SA420 Signal Conditioner

- Convert pulses from a remote sensor to analog output
- ETL recognized to UL508 and CSA-C22.2 standards
- Works with NPN, PNP, or Mag Pick-up sensor outputs
- Accepts a wide range of input frequencies 0.01 Hz to 10 kHz
- 4-20 mA and 0-10 VDC outputs proportional to shaft speed
- ±5 VDC & ±10 VDC bi-directional outputs for quadrature Sensors
- Din-Rail Mount & Easy Field Programming
- 115VAC, 230VAC, 12VDC, 24VDC Power Options
- Optional explosion proof enclosure
- Optional NEMA 4, NEMA 4X, or NEMA 12 enclosure kit



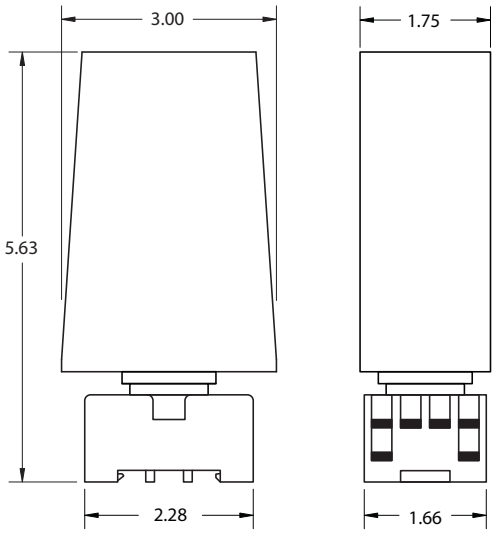
Description

The SA420 Digital Signal Conditioner provides an analog signal directly proportional to the speed of a rotating shaft. The 0-10 VDC and 4-20 mA output signals can be sent to a digital display, PLC, chart recorder, loop controller, variable speed drive or other control/monitoring device. The wide voltage range and wave shape flexibility of the SA420's sensor input circuitry enables it to translate input signals from NPN/PNP output sensors, proximity switches, magnetic sensors, and other pulse generator devices into analog outputs. A standard system includes the SA420 DIN rail mount module, a 906 Hall Effect Shaft Speed Sensor, and a 255 Pulser Disc. Other shaft speed sensor and pulser target options are available.



Standard System with: SA420, 906 Speed Sensor, 255 Pulser Disc

Dimensions



Options: Protective Enclosures



NEMA 4X Model

Enclosure Kits - NEMA

NEMA 4X
- 10x8x6, Fiber Glass
- Swing Out Door and Window

NEMA 12
- 8x6x6, Steel



Explosion Proof

UL Listings:
- Class I, Div I, Class B, C, D
- Class II, Div I, Class E, F, G
- Class III, Div I, Type 4

Product Specifications

Input Power	Input Current	Fuse Type (F2)
115 VAC, 60 Hz (std)	2.5 VA	Sloblo 0.032A 5X20
230 VAC, 60 Hz (opt)	2.5 VA	Sloblo 0.032A 5X20
12 VDC (opt)	165 mA	Sloblo 0.250A 5X20
24 VDC (opt)	135 mA	Sloblo 0.200A 5X20

Input Signal	
Sensor Supply	12 VDC @ 50 mA Max.
Programmable Sensor Input Types	Open collector NPN / PNP Logic Level 5 V Nom. 3 V Min. Magnetic Sensor +/- 75 MV Min.
Max. Amplitude	25 Vpk-pk Max.
Frequency Range	0.01 Hz to 10 kHz
Minimum Input Frequency for Full Scale Output	0.5 Hz = 3.8 RPM @ 8 PPR (lower range available)
Analog Output Signal Types	
Current Output:	4-20 mA with 500Ω Load Max.
Voltage Output:	0-10 Vdc, ±5Vdc or ±10Vdc with 1000Ω Load Min.
Accuracy	0.1% Linearity for Both Outputs
Step Response	
50 Hz Input and Above	10 to 90% = 50 mS
Below 50 Hz Input	10 to 90% = 30 mS + 1/Hz Input Frequency
Physical Environment	
Mounting	DIN Rail or Stand Alone
Operating Temperature	0 °C → +60 °C (32 °F → +140 °F)
Storage Temperature	-65 °C → +125 °C (-85°F → +257 °F)
Electrical Connections	11 Position DIN Rail Terminal Block
Enclosure Rating	NEMA 1

For higher temperature ranges, contact Electro-Sensors.
Specifications subject to change without notice.

Ordering

Model	Part Number
SA420, 115 VAC	800-084000
SA420 230 VAC	800-084001
SA420, 12 VDC	800-084002
SA420, 24 VDC	800-084003

SA420 Standard System

- SA420 Signal Conditioner
- 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)

Enclosure Options	Part Number
Explosion Proof Enclosure	305-001601
NEMA 4X Enclosure Kit	725-000006
NEMA 12 Enclosure Kit	725-000004

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

For more information about product, please refer to the SA420 Installation and Operating Manual.
Email: sales@electro-sensors.com
Tel: (800)328-6170
Fax: (952)930-0130
We also have more information online at:
www.electro-sensors.com

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