

Belt Conveyor – Pull Rope Switch

LRS



APPLICATION

Kiepe pull-rope emergency stop switches type LRS 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 tensioned on one side of the actuating shaft.

The devices are suitable for indoor use and applications where the ambient temperature varies only in small range.

With the pull-rope system functionally aligned, the emergency stop signal can be triggered over a distance of 20m.

Kiepe pull-rope emergency stop switch types LRS comply with Machinery Directive 2006/42/EC and meet the requirements in the safety objectives of Low Voltage Directive 2006/95/EC. The device must only be used in electrical control circuits.

The LRS aluminum housing offers space for one (1) switching element with different contact configurations for each variant of LRS. Taking into consideration the safety data and maintenance recommendations, the pull-rope emergency stop switch type LRS can be used in safety circuits in accordance with **DIN EN ISO 13849 up to Performance Level e (PLe)**.

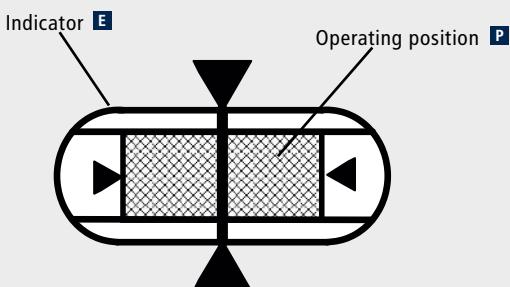
FUNCTION

The emergency stop signal can be activated by pulling or breaking of the pull wire or by pushing the red emergency stop button when the switch is correctly adjusted. An indicator **E** helps to find the correct operating position **P** for a proper work. The contacts are actuated by a spring supported cam disc (snap action function) at the same time.

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 blue reset knob can only be moved to switching position "1", when the actuating shaft is back in operating position.

In position "1", the switching contacts are reactivated and the conveyor belt is prepared for start up the belt conveyor.



Note: 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 LRS – emergency stop device with latching function
Type of actuation	Bidirectional; spring-loaded ("snap action")
Complies with	EN ISO 13850; EN/IEC 60204-1; EN/IEC 60947-5-5; EN/IEC 60947-5-1; EN/IEC 620; BGI 710
Suited for	Control units and systems in accordance with EN/IEC 60204
Mechanics	
Enclosure	Aluminum yellow (RAL 1004)
Mounting	4 holes for M5 screws
Installation position	any
Pull-rope length	Up to 20 m
Actuation force	<125 N
Net weight	0.7 kg
Electrical system	
Switching system	Up to 4 contacts; cam operated positive-making switches
Cable entry	Threaded holes 3x M20 x 1.5 mm with 2x dummy screws, 1x dummy plug
Utilization category	AC-15: AC 240 V / 3 A DC-13: DC 24 V / 2 A
Connection cross section	1 mm ² to 2.5 mm ²
Protective conductor connection	In the casing; M4
Rated insulation voltage U _i	AC 500 V
Rated impulse withstand voltage U _{imp}	2.5 kV, degree of pollution III
Conventional thermal current I _{th}	10 A
Contact reliability	1 million switching operations
Ambient conditions in accordance with DIN EN 60947-5-5	
Ambient temperature	-25 °C up to +70 °C
Protection rating	IP 66 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 risk zone	Up to PLe in accordance with DIN EN ISO 13849 (depending on customer application)
B10d value	10,000 actuations

SELECTION TABLE

Switch type	Contact configuration		Order number
	NO	NC	
LRS 004	2	1	93.046 690.004
LRS 022	2	2	93.046 690.022
LRS 031	3	1	93.046 690.031

Spare parts and accessories

Cover complete with print "LRS 004"	215.24.01.01.05
Cover complete with print "LRS 022"	215.24.01.01.06
Cover complete with print "LRS 031"	215.24.01.01.07
Microswitch contact block	on request

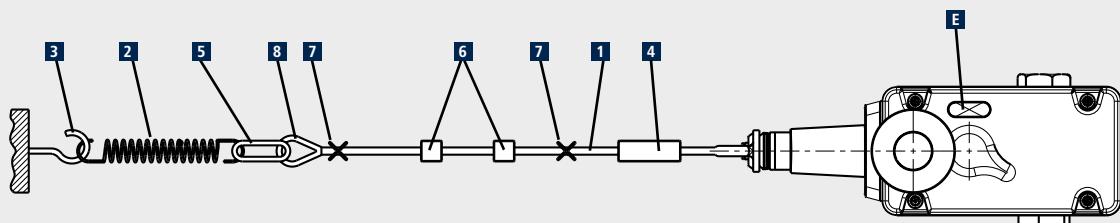
MOUNTING

Pull-rope emergency stop switches of types LRS are each fastened to the substructure in installation position with 4 M5 screws.

The pull rope is connected to the actuating shaft and the external spring **2** and has to be tensioned with spring **2** and turnbuckle **4** till the operating position is reached.

Electrical connection is performed with the device open directly on the screw joints of the microswitch contact block, using a cable gland M20x1.5 with minimum IP66 protection class, which is not included in the delivery.

MOUNTING DIAGRAM



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

CONNECTION DRAWING

LRS 004

11		12
21		22
33		34

2 x N.C.
1 x N.O.

LRS 022

11		12
21		22
33		34
43		44

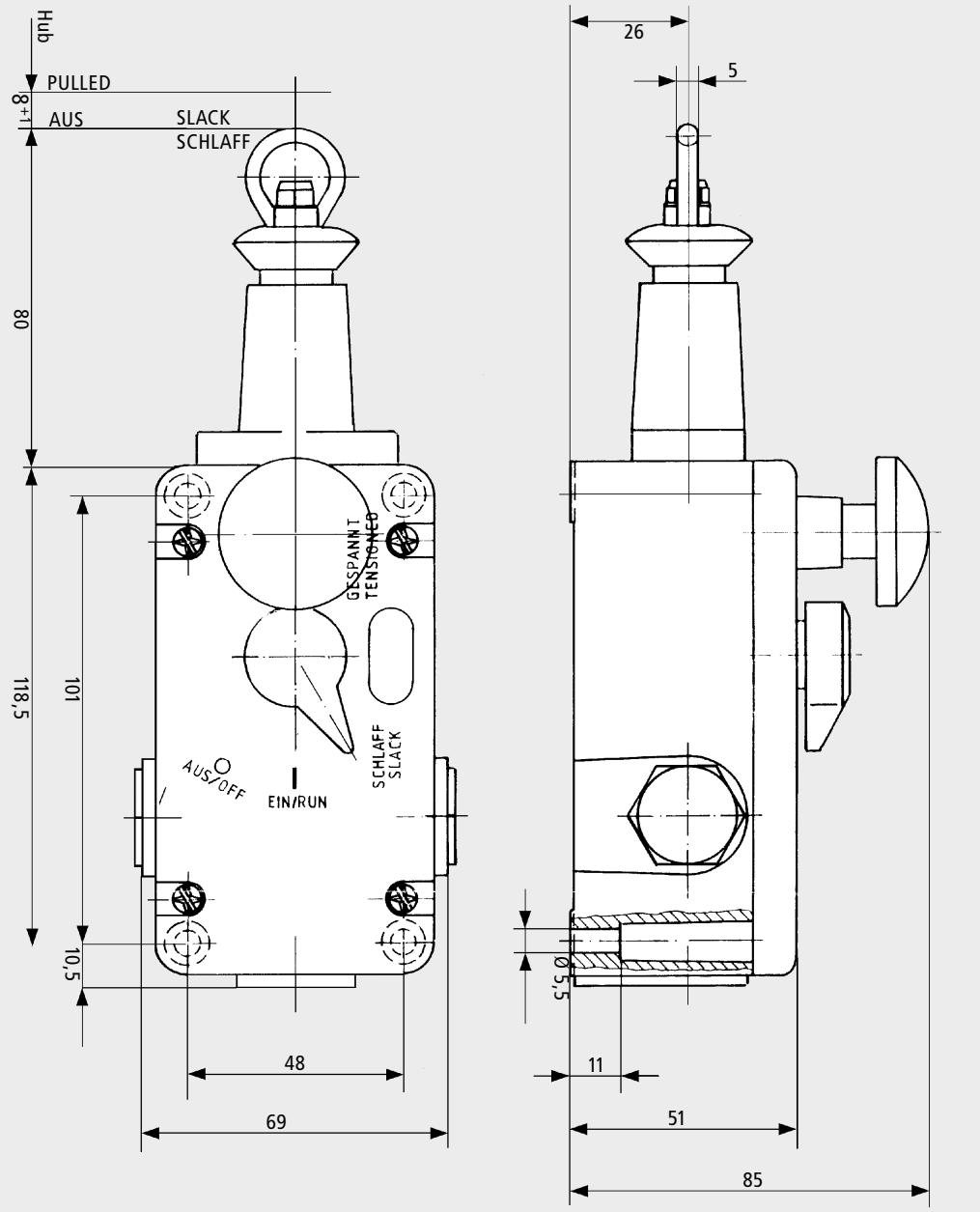
2 x N.C.
2 x N.O.

LRS 031

11		12
21		22
31		32
43		44

3 x N.C.
1 x N.O.

DIMENSIONS



Subject to change without notice.