

# MODEL VA

## BELT ALIGNMENT CONTROL FOR VERTICAL BELTS



### APPLICATION

*This Belt Alignment Control is designed to protect elevator legs from the severe damage that results from misalignment of vertical conveyor belts. When used in pairs, these controls can be wired to give signals such as turning on a warning device and/or can be connected directly into the starter motor circuit to stop the belt.*

*THE MOST ECONOMICAL METHOD OF MEETING OSHA REQUIREMENTS UNDER CODE OF FEDERAL REGULATIONS 1910.272*

Protect your valuable conveyor belt from severe damage caused by belt misalignment, prevent costly downtime and increase production with Conveyor Components Company's Model VA belt alignment control. Designed for use on bucket elevators, the Model VA ensures that your belt is tracking properly.

Normally installed in pairs on each side of the conveyor belt near the head pulley and/or the tail pulley, these heavy-duty controls consist of a conveyor roller with sealed bearings, four bar linkage and a double pole/double throw microswitch. The roller detects any belt run-off and will trigger the first pole of the microswitch to sound a warning alarm, illuminate an indicator light, or stop the conveyor completely when the vertical belt strays beyond 10° from horizontal. The second pole is triggered when the belt strays 25° from horizontal and can be wired to stop the conveyor motor. To eliminate false signals the controls should be mounted about one inch away from the belt. For high speed conveyors a breakaway mount is recommended. In the event of a run-off, the control unit performs its job of shutting down the conveyor and the breakaway mount allows the control itself to get out of the way of damage.

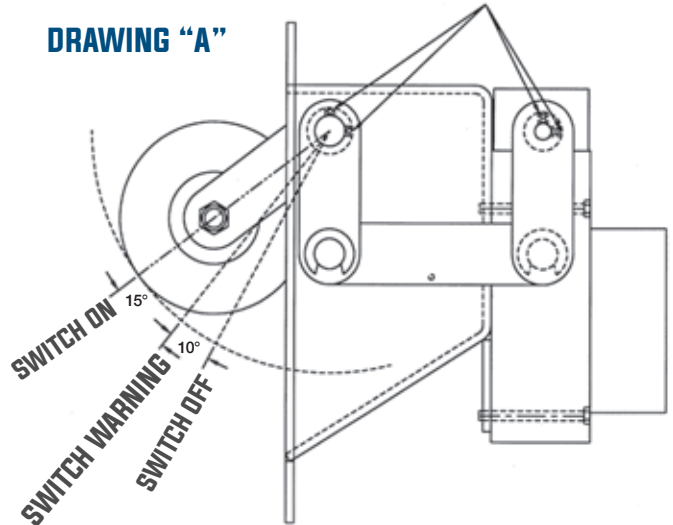
### HOW IT OPERATES

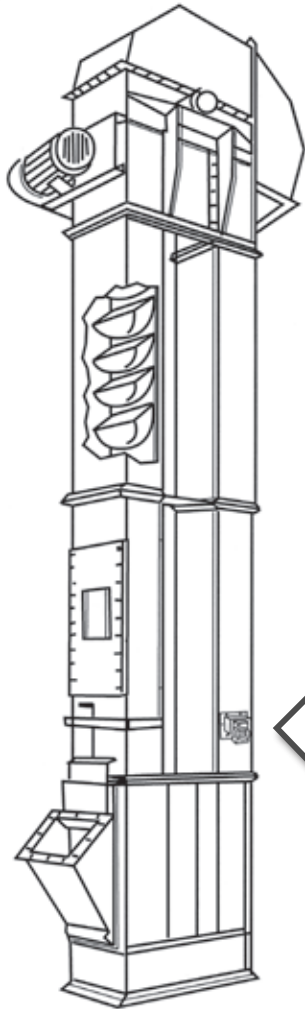
The main components of this Belt Alignment Control are a conveyor roller with sealed bearings, a four bar linkage, and the Microswitch. The control has double pole/double throw circuitry. The four bar linkage connects the roller's pivot shaft to the switch actuator. The roller is held into position by roll pins and set screws.

When the roller is displaced 15°, the first pole of the switch is triggered. This pole can be wired to sound a warning alarm, light an indicator light, or stop the conveyor. The second pole is triggered after the roller is displaced an additional 10°. This pole could also be wired to stop the conveyor motor. Drawing "A" shows a range of roller orientations and the allowable travel for each stage.

#### FIELD ADJUSTMENT SET SCREWS

DRAWING "A"





## INSTALLATION

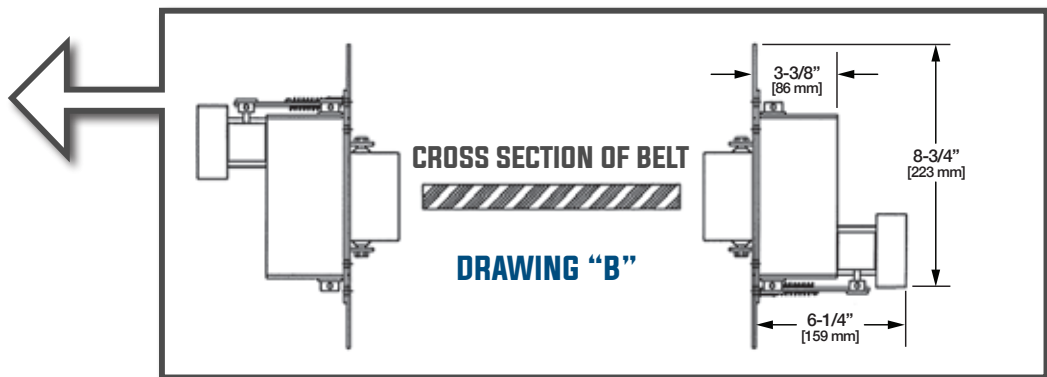
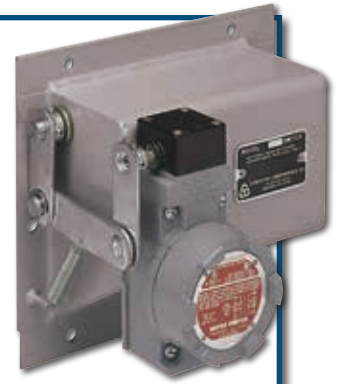
The Belt Alignment Controls should be mounted in a location that allows them to be directly across from each other. This will give the most accurate alignment reading. See Drawing "B" for an illustration.

### PREPARING THE CHUTE:

1. The Vertical Bucket Elevator Control is mounted directly onto the chute.
2. Locate the Centerline of the conveyor belt on the return side of the conveyor system. Project this point onto the chute walls.
3. Use the supplied template to mark off all hole locations.

### MOUNTING THE UNIT:

1. Measure distance between chute and conveyor belt edge.
2. Adjust conveyor roller to rest about 1/4" - 1/2" from conveyor belt edge.
3. With the housing basket in place, line up the control's holes with the holes on the chute.
4. Place the 1/4" - 20 Bolts through the holes and tighten with wrench.
5. Wire according to schematic.



MODEL	DESCRIPTION	SHPG. WT.
VA	General Purpose - NEMA 4	12 lbs.
VA-X	Explosion Proof - NEMA 7-9	12 lbs.

## SPECIFICATIONS

### EXPLOSION PROOF MICROSWITCH

- Meets NEMA Standards: 1, 3, 4, 6, 7, 9 and 13
- Class I, Div. 1, Groups B, C and D
- Class II, Div. 1, Groups E, F and G
- UL Listed and CSA Listed

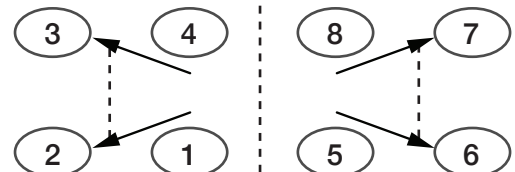
### GENERAL PURPOSE MICROSWITCH

- Meets NEMA standards: 1, 3, 4, 6 and 13
- UL listed and CSA Listed

### ELECTRICAL OUTPUT

- Double Pole/Double Throw
- 10 Amp - 120, 240, 480 VAC
- 0.8 Amp - 120 VDC
- 0.4 Amp - 240 VDC
- Conduit Connection: 3/4" NPT

### WIRING SCHEMATIC SEQUENCE



SEQUENTIAL. POLE 1 OPERATES BEFORE POLE 2.

