

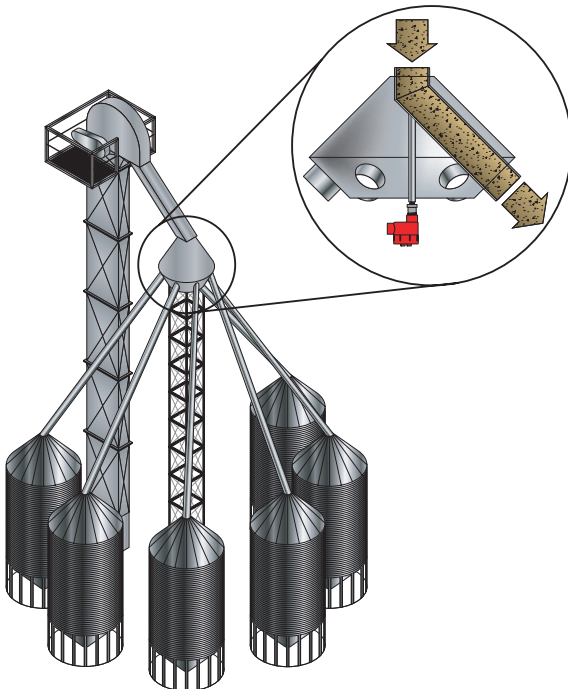
Features

- 4-20 mA position output
- 24 VDC powered
- Measures shaft angle (rotational) position
- Single-turn (0° - 359°) measurement range
- Direct shaft attachment (3/8-16 UNC threads)
- Cast aluminum explosion proof (XP) housing
- UL Listed Class I, Div I (C, D) Class II, Div I (E, F, G)



Description

Electro-Sensors SG1000C Single-Turn Position Monitor is a complete position monitoring system housed in a compact and rugged explosion proof NEMA 4X housing. It is an encoder-based position sensor providing a 4-20 mA output and is used to measure processes or operations that have a repetitive single turn clockwise or counter clockwise rotary movement.



Common Applications

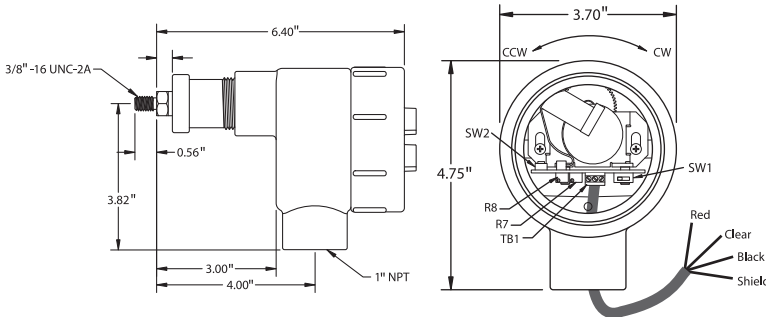
A typical application of the SG1000C is to sense the chute position of a rotary grain distributor. The SG1000C enables the end-user to very accurately monitor shaft position, enabling accurate process control. The SG1000C can also be used in other applications where a single-turn position needs to be monitored.

Principle of Operation

The SG1000C has two modes: calibration and normal operating. A simple calibration procedure programs the SG1000C with the encoder value corresponding to the 0° (home) position along the process's rotary travel.

Once programmed, the SG1000C outputs a 4 mA DC signal when the encoder is at the 0° (home) position and outputs a 20 mA DC signal when the encoder is at the 359° (full-turn) position. When the encoder is at any mid-span position (between 0° and 359°) the SG1000C outputs a signal that is proportionally between 4 and 20 mA.

SG1000C Drawings



SG1000C Position Sensor

The SG1000C provides independent and accurate indication of shaft position via a 4-20 mA signal to an external device such as a PLC or optional PM500 display.

The optional PM500 Remote Display can provide +24 VDC power to the SG1000C, it can display the SG1000C's 4-20 mA signal (proportional to 0 through 359 degrees) in desired units, typically 0% to 100%. The PM500 also has two relays and a 4-20 mA proportional output.



Optional PM500 Remote Display Unit

SG1000C Specifications

General Specifications	
Input Power Voltage	24 VDC \pm 10%
Output Type	4-20 mA standard
Calibration Span	One full single turn broken down into 512 positions
Resolution	0.2% across all 512 positions
Housing and Cover	Cast Aluminum NEMA 4X Class I, Div I, Groups C, D Class II, Div I, Groups E, F, G
Installation	Center drill and tap the shaft to a depth of 0.625" for a 3/8" - 16 UNC-2B thread. The use of a stabilizer bracket is recommended but not required in all applications.
Operating Temperature	-40°C to +65°C (-40°F to +149°F)
Terminal Block Wiring	10 ft of 3 Conductor Shielded Cable Standard TB1-1 Red = Supply TB1-2 Clear = 4-20 mA TB1-3 Black = Ground Shield Wire

Ordering

Model	Part Number
SG1000C Shaft Position Sensor	800-010200
Options	
PM500, 115 VAC	800-004300
PM500, 230 VAC	991-000020
PM500, 2 Relay Outputs	991-000021
PM500, Analog Output	991-000023

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 the SG1000C Installation and Operating Manual for complete details, specifications, and programming instructions.