

### Features & Benefits

- **Rugged, corrosion-resistant, die-cast aluminum housing ...** tolerates the most hostile environments.
- **“Positive-break” NC contacts ...** assure circuit interruption upon pulling of trip wire.
- **Watertight design ...** meets IP65 requirements.
- **Continuous E-stop protection ...** for supported trip-wire spans up to 164 feet (50m).
- **Meets rigid safety agency standards ...** EN 418
- **Available in two operating force models ...** for application compatibility.
- **Mounting accessories ...** ease and extend installation.
- **Satisfies OSHA push/pull operating requirements ...** trips if cable is pulled or goes slack.
- **Explosion protected ...** optional IEC-rated explosion-proof models available.
- **Signal lamp ...** optional lamp signals tripped and latched condition.

### Description

The ZS73 is designed to provide a continuous emergency stop along exposed areas of machinery and conveyors which present hazards to operators/maintenance personnel. Unlike E-stop pushbuttons, emergency stop cable-pull systems can be actuated at any point along the “trip-wire.”

The units feature positive-opening NC contacts which are forced open when the trip-wire is pulled. This design also assures machine stoppage if an operator falls into, leans on, or is pulled against the trip wire.

In addition the switch is designed to operate if the trip wire is cut or goes slack. To comply with OSHA and other safety regulations, the ZS73 features a manual mechanical reset which must be actuated before the controlled equipment can be restarted.

Their rugged metal housing and watertight design (IP65) make them ideal for achieving a higher degree of E-stop safety in industrial and hostile environments.

### Operation

The ZS73 features an axial actuating shaft and a double-pole contact block with 1 NO and 1 NC contact or 2 NC contacts (with trip-wire attached). When installed, the trip-wire is pre-tensioned until the actuating shaft is pulled out 6 mm, closing the NO contact(s).

When the trip-wire is pulled, the positive-break NC contact(s) are forced open via a direct mechanical linkage with the actuating shaft. If the trip-wire goes slack (e.g. breaks or is cut) the NO contact, closed during pre-tensioning, opens – resulting in equipment stoppage.

Manual pushbutton reset assures the equipment cannot be restarted until the reset is actuated.

### Typical Applications

The ZS73 emergency cable-pull switches are ideal for replacing multiple, discrete E-stop pushbuttons or achieving a continuous, immediately accessible emergency stop. Typical applications include conveyor lines, textile machinery, packaging machinery, turret lathes, power plants, gravel processing and transfer lines.

# ZS73 AVAILABLE MODELS AND ACCESSORIES

## AVAILABLE STANDARD MODELS

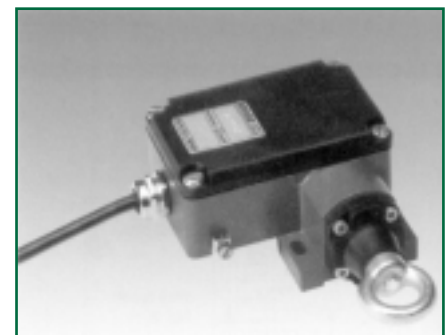
Part Number	Contact Configuration	Type Reset	Pre-Tensioned Force	Typical Actuating Force (F)	Recommended Cable Length (Minimum & Maximum)
ZS73-10/1S WVD-98N*	1 NO & 1 NC	Pushbutton	18-22 lbs (79-98N)	1.1-1.7 lbs (5-8N)	<33 ft (<10m)
ZS73-10/1S WVD-177N*	1 NO & 1 NC	Pushbutton	26-40 lbs (118-177N)	4.2 -5.6 lbs (19-25N)	33-65 ft (10-20m)
ZS73-10/1S WVD-275N*	1 NO & 1 NC	Pushbutton	44-62 lbs (197-275N)	7.4-9.2 lbs (33-41N)	65-100 ft (20-30m)
ZS73-10/1S WVD*	1 NO & 1 NC	Pushbutton	66-88 lbs (295-390N)	8.5-13.5 lbs (38-60N)	100-165 ft (30-50m)
ZS73-10/1S WVS-98N*	1 NO & 1 NC	Key	18-22 lbs (79-98N)	1.1-1.7 lbs (5-8N)	<33 ft (<10m)
ZS73-10/1S WVS-177N*	1 NO & 1 NC	Key	26-40 lbs (118-177N)	4.2 -5.6 lbs (19-25N)	33-65 ft (10-20m)
ZS73-10/1S WVS-275N*	1 NO & 1 NC	Key	44-62 lbs (197-275N)	7.4-9.2 lbs (33-41N)	65-100 ft (20-30m)
ZS73-10/1S WVS*	1 NO & 1 NC	Key	66-88 lbs (295-390N)	8.5-13.5 lbs (38-60N)	100-165 ft (30-50m)
ZS73-20 WVD-98N	2 NC	Pushbutton	18-22 lbs (79-98N)	1.1-1.7 lbs (5-8N)	<33 ft (<10m)
ZS73-20 WVD-177N	2 NC	Pushbutton	26-40 lbs (118-177N)	4.2 -5.6 lbs (19-25N)	33-65 ft (10-20m)
ZS73-20 WVD-275N	2 NC	Pushbutton	44-62 lbs (197-275N)	7.4-9.2 lbs (33-41N)	65-100 ft (20-30m)
ZS73-20 WVD	2 NC	Pushbutton	66-88 lbs (295-390N)	8.5-13.5 lbs (38-60N)	100-165 ft (30-50m)
ZS73-20 WVS-98N	2 NC	Key	18-22 lbs (79-98N)	1.1-1.7 lbs (5-8N)	<33 ft (<10m)
ZS73-20 WVS-177N	2 NC	Key	26-40 lbs (118-177N)	4.2 -5.6 lbs (19-25N)	33-65 ft (10-20m)
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ZS73-20 WVS	2 NC	Key	66-88 lbs (295-390N)	8.5-13.5 lbs (38-60N)	100-165 ft (30-50m)

\*Available in an IEC-rated explosion-proof design. To order, add suffix "-EX" to part number.

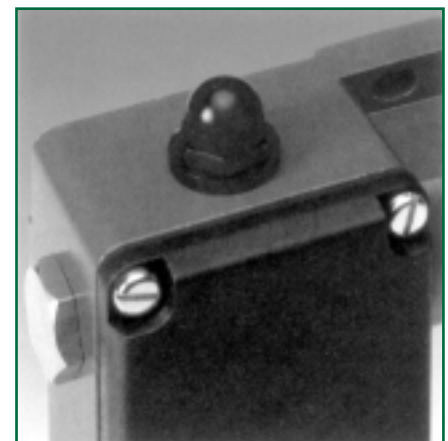
## AVAILABLE ACCESSORIES

Part Number	Description
PL-M16-24V	24V Pilot light kit
PL-M16-120V	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")

For recommended installation instructions, please see page 109.



Explosion-proof option



Pilot light option

# ZS73 TECHNICAL DATA

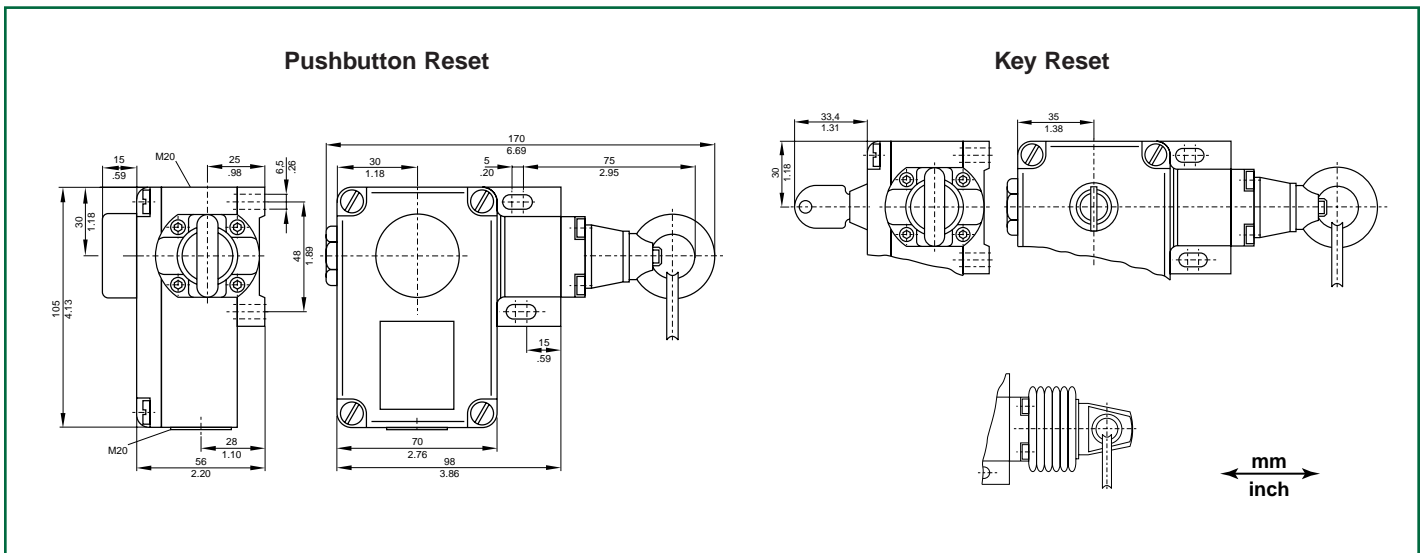
## MECHANICAL SPECIFICATIONS

<b>Housing</b>	Die-cast aluminum, color-painted Thermoplastic cover
<b>Degree of Protection</b>	IP65
<b>Maximum Supported Span</b>	164 feet (50m)
<b>Typical Deflection (S) Required for Operation</b>	5.1" (13cm)
<b>Mechanical Life</b>	1 million operations
<b>Operating Temperature</b>	-13°F to +158°F (-25°C to +70°C)
<b>Conformity to Standards</b>	CE                   UL BG                   CSA EN 418 IEC 947-5-1 EN 60947-5-1
<b>Explosion Protection</b>	E Ex dll CT6 ("Ex" models only)

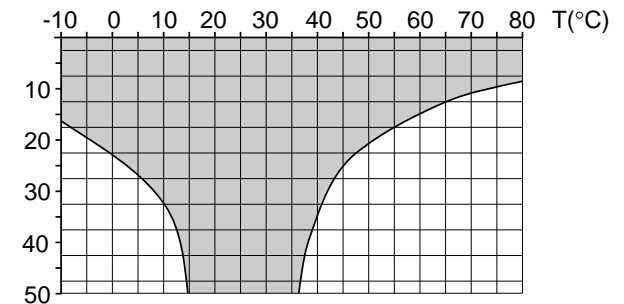
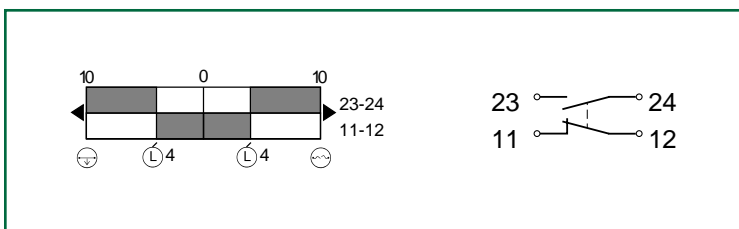
## ELECTRICAL SPECIFICATIONS

<b>Contacts</b>	Fine silver
<b>Contact Configuration</b>	Double-pole, double-break with electrically-separated contact bridges
<b>Contact Rating</b>	6A/400VAC
<b>Switching Action</b>	Slow-action, positive-break NC contacts (with wire pulling)
<b>Short Circuit Protection</b>	6A (Slow blow)
<b>Rated Insulation Voltage</b>	400VAC
<b>Type Terminals</b>	Screw terminals with clamping washers

## DIMENSIONS



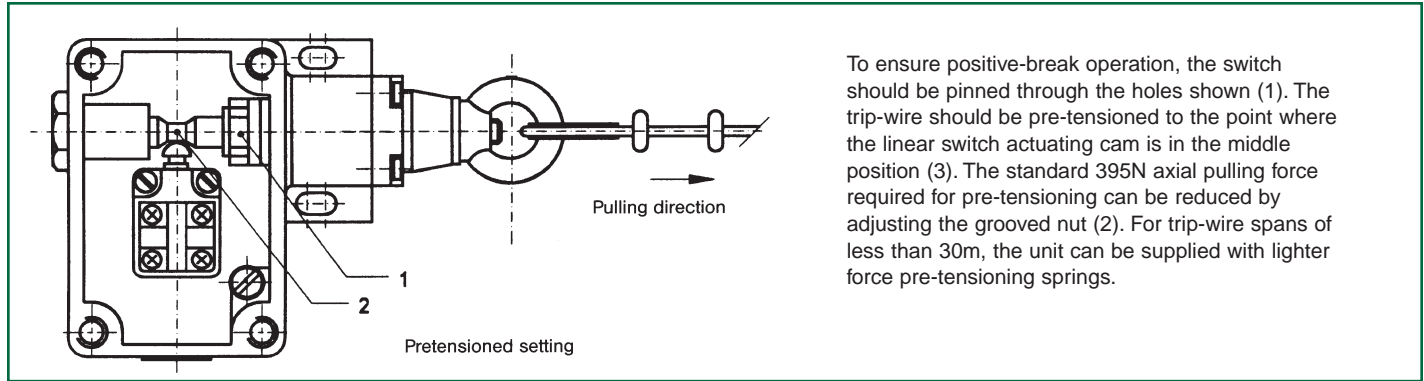
## SWITCHING DIAGRAMS & CONTACT SCHEMATICS



l (m) Cable length vs. temperature range

# ZS73 INSTALLATION DETAILS

## PRE-TENSIONING ADJUSTMENT



## PRE-TENSIONING FORCE VS. ACTUATION FORCE

The actuating force is a function of the:

- trip-wire span
- pre-tensioning spring
- set pre-tensioning force

as shown. Units are available with lighter springs for trip-wire spans of less than 30m. Please see ordering details under AVAILABLE OPTIONS.

