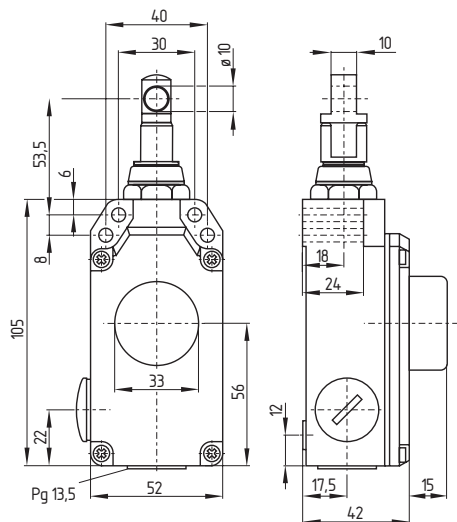# 6. Command devices
6.1 Pull-wire emergency stop switches
6.1.1 One-side operation
6.1.1.1 ZS 71 range

Features

- To EN 418
- Metal enclosure
- 2 contacts
- Small body
- 2 cable entries
- Various spring force variants (actuating forces)
- Wire up to 20 m long
- Reset by push button or key possible
- Twisting not possible
- Optional position indicator
- Available with external watertight collar
- Indicator lamp available on request for various voltages
- EEx version certified by PTB to EEx d IIC T6; see chapter 14.5.1
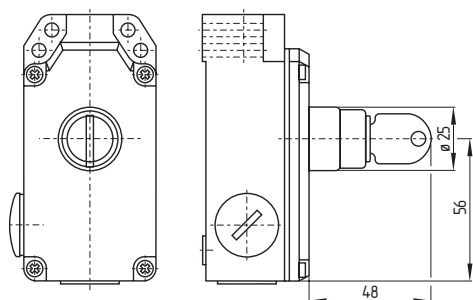- Wire pull and breakage functions

Info

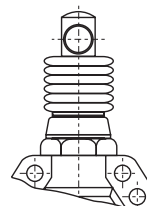- Cable entry M 20 x 1.5, ordering suffix -M20

Note

For tensioned span lengths over 5 m, intermediate wire supports are required, see accessories 6.1.3.
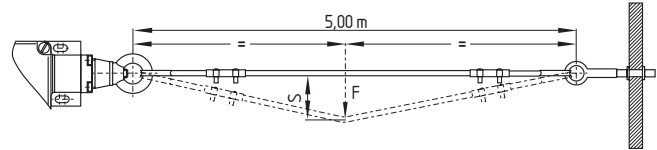
Key reset

Watertight collar

Approvals

D

6. Command devices
6.1 Pull-wire emergency stop switches
6.1.1 One-side operation
6.1.1.1 ZS 71 range
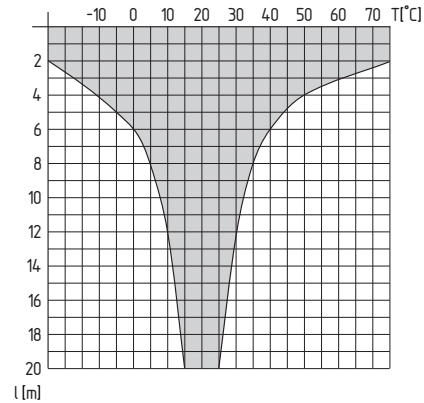
Actuating deflection/force

The values quoted relate to the switch being mounted in an ambient temperature of 20 °C.
Stretching of the wire due to elongation and deformation of the wire thimbles has not been taken into account.
The actuating forces given are only guide values, since the spring forces are subject to tolerances.
Actuating deflections and forces relate to a 5 m long wire.

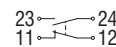| Pre-tensioning force [N]	Actuating deflection S [cm]	Actuating force F [N]	Ordering suffix
55	11	6	-55N
200	11	25	-200N

Temperature range

Recommended cable lengths for pull-wire Emergency Stop switches in relation to the range of ambient temperature.
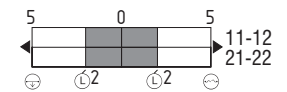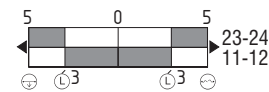
Contacts/Switch travel

1 NO 1 NC	2 NC
23—24 / 11—12	11—12 / 21—22

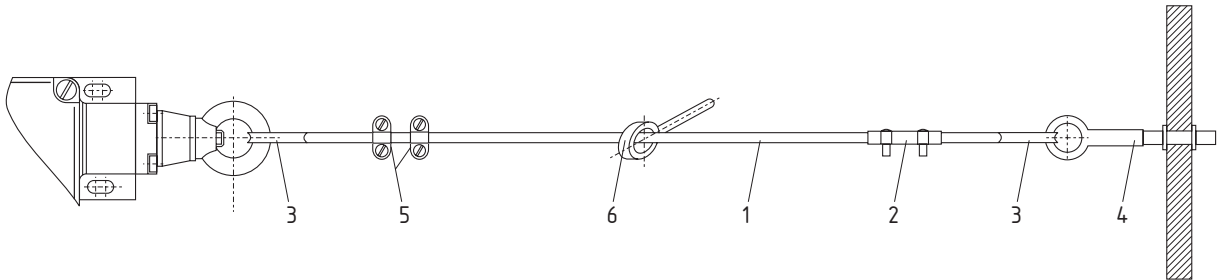|	1 NO 1 NC	2 NC
Push button reset	ZS 71 1Ö/1S VD	ZS 71 2Ö VD
Key reset	ZS 71 1Ö/1S VS	ZS 71 2Ö VS
Push button reset, watertight collar	ZS 71 1Ö/1S WVD	ZS 71 2Ö WVD
Key reset, watertight collar	ZS 71 1Ö/1S WVS	ZS 71 2Ö WVS
Push button reset, position indicator	ZS 71 1Ö/1S VDA	
Key reset, position indicator	ZS 71 1Ö/1S VSA	
Push button reset, watertight collar, position indicator		
Key reset, watertight collar, position indicator	ZS 71 1Ö/1S WVDA	ZS 71 2Ö WVDA
Push button reset, indicator lamp		
Key reset, indicator lamp	ZS 71 1Ö/1S WVSA	ZS 71 2Ö WVSA
Push button reset, watertight collar, indicator lamp	ZS 71 1Ö/1S VDG	
Key reset, watertight collar, indicator lamp	ZS 71 1Ö/1S VSG	
Push button reset, watertight collar, position indicator, indicator lamp	ZS 71 1Ö/1S WVDG	
Key reset, watertight collar, position indicator, indicator lamp	ZS 71 1Ö/1S WVSG	

Ordering details

ZS 71 range pull-wire emergency stop switch for one-side operation with one NO contact and one NC contact, indicator lamp and push button reset:
ZS 71 1Ö/1S VDG

ZS 71 1Ö/1S WVDAG

ZS 71 1Ö/1S WVSAG

6. Command devices
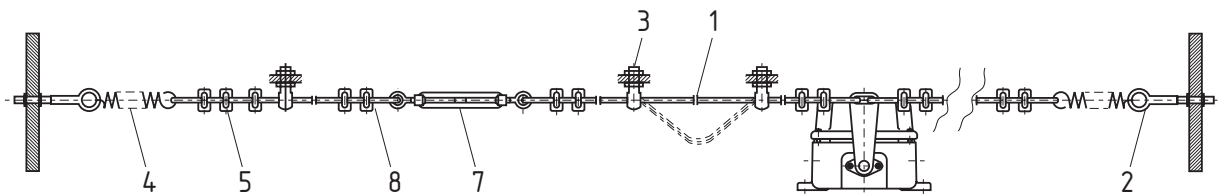## 6.1 Pull-wire emergency stop switches
6.1.3 Accessories

One-side operation

Legend
1 Wire rope with red PVC sheath Ø 5 mm
  (steel core: Ø 3 mm)
2 Duplex clamp
3 Wire thimble
4 Eyebolt 8 mm
5 Wire clamp 3 mm
6 Wire support, eyebolt M 8

Note For tensioned span lengths over 5 m, intermediate wire supports are required.
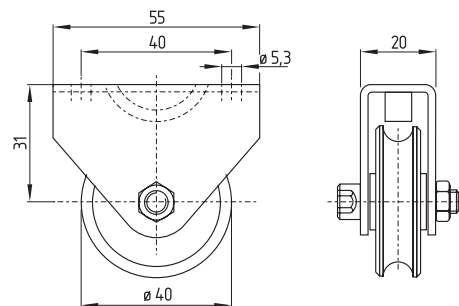

Two-side operation

Legend
1 Wire rope with red PVC sheath Ø 5 mm
  (steel core: Ø 3 mm)
2 Eyebolt BM 10 x 40
3 Hexagon nut BM 10
4 Tension spring of stainless steel
  ordering part number RZ-136E

5 Wire clamp 5 mm
6 Wire support, see illustration for
  one-side operation
7 Tensioning jack M6
8 Wire thimble 5B 5 mm

Note No free-hanging length of wire should exceed 5 m

Pulley

• To guide the wire rope where
  the path is not a straight line
• For Ø 5 mm wire with red PVC sheath
  (steel core: Ø 3 mm)

Note According to EN 418, pulleys may only
be mounted such that the complete
length of the pull-wire can be observed.

Wire clamp

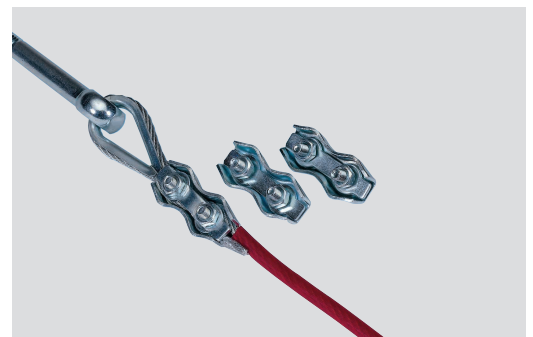- 3 mm wire clamp
- 5 mm wire clamp
- Ordering unit: 1 piece

Egg-shaped wire clamp

- For wire rope Ø 3 mm steel core
- Ordering unit: 1 piece

Duplex wire clamp

- Duplex wire clamp
- For wire rope Ø 3 mm steel core
- Ordering unit: 1 piece

Wire thimbles

- To DIN 6899
- For wire rope Ø 3 mm,
  ordering part number: Wire thimble 3B
- For wire rope Ø 5 mm,
  ordering part number: Wire thimble 5B
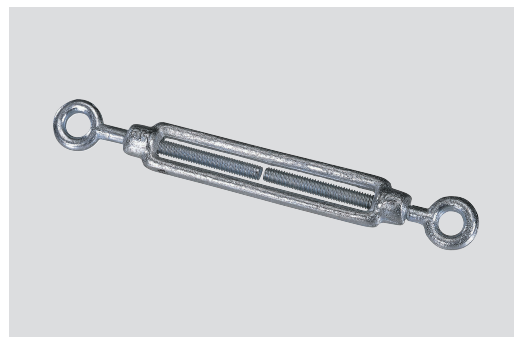- Ordering unit: 1 piece

Eyebolts

- To DIN 444
- Eyebolt M 8 x 70 without nut,
  length referring to eye centre: 70 mm,
  thread length: 35 mm, thread: M 8 x 1.5
- Eyebolt BM 10 x 40 including nut
  (not shown)
  length referring to eye centre: 40 mm,
  thread: M 10 x 1.5
- Ordering unit: 1 piece

Tensioner M6

- For exact adjustment of the tension
  of the wire rope
- Adjustable from 145 mm to 225 mm
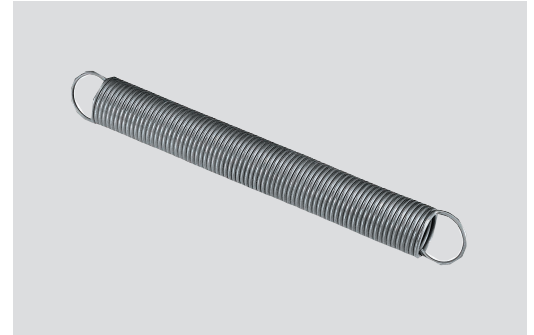- To DIN 1480

Tension spring

- Only for T3Z 068 and ZS 75 S
- To maintain the reaction force
- Ordering part number RZ-136E
- Length approx. 185 mm without tension

Wire rope

- Steel core Ø 3 mm
- With red PVC sheath
- Ø 5 mm total

	ZS 71	ZS 73	ZS 75
Standards:	IEC/EN 60947-5-1; EN 418		
Certificates:	BIA (BG) No. 973003		
Enclosure material:	Cast aluminium, enamelled		
Cover:	Thermoplastic	Cast aluminium, enamelled	
Protection class:	IP 54, IP 65 for version with push button reset and watertight collar		
	to IEC/EN 60529		
Contact material:	Silver		
Contact type:	Change-over with double break		Change-over with
	or 2 NC contacts		double break
			or 2 NO and 2 NC
			or 4 NC contacts
Switching system:	$\ominus$ IEC 60947-5-1		
	Snap action with positive break NC contacts		
Termination:	Screw terminals for max. 2.5 mm^2 cables (including conductor ferrules)		
Rated impulse withstand voltage U_{imp}:	6 kV		
Rated insulation voltage U_i:	400 V		
Thermal test current I_{th}:	6 A		
Utilisation category:	AC-15		
Rated operating current/voltage I_e/U_e:	6 A/400 VAC		
Max. fuse rating:	6 A (slow blow)		
Torque for positive break:	–		
Angle for positive break travel:	–		
Force for positive break:	–		
Actuating force:	–		
Ambient temperature:	– 25 °C ... + 70 °C		
Mechanical life:	> 1 million operations		
Indicator lamp:	–		

CE