**APPLICATION**

Type AFA, AFAX conveyor belt alignment switches are used to protect bulk handling conveyor belts from damage due to abnormal belt misalignment or run-off due to excessive speed, uneven load, leveling, breakage, and/or other problems.

When mounted in proper position on either side of conveyor belt, the operating arm will rotate in a counter-clockwise direction when contacted by the belt. Contact sets 1 and 2 and 5 and 6 will open within a 7° to 15° travel of the operating arm and remain in this state for all further counter-clockwise rotation. Contact sets 3 and 4 and 7 and 8 will close within a 23° to 31° travel of the operating arm and remain in this state for all further counter-clockwise rotation (see Figure 3 on page 2 for a diagram of the contact arrangement). Over-travel of 85° is built in so that a severe run off cannot damage the switch mechanism. The operating arm is spring loaded and will automatically return the switch to normal position when belt interference is removed.

Type AFA conveyor belt alignment switches may be used in Class II, Groups E, F, G and Class III hazardous (classified) locations as defined by the National Electrical Code® (NEC).

Type AFAX conveyor belt alignment switches may be used in Class I, Groups C, D; Class II, Groups E, F, G; and Class III hazardous (classified) locations as defined by the National Electrical Code (NEC). Type AFAX is UL Listed Enclosure Types 3, 4, and 12.

Type AFA, AFAX switches should be installed, inspected and maintained by qualified and competent personnel.

**INSTALLATION**

The following table is offered as the suggested maximum torque for the threaded items, and is to be used as a guide only.

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Max. Torque (N-m)</th>
<th>Max. Torque (lb.-ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/16&quot;-18</td>
<td>15 N-m</td>
<td>11 lb.-ft.</td>
</tr>
<tr>
<td>1/4&quot;-28</td>
<td>11 N-m</td>
<td>8 lb.-ft.</td>
</tr>
</tbody>
</table>

**WARNING**

Be sure all power is turned OFF before and during installation and maintenance. Failure to turn off power can result in injury to personnel or damage to equipment.

**WARNING**

Type AFAX units are designed to meet Class I, Groups C, D; Class II, Groups E, F, G; and Class III hazardous (classified) location requirements of the National Electrical Code. These units are supplied with machined metal-to-metal joints for switch housing and access covers. **Do not use gaskets.** Clean both flat joint surfaces of body, switch housing and cover before closing. Dirt or foreign material must not accumulate on flat joint surfaces. Surfaces must seat fully against each other to provide a proper explosionproof joint. Clean both flat joint surfaces of body and cover before closing. To avoid the possibilities of an explosion, oxidation and corrosion, do not use gasoline or similar solvents.

**WARNING**

Hammers or prying tools must not be allowed to damage the flat joint surfaces. Do not handle covers roughly, or place them on surfaces that might damage or scratch the flat joint surfaces. Compromising flat joint surfaces can result in injury to personnel or damage to equipment.

1. Disassemble unit by removing access covers and switch housing from body.
2. Mount body in horizontal or vertical position as shown in Figures 1 and 2. Use bolts or screws through two (2) 7/16 inch diameter mounting lug holes.

**Note:** 1-1/2 inch center mounting hole spacing permits attachment of body to the web of a standard 3 inch angle iron.

**CAUTION**

Operating arm rotates in counter-clockwise direction only. For switch units on opposite side of belt, mount unit in opposite direction.

3. Install conduit into hubs as required and pull all necessary wires into body.

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4. With type AFA Series only, make sure gasket is in place to mate with flange of switch housing.

5. Determine opening in body that will be used to mount the switch housing. Any one of the three (3) openings may be used as determined by the mounting position of the body and the orientation of the operating arm to the belt. Using this opening, connect the DPDT switch to the line wires following your system wiring pattern in compliance with the latest edition of the National Electrical Code plus any other applicable code. See Figure 3 for switch contact arrangement.

6. Mount switch housing assembly to body with four (4) screws provided, orienting operating arm in correct position. Assemble roller to required height. Lock in height by tightening Allen head screw at the end of the shaft. Tighten Allen head screw to proper torque value listed in Table 1 on previous page.

7. Test wiring for correctness with continuity checks and for unwanted grounds with insulation resistance tester.

8. Replace access covers on all unused openings. With AFA style only, make sure that gaskets are properly seated when they are required. Make sure all bolts are securely tightened to proper torque value listed in Table 1 on previous page.

9. Check operating arm by pushing in direction indicated in Figure 1 and Figure 2 on next page. Arm should move through full over-travel without binding.
MAINTENANCE

1. Frequent inspection should be made. A schedule for maintenance checks should be determined by the environment and frequency of use. It is recommended that it should be at least once a year.

2. If necessary to open enclosure for inspection or service, refer to cautionary statement on nameplate before removing cover.

3. Perform visual, electrical, and mechanical checks on all components on a regular basis.
   - Visually check for undue heating evidenced by discoloration of wires or other components, damaged or worn parts, or leakage evidenced by water or corrosion in the interior.
   - Electrically check to make sure that all connections are clean and tight.
   - Mechanically check that all parts are properly assembled, and operating mechanisms move freely.

4. Make sure all cover bolts are securely tightened to proper torque value listed in Table 1 on first page.

5. Cooper Crouse-Hinds recommends an Electrical Preventative Maintenance program as described in the National Fire Protection Association Bulletin NFPA No. 70B.

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All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Crouse-Hinds “Terms and Conditions of Sale”, and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his intended use and assumes all risk and liability whatsoever in connection therewith.