Instructions for Speed switch
ZAXDH-I

Zax Technology Co., Ltd

1. Overviews

The operation of the belt conveyor, the speed switch can judge whether there is a belt slip fault by detecting the belt speed, and send an alarm signal in time according to the change of speed, so as to avoid the expansion of losses and accidents. This product adopts advanced ARM processor technology and embedded control principle, with stable performance, powerful function and high protection level.

2. Characteristic

2.1. Adopt high-strength A-alloy precise die-casting shell, with strong impact resistant capability.

2.2. The surface of the shell is sprayed with plastic and has strong corrosion resistance.

2.3. The shell has high protection level, good sealing, and can be used in harsh environment.

2.4. Using ARM MCU as control unit, it has fast response speed, high precision and small error.

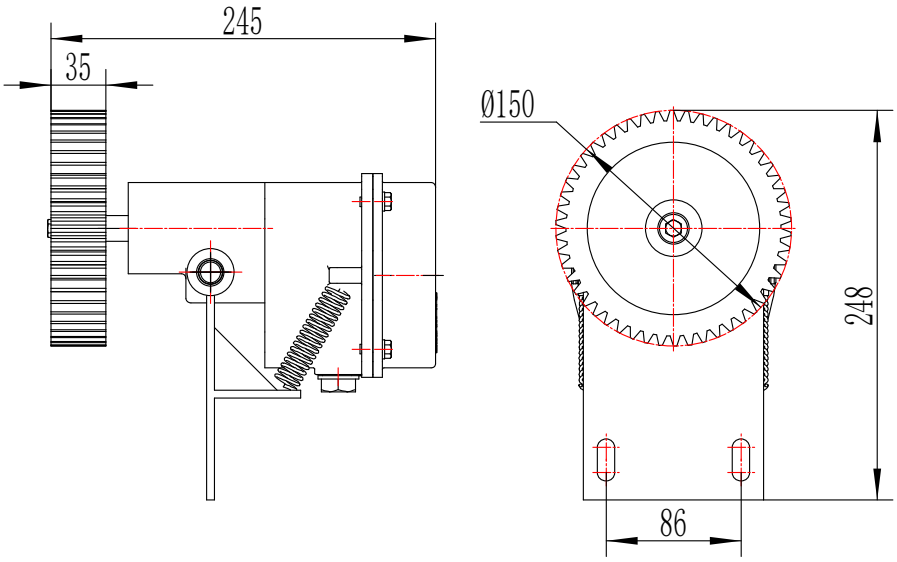
2.5. Integral design, two bolts fixed, easy to install and use.

2.6. High contact capacity relay output.

3. Parameter table

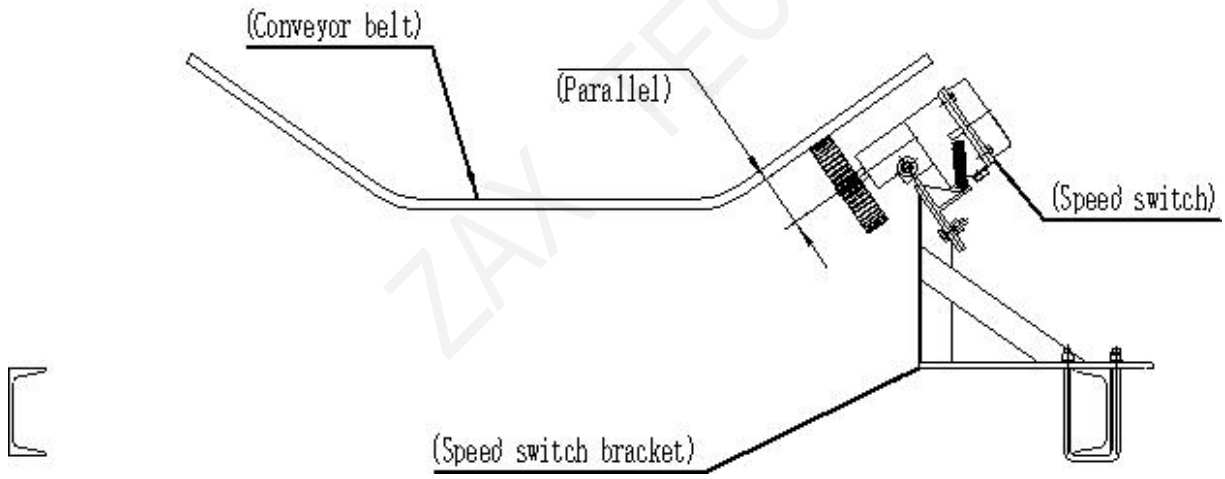
Ambient temperature	-40℃~50℃
Relative humidity	0~95%
Atmospheric pressure	80 kPa ~110kPa
Working voltage	AC220V 50/60HZ
Power consumption of the whole machine	3W
Output mode and quantity	1×SPDT
Contact rating	AC250V 3A DC30V 3A
Detection range	10~9999 R/min
Optimum detection distance of sensor head	10mm
Alarm threshold value	Alarm： Speed down by 50%.<Default set >
Start delay	10 S（Default set）
Protection level	IP67

4. Structure features and main dimensions



Appearance size chart(Units: mm)

5. Installation indication



Installation indication diagram

6. Installation instructions

6.1. WARNING：

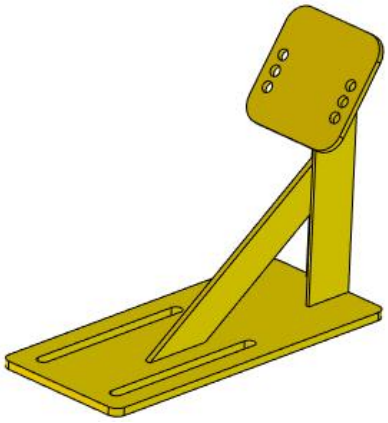
6.1.1. Do not live operation.

6.1.2. This product is non explosion proof products, please do not use in inflammable and explosive environment.

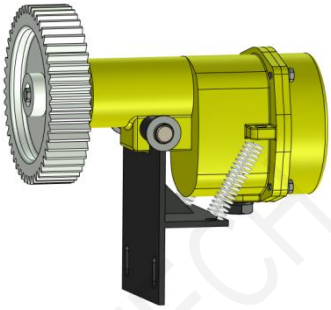
6.1.3. The grounding end of the shell must be grounded, otherwise the speed switch will not be protected against anti-thunder and anti-surge, and the service life will be reduced.

6.2. Prepare material:

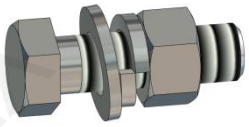
6.2.1. Mounting bracket



6.2.2. Speed switch



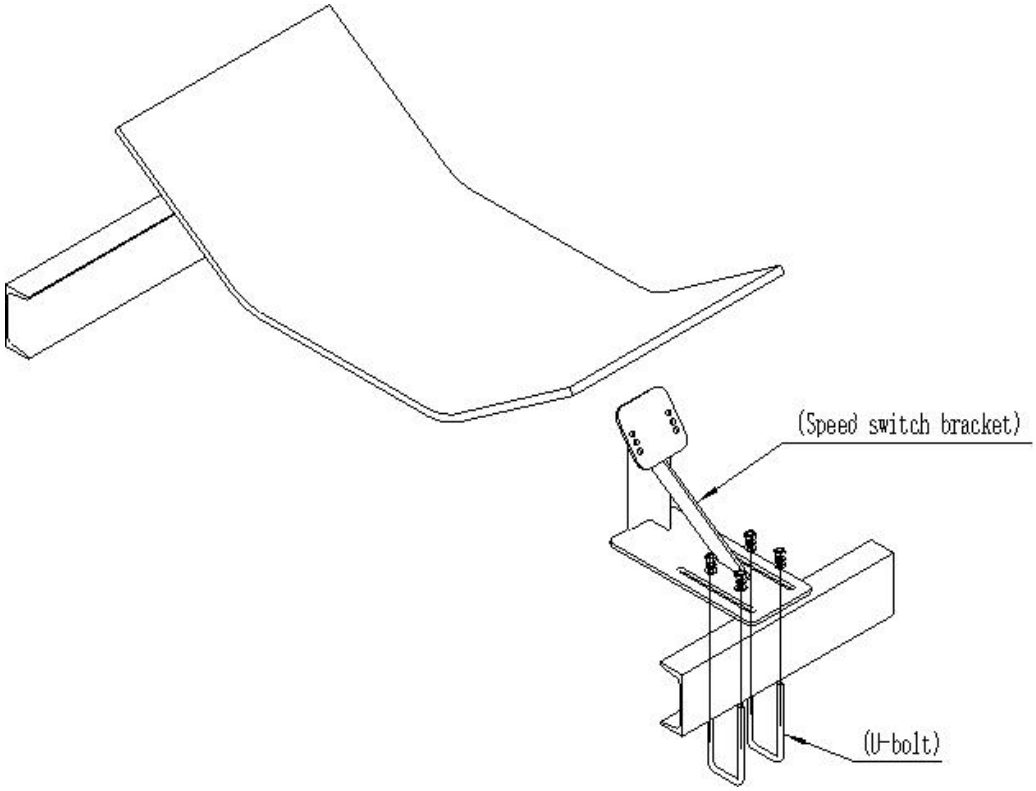
6.2.3. Fastener 2 sets （M10×35）



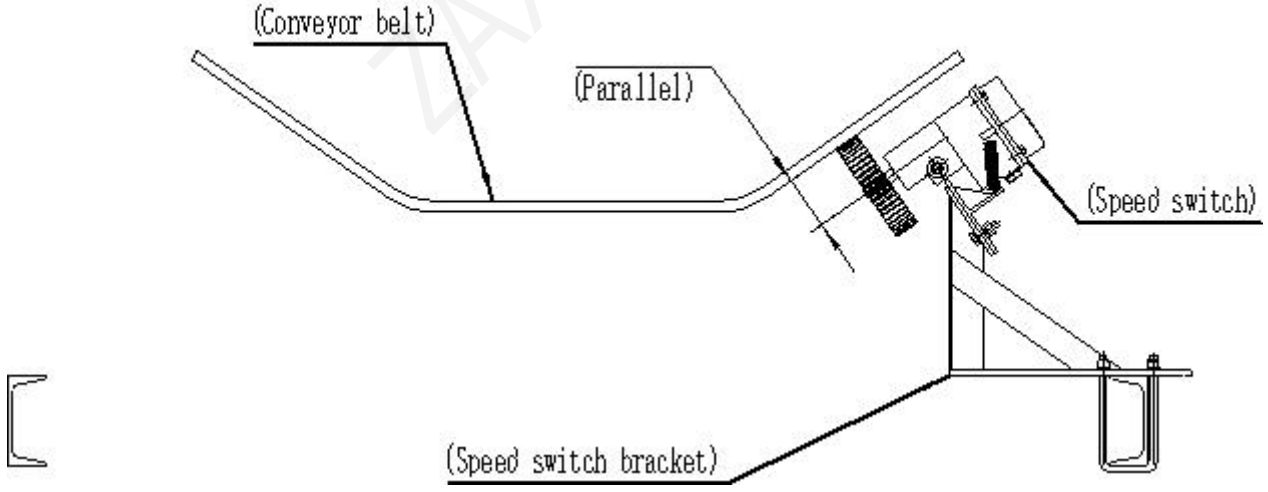
6.2.4. U-bolt 2 sets ×2

6.3. Installation steps：

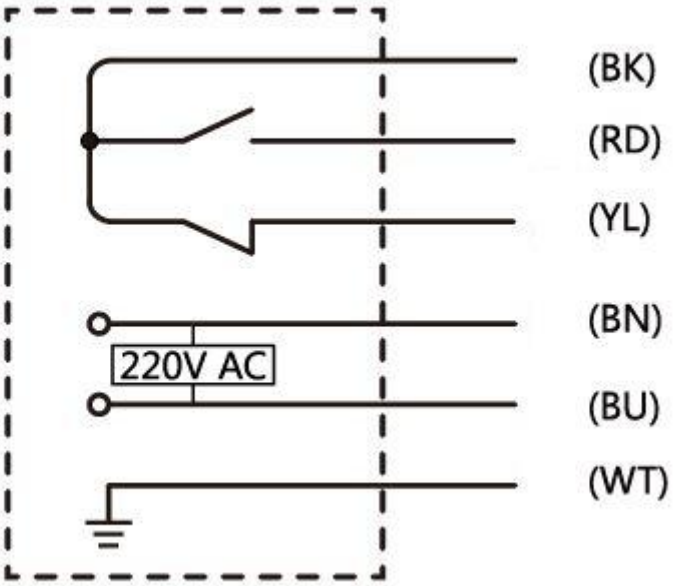
6.3.1. Use U-bolt to fix the mounting bracket on the longitudinal beam of belt conveyor, and do not lock the nut temporarily.



6.3.2. Install the skid detector on the mounting bracket and fasten it. During installation, ensure that the axis of the contact wheel is parallel to the conveyor belt, and the movement direction is parallel to the running direction of the conveyor belt. Users can configure the mounting bracket according to the size and height of the conveyor. During installation, ensure that the contact wheel and the conveyor belt surface are within the elastic range, that is, the skid detector bracket and the conveyor belt plane are vertical.



6.4. Wiring principle



Speed switch wiring principle diagram

The speed switch leads out a six-core cable (red, yellow, black, blue, brown and white) in the outlet hole. Blue and brown are the input contacts of AC220V power supply, black and red are the normally open contacts (normally open when normally speed, closed when slip alarm), and black and yellow are normally closed contact (normally closed when normally speed, Disconnect when slip alarm). The white line is the ground line. If there are exceptions, please refer to the wiring principle diagram on the product.

7. Working principle

Speed switch contact wheel closed contact with conveyor belt. When the conveyor belt is running, it drives the contact wheel to rotate, Thus the output pulse signal of the photoelectric sensor inside the device is entered into the counting unit, MCU to process judge after receiving signal, Real-time monitoring of the conveyor belt speed, when the conveyor belt speed down 50% compared with normal speed, output a switch signal, users can use this switch signal to realize stall stop in their own control network, to prevent the production accident caused by a conveyor belt slip.

It does not need any setting and can be installed in any position of the belt conveyor. There is no violent wear between the contact wheel and the conveyor belt. It has fast response speed, high precision, small error and convenient installation and adjustment.

8. Maintain

8.1. Check whether the speed switch contact wheel is in close contact with the conveyor belt regularly;

8.2. Check whether the speed switch mounting bracket is firm and reliable.