



MODEL MSD

MOTION SENSING CONTROL WITH TWO SET POINTS AND DIGITAL TACHOMETER

Photos not to scale.

CONSTANTLY DISPLAYS ACTUAL ROTARY SPEED

The Model MSD is comprised of two different components, a control unit and a speed sensor. The MSD-800 control unit is a programmable controller that has two set points permitting it to indicate two under-speed points, two over-speed points, or one of each. The control unit acts as a digital tachometer that constantly displays the actual rotary speed of the equipment being monitored. The control unit is installed remotely in a control panel where it is free from dust, dirt and vibration. This allows the operator to monitor equipment from one central location.

The Model MSD-1 speed sensor, which is installed directly to the shaft of the rotating equipment being monitored, is enclosed in a rugged cast aluminum housing designed to withstand harsh environments. The enclosure is weatherproof, dust-tight and meets NEMA Type 3S, 4, 4X classifications. For hazardous environments, explosion proof sensors are available that meet NEMA Type 7, Class I Groups C and D and NEMA Type 9, Class II, Groups F and G classifications.

PROGRAMMABLE CONTROL UNIT WITH TWO SET POINTS AND DIGITAL TACHOMETER

- Indicates two under-speed points or two over-speed points, or one of each
- Field adjustable to desired speed set points
- Simple set up menu and adjustment
- Panel Mount for easy access in a location free from dust, dirt and vibration
- LCD Display shows shaft RPM
- 100-240 VAC Power input, 24 VDC available

The Model MSD-800 series motion sensing controls offer affordable and reliable protection of indoor and outdoor rotating equipment such as screw conveyors, belt conveyor pulleys, rotary feeders and bucket elevators from costly damage by continuously monitoring rotary speed. The Model MSD alerts the operator of a change in speed by sending a signal to the control unit which can be set to sound an alarm and/or shutdown the equipment completely. By monitoring speed you can greatly reduce system and equipment downtime.

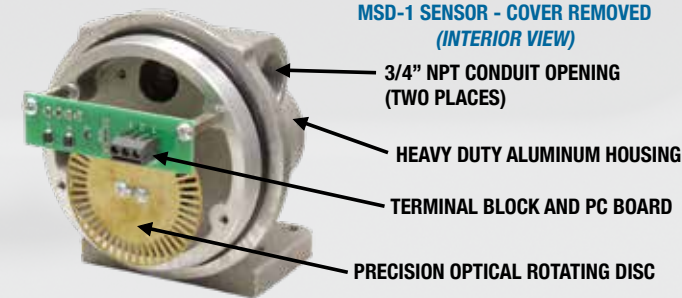
OPERATION

The Model MSD-1 sensor detects motion by means of a precision metal disc with slots on its periphery generating electronic pulses as the disc rotates past an infra-red light source. These pulses are transmitted to the MSD-800 control unit where the signal is

analyzed and the relays are activated or deactivated at preset signal speeds. The MSD-800 control unit is designed to permit two signal set points. Field adjustment of the signal set points is easily accomplished through the buttons on the face of the control unit.

TECHNICAL SPECIFICATIONS

TECHNICAL INFORMATION



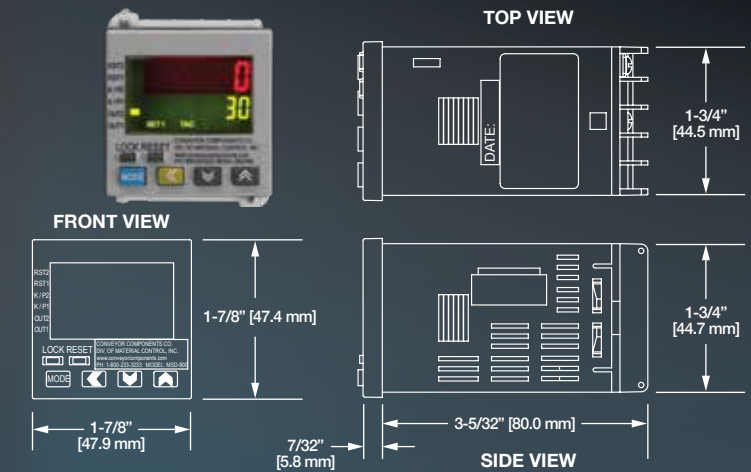
MSD-1 (or MSD-1X) SENSOR

- Power Input: 12 VDC from the control unit
- Output: 12 VDC NPN square wave to control unit
- Max. Operating Temperature: T6: 185°F (85°C) "X" units only
- Maximum Speed Limit: 1000 RPM
- Shaft Load: 125 lbs. radial, 100 lbs. end thrust
- Rotation: Clockwise or Counter-clockwise
- Drive Torque: 1 inch-pound
- Shaft: 5/8" dia. x 1-1/4" long stainless steel
- Enclosure: 319 cast aluminum;
- NEMA Type 3S, 4, 4X compliant (MSD-1)
- Optional: Type 7 Class I Groups C and D, and Type 9 Class II Groups F and G compliant (MSD-1X)
- Bearings: Permanently lubricated and sealed for life ball bearings
- Operating Range: 0-1000 RPM
- Signal Accuracy: +/- 1 RPM



MSD-800 control unit

CONTROL UNIT DIMENSIONS



MSD-800 CONTROL UNIT:

- Power Input: 100 - 240 VAC, 50/60 Hz
- Optional: 24 VDC (MSD-800-24)
- Power Consumption: Less than 10 VA (AC input), less than 5 W (DC input)
- Output Power to Sensor: 12 VDC
- Signal Input From Sensor: 12 VDC square-wave, NPN or PNP (field programmable)
- Output 1: SPST Relay: rated 5 amps resistive at a maximum of 250 VAC; Transistor: NPN open collector. When 100mA/30 VDC, residual voltage = 1.5 VDC max.
- Output 2: SPDT rated 5 amps resistive at 125/250 VAC;
- Reading Accuracy: .1 to 1 RPM
- Alarm Set Accuracy: .001 to 1 RPM
- Mounting: 1/16 DIN panel mount (45 mm x 45 mm cutout)
- Certifications: UL, CE

MODEL MSD CONTROL UNIT

MODEL	DESCRIPTION	DIGITAL TACH	SHPG. WT. LBS.
MSD-800	CONTROL UNIT: Indicates two under-speed or two over-speed points, or one of each. 110-240 V AC power input.	YES	2.0
MSD-800-24	CONTROL UNIT: Indicates two under-speed or two over-speed points, or one of each. 24 V DC power input.	YES	2.0

MODEL MSD MOTION SPEED CONTROL - SENSOR

MODEL	DESCRIPTION	SHPG. WT. LBS.
MSD-1	Speed Sensor (Pulse Generator)*	7
MSD-1X	Speed Sensor (Pulse Generator)**	7
RMS-12S3	Speed Sensor	1

*GENERAL PURPOSE meets NEMA TYPE 3S, 4, 4X
 **EXPLOSION PROOF meets NEMA TYPE 7: Class I (Div. 1 & 2) Groups C & D; and Type 9 Class II: (Div. 1 & 2) Groups F & G compliant

MODEL MSD - ACCESSORIES

MODEL	DESCRIPTION	SHPG. WT. LBS.
303	Stub Shaft, 5/8" diameter	0.5
304	Flexible Coupling, 5/8" x 5/8"	0.5
305	Coupling Guard	0.5
310	Sensor Mounting Bracket	1.0
MSD-14	Two conductor shielded cable to connect control unit and sensor (Belden 8760)	0.02

