

Rope Operated Stop Switches FD



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 and CUL 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

35 metre models

	FD	18	83
Single conduit entry housing	FD		
Triple conduit entry housing	FL		
1NC safety contact + 1NO auxiliary contact		18	
2NC safety contacts		9	
2NC safety contacts + 1NO auxiliary contact		20	
3NC safety contacts		21	
1NC safety contact + 2NO auxiliary contacts		22	
Right hand side rope without reset button*			80
Left hand side rope with reset button			83
Right hand side rope with reset button			84

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

Mechanical endurance: 1 million operations

Minimum actuating speed: 1mm/s

12 metre models

	FD	18	78
Single conduit entry housing	FD		
Triple conduit entry housing	FL		
1NC safety contact + 1NO auxiliary contact		18	
2NC safety contacts		9	
With reset button			78

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

Accessories



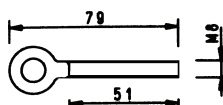
Thimble

Part no. VFC870
(One thimble supplied with each switch)



Rope clamp

Part no. VFM870



Eyebolt

Part no. VFT870
(For tensioning or for supports along the length of rope)



Tensioner

Part no. K870

Red PVC covered steel wire rope ø5mm

Part no. VFF05-400
sold per metre

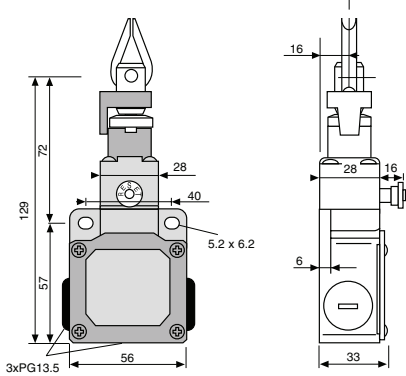
It is recommended to use only original accessories, otherwise the declared performance will not be guaranteed

Rope Operated Stop Switches continued

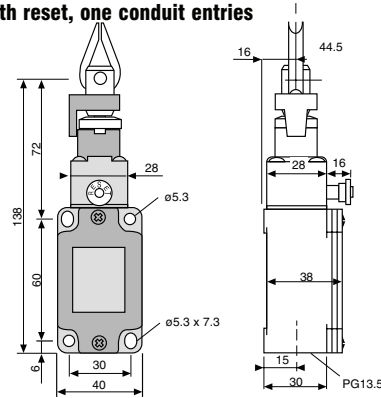


35 metre models one conduit entry PG13.5

With reset, three conduit entries



With reset, one conduit entries



Dimensions mm

Closed contact
 Opened contact

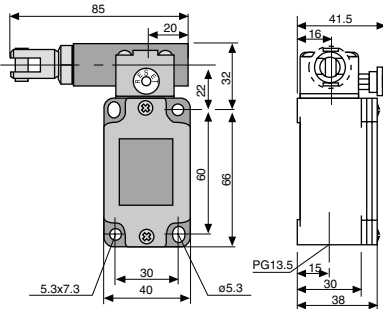


1NO + 1NC	3 21 4 22	FL 1878	13-14 21-22		FD 1878	13-14 21-22	
2NC	1 21 2 22	FL 978	11-12 21-22		FD 978	11-12 21-22	

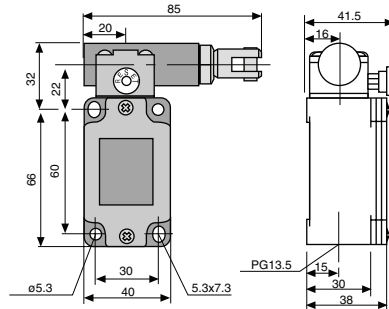
The maximum cable length is 12m with eye bolts every 3m

35 metre models one conduit entry PG13.5

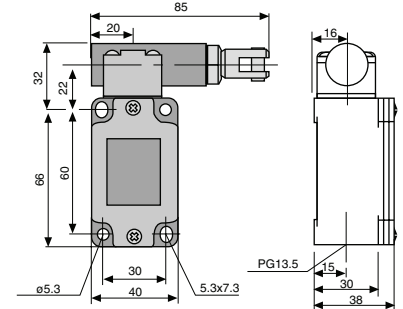
With reset, rope on the left



With reset, rope on the right



Without reset

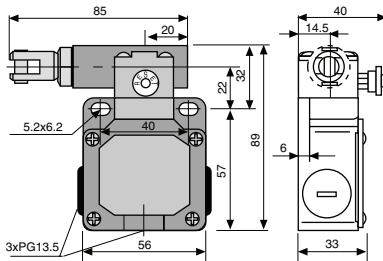


1NO + 1NC	3 21 4 22	FD 1883	21-22 13-14		FD 1884	21-22 13-14		FD 1880	21-22 11-12	
2NC	1 21 2 22	FD 983	21-22 11-12		FD 984	21-22 11-12		FD 980	21-22 13-14	

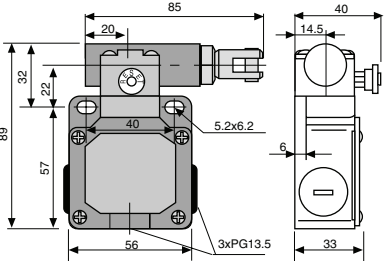
The maximum cable length is 35m with eye bolts every 3m

35 metre models three conduit entry PG13.5

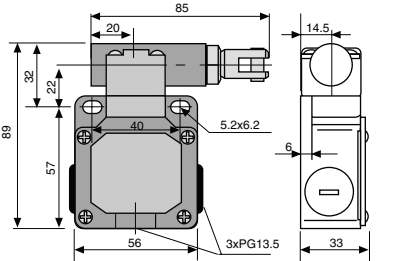
With reset, rope on the left



With reset, rope on the right



Without reset



1NO + 1NC	3 21 4 22	FL 1883	21-22 13-14		FL 1884	21-22 13-14		FL 1880	21-22 11-12	
2NC	1 21 2 22	FL 983	21-22 11-12		FL 984	21-22 11-12		FL 980	21-22 13-14	

The maximum cable length is 35m with eye bolts every 3m

Applications

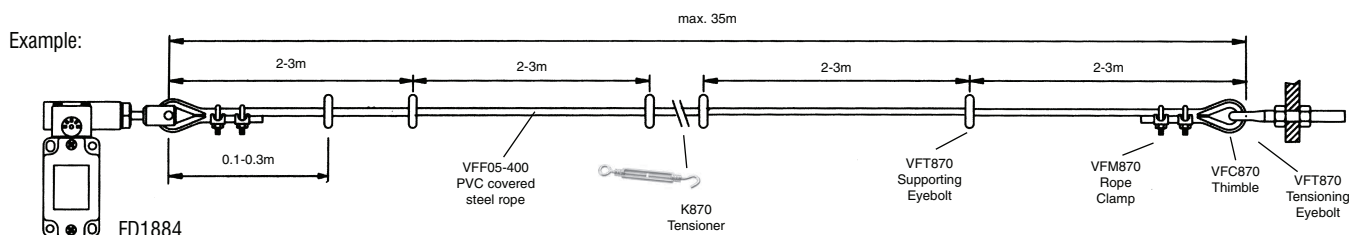
These rope operated safety switches are installed on machines or belts. They enable a stop at any point of the machine simply by pulling the rope by hand. Being equipped with a self-checking function, they constantly test their

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.

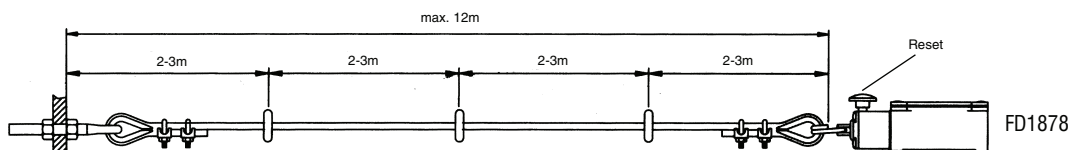
The examples shown on this page are the simplest form of protection, with a switch at one end of the rope and the other end fixed.

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

FD/FL 1883/1884/983/984 Rope Safety Switches (35m max) with Positive Opening



FD/FL 1878 Rope Safety Switches (12m max) with Positive Opening



Typical installation of 24 metres in a straight line:

Switches	Accessories (see below)
1xFD1883	2xVFC870 24 metres xVFF05-400
1xFD1884	12xVFT870 8xVFM870
	1xK870

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

4xVFC870 thimbles are required in total, with one each provided with the switches, therefore only 2 additional are required.

The 8xVFM870 required are 2 at each switch and 2 at each end of the K870 tensioner.

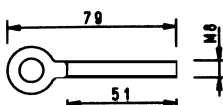
Accessories



Thimble
Part no. VFC870
(One thimble supplied with each switch)



Rope clamp
Part no. VFM870



Eyebolt
Part no. VFT870
(For tensioning or for supports along the length of rope)



Tensioner
Part no. K870

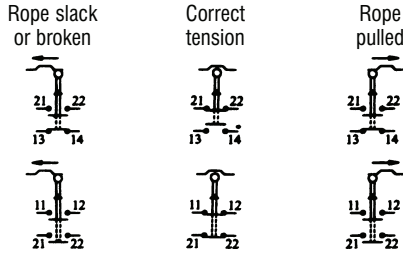
Red PVC covered steel wire rope ϕ 5mm
Part no. VFF05-400
sold per metre

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

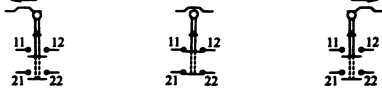
Terminal connections

35 metre models

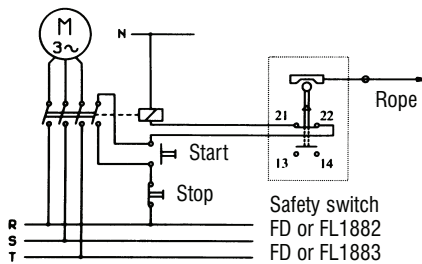
Contact positions
1880, 1883, 1884
(1NO + 1NC)



Contact positions
980, 983, 984
(2NC)



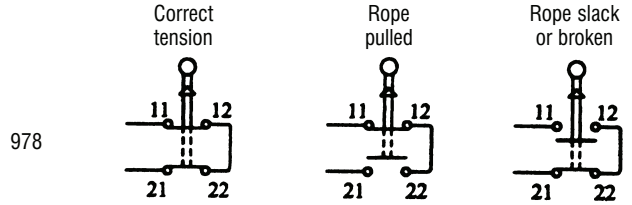
Note: Simplified diagram shown without motor overload protection and fuses.



Notes:

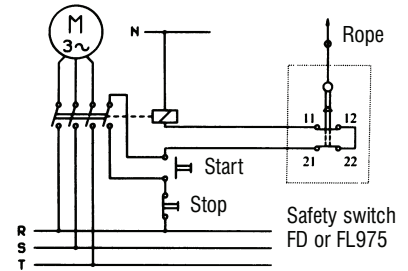
- The terminal screws are M3.5 with rising cable clamps for ease of wiring.
- The maximum terminal screw torque is 0.8Nm (8kg cm)
- Fuse protection required against short-circuit in the safety circuit:
10A HRC quick blow max.

12 metre models



Connections to safety circuits should be made through both sets of contacts in series. The link 12 – 22 must be added.

Note: Simplified diagram shown without motor overload protection and fuses.



- An earth terminal is provided inside the case.
- Contact blocks are not removable due to interlocking with the positive break system.
- Terminal numbering in accordance with EN50013

Installation guide

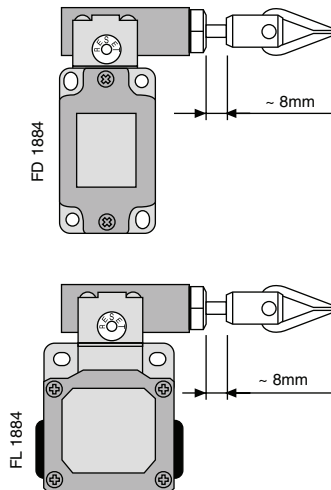
- The switch bodies should be fixed using M5 screws and aligned such that the rope is tensioned in the direction of the plunger travel, not at an angle.
- The rope should be supported along its length, every 2-3 metres, using an eyebolt.
- The first and last eyebolts should be a maximum of 300mm from 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 1880/1883/1884/980/983/984 models can operate up to 35 metres.
- The 1878/978 models can operate up to 12 metres.

35m models

FD/FL 1883/1884/983/984

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)



12m models FD/FL 1878

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)

