


EMERGENCY CABLE-PULL SWITCHES



SELECTION GUIDE

Switch Series	Housing Material	Maximum Span	Contact Configurations	 Rated	Catalog Page
ZQ700	Thermoplastic	32.5 feet	1 NO & 1 NC 2 NC	No	96
ZQ900	Die-cast zinc	165 feet	1 NO & 1 NC 1 NO & 3 NC 2 NO & 2 NC 2 NC, 4NC	(Optional)	98
S900	Cable-Pull Switch Wire Tensioner				111
Installation accessories and installation instructions					106



Features & Benefits

- **Compact size** ... ideal for limited space applications.
- **Rugged, corrosion-resistant housing** ... tolerates hostile environments.
- **“Positive-break” NC contacts** ... assures circuit interruption upon pulling of trip-wire.
- **Push/pull operation** ... operates if trip-wire is pulled or goes slack.
- **Watertight design** ... meets up to IP67 environmental requirements.
- **Continuous E-stop protection satisfying EN ISO 13850** ... for supported spans up to 32.5 feet (10m).
- **Visual position indicator** ... for ease of installation.
- **Designed to meet the Performance Level requirements of EN ISO 13849-1 and Safety Control Categories of EN 954-1.**
- **Mounting accessories** ... ease and extend installation.

Description

The ZQ700 is designed to provide continuous emergency stop control along exposed areas of machinery and conveyors which present hazards to operator/maintenance personnel. Unlike E-Stop pushbuttons, emergency cable-pull systems can be actuated at any point along the “trip wire”.

The unit features a double-break contact block offering two contact variations which change state when the cable is pulled or goes slack. Thus the switch can be actuated if an operator falls into, is pulled into, or leans on the trip wire.

The unit also features a position indicator for easier installation, and a button reset.

The ZQ700 is capable of spanning lengths of up to 10 meters. Its rugged, Thermoplastic housing and watertight design (up to IP67) make it ideal in hostile environments.

Operation

When the trip-wire is pulled, the positive-opening NC contact(s) are forced to open via a direct mechanical linkage with the actuating shaft ... resulting in machine stoppage.

If the trip-wire goes slack (e.g. breaks or is cut) the NC contact(s) opens ... also resulting in equipment stoppage.

The integral reset mechanism assures that the equipment cannot be restarted until the cable-pull switch reset has been actuated.

Typical Applications

The ZQ700 is ideal for replacing multiple, discrete E-stop pushbuttons or achieving a continuous, immediately accessible emergency stop ... especially where space is limited. Typical applications include conveyor lines, textile machinery, packaging machinery, and transfer lines.

AVAILABLE STANDARD MODELS

Part Number	Contacts
ZQ 700-11	1NO/1NC
ZQ 700-02	2NC

AVAILABLE ACCESSORIES

Part Number	Description
STQ441-SC	5mm diameter steel cable, PVC coated
STQ441-EB	M10 eye bolt & hex nut
STQ441-CC	Cable clamp
STQ441-TB	Turnbuckle
STQ441-TH	Thimble
STQ441-PU	Pulley assembly (for “cable cornering”)
S900	Cable-Pull Switch Wire tensioner, see page 111

For recommended installation instructions, please see page 106.

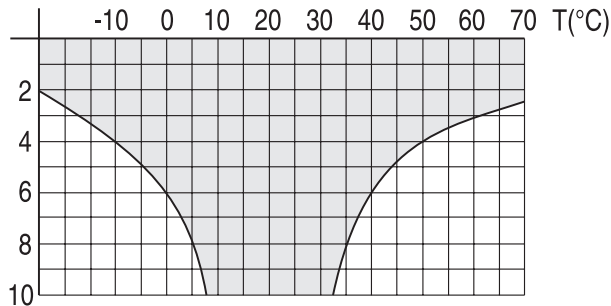
ZQ700 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

Housing	Fiberglass reinforced thermoplastic	
Cover	Fiberglass reinforced thermoplastic	
Degree of Protection	IP67	
Maximum Supported Span	32.5 feet (10m)	
Operating Temperature	-13°F to +158°F (-25°C to +70°C)	
Mechanical Life	1 million operations	
Conformity to Standards	CE EN ISO 13850 EN ISO 13849-1	EN 954-1 UL, CSA TUV

ELECTRICAL SPECIFICATIONS

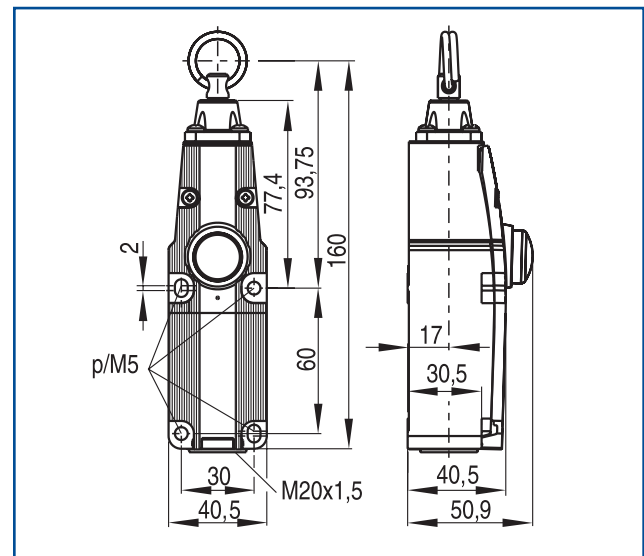
Contacts	Fine silver
Contact Configuration	Double-pole, double-break with electrically-separated contact bridges
Contact Rating	4A/230VAC 4A/24VDC
Switching Action	Snap-action, positive-break NC contacts with wire pull
Short Circuit Protection	6A (Slow blow)
Rated Insulation Voltage	500VAC
Type Terminals	Screw terminals with self-lifting clamps for up to 13 AWG flexible stranded wire (2.5mm ²)



l (m) Cable length vs. temperature range

At 2 to 5 m distance, intermediate wire supports are required, see accessories.

DIMENSIONS



SWITCHING DIAGRAMS & CONTACT SCHEMATICS





Features & Benefits

- **Rugged, corrosion-resistant housing** ... tolerates hostile environments.
- **“Positive-break” NC contacts** ... assures circuit interruption upon pulling of trip-wire.
- **Push/pull operation** ... operates if trip-wire is pulled or goes slack.
- **Integrated emergency-stop button (optional)** ... assures complete emergency stop.
- **Watertight design** ... meets up to IP67 environmental requirements.
- **Continuous E-stop protection satisfying EN ISO 13850** ... for supported spans up to 165 feet (50m).
- **Visual position indicator** ... for ease of installation.
- **Up to four contacts in a compact housing** ... available in five contact configurations.
- **Designed to meet the Performance Level requirements of EN ISO 13849-1 and Safety Control Categories of EN 954-1.**
- **Mounting accessories** ... ease and extend installation.

Description

The ZQ900 is designed to provide continuous emergency stop control along exposed areas of machinery and conveyors which present hazards to operator/maintenance personnel. Unlike E-Stop pushbuttons, emergency cable-pull systems can be actuated at any point along the “trip wire”.

The unit features a double-break contact block offering a choice of five contact variations which change state when the cable is pulled or goes slack. Thus the switch can be actuated if an operator falls into, is pulled into, or leans on the trip wire.

In addition the unit features an optional integrated E-Stop pushbutton, a position indicator for easier installation, a button reset, three cable entries, and an optional signaling lamp.

The unit is capable of spanning lengths of up to 50 meters. Its rugged, metal housing and watertight design (up to IP67) make it ideal in hostile environments.

Operation

When the trip-wire is pulled, the positive-opening NC contact(s) are forced to open via a direct mechanical linkage with the actuating shaft ... resulting in machine stoppage.

If the trip-wire goes slack (e.g. breaks or is cut) the NC contact(s) opens ... also resulting in equipment stoppage.

The integral reset mechanism assures that the equipment cannot be restarted until the cable-pull switch reset has been actuated.

Typical Applications

The ZQ900 is ideal for replacing multiple, discrete E-stop pushbuttons or achieving a continuous, immediately accessible emergency stop ... especially where space is limited. Typical applications include conveyor lines, textile machinery, packaging machinery, and transfer lines.

AVAILABLE STANDARD MODELS

Part Number	Contacts
ZQ 900-11	1NO/1NC
ZQ 900-02	2NC
ZQ 900-13	1NO/3NC
ZQ 900-22	2NO/2NC
ZQ 900-04	4NC

Note: Add -N for integral E-stop button

AVAILABLE ACCESSORIES

Part Number	Description
PL-M20-24V	24V Pilot light kit
PL-M20-120V	120V Pilot light kit
STQ441-SC	5mm diameter steel cable, PVC coated
STQ441-EB	M10 eye bolt & hex nut
STQ441-CC	Cable clamp
STQ441-TB	Turnbuckle
STQ441-TH	Thimble
STQ441-PU	Pulley assembly (for “cable cornering”)
S900	Cable-Pull Switch Wire tensioner, see page 111

For recommended installation instructions, please see page 106.

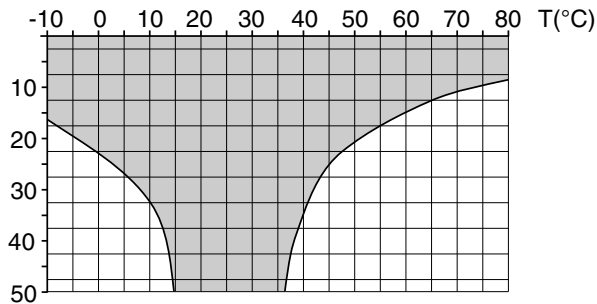
ZQ900 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

Housing	Die-cast zinc, enamel finish	
Cover	Fiberglass reinforced thermoplastic cover	
Degree of Protection	IP67; -N version IP65	
Maximum Supported Span	165 feet (50m)	
Operating Temperature	-13°F to +158°F (-25°C to +70°C)	
Mechanical Life	1 million operations	
Conformity to Standards	CE EN ISO 13850 EN ISO 13849-1	EN 954-1 UL, CSA TUV

ELECTRICAL SPECIFICATIONS

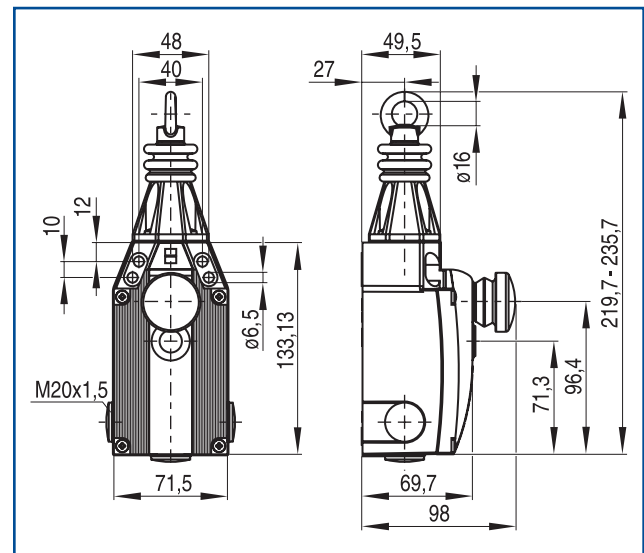
Contacts	Fine silver
Contact Configuration	Double-pole, double-break with electrically-separated contact bridges
Contact Rating	4A/230VAC 1A/24VDC
Switching Action	Snap-action, positive-break NC contacts with wire pull
Short Circuit Protection	6A (Slow blow)
Rated Insulation Voltage	500VAC
Type Terminals	Screw terminals with self-lifting clamps for up to 13 AWG flexible stranded wire (2.5mm ²)



l (m) Cable length vs. temperature range

At 5 m distance, intermediate wire supports are required, see accessories.

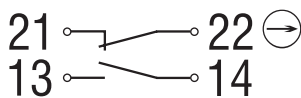
DIMENSIONS



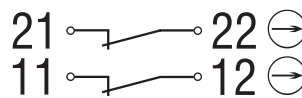
4

SWITCHING DIAGRAMS & CONTACT SCHEMATICS

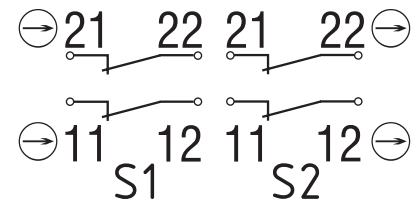
ZQ900-11



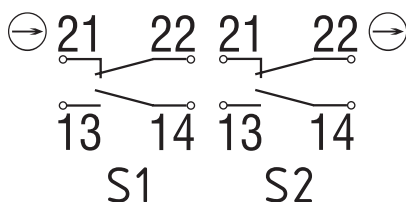
ZQ900-02



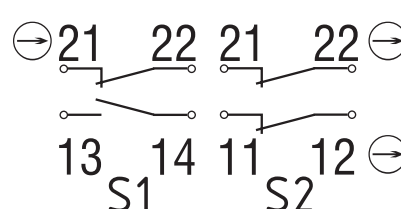
ZQ900-04



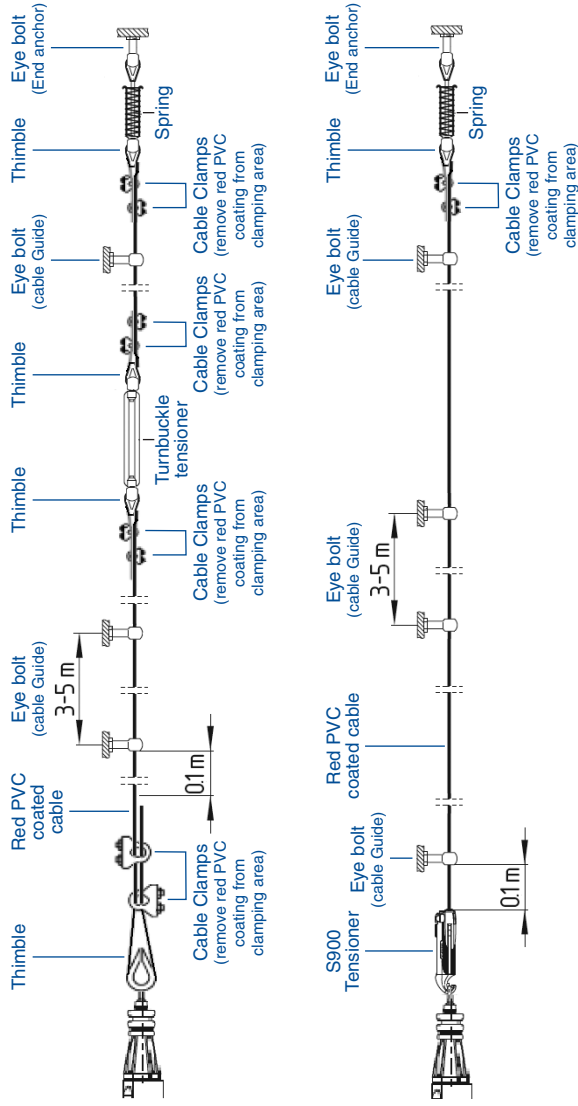
ZQ900-22



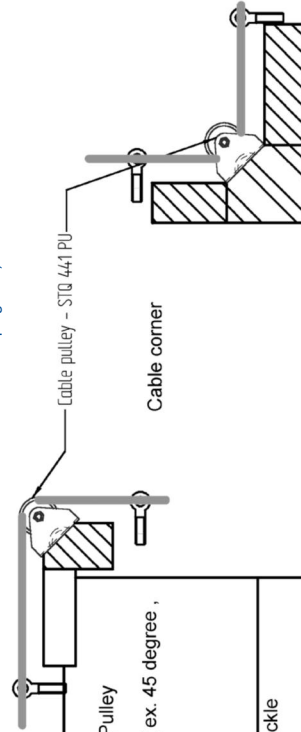
ZQ900-13



Recommended Emergency Cable-Pull Switch Installation Instructions



ZQ700
ZQ900



Attention :

Add 1 extra ft of cable for each loop
Every switch requires at least 4 loops
1 switch 1 - wall
Hence every switch requires at least :
4 STQ 441 TH + 8 STQ 441 CC + 1 STQ 441 TB
See page 126 for S900 Cable-Pull Switch Wire Tensioner
Consult factory for appropriate Spring. Tension force is dependant on switch used.

	<p>Part # STQ 441 PU - Cable Pulley Usage : To pass cable at an angle (ex. 45 degree , 90 degree)</p>
	<p>Part # STQ 441 TB - Turnbuckle Usage : To adjust middle position for NC contact</p>
	<p>Part # STQ 441 CC - Cable Clamp Usage : To clamp cable in position</p>
	<p>Part # STQ 441 EB - Eye Bolt & Hex Nut Usage : To support cable weight</p>
	<p>Part # STQ 441 TH - Thimble Usage : To protect cable in every loop</p>
	<p>Part # S900 - Tensioner Replaces turnbuckle & cable clamps</p>
	<p>Part # STQ 441 SS - Steel Spring For lateral actuation application and extreme temperature environments</p>



Features & Benefits

- **Smooth adjustment** ... reduces adjustment effort.
- **Only one tool required** ... simplifies installation.
- **Anti-slip design** ... reduces need for readjustment.
- **Ergonomic** ... risk of injury is reduced.
- **Time-saving** ... cost of ownership is reduced.
- **Stainless steel components** ... tolerates the most hostile environments.

AVAILABLE MODEL

Model Number	Description
S900	Cable Pull Wire Tensioner
S900-SH	Shackle

Note: The cable-pull switch is purchased separately. S900-SH shackle is required to utilize with Schmersal ZS71 and ZS80 cable-pull switches.

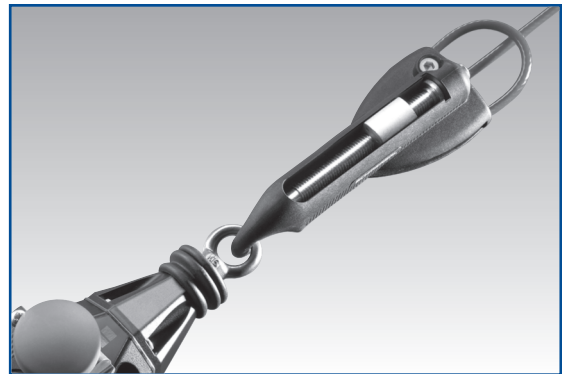
Description

The S900 is a unique wire tensioning device which simplifies the installation and adjustment of cable pull switches. Conventional systems are usually time consuming and difficult to install and adjust, but not with the S900.

The S900 is an all-in-one unit that replaces the complicated turnbuckle assembly, with its thimbles and multiple wire clamps, and does not require the cable to be stripped to be secured.

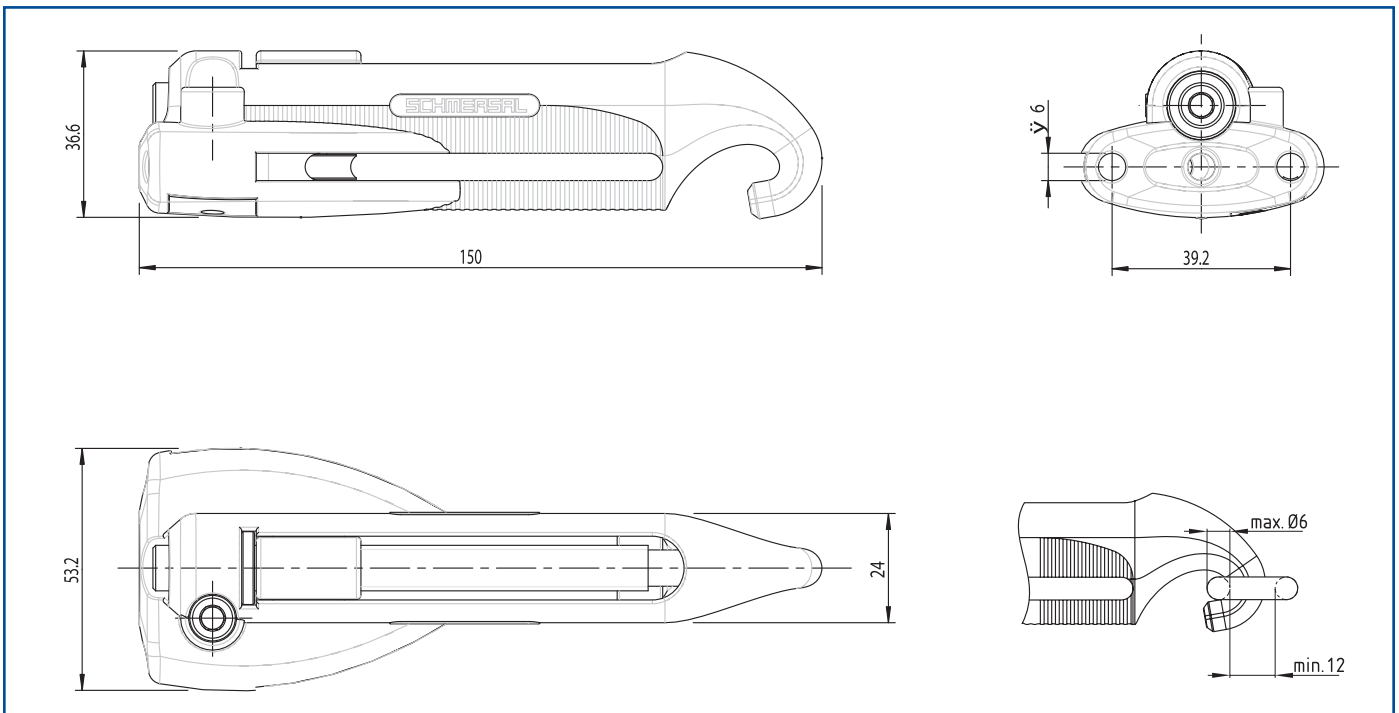
The S900 requires only a single tool to secure the wire and adjust the tension. Its "anti-slip" design minimizes the need for readjustments.

The unit features a "C" hook which easily slips onto the ring of a cable-pull switch. Should the switch need to be replaced, the S900 can be easily removed from the switch by releasing the tension.



4

DIMENSIONS





*Safer
by
Design*