MOD. PRS

TELEMETRIX SAS
79, RUE DE LA GARE
BP118
FR-78370 PLAISIR

Tel. (+33) (0) 972 11 00 03
Fax (+33) (0) 972 11 00 03
www.direct-mesure.fr
contact@telemetrix.fr

Belt Conveyor Pull Rope Switch

APPLICATION

Kiepe pull-rope emergency stop switches type PRS 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 exclusive use of glass fiber reinforced plastic and stainless steel is designed especially for applications in harsh environments such as potassium salt and rock salt factories, seaports and urea, recycling and composting facilities.

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 PRS comply with Machinery Directive 2006/42/EC.
They must only be used in control electrical circuits.
The PRS glas fiber reinforced plastic housing offers space for 2 NC and 1 changeover contact. The versions PRS 101/102 use also a NO contact for a signal lamp.

Taking into consideration the safety data and maintenance recommendations, the pull-rope emergency stop switch type PRS can be used in safety circuits in accordance with DIN EN IS0 13849 up to Performance Level c (PLc).

FUNCTION

The pull-rope emergency stop switch is actuated by a pull rope connected on both sides of the red release lever.

The switching of the pull rope switch is controlled by a cam and supported by a spring function (snap action). The self-cleaning contacts are actuated simultaneously and it may be carried out a cross comparison of the contacts of an external control unit.

The emergency stop signal is performed with positive-making normally closed (NC) contacts in accordance with the closed circuit principle.

After the emergency stop function is triggered, the switching mechanism is locked in the shut-off position „0“. The signal lamp in the lid of PRS 101 or 102 is switched on. When the blue reset lever is actuated in switch position „1“, the switching contacts are reactivated, the signal lamp is off 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 PRS – emergency stop device with latching function
Type of actuation	Bidirectional; spring-loaded („snap action“)
Complies with	DIN EN ISO 13850; DIN EN 60947-5-5; DIN EN 60947-5-1;
Suited for	Control units and systems in accordance with DIN EN 60204
Mechanics	
Material	Enclosure : PBT GF20; yellow (similar RAL 1004) release lever: red (similar RAL 3000) reset lever: blue (similar RAL 5010)
Mounting	2 reinforced holes for M6 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	0,5 kg
Elektrik	
Switching system	PRS 001 2 cam operated positive opening Switches, 1 changeover contact (SPDT) PRS 101/102 additionally 1 N.O. for lamp
Cable entry	Threaded holes 3x M25 x 1.5 with each dummy screws, 1x cable gland enclosed (sealing area ∅ 9 mm to ∅ 17 mm)
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 mm² to 2.5 mm²
Protective conductor connection	no connector; Protection class I
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	> 1,000,000 switching operations
Signal lamp	4x LED in the lid
Voltage U_v for signal lamp	PRS 101: 230 V AC PRS 102: 24 V DC
Current consumption of lamp	approx. 20 mA
Ambient conditions in accordance with DiN EN 60947-5-5	
Permissible ambient temperature	- 25 °C ... + 70 °C
Protection rating	IP 67 in accordance with EN 60529

Safety data in accordance with DIN EN ISO 13849 and EN 61062

Safety functions	Emergency stop incl. latching Manual reset
Usable in safety circuits	up to PLc (depending on customer application)
B10d value	10,000 actuations

SELECTION TABLE

Switch type	Contact configuration			Integrated signal lamp	Order number
	N.C.	SPDT	N.O.		
PRS 001	2	1	-	-	91.063 293.001
PRS 101	2	1	(1)	LED 230 V AC	91.063 293.101
PRS 102	2	1	(1)	LED 24 V DC	91.063 293.102

Spare parts and accessories

Screwed cable gland M25	113.51.00.20.10
Dummy screw M25	113.43.87.20.01
Replacement lid PRS 001	94.059 408.001
Replacement lid PRS 101 with LED-Block 230 V AC	93.059 431.001
Replacement lid PRS 102 with LED-Block 24 V DC	93.059 431.002

MOUNTING

Pull-rope emergency stop switches of types PRS are centered between the anchor hooks 3 of the pull-rope system and each fastened to the substructure in installation position with 2x M6 screws.

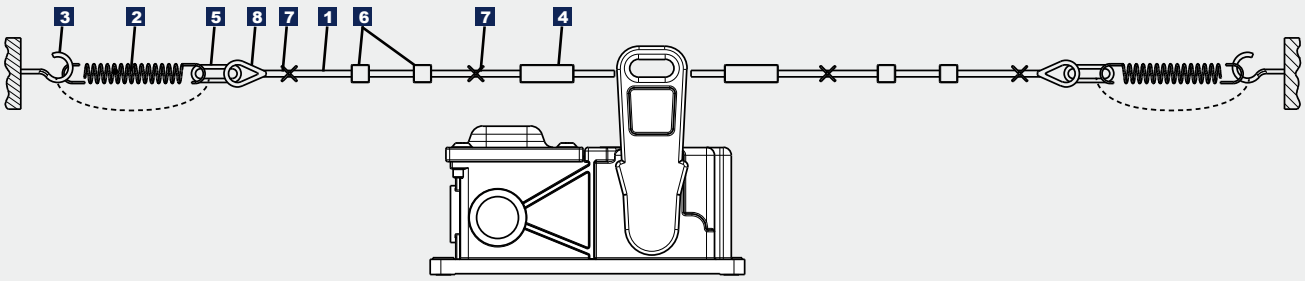
Electrical connection is performed with the device open using the screwed cable gland included in the delivery, directly on the terminal block [X10] to [X22] (see the connection drawings).

The signal lamp of DC-Variant PRS 102 can be connected without regarding the polarity of the voltage.

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

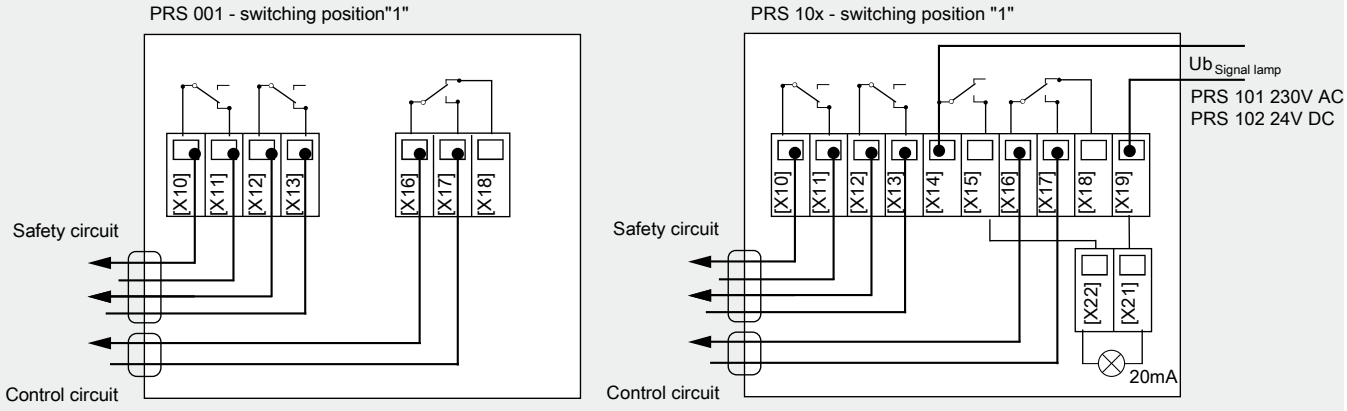
After the tension springs 2 have been adjusted, the actuation force and path for triggering the switch must be tested to ensure compliance with specified requirements.

MOUNTING DIAGRAM



1 Pull rope
2 Tension spring
3 Anchor hook
4 Turnbuckle
5 Quick link
6 Rope support
7 Clamp (2x)
8 Thimble

CONNECTION DRAWING



DIMENSIONS