



SG1000 Position Monitors



Position Monitors for: Slidegates, Distributors, Valves and Buckets. All six Position Feedback Monitors in the SG1000 Series provide independent and accurate feedback of position to an external device such as a PLC or optional PM500 Process Meter Display Unit. Models are housed in a rugged, explosion-proof cast aluminum enclosure that is dirt, dust, grease-proof, and water resistant. In the case of a power failure, all SG1000s are designed to retain accurate gate position.

SG-Series Position Monitors are designed for rotary applications that require a full-scale rotation up to 6 full turns and as small as 5.6 degrees (approximately 1/64th-turn). SG-Series Position Monitors also measure linear position in applications that feature a pneumatic or hydraulic actuator to drive end-to-end linear movement or where the driveshaft is not accessible.

SG-Series Position Monitors provide 4-20 mA or Relay Output. 4-20 mA output allows the data from the SG1000 unit to be read and acted on by a PLC or display device, while a SG1000RA provides relay output to replace end-point limit switches. The optional remote display (PM 500) offers two relays for desired gate or valve position indication and a 4-20mA proportional output.

Applications: Electro-Sensors' SG-Series Position Monitors provide the precision and flexibility required by a broad range of industrial applications, including:

- Clam shell buckets
- Damper valves
- Rotary valves
- Slidegates
- Rack & pinion
- Hydraulically driven
- Pneumatically driven
- Rotary distributors

Model	Common Applications	Encoder Range	Power Supply	Signal Output
SG1000A	Slide Gates, Valve Position	0-6 Turns	24 VDC ± 10%	4-20 mA
SG1000B	Linear & Rack-and-Pinion Slide Gates	5.6°-130° Arm Swing	24 VDC ± 10%	4-20 mA
SG1000C	Bin Distributor Head	Single Turn 0°-359°	24 VDC ± 10%	4-20 mA
SG1000D	Valve Positioning	Single Turn 0°-359°	24 VDC ± 10%	4-20 mA
SG1000E	Clam Shell Buckets	5.6°-130°	24 VDC ± 10%	4-20 mA
SG1000F	2-turn shaft monitor	0-2 Turns	24 VDC ± 10%	4-20 mA
SG1000RA	Slide Gates, Valve Position	0-6 Turns	115 - 230VAC ±10% 50/60Hz	Relay output



SG1000A/SG1000RA:

Plane of Measurement: Rotational

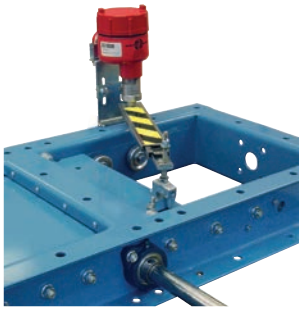
Number of Calibration-points/Set-points: Two

Span of Operation: 1/4 turn minimum, 6 turns maximum

Resolution: 0.2% to 5% depending on calibration span

Output: 4-20mA & 2 Relay Output

If the sensor needs to measure rotational position where the end-to-end rotation is more than 1-full-turn, or even multiple-turns (up to almost 6 full turns) before reversing, then the SG1000A is the solution. Applications where the rack and pinion shaft makes between 0-6 rotations to go from fully-closed to fully-open or vice versa should use the SG1000A or SG1000RA depending on whether a 4-20mA or Relay output is required.



SG1000B

Plane of Measurement: Linear

Number of Calibration-Points: Three

Span of Operation: 5.6° turn to 130° turn of shaft

Resolution: 0.2% to 5% dependent upon calibration span

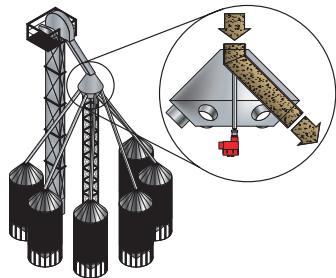
Output: 4-20mA Output

Additional Hardware: Telescopic Arm & Mounting Hardware

If the sensor needs to measure linear position where the end-to-end linear movement can be tracked via a telescopic-arm, then the SG1000B is the solution.

An example application for an SG1000B unit would be a slidegate system that is driven by a pneumatic or hydraulic ram, or a rack-and pinion driven slidegate where the pinion driveshaft is not accessible.

Note: The SG1000B differs from the other slidegate models in that it utilizes a telescopic-arm that allows the SG unit to measure linear rather than rotational position. A SG1000B unit needs additional parts to work properly, Those parts are the telescopic-arm (10in, 16in, 18in, or 20in) and the mounting hardware for the arm.



SG1000C

Plane of Measurement: Rotational

Number of Calibration-points: One

Span of Operation: One full turn of shaft

Resolution: 0.2%

Output: 4-20mA Output

If the sensor needs to measure rotational position where the end-to-end rotation is exactly 360 degrees (i.e., exactly 1-full-turn) before reversing, or else it is an application where the process just repeats itself after turning 360 degrees without reversing, then the SG1000C is the solution. An example of this being 1-full-turn on a grain distributor system's shaft.



SG1000D

Plane of Measurement: Rotational

Number of Calibration-points: Two

Span of Calibration: 15° or 1/24th turn minimum,
359° or 1 turn Maximum

Resolution: .2% to 5%, depending upon calibration span

Output: 4-20mA Output

If the sensor needs to measure rotational position where the end-to-end rotation is anywhere between 0 and 360 degrees (i.e., up to 1-full-turn) before reversing, then the SG1000D is one possible solution. A common example would be a damper-valve system where the shaft rotation is 90 degrees, 180 degrees, or even say 270 degrees before reversing. (The monitored shaft is never making more than one full rotation)



SG1000E

Plane of Measurement: Rotational

Number of Calibration-points: Two

Span of Calibration: 15° or 1/24th turn minimum,
359° or 1 turn Maximum

Resolution: 5.6° minimum, 130° maximum

Output: 4-20mA Output

If the sensor needs to measure rotational position where the end-to-end rotation is anywhere between 0 and 130 degrees (i.e., up to about 1/3 of a full-turn) before reversing, then the SG1000E is the solution. These units are commonly used on Clamshell buckets where the position of the shaft changes in a very limited fashion. (0°-130°)



SG1000F

Plane of Measurement: Rotational

Number of Calibration-points: Two

Span of Calibration: 1/12th to 2 turns

Resolution: .2% to 5%, depending upon calibration span

Output: 4-20mA Output

If the sensor needs to measure rotational position where the end-to-end rotation is up to 2 full turns before reversing, then the SG1000F is the solution. Applications where the rack and pinion shaft makes between 0-2 rotations to go from fully-closed to fully-open or vice versa should use the SG1000F. This is in its core a higher resolution version of the A model With less available revolutions.