

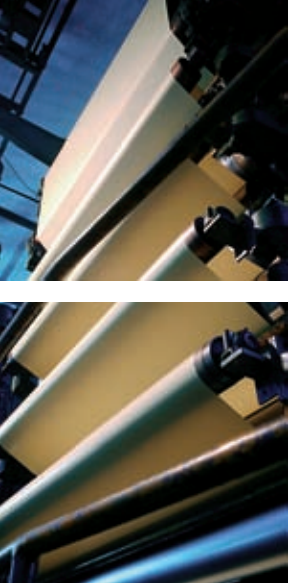
Pull-wire emergency stop switches and pull-wire switches

Product overview



SCHMERSAL

Pull-wire emergency stop



Application

Pull-wire emergency stop switches are highly important at the man-machine interface in industrial applications. They are mounted, for instance, on transportation plants and conveyor systems. When actuated by hand, these devices trigger or switch off work cycles and functional processes.

All the pull-wire emergency stop switches described in this brochure meet the requirements of the harmonised European standard IEC/EN 60947-5-5 regarding the functional aspects and recommendations for the design and the arrangement of emergency stop devices.

Pull-wire switches are used as signal transmitter to start machines and to open or close electrically driven doors, gates and barriers.



Features of the ZQ 900

- The position indicator facilitates the set-up and the maintenance of systems with spans of up to 50 m
- The integrated emergency-stop push-button enables actuation directly at the device as well
- Reset pushbutton
- The indicator lamp can be screwed in the cable entry

Emergency stop switches and pull-wire switches

Design and operating principle

On the ZQ 900 pull-wire emergency stop switches, the emergency stop function can be initiated from any point of the wire. This feature meets the requirements of EN 418.

The pull-wire emergency stop switch are brought into operational condition by pre-tensioning the wire, i.e. the NC contacts are closed and the NO contacts are opened.

All pull-wire switches are equipped with wire-breakage monitoring. The integrated emergency-stop pushbutton enables actuation directly at the device as well.

Pull-wire switches without mechanical locking are not EN 418-compliant.



Innovation: S 900 rope tensioner

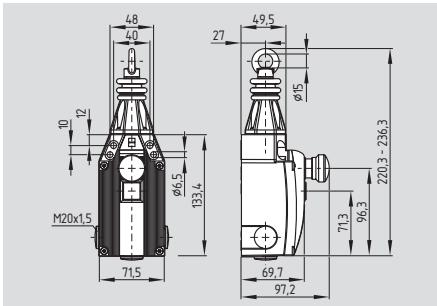
The new rope tensioner is a unique wire-tensioning system, accelerating the installation of wire-operated systems. Conventional systems usually are time consuming and difficult to adjust.

Features:

- Smooth adjustment
- Only one tool
- Antiskid
- Time-saving
- Ergonomic
- No risk of injury

Pull-wire emergency stop switches

ZQ 900



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 4 contacts
- Integrated emergency-stop pushbutton
- Position indicator
- Robust design
- Large wiring compartment
- 3 cable entries M20 x 1.5
- One tension force for wire lengths from 5 to 50 m
- Wire up to 50 m long
- Reset pushbutton
- Twisting of towing eye not possible
- Optional signalling lamp
- External watertight collar
- Wire pull and breakage function

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418

Enclosure: zinc die-cast, enamelled

Cover: thermoplastic

Protection class: IP 65 to IEC/EN 60529

Contact material: silver

Contact type: 1 NC/1 NO
or 2 NC/2 NO
or 3 NC/1 NO
or 2 NC
or 4 NC

Switching system: IEC 60947-5-1
snap action with positive break NC contacts

Connection: screw terminals

Cable section: max. 2.5 mm²
(incl. conductor ferrules)

Cable entry: 3 x M20 x 1.5

Rated impulse withstand voltage U_{imp} : 6 kV

Rated insulation voltage U_i : 500 V

Thermal test current I_{the} : 6 A

Utilisation category: AC-15, DC-13

Rated operating current/voltage I_e/U_e : 4 A / 230 VAC
1 A / 24 VDC

Max. fuse rating: 6 A gG D-fuse
to DIN EN 60269-1

Ambient temperature: -25 °C ... +70 °C

Mechanical life: > 1 million operations

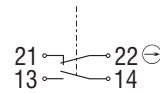
Indicator lamp: optionally

Maximum cable length: 50 m
(please observe ambient temperature range and wire supports)

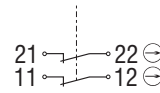
Features: wire pull and breakage detection

Contact variants

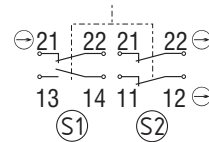
1 NO/1 NC



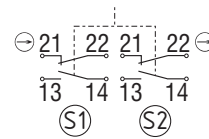
2 NC



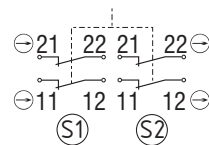
1 NO/3 NC



2 NO/2 NC



4 NC



Approvals



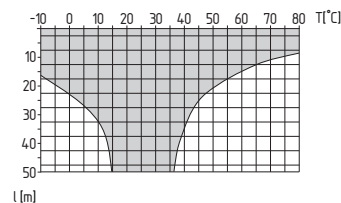
Ordering details

ZQ 900-①②

No.	Replace	Description
①	11	1 NO/1 NC
	13	1 NO/3 NC
	22	2 NO/2 NC
	02	2 NC
②	04	4 NC
		Without emergency-stop pushbutton
	N	With emergency-stop pushbutton

Note

Recommended cable lengths for pull-wire Emergency-Stop switches in relation to the range of ambient temperature.
At 5 m distance intermediate wire supports are required, see accessories on page 7.



Note

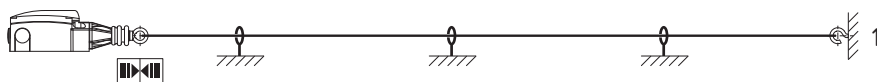
The screwed G24-M20 indicator lamp must be ordered separately, see page 7.

Pull-wire emergency stop switches

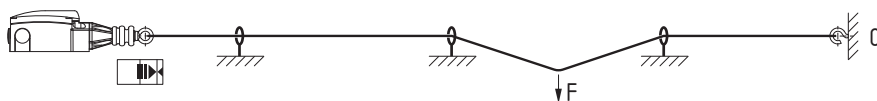
Mode of operation

Wire pull and breakage detection

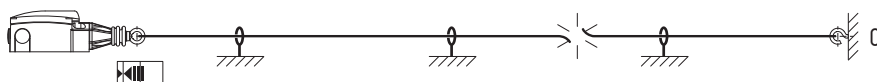
Not actuated



Wire pull detection



Wire breakage detection

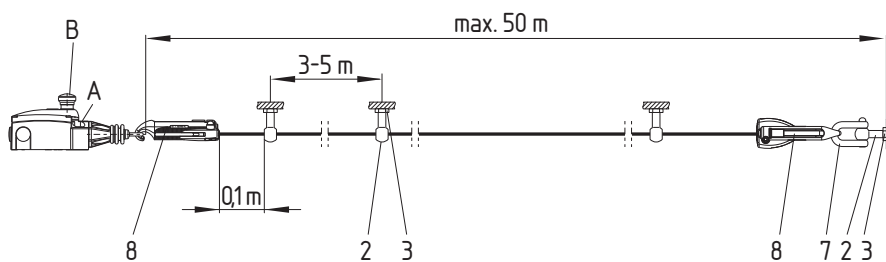
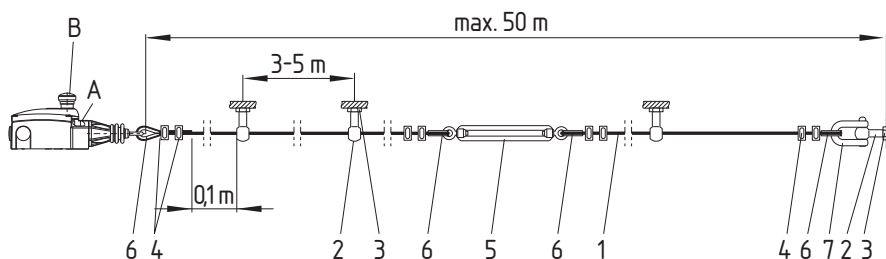


Mounting instructions

One-side operation

- 1 = Wire rope
- 2 = Eyebolt
- 3 = Nut
- 4 = Wire clamp
- 5 = Tensioner
- 6 = Wire thimble
- 7 = Shackle
- 8 = Rope tensioner

A = Position indicator
B = Emergency-stop pushbutton

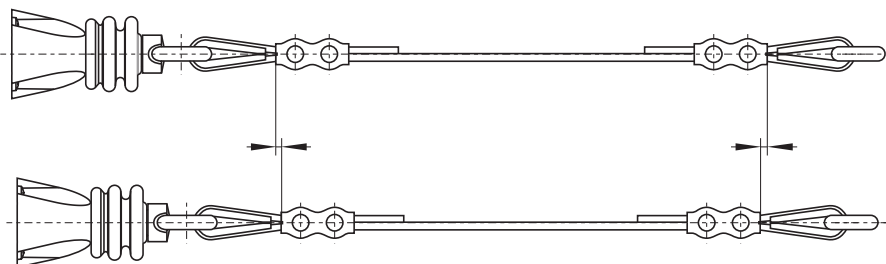


Mounting instructions

Thimble deformation

Note:

As the thimbles are subject to deformation in case of wire pull, the wire should be pulled several times after fitting. After that, the wire must be re-tensioned using the eyebolt or the tensioner.



Pull-wire emergency stop switches

System components



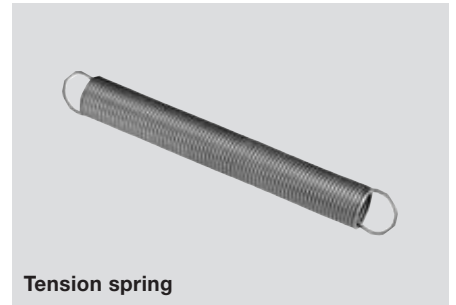
Eyebolt

System components



Pulley

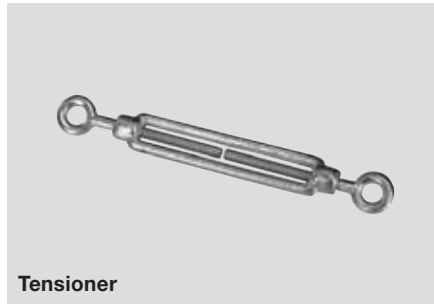
System components



Tension spring



Wire clamp



Tensioner



Rope tensioner S 900



Egg-shaped wire clamp



Wire rope



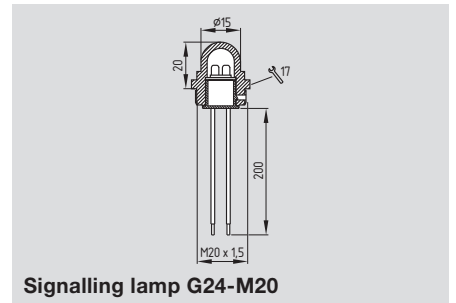
Shackle



Wire thimble



Wire unit complete



Signalling lamp G24-M20

Ordering details

Eyebolt
 BM 10 x 40 **1084928**
 BM 8 x 70 **1162986**
 Wire clamp 3 mm **1144548**
 Egg-shaped wire clamp **1077072**
 Wire thimble 3B **1144551**

Ordering details

Pulley **1186699**
 Tensioner M6 **1087930**
 Wire rope per m **on request**
 Wire unit complete 50 m **1163146**
 (other lengths on request)

Ordering details

Tension spring **1186696**
 Rope tensioner S 900 **1186704**
 Shackle **1186490**
 Signalling lamp G24-M20 **1186263**
 (LED 24 VDC)

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