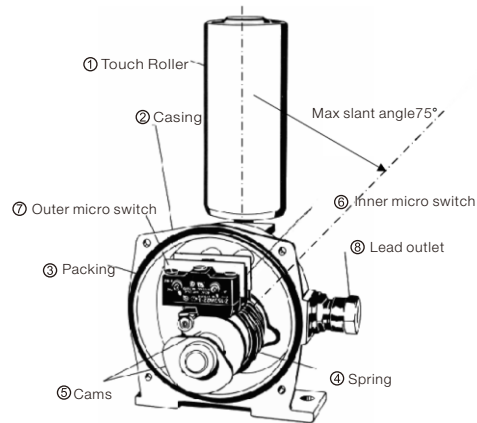


SRT Conveyor Belt Misalignment Switch Operation Manual

WORKING PRINCIPLE

The roller of the deviation switch lever is mounted on the edge of the belt. When belt deviation occurs on the belt conveyor that causes the roller to tilt, the roller shaft is connected to the cam in the deviation switch so that the cam rotation angle changes to trigger the micro switch for ON/OFF switching. This can be used for emergency stop or alarm output.

FEATURES

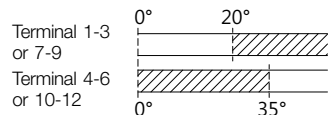


- The lever (roller) ① can be tilted up to 75° from the vertical position, depending on the deviation of the belt. When the belt is reset, the roller returns to the vertical position due to the action of the spring ④.
 - When the roller ① tilt reaches a certain angle (the pre-set value is 20°), the cam ⑤ makes the inner micro switch ⑥ contact to switch. This is generally used for alarm output.
 - When the roller ① tilt reaches a certain angle (the pre-set value is 35°), the cam ⑤ makes the outer micro switch ⑦ contact to switch. This is generally used for alarm output.
- When the inner micro switch ⑥ roller tilt reaches 20° or above, terminal 1,2 & 7,8 changes from ON to OFF, and terminal 1,3 & 7,9 changes from OFF to ON. When the tilt angle decreases to 18°, the switch output returns to its original state (pin 1,2 & 7,8 ON pin 1,3 & 7,9 OFF).
 - When the outer micro switch ⑦ roller tilt reaches 35° or above, terminal 4,5 & 10,11 changes from OFF to ON, and terminal 4,6 & 10,12 changes from ON to OFF. When the tilt angle decreases to 33°, the switch output returns to its original state (pin 4,5 & 10,11 OFF, pin 4,6 & 10,12 ON).
- * Angel tolerance of operation for SRT misalignment switch is $\pm 5^\circ$

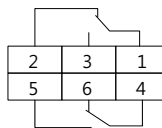
WIRING INSTRUCTION

Indicates close circuit

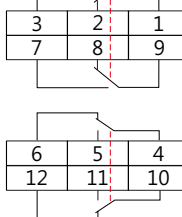
▨ :Indicates close circuit



Terminal wiring schematic SPDTx2



Terminal wiring schematic DPDT x2



SPECIFICATIONS

- 2 switch outputs SPDT X2 (standard) ,or DPDTx2(order)
- Contact capacity
15A 125/250Vac, 5A 30Vdc (SPDT)
10A 125/250Vac, 5A 30Vdc (DPDT)
- Allowable ON/OFF frequency 20 times/min
- Contact resistance < 15mΩ (initial)
- Insulation resistance > 100MΩ (at 500Vdc)
- Voltage endurance 2000Vac 1min (terminal to ground)
- Electrical life (micro switch) > 500000 times



TS Ex tb IIIC T85°C Db
NEPSI Ex tD A21N IP67 T85°C
IECEX Ex tb IIIC T85°C Db

PRECAUTIONS FOR USING EXPLOSION-PROOF PRODUCTS

- The product has a ground terminal. Reliable grounding should be implemented during installation.
- The operating temperature ranges from -20°C to 50°C.
- The rated power supply parameter for the micro switches do not exceed contact capacity..
- Make sure there are no harmful gases that may cause corrosion of aluminum alloys in the installation location.
- The outer surface should be cleaned on a regular basis to prevent dust from accumulating. Do not use compressed air for cleaning.
- When the product is used and maintained in an explosive environment, the principle of “do not open in the presence of combustible dust” must be followed.
- Do not attempt to replace any part of the product. If any failure occurs during operation, the product manufacturer should be consulted to prevent damage.
- The installation, use, and maintenance of the product must be in strict compliance with the instruction manual and the following standards:

GB3836.13 (IEC 60079-14) Explosive atmospheres - Part 13: Equipment repair, overhaul and explosion hazard electrical equipment installation engineering, GB12476.2 (IEC 61241-14) reclamation, GB50257 Code for construction and acceptance of electric equipment on fire and electrical apparatus for use in the presence of combustible dust - Part 2: Selection and installation, and GB15577 Safety regulations for dust explosion prevention and protection.

INSTALLATION ENVIRONMENT

The belt deviation switch should be used in an environment that meets the following conditions. To use a product of special design specifications, the allowed conditions on the approved drawing or end-product drawing provided by our company must be met.

- Temperature range -20°C~50°C
Do not use the belt deviation switch in places where icing may occur.
- Humidity 20~80%
- Dust: When a large amount of dust is attached around the lever roller of the conveyor belt misalignment switch and gets solidified after absorbing moisture, malfunction may occur. Therefore, remove dust regularly when used in a dusty environment.

4.Products of corrosive environment standard design specifications cannot be used.

*Note that only explosion-proof products (SRT17X) can be used in explosive dust environments.

INSTALLATION

1. Fitting bolts
The fitting bolts should be prepared before installation, and should be fitted into the mounting holes according to their length.
2. Mounting Base
The mounting base fitted to the belt conveyor should be prepared before installation. When you are deciding the dimensions of the mounting base, refer to Fig.2.
3. Installation
shows an example of installation of the conveyor belt misalignment switch. The dimension from the position of installation to the top of the idler of the belt conveyor should be fixed at 160 mm.

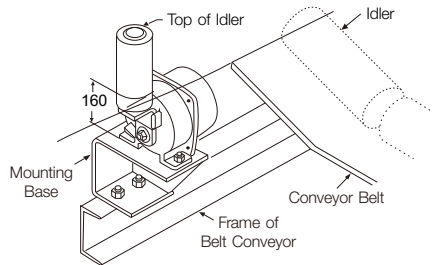


Fig.2 An Example of Installation of conveyor belt misalignment switch

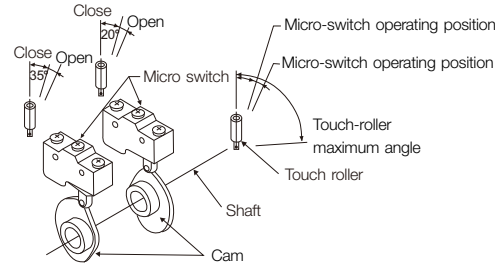


Fig.3 Micro-switch Operating Positions

WIRIN

1. Cable
When wiring, please use cable with external diameter is 6~12 mm.
2. Connection
The conveyor belt misalignment switch has two micro switches. Connect wire leads terminals according to your use refer to Fig.3
3. Switching capacity: 15A/250Vac, 5A/30Vdc

ADJUSTMENT

The Belt Sway Switch is adjusted before shipment, so no adjustment is required at installation. If adjustment of the operating positions of the micro switch is necessary, adjust the positions in the following manner.

1. Loosen the setscrew using a hexagonal bar wrench as shown in Fig 4 so that the cam can be moved smoothly.
2. Rotate the cam to the desired angle, and tighten the setscrew.
3. Move the touch roller to confirm that the micro switch is activated at the desired angle refer to Fig.5

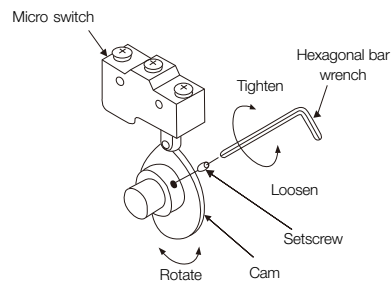


Fig.4 Adjustment of Cam

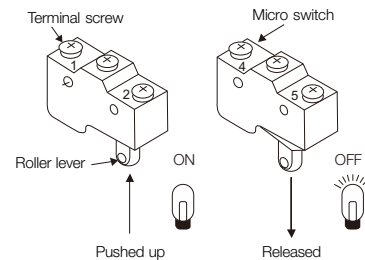


Fig.5 Operation of Micro switch

MAINTENANCE

1. Periodic Inspection
 - (1) Cleaning
Cleaning Always clean when an excessive amount of dust accumulates on the touch roller
 - (2) Wear of Touch Roller
Check wear of the touch roller ①. When 2 millimeters are worn off the roller, replace as explained in 3.
 - (3) Confirmation of Action
Check to see if the conveyor belt misalignment switch is working normally by testing the touch roller.
2. Lubrication
The conveyor belt misalignment switch has no need to lubricate.
3. Replacement of Touch Roller (Refer to Fig.6)
By loosening the M12 screw nut, the touch roller can be taken off easily from the lever.
Secure the nut. when the touch roller is replaced, or the conveyor belt misalignment switch may cause trouble if the nut comes loose.
4. Tightening of Cover
When taking off the cover of conveyor belt misalignment switch for the sake of writing, adjusting and checking, secure the screws of the cover after working, or the Belt Sway Switch may cause trouble due to water and dust entering from between the cover and casing.

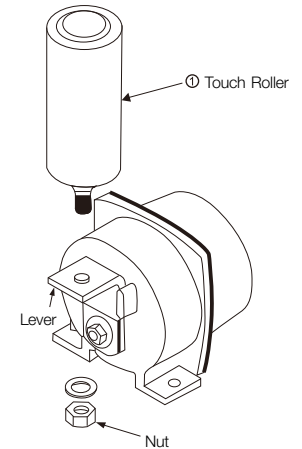


Fig.6 Replacement of Touch Roller

SIMPLE TROUBLESHOOTING

Problem	Cause	Solution
No alarm output when belt deviation occurred, or false alarm when there is no belt deviation.	The terminal wiring is misplaced or the cable came off.	Check the wiring, terminal and measurement output and repair if necessary.
	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 micro switch is damaged and cannot be switched.	Check the damage and contact measurement to confirm the damage. Contact your local service representative.
	Roller travel is blocked by a foreign object.	Check the area around the roller and remove obstacles.
	The inner spring mechanism is damaged and cannot be repaired.	Contact your local service representative.



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