The Series CBAS is a rugged and reliable conveyor belt alignment switch. The compact die cast aluminum housing is designed for easy installation. The switch cover allows for simple access to wiring terminals and CAM adjustments. Belt alignment switches are typically used in pairs with one switch on each side of the conveyor belt mounted near the first and/or last pulley of a conveyor. Each series CBAS is equipped with two micro switches, allowing one actuation angle for small belt deviations and a second actuation angle for extreme belt deviations. The actuation angles are factory set at 20 degrees and 35 degrees, each actuation angle can be easily adjusted in the field to fit any application.

APPLICATIONS
- Conventional Belt Conveyors
- Ship Loading/Unloading Systems
- Stacker/Reclaim Conveyors
- Apron Feeder Conveyors
- Tripper or Shuttle Conveyors
- Crane, Shovel, or Drag Line Limit Switch
- Heavy Duty Limit Switch

SPECIFICATIONS
Temperature Limits: -4 to 140°F (-20 to 60°C).
Enclosure: Die cast aluminum.
Enclosure Rating: NEMA 6 (IP 67).
Switch Type: 2 SPDT.
Electrical Rating: 10 amp @ 125/250 VAC; 1/2 amp @ 125 VDC.
Electrical Connection: 3 screw type, common, normally open, normally closed.
Electrical Conduit: Two 3/4” female NPT.
Activation Angles: 20 degrees and 35 degrees (adjustable).
Activation Force: 0.8 to 1.2 pounds.
Control Type: Automatic reset.
Weight: 6.4 pounds.
**Operation Principle**

The CBAS is typically installed in pairs on both sides of the belt and positioned 1-6 feet from the head or tail pulley.

The touch roller is deflected by the deviation of the conveyor belt from a vertical position to 75 degrees, and when the deviation is restored, a spring will return the touch roller to the vertical position when the belt is realigned. Cams are preset to turn on or off the micro switches when the touch roller is deflected. When the touch roller deviates 20 degrees the first micro switch will change state, and when the touch roller is deviated 35 degrees the second micro switch will change state.

**Detection (Standard 1C X 2 Output)**

<table>
<thead>
<tr>
<th>TERMINAL NO.</th>
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<tbody>
<tr>
<td>0°</td>
<td>18°</td>
<td>20° (ON)</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>33°</td>
<td>35° (OFF)</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Switching frequency: 20 times/min.
* Number of contact: 1C x 2 output.

Fig. 1 Construction of CBAS
**INSTALLATION**

The mounting base should be fitted so that the CBAS touch roller is 1-3 inches from the outside edge of the conveyor belt. The top of the idler should be aligned 6.25" from the base of the CBAS. A typical installation is shown in Fig. 2.

![Fig. 2 Example of Installation of CBAS](image)

**Wiring**

The Belt Alignment Switch has 2 SPDT relays that can be accessed by removing the cover. The independent relays can be used to control two separate circuits or allow a signal when there is a slight belt shift and a severe belt shift.

![Fig. 3 Micro-switch Operating Positions](image)
ADJUSTMENT

The Belt Sway Switch is adjusted to 20° and 35° at the factory. If the angle of activation must be adjusted, the following steps must be taken. Loosen the setscrew using an allen wrench as shown in Fig 5 so that the cam can be moved. Rotate the cam to the desired angle, and tighten the setscrew. Move the touch roller to confirm that the micro switches activate at the desired angle.

Fig. 5 Adjustment of Cam

MAINTENANCE

Clean excessive dust that accumulates around the touch roller. The CBAS can be checked to see if the switches are functioning correctly by moving the touch roller. After the CBAS is installed check the housing cover to ensure it is tight, water and dust can enter between the cover and casing if it not tightened correctly causing the switch to malfunction. The CBAS is not field serviceable and should be returned if any repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a returns good authorization number before shipping.

Fig. 4 Operation of Micro switch