Kraus & Naimer

ATEX

Kraus & Naimer

ATEX

Since 1907 Kraus & Naimer is focused on developing, manufacturing and distributing switches for low voltage applications

Only consequent specialization enables state of the art products at the highest technical quality level. The world's first programmable cam switch was already branded with the Kraus & Naimer Φ. Today world-wide recognized and synonym for safe switching solutions and path braking innovation.

In no time Kraus & Naimer emerged to the market leader of cam switches and is moreover one of the leading manufacturers for main disconnects, disconnectors and switch disconnectors.

The wide and global oriented product portfolio offers a technical and economical optimized solution for nearly any application.

Zone 21, 3 pole / 3 pole + 1 NO/NC, IP 66

Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

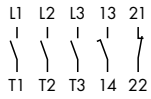
KG20-KG32: 2 x M25 ATEX cable glands and 1 dummy plug M20 included.
KG41-KG64: 2 x M25 ATEX cable glands, 2 x M32/M25 adaptors and 1 dummy plug M20 included.

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T103/NL-EXBA.KNBOX
11 kW	32 A	KG32.T103/NL-EXBA.KNBOX
15 kW	40 A	KG41.T103/NL-EXBA.KNBOX
20 kW	55 A	KG64.T103/NL-EXBA.KNBOX
Without auxiliary contacts		
7,5 kW	25 A	KG20.T103/NL-EXB.KNBOX
11 kW	32 A	KG32.T103/NL-EXB.KNBOX
15 kW	40 A	KG41.T103/NL-EXB.KNBOX
20 kW	55 A	KG64.T103/NL-EXB.KNBOX
EMC-Model with auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T103/NL-EXBC*KNBOX
11 kW	32 A	KG32.T103/NL-EXBC*KNBOX
15 kW	40 A	KG41.T103/NL-EXBC*KNBOX
20 kW	55 A	KG64.T103/NL-EXBC*KNBOX

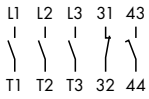
Note for EMC model:
Maintenance Switches for EMC-compliant connection of FU-regulated drives use shield clips. These clips are used to continue the cable shield circuit through the enclosure.
The configuration of the Maintenance Switch between FU and motor allows the use as Disconnector up to 400 Hz and as Load Switch at frequencies from 40 Hz to 100 Hz.
Each Maintenance Switch has as standard 2 auxiliary contacts, 1 NC and 1 NO. Via the NO (20 ms leading) the FU can be switched off before the main contacts of the switch open.
For the rating of the switch please note that the motor may have approx. 10 % higher charging rate due to the higher loss in FU-operation e.g. a motor with 7,5 kW rating the motor current has to be determined with 16,7 A instead of 15,2 A.w

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
1-0-2-Model with auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T903/NL-EXBA.KNBOX
20 kW	32 A	KG32.T903/NL-EXBA.KNBOX

3 pole + 1NO/1NC

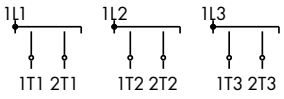


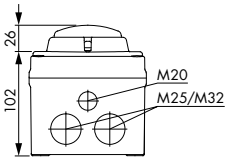
3 pole + 1NO/1NC

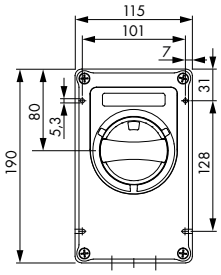


3 pole

3 pole (1-0-2)







Maximal number of locks Padlock device	U-bolt-Ø	Number of locks
	6	3

Cable-Ø shield Shield clamp	Type	Ø min-max
	KG20-KG64	12-16

Zone 21, 3 pole / 3 pole + 1 NO/NC, IP 66

Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

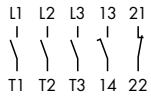
KG20-KG32: 2 x M25 ATEX cable glands and 1 dummy plug M20 included.
KG41-KG64: 2 x M25 ATEX cable glands, 2 x M32/M25 adaptors and 1 dummy plug M20 included.

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T203/NL-EXRA.KNBOX
11 kW	32 A	KG32.T203/NL-EXRA.KNBOX
15 kW	40 A	KG41.T203/NL-EXRA.KNBOX
20 kW	55 A	KG64.T203/NL-EXRA.KNBOX
Without auxiliary contacts		
7,5 kW	25 A	KG20.T203/NL-EXR.KNBOX
11 kW	32 A	KG32.T203/NL-EXR.KNBOX
15 kW	40 A	KG41.T203/NL-EXR.KNBOX
20 kW	55 A	KG64.T203/NL-EXR.KNBOX
EMC-Model with auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T203/NL-EXRC*KNBOX
11 kW	32 A	KG32.T203/NL-EXRC*KNBOX
15 kW	40 A	KG41.T203/NL-EXRC*KNBOX
20 kW	55 A	KG64.T203/NL-v*KNBOX

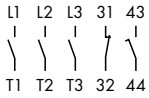
Note for EMC model:
Maintenance Switches for EMC-compliant connection of FU-regulated drives use shield clips. These clips are used to continue the cable shield circuit through the enclosure.
The configuration of the Maintenance Switch between FU and motor allows the use as Disconnector up to 400 Hz and as Load Switch at frequencies from 40 Hz to 100 Hz.
Each Maintenance Switch has as standard 2 auxiliary contacts, 1 NC and 1 NO. Via the NO (20 ms leading) the FU can be switched off before the main contacts of the switch open.
For the rating of the switch please note that the motor may have approx. 10 % higher charging rate due to the higher loss in FU-operation e.g. a motor with 7,5 kW rating the motor current has to be determined with 16,7 A instead of 15,2 A.

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
1-0-2-Model with auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T903/NL-EXRA.KNBOX
20 kW	32 A	KG32.T903/NL-EXRA.KNBOX

3 pole + 1NO/1NC

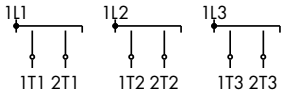


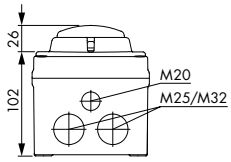
3 pole + 1NO/1NC

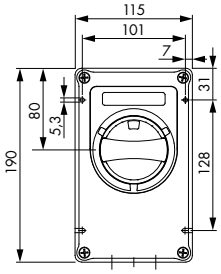


3 pole

3 pole (1-0-2)







Maximal number of locks Padlock device	U-bolt-Ø	Number of locks
	6	3

Cable-Ø shield Shield clamp	Type	Ø min-max
	KG20-KG64	12-16

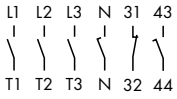
Zone 21, 4 pole / 4 pole + 1 NO/NC, IP 66

Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

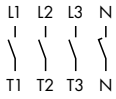
KG20-KG32: 2 x M25 ATEX cable glands and 1 dummy plug M20 included.
KG41-KG64: 2 x M25 ATEX cable glands, 2 x M32/M25 adaptors and 1 dummy plug M20 included.

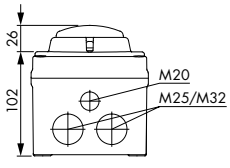
Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T104/NL-EXBA.KNBOX
11 kW	32 A	KG32.T104/NL-EXBA.KNBOX
15 kW	40 A	KG41.T104/NL-EXBA.KNBOX
20 kW	55 A	KG64.T104/NL-EXBA.KNBOX
Without auxiliary contacts		
7,5 kW	25 A	KG20.T104/NL-EXB.KNBOX
11 kW	32 A	KG32.T104/NL-EXB.KNBOX
15 kW	40 A	KG41.T104/NL-EXB.KNBOX
20 kW	55 A	KG64.T104/NL-EXB.KNBOX

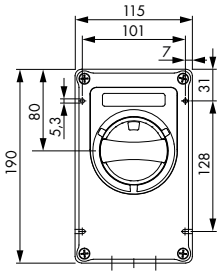
4 pole + 1NO/1NC



4 pole







Maximal number of locks		
Padlock device	U-bolt-Ø	Number of locks
	6	3

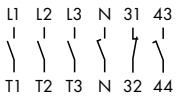
Zone 21, 4 pole / 4 pole + 1 NO/NC, IP 66

Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

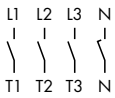
KG20-KG32: 2 x M25 ATEX cable glands and 1 dummy plug M20 included.
KG41-KG64: 2 x M25 ATEX cable glands, 2 x M32/M25 adaptors and 1 dummy plug M20 included.

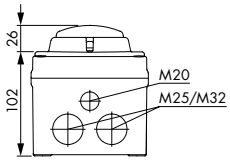
Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T204/NL-EXRA.KNBOX
11 kW	32 A	KG32.T204/NL-EXRA.KNBOX
15 kW	40 A	KG41.T204/NL-EXRA.KNBOX
20 kW	55 A	KG64.T204/NL-EXRA.KNBOX
Without auxiliary contacts		
7,5 kW	25 A	KG20.T204/NL-EXR.KNBOX
11 kW	32 A	KG32.T204/NL-EXR.KNBOX
15 kW	40 A	KG41.T204/NL-EXR.KNBOX
20 kW	55 A	KG64.T204/NL-EXR.KNBOX

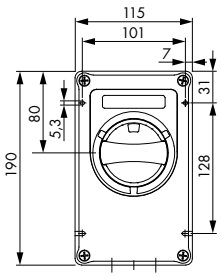
4 pole + 1NO/1NC



4 pole







Maximal number of locks Padlock device	U-bolt-Ø	Number of locks
	6	3

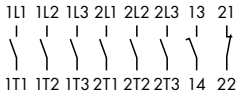
Zone 21, 6 pole + 1 NO/NC, IP 66

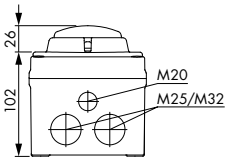
Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

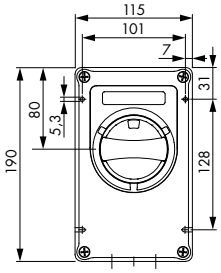
2 x M32 ATEX cable glands and 1 dummy plug M20 included.

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T106/NL-EXBA.KNBOX
11 kW	32 A	KG32.T106/NL-EXBA.KNBOX

6 pole + 1NO/1NC







Maximal number of locks		
Padlock device	U-bolt-Ø	Number of locks
	6	3

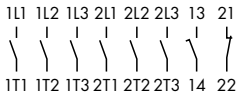
Zone 21, 6 pole + 1 NO/NC, IP 66

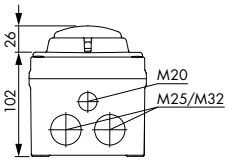
Maintenance and Safety switch acc. to EC ATEX-Directive 94/9/EG equipment group II, Category 2, Zone 21, Indication of field D Mechanical impact resistance 7J

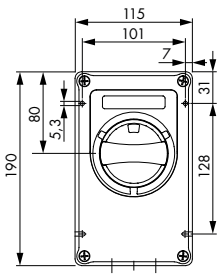
2 x M32 ATEX cable glands and 1 dummy plug M20 included.

Utilization Category AC-23B (A)	Thermal Current I_u/I_{th}	Ordner number
With auxiliary contacts (1 NO, 1 NC)		
7,5 kW	25 A	KG20.T206/NL-EXRA.KNBOX
11 kW	32 A	KG32.T206/NL-EXRA.KNBOX

6 pole + 1NO/1NC







Maximal number of locks		
Padlock device	U-bolt-Ø	Number of locks
	6	3

ATEX groups and category of equipment

Group I comprises equipment intended for use in the underground parts of mines, and to those parts of surface installations of such mines, likely to become endangered by firedamp and/ or combustible dust.

Group II comprises equipment intended for use in other places likely to become endangered by explosive atmospheres.

These Groups are sub-divided into Categories, as shown below. The way in which this categorisation has been developed highlights one of the main distinctions of Group I and II.

For Group I, the categorisation depends on (amongst other factors) whether the product is to be deenergised in the event of an explosive atmosphere occurring.

For Group II, it depends where the product is intended to be used in and whether a potentially explosive atmosphere, is always present, or is likely to occur for a long or a short period of time.

Group I: Underground and above ground installations for mining industry with hazardous choke damp and mine dust		
Category	**Accepting**	
Category M1	Very high level of protection	Safety in the event of two faults occurring independently of each other
Category M2	High level of protection	Device must be turned off in case of potentially explosive atmosphere

Group II: Other ex-areas					
Category	**Accepting of danger**	**Accepting**		**Zone**	**Substance class**
Category 1	Highly likely to occur and are present continuously, for long periods of time or frequently	Very high level of protection	Safety in the event of two faults occurring independently of each other	Zone 0	G (Gases)
				Zone 20	D (Dusts)
Category 2	Likely	High level of protection	Safety in the event of one fault	Zone 1	G (Gases)
				Zone 21	D (Dusts)
Category 3	Unlikely	Normal level of protection	Suitable for normal operation	Zone 2	G (Gases)
				Zone 22	D (Dusts)

CERTIFICATE

EC-TYPE EXAMINATION CERTIFICATE

[1] Equipment or Protective System intended for use in potentially explosive atmospheres Directive 94/9/EC

[2]

[3] EC-Type Examination Certificate number: TÜV IT 14 ATEX 005

[4] Equipment or Protective System: Load and motor switchgear with enclosure Type: iSOLATORS-EX XGE and XEM Series NL-EXB Series NL-EXR Series

[5] Manufacturer: SCAME PARRE S.p.A

[6] Address: Via Costa Erta, 15 I-24020 Parre (BG) - ITALY

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] TÜV Italia, notified body no. 0948 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R 14 EX 004

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0 : 2009 EN 60079-31 : 2009

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

Type XGE and XEM series: II 2D Ex tb IIIC T80°C Db IP66 (Ta -25°C +40°C) II 2D Ex tb IIIC T90°C Db IP66 (Ta -25°C +60°C)

Type NL-EXB and NL-EXR series: II 2D Ex tb IIIC T80°C Db IP66 (Ta -25°C +40°C)

This certificate may only be reproduced in its entirety and without any change, schedule included.

Emission date: 20th February 2014 – translation issued on 20th February 2014

Approved Gennaro Oliva Industrial Service Director

page 1 of 3

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres with D.M. dated 08/03/2007. The document is internally administered under no 23922/.

TÜV Italia • Gruppo TÜV SÜD • Via Carducci 125, Pal. 23 • 20099 Sesto San Giovanni (MI) • Italia • www.tuv.it

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

[13] SCHEDULE

[14] EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 005

Italia

[15] **Description of equipment**

The Isolators EX XGE and XEM series, NL-EXB and NL-EXR series, are load and motor switchgears with plastic enclosure, with two main variations on the model with different nominal currents.
Each of the variants is then divided into different configurations that differ from each other only by the number of active poles, the operating voltage, the inlet cable section and the color of the control knob and / or the presence of the auxiliary contacts.

The devices are for the usage in fixed installation in Zone 21 and Zone 22.

Rated characteristics

Isolators Ex model	Nominal current	Nominal current	Nominal current
590.XGE (General use)	20 A	32 A	40 A
590.XEM (Emergency use)	20 A	32 A	40 A

NL model	Nominal current	Nominal current	Nominal current	Nominal current	Nominal current	Nominal current
NL-EXB	16 A	20 A	25 A	32 A	40 A	55 A
NL-EXR	16 A	20 A	25 A	32 A	40 A	55 A

Warning label

None.

[16] **Report no.** R14 EX 004

Listed documents

Type: Isolators EX XGE and XEM series			
document ID	rev.	pages	dated
01 Nota_tecnica NT-SCAME ATEX prodotti serie ISOLATORS EX (XGE e XEM) STP0008 V1	V2.0	10	12/02/2014
02 Codici prodotti serie ISOLATORS EX (XGE e XEM) SCAME V2.0	n.a.	4	12/02/2014
03 Foglio di istruzioni prodotti serie ISOLATORS EX (XGE e XEM) SCAME ZP90828-1 V2	02	9	12/02/2014
04 Dichiarazione CE di conformità prodotti serie ISOLATORS EX (XGE e XEM) SCAME V2.0	n.a.	1	12/02/2014
05 Materiale Involucro	01	2	09/03/2008
06 Scheda tecnica gomma TPV (1)	00	2	07/12/2010
07 Scheda tecnica gomma TPV (2)	00	2	30/03/2010
08 Assieme serie ISOLATORS EX (XGE e XEM) SCAME	n.a.	1	14/02/2014

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

[13] SCHEDULE

[14] EC-TYPE EXAMINATION CERTIFICATE no. TÜV IT 14 ATEX 005

Italia

Type: NL-EXB and NL-EXR series			
document ID	rev.	pages	dated
01 Nota_tecnica NT-KRAUS & NAIMER ATEX prodotti serie NL-EXB e NL-EXR STP00009 V1.0	V1.0	12	12/02/2014
02 Codici prodotti serie NL-EXB e NLEXR (KRAUS & NAIMER) V2	V3	8	12/02/2014
03 Foglio istruzioni prodotti serie serie NL-EXB e NL-EXR)KRAUS & NAIMER) ZP90828-K-3 V3	03	10	12/02/2014
04 Dichiarazione CE di conformità prodotti serie NL-EXB e NL-EXR (KRAUS & NAIMER) V1.0	n.a.	1	12/02/2014
05 Materiale Involucro	01	2	09/03/2008
06 Scheda tecnica gomma TPV (1)	00	2	07/12/2010
07 Scheda tecnica gomma TPV (2)	00	2	30/03/2010
08 Assieme serie NL-EXB e NL-EXR (KRAUS & NAIMER)	00	1	14/02/2014

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[17] **Special conditions for safe use**

None

[18] **Essential Health and Safety Requirements**

Guaranteed by the Standards reported in [9].

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