

## M800 Speedswitch

### Monitors Rotating Machinery for Dangerous Under Speed Conditions

#### APPLICATION

The M800 Speedswitch is the industry standard inductive sensor for monitoring shaft underspeed conditions. With two under speed relay contact outputs and a pulse output, the self contained unit provides the user with easy on site installation and consistent reliability. Totally sealed and incorporating a self-calibration the M800 works in the harshest of conditions. Used on conveyors, bucket elevators, airlocks, mixers, fans, grinders and many other machines.

#### METHOD OF OPERATION

An inductive sensing device located in the nose of the M800 enclosure will detect a metal target. This target can be an existing bolt head or device attached to a shaft. During installation the M800 is set to the normal machine shaft RPM by calibrating with the magnet provided. The internal microprocessor sets the under speed relays to operate at exactly 10% and 20% below normal machine shaft RPM. So users are able to use the relay contacts to provide a warning when the shaft starts to slow down (10% underspeed) and provide an automatic shutdown at 20% under speed. If required, the M800 has an additional pulsed output, which can be connected to display actual shaft RPM on a PLC or Speed Display.

#### FEATURES

- ▶ Dual Set-Points: 10% and 20%
- ▶ Totally Sealed Construction: Submersible
- ▶ Microprocessor Accuracy
- ▶ LED Indication
- ▶ Class 2, Division 1 Groups E, F & G Approved
- ▶ IP67 Protection

#### PART NUMBERS/ACCESSORIES

- ▶ M8001V1FC Speedswitch M800 110 VAC
- ▶ M8001V2FC Speedswitch M800 220 VAC
- ▶ M8001V4FC Speedswitch M800 24 VDC
- ▶ M8002V1C 5% Alarm - 10% Shutdown Version
- ▶ WG1-4B-4 Whirligig (target/bracket/guard)
- ▶ MAG2000 Mag-Con Magnetic Connector for Whirligig
- ▶ TACH3V5 Tacho Display



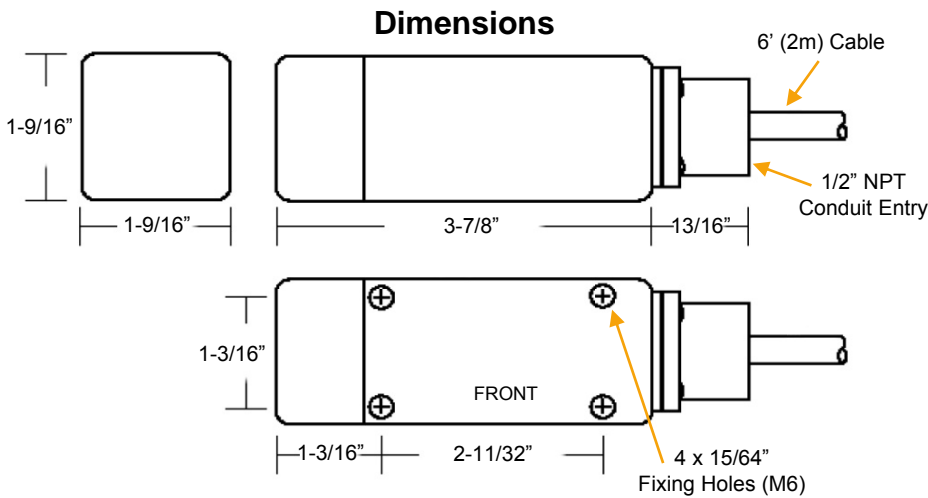
ATEX Approved  
Versions Available



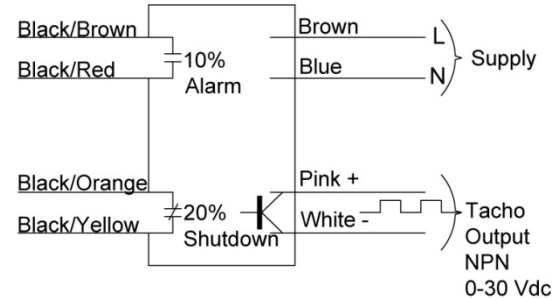
Please refer to instruction manual for correct installation.  
Information subject to change or correction. July 2009.

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TECHNOLOGY · INNOVATION · QUALITY · VALUE



## Connections



The diagram above shows the state of the internal contacts when power is applied to the M800. See installation manual for onsite wiring procedure. The alarm contact closes when the speed falls below 10% of set speed. The shutdown contact opens when the speed falls below 20% of set speed or power supply is interrupted. The unit can be used with or without the tacho output. High clarity 6 digit tachometer/speed displays are available for connection to the unit.



Front view of M800 showing :  
 - Input LED (Red)  
 - Set LED (Green)  
 - Calibrate point for magnetic calibration of the sensor

## TECHNICAL SPECIFICATIONS

### M800 Speedswitch – Under Speed Sensor

M800 Speedswitch	
<b>Power Supply:</b>	110 VAC, 220 VAC or 24 VDC (specify when ordering)
<b>Power Consumption:</b>	6 VA
<b>Fuse:</b>	5 amp maximum
<b>Speed Range:</b>	10 - 3600 PPM (pulses per minute)
<b>Sensing Range:</b>	11/32" (9mm) max. ferrous target 7/32" (6mm) max. non-ferrous target
<b>Start Up Delay:</b>	User selectable 0 - 30 seconds
<b>Contact Rating:</b>	3A 240 VAC non-inductive
<b>Calibration:</b>	Magnetic
<b>Trip Point:</b>	10% underspeed alarm, 20% underspeed shutdown. Alternate 5% alarm and 10% shutdown available.
<b>Outputs:</b>	1. Normally open (powered up) contact closing when speed falls by 10% 2. Normally closed contact opening when speed falls by 20% 3. Tacho output opto-isolated to 30v, 100mA max.
<b>LED Indicator:</b>	Red LED indicates input pulses. Green LED shows output at nominal speed and acts as calibration aid. It may flicker during normal operation.
<b>Cable:</b>	6' (2m) 8 conductor
<b>Approval:</b>	Class 2 Div. 1 Groups E, F & G (US and Canada)
<b>Protection:</b>	IP67

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