

DIGITAL GAGING PROBES FOR LINEAR DISPLACEMENT MEASUREMENT

GP901 Series



- ✓ Absolute Measurement
- ✓ Integrated Probe and Electronics
- ✓ Resolution to 0.06 Microns (1.5 μ m)
- ✓ Rugged Design for Harsh Environments

OMEGA's GP901 Series digital gaging probes are a refinement of the LVDT, making use of a proven mechanical design and robust construction. In a digital gage probe, the coil forms part of a frequency-sensitive circuit. As the core moves, the inductance of the coil changes, causing a change in the frequency. By comparing frequencies, the user can determine the movement of the core.

Each digital probe is calibrated on a laser interferometer in a controlled environment, giving improved linearity over the full stroke compared with LVDTs. Signal conditioning and an A/D converter are contained in an in-line probe electronics assembly. The electronics assembly provides a digital signal that is compatible with the DR601 display or the LDN232 RS232 adaptor featured on the following pages.

SPECIFICATIONS

Accuracy:

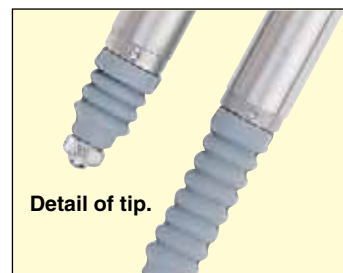
- GP901-1-X: ± 0.24 microns $\pm K \times 1.0$ micron
- GP901-2-X: ± 0.24 microns $\pm K \times 1.0$ micron
- GP901-5-X: ± 0.64 microns $\pm K \times 2.0$ micron
- GP901-10-X: ± 1.20 microns $\pm K \times 2.0$ micron

(K = the difference between component range and setting master)

- Operating Temp: 0 to 80°C (32 to 176°F)
- Electronics Assembly: 0 to 60°C (32 to 140°F)
- Storage Temp: 0 to 80°C (32 to 176°F)
- Calibration Temp: 20°C (68°F)
- Environmental Rating: NEMA 12 (IP65)

GP901-1-S shown actual size.

GP901-5-S shown actual size.



Detail of tip.

To Order

MODEL NO.	RANGE: mm (inch)	ACTUATION	COMPATIBLE INSTRUMENTS
GP901-1-S	0 to 1 (0 to 0.04)	Spring loaded	DR601, LDN232
GP901-2-S	0 to 2 (0 to 0.08)	Spring loaded	DR601, LDN232
GP901-5-S	0 to 5 (0 to 0.2)	Spring loaded	DR601, LDN232
GP901-10-S	0 to 10 (0 to 0.4)	Spring loaded	DR601, LDN232
GP901-2-P	0 to 2 (0 to 0.08)	Pneumatic	DR601, LDN232
GP901-5-P	0 to 5 (0 to 0.2)	Pneumatic	DR601, LDN232
GP901-10-P	0 to 10 (0 to 0.4)	Pneumatic	DR601, LDN232

Comes complete with operator's manual.

Ordering Example: GP901-10-S, spring-loaded digital gaging probe, 0 to 10 mm (0 to 0.4") range.

DIGITAL GAGING PROBES

SPRING ACTUATED Dimensions: mm (inch)

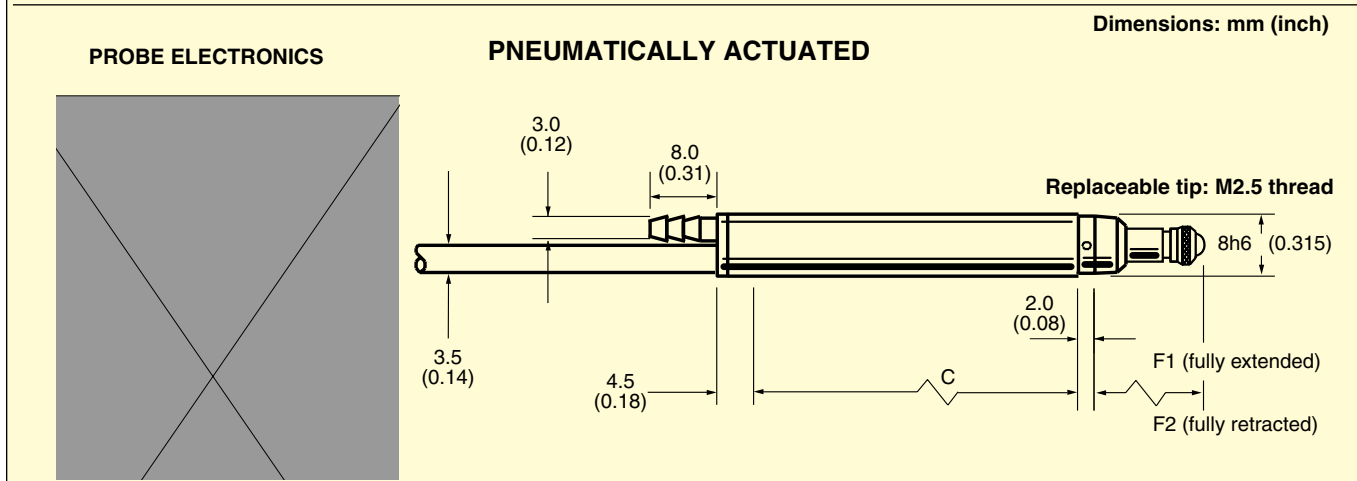
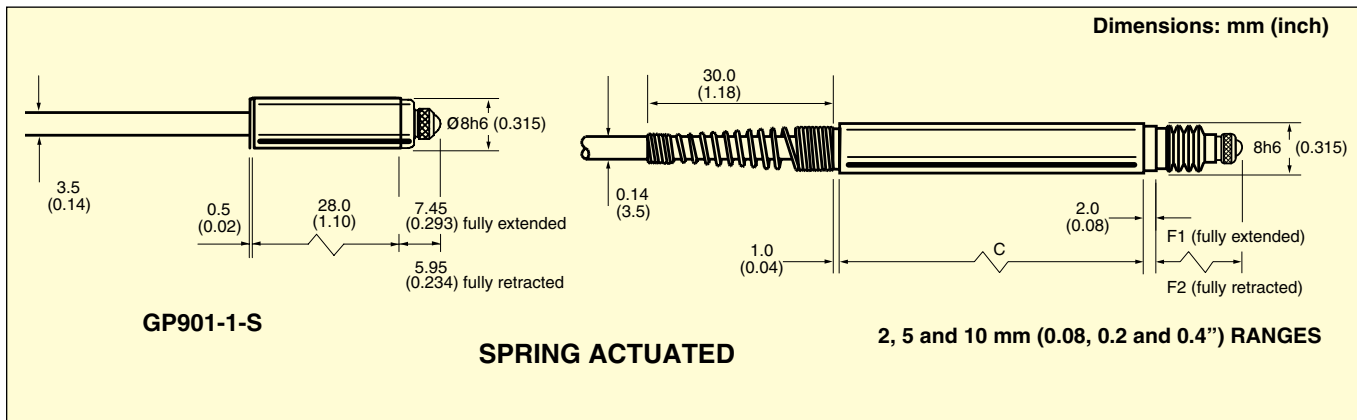
MODEL	GP901-1-S	GP901-2.5-S	GP901-5-S
C	46.00 (1.81)	65.00 (2.56)	89.00 (3.50)
F1	13.90 (0.55)	17.40 (0.69)	25.40 (1.00)
F2	10.90 (0.43)	11.40 (0.45)	14.40 (0.57)

PNEUMATICALLY ACTUATED Dimensions: mm (inch)

MODEL	GP901-1-P	GP901-2.5-P	GP901-5-P
C	52.00 (2.05)	71.00 (2.80)	96.00 (3.78)
F1	13.90 (0.55)	17.40 (0.69)	25.4 (1.0)
F2	10.90 (0.43)	11.40 (0.45)	14.40 (0.57)

GP901-1-S, shown close to actual size.

GP901-5-S, shown close to actual size.



SPECIFICATION BY RANGE

DESCRIPTION	SPRING ACTUATED				PNEUMATIC		
Calibrated stroke mm (in)	1 (0.04)	2 (0.08)	5 (0.20)	10 (0.4)	2 (0.08)	5 (0.2)	10 (0.4)
Total travel mm (in)	1.5 (0.6)	3 (0.12)	6 (0.24)	11 (0.43)	3 (0.32)	6 (0.24)	11 (0.43)
Resolution (micron)	0.06	0.12	0.32	0.64	0.12	0.32	0.64
Temp coef. (0 to 60°C) ppm/°C	100	80	100	150	80	100	150
Tip pressure: g (oz)	70 (2.5)	70 (2.5)	70 (2.5)	70 (2.5)	80 (2.8)	80 (2.8)	70 (2.5)

COMPATIBLE INSTRUMENTS

MODEL NO.	DESCRIPTION
DR601	Digital readout
LDN232	RS232 adaptor