

# MODEL BM-3 BELT BELT MISALIGNMENT SWITCH



MODEL BM-3



The **Model BM-3 Belt Misalignment Switch** detects conveyor belt misalignment. Two (2) micro switches can trigger an alarm or conveyor shutdown to protect the conveyor belt from damage when belt drift occurs.

When the belt runs off center, the roller arm will be deflected from its normal vertical position and at a preset angle activates the first micro switch which can output an alarm. When the belt further displaces the roller arm at a preset angle, the second micro switch will be activated to shut down the conveyor before damage can occur to the belt or plant.

The BM-3 belt misalignment switches are usually installed in pairs on both sides of the belt and positioned at a distance between 1- 6 feet from the head or tail pulley. Typically, it can be mounted on the top or bottom of the conveyor stringers with the actuating arm trained 1-3 inches away from the outside edge of the belt.

## Features:

- Universal mounting, usually at the top or the bottom of the conveyor belt stringer.
- Robust die cast aluminum housing, with NEMA-4 (IP-65) degree of protection and corrosion protection.
- Integral cover, permits easy access to the wiring terminals and adjustments.
- Easily removed cover without the requirement of removing the roller arm.
- Roller arm bearings rated to 5000 RPM, suitable for belt speeds up to 1250 FPM.
- Normal roller arm angle adjustment within  $\pm 22.5$  degrees.
- Bi-directional roller actuating arm suitable for installing on both sides of the conveyor.
- Provides an alarm when the roller actuating arm moves 10 degrees and shutdown with an actuating angle of 20 degrees.

# SPECIFICATIONS

## Model BM-3, Belt Misalignment Switches

### Technical Specifications

- Rugged cast aluminum enclosure NEMA-4 (IP-65)
- Micro switch rating: 15A @ 115-230 VAC, 30 VDC non-inductive, CSA 10A @ 115-250 VAC
- Outputs: (2) SPDT (one alarm, one shutdown)
- Actuation angle: 10° and 20° from normal
- Conduit holes: (3) 3/4" - 14 NPT
- Temperature rating: -40° to 176° F (-40° to 80°C), CSA -22°F to 140°F (-30° to 60°C)
- Rugged design for belt speeds to 1200 FPM
- Bi-Directional action for ease of installation, wiring and component savings
- Cover provides easy access to wiring & internal mechanism
- Two (2) position alarm sequence for preventing costly shutdowns

### Options

- Indicating Lights
- Manual Lock Out
- Adjustable Angle
- Mounting Kits
- Addressable Communications with terminal kit

### Outline Dimensions

All Dimensions in Millimeters (Inches)



### Applications:

- Conventional Belt Conveyors
- Shuttle Conveyors
- Ship Loading/Unloading Systems
- Stockpile/Reclaim Systems
- Cranes, Shovels and Drag Lines
- Apron Feeders
- Weigh Belt Feeders
- Heavy Duty Switch



### Hazardous Approval Rating

- Class 2258-02-Process Control Equipment-For Hazardous Locations.
- Class 2258-82-Process Control Equipment-For Hazardous locations-Certified to U.S. Standards.
- Approved for Class II, Div. 1 & 2, Groups E, F & G Hazardous Locations

