



GHSE19-050A-02-10S

Low cost, compact, high performance gauging probes

The GHSE-19/GHSI-19 series of LVIT (Linear Variable Inductance Transducer) spring-loaded position sensors by Alliance Sensors Group are contactless devices designed for dimension measurements. They are suitable for use in a variety of settings where the sensing element cannot be attached to the object being measured. Typical applications include the following:

- Quality Assurance (QA) labs
- Position measuring applications in factory automation systems
- Industrial and commercial applications such as automotive testing, mil/aero test stands, robotic arms, and packaging equipment

GHSE-19/GHSI-19 Linear Variable Inductance Transducers are offered in nominal full scale ranges from 0.25 to 4.0 in [6.35 to 101.6 mm] with excellent resolution and high stroke-to-body-length ratios. The maximum tip contact force applied to the item being measured is 1lbf [0.454 kgf].

GHSE19/GHI19 Spring-Loaded LVIT Linear Position Sensors



GHSE-19/GHSI-19 sensors have a 0.75 in [19mm] diameter stainless steel body with a 1/2-20 UNF-2A thread 1.5 in [38mm] long with two hex jam nuts for drop-in installation in place of a spring-loaded DC LVDT gage head.

These sensors utilize a probe equipped with a No. 9 contact tip and are offered with a PT02A-10-6P connector. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

Features

- Spring-loaded LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wear-out from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Proprietary SenSet™ Field Adjustable Range Scaling



GHSE19/GHSI19 Series Spring-Loaded LVIT Linear Position Sensors Selection Chart

| Part Number | Price | Drawing Link | Nominal Range (in [mm]) | Body Length (in [mm]) | Spring Rate (lbf/in [kgf/cm]) | Maximum Force (lbf [kgf]) |
|------------------------------------|----------|---------------------|-------------------------|-----------------------|-------------------------------|---------------------------|
| 0-10 V models | | | | | | |
| GHSE19-006A-02-10S | \$765.00 | PDF | 0.25 [6.35] | 3.50 [88.9] | 0.75 [0.134] | 0.9 [0.41] |
| GHSE19-013A-02-10S | \$775.00 | PDF | 0.5 [12.7] | 3.50 [88.9] | 0.75 [0.134] | 0.9 [0.41] |
| GHSE19-025A-02-10S | \$801.00 | PDF | 1.0 [25.4] | 4.00 [101.6] | 0.75 [0.134] | 0.9 [0.41] |
| GHSE19-050A-02-10S | \$827.00 | PDF | 2.0 [50.8] | 5.08 [129.0] | 0.43 [0.077] | 1.0 [0.45] |
| GHSE19-075A-02-10S | \$853.00 | PDF | 3.0 [76.2] | 6.16 [156.5] | 0.30 [0.054] | 1.0 [0.45] |
| GHSE19-100A-02-10S | \$878.00 | PDF | 4.0 [101.6] | 7.25 [184.1] | 0.23 [0.041] | 1.0 [0.45] |
| 4-20mA models | | | | | | |
| GHSI19-006A-02-20S | \$765.00 | PDF | 0.25 [6.35] | 3.50 [88.9] | 0.75 [0.134] | 0.9 [0.41] |
| GHSI19-013A-02-20S | \$775.00 | PDF | 0.5 [12.7] | 3.50 [88.9] | 0.75 [0.134] | 0.9 [0.41] |
| GHSI19-025A-02-20S | \$801.00 | PDF | 1.0 [25.4] | 4.00 [101.6] | 0.75 [0.134] | 0.9 [0.41] |
| GHSI19-050A-02-20S | \$827.00 | PDF | 2.0 [50.8] | 5.08 [129.0] | 0.43 [0.077] | 1.0 [0.45] |
| GHSI19-075A-02-20S | \$853.00 | PDF | 3.0 [76.2] | 6.16 [156.5] | 0.30 [0.054] | 1.0 [0.45] |
| GHSI19-100A-02-20S | \$878.00 | PDF | 4.0 [101.6] | 7.25 [184.1] | 0.23 [0.041] | 1.0 [0.45] |

1. NOTE: All GHSI and GHSE models require [PT06A-10-6S-SR](#) connector and user-supplied cable

GHSE19/GHSI19 Series Spring-Loaded LVIT Linear Position Sensors Specifications

| | |
|--------------------------------|---|
| Analog I/Os | 0-10VDC output with 12-30VDC power source; 4-20 mA (3-wire) output with 18-30VDC power source, 60mA max, 167°F [75°C] max |
| Measuring Ranges | 0.25 to 4.0 in [6.35 to 101.6 mm] full scale (nominal) |
| Linearity Error | ±0.15% of full scale output (FSO) typical, ±0.25% max |
| Resolution | 0.025% of full scale |
| Operating Temperature | GSHE19 (0-10V models) -40 to +221°F [-40 to +105°C] GHSI19 (4-20mA models): -4 to 185°F [-20 to +85°C] |
| Temperature Coefficient | ±0.015% of FS/K |
| Vibration | 5-20Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak |
| Shock | 1000g, 11ms |
| Terminations | IEC IP-67 |
| Humidity | 95% RH, non-condensing |
| Connection | Alliance Sensors Group connector, PT06A-10-6S-SR , 6-pin, solder, straight cable entry. |

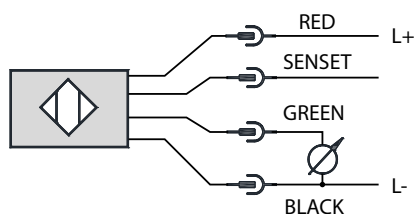
GHSE19/GHI19 Spring-Loaded LVIT Linear Position Sensors

Connector



| Connector for GHSx Linear Position Sensors | | |
|--|---------|--|
| Part Number | Price | Description |
| <u>PT06A-10-6S-SR</u> | \$41.50 | Alliance Sensors connector, PT0 6-pin solder, straight cable entry, 6-pole. For use with GHSx linear position sensors. |

Wiring Diagram



| Wiring Table | |
|------------------------|---|
| +DC Power Input | E |
| Common Ground | D |
| Analog Output | A |
| SenSet™ | B |