

# FD 684

# Right-Angle Rope Safety Switches

SAFETY MECHANICAL SWITCHES



## DESCRIPTION

These rope operated safety switches are installed on machines or belts. They enable the stop command at any point of the machine simply by pulling the rope by hand.

**Being equipped with a self-checking function**, they constantly test their right operation and signal by the opening of the contacts, if an accidental loosening or break of the rope may happen.

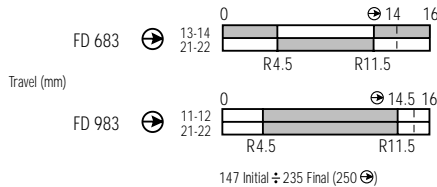
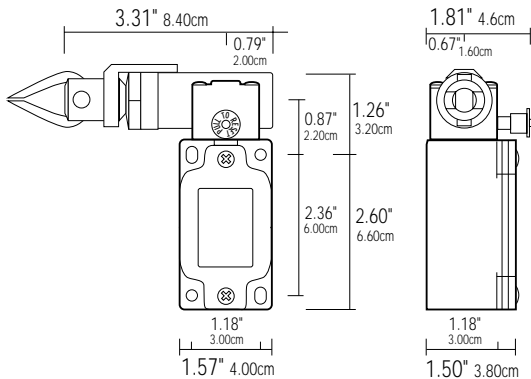
These safety switches maintain the contacts open after operation, even if the rope is released.

## General Specifications

<b>Enclosure</b>	Die cast metal with baked epoxy powder coating
<b>Compliance</b>	
Low Voltage Directive	73/23/CEE
Directive	93/68/CEE
Machinery Directive	89/392/CEE
<b>Conduit entry</b>	One entry                      IN 12135 adapter furnished

## FD 683 / FD 983

with reset, rope on the left



## Mechanical endurance

Life Cycle	1 million operations
Operating temperature range	- 13° to +175°F (-25° to +80° C)
Minimum Activating Speed	0.039 inches/sec (1mm/sec)

## Standards

Safety Switch is in compliance with standards: UL508, CSA C22-2 nr.14, CEI EN 60947-5-1, EN 292, EN 418, EN 1088, EN 60204, EN 60947-5-1, IEC 204, IEC 337-1, IEC 947-5-1, NFC 63-140, VDE0113, VDE 0660, BG-GS-ET-15.

Positive Break Contacts are in compliance with standards: CEI EN 60947-5-1, EN 60947-5-1, IEC 947-5-1, VDE 0660-206.

## ORDER INFORMATION

## ELECTRICAL SPECIFICATIONS

## CONTACT RATING<sup>2</sup>

Model Number	Body Material	Reset Operation	Contact <sup>1</sup> Config.	Contact Operating Voltage, Max.	Short Circuit Protection, Max.
FD 680	Die Cast Metal	Right/Left Auto	1 N.O.+1 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse
FD 980	Die Cast Metal	Right/Left Auto	2 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse
FD 683	Die Cast Metal	Left Hand Manual	1 N.O.+1 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse
FD 983	Die Cast Metal	Left Hand Manual	2 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse
FD 684	Die Cast Metal	Right Hand Manual	1 N.O.+1 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse
FD 984	Die Cast Metal	Right Hand Manual	2 N.C.	600 VAC, 300 VDC <sup>3</sup>	10A fuse

UL/CSA	10A A600/Q300 <sup>3</sup>					
IEC	<b>AC15</b>		<b>DC13</b>			
Volts	250	400	500	24	125	250
Current (A)	6	3	1	6	1.1	0.4

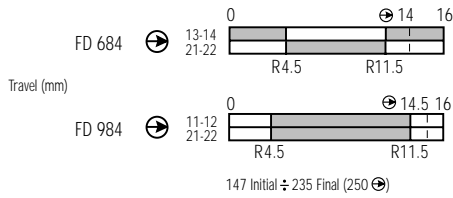
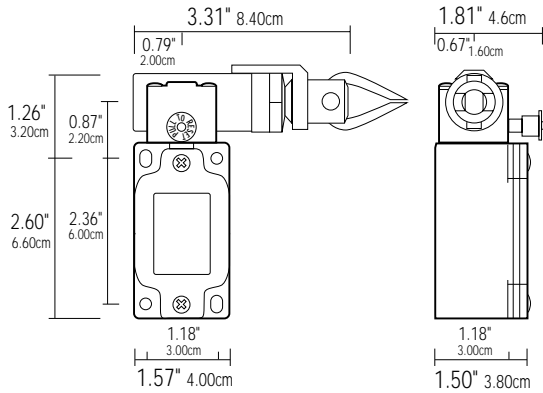
**Warning— Each electrical rating is an individual maximum and cannot be exceeded!**

<sup>1</sup> Configuration with rope in tension

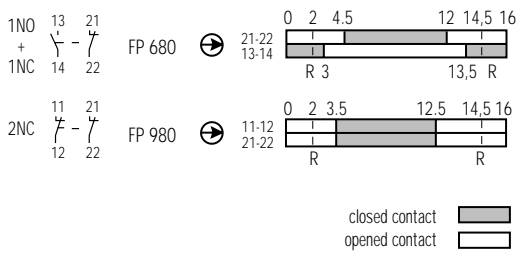
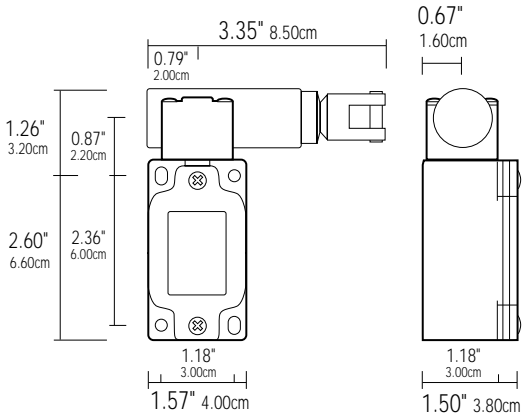
<sup>2</sup> POSITIVE DOUBLE BREAK CONTACTS. Electrically isolated contacts allow different voltages placed on contact poles.

<sup>3</sup> UL508

**FD 684 / FD 984** with reset, rope on the right



**FD 680 / FD 980** without reset (Auto)

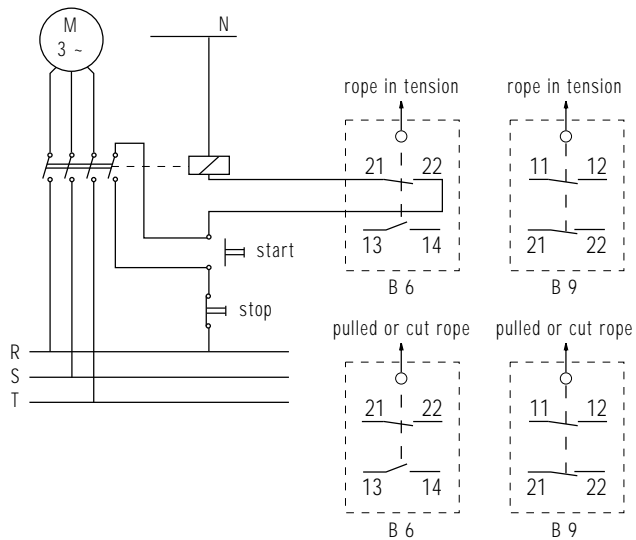
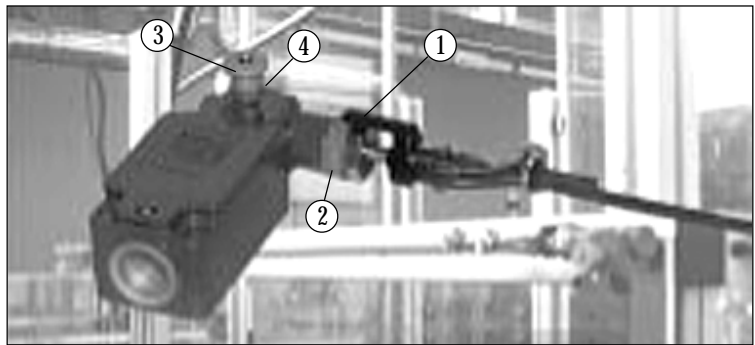


**General Specifications (continued)**

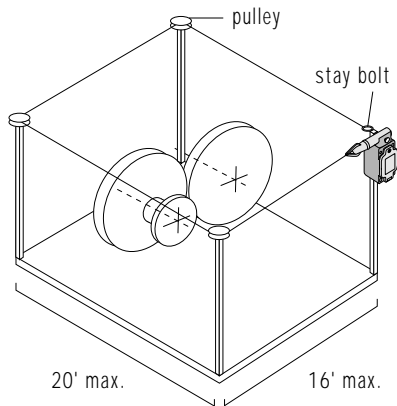
<b>Protection class</b>	IP 66 (according to IEC529, CE 170-1)
<b>Terminal Screws</b>	Captive with self-lifting pressure plates
<b>Operating Force</b>	
Minimum	33 lbs. (147 N)
Maximum	53 lbs. (235 N)
<b>Recommended Maximum Operating Distance</b>	
Without intermediate supports	52 feet (16 meter)
With intermediate support	114 feet (35 meter)
(Intermediate support every 9.8-16.4 feet (3-5 meters))	

**INSTALLATION**

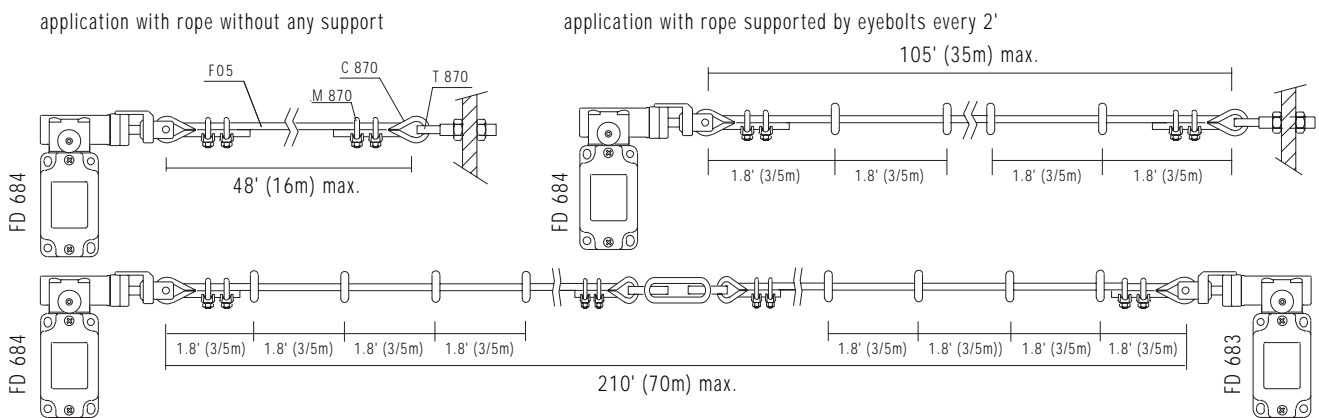
- Tighten the rope connected to the switch until the indicator's end (1), reaches about half of the green ring (2).
- Afterwards, pull the pommel (3) to close the safety contacts inside the switch (a green ring (4) will appear).
- The safety circuit must be connected to the contacts NC (21-22 or 11-12). The contacts 13-14 shall be used for signals only.
- It is recommended to use only original accessories (rope, thimble, etc.), otherwise the declared performances will not be guaranteed.



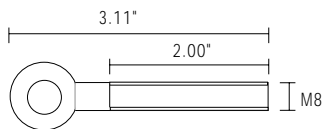
## Installation Examples



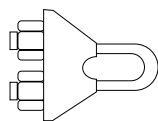
## Rope Installation



## Accessories



**T 870**  
stay bolt suitable for setting the rope  
in tension correctly (1 pc.)



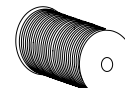
**M 870**  
rope clamp (2 or 4 pcs.)



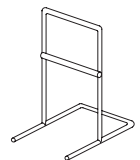
**C 870**  
thimble (1 pc.)



**F 05-100**  
Rope: 100m (~300')  
5mm Diameter (~ $\frac{3}{16}$ "



**F 05-400**  
Rope: 400m (~1200')  
5mm Diameter (~ $\frac{3}{16}$ "



**SB 400**  
Rope Dispenser