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

<table>
<thead>
<tr>
<th>Model</th>
<th>M800 Elite Speed Switch</th>
<th>M300 Slipswitch</th>
<th>M3005 Slipswitch</th>
<th>M100 Stopswitch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Intelligent underspeed switch with three outputs</td>
<td>Intelligent underspeed switch with one 2 wire output</td>
<td>Intelligent underspeed switch with one output</td>
<td>Stopped motion monitor with one output</td>
</tr>
</tbody>
</table>
| **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 | • U.S. and Canada - Class II Div. 1 E, F, G  
                 • Europe - CE, ATEX (Avail.)  
                 • IP 67 | • U.S. and Canada - Class II Div. 1 E, F, G  
                 • Europe - CE, ATEX (Avail.)  
                 • IP 67 | • U.S. and Canada - Class II Div. 1 E, F, G  
                 • Europe - CE, ATEX (Avail.)  
                 • IP 67 |
| **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. |

### 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*
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.

<table>
<thead>
<tr>
<th>Model</th>
<th>Stainless Shaft Encoder</th>
<th>Aluminum Shaft Encoder</th>
<th>Shaft Encoder</th>
<th>Wheel Encoder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Heavy-duty shaft mounted speed monitor / encoder</td>
<td>Heavy-duty shaft mounted speed monitor / encoder</td>
<td>Polypropylene shaft mounted speed monitor / encoder</td>
<td>Return belt mounted heavy-duty belt speed monitor / encoder</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>• Stainless body (304/316)</td>
<td>• Aluminum body</td>
<td>• Polypropylene body</td>
<td>• Heavy-duty construction</td>
</tr>
<tr>
<td></td>
<td>• Totally enclosed - no guards required</td>
<td>• Totally enclosed - no guards required</td>
<td>• Totally enclosed - no guards required</td>
<td>• Totally enclosed and self contained</td>
</tr>
<tr>
<td></td>
<td>• Stainless steel bearings</td>
<td>• Stainless steel bearings</td>
<td>• Stainless steel bearings</td>
<td>• Stainless steel bearings</td>
</tr>
<tr>
<td></td>
<td>• Operating temperature -13°F (-25°C) to 158°F (70°C)</td>
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</tr>
<tr>
<td></td>
<td>• 1 to 1,000 pulses/revolution</td>
<td>• 1 to 1,000 pulses/revolution</td>
<td>• 1 to 1,000 pulses/revolution</td>
<td>• 1 to 1,000 pulses/revolution</td>
</tr>
<tr>
<td></td>
<td>• Wash down version with grease zerk available</td>
<td>• Wash down version with grease zerk available</td>
<td>• Optional 3 or 4 pin quick cable connectors</td>
<td>• Optional 3 or 4 pin quick cable connectors</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td>Shaft mounted with a single 1/2 inch UNC bolt</td>
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<td>Trailing arm and wheel</td>
</tr>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur</td>
<td>10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur</td>
<td>10 to 30 VDC - Standard 20 to 240 VAC/DC 8.2 VDC - Namur</td>
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</tr>
<tr>
<td><strong>Output</strong></td>
<td>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).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approvals</strong></td>
<td>• U.S. and Canada - CSA Class II Div. 1 (Avail.)  • CSA Class I Div. 1 (Namur)  • Europe - CE, ATEX (Avail.)  • Russia - GOST (Avail.)  • IP 67</td>
<td>• U.S. and Canada - CSA Class II Div. 1 (Avail.)  • CSA Class I Div. 1 (Namur)  • Europe - CE, ATEX (Avail.)  • Russia - GOST (Avail.)  • IP 66</td>
<td>• U.S. and Canada - CSA Class II Div. 1 (Avail.)  • CSA Class I Div. 1 (Namur)  • Europe - CE, ATEX (Avail.)  • Russia - GOST (Avail.)  • IP 67</td>
<td>• U.S. and Canada - CSA Class II Div. 1 (Avail.)  • CSA Class I Div. 1 (Namur)  • Europe - CE, ATEX (Avail.)  • Russia - GOST (Avail.)  • IP 67</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>Shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions in severe corrosive environments.</td>
<td>Shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions.</td>
<td>Economical shaft monitoring for speed, distance, direction, belt slip, shaft stopped, underspeed or overspeed conditions.</td>
<td>Direct conveyor belt speed monitoring, belt slip, belt stopped, belt weighers and distance/length measurement for long belt conveyors.</td>
</tr>
</tbody>
</table>
**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.

### 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

### 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.

#### 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.

#### 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.

#### Conduit Adapters

Used to couple conduit to 1/2 inch (18 mm) NPT and 3/4 inch (30 mm) NPT cylindrical sensors.
With subsidiaries in North America, Europe, Asia, Africa and Australia along with a worldwide network of distributors, 4B can provide practical solutions for all your applications no matter the location.

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