



## Milltronics Zero Speed Switch (Non-Explosion Proof Option)

Zero speed switches detect the lack of speed or zero speed in rotating equipment such as a screw conveyor. A common solution is to use a Milltronics MSP-12 motion sensor probe wired to a MFA 4p motion failure alarm controller.

The MSP-12 motion sensor probe mounts to the conveyor and is positioned to sense a rotating carbon steel shaft or target. Typical applications for the probe include shafted or shaftless screw conveyors for wastewater treatment plants as well as oil refineries, chemical plants, and grain plants. The MFA 4p failure alarm controller is the control box for the probe that houses the signal contacts, adjustable timer, and visual indicator lights for probe operation and relay status. The alarm controller is NOT rated for an explosion proof environment, so it must be mounted out of the explosion-proof environment or be housed in control enclosure that is rated as explosion-proof.

The zero speed switch warns of equipment malfunction through detection of speed change or zero speed and signals through contacts to shut down machinery in case of a slowdown or failure. The process may be halted to prevent damage or plugging of other conveying or processing equipment. The system's reliability makes it a cost-effective way to protect valuable conveying and process equipment.

### Features

**Fully Sealed Probe** – The MSP-12 motion sensor probe fits in a tight tolerance aluminum housing and is tested by Milltronics to ensure no sparking will occur on the outside of the sensor.

**Adjustable Time Delay and Speed** – The motion failure alarm controller has a manually adjustable 0 to 60 second time delay with an adjustable setpoint for 2 to 3,000 pulses per minute (PPM).

**Wide Variety of Mounting Options** – The MSP-12 motion sensor probe can be mounted to sense a rotating carbon steel target. The probe works ideally when mounted near the tail end of the conveyor on the outside of the housing for sensing the rotating screw flight. Locating the probe at the tail end ensures critical issues such as a jam or mechanical failure are immediately sensed.

### Benefits

**Adjustable So Only Adverse Running Conditions Are Sensed** – The time delay adjustment allows the monitored device to accelerate to normal running speed before monitoring begins, limiting the chance of false-faulting during equipment start up. The speed adjustment ensures the motion alarm trips only when the desired speed is not reached within the desired time delay.

**Used in Wide Variety of Applications** – If the area classification is not required to be explosion proof, then the MSP-12 motion sensor probe will be the best fit for the application. The MSP-12 motion sensor probe can sense a target as far away as 4-inches.



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## Milltronics Zero Speed Switch (Non-Explosion Proof Option)



Milltronics MSP12 Inductive  
Probe Senses Rotating  
Shaftless Spiral of  
KWS Screw Conveyor



Mounting Bracket is Welded  
to Housing and Probe is Adjustable



Milltronics MFA 4p Controller  
Can be Mounted Near Equipment  
or as Far Away as 200-Feet in  
Non-Hazardous Environments



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