

- 8x, 16x, or 32x Frequency Multiplier
- LED indicators for operation status
- User-configurable operating range within 0-1,000 input rpm
- Internal LCD for programming, testing, and troubleshooting
- +12Vdc to +15Vdc powered; terminal blocks for easy wiring
- Works with Electro-Sensors magnetic pulser discs / wraps
- Cast aluminum explosion proof (XP) housing
- UL Listed Class I, Div I (C, D) Class II Div I (E, F, G)
- Optional EZ-100 mounting bracket and mounting magnet available
- Optional Disc Guards for added protection



Description

Electro-Sensors FB420 is a shaft speed sensor that provides a 4-20 mA output signal directly proportional to the rotational speed of a monitored shaft. Since both the 4 mA and 20 mA calibration points are programmable, the user can also operate the FB420 with the 4 mA point offset from 0 rpm if necessary. The FB420 has a 4-digit LCD display used for calibration, testing, and troubleshooting. The LCD is capable of displaying from 0.000 to 9,999 rpm or from 04.00 mA to 20.00 mA. The FB420 has one relay that can be programmed for under-speed alarm or over-speed alarm.

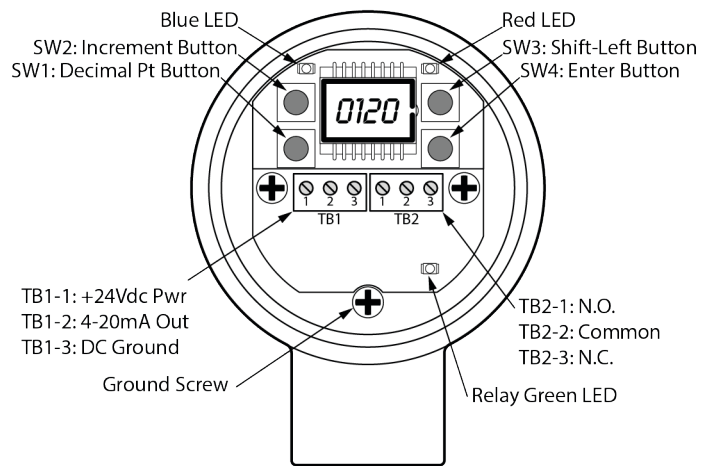
Housed in a rugged, explosion proof NEMA 4X housing, the FB420 is ideal for detecting shaft under-speed or over-speed on a wide variety of industrial machinery. Typical applications include belt conveyors, drag conveyors, bucket elevators, fans, blowers, crushers, and pumps.

Principle of Operation

The FB420-PTO is mounted so that the internal sensor is aligned with the magnets that are embedded in either a pulser disc* or a split collar wrap*. Pulser discs are mounted to the end of a shaft. Split collar wraps are attached around the circumference of a shaft. As the shaft rotates, the magnets pass in front of the internal sensor and generate speed pulses. The FB420-PTO is a specialized speed sensor that allows for user specified pulse train output.

* Sold separately. See System Options for part numbers.

The FB420-PTO can multiply speed signals in order to create a user specified pulse train output. The speed pulses can be multiplied by 8, 16, or 32. The signal is sent to a NPN output transistor.



Rear-View (Cover Removed)

Blue LED: Loss of Feedback Alert Green LED:
Pulse-Train-Output Active Blue & Red LEDs:
Unit not in Normal run mode

FB420-PTO Specifications

Product	
Input Power	REQUIRES +12 to +15 Vdc Power Supply
Input Current	Max of 55mA
Fuse Type	REQUIRES any value slo-blo external fuse 0.1A to 4A
Input Signal	
Sensor Targets	Alternating Magnets: (ex: 16 m Magnets=8 PPR)
Range of Operation:	8 PPR: All three output speeds (8x, 16x, 32x) are usable up to 1000 RPM input speed. 16PPR: All three output speeds (8x, 16x, 32x) are usable up to 700 RPM input speed. 32PPR: All three output speeds (8x, 16x, 32x) are usable up to 350 RPM input speed. Note: Shaft Input RPMs exceeding these limits will disable the FB420 device. Remove the +Vdc pwr, then re-apply the +Vdc power to re-enable the FB420-PTO
(Examples of maximum shaft input speeds usable, per Var01 PPR value and Var04 multiplier value).	
Gap Distance	1/4" +/- 1/8"
Pulse Train Output Signal	
Type	NON-Electrically Isolated Pulse-Train-Output circuit at Terminal Block TB2-2. The FB420-PTO (Pulse-Train-Output) has an internal 4.7k-ohm resistor to 'pull-up' the signal to the same voltage as present at TB1-1 when the NPN transistor output turns off. Thus the TB2-2 Pulse-Train-Output signal is with respect to the DC ground terminal at TB1-3 .
TB2-1	No Connection
TB2-2	Pulse-Train-Output. (NPN Transistor). Note: This output can sink 25 mA
TB2-3	No Connection
Max Signal Distance	Using a 3-Conductor cable with 17.5 Ω/1000ft per conductor, the maximum length of cable usable with the FB420-PTO is 2300ft.
Physical/Environment	Parameters
Rating	NEMA 4X, Gasket Provided
Operating Temperature	-40°F to +149°F (-40°C to +65°C)
Storage Temperature	-40°F to +176°F (-40°C to +80°C)
Humidity	0% to 90% non-condensing

Specifications subject to change without notice.

Ordering

All models come with a standard bracket for mounting.

Model Description	Part Number
FB420-PTO (Pulse Train Output)	800-046002

FB420-PTO Pulse Train Output

• 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	700-000200
Split Collar Pulser Wrap (PVC, Aluminum, Stainless Steel)	Custom (See Website)

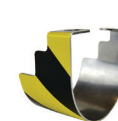
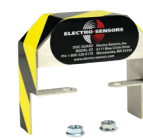
Other Options	Part Number
EZ-100 Bracket Assembly	810-000001
MM-1.50 Mounting Magnet (must use EZ-100 Bracket Assembly)	810-000070
Standard Disc Guard	725-005300
EZ-Mount Disc Guard	725-005200
EZ-Mount Lower Disc Guard	725-005201



EZ-100 Mounting Option



MM-1.50 Mounting Magnet Option
(must be used with EZ-100)



Standard Disc Guard EZ-Mount Disc Guard EZ-Mount Lower Disc 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 FB420-PTO Installation and Operating Manual for complete details, specifications, and programming instructions.