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Solartron Metrology
*Precision Driven*

# G Type

## Probe with direct analogue output
## Position feedback and linear displacement measurement

### Description

The G-Type of analogue DC/DC displacement probes are based on the LVDT sensing principle and feature a high accuracy and long life linear ball bearing (as AX-Series). All models incorporate a Linear Variable Differential Transducer (LVDT) as the measuring element, together with high performance conditioning electronics for low noise and superior linearity while being able to cope with a wide supply range.



The G Type Analogue Displacement Probe range has evolved from its predecessor DG Series with marked improvement in features and performance. This product offers a perfect solution for various displacement applications with a good linearity and repeatability:

- Extended measurement range up to 20mm
- 4-20 mA output
- Line regulation
- Metal end cap
- Better front bearing
- Wide input power range does not change output voltage

### Features

2, 5, 10 and 20 mm measurement range
DC Unipolar, Bipolar and 4-20 mA output
Excellent repeatability: <0.15 µm
Linearity 0.2% FSO
Precision ball bearings
Large selection of probe tips
3D drawings available

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# Technical specification

## Generic sensor types

| | | | | |
|---|---|---|---|---|
| Voltage output ( DC Bipolar) | WG/2/S | WG/5/S | WG/10/S | WG/20/S |
| Voltage output ( DC Unipolar) | VG/2/S | VG/5/S | VG/10/S | VG/20/S |
| Current output ( 4 – 20 mA ) | IG/2/S | IG/5/S | IG/10/S | IG/20/S |

## Measurement

| | | | | |
|---|---|---|---|---|
| Measurement range ( mm ) | 2 | 5 | 10 | 20 |
| Pre - travel ( mm ) | 0.15 | | | |
| Post - travel ( mm ) | 0.85 | | | |
| Linearity ( % FSO ) | <+/- 0.2 | | | |
| Repeatability ( micron ) | 0.15 | | | |
| Temperature coefficients ( %FSO/°C ) | <0.02 | | | |

## Mechanical

| | | | | |
|---|---|---|---|---|
| Body diameter -A ( mm ) | 19 | | | |
| Body diameter -B ( mm ) | 8 | | | |
| Case material | 400 Series | | | |
| Tip force @ mid range | 0.7N | | | |
| Cable type | PUR | | | |
| Standard cable length | 3m | | | |
| Standard cable style | Screened | | | |
| Nominal mass ( g ) ( +/- 5 ) | 34 | 34 | 55 | 58 |

## Environmental

| | |
|---|---|
| Operating temperature (°C) | +5 to +65 |
| Storage temperature (°C) | -20 to +85 |
| Sealing | IP60 |
| Vibration | 1 to 10g rms linear 10 to 50Hz |
| | 10g rms linear 50 Hz to 1 kHz |

# Technical specification

## Generic sensor types

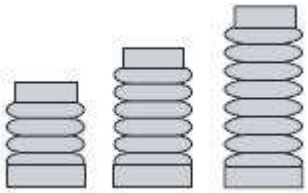
## Electrical interface

| | All voltage models | All current models |
|---|---|---|
| Input | 10 to 30 VDC | 4 – 20 mA loop powered |
| Ripple (DC Output - %FSO) | 0.20 | |
| Bandwidth | 500Hz | |

## Electrical connections

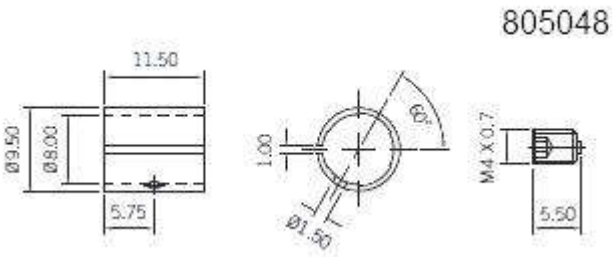
| | | |
|---|---|---|
| Red | V Supply + | 4 – 20 mA loop powered (+) |
| Blue | V Supply - | 4 – 20 mA loop powered (-) |
| White | V Output + | |
| Green | V Output gnd | |
| Screen | Earth | |

Replacement Gaiters



Gaiters can be replaced when damaged.

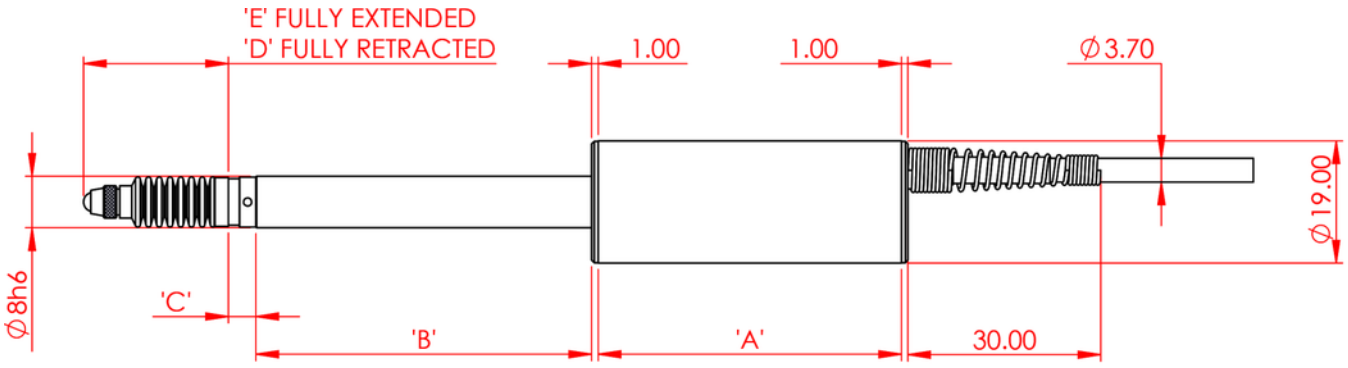
Clamping Collet




For use with all 8 mm clamping shaft sensors. The clamping collet distributes the clamping forces evenly around the shaft. Using the supplied grub screw, the probe can be loosened while holding the collet in place.

Probe Tips

Various probe tips are available.




| Probe Designation | 'A' mm | 'B' mm | 'C' mm | 'D' mm | 'E' mm |
|---|---|---|---|---|---|
| VG/2/S | 47.00 | 28.00 | 3.75 | 13.10 | 16.10 |
| VG/5/S | 47.00 | 28.00 | 4.25 | 14.10 | 20.10 |
| VG/10/S | 47.00 | 52.00 | 4.25 | 16.60 | 27.60 |
| VG/20/S | 47.00 | 92.00 | 3.10 | 26.10 | 47.10 |
| IG/2/S | 42.00 | 33.00 | 3.75 | 13.10 | 16.10 |
| IG/5/S | 42.00 | 33.00 | 4.25 | 14.10 | 20.10 |
| IG/10/S | 42.00 | 57.00 | 4.25 | 16.60 | 27.60 |
| IG/20/S | 42.00 | 97.00 | 3.10 | 26.10 | 47.10 |
| WG/2/S | 47.00 | 28.00 | 3.75 | 13.10 | 16.10 |
| WG/5/S | 47.00 | 28.00 | 4.25 | 14.10 | 20.10 |
| WG/10/S | 47.00 | 52.00 | 4.25 | 16.60 | 27.60 |
| WG/20/S | 47.00 | 92.00 | 3.10 | 26.10 | 47.10 |

## G TYPE RANGE

DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETRES

SOLARTRON PURSUES A POLICY OF CONTINUOUS DEVELOPMENT.
SPECIFICATIONS IN THIS DOCUMENT MAY THEREFORE BE CHANGED WITHOUT NOTICE.

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