

Conveyor Belt - Misalignment Switch

HES EX 2D

HES EX 3D



APPLICATION

KIEPE misalignment switches of Type HES EX are designed for heavy duty application and used at fixed belt conveyors according to DIN EN 620 requirements in order to keep the risk of unintentional operation as low as possible. The lateral movement of the conveyor belt is monitored and by switching off the conveyor in the case of unacceptable belt drift, the belt monitoring prevents damage and destruction of the belt and the machine.

The KIEPE misalignment switches Type HES EX are suited for use in explosive atmosphere with conductive dust, Group II, category 2, in zone 21 and 22 (Type HES EX 2D) or categorie 3, only in zone 22 (Type HES EX 3D).

The KIEPE misalignment switch Type HES EX complies with the ATEX Directive 2014/34/EU and meets the safety objectives of the Low Vol-tage Directive 2014/35/EU.

KIEPE Misalignment switch Type HES EX features a robust aluminum housing and is equipped with 2 force-actuated changeover contacts with snap-action function with two settable switching points.

Note:

The misalignment switch must only be used in electrical control circuits.

FUNCTION

The misalignment switch Type HES EX operates, when the roller lever is deflected. The operating angle can be adjusted by an adjustable cam for each switching element.

In addition to the safety shutdown is thereby also a pre-warning feasible. The roller lever is spring-assisted and turns back automatically after deflection.

TECHNICAL DATA

Designation	Misalignment switch Type HES EX ATEX-Versionn	
Type of actuation	Bidirektional, by roller lever	
Complies with	DIN EN 60204-1; DIN EN 60947-5-1; EN 620	
ATEX/IECEX		
Complies with Standard	DIN EN 60079-0; DIN EN 60079-31 Protection by enclosure „t“, IEC 60079-0; IEC 60079-31	
Device group / category	II / 2D, 3D; flammable, conductive dust	
ATEX-Identification		
for Zone 21, 22	HES EX 2D	⊕ II 2D Ex t IIIC T85°C Db IP 67
for Zone 22	HES EX 3D	⊕ II 3D Ex t IIIC T85°C Dc IP 67
Certifikates	EPS 12 ATEX 1 479 X, IECEX EPS 14.0040X	
Mechanics		
Enclosure	Aluminum GK-ALSi 12 DD-Paint yellow, RAL 1004	
Roller lever	Stainless steel, Ø 50 mm, Ball-bearing roller	
Mounting	2 slotted holes for M8-Screws	
Installation position	Horizontal, tilt angle up to 30°	
Deflection of roller lever	Maximum +/- 75°	
Mechanical reliability	> 10,000 actuations	
Weight	2.2 kg	
Electrical system		
Switching System	2 changeover contacts (SPDT with snap action), cam operated positive-opening switches	
Switching range	5°...15° and 15°...35°, adjustable (factory setting: 10° each)	
Cable entry	2 Threaded holes M25x1.5 with 2x screw plug, 1x cable gland (added)	
Utilization category	AC-15: 230V; 1.5A DC-13: 60V; 0.5A DC-13: 24V; 2A	
Connection cross section	0.75 mm ² to 1.5 mm ²	
Protective conductor connection	M4, Protection class I: Protective earthing	
Rated insulation voltage U _i	250 V	
Rated impulse withstand voltage U _{imp}	2.5 kV, overvoltage category II, degree of pollution 3	
Conventional thermal current I _{th}	6 A	
Contact reliability	30,000 operations with 100% I _e	
Ambient conditions		
Permissible ambient temperature	-25°C ... +70°C	
Protection rating	IP67 according to EN 60529	

SELECTION CHART

Switch Type	Explosive dust atmosphere	Contact Configuration SPDT	Order number
HES EX 011 2D	occurs in normal operation occasionally	2	92.096 187.011
HES EX 011 3D	not occurs in normal operation or infrequently add for a short time	2	92.096 319.011

Spare parts and accessories:

EX-Cable gland M25 x 1.5; sealing area \varnothing 11mm to \varnothing 16 mm	113.52.01.20.01
EX-Screw plug M25 x 1.5	113.52.87.20.01
EX-Roller lever, stainless steel, \varnothing 50 mm	93.055 201.101

Important advice!

The cable gland and screw plugs are carried out according to EC-Type Examination Certificate. The use of other cable glands or screw plugs may void the device operation approval!

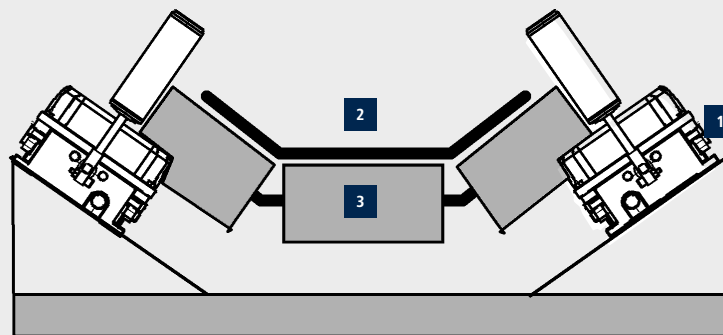
MOUNTING

The misalignment switch of Type HES EX **1** is fastened with two (2) M8 screws each in installation position on the substructure. In the case of belt misalignment, the belt **2** must not leave the lateral guide rollers **3** and should contact the roller of the misalignment switch perpendicularly. The actuation roller of the switch has no contact with the belt during normal operation of the belt. The roller lever is a wear part and therefore exchangeable. It can be affixed freely on the switch axis.

Important advice!

For protection against electrostatic discharge HES EX is provided with conductive compounds and an external potential equalization connection, to which a minimum of 4 mm² potential equalization cable must be connected directly to the system. All connections must be checked regularly in accordance with the operation instructions.

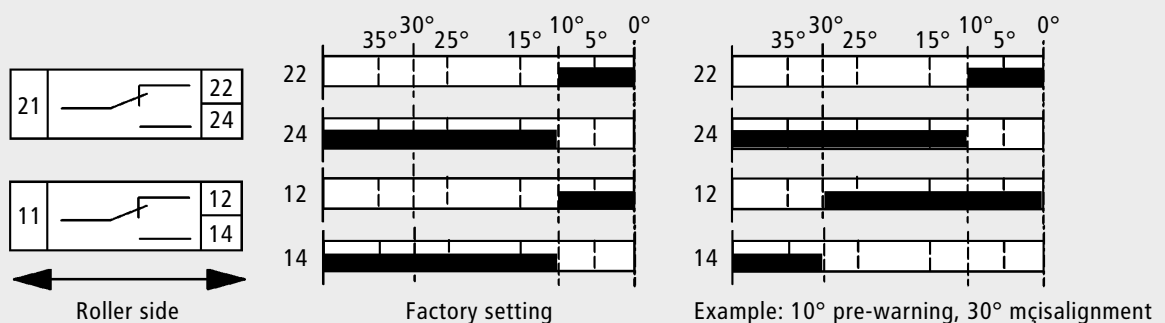
MOUNTING DIAGRAM



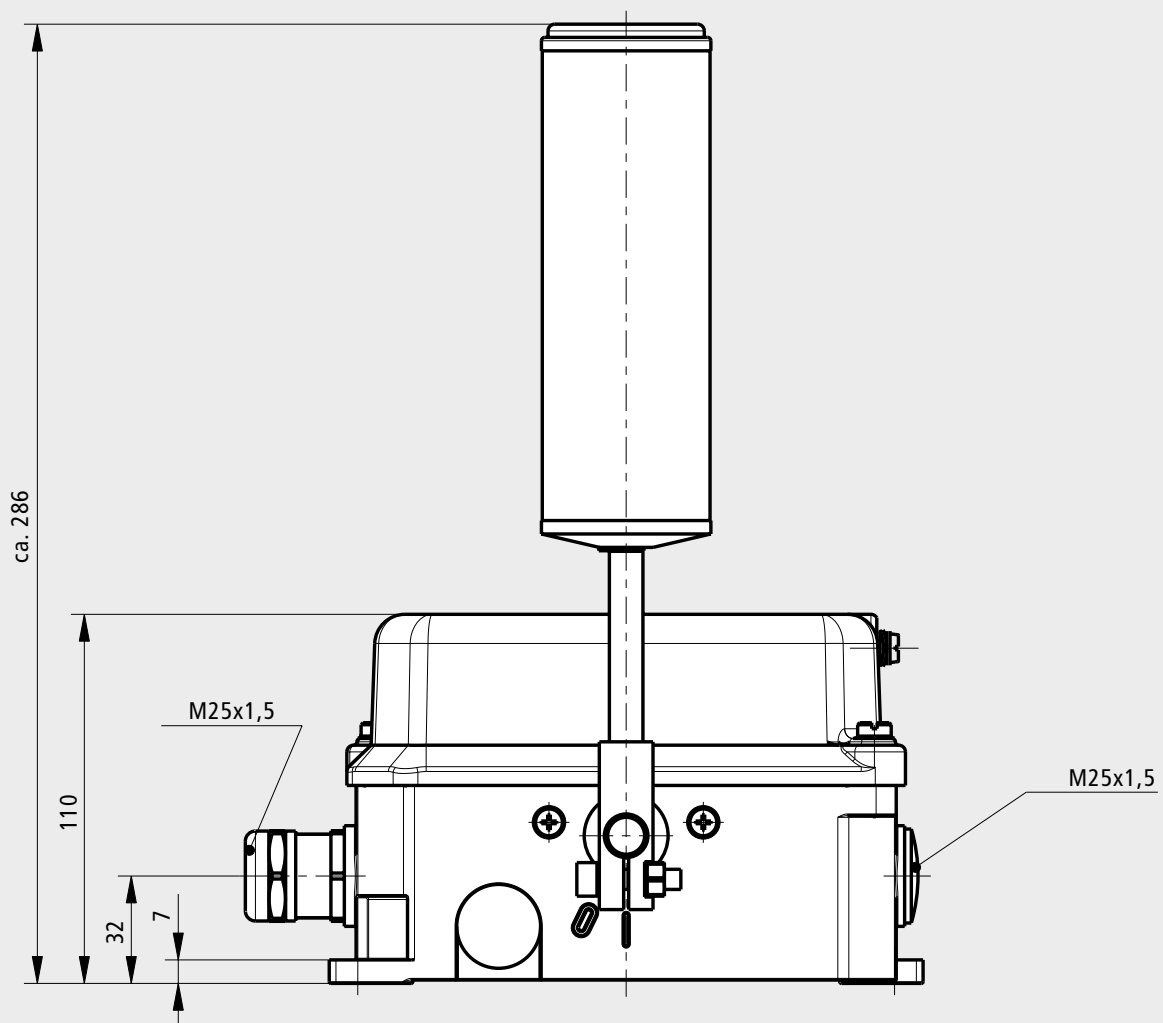
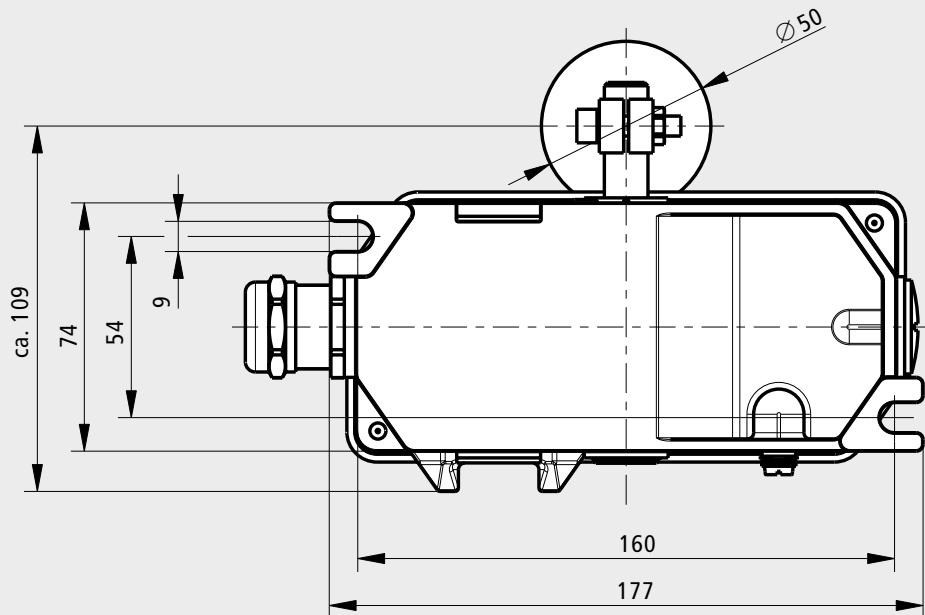
Sketch of conveyor with support rollers and belt

- 1** Misalignment switch
- 2** Belt
- 3** Support roller

CONNECTION DRAWING



DIMENSIONS



Subject to change without notice

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