

## Rope operated safety switches for the protection of exposed machinery

- Lockout mechanism isolates safety contacts until manually reset
- 12 and 35 metre rope length models
- Indicator of correct rope tension
- Fail-safe in the event of slack or broken wire rope
- Heavy duty die-cast metal alloy housing
- Single and triple conduit entry models
- Dimensions in accordance with EN50041
- IP66
- UL/CSA approved
- Conforms to EN418

### 35 metre model:

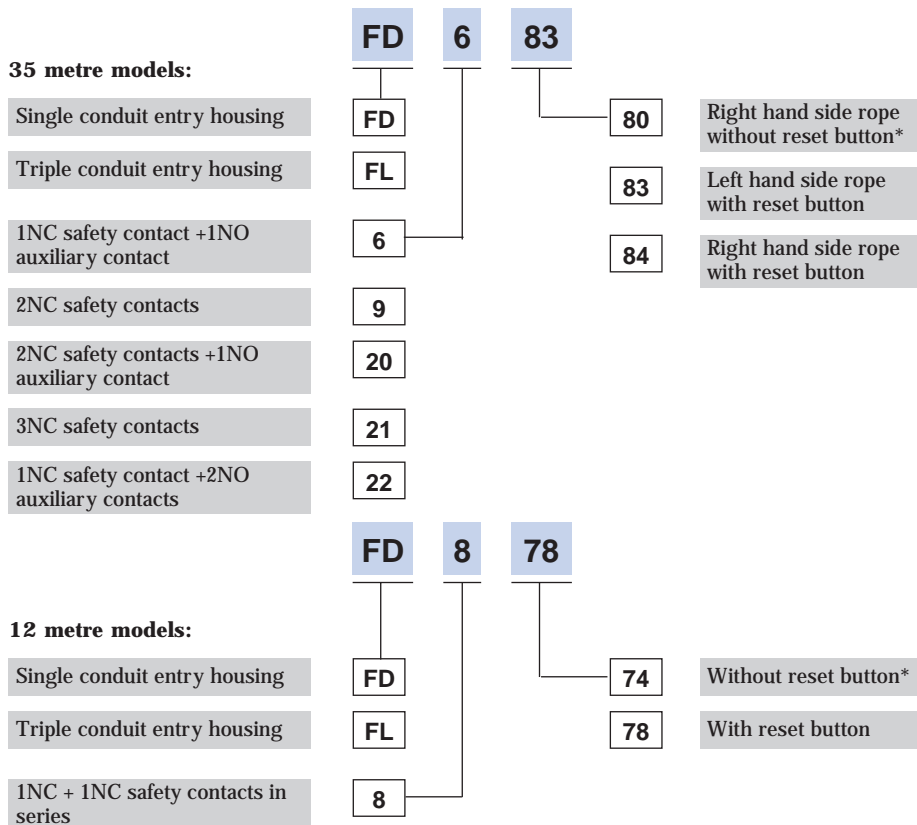
- Immune to machine vibration
- Available with a wide range of contact block configurations
- Left-hand and right-hand models for reset button and conduit entry position convenience

### 12 metre model:

- Head rotatable in 90° increments for reset button position convenience



## Options and ordering codes



Approvals – all models: UL, CSA, IMQ

Models conform to the following standards:  
 Low Voltage Directive 73/23/CEE,  
 Directive 93/68/CEE, Machinery  
 Directive 89/392/CEE

IEC 947-5-1, BS EN60947-5-1,  
 CEI EN60947-5-1, IEC 204,  
 BS EN60204, BS EN292

Positive opening of the contacts in  
 conformity with: VDE 0660-206,  
 IEC 947-5-1, BS EN60947-5-1,  
 CEI EN60947-5-1

\*Note: Models without reset button should NOT be used in Safety Applications

Mechanical endurance: 1 million operations

Minimum actuating speed 1mm/s

## Accessories

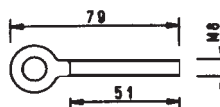
Thimble  
 Part no. C870  
 (One thimble supplied  
 with each switch)



Rope clamp  
 Part no. M870



Eyebolt  
 Part no. T870  
 (For tensioning or  
 for supports along  
 the length of rope)



Tensioner  
 Part no. K870

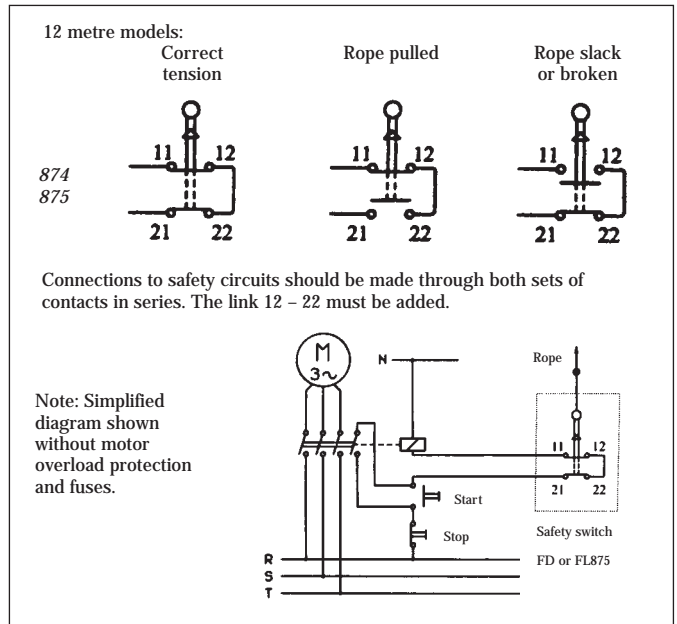
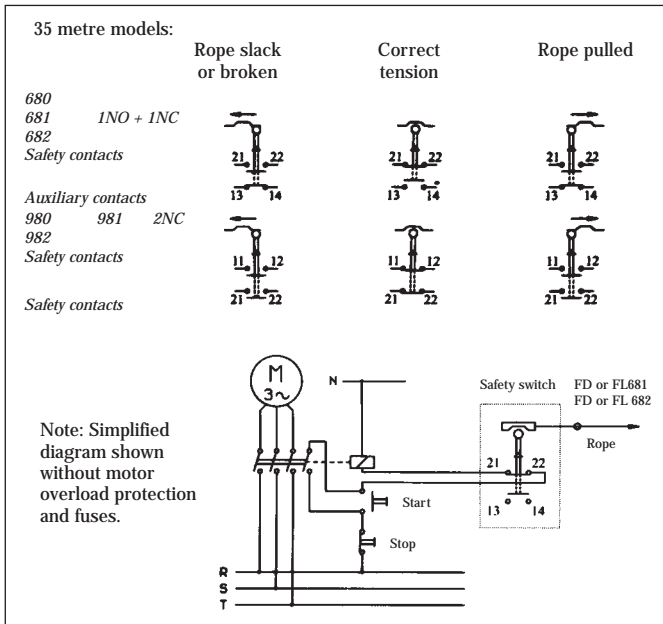


Red PVC covered  
 steel wire  
 rope ø5mm  
 Part no. FO5  
 sold per metre

*It is recommended to use only original accessories, otherwise the declared performance will not be guaranteed*



## Terminal connections



- Notes: a) The terminal screws are M3.5 with rising cable clamps for ease of wiring.  
 b) The maximum terminal screw torque is 0.8Nm (8kg cm)  
 c) Fuse protection required against short-circuit in the safety circuit: 10A HRC quick blow max.  
 d) An earth terminal is provided inside the case.  
 e) Contact blocks are not removable due to interlocking with the positive break system.  
 f) Terminal numbering in accordance with EN50013

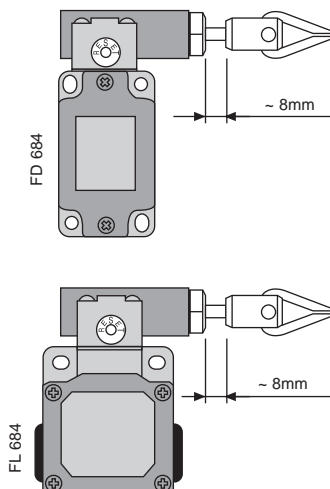
## Installation

### Installation guidelines:

- The switch bodies should be fixed using M5 screws and aligned such that the rope is tensioned in the direction of the plunger travel, not at an angle.
- The rope should be supported along its length, every 2-3 metres, using an eyebolt.
- The first and last eyebolts should be a maximum of 300mm from the switches, to ensure that the rope movement at both switches is axial, i.e., in the direction of the plunger travel.
- The tensioner should be positioned in the centre of the rope. If a tensioner is used, 2 thimbles and 2 rope clamps will also be required.
- The 680/683/684/980/983/984 models can operate up to 35 metres.
- The 874/875 models can operate up to 12 metres.

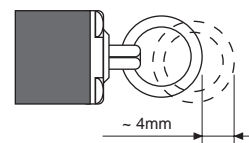
### FD/FL 683/684/983/984 (35m models)

The rope should be tensioned until the head plunger has travelled approximately 8mm and then the reset button pulled to release the mechanism. The force required will be approximately 19.5kg (191N)



### FD/FL 878 (12m models)

The rope should be tensioned until the head plunger has travelled approximately 4mm. The force required to tension will be approximately 7.5kg (73.5N)



### Applications

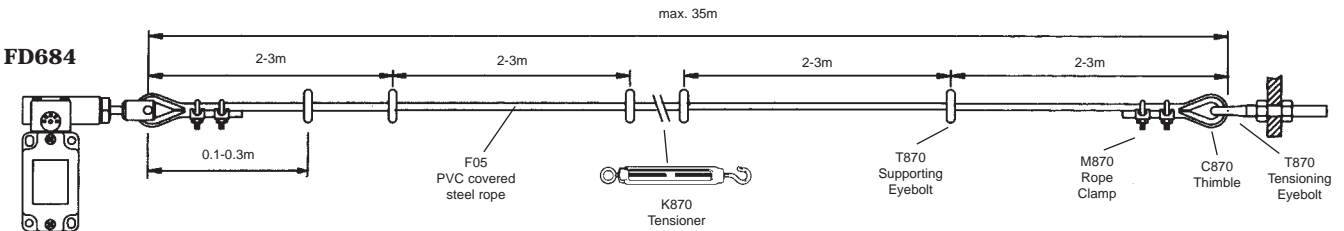
These rope operated safety switches are installed on machines or belts. They enable a stop at any point of the machine simply by pulling the rope by hand. **Being equipped with a self-checking function**, they constantly test their operation and signal by the opening of the contacts, an accidental unfastening or break of the rope. When the models with reset button are used, they maintain the contacts open after operation even if the rope is released.

The examples shown on this page are the simplest form of protection, with a switch at one end of the rope and the other end fixed.

**Health and Safety Executive recommendations are to use two switches, one at each end of the rope, for increased protection.**

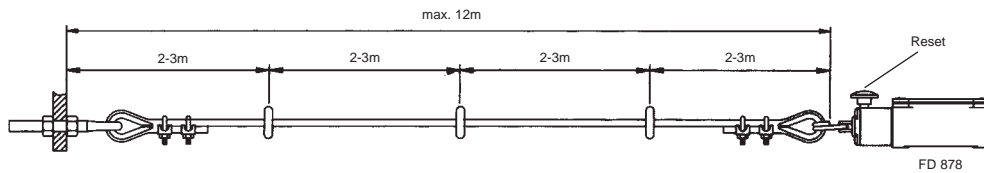
#### FD/FL 683/684/983/984 Rope Safety Switches (35m max) with Positive Opening

Example:

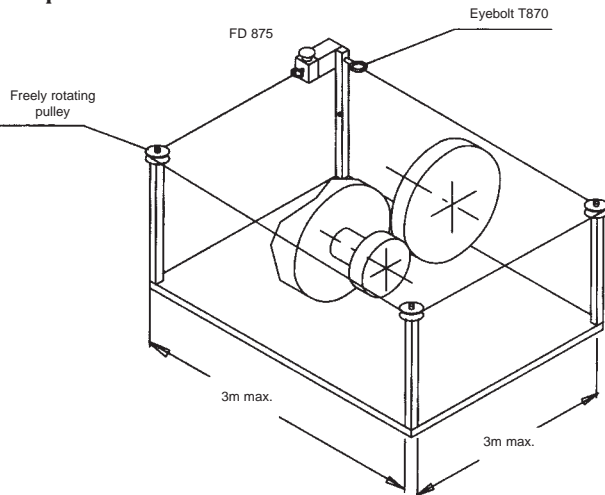


#### FD/FL 878 Rope Safety Switches (12m max) with Positive Opening

Example:



Example:



**Typical installation of 24 metres in a straight line:**

- 1xFD683
- 1xFD684
- 1xK870
- 8xM870
- 2xC870
- 12xT870
- 24 metres xF05

**This gives a switch at each end of the rope, conforming to Health and Safety Executive guidelines, with a K870 tensioner in the centre.**

**4xC870 thimbles are required in total, with one each provided with the switches, therefore only 2 additional are required.**

**The 8xM870 required are 2 at each switch and 2 at each end of the K870 tensioner.**

### Accessories

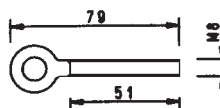
Thimble  
Part no. C870  
(One thimble supplied with each switch)



Rope clamp  
Part no. M870



Eyebolt  
Part no. T870  
(For tensioning or for supports along the length of rope)



Tensioner  
Part no. K870



Red PVC covered steel wire rope  $\phi$ 5mm  
Part no. F05  
sold per metre

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