

Read and follow these safety instructions first



## 1. Safety instructions

- 1.1 Installation, mounting (fix into hoses), putting into operation, maintenance, removal and repair may be carried out by qualified experienced specialists with knowledge in pressurized piping construction only.
- 1.2 The statutory and other applicable regulations and standards have to be noticed and kept.
- 1.3 The pressure of maximum 10 bar, temperature of maximum +120 °C, the instructions of the
  - > EU-Declaration of conformity EUKE-DG-K100and – if a limit switch is mounted – the instructions of the
  - > Appliance information KE-GI-... resp. the technical datas of the KE-TD-..have to be noticed and kept.
- 1.4 Putting into operation and pressure admission only
  - after correct building-in of the hose coupling into the delivery hose
  - after correct mounting of the coupling with thread at the tube (threaded connection) and if need by fixation with the locating screw
  - with closed coupling connection
- !!! Before pressurize the tubing make sure that the couplings are correct inserted resp. connected and
  - with Storz-couplings
    - is pulled to the limit stop
  - with couplings according to DIN 28 450
    - the clamping ring is tightened firmly and the safety lever is folded down
  - with KAMLOK – couplings
    - both levers are turned down to the coupling
- 1.5 **Disconnect resp. open the coupling connection only when pressure-free.**



### ATTENTION ! Danger of injuries

- If loosened and opened in pressurized condition the blank coupling, blank cap resp. closing cover or closing plug will accelerate like a bullet and may cause serious injuries and damages.
- If loosened in pressurized condition the hose will lay about one and may cause serious injuries.

- !!! Before loosen resp. open the coupling connection make sure that the tubing is pressure-free.

Depending on over pressure and hose diameter place suitable warning information.

e.g. **“Loosen only in pressure-free condition”**

- 1.6 If one of the coupling elements is damaged the pressurizing has to be shut off immediately and the tubing resp. hose line is to relieve from any pressure.
  - 1.7 Elements of the coupling should be removed or demounted only in pressure-free condition.
- ▶ !!! For couplings with build-in limit switch take also notice of the safety instructions on the back.

Read and follow these special conditions and safety instructions



## 2. General safety instructions

- 2.1 The installation, maintenance, initial operation, removal and repair have to be controlled resp. checked by an “authorized person” for explosion protection.
- 2.2 Comply with the requirements of DIN EN 60079-14, DIN EN 60079-17 and DIN EN 1127-1, especially regarding the dust deposits and temperatures and follow the pertinent rules and regulations.



## 3. Safety Instructions **Gas+Dust** and **hybrid mixtures** for the application of couplings in explosive hazardous areas.

- 3.1 The couplings are allowed to be mounted on tubing
  - when the internal is classified as zone 0 or zone 20 resp. zone 0+20 (hybrid mixtures) or lower
  - when the external area is classified as zone 1 or zone 21 resp. zone 1+21 (hybrid mixtures) or lower
- !!! By attached electrical devices – e.g. limit switches or RFID – systems to recognize the connection – the couplings has to be mounted in the external area just in that zone the electrical devices are classified for.
- 3.2 The coupling has to be constantly conductible connected to the electrically conductive, earthed tubing.
  - If the tubing is not electrically conductive the coupling has to be earthed.
- 3.3 If combustible gases and vapours or combustible dusts with a minimum ignition energy under 3 mJ or a minimum ignition temperature under +300 °C (BAM assessment) were carried inside the coupling resp. by an appliance within zone 0 and/or zone 20 only the stainless steel variants of the product touching parts are permissible.



## 4. Safety Instructions for the application of limit switches in explosive hazardous areas.

- 4.1 Comply with the electrical connection take notice of the local and statutory rules and regulations and/or the VDE 0100.
- 4.2 Before electrical connection, compare the supply voltage with the details at the data plate.

for the version KE and KI Option B0 **Dust** 

- 4.3 The limit switches can be used in areas classified as zone 22.
- 4.4 A fuse (with max. 4 A) has to be connected in series to the supply voltage.
- 4.5 Protect the signal contacts of the limit switch KE against voltage peaks when inductive loads are connected.

for the version KN **Gas+Dust** 

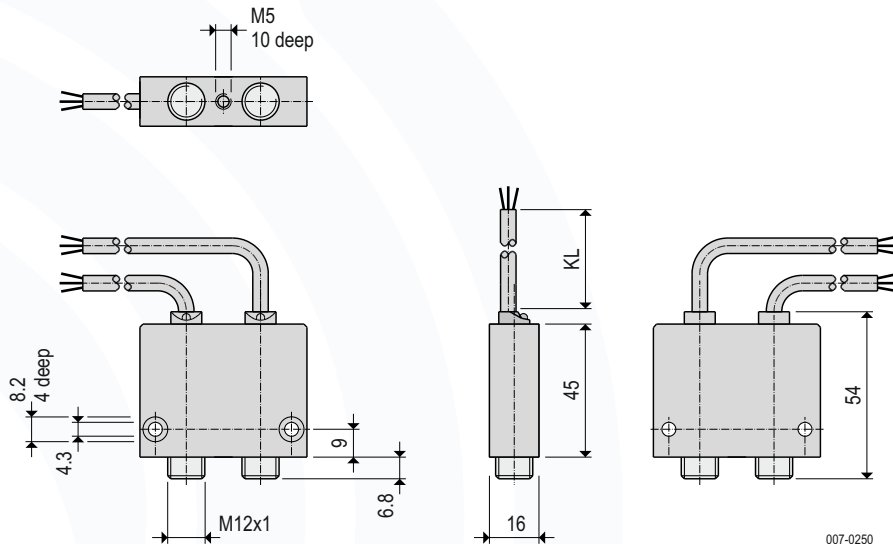
- 4.6 The limit switches can be used in areas classified as zone 1 and zone 20 or lower.
- 4.7 To keep the intrinsically reliability a certified barrier or a certified isolation amplifier with an intrinsically safe circuit according to the present category has to be connected in series for power limitation.



## Technical data

### Dimensions

KI2-XBK-BI3U-7- .  
KID-XBK-BI3U-7- .



**Order code**

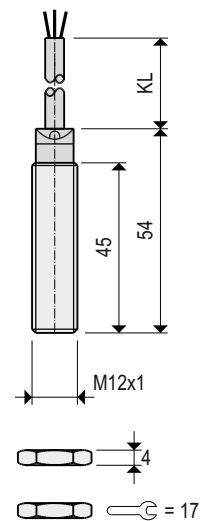
**KI2-XBK-BI3U-7-2** for 2 m cable  
**KI2-XBK-BI3U-7-5** for 5 m cable  
**KI2-XBK-BI3U-7-0** for 10 m cable

**Order code**

**KID-XBK-BI3U-7-2** for 2 m cable  
**KID-XBK-BI3U-7-5** for 5 m cable  
**KID-XBK-BI3U-7-0** for 10 m cable

**KI-BI3U-M12AP- .**

**Brand** TURCK  
**Type** BI3U-M12-AP6X  
**Ident-no.** 16 341 00



007-0245

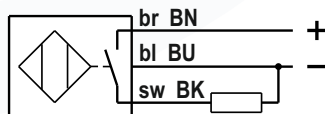
**Order code**

**KI-BI3U-M12AP-2** for 2 m cable  
**KI-BI3U-M12AP-5** for 5 m cable  
**KI-BI3U-M12AP-0** for 10 m cable

further **technical data** you can get under  
[www.turck.de](http://www.turck.de)

### Wiring connection

**Cable** 3 x 0.34 mm<sup>2</sup>  
**Cable length (KL)** 2 = 2 m  
5 = 5 m  
0 = 10 m



TURCK BI3U

007-AP01

### Technical data

**Materials** switch CuZn, chromium plated  
active surface PA12-GF30  
clamp mounting AlMgSi1

**Mounting position** any

**Ambient temperature** -20 °C ... +60 °C

**Supply voltage** 10 ... 30 V DC

**Load current capacity** ≤ 200 mA, constant current

**Switching function** PNP, Normally open

**Type of protection** **IP68/IP65** acc. to DIN EN 60529

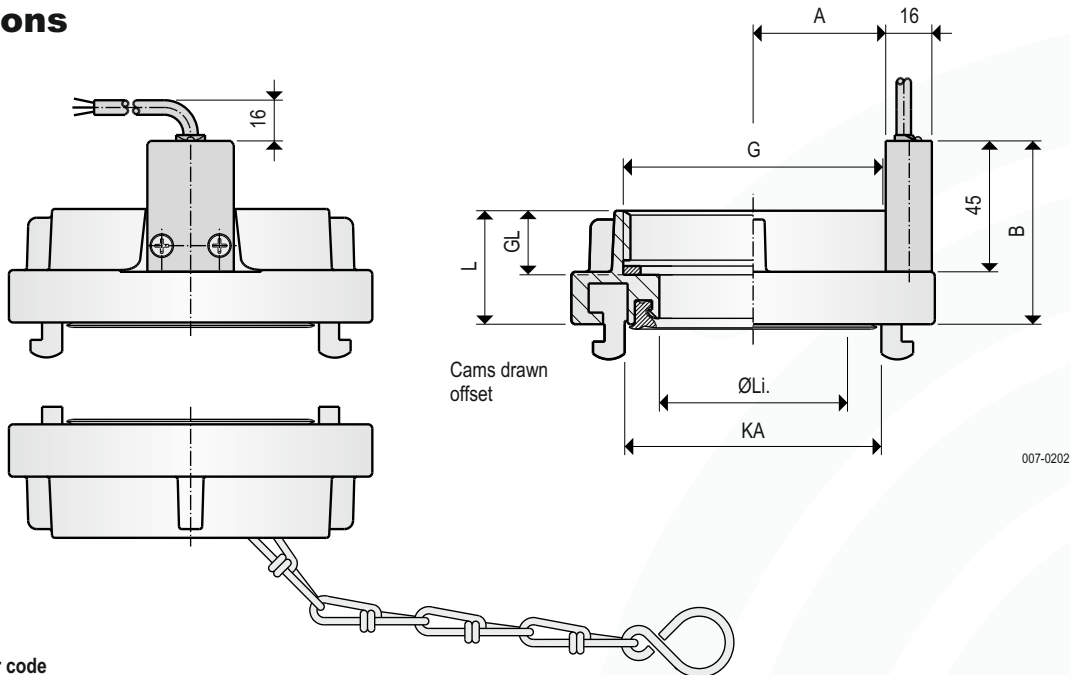
**Maintenance** none

ATEX option

**B0** **Dust**  **II 3D Ex tc IIIC T110 °C Dc**

## Appliance information

### Dimensions



007-0202

Order code

Type	NG	G	W	KL	M	KA	Li.	L	GL	A	B
KI - SZ 052	IG2	AL	2	M2	66	44,5	40	20	32	62	
KI - SZ 065	IG2	AL	2	M2	81	45	37	20	42	62	
KI - SZ 065	IG2½	AL	2	M2	81	58	52	20	42	62	
KI - SZ 075	IG2	AL	2	M2	89	50	38	20	42	63	
KI - SZ 075	IG2½	AL	2	M2	89	64,5	42	20	42	63	
KI - SZ 075	IG3	AL	2	M2	89	64,5	39	22	45	63	
KI - SZ 090	IG3	AL	2	M2	105	78	40	22	50	64	
KI - SZ 100	IG4	AL	2	M2	115	89,5	47	25	50	67	
KI - SZ 110	IG4	AL	2	M2	133	100	48	25	68	67	
KI - SZ 110	IG4½	AL	2	M2	133	100	48	25	68	67	
KI - SZ 125	IG5	AL	2	M2	148	115	52	28	75	70	
KI - SZ 150	IG6	AL	2	M2	160	130	60	30	85	71	

We deliver fundamentally with white DS-Seal rings, for high pressure and low pressure. (acc. to KE-TD-11)

- NG = Nominal size
- G = Thread
- W = Material
- KL = Cable length
- KA = Lug distance
- Li. = Inner diameter
- M = Lugs removed

According to Directive 2014/68/EU for pressure equipment:  
Usable for hazardous gases and liquids of group 1 up to 10 bar and up to DN 100

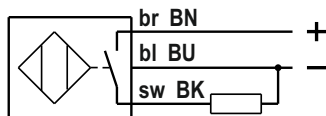
For example in pneumatic conveyor systems with combustible dusts etc.

Result of the evaluation of ignition danger acc. to DIN EN ISO 80079-36:

The couplings (without switches) have no potential source of ignition on their own.

### Wiring connection

Cable 3 x 0.34 mm<sup>2</sup>  
Cable length (KL) 2 = 2 m  
5 = 5 m  
0 = 10 m



TURCK BI3U

007-AP01

### Technical data

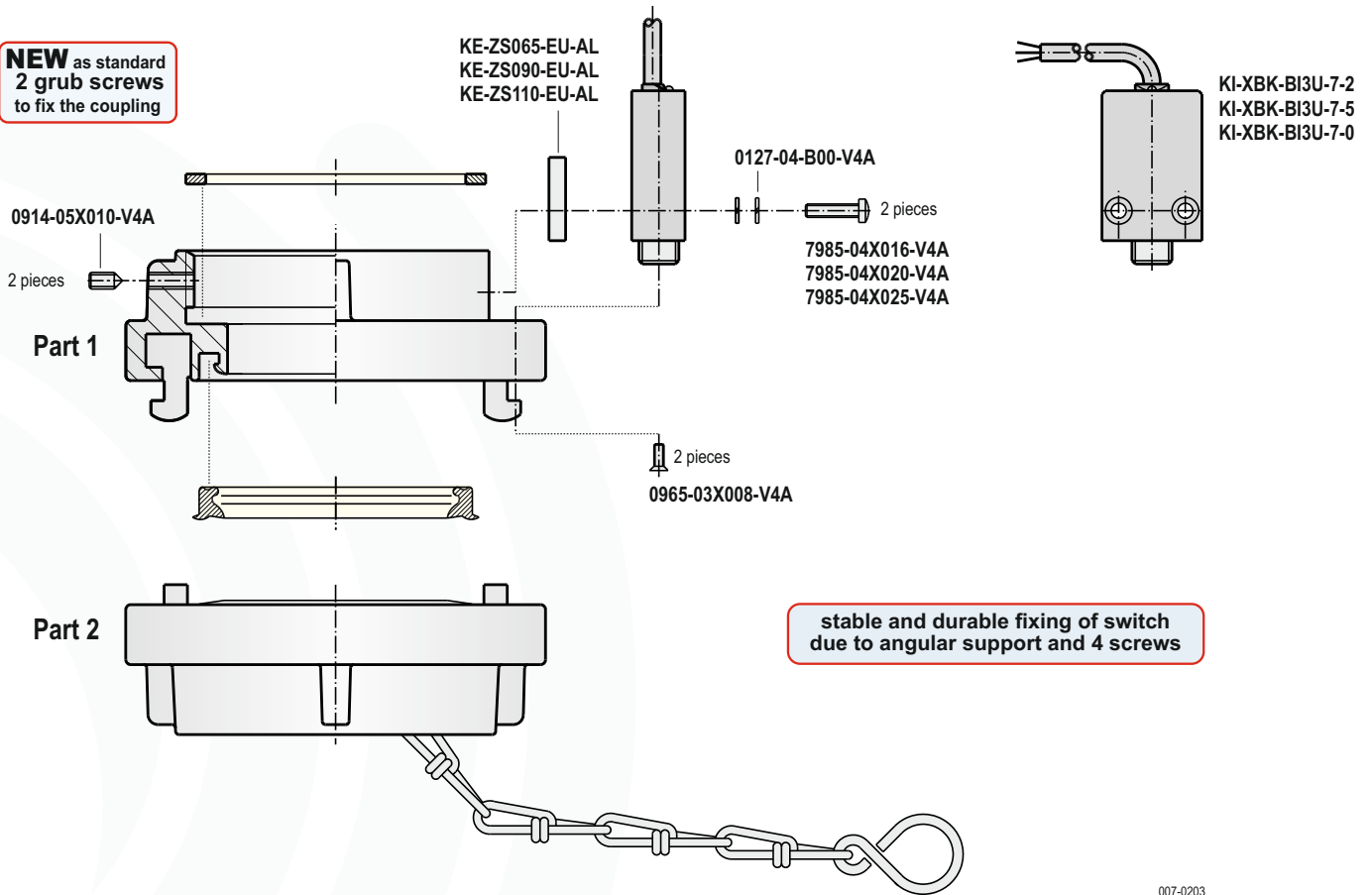
<b>Materials</b>	(W)	AL = Aluminium AV = Aluminium/1.4581 / 318 or 1.457X MS = Brass VA = 1.4581 / 318 or 1.457X
<b>Switch active surface</b>		CuZn, chromium plated PA12-GF30
<b>Mounting position</b>		any
<b>Ambient temperature</b>		-20 °C ... +60 °C
<b>Supply voltage</b>		10 ... 30 V DC
<b>Load current capacity</b>		≥ 200 mA, constant current
<b>Switching function</b>		PNP, Normally open
<b>Type of protection</b>		IP68/IP65 acc. to DIN EN 60529
<b>Maintenance</b>		none

ATEX option

B0 **Dust** II 3D Ex tc IIIC T110 °C Dc

## Single parts

**NEW** as standard  
2 grub screws  
to fix the coupling



### Order code Part 1

	NG	G	W	
K - FSZ 052	IG2	AL	E	
K - FSZ 065	IG2	AL	E	
K - FSZ 065	IG2½	AL	E	
K - FSZ 075	IG2	AL	E	
K - FSZ 075	IG2½	AL	E	
K - FSZ 075	IG3	AL	E	
K - FSZ 090	IG3	AL	E	
K - FSZ 100	IG4	AL	E	
K - FSZ 110	IG4	AL	E	
K - FSZ 110	IG4½	AL	E	
K - FSZ 125	IG5	AL	E	
K - FSZ 150	IG6	AL	E	

### Order code Part 2

	NG	W	M
K - BSZ052	AL	-	M2
K - BSZ065	AL	-	M2
K - BSZ065	AL	-	M2
K - BSZ075	AL	-	M2
K - BSZ075	AL	-	M2
K - BSZ075	AL	-	M2
K - BSZ075	AL	-	M2
K - BSZ090	AL	-	M2
K - BSZ100	AL	-	M2
K - BSZ110	AL	-	M2
K - BSZ110	AL	-	M2
K - BSZ125	AL	-	M2
K - BSZ150	AL	-	M2

NG = Nominal size  
G = Thread  
W = Material  
M = Lugs removed

incl. seal rings

incl. seal rings and chain

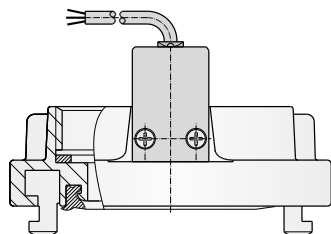
Seal rings and chains depending on the type and acc. to data sheet  
K-TD-06 in MOLOSp-info „Hose couplings and accessories“

Materials (W)

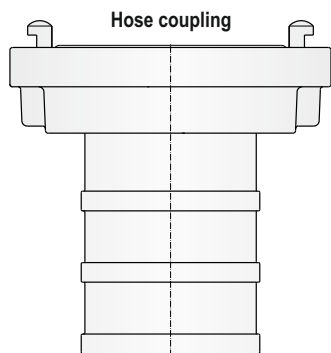
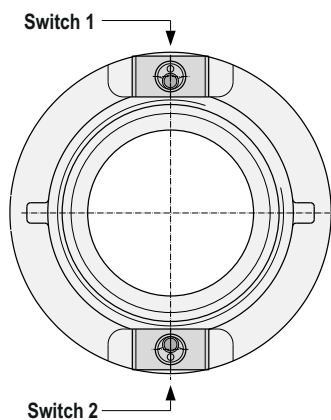
AL = Aluminium  
AV = Aluminium/1.4581 / 318 or 1.457X  
VA = 1.4581 / 318 or 1.457X  
MS = Brass

## Appliance information

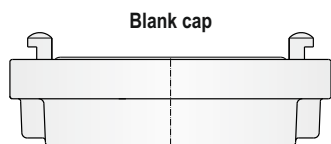
### Illustrations



Fixed coupling



Hose coupling



Blank cap

Counter coupling

007-0234

### Versions

The coding can be carried out with all three limit switch variants KE, KI and KN and can be mounted at couplings of all sizes.

Dimensions, technical data, ATEX options and connections see under:

<b>KE</b> mechanical limit switch	<b>KEIN-GI-02</b>
<b>KI</b> inductive limit switch	<b>KEIN-GI-04</b>
<b>KN</b> inductive limit switch NAMUR	<b>KEIN-GI-06</b>

2 inductive limit switches can also be mounted at VK and AVK couplings.

The coupling with inside thread has two built-in limit switches.

During the coupling of a counter coupling either one or two limit switches will be actuated.

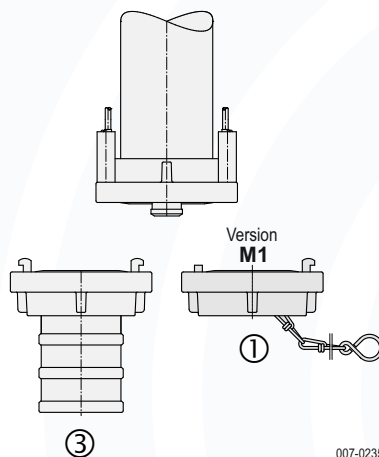
So, in this way can be identified which counter coupling has been coupled at the moment.

### Example of application

#### Silo filling process 1

Sensing whether silo trailer ③ or blanc cap ① has been coupled.

- Coupling ③ of the silo trailer is actuating two switches
- Blank cap ① actuates one switch.



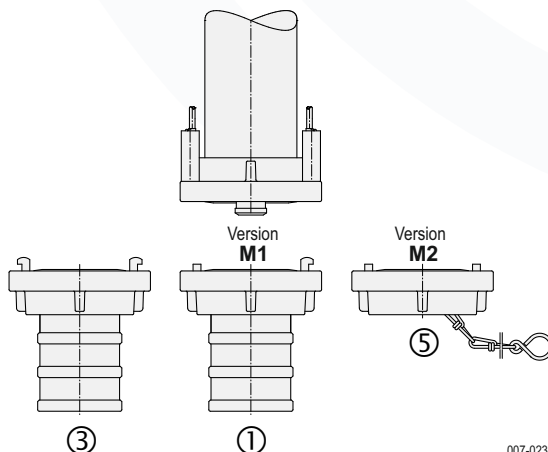
007-0235

#### Silo filling process 2

Sensing whether silo trailer ③ or coupling ① has been coupled.

E.g. coupling ① is interoffice production inert gas - or dry air overlay

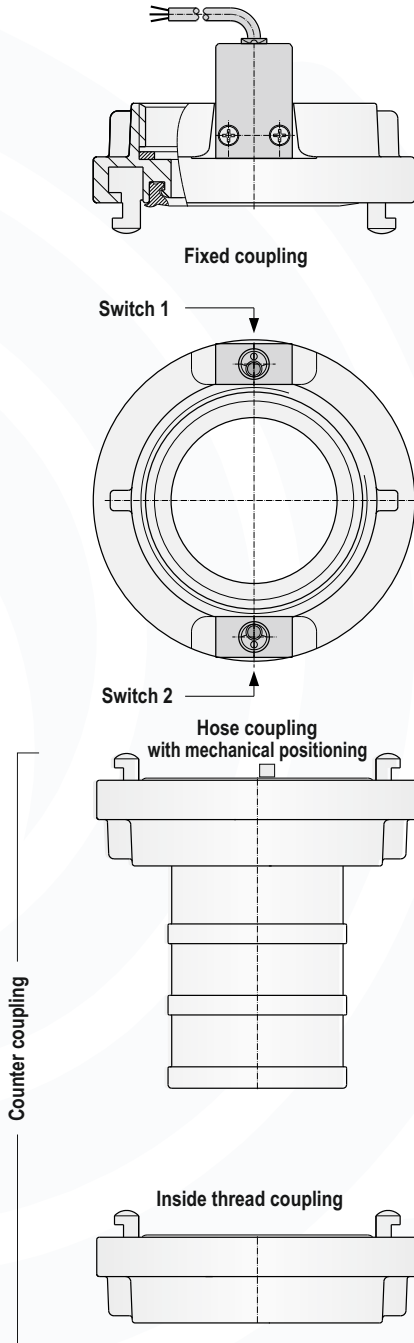
- Silo trailer ③ actuates two switches
- Coupling ① actuates one switch
- The blanc cap ⑤ actuates no switch



007-0236

## Appliance information

### Illustrations



007-0337

### Versions

The coding can be carried out with all three limit switch variants KE, KI and KN and can be mounted at couplings of all sizes.

Dimensions, technical data, ATEX options and connections see under:

KE	mechanical limit switch	KEIN-GI-02
KI	inductive limit switch	KEIN-GI-04
KN	inductive limit switch NAMUR	KEIN-GI-06

2 inductive limit switches can also be mounted at KAMLOK - couplings (AVK).

The coupling with inside thread has two built-in limit switches and a blocking. The blocking allows a coupling at one position only.

During the coupling of a counter coupling the switch 1, switch 2 or both switches will be actuated.

So, in this way can be identified which hose coupling has been coupled at the moment.

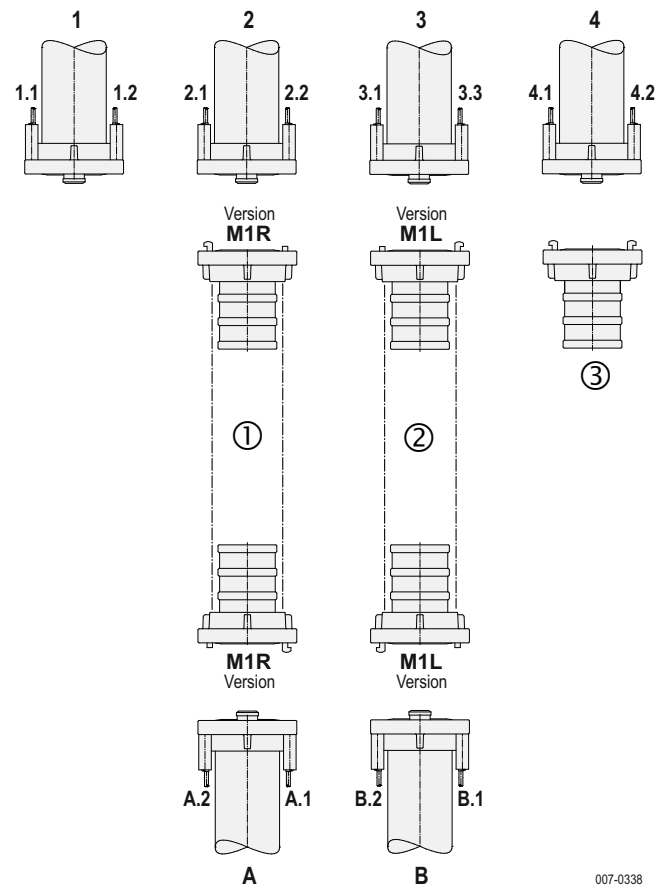
### Example of application

#### Coupling station 4/2+1

Sensing whether hose ①, hose ② or the silo trailer ③ has been coupled.

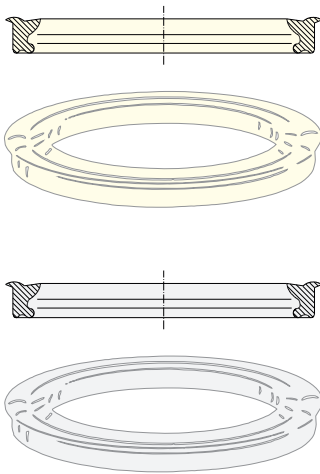
- Hose coupling ① actuates only the switch Nr. x.1
- Hose coupling ② actuates only the switch Nr. x.2
- Silo trailer ③ actuates the switch x.1 and x.2

Further applications on demand.



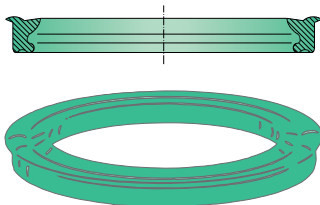
007-0338

## Technical data



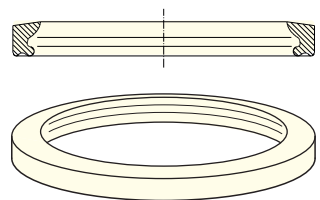
### DRK seal rings for high and low pressure operation (DS)

Size	Dimensions (mm)	NBR (white)	Silikon (transparent)
		Article no.	Article no.
52 C	60x47x10.0	K-SZ052DRKDS-NBR	K-SZ052DRKDS-SIK
65	75x60x10.0	K-SZ065DRKDS-NBR	K-SZ065DRKDS-SIK
75 B	82x67x10.5	K-SZ075DRKDS-NBR	K-SZ075DRKDS-SIK
90	98x93x10.0	K-SZ090DRKDS-NBR	K-SZ090DRKDS-SIK
100	108x93x10.0	K-SZ100DRKDS-NBR	K-SZ100DRKDS-SIK
110 A	124x102x12.0	K-SZ110DRKDS-NBR	K-SZ110DRKDS-SIK
125	139x177x12.5	K-SZ125DRKDS-NBR	K-SZ125DRKDS-SIK
150	152x132x11.5	K-SZ150DRKDS-NBR	K-SZ150DRKDS-SIK
165	177x152x12.5	K-SZ165DRKDS-NBR	
205	211x187x16.0	K-SZ205DRKDS-NBR	
250	268.5x240x17	K-SZ250DRKDS-NBR (black)	



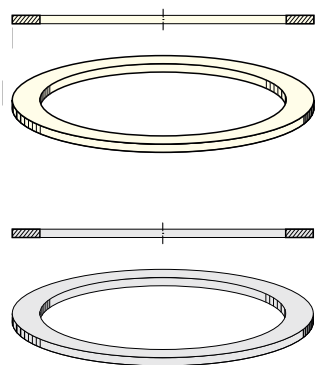
### DRK seal rings for high and low pressure operation (DS)

Size	Dimensions (mm)	VITON (green)
		Article no.
52 C	60x47x10.0	K-SZ052DRKDS-VI
75 B	82x67x10.5	K-SZ075DRKDS-VI
110 A	124x102x12.0	K-SZ110DRKDS-VI
125	139x117x12.5	K-SZ125DRKDS-VI
150	152x132x11.5	K-SZ150DRKDS-VI



### DRK seal rings for high pressure operation (D)

Size	Dimensions (mm)	NBR (white)
		Article no.
52 C	60x47x10.5	K-SZ052DRKD-NBR
65	75x60x10.5	K-SZ065DRKD-NBR
75 B	82x67x10.0	K-SZ075DRKD-NBR
100	106x93x10.5	K-SZ100DRKD-NBR

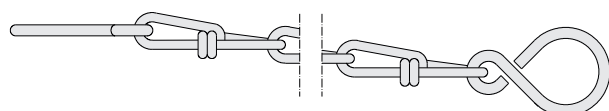


### DRG thread flat seal rings

Size	Dimensions (mm)	NBR (white)	PTFE (white)
		Article-no.	Article-no.
G 2	60x47x3	K-SZIG2 DRG-NBR	K-SZIG2 DRG-PT
G 2½	76x66x3	K-SZIG2½DRG-NBR	K-SZIG2½DRG-PT
G 3	88x78x3	K-SZIG3 DRG-NBR	K-SZIG3 DRG-PT
G 4	113x100x3	K-SZIG4 DRG-NBR	K-SZIG4 DRG-PT
G 4½	126x105x3	K-SZIG4½DRG-NBR	K-SZIG4½DRG-PT
G 5	138x118x3	K-SZIG5 DRG-NBR	K-SZIG5 DRG-PT
G 6	164x152x4	K-SZIG6 DRG-NBR	K-SZIG6 DRG-PT

### KT knotted-link chain with S-hook

Size	Chain length	Steel, galvanized	Stainless steel V2A
		Article-no.	Article-no.
052-090	280 mm	K-280KT-STV	K-280KT-V2A
100-110	390 mm	K-390KT-STV	K-390KT-V2A
125-205	535 mm	K-535KT-STV	on request





Translation:

## ATEX – Type Examination Certificate

Directive 2014 / 34 / EU

Equipment or Protective systems intended for use  
in potentially explosive atmosphere

**Number:** TURCK Ex-10002M X **Issue no.:** 1

**Equipment:** Sensoren Typenreihe uprox® und uprox®+:  
DBi/Bi..U-...../3D, Ni..U-...../3D  
DBi/Bi..U-...../3GD, Ni..U-...../3GD

**Manufacturer:** Hans Turck GmbH & Co KG  
**Address:** Witzlebenstr. 7 45472 Mülheim an der Ruhr

This equipment and any acceptable variation thereto is specified in the schedule to this certificate.

Hans Turck GmbH & Co. KG certifies that this product has been found to comply with the Essential Health and Safety Requirements of the Directive 2014 / 34 / EU by compliance with:

EN 60079-0:2012/A11:2013 EN 60079-15:2010 EN 60079-31:2014

*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.*

Marking:



II 3 G Ex nA IIC T4 Gc  
II 3 D Ex tc IIIC T110°C Dc

Hans Turck GmbH & Co. KG



Hans Turck GmbH & Co. KG  
Witzlebenstr. 7 | 45472 Mülheim an der Ruhr  
T +49 208 4952-0 | more@turck.com

Mülheim an der Ruhr, date 4/20/2016

(i.A. W. Dick)  
Representative

Translation:

## Schedule to

**Type Examination Certificate No. TURCK Ex-10002M X**

**Issue no.: 1**

### Description of device:

The use of inductive sensors is allowed in zone 2 resp. zone 22 depending on the marking. The sensors are suitable for contactless and wear-free detection of metallic objects and conversion into a digital output signal.

Ambient temperature range: -25°C ... + 70°C

#### Electrical data:

Operating voltage / voltage range: 10...30V DC  
10...55V DC  
10...65V DC

Output current: ≤ 150 mA or ≤ 200 mA

### Internal test report no.:

Zone2+22\_1\_D\_PB\_~\_Turck Ex-10002M X  
Normengenerationswechsel\_Turck Ex-10002M X  
Zone2+22\_A1\_D\_NGW\_~\_Turck Ex-10002MX

### Special conditions for safe use:

- The device must be supplied from power supply units with secure separation according to IEC 60364 which ensure that the rated voltage of the equipment is not exceeded by more than 40% by transient disturbances.
- The sensor with Q80 or CP40 housing must be protected against static charge, e.g. by conductive fastening with connection to protective ground potential.
- Plug-in devices or connection cables may only be connected or disconnected in a de-energized state.
- Fix a warning in the near of connector permanently in suitable form with following text: DO NOT SEPARATE WHEN ENERGIZED.
- The device connectors have to be secured against accidentally disconnecting; use the included safety clip SC-M12 / 3GD.
- The IP protection degree of the connectors is given only in conjunction with matching O-rings.
- Do not open the terminal compartment of the sensor under voltage or make sure that no explosive atmosphere is present.
- Use only EX-approved cable gland (II 3 G; II 3 D).
- Protect the device against any mechanical damage.
- The device shall be protected against ultraviolet radiation.

### Essential health and safety requirements:

- no additional ones



# EU-Konformitätserklärung EU-Declaration of Conformity

Wir/We

**MOLLET Füllstandtechnik GmbH**

Industriepark RIO 103  
D-74706 Osterburken  
Tel. 06291 64400 Fax 06291 9846

erklären hiermit, dass die Geräte:

declare that the devices:

**Schlauch- und Rohr-Kupplungen** der Typenreihen:

**Hose and pipe couplings** of type series:

**K...** (MOLOScode, MOLOScconnect, MOLOSwitch, MOLOSlOCK)  
aus Aluminum, Edelstahl oder Messing

**K...** (MOLOScode, MOLOScconnect, MOLOSwitch, MOLOSlOCK)  
made of aluminum, stainless steel or brass

**DN 32 bis DN 100**

**DN 32 to DN 100**

auf die sich diese Erklärung bezieht, den folgenden Normen  
oder normativen Dokumenten entsprechen:

to which this declaration relates is in accordance with  
the following standards or other normative documents:

**Richtlinie 2014/68/EU** (Druckgeräte-Richtlinie)

**Directive 2014/68/EU** (Directive Pressure Equipment)

Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt gemäß den Bestimmungen der Richtlinie.

The Essential Health and Safety Requirements are assured by compliance with the directive.

Einstufung:  
**Druckhaltendes Ausrüstungsteil**

Categorization:  
**Pressure-maintaining components**

Mediumeigenschaft nach Artikel 13:  
**Gruppe 1 - gefährlich**

Fluid group acc. to art. 13:  
**Group 1 - dangerous**

Mediumzustand:  
**gasförmig, flüssig oder staubhaltig, wenn pD >0,5 bar**

Condition of fluid:  
**gaseous, liquid or dusty, if pD >0,5 bar**

Angewendetes Konformitätsverfahren:  
**Modul A**

Applied conformity assessment procedures:  
**Modul A**

Diese Konformitätserklärung ist nur gültig in Verbindung mit den aktuellen Sicherheitshinweisen KE-SH- ..

The declaration of conformity is only valid in connection with our current safety instructions KE-SH- ..

Osterburken, 07. Januar 2019

Osterburken, January 7th 2019



Wolfgang Hageleit

Diese Erklärung darf nur unverändert  
weiterverbreitet werden.

This declaration is only allowed to  
hand out in unchanged form.



# EU-Konformitätserklärung EU-Declaration of Conformity

Wir/We

**MOLLET Füllstandtechnik GmbH**

Industriepark RIO 103  
D-74706 Osterburken  
Tel. 06291 64400 Fax 06291 9846

erklären hiermit, dass die Geräte:

declare that the devices:

**Schlauch- und Rohr-Kupplungen** der Typenreihen:

**Hose and pipe couplings** of type series:

**K...** (MOLOScore, MOLOSconnect, MOLOSwitch, MOLOSlock)  
aus Aluminum, Edelstahl oder Messing

**K...** (MOLOScore, MOLOSconnect, MOLOSwitch, MOLOSlock)  
made of aluminum, stainless steel or brass

**DN 101 bis DN 150**

**DN 101 to DN 150**

auf die sich diese Erklärung bezieht, den folgenden Normen  
oder normativen Dokumenten entsprechen:

to which this declaration relates is in accordance with  
the following standards or other normative documents:

**Richtlinie 2014/68/EU** (Druckgeräte-Richtlinie)

**Directive 2014/68/EU** (Directive Pressure Equipment)

Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt gemäß den Bestimmungen der Richtlinie.

The Essential Health and Safety Requirements are assured by compliance with the directive.

Einstufung:  
**Druckhaltendes Ausrüstungsteil**

Categorization:  
**Pressure-maintaining components**

Mediumeigenschaft nach Artikel 13:  
**Gruppe 2 - andere**

Fluid group acc. to art. 13:  
**Group 2 - others**

Mediumzustand:  
**gasförmig, flüssig oder staubhaltig, wenn pD >0,5 bar**

Condition of fluid:  
**gaseous, liquid or dusty, if pD >0,5 bar**

Angewendetes Konformitätsverfahren:  
**Modul A**

Applied conformity assessment procedures:  
**Modul A**

Diese Konformitätserklärung ist nur gültig in Verbindung mit den aktuellen Sicherheitshinweisen KE-SH- ..

The declaration of conformity is only valid in connection with our current safety instructions KE-SH- ..

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