

# Belt Conveyor Pull Rope Switch

## HEN and HEK

Leaflet No.      Kiepe 358



## APPLICATION

Kiepe Pull Rope Switches HEN and HEK provide a switching system to isolate the power to conveyor systems and other process equipment in event of an emergency.

The devices have been designed for a maximum of safe operation under severe conditions.

Kiepe Pull Rope Switches and accessories meet the requirements of international safety standards with respect to personnel safety and equipment.

The device is intended for use in stationary installations and in vehicles.

## OPERATION

Kiepe Pull Rope Switches are actuated by a plastic coated steel wire rope placed along-side the conveyor. Pulling on the rope at any point will trip and automatically lock the switches, de-energizing the conveyor starter contactor. Each switch is bi-directional in operation and has two ropes fitted to it from opposite directions terminating with a spring at the anchor points.

The springs will operate the switch in the event of rope breakage. The length of rope in either direction may be up to 50 meters. After tripping, the mechanical latch can be released only on the switch itself by the reset lever or a key (optional).

### Patented Springloaded Switching Operation (DBP 2935420)

Pulling the rope operates the actuating lever, which trips the internal cam into the OFF position. As the actuating lever is now uncoupled, it is impossible for a subsequent switching operation to occur, even if considerable force is used.

Resetting can only be achieved by means of the reset lever, which at the same time provides ON-OFF-indication. Resetting can also be achieved by means of a key.

## TECHNICAL DATA

Device complies with	EN 60947-5-1 EN 418 EN 60204 VDE 0110 UVV-VBG 10
Housing	HEN: Aluminium GK-AISI 12 HEK: Naval brass, GK-CuZn38Al
Finish	2 - component DD-tile enamel Enclosure yellow, RAL 1004 Actuating lever, red, RAL 3000 Reset lever, blue, RAL 5010
Mounting	By means of 2 M8 bolts
Cable Entry	2 x M25 x 1,5
Protection	IP 65 according EN 60529
Rated Isolation Voltage $U_i$	AC 380 V, DC 440 V
Earth	Inside the housing M4
Ambient Temperature <sup>1)</sup>	- 25 °C ... + 70 °C
Switching System	Max. 6 cam operated switching elements, positive make/break!
Conventional Thermal Current $I_{th}$	16 A
Rated Operational Voltage $U_e$	AC 240 V, DC 250 V
Breaking Capacity $I_e/U_e$	10 A/AC 230 V
Mechanical Life	Switch: > 10 <sup>5</sup> operations Contacts: 0,5 x 10 <sup>6</sup> operations with full load
Connections	Max. 2,5 mm <sup>2</sup>
Dome Light (optional)	230 V/6 W, E14 base
Mounting Position	See drawing installation
Options	• Ventilation duct to avoid condensation • 5µ - goldplated contacts

<sup>1)</sup> Deviating ambient temperature upon request

Note: The devices may be used in control circuits only!

## SELECTION TABLE

Type	Reset by		Dome Light ⊗	No. of Switch Elements		Ordering Code	Weight	
	Lever	Key					kg/unit	HEK
HEN 001	x			1	1	91.043 450.001	1,50	3,2
HEN 002	x			2	2	91.043 450.002	1,55	3,3
HEN 003	x			3	3	91.043 450.003	1,60	3,4
HEN 004	x		x	1	1	91.043 450.004	1,55	3,3
HEN 005	x		x	2	2	91.043 450.005	1,60	3,4
HEN 006	x		x	3	2	91.043 450.006	1,65	3,45
HEN 008		x		1	1	91.043 450.008	1,50	3,2
HEN 009		x		2	2	91.043 450.009	1,55	3,3
HEN 010		x		3	3	91.043 450.010	1,60	3,4
HEN 011		x	x	1	1	91.043 450.011	1,55	3,3
HEN 012		x	x	2	2	91.043 450.012	1,60	3,4
HEN 013		x	x	3	2	91.043 450.013	1,65	3,45

## ACCESSOIRES

	Ordering code	Weight /kg
Pull Rope, flexible steel wire, plastic coated, 3 mm Ø red colour (available in 50 and 100 m length)	94.045 731.001	2,3/100 m
Eyebolt M12 x 60 for rope guidance	94.045 727.001	11,00/100 each
Eyebolt M12 x 200 for rope guidance	94.045 727.002	23,00/100 each
Tension spring, stainless steel, 170 mm x 20 mm Ø	94.000 026.681	11,00/100 each
Swing hook M 10 to attach the tension spring to the conveyor	94.045 728.001	13,00/100 each
Turnbuckle (metal, 2 eyes)	94.045 729.002	8,0/100 each
Turnbuckle (metal, 1 eye, 1 hook)	215.22.80.02.01	8,0/100 each
Rope clamp, egg form	94.047 869.001	2,3/100 each
Chain link	94.047 870.001	3,6/100 each
Switch element SN 4 as spare part	220.03.01.01.01	3,0/100 each
Switch element SN 4, 5µ goldplated	220.03.01.01.02	3,0/100 each

## INSTALLATION

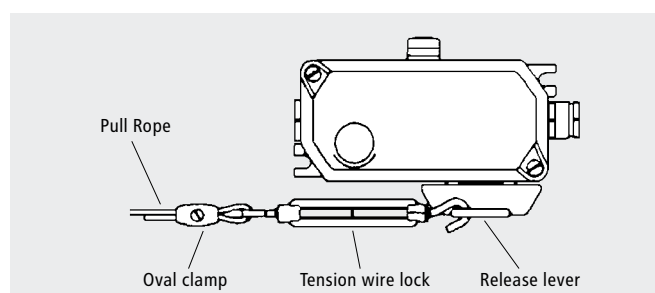
The switches are easily installed along the edge of the conveyor structure. The actuating lever should be positioned adjacent to the belt edge with the reset lever on the outside. Flexible vinyl coated steel wire is available for the pull rope. One egg formed clamp is used for each rope fastening point.

For guiding and rope support eyebolts are used at intervals up to 2,5 m. Stainless steel springs at the end of the rope ensure operation of the switch in the event of rope breakage (Fail safe).

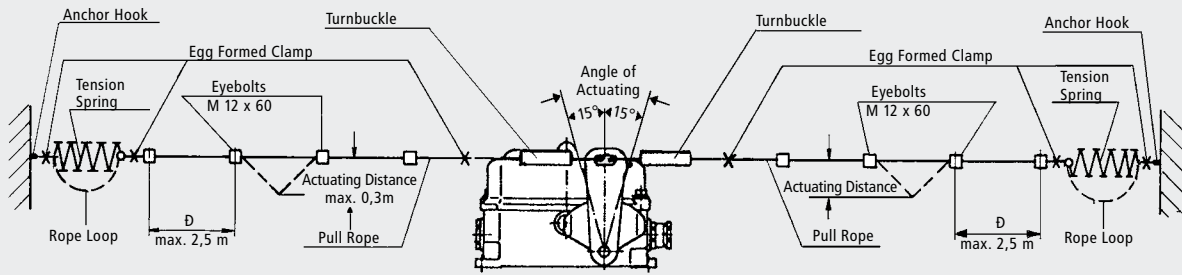
The spring pretension is adjusted by means of turnbuckles which can simply be attached onto the actuating lever. Since the switches are bi-directional in operation, variations of temperature which can influence the rope length become balanced by means of the two springs

## ADJUSTMENT

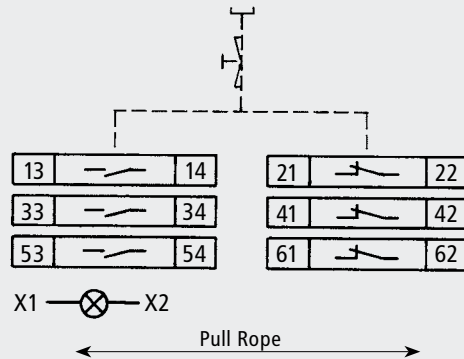
1. Install the pull rope on one side of the actuating lever according to the drawing below.
2. Adjust the rope tension in such a way that the spring will properly operate the switch. Maximum extension of the spring is 500 mm. Now detach again the turnbuckle.
3. Repeat procedure 1. and 2. on the other side.
4. Attach both turnbuckles and operate the switch.
5. The now movable actuating lever should be balanced in the mid position by means of the two turnbuckles.
6. To limit the actuating distance of the pull rope and to avoid an inadmissible extension of the spring, a rope loop of approx. 40 to 60 mm longer than the tensioned spring should be installed in a parallel position.
7. Reset the switch. The system is now ready for operation.



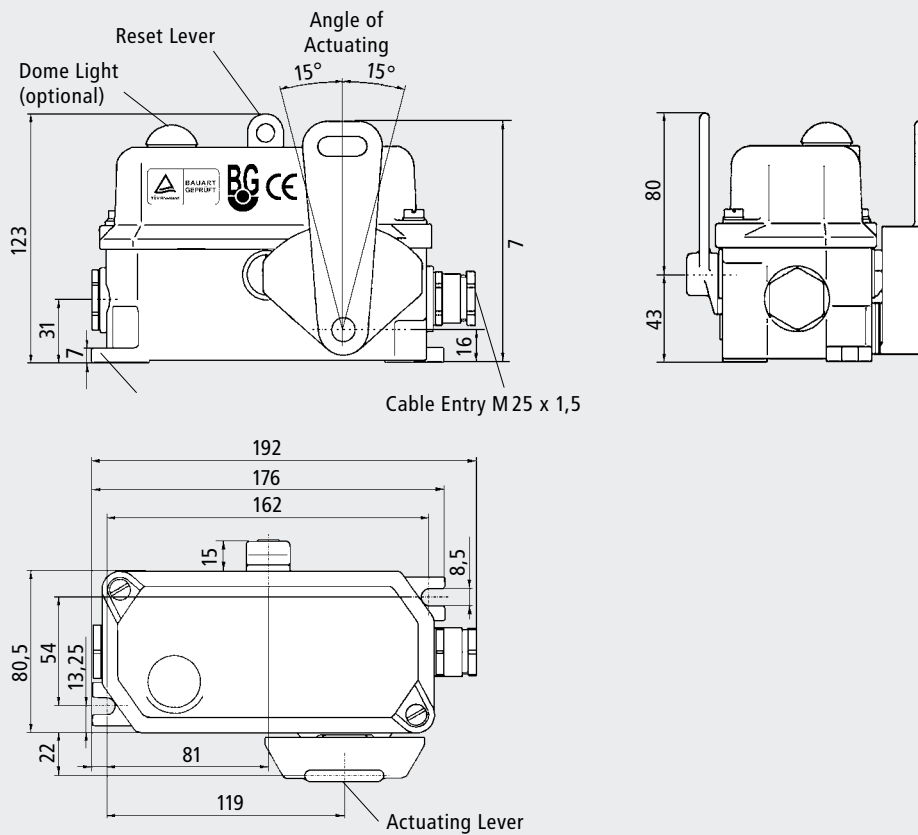
## INSTALLATION



## CONTACT ARRANGEMENTS



## DIMENSIONS



Subject to change without notice.