SRS Safety Cable Pull Switch(Bi-direction) Operation Manual

TS Ex tb IIIC T85°C Db

STRUCTURE

The cable pull switch is structured as shown in Figure 1.

The operating lever which is in bi-direction ① will be locked when tilted 25 degrees from the vertical position.

To reset, press the reset lever ⑨ down. The operating lever ① turns from 25 degrees to its original angle due to spring ④ action.

The cable pull switch has 2 built-in micro switches ⑥ , the cam ⑤ is designed to actuate when the operating lever angle is > 20 degrees, and reset when < 20 degrees.
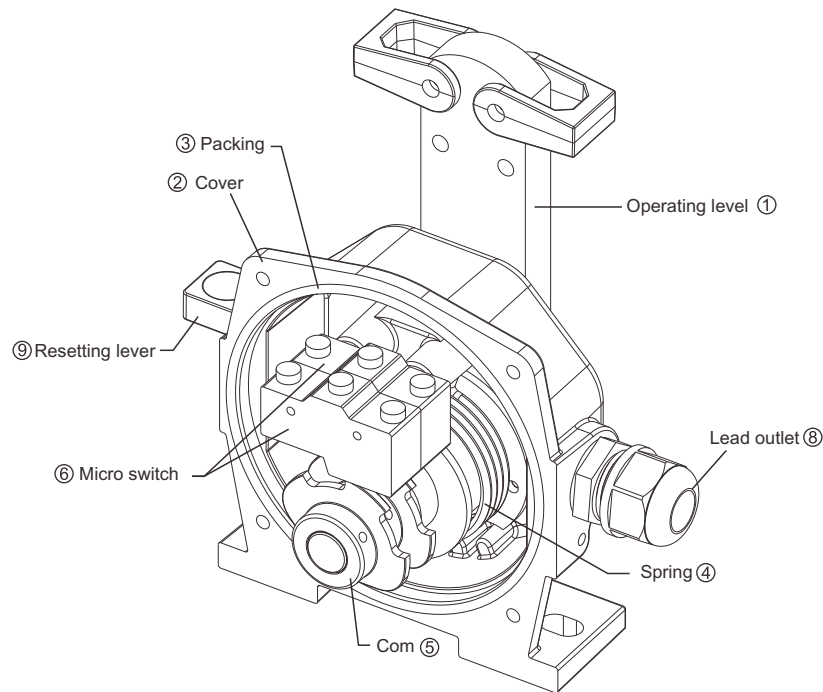
FEATURES

③ Packing
② Cover
Operating level ①
⑨ Resetting lever
Lead outlet ⑧
⑥ Micro switch
Spring ④
Com ⑤

Fig.1 Construction

INSTALLATION ENVIRONMENT

The Pull Cord Switches should be used in the following environmental conditions; specially made products should be used at the allowable conditions noted in the approved drawing or the final drawing.

1. Temperature: -20~60°C(Applied for Ex-proof: -20~50°C), , do not use the Pull Cord Switch in the place where there is danger of freezing.
2. Humidity: 20~80%
3. Dust: If much dust adheres to the operating lever of the safety cable pull switch and it solidifies, the switch will not move normally. To prevent dust from adhering to the operating lever, it should be cleaned at regular intervals.
4. Explosive and corrosive environment, the standard safety cable pull switch should never be used under these conditions.

*Note that only explosion-proof products can be used in explosive dust environments.

ADJUSTMENT

Since the microswitches are adjusted at our factory, there is no need to readjust them when installing. If it is necessary to readjust, adjust the cam by loosening the set screw.

*After adjusting the cam, make sure that the microswitch is working properly

MAINTENANCE

1. Periodic Inspection
(1) Cleaning
  Always clean when an excessive amount of dust accumulates on the operating lever.
(2) Confirmation of Action
  Check to see if the safety cable pull switch is working normally by testing the pull cord. Operate Resetting lever to see if it works normally.
2. Lubrication
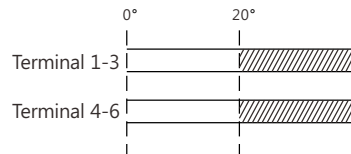 The safety cable pull switch has no need to lubricate.
3. Tightening of cover
  When taking off the cover of safety cable pull switch for the sake of wiring, adjusting and checking, secure the screws of the cover after working, or the safety cable pull switch may cause problems due to water and dust entering from between the cover and casing.
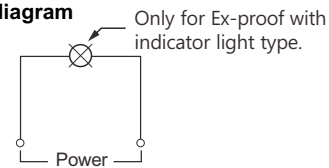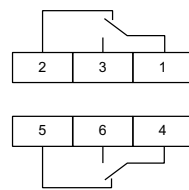
WIRING

1. Cable: Use a cable with an outside diameter of 6-12mm and tighten the cable gland.
2. Wiring: There are two micro switches installed inside the cable pull switch. Determine the desired terminal when wiring.
3. Switching capacity: The access load must be in the range (please check the specifications table in product catalogue).
4. LED: Please ensure the power supply is correct and within range (please check the specifications table in product catalogue).

※ Beware! Please notice to keep the wires away from the cam (wires must be on the upper side of micro switch); otherwise it would possibly cut the wire and causing a danger of short circuit.

Switch operation diagram

	0°	20°
Terminal 1-3		▨▨▨
Terminal 4-6		▨▨▨

Terminal diagram

Only for Ex-proof with indicator light type.

2 3 1

5 6 4

Power

INSTALLATION

1. Bolts and Nuts

   Depending on the conveyor frame, switch mount and mounting plate (if any), prepare bolts and nuts accordingly.

2. Cable and Clips

   For safety cable pull switch operation, use ϕ5mm steel cable or any other cable with sufficient strength. Prepare steel cable of sufficient length and clips in advance.

3. Quick Installation

   It is optional to install the housing direction facing either inside the machine or the aisle. It is suggested to make an opening on the mounting base when install the cable pull switch (Figure 2). Do not strengthen the wire on both side, this is to make sure the switch can be well activate from pulling wire from both side.

4. Supporting the Steel Cable

   Prepare a sufficient number of brackets in advance and follow the instructions below.

   If the length of the steel cable is less than 50m, it is recommended to install a bracket at an interval of 3m. If the length is 50m~80m, it is recommended to install a bracket at an interval of 2m. If the length is greater than 80m, it is recommended to install a bracket at an interval of 1m.
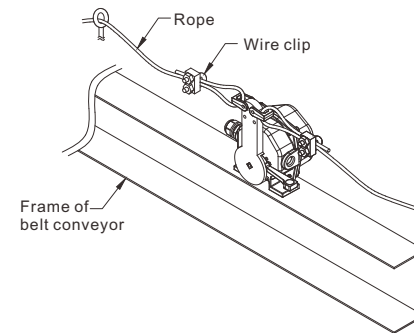

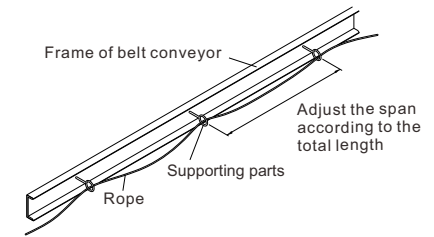Fig.2 Typical installation of pull cord switch

Fig.3 Installation of supporting parts

SIMPLE TROUBLESHOOTING

Problem	Cause	Solution
No output when safety cable pull switch	The terminal wiring is misplaced or the cable came off.	Check the wiring, terminal and measurement output and repair if necessary.
	The micro switch is damaged and cannot be switched.	Check the surface damage and contact measurement to confirm the damage. Contact your local service representative.
	The cam positioning angle is incorrect, or the screws are loose, which causes the cam to slip.	Check the cam and the fixing screws. Correct the angle and tighten the screws.
	Moisture intrusion, short circuit, electrical leakage	Check the junction box for moisture intrusion or line damage. Remove moisture or repair it.
	The steel cable is tied in the wrong direction, or both ends of the cable are tied to the same hole.	Check that the steel cable is tied upside down, and shows no rebound when being pulled.
	The lock is not released after the problem is solved.	Press the reset lever if the lever is not reset.
Output when not safety cable pull switch	The terminal wiring is misplaced.	Check the terminal and measurement output and correct if necessary.
	The span between the brackets are too large; steel cable weight traction.	Check the lever resilience and add brackets.
	The steel cable is too short and too tight and has been triggered.	Check the lever resilience and lengthen the steel cable.
	The steel cable or lever is pulled by a foreign object.	Check the steel cable and lever and remove obstacles.
	The micro switch is damaged and cannot be switched.	Check the surface damage and contact measurement to onfirm the damage. Contact your local service representative.