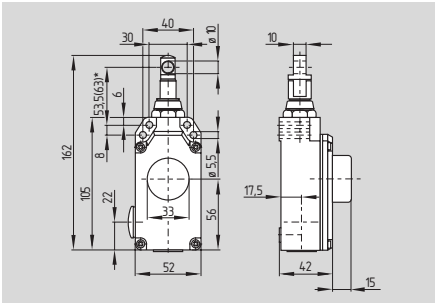


Pull-wire Emergency-Stop switches

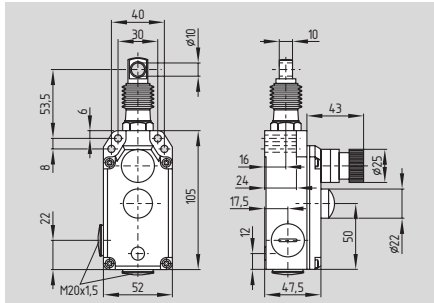
ZS 71



* 63 mm for version 200 N pre-tensioning force

- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 2 contacts
- Small body
- 2 cable entries M20 x 1.5
- 2 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
- Signalling lamp available on request for various voltage
- Wire pull and breakage function
- EEx version available
- AS-Interface Safety at Work available, see chapter 5

ZS 71 ... NA



* 63 mm for version 200 N pre-tensioning force

- Integrated emergency-stop button
- Push button reset

Technical data

Standards:	IEC/EN 60947-5-1 IEC/EN 60947-5-5 EN 418
Certificates:	BIA (BG)
Enclosure:	cast aluminium, enamel finish
Cover:	thermoplastic ultramid
Protection class:	IP 65 push button reset; IP 54 key reset to EN 60529
Contact material:	silver
Contact type:	change-over contact with double break or 2 NC contacts
Switching system:	⊖ IEC 60947-5-1 snap action with positive break NC contacts
Connection:	screw terminals
Cable section:	max. 2.5 mm ² (incl. conductor ferrules)
Cable entry:	2 x M20 x 1.5
U _{imp} :	6 kV
U _i :	400 V
I _{the} :	6 A
Utilisation category:	AC-15
I _e /U _e :	6 A / 400 VAC
Max. fuse rating:	6 A gG D-fuse
Positive break torque:	–
Angle for positive break travel:	–
Positive break force:	–
Actuating force:	–
Ambient temperature:	– 25 °C ... + 70 °C
Mechanical life:	> 1 million operations
Indicator lamp:	–
Maximum cable length:	20 m
Features:	wire pull and breakage detection

Approvals



Approvals



Ordering details

ZS 71 ① ② ③-④-⑤ / ⑥

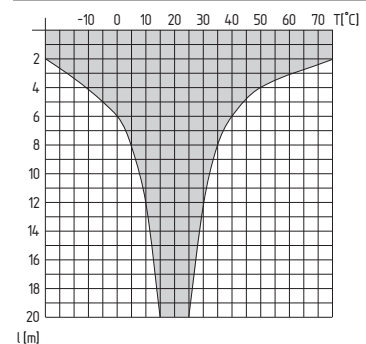
No.	Replace	Description
①	1Ö/1S 2Ö	1NO/1NC 2NC
②	W	Without watertight collar With watertight collar
③	VD VS	Without safety function Push button reset Key reset
④	A	Without position indicator With position indicator
⑤	G	Without indicator lamp With indicator lamp
⑥	55 N 200 N	Pre-tensioning force: For wire length 0 - 5 m For wire length 5 - 20 m

Ordering details

ZS 71 ① ② ③-NA-④ / ⑤

No.	Replace	Description
①	1Ö/1S 2Ö	1NO/1NC 2NC
②	W	Without watertight collar With watertight collar
③	VD	Without safety function Push button reset
④	G	Without indicator lamp With indicator lamp
⑤	55 N 200 N	Pre-tensioning force: For wire length 0 - 5 m For wire length 5 - 20 m

Note

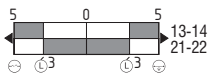


At 3 m distance intermediate wire supports are required, see accessories
Recommended cable lengths for pull-wire Emergency-Stop switches in relation to the range of ambient temperature.

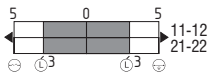
Pull-wire Emergency-Stop switches

Contact variants

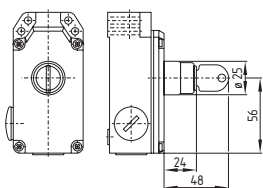
1 NO / 1 NC



2 NC



Note



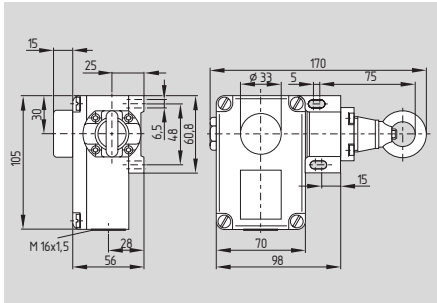
Reset by key

The data related to the pretensioning and actuating forces are indicated on page 2-12.

External watertight collar see accessories on page 2-11.

Pull-wire Emergency-Stop switches

ZS 73



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 2 contacts
- 1 cable entry M16 x 1.5
- 4 various spring force variants (actuating forces)
- Adjustable actuating force
- Twisting not possible
- Wire up to 50 m long
- Reset by push button or key possible
- Available with external watertight collar
- Signalling lamp available on request for various voltage
- Wire pull and breakage function
- EEx version available
- AS-Interface Safety at Work available, see chapter 5

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418
BIA (BG)

Certificates: BIA (BG)

Enclosure: cast aluminium, enamel finish

Cover: thermoplastic ultramid

Protection class: IP 65 push button reset and watertight collar;
IP 54 key reset to EN 60529

Contact material: silver

Contact type: change-over contact with double break or 2 NC contacts

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: 1 x M16 x 1.5

U_{imp}: 6 kV

U_i: 400 V

I_{th}: 6 A

Utilisation category: AC-15

I_e/U_e: 6 A / 400 VAC

Max. fuse rating: 6 A gG D-fuse

Positive break torque: –

Angle for positive break travel: –

Positive break force: –

Actuating force: –

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

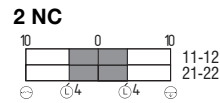
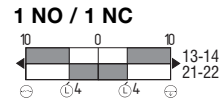
Mechanical life: > 1 million operations

Indicator lamp: –

Maximum cable length: 50 m

Features: wire pull and breakage detection

Contact variants



Approvals

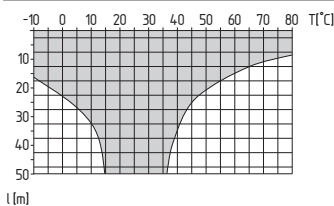


Ordering details

ZS 73 ① ② ③-④ / ⑤-⑥

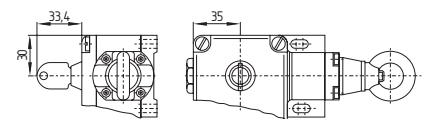
No.	Replace	Description
①	1Ö/1S 2Ö	1NO/1NC 2NC
②	W	Without watertight collar With watertight collar
③	VD VS	Without safety function Push button reset Key reset
④	G	Without indicator lamp With indicator lamp
⑤	80-100N 120-180N 195-275N 295-390N	Pre-tensioning force: For wire length 0-10 m For wire length 10-20 m For wire length 20-30 m For wire length 30-50 m
⑥	Niro	Hard-coated housing with stainless steel accessories

Note



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

Note



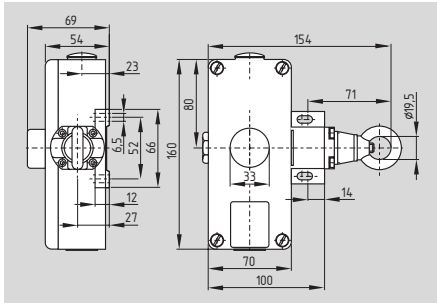
Reset by key

The data related to the pretensioning and actuating forces are indicated on page 2-12.

External watertight collar see accessories on page 2-11.

Pull-wire Emergency-Stop switches

ZS 75



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 2 or 4 contacts
- 2 cable entries M25 x 1.5
- 4 various spring force variants (actuating forces)
- Adjustable actuating force
- Twisting not possible
- Wire up to 50 m long
- Reset by push button or key possible
- Available with external watertight collar
- Signalling lamp available on request for various voltage
- Wire pull and breakage function
- EEx version available
- AS-Interface Safety at Work available, see chapter 5

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418
BIA (BG)

Certificates:

Enclosure: cast aluminium, enamel finish

Cover: cast aluminium, enamel finish

Protection class: IP 65 push button reset and watertight collar;
IP 54 key reset to EN 60529

Contact material: silver

Contact type: change-over contact with double break or 2 NO and 2 NC or 4 NC contacts

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: 2 x M25 x 1.5

U_{imp}: 6 kV

U_i: 400 V

I_{the}: 6 A

Utilisation category: AC-15

I_g/U_g: 6 A / 400 VAC

Max. fuse rating: 6 A gG D-fuse

Positive break torque: –

Angle for positive break travel: –

Positive break force: –

Actuating force: –

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

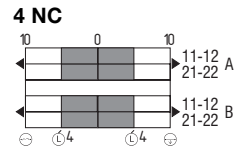
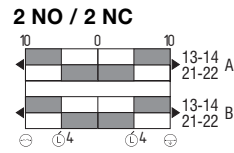
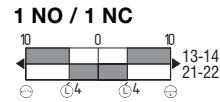
Mechanical life: > 1 million operations

Indicator lamp: –

Maximum cable length: 50 m

Features: wire pull and breakage detection

Contact variants



Approvals

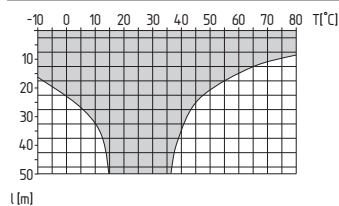


Ordering details

ZS 75 ① ② ③-④ / ⑤

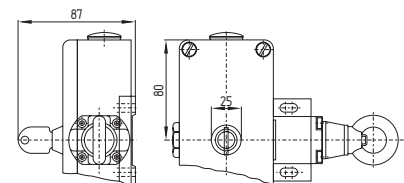
No.	Replace	Description
①	1Ö/1S 2Ö/2S 4Ö	1NO/1NC 2NO/2NC 4NC
②	W	Without watertight collar With watertight collar
③	VD VS	Without safety function Push button reset Key reset
④	G	Without indicator lamp With indicator lamp
⑤	80-100N 120-180N 195-275N 295-390N	Pre-tensioning force: For wire length 0-10 m For wire length 10-20 m For wire length 20-30 m For wire length 30-50 m

Note



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

Note



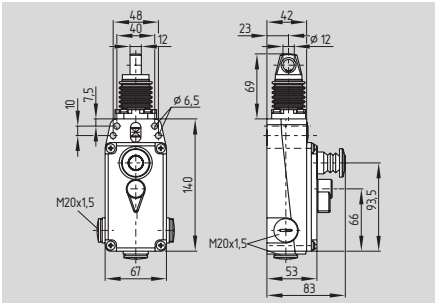
Reset by key

The data related to the pretensioning and actuating forces are indicated on page 2-12.

External watertight collar see accessories on page 2-11.

Pull-wire Emergency-Stop switches

ZS 80



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 4 contacts
- Integrated emergency-stop button
- Position indicator
- 3 cable entries M20 x 1.5
- Twisting not possible
- Wire up to 50 m long
- Release lever for indication of switching condition
- Available with external watertight collar
- Signalling lamp available for various voltage
- Wire pull and breakage function

Technical data

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

Certificates: -

Enclosure: aluminium die-cast,
enamel finish

Cover: thermoplastic ultramid

Protection class: IP 67 to EN 60529

Contact material: silver

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

Switching system: IEC 60947-5-1
slow action,
NC contact
with positive break

Connection: 2 x 4-pole terminal block

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

Cable entry: 3 x M20 x 1.5

U_{imp}: -

U_i: 250 V

I_{the}: 2 A

Utilisation category: AC-15

I_e/U_e: 2 A / 250 VAC

Max. fuse rating: 2 A gG D-fuse

Ambient temperature: - 20 °C ... + 70 °C

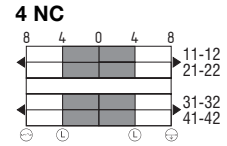
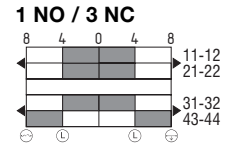
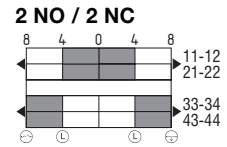
Mechanical life: > 1 million operations

Indicator lamp: optionally

Maximum cable length: 50 m

Features: wire pull and
breakage detection

Contact variants



Approvals



Ordering details

ZS 80 ① WVD-②

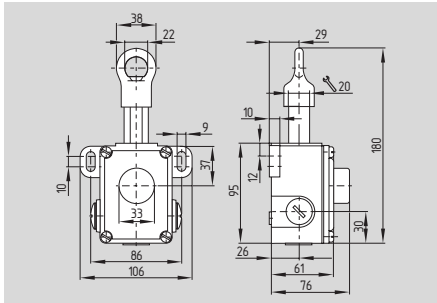
No.	Replace	Description
①	2Ö/2S	2 NC/2 NO
	3Ö/1S	3 NC/1 NO
	4Ö	4 NC
②		Without indicator lamp
	G	With indicator lamp

Note

External watertight collar see accessories on page 2-11.

Pull-wire Emergency-Stop switches

ZS 441



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 2 contacts
- 3 cable entries M20 x 1.5
- 3 various spring force variants (actuating forces)
- Wire up to 25 m long
- Reset by push button or key possible
- Signalling lamp available on request for various voltage
- Wire pull and breakage function

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418
BIA (BG)

Certificates:

Enclosure: cast aluminium, enamel finish

Cover: cast aluminium, enamel finish

Protection class: IP 65 push button reset;
IP 54 key reset to EN 60529

Contact material: silver

Contact type: change-over contact
with double break
or 2 NC contacts

Switching system: \ominus 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

U_{imp}: 6 kV

U_i: 400 V

I_{the}: 6 A

Utilisation category: AC-15

I_e/U_e: 6 A / 400 VAC

Max. fuse rating: 6 A gG D-fuse

Positive break torque: –

Angle for positive break travel: –

Positive break force: –

Actuating force: –

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

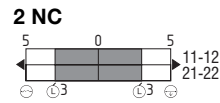
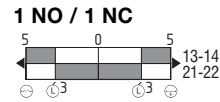
Mechanical life: > 1 million operations

Indicator lamp: –

Maximum cable length: 25 m

Features: wire pull and
breakage detection

Contact variants



Approvals

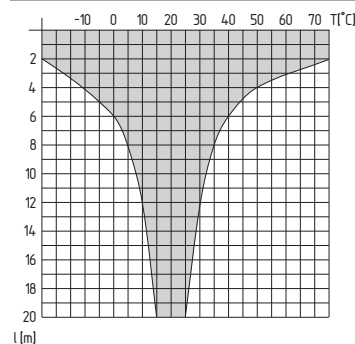


Ordering details

ZS 441 ① ②-③ / ④

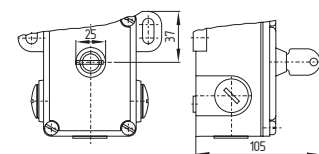
No.	Replace	Description
①	1Ö/1S 2Ö	1NO/1NC 2NC
②	VD VS	Without safety function Push button reset Key reset
③	G	Without indicator lamp With indicator lamp
④	60N 150N 220N	Pre-tensioning force: For wire length 0-5 m For wire length 5-15 m For wire length 15-25 m

Note



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

Note

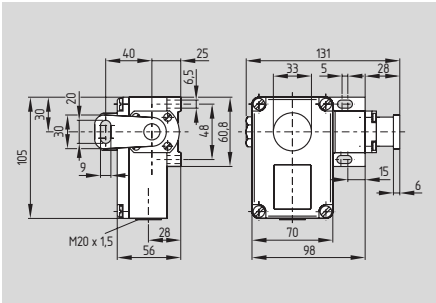


Reset by key

The data related to the pretensioning and actuating forces are indicated on page 2-12.

Pull-wire Emergency-Stop switches

ZS 73 S



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 2 contacts
- 1 cable entry M20 x 1.5
- 2 cable entries available on request
- Wire up to 2 x 50 m long
- Reset by push button or key possible
- Signalling lamp available on request for various voltage
- Wire pull and breakage function
- Available with stainless steel
- EEx version available

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418
BIA (BG)

Certificates: cast aluminium, enamel finish

Enclosure: thermoplastic ultramid

Cover: IP 65 push button reset;
IP 54 key reset to EN 60529

Protection class: silver

Contact material: change-over contact
with double break
or 2 NC contacts

Contact type: IEC 60947-5-1
snap action with
positive break
NC contacts

Switching system: screw terminals
max. 2.5 mm²
(incl. conductor ferrules)

Connection: 1 x M20 x 1.5

Cable section: 6 kV
400 V
6 A

Cable entry: AC-15
6 A / 400 VAC

U_{imp}: 6 A gG D-fuse

U_j: –

I_{the}: –

Utilisation category: –

I_e/U_e: –

Max. fuse rating: –

Positive break torque: –

Angle for positive break travel: –

Positive break force: –

Actuating force: –

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

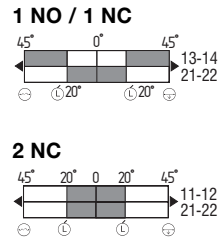
Mechanical life: > 1 million operations

Indicator lamp: –

Maximum cable length: 2 x 50 m

Features: wire pull and
breakage detection

Contact variants



Approvals



Ordering details

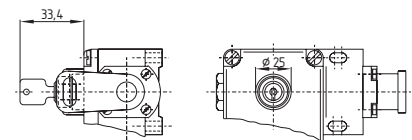
ZS 73 S ① ②-③-④

No.	Replace	Description
①	1Ö/1S 2Ö	1NO/1NC 2NC
②	VD VS	Without safety function Push button reset Key reset
③	G	Without indicator lamp With indicator lamp
④	Niro	Hard-coated housing with stainless steel accessories

Note

At 4 m distance intermediate wire supports are required, see accessories

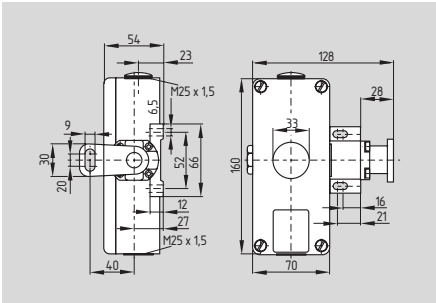
Note



Reset by key

Pull-wire Emergency-Stop switches

ZS 75 S



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- 4 contacts
- 2 cable entries M25 x 1.5
- Wire up to 2 x 50 m long
- Reset by push button or key possible
- Signalling lamp available on request for various voltage
- Wire pull and breakage function
- EEx version available

Technical data

Standards: IEC/EN 60947-5-1
IEC/EN 60947-5-5
EN 418
BIA (BG)

Certificates:

Enclosure: cast aluminium, enamel finish

Cover: cast aluminium, enamel finish

Protection class: IP 65 push button reset;
IP 54 key reset to EN 60529

Contact material: silver

Contact type: change-over contact with double break or 2 NO and 2 NC or 4 NC contacts

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: 2 x M25 x 1.5

U_{imp}: 6 kV

U_i: 400 V

I_{th}: 6 A

Utilisation category: AC-15

I_e/U_e: 6 A / 400 VAC

Max. fuse rating: 6 A gG D-fuse

Positive break torque: –

Angle for positive break travel: –

Positive break force: –

Actuating force: –

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

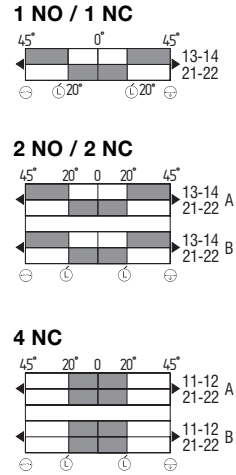
Mechanical life: > 1 million operations

Indicator lamp: –

Features: wire pull and breakage detection

Maximum cable length: 2 x 50 m

Contact variants



Approvals



Ordering details

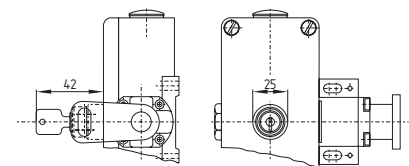
ZS 75 S ① ②-③

No.	Replace	Description
①	1Ö/1S	1NO/1NC
	2Ö/2S	2NO/2NC
	4Ö	4NC
②	VD	Without safety function
	VS	Push button reset Key reset
③		Without indicator lamp
	G	With indicator lamp

Note

At 4 m distance intermediate wire supports are required, see accessories

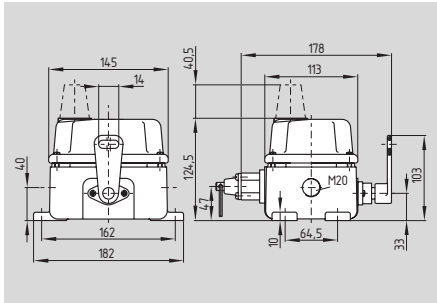
Note



Reset by key

Pull-wire Emergency-Stop switches

T3Z 068



- To EN 418 / IEC 60947-5-5
- Metal enclosure
- Up to 6 contacts
- Robust design
- 2 cable entries M20 x 1.5
- Low actuating force
- Wire up to 2 x 50 m long
- Reset by pull-ring or key possible
- Signalling lamp available on request for various voltage

Technical data

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

Enclosure: cast iron, enamelled
Cover: cast iron, enamel finish

Protection class: IP 65 to EN 60529

Contact material: silver

Contact type: change-over contact with double break, max. 3 NO and 3 NC contacts

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

Connection: screw terminals

Cable section: max. 1.5 mm²
min. 0.75 mm²
(incl. conductor ferrules)

Cable entry: 2 x M20 x 1.5

U_{imp} : 4 kV

U_j : 250 VAC

I_{the} : 10 A

Utilisation category: AC-15, DC-13

I_e/U_e : 2.5 A / 230 VAC
6 A / 24 VDC

Max. fuse rating: 6 A gG D-fuse

Positive break torque: 1.8 Nm

Angle for positive break travel: 32°

Positive break force: 50 N

Actuating force: max. 50 N
(30 N in direction of rope)

Ambient temperature: - 30 °C ... + 90 °C

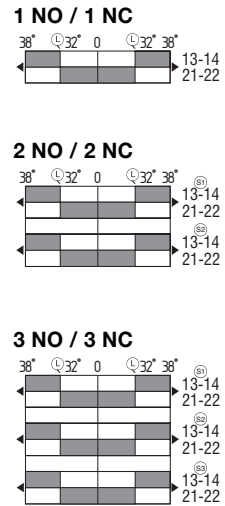
Mechanical life: 50,000 operations

Indicator lamp: yellow 230 VAC/5 W, BA 15D screw socket

Maximum cable length: 2 x 50 m

Features: wire pull and breakage detection

Contact variants



Approvals



Ordering details

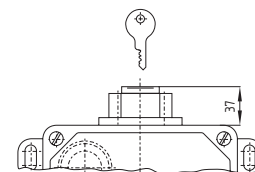
T3Z 068-①yr②③

No.	Replace	Description
①	11	1NO/1NC
	22	2NO/2NC
	33	3NO/3NC
②	s	Pull-ring reset
	s	Key reset
③	G	Without indicator lamp
	G	With indicator lamp

Note

At 3 m distance intermediate wire supports are required, see accessories

Note



Reset by key

Pull-wire Emergency-Stop switches

System components



Eyebolt

System components

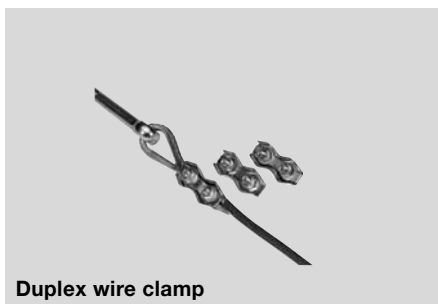


Wire thimble

System components



Wire ropes



Duplex wire clamp



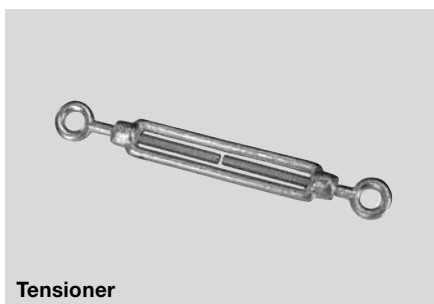
Pulley



Wire unit complete



Wire clamp



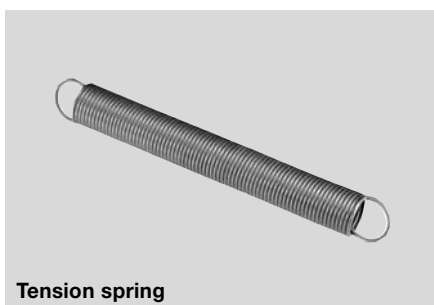
Tensioner



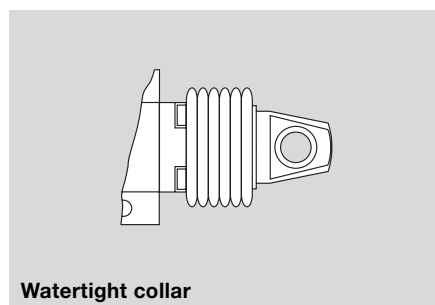
Wire rope with ball



Egg-shaped wire clamp



Tension spring



Watertight collar

Ordering details

Eyebolt*	
BM 10 x 40	1084928
BM 8 x 70	1162986
Duplex wire clamp	1144550
Wire clamp 3mm*	1144548
Egg-shaped wire clamp	1077072

* also available in stainless steel version

Ordering details

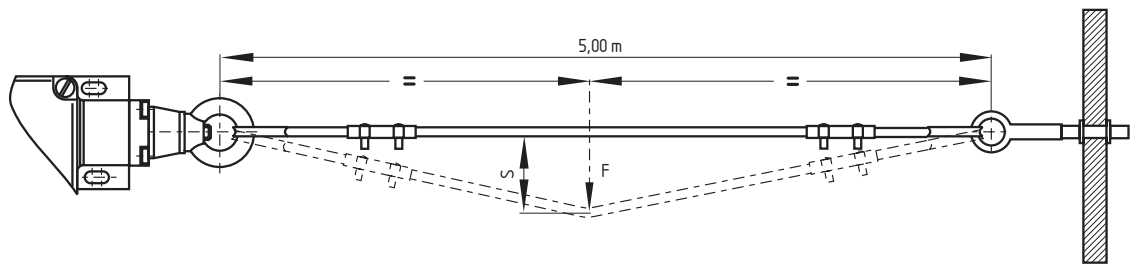
Wire thimble 3B*	1144551
Pulley	1144547
Tensioner M6*	1087930
Tension spring	
RZ-136E (only for T3Z 068)	1087931
RZ-156I (only for ZS 73 S/ZS 75 S)	1170752
RZ-172 (only for ZS 441)	1122315

Ordering details

Wire ropes per m *	1094517
Wire unit complete 50 m	1163146
(other lengths on request)	
Wire rope with ball 1 m	1170757
Wire rope with ball 2 m	1170758
Wire rope with ball 3 m	1170759
Wire rope with ball 4 m	1170760
Watertight collar	Ordering suffix W

Pull-wire Emergency-Stop switches

Selection table: pre-stress and actuating forces



Pull-wire Emergency-Stop switch	Pre-stress force [N]	Travel S [cm]	Actuating force F [N]	Recommended wire length [m]	Ordering suffix
ZS 71	200	11	25	5-20	/200N
	55	11	6	<5	/55N
ZS 73	295-390	13	38-60	30-50	/295-390N
	195-275	13	33-41	20-30	/195-275N
	120-180	13	19-25	10-20	/120-180N
	80-100	13	5-8	<10	/80-100N
ZS 75	295-390	13	38-60	30-50	/295-390N
	195-275	13	33-41	20-30	/195-275N
	120-180	13	19-25	10-20	/120-180N
	80-100	13	5-8	<10	/80-100N
ZS 441	220	10	23	15-25	/220N
	150	10	14	5-15	/150N
	60	10	6	<5	/60N

The values are indicated for an ambient temperature of 20 °C.

The linear expansion of the wire due to strain and deformation of the wire thimble is not considered.

The actuating forces are only approximate values, due to the spring forces being subject to tolerances.

Actuating force and travel are indicated for a wire length of 5 m.