

# Belt Conveyor - Pull Rope Switch

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**HEN 211**



## APPLICATION

Kiepe pull-rope emergency stop switches type HEN 211 are used in accordance with the requirements of EN 620 as well as BGI 710 and in conformity with DIN EN ISO 13850 as emergency stop devices as supplementary safety measures on conveyor belt systems. The pull rope is symmetrically tensioned on both sides of the red release lever. The devices are suitable for outdoor use and applications where the ambient temperature varies considerably.

With the pull-rope system functionally aligned, the emergency stop signal can be triggered over a distance of up to about 100 m for each switch.

Kiepe pull-rope emergency stop switch types HEN 211 comply with

Machinery Directive 2006/42/EC and meet the requirements in the safety objectives of Low Voltage Directive 2006/95/EC.

The HEN 211 aluminum housing is equipped with two NC-and one NO-Contact. The NO-Contact is connected to a bus modul, which watches and signalizes the switching status (in/off) economically over long distances.

Pull rope emergency stop switches Type HEN 211 must only be used in control electrical circuits. Taking into consideration the safety data and maintenance recommendations, the pull-rope emergency stop switch type HEN 211 can be used in safety circuits in accordance with **DIN EN ISO 13849 up to Performance Level e (PLe)**.

## FUNCTION

The pull-rope emergency stop switch is actuated by a pull rope **1** connected on both sides of the red release lever. The contacts are actuated by a spring supported cam disc (snap action function). At the same time, two NC contacts and one NO contact are actuated simultaneously.

The emergency stop signal is performed with positive-making normally closed (NC) contacts in accordance with the closed circuit principle. The NO-contact activates the bus modul **101**.

The bus module **101** must be programmed before installation.

After the emergency stop function is triggered, the switching mechanism is locked in the shut-off position "0". When the blue reset lever is actuated in switch position "1", the switching contacts are reactivated and the conveyor belt is prepared for being turned back on again.

Resetting the pull-rope emergency stop switch must not cause the conveyor system to start up.

## TECHNICAL DATA

Designation	Pull-rope emergency stop switch type HEN 211 – emergency stop device with latching function and standard-bus-modul
Type of actuation	Bidirectional; spring-loaded ("snap action")
Complies with	DIN EN ISO 13850; DIN EN 60204-1; DIN EN 60947-5-5; DIN EN 60947-5-1; EN 620; BGI 710
Suited for	Control units and systems in accordance with DIN EN 60204
<b>Mechanics</b>	
Enclosure	Aluminum GK-AISI 12
Finish	DD-paint Enclosure – yellow (RAL 1004), release lever – red (RAL 3000), reset lever – blue (RAL 5010)
Mounting	2 slotted holes for M8 screws
Installation position	Horizontal, tilt angle up to about 15°
Pull-rope length	Up to approx. 100 m
Actuation force	30 N ± 10 N
Weight	1.7 kg
<b>Electrical system</b>	
Switching system	2 normally close contacts (NC) + 1 normally open contact (NO) for bus-modul; cam operated positive-making switches
Cable entry	Threaded holes 2x M25 x 1.5 with each 1x screwed cable gland: sealing area Ø11 mm to Ø16 mm; 1x dummy screw
Utilization category	AC-15: 230 V; 6 A DC-13: 110 V; 1.1 A
Connection cross section	1 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
Protective conductor connection	In the casing; M4
Rated insulation voltage U <sub>i</sub>	400 V
Rated impulse withstand voltage U <sub>imp</sub>	2.5 kV, degree of pollution III
Conventional thermal current I <sub>th</sub>	16 A
Contact reliability	220.000 switching operations
<b>Ambient conditions in accordance with DIN EN 60947-5-5</b>	
Permissible ambient temperature	–25 °C... +70 °C
Protection rating	IP 67 in accordance with EN 60529
<b>Safety data in accordance with DIN EN ISO 13849 and EN 61062</b>	
Safety functions	Emergency stop incl. latching Manual reset
Usable in accordance with DIN EN ISO 13849-1	Up to PLe (depending on customer application)
B10d value	24,000 actuations

## SELECTION TABLE

Switch type	Contact configuration NC	NO	Bus-modul	Order number
HEN 211	2	(1)	1	91.043 450.211
<b>Spare parts and accessories:</b>				
Screwed cable gland M25 x 1.5 (sealing area 11 mm to 16 mm)				113.52.02.20.01
Dummy screw M25 x 1.5				113.52.87.20.02
Cover including seal and screws				93.066 839.004
Programming adaptor (cable with 3-pole connector)				94.065 083.003

## MOUNTING

Pull-rope emergency stop switches of types HEN 211 are each fastened to the substructure in installation position with 2 M8 screws, centered between the anchor hook **3** of the pull-rope system (see the mounting diagram). Before electrical installation, the bus modul **101** must be programmed.

After programming the electrical connection is made through the screwed cable gland included in the delivery. It is possible to connect two emergency stop circuits to the terminals of the opening contacts (21/22 and 41/42). The two-wire bus line for bus modul **101** (+D/-D) must be connected to the terminal block X2.

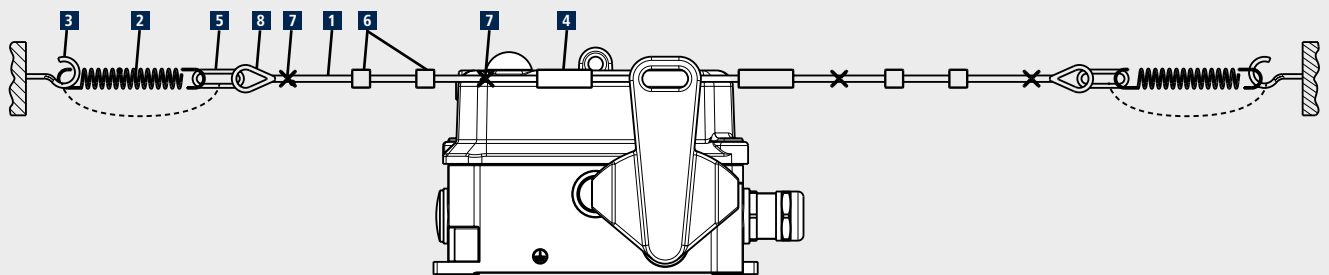
The pull-rope **1** is tensioned by tension springs **2** between the anchor hooks **3** and fastened onto the red release lever.

After the tension springs **2** have been adjusted, the actuation force and path for triggering the switch must be tested to ensure compliance with specified requirements.

Note:

A channel generator is necessary for a proper operation and power supply of the bus modul. (More information at [www.dupline.com](http://www.dupline.com))

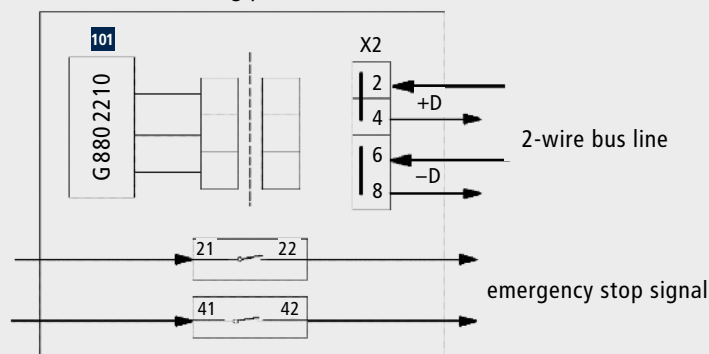
## MOUNTING DIAGRAM



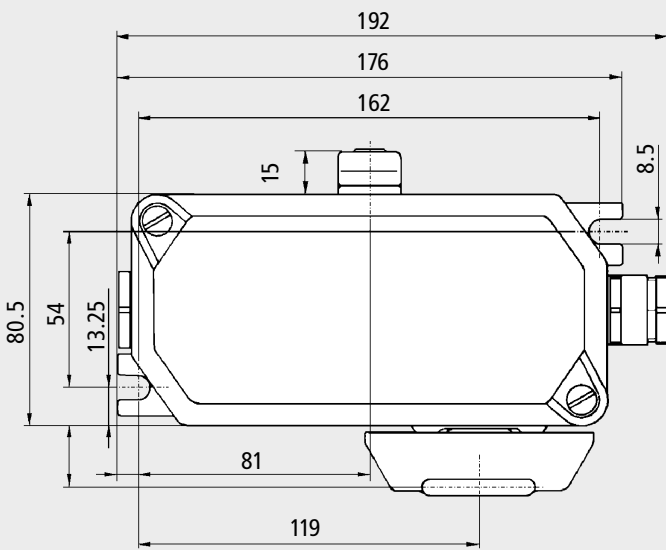
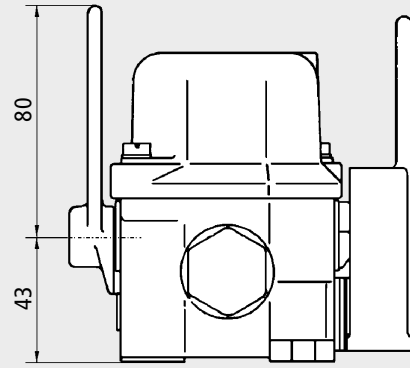
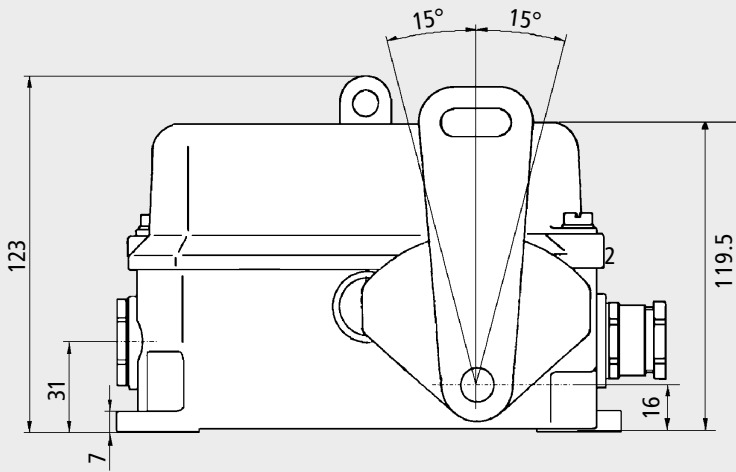
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|-------------------------|-----------------------|------------------|
| <b>1</b> Pull rope      | <b>4</b> Turnbuckle   | <b>7</b> Clamp   |
| <b>2</b> Tension spring | <b>5</b> Quick link   | <b>8</b> Thimble |
| <b>3</b> Anchor hook    | <b>6</b> Rope support |                  |

## CONNECTION DRAWING

HEN 211 – switching position „1“



## DIMENSIONS



Subject to change without notice.