

## Key Features

- Works with remote / external pulse frequency output sensor (NPN, PNP, or Mag Pick-up)
- DPDT relay output
- Under-speed setpoint adjustment from 0.5-5,000 rpm (at 8 PPR)
- Terminal blocks for easy wiring
- 115, 230 VAC (50-60 Hz) and 12, 24 VDC power options
- Rugged explosion proof / NEMA 4X housing
- UL Listed Class I, Div I (C, D) Class II, Div I (E, F, G)



## Description

The DR1000 Speed Switch is a shaft rotation monitoring system engineered to detect unwanted slowdown or stoppage of pumps, drive trains, power driven components, screw conveyors, tail pulleys on belt conveyors, exhaust fans, crushers, and elevators.

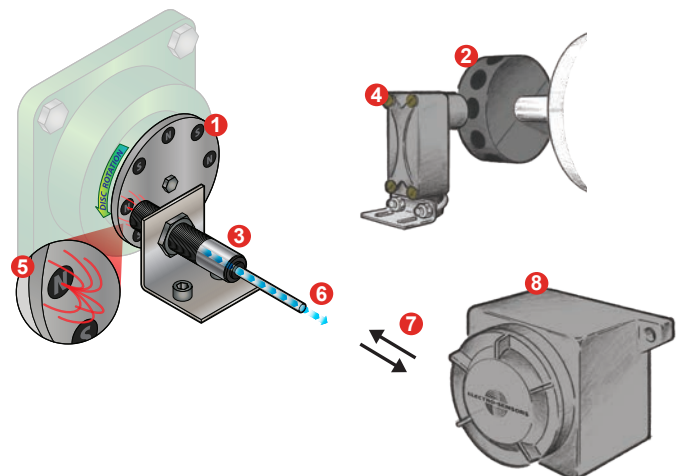
The DR1000 features precise setpoint capability over a broad range of speeds starting at 0.5 rpm, making it ideal for slow speed applications. It detects shaft slowdown with a 6.6 percent hysteresis. A DPDT control relay rated at 5 Amp at 30 VDC/120 VAC resistive, serves as the output. In the event of rotational failure, this relay can be used for equipment shutdown or to provide an alarm. Electro-Sensors' Speed Switches bring efficiency and safety to your operations by preventing machine damage, product waste, and costly downtime.

## Principle of Operation

The DR1000 Speed Switch works as a system with a remote / external pulse frequency output sensor and a pulse generator (sold separately). The most common Electro-Sensors DR1000 system consists of a 906 or 907 XP Hall Effect Sensor, and a 255 Pulser Disc.

The shaft-end mounted Pulser Disc (or optional Pulser Wrap) generates an alternating magnetic field that is picked up by the large-gap sensor. The sensor transmits this speed signal as a digital pulse (frequency) to the switch via a 3-conductor shielded cable. The DR1000 decodes this frequency signal to determine shaft speed and compares this to the pre-adjusted setpoint. The relay output can then be used for equipment shutdown or to provide an alarm, assuring machine protection and process integrity. The DR1000 is failsafe; any malfunction during operation will de-energize the control circuit.

- 1 Shaft-end mounted Pulser Disc (option)
- 2 Shaft-mount Split Collar Pulser Wrap (option)
- 3 Non-contact Speed Sensor (i.e. <sup>906</sup>)
- 4 Explosion proof Speed Sensor (i.e. <sup>907</sup> XP)
- 5 Magnetic field
- 6 Sensor output (digital pulse/frequency)
- 7 Sensor output transmitted via shielded cable
- 8 DR<sup>1000</sup> Speed Switch



## DR1000 Specifications

Detection (selectable)	Under-speed, Zero Speed
Operating	
Input Power Options	115 VAC (50/60 Hz), 230 VAC, 12 VDC, 24 VDC
Maximum Frequency	666.67 Hz
Operating Temperature	-40° F to +140° F
Input Signal Termination	NPN, PNP, Logic, Mag
Setpoint Data	
Number of Setpoints	1
Setpoint Range (RPM)	0.5-5,000 (w/standard 255 disc)
Relay Output	1 DPDT Form C
Relay Contact Rating	Isolated, 5 amp, 115/230 VAC 30 VDC Resistive
Setpoint Accuracy	±0.5%
Setpoint Adjustment	1-turn (270°) potentiometer or 25-turn potentiometer
Housing	
Material	Cast Aluminum
Enclosure Rating	NEMA 4X

Specifications subject to change without notice.

## Ordering

Model Description	Part Number
<b>1-turn setpoint potentiometer</b>	
DR1000, 115 VAC - Standard	800-050101
DR1000, 230 VAC	800-050102
DR1000, 12 VDC	800-050103
DR1000, 24 VDC	800-050104

Model Description	Part Number
<b>25-turn setpoint potentiometer</b>	
DR1000, 115 VAC - Standard	800-050105
DR1000, 230 VAC	800-050106
DR1000, 12 VDC	800-050107
DR1000, 24 VDC	800-050108

## DR1000 Standard System

- Shaft Speed Sensor
- Shaft Speed Pulse Generator

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

System Options	Part Number
906 Hall Effect Speed Sensor	775-000500
907 XP Hall Effect Speed Sensor (Explosion Proof)	775-000600
Standard 255 Nylon Pulser Disc, 4" Diameter, 16 Magnets	700-000200
Split Collar Pulser Wrap (PVC, Aluminum, Stainless Steel)	Custom (See Website)

Accessories	Part Number
EZ-100 Bracket Assembly (907 XP)	810-000001
MM-2.00 Mounting Magnet (must use w/EZ-100)	810-000050
EZ-3/4in Bracket Assembly (906)	810-000040
MM-1.50 Mounting Magnet (must use w/EZ-3/4in)	810-000070
Standard Disc Guard (for 4" Discs)	725-005300
EZ-Mount Disc Guard (for 4" Discs)	725-005200
EZ-Mount Lower Disc Guard (for 4" Discs)	725-005201



## 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 DR1000 Installation and Operating Manual for complete details, specifications, and programming instructions.