ELECTRO·SENSORS

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Key Features

- Internal sensor
- SPDT relay output
- 5-100 rpm (M100T), 100-5,000 rpm (M5000T) under-speed setting
- Terminal block for easy wiring
- 115, 230 VAC (50-60 Hz) and 12, 24 VDC power options
- Works with Electro-Sensors magnetic pulser discs / wraps
- Optional EZ-100 Mounting Bracket and Mounting Magnet
- Cast aluminum explosion proof (XP) housing
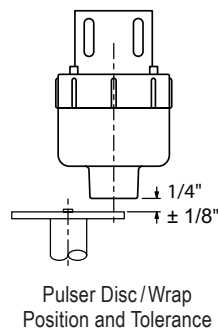- UL Listed Class I, Div I (C, D) Class II, Div I (E, F, G)

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Description

M100T and M5000T Speed Switches detect the unwanted slowdown of process equipment including drive trains, power-driven components, crushers, exhaust fans, screw conveyors, and tail pulleys on belt conveyors and bucket elevators. Models contain a sensor and switching electronics in an explosion proof, cast aluminum housing. Each switch uses a shaft-end mounted Pulser Disc or shaft-mount Split Collar Pulser Wrap which generates an alternating magnetic field that is picked up by the speed switch. The switch decodes this frequency signal to determine shaft speed and compares it to the pre-adjusted setpoint. The setpoint is easily calibrated via a single-turn potentiometer.

In the event of rotational failure, the relay can be used to provide an alarm or equipment shutdown, assuring machine protection and process integrity.

Principle of Operation

The M100T and M5000T measure shaft speed by sensing magnets embedded in a pulser disc* attached to the rotating shaft end or a split collar pulser wrap* attached around the shaft.

The rotating shaft ❶ with an end mounted pulser disc* ❷ or a split collar pulser wrap* ❸ creates a rotating magnetic field ❹ that is detected by the Hall Effect sensor in the Shaft Speed Switch ❺. If the rotation speed detected is below the user-adjusted setpoint, the output relay de-energizes, providing an alarm signal or equipment shutdown.

* Sold separately. See System Options for part numbers.

Sensor Gap Flexibility

You only need a ruler to position our sensing heads (with our competitors you need a feeler gauge). Compare our sensor tolerances to competitors before you purchase and install an inflexible rotational pickup device.
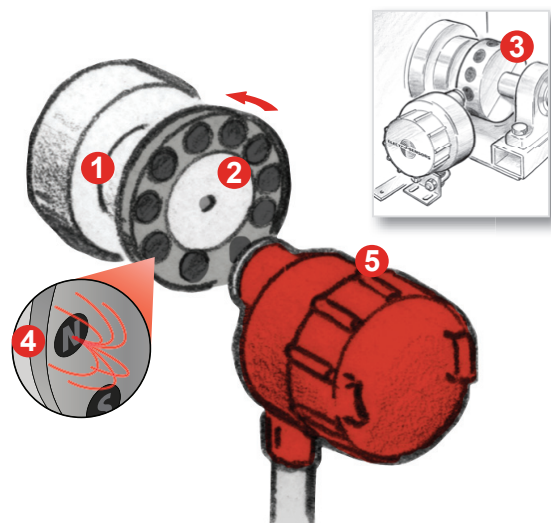
1/4"
± 1/8"

Pulser Disc / Wrap
Position and Tolerance

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M100T/M5000T Specifications

	M100T	M5000T
Integrated Sensor	✓	
Sensor Input Signal	Single	
Target Type	Magnetic	
Detection	Underspeed, Zero Speed	
Operating		
Input Power Options	115 VAC (60 Hz), 230 VAC, 12 VDC, 24 VDC	
Output	SPDT Form C, Isolated	
Relay Contact Rating	5 Amp @30 VDC or 230 VAC resistive	
Operating Temperature	-40° F to +140° F	
Sensing Head	Integral	
Electrical Connections	5 pos Terminal Strip de-pluggable	
Number of Setpoints	1	
Setpoint Range (RPM)	5-100	100-5,000
Setpoint Accuracy	±0.5%	
Setpoint Adjustment	1-turn (270°) Potentiometer	
Housing		
Enclosure Mount	Conduit	
Material	Cast Aluminum	
Enclosure Rating	4X	

Specifications subject to change without notice.

Ordering

All models come with a standard bracket for mounting

Model Description	Part Number
M100T, 115 VAC - Standard	800-001700
M100T, 230 VAC	800-001760
M100T, 12 VDC	800-001720
M100T, 24 VDC	800-001740
M5000T, 115 VAC	800-001710
M5000T, 230 VAC	800-001770
M5000T, 12 VDC	800-001730
M5000T, 24 VDC	800-001750

M100T/M5000T Standard System

• Shaft Speed Pulse Generator

These are the most popular system components. Many other options are available.

System Options	Part Number
Standard 255 Nylon Pulser Disc, 4" Diameter, 16 Magnets (M100T)	700-000200
256 Nylon Pulser Disc, 2.5" Diameter, 8 Magnets (M5000T)	700-000300
Split Collar Pulser Wrap (PVC, Aluminum, Stainless Steel)	Custom (See Website)

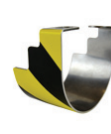| Other Options	Part Number
EZ-100 Bracket Assembly	810-000001
MM-2.00 Mounting Magnet (must use EZ-100 Bracket Assembly)	810-000060
Standard Disc Guard	725-005300
EZ-Mount Disc Guard	725-005200
EZ-Mount Lower Disc Guard	725-005201

EZ-100 Mounting Option

MM-2.00 Mounting Magnet Option (must be used with EZ-100)

Standard Disc Guard   *EZ-Mount Disc Guard*   *Lower EZ-Mount Guard*

Customization

If one of our standard products does not meet your specifications, please call one of our applications specialists. Many of our products can be customized to fit specific needs.

Additional Information

See M100T/M5000T Installation and Operating Manual for complete details, specifications, and programming instructions.