



# *Speed Switches*



*A complete line of switches and accessories  
designed for all your speed monitoring requirements.*

BETTER BY DESIGN

## Speed Switch

A solid state unit with no moving parts, the M800 Elite is maintenance free. The unit uses an inductive sensing device and requires no contact with the monitored machine. By detecting a metal target, as simple as a bolt attached to a shaft, the M800 Elite is able to calibrate to the machine's normal RPM, and if the shaft speed falls too low the unit will alarm.




## Slipswitch

User friendly and easy to install, the Slipswitch is a simple shaft speed monitoring device. Available in 2 wire and 5 wire models, the Slipswitch is magnetically touch calibrated and provides a 20% underspeed output to protect against dangerous belt slip and underspeed conditions.



## Stopswitch

The Stopswitch will provide an output if the shaft stops rotating. It requires no calibration to operate and is a great tool for process control, motion verification and stopped shaft indication.

 *Do not use the M100 for belt slip applications*



### Model

M800 Elite Speed Switch

M300 Slipswitch

M3005 Slipswitch

M100 Stopswitch

### Description

Intelligent underspeed switch with three outputs

Intelligent underspeed switch with one 2 wire output

Intelligent underspeed switch with one output

Stopped motion monitor with one output

### Features

- Totally sealed
- Magnetic touch calibration
- 1/2 inch conduit entry with 6 ft. cable
- Status LED's

- Totally sealed
- Magnetic touch calibration
- 2 wire connection
- 6 ft. cable
- Status LED's

- Totally sealed
- Magnetic touch calibration
- 3 or 5 wire connection
- 6 ft. cable
- Status LED's

- Small 18 mm diameter
- Totally sealed
- 2 wire connection
- 6 ft. cable
- Status LED's

### Style

DIN (40 mm x 40 mm)

30 mm cylindrical

30 mm cylindrical

18 mm cylindrical

### Supply Voltage

24 to 240 VAC  
24 to 240 VDC  
(universal supply)

24 to 240 VAC  
24 to 240 VDC  
(universal supply)

24 to 240 VAC  
12 to 240 VDC  
(universal supply)

24 to 240 VAC  
24 to 240 VDC  
(universal supply)

### Output

1 x 10% underspeed relay  
1 x 20% underspeed relay  
1 x NPN/PNP transistor pulse  
(All 3 outputs in 1 unit)  
Optional 5% & 10% unit available

1 x 20% underspeed  
Triac with maximum load  
of 200 mA

1 x 20% underspeed relay

Stopped motion signal  
Triac with maximum load of  
200 mA

### Approvals

- U.S. and Canada - Class II Div. 1 E, F, G
- Europe - CE, ATEX (Avail.)
- IP 67

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### Applications

Conveyors, bucket elevators, any speed sensitive shaft for automatic underspeed detection with 10% alarm and 20% shutdown.

Conveyors, bucket elevators, any speed sensitive shaft for automatic 20% underspeed detection.

Conveyors, bucket elevators, any speed sensitive shaft for automatic 20% underspeed detection.

Process control. Provides a signal when the shaft has stopped rotating.

## Rotech Encoders

The Rotech Encoder is a safe, heavy-duty option for protecting against dangerous underspeed and belt slip conditions. With its tough stainless steel, aluminum or polypropylene construction, the Rotech is used in the most severe industrial environments. It requires no guards as rotating components are encased inside the encoder, and since the encoder is bolted to and moves with the shaft, it needs no brackets.

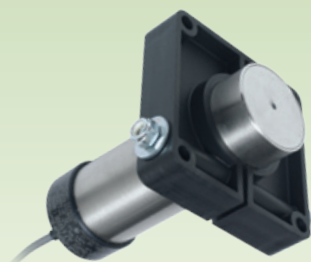
Standard encoders can be installed on machinery with speeds of up to 1,500 rpm. High speed versions are available and can monitor shaft speeds from 1,500 up to 5,000 rpm. Special low temperature (-40°F / 40°C) and high temperature (212°F to 302°F / 100°C to 150°C) versions are also available by special order.



Model	Stainless Shaft Encoder	Aluminum Shaft Encoder	Shaft Encoder	Wheel Encoder
Description	Heavy-duty shaft mounted speed monitor / encoder	Heavy-duty shaft mounted speed monitor / encoder	Polypropylene shaft mounted speed monitor / encoder	Return belt mounted heavy-duty belt speed monitor / encoder
Features	<ul style="list-style-type: none"> <li>Stainless body (304/316)</li> <li>Totally enclosed - no guards required</li> <li>Stainless steel bearings</li> <li>Operating temperature -13°F (-25°C) to 158°F (70°C)</li> <li>1 to 1,000 pulses/revolution</li> <li>Wash down version with grease zerk available</li> <li>Optional 3 or 4 pin quick cable connectors</li> </ul>	<ul style="list-style-type: none"> <li>Aluminum body</li> <li>Totally enclosed - no guards required</li> <li>Stainless steel bearings</li> <li>Operating temperature -13°F (-25°C) to 158°F (70°C)</li> <li>1 to 1,000 pulses/revolution</li> <li>Wash down version with grease zerk available</li> <li>Optional 3 or 4 pin quick cable connectors</li> </ul>	<ul style="list-style-type: none"> <li>Polypropylene body</li> <li>Totally enclosed - no guards required</li> <li>Stainless steel bearings</li> <li>Heavy-duty shaft seals</li> <li>Operating temperature -13°F (-25°C) to 158°F (70°C)</li> <li>1 to 1,000 pulses/revolution</li> <li>Optional 3 or 4 pin quick cable connectors</li> </ul>	<ul style="list-style-type: none"> <li>Heavy-duty construction</li> <li>Totally enclosed and self contained</li> <li>Stainless steel bearings</li> <li>Heavy-duty shaft seals</li> <li>Operating temperature -13°F (-25°C) to 158°F (70°C)</li> <li>1 to 1,000 pulses/revolution</li> </ul>
Style	Shaft mounted with a single 1/2 inch UNC bolt	Shaft mounted with a single 1/2 inch UNC bolt	Shaft mounted with a single 1/2 inch UNC bolt	Trailing arm and wheel
Supply Voltage	10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur	10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur	10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur	10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur
Output	Many different outputs are available: NPN, PNP, PNP/NPN, Namur (intrinsically safe), Triac and Quadrature. An optional Speed Relay unit can provide an underspeed trip point relay contact output or the unit can be connected directly to a PLC. Available pulse rates (PPR) - 1, 2, 4, 5, 6, 8, 10, 12, 20, 30, 32, 40, 50, 60, 100, 120, 180, 240, 250, 300, 360, 500, 1000 (dependent on output type).			
Approvals	<ul style="list-style-type: none"> <li>U.S. and Canada - CSA Class II Div. 1 (Avail.)</li> <li>CSA Class I Div. 1 (Namur)</li> <li>Europe - CE, ATEX (Avail.)</li> <li>Russia - GOST (Avail.)</li> <li>IP 67</li> </ul>	<ul style="list-style-type: none"> <li>U.S. and Canada - CSA Class II Div. 1 (Avail.)</li> <li>CSA Class I Div. 1 (Namur)</li> <li>Europe - CE, ATEX (Avail.)</li> <li>Russia - GOST (Avail.)</li> <li>IP 67</li> </ul>	<ul style="list-style-type: none"> <li>U.S. and Canada - CSA Class II Div. 1 (Avail.)</li> <li>CSA Class I Div. 1 (Namur)</li> <li>Europe - CE, ATEX (Avail.)</li> <li>Russia - GOST (Avail.)</li> <li>IP 66</li> </ul>	<ul style="list-style-type: none"> <li>U.S. and Canada - CSA Class II Div. 1 (Avail.)</li> <li>CSA Class I Div. 1 (Namur)</li> <li>Europe - CE, ATEX (Avail.)</li> <li>Russia - GOST (Avail.)</li> <li>IP 67</li> </ul>
Applications	Shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions in severe corrosive environments.	Shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions.	Economical shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions.	Direct conveyor belt speed monitoring, belt slip, belt stopped, belt weighers and distance/length measurement for long belt conveyors.

## WDA High Power Sensor

Non-contacting extended range sensor used to detect screw conveyor flights, elevator bucket bolts and other targets which are up to 3 inches from the sensor.



### Model

WDA Sensor

### Description

High power extended range magnetic proximity sensor

### Features

- Adjustable sensing range 1 to 3 inches
- 20 to 2,000 ppm (standard)
- 20 to 20,000 ppm (high speed version)
- LED indication
- 1/2 inch conduit entry
- 9 ft. cable and stainless steel construction
- High temperature version available 302° F

### Style

2 in (51 mm) cylindrical (mounting bracket included)

### Supply Voltage

12 to 24 VDC

### Output

1 x NPN/PNP transistor pulse and  
1 x constant NPN/PNP transistor

### Approvals

- US and Canada - Class II Div.1 E, F, G
- Europe - CE, ATEX, IECEx (Avail.)

### Applications

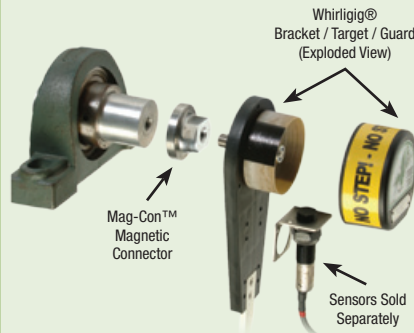
Conveyors, bucket elevators, any speed sensitive shaft. Used for applications where an extended sensing range of up to 3 inches is required. Can detect moving ferrous objects behind a stainless steel plate.

## ACCESSORIES

### Whirligig®

U.S. PATENT #6,109,120

The Whirligig® is the new standard for shaft speed monitoring. It is a three-in-one universal shaft sensor mount that makes installation simple and more reliable for all inductive shaft speed sensors. Your sensor mounts to the Whirligig® and the complete assembly bolts to the machine's shaft. Machine and shaft vibration does not affect the performance of the sensor, as the whole assembly moves with the shaft. Personal safety is also improved since the rotating target is completely enclosed behind a tough plastic cover guard.



### Mag-Con™ Magnetic Connector

U.S. PATENT #6,964,209

Whirligig® 2 inch diameter magnetic coupler with 150 lb. of pulling force for connecting 1/2 inch UNC thread to rotating shaft. Saves on drilling and tapping.



### Conduit Adapters

Used to couple conduit to 1/2 inch (18 mm) NPT and 3/4 inch (30 mm) NPT cylindrical sensors.



### SpeedMaster™ Speed Switch Tester

The SpeedMaster™ accurately tests the calibration of a speed switch, and allows testing of the 10% alarm and 20% shutdown features of the sensor while installed on the machine shaft.



### Speed Relay

DIN rail mounted speed relay can be used with any PNP or NPN pulsed output sensor for providing a user-adjustable underspeed relay contact output to alarm or shutdown machinery.



### Tacho Display

Bright 1 inch high LED display unit for connection to any NPN transistor output sensor to indicate shaft speed. The unit incorporates a user-adjustable under speed relay contact output. Quadrature display also available.



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