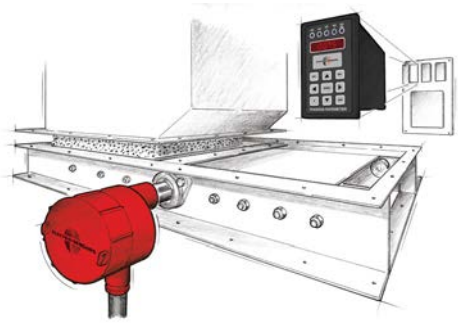
SG1000F Two-Turn Shaft Monitor

- Measures two-turn maximum shaft angle (rotational) position
- Translates shaft position to 4-20 mA output
- Configurable measurement range (0-1/12 turn to 0-2 turns)
- Direct shaft attachment (3/8-16 UNC)
- Applications include electrically/manually-driven rack-and-pinion gates and valves
- 24 VDC ±10% powered
- Cast aluminum explosion proof (XP) housing
- UL Listed Class I, Div I (C, D) Class II, Div I (E, F, G)

Description

The SG1000F is a Two-Turn Shaft Monitor with a 4-20 mA DC output signal. It is also a rugged, encoder-based monitoring device that enables the end-user to very accurately monitor a process shaft's position, allowing extremely precise operations. Once programmed for the application's fully-closed/fully-open positions, the SG1000F's output is 4 mA for fully-closed and 20 mA for fully-open. Any process position between fully-closed and fully-open, is represented by the output signal being proportionally between 4 and 20 mA.

The SG1000F's 4-20 mA output can be sent to a device such as a PLC or Electro-Sensors optional PM500 Remote Display to provide the operator with immediate at-a-glance information on the position of the gate or valve. The PM500 can be programmed to display from 0 percent at the fully-closed position through 100 percent at the fully-open position. The PM500 offers +24 VDC output power for the SG1000F, and either, an optional two/four relay output or an isolated 4-20 mA proportional output which can be used to pass the 4-20 mA signal along to another device.

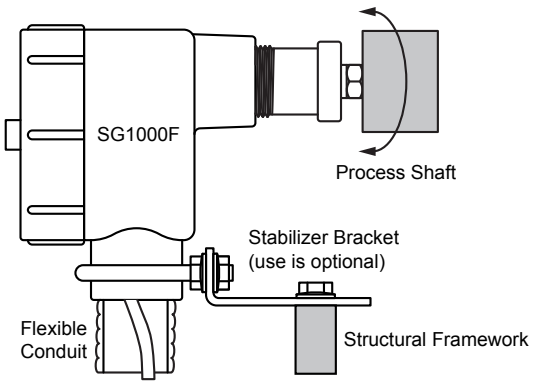


The SG1000F with optional PM500 remote display

Principle of Operation

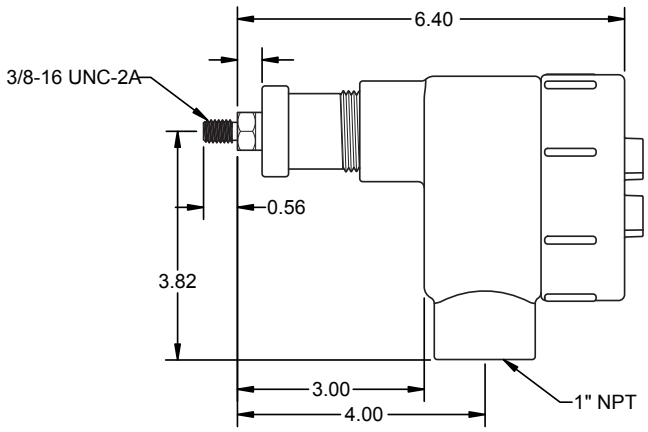
The SG1000F Two-Turn Shaft monitor mounts directly to the end of the drive shaft of a slide gate or valve and is easily calibrated with a single push-button switch for setting the application's fully-closed/fully-open positions. A second switch (selects clockwise/counterclockwise rotation) enables the user to mount the SG1000F on either end of the application's drive shaft.

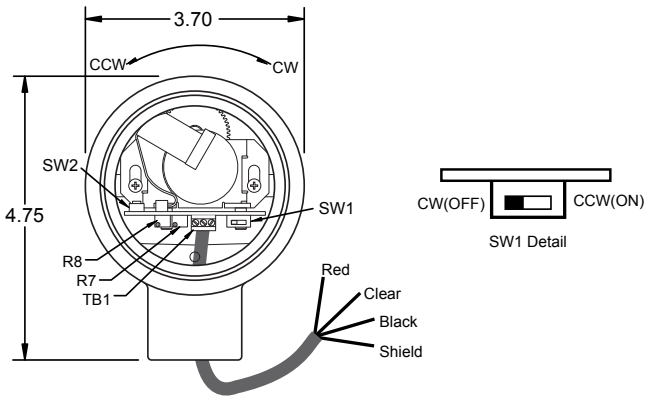
As the drive shaft rotates, the SG1000F measures the rotation and outputs the 4-20 mA signal to a PLC or the Electro-Sensors optional PM500 Remote Display. The SG1000F's output signal is 4 mA for fully-closed and 20 mA for fully-open. Most importantly, the SG1000F offers the greatest amount of accuracy for two-turn (maximum) shaft rotation applications.



6111 Blue Circle Drive | Minnetonka, MN 55343 1-800-328-6170 | electro-sensors.com

Dimensions





Product Specifications

Input Power	
Voltage	24 VDC ± 10%
Output	
Type	4-20 mA standard
General Specifications	
Calibration Span	1/12 turn minimum, 2 turns maximum
Resolution	0.2% to 5% dependent upon calibration span
Installation	Center drill and tap the shaft to a depth of 0.625" for a 3/8-16 UNC thread. The use of a stabilizer bracket is recommended, but may not be required in all applications.
Operating Temperature	-40 °C to + 65 °C (-40 °F to 149 °F)
Terminal Block Wiring	10 feet of 3-conductor shielded cable - standard Red Wire = (+) 24 VDC Supply Clear Wire = 4-20 mA Output Signal Black Wire = (-) Return to 24 VDC Supply Cable Shield = Earth Ground
Material	Cast Aluminum
Enclosure Rating	NEMA 4X

Specifications subject to change without notice.

Options

Optional remote slide gate display.

Options	Part Number
PM500, 115 VAC	800-004300
PM500, 230 VAC	991-000020
PM500, With 2 Relays	991-000021
PM500, With Analog Output	991-00023

Ordering

All models come with a standard bracket for mounting.

Model Description	Part Number
SG1000F Slide Gate Sensor	800-010500

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 SG1000F Installations 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