

Belt Conveyor – Misalignment Switch

HES



APPLICATION

KIEPE belt misalignment switches of type HES 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 type HES misalignment switch complies with the Low Voltage Directive 2014/35/EU. It features a robust aluminum housing and is equipped with 2 force-actuated changeover contacts with snap-action function with two adjustable switching points.

Note: The misalignment switch may only be used in control circuits.

FUNCTION

Inadmissible belt drift occurs when the belt edge approaches the end of the supporting rollers through lateral movement and surpasses it. Then the actuator (roller lever) is operated and displaced. In the case of displacement of the actuator, the cam operating switches are activated.

The switching angle can be set via an adjustable camshaft. In this way, a pre-warning can be implemented in addition to the safety shutdown. As soon as the belt moves correctly, the roller lever will automatically return to its home position.

TECHNICAL DATA

Designation	Misalignment Switch Type HES
Type of actuation	Bidirectional
Complies with	DIN EN 60204-1 DIN EN 60947-5-1 EN 620
Suited for	Control units and systems in accordance with DIIN EN 60204
Mechanics	
Enclosure	Aluminum GK-ALSi 12
Finish	DD-paint yellow, RAL 1004
Actuating lever	Stainless steel; Ø 50 mm, ball-bearing roller
Mounting	2 slotted holes for M8-screws
Installation position	Horizontal, tilt angle up to about 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 set at 10 degrees each
Cable entry	Threaded holes 2x M25x1,5 with each 1x screwed cable gland: sealing area Ø11 mm to Ø16 mm; 1x dummy screw
Utilization category	AC-15: 230 V; 1.5 A DC-13: 60 V; 0.5 A DC-13: 24 V; 2 A
Connection cross section	1 mm ² to 2,5 mm ²
Protective conductor connection	in the casing; M4; Class I: protective earthing
Rated insulation voltage U _i	250 V
Rated impulse withstand voltage U _{imp}	2.5 kV; degree of pollution III
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
Extended ambient temperature	-40°C... +70°C (type HES 7xx)
Protection rating	IP65 / IP67 in accordance with EN 60529

SELECTION TABLE

Type	Contact configuration SPDT	Extended temperature range -40 °C ... +70 °C	Ventilation membran	Order number
HES 011	2			92.057 020.011
HES 017	2		x	92.057 020.017
HES 711	2	x		92.057 020.711

Equipment options:

Devices for two-wire bus-system

Spare parts and accessories:

Cable gland M25x1,5; sealing area \varnothing 11mm to \varnothing 16 mm	113.52.02.20.01
Screw plug; M25 x 1,5	113.52.87.20.02
Cover HES	93.066 839.004
Roller lever, stainless steel, \varnothing 50,5 mm	93.055 201.101

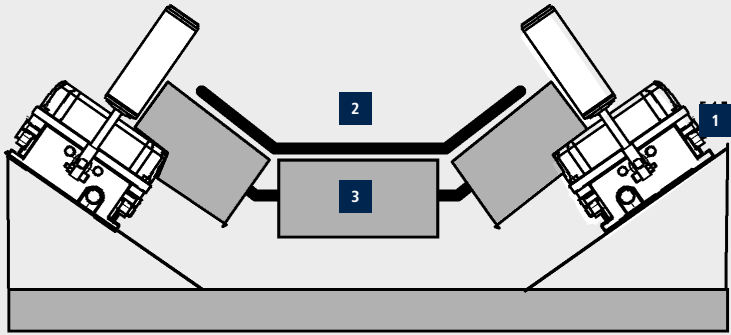
MOUNTING

Type HES **1** misalignment switches are fastened in installation position on a substructure with 2 M8 screws each. In the case of misalignment, the belt **2** must not leave the lateral guide rollers. The position of the misalignment switches shall be chosen such that the belt **2** makes contact with the actuation roller of the misalignment switch preferably perpendicularly. The actuation roller of the misalignment switch is not touched during normal operation.

The roller lever can be replaced and can be affixed freely in the directions of rotation on the switch axis.

The electrical connection is made directly at the screw joints of the switching elements in the housing via the cable gland, included in the delivery. A second cable gland is possible when replacing the screw plug on the opposite site.

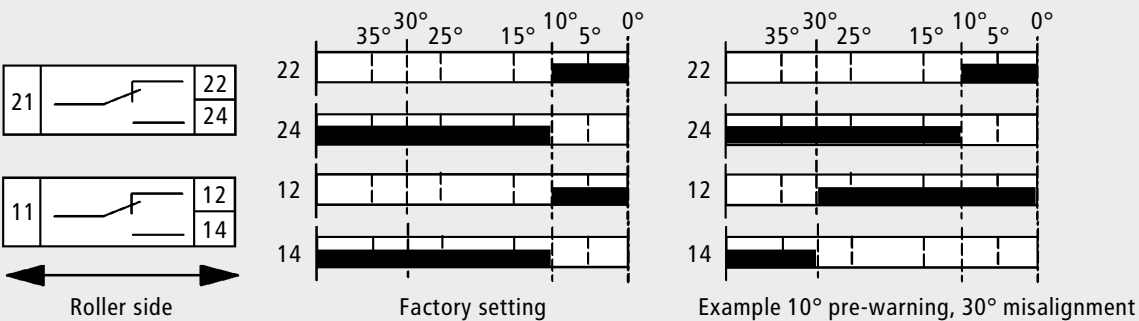
MOUNTING DIAGRAM



Sketch of conveyor with support rollers and belt

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

CONNECTION DRAWING

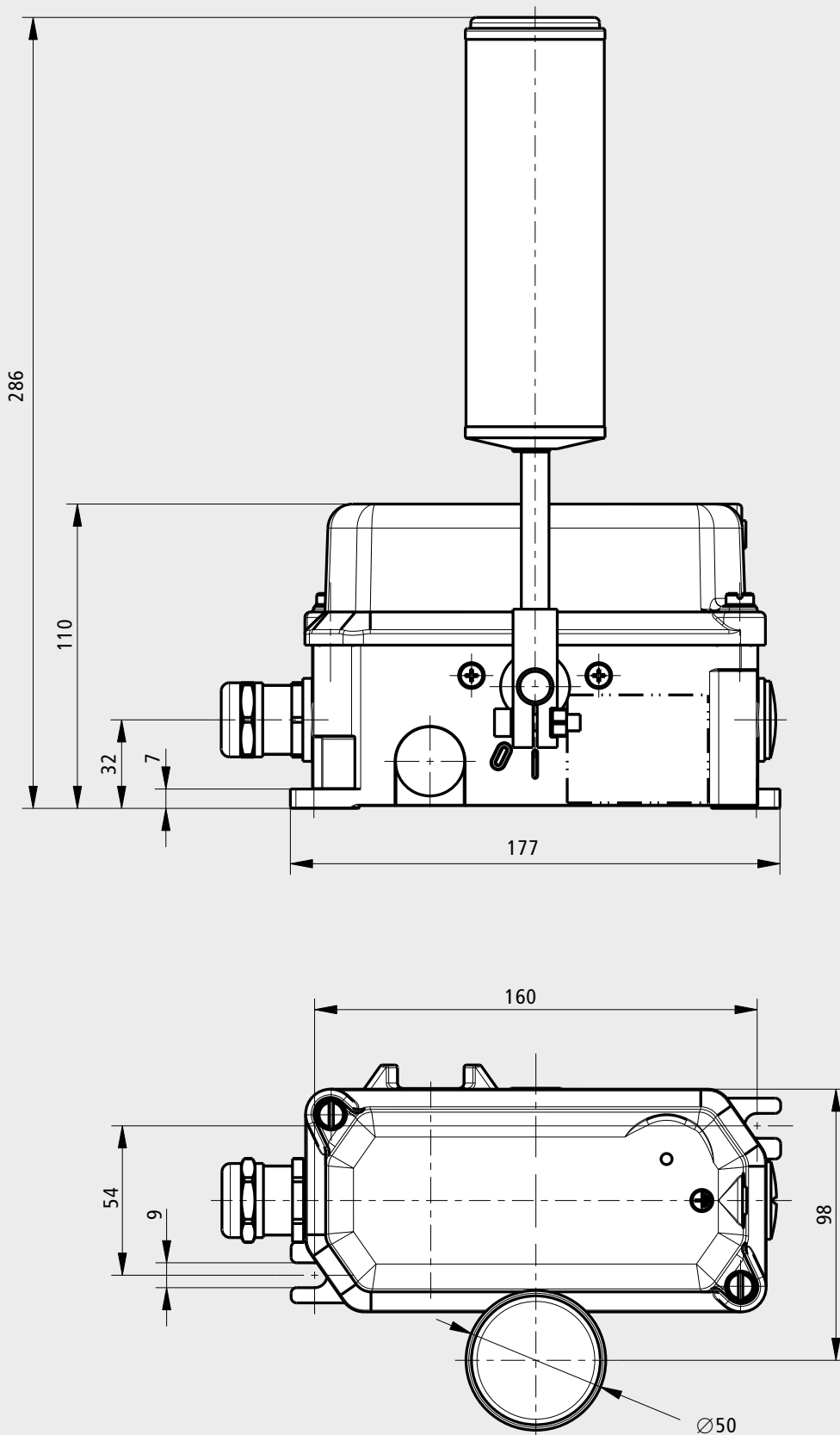


Roller side

Factory setting

Example 10° pre-warning, 30° misalignment

DIMENSIONS



Subject to change without notice.

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