canopy	Size 4	for mounting plate size 4, snap on	GHG 610 1955 R0107
32 A	Mounting plates for wall socket	Size 5	for wall mounting	GHG 610 1953 R0128
		Size 5	for trellis mounting	GHG 610 1953 R0128
		Size 5	for pipe clamp	GHG 610 1953 R0132
	Plug cap	3-pole / 4-pole		GHG 510 1901 R0004
		5-pole		GHG 510 1901 R0005
	Mounting plates	OU 10	Set for 1" (Ø 27-30 mm) for mounting plates with pipe fixing	GHG 610 1953 R0020
	Protective canopy	Size 5	for mounting plate size 4, snap on	GHG 610 1955 R0108

Cable glands in Plastic Version for Zone 1, 2, 21 and 22


Cable gland for Ex-e


Cable gland i for Ex-i


Multiple cable gland


Trupet-shaped cable gland


Blanking plug


Reducing ring


Screw plug

Conform with latest standards

Cable glands with metric screw-in threads are now standard and had replace the PG cable glands that were formally used.

The CEAG plastic cable glands are in accordance with EN 60079-0: 2012 and can be used in Ex-e/ Ex-i housings in hazardous areas of the Zones 1, 21, 2 and 22.

Optional and not used cable glands must be closed with certified blanking plugs. The blanking plugs allow for a flexible and cost effective utilization of the explosion-protected appliances. Changes and upgrades can be then easily carried out at a later date.

The outstanding feature of the CEAG cable glands is the large cable connection area.

For all applications

For special applications, the cable glands are available in high-quality stainless steel 316L, nickel plated brass, marine bronze or anodised AV4PB.

In the case of systems or housings manufactured according to the NEC (National Electrical Code), the line or the connecting cable must be introduced via conduits, mounting fittings, etc. with NPT threads.

Optional holes, or those that are not used, must be closed with a screw connection certified for this purpose.

Special versions are available for different applications.

Features

- Certified accord. to the latest Standard EN 60079-0: 2009
- Mechanical, chemical and thermal resistance
- Single range with global compliance: NEC, IEC standard and marine approval. All covered with one product.
- High-quality alloy

Ordering details /Dimensions

Ordering details and further technical information (dimensions) you will find in our catalogue No. 300 8000 2237: Main Catalogue Part 2, **page 2.3.4 - 2.3.11**

Technical data

Ex-e cable glands

Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex eb IIC Gb / Ⓔx II 2 D Ex tb IIIC Db
EC-Type Examination Certificate	PTB 14 ATEX 1015 X
IECEx Certificate of Conformity	IECEx PTB 14 ATEX 14.0027 X
Marking accd. to IECEx	Ex eb IIC Gb / Ex eb IIC Gb
Permissible ambient temperature M20 M25- M63	–20 °C up to +70 °C (see ordering details) –40 °C up to +70 °C (see ordering details) –55 °C up to +70 °C (see ordering details)
Degree of protection accd. to EN 60529	IP66 / IP68: 1 m water depth for 0.5 h
Enclosure material	Polyamide

Ex-e screw plugs

Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex e II / D II 2 Ⓔx Ex tb IIIC Db IP66 (M63 only for II 2 G)
EC-Type Examination Certificate	PTB 98 ATEX 3130
IECEx Certificate of Conformity	IECEx PTB 03.0000
Marking accd. to IECEx	Ex e IIC Gb Ex tb IIIC Db IP66/IP65 (M63 only for II 2 G)
Permissible ambient temperature	-55 °C to +55 °C
Degree of protection accd. to EN 60529	IP66 / IP68: 1 m water depth for 0.5 h
Enclosure material	Polyamide

Blanking plugs / reducing rings

Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex eb IIC Gb Ⓔx II 2 D Ex tb IIIC Db IP66
EC-Type Examination Certificate	PTB 14 ATEX 1015X
IECEx Certificate of Conformity	IECEx PTB 14.0027X
Marking accd. to IECEx	Ex eb IIC Gb / Ex tb IIIC Db
Permissible ambient temperature	–55 °C bis +70 °C
Degree of protection accd. to EN 60529	IP66
Enclosure material	Polyamide

Ex-e trumpet shaped cable gland

Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex e II Ⓔx II 2 D Ex tD A21 IP66
EC-Type Examination Certificate	PTB 00 ATEX 3121
IECEx Certificate of Conformity	IECEx BKI 08.0007
Marking accd. to IECEx	Ex e II / Ex tD A21 IP66 T85°C
Permissible ambient temperature	–40 °C up to +85 °C
Degree of protection accd. to EN 60529	IP66
Enclosure material	Polyamide

Cable glands in Metal Design for Zone 1, 2, 21 and 22

Designed according to the latest standards

For introducing cables or leads into metal housings, explosion-protected housing or, if reinforced cables have to be introduced, metal cable glands are used. Metal glands are designed for use in areas of
Zone 1, 2, 21 and Zone 22 at no risk of explosion and for cables with and without reinforcement.

Depending on the area of use, these cable entries are certified with the type of protection Ex-d or Ex-e pursuant to the latest standard EN 60079-1 or EN 60079-7.

For all applications

For special applications, the cable glands are available in high-quality stainless steel 316L, nickel plated brass, marine bronze or anodised AV4PB.

In the case of systems or housings manufactured according to the NEC (National Electrical Code), the line or the connecting cable must be introduced via conduits, mounting fittings, etc. with NPT threads.

Optional holes, or those that are not used, must be closed with a screw connection certified for this purpose.

Special versions are available for different applications.

ADE 1F2

ADE 4F

ADE 6F

Features

- Certified accord. to the latest Standard EN 60079-0: 2009
- Mechanical, chemical and thermal resistance
- Single range with global compliance: NEC, IEC standard and marine approval. All covered with one product.
- High-quality alloy.

Ordering details /Dimensions

Ordering details and further technical information (dimensions) you will find in our catalogue No. 300 8000 2237: Main Catalogue Part 2,
page 2.3.4 - 2.3.11

Technical data

Ex-e cable glands metal ADE ...

Marking accd. to 2014/34/EU	⟨Ex⟩ II 2 G Ex db eb IIC / ⟨Ex⟩ II 2 D Ex tb IIIC
EC-Type Examination Certificate	INERIS 12 ATEX 0032X
IECEx Certificate of Conformity	IECEx INE 12.0025X
Marking accd. to IECEx	Ex db eb IIC / Ex tb IIIC / Ex e II / Ex tD
Permissible ambient temperature	Neoprene:–30 °C to +80 °C Silikon: –60 °C to +140 °C (option)
Degree of protection accd. to EN 60529	IP66 / IP68- 10 bar
Thread	ISO-thread accd. ISO 965/1, ISO 965R and EN 60423
Enclosure material	Nickel-plated brass (CuZn gal. Ni), stainless steel, bronze, natural brass option

Notes

Notes

Eaton's Crouse-Hinds Division

The safety you rely on.

See the complete offering of Hazardous and Industrial Products at www.crouse-hinds.de.

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