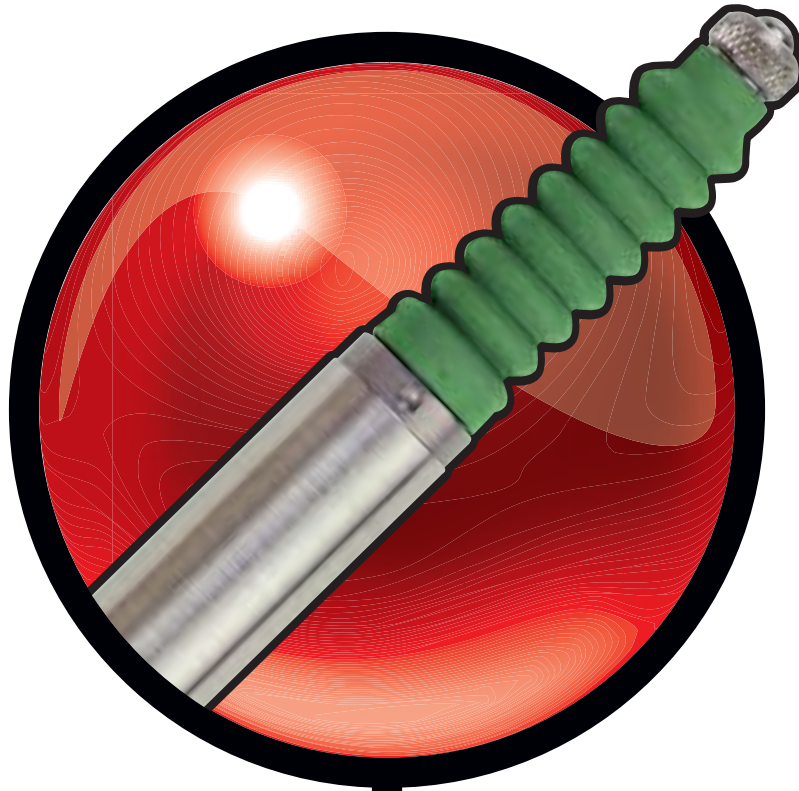


# Gauge probes



**Solartron is the world's largest manufacturer of 'pencil' style electronic gauging probes.**

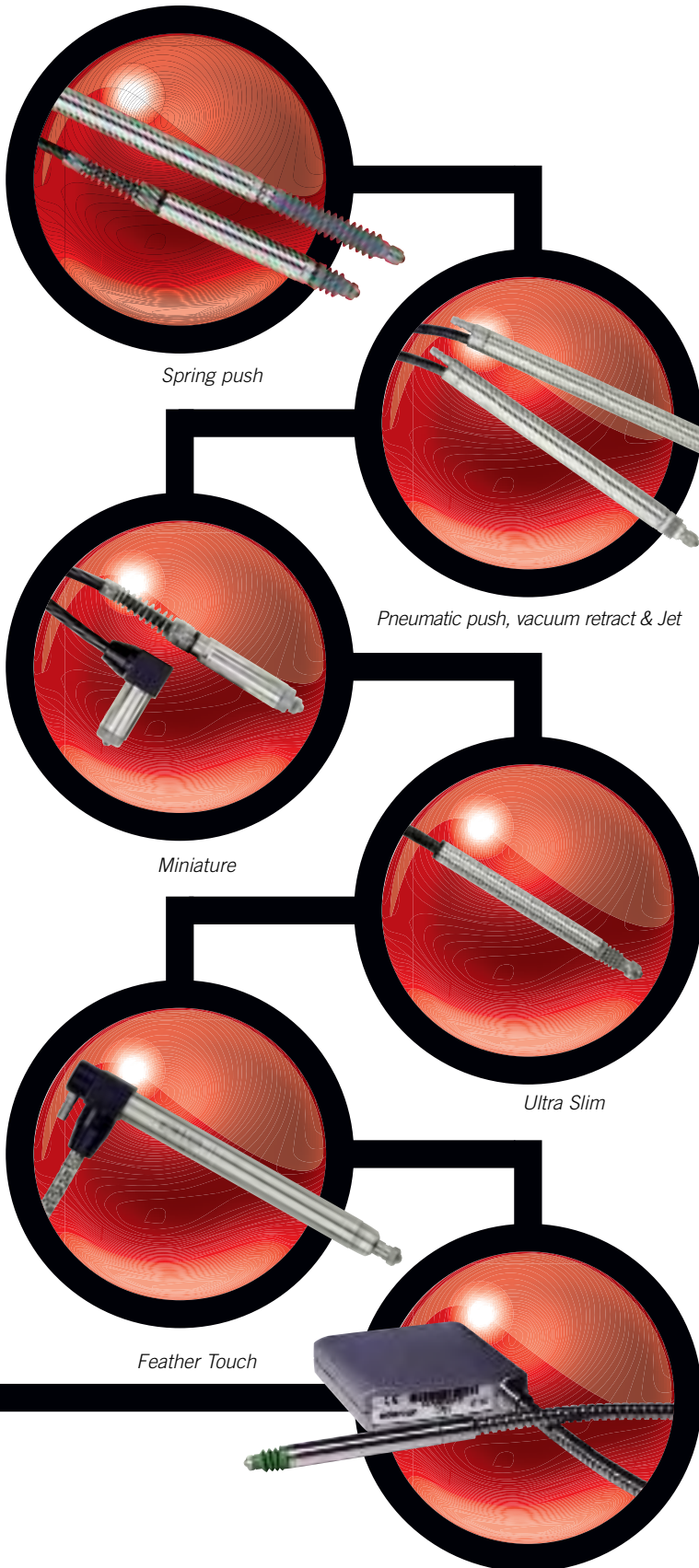
Probes are either spring or pneumatically actuated with Feather Touch (low tip force) variants available.

The extensive range includes Analogue Probes (LVDT & Half Bridge), Digital Probes and probes with integrated electronics.

- > Wide range of measurement ranges; 0.5mm to 20mm
- > Traceability to NPL (National Physical Laboratory, UK)
- > Spring push; standard or with vacuum retract
- > Pneumatic push; standard, Feather Touch and Jet range
- > Spring push with integral DC:DC electronics
- > Special application probes
- > LVDT, Half Bridge or Digital (Orbit Network) interface
- > Tungsten Carbide, Nylon, Ruby or Silicon Nitride tips
- > Accuracy to 0.1% of reading
- > Precision linear bearings



# Finest quality...



## Spring Push, Pneumatic Push or Vacuum Retract (AX & DP)

In a conventional 'pencil' probe the tip pushes outwards under the influence of an internal spring. When installed in a fixture it is frequently required to design a mechanism to bring the probe into contact with the piece part being gauged.

In contrast, pneumatic operation (pneumatic push or vacuum retract) allows the number of moving parts in a fixture to be reduced, resulting in improved reliability and reduced fixture costs. It also enables fast and safe automatic loading of components into a gauge when required. Probe types AX/5/1 and DP/10/2 feature an extended movement of 9 mm before entering the total measurement range of 2 mm.

## Feather Touch Probes (AT & DT)

Feather Touch probes have been designed especially to gauge delicate surfaces such as car windscreens, TV tubes, pharmaceutical bottles, electro-mechanical components and plastic parts. Whereas a traditional probe exerts a tip force of approximately 0.7N, the Feather Touch exerts a mere 0.18N when used in the horizontal position. This reduction is achieved by replacing the naturally elastic traditional gaiter with a close tolerance gland. On pneumatic versions the air leakage through the gland is restricted to less than 2.5 millilitres per second at 1 bar to minimise the possibility of contamination to the surface being gauged. Despite the low volume of air flow the bearing within the probe is constantly purged, avoiding the build up of dust (use of filtered air is recommended).

Replaceable nylon tips are used to guard against surface damage, although, for measuring hot glass, tungsten carbide tips can be fitted. Woven steel braid covering on the cable provides additional protection for applications where down time is critical. For ultimate low force, Feather Touch probes can be supplied without a spring. Forward and return movements are activated by pneumatic/vacuum retract, but adjustment of air pressure allows all probes to have identical tip force, constant over the entire measurement range. If the probe is mounted vertically (tip up), retraction is by the dead weight of the moving parts, eliminating the need for vacuum.

# ...widest choice

## Special Application Probes

When space is at a premium the extremely compact dimensions of the AX/0.25, DP/0.5, AX/0.5 and DP/1 can be exploited whilst retaining standard 8 mm diameter fixings. Also, when it is required to stack a number of probes close to each other, the A6G/1 and D6P/2 are only 6 mm in diameter, but still incorporate a precision linear ball bearing.

## New Jet range Pneumatic Gauging Probes (AJ & DJ)

With conventional pneumatic transducers, the air pressure is contained within the gaiter. The new Jet range pneumatic gauging transducers are designed so that the gaiter is not pressurised. This has the advantage that gaiter damage will not effect transducer performance, resulting in less down-time and reduced cost of ownership

## Environmental Protection

A6G/1, D6P/2 and the AX and DP series of probes are all fitted with Viton® gaiters to exclude moisture and dust. Viton® is chemically inert and does not degrade when subjected to cutting fluids. Probes in the Feather Touch range (AT, DT series) have glands instead of gaiters, and therefore should only be used in a dry environment.

## Absolute Measurement

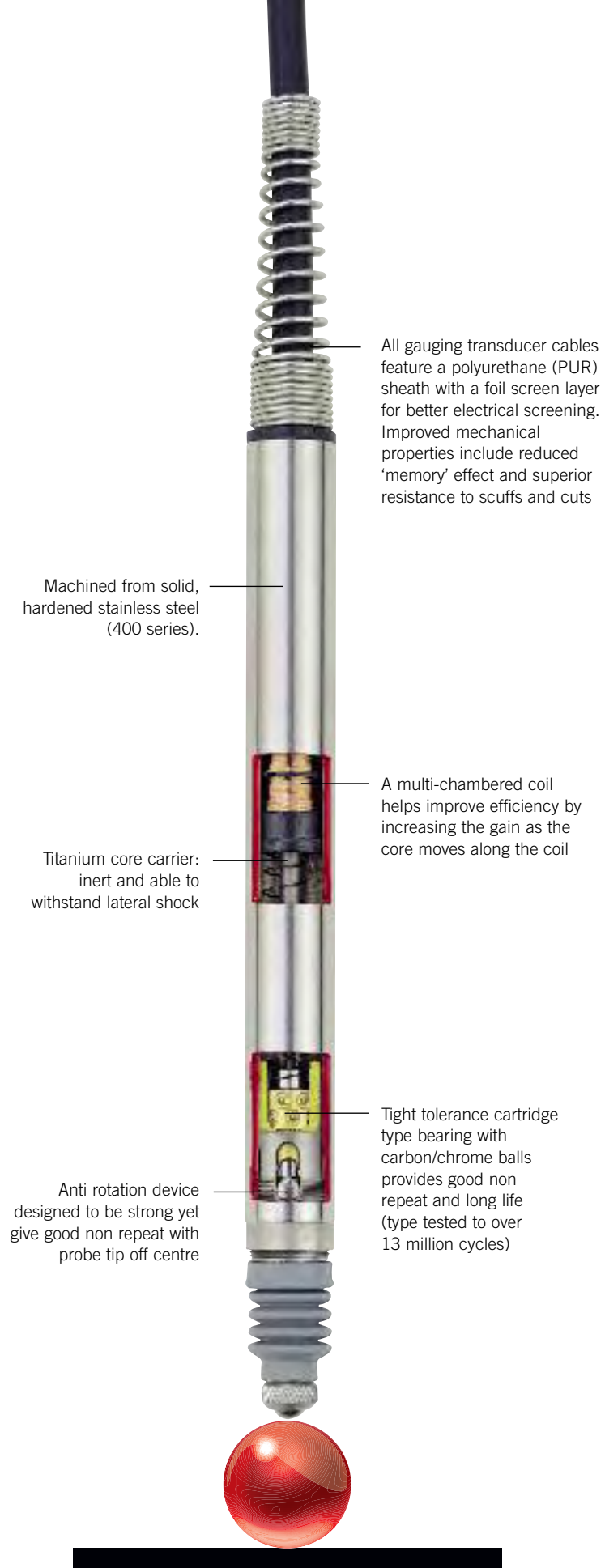
All Solartron gauge probes are absolute measuring devices, which means that when switched on they return the correct output, regardless of movements during the off period.

## Multi-dimensional gauging

An LVDT or Half Bridge gauge probe delivers its best performance close to its null point, requiring dedicated fixtures for each size of component being gauged. In contrast, the Digital Probe can be used at any point over its entire measuring range. This permits different sizes of components to be gauged in one fixture

## Customer Specials

Other options are available  
Please contact us with your requirements.



Machined from solid, hardened stainless steel (400 series).

All gauging transducer cables feature a polyurethane (PUR) sheath with a foil screen layer for better electrical screening. Improved mechanical properties include reduced 'memory' effect and superior resistance to scuffs and cuts

A multi-chambered coil helps improve efficiency by increasing the gain as the core moves along the coil

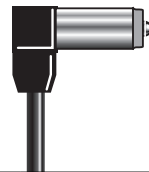
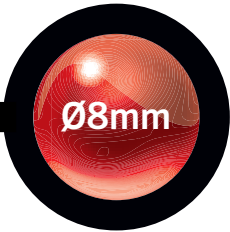
Titanium core carrier: inert and able to withstand lateral shock

Tight tolerance cartridge type bearing with carbon/chrome balls provides good non repeat and long life (type tested to over 13 million cycles)

Anti rotation device designed to be strong yet give good non repeat with probe tip off centre



## 20 Specification Spring push



Product type	Analogue			Digital	Analogue			Digital	Analogue			Digital
	LVDT	H/B			LVDT	H/B			LVDT	H/B		
Axial cable outlet: Standard Spring	A6G/1/S	A6G/1/SH	D6P/2/S	AX/0.25/S	AX/0.25/SH	DP/0.5/S	AX/0.5/S	AX/0.5/SH	DP/1/S	AX/1/S	AX/1/SH	DP/2/S
Feather Touch	-	-	-	-	-	-	-	-	-	AT/1/S	AT/1/SH	DT/2/S
Vacuum	-	-	-	-	-	-	-	-	-	AX/1/V	AX/1/VH	-
Radial cable outlet: Standard Spring	-	-	-	-	-	-	-	-	-	AXR/1/S	AXR/1/SH	-
Feather Touch	-	-	-	-	-	-	-	-	-	ATR/1/S	ATR/1/SH	DTR/2/S
<b>Measurement</b>												
<b>Measurement Range</b> (mm)	<b>±1</b>			<b>2</b>			<b>±0.5</b>			<b>1</b>		
Accuracy <sup>1</sup> (% of reading or µm)	0.5, 1µm			0.1			0.5, 0.5µm			0.1		
Resolution										Analogue: Dependent on electronics		
Repeatability (µm)	0.15			0.1			0.15			0.15		
Pre-travel (mm)	0.15			0.03			0.15			0.15		
Post-travel (mm)	0.35			0.05			0.35			0.35		
Pre-travel Adjustment range (mm)	None			None			0.5		None	1		None
Tip Force: Standard/Vacuum ±20% (N)	0.7 @ mid position			0.7 @ mid position			0.7 @ mid position			0.7 @ mid position		
Tip Force: Feather Touch ±20% (N)	0.3 @ mid position			0.3 @ mid position			0.3 @ mid position			0.3 @ mid position		
Temperature Coefficient %FS/°C	0.02			0.03			0.03			0.01		
<b>Mechanical</b>												
Body Diameter (mm)	6h6			8h6			8h6			8h6		
<b>Electrical Interface (Plugged)<sup>2</sup></b>												
Sensitivity (mV/V/mm ±5%)	200	73.5	-	200	73.5	-	200	73.5	-	200	73.5	-
Energising Current (mA/V±5%)	3	1.2	-	2.2	1.2	-	2.2	1.2	-	1.8	1	-
<b>Electrical Interface (Unplugged)<sup>2</sup></b>												
Sensitivity (mV/V/mm ±5%)	269	88	-	262	82	-	262	82	-	210	83	-

Materials	
Case:	Stainless Steel
Tip:	Nylon or Tungsten Carbide*
Gaiter <sup>3</sup> :	Viton®
Cable <sup>4</sup> :	PUR

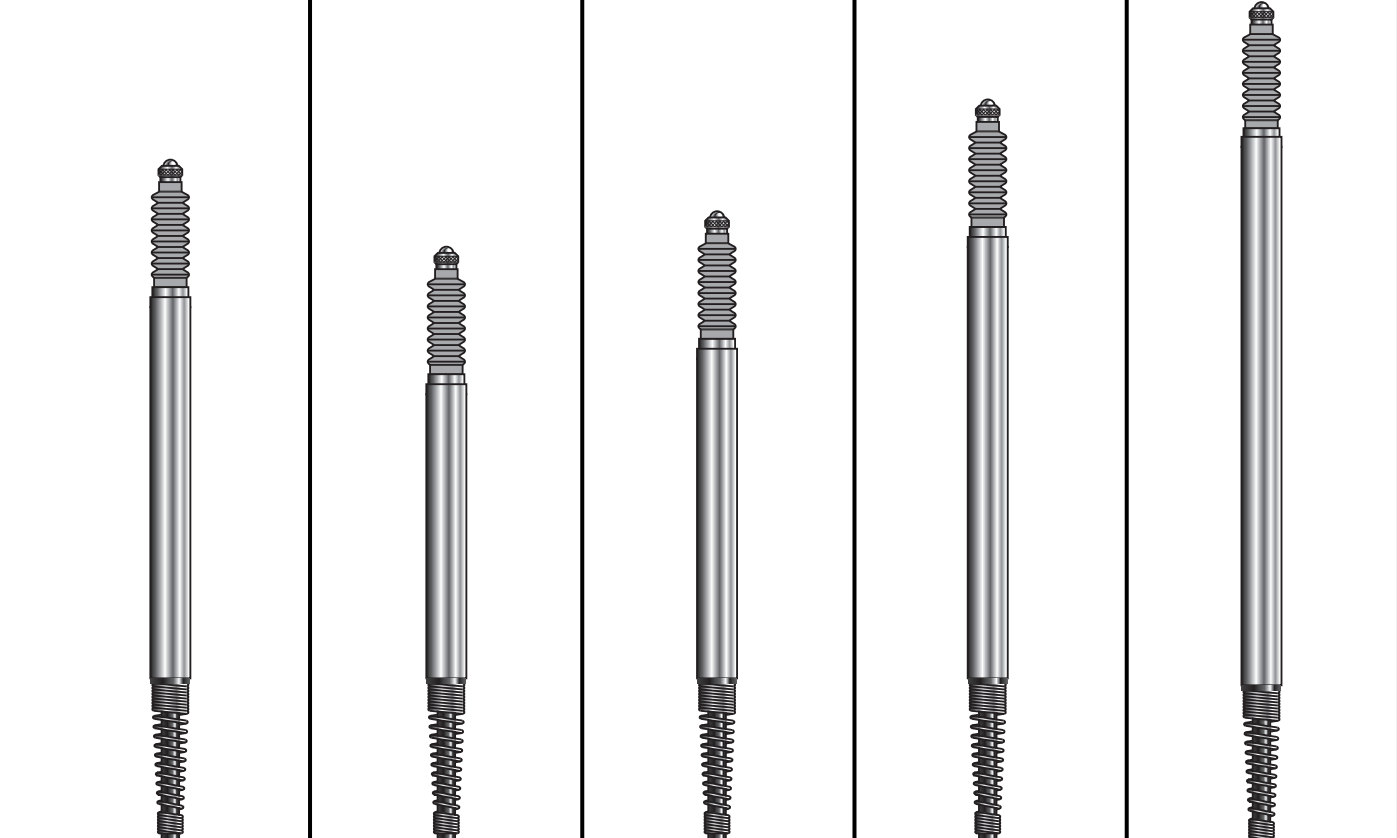
\*Other options available

Environmental (Probe Head Only)	
Storage Temp (°C):	-40 to +100
Operating Temp <sup>6</sup> with gaiter (°C):	+5 to +80
Operating Temp <sup>6</sup> without gaiter (°C):	-10 to +80
IP rating:	IP65

IP rating not applicable to Feather Touch

Operating Pressure Range	
Vacuum operation:	0 to 0.27 Bar absolute

Digital Probe Interface Electronics <sup>5</sup>	
Reading Rate:	Up to 3906 readings/second
Bandwidth:	Up to 460Hz dependent on noise performance required
Output:	Serial communication-RS485 signal level (Solartron Orbit Protocol)
Power:	5 ±0.25 VDC @ 0.06A (includes power for probe)
Storage Temp (°C):	-20 to +70
Operating Temp (°C):	0 to +60
IP Rating:	IP43



Analogue		Digital	Analogue		Digital	Analogue		Digital	Analogue		Digital	Analogue		Digital
LVDT	H/B		LVDT	H/B		LVDT	H/B		LVDT	H/B		LVDT	H/B	
AX5/1/S	AX5/1/SH	DP10/2/S	AX/1.5/S	AX/1.5/SH	-	AX/2.5/S	AX/2.5/SH	DP/5/S	AX/5/S	AX/5/SH	DP/10/S	AX/10/S	AX/10/SH	DP/20/S
-	-	-	AT/1.5/S	AT/1.5/SH	-	AT/2.5/S	AT/2.5/SH	DT/5/S	AT/5/S	AT/5/SH	DT/10/S	AT/10/S	AT/10/SH	DT/20/S
-	-	-	AX/1.5/V	AX/1.5/VH	-	AX/2.5/V	AX/2.5/VH	-	AX/5/V	AX/5/VH	-	AX/10/V	AX/10/VH	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	ATR/1.5/S	ATR/1.5/SH	-	ATR/2.5/S	ATR/2.5/SH	DTR/5/S	ATR/5/S	ATR/5/SH	DTR/10/S	ATR/10/S	ATR/10/SH	DTR/20/S
<b>±1</b>		<b>2</b>	<b>±1.5</b>		-	<b>±2.5</b>		<b>5</b>	<b>±5</b>		<b>10</b>	<b>±10</b>		<b>20</b>
0.5, 1µm		0.1	0.5, 1.5µm		-	0.5, 2.5µm		0.2	0.5, 5µm		0.2	0.7, 10µm		0.2
Digital: User selectable to <0.1µm														
0.15			0.15		-	0.15			0.15			0.15		
0.15			0.15		-	0.15			0.15			0.15		
0.85			0.85		-	0.85			0.85			0.85		
None			1.5		-	1.5		None	1.5		None	None		
0.7 @ mid position			0.7 @ mid position		-	0.7 @ mid position			0.7 @ mid position			0.7 @ mid position		
0.3 @ mid position			0.3 @ mid position		-	0.3 @ mid position			0.3 @ mid position			0.3 @ mid position		
0.01			0.01		-	0.01			0.01			0.01		
8h6			8h6		-	8h6			8h6			8h6		
200	73.5	-	133	49	-	80	29.4	-	40	14.7	-	20	7.35	-
1.8	1	-	2	1	-	2	1	-	2	1.2	-	1	1.2	-
210	83	-	150	82	-	150	82	-	105	51	-	33	33	-

**1 Probe Accuracy**

The accuracy of the LVDT and Half Bridge probes is quoted as % of reading or µm, whichever is greater.

The accuracy of the Digital Probe range is quoted as [(resolution) + (accuracy %) x D] where D is the distance from the setting master.

(Please refer to the Glossary for definitions)

**2 LVDT and Half Bridge Probe Performance**

Accuracy, sensitivity and energising current are valid for the following calibration conditions: LVDT probes calibrated at 3 V, 5 kHz frequency into a 10 kΩ load or 100 kΩ for the unplugged versions. Half Bridge probes calibrated at 3 V, 10 kHz frequency into a 2 kΩ load or 1 kΩ for the unplugged versions. The probes will operate with energising voltages in the range 1 V to 10 V and with frequencies in the range 2 kHz to 20 kHz but the performance is not specified.

**3 Viton** is a trademark of DuPont Dow Elastomers.

**4 Cables**

All probes are supplied with 2 m of PUR cable as standard. Other lengths and options such as nylon braided, metal braided and armoured are available on request.

**5 Digital Probe Termination**

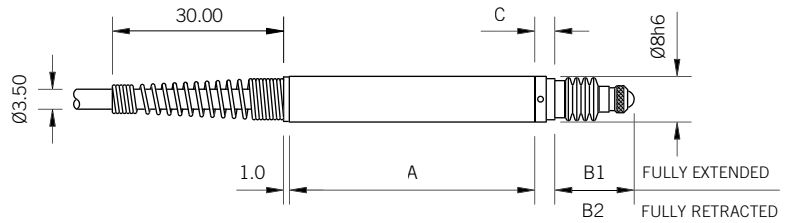
Digital Probes are terminated with Solartron's Probe Interface Electronics (PIE) module. Please refer to the Orbit Network for details on this module and methods of integration for Digital Probes.

**6 Below 0°C** environment must be dry

# Dimensions (mm) Spring push

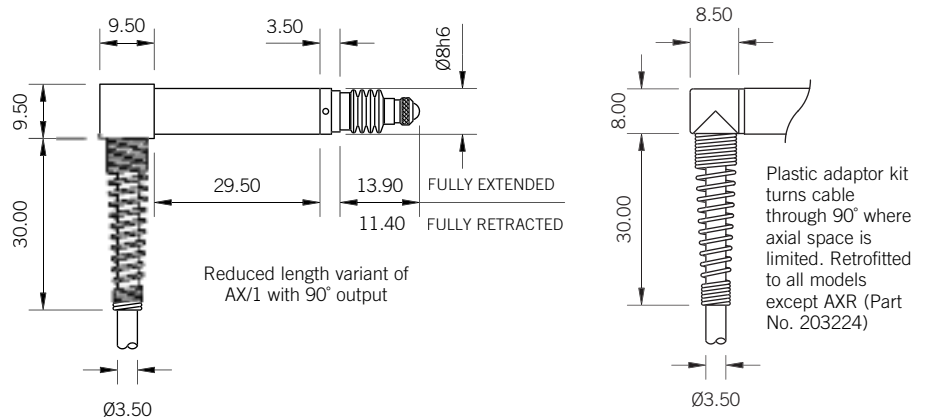
22

## Standard Spring Push (AX/S and DP/S)

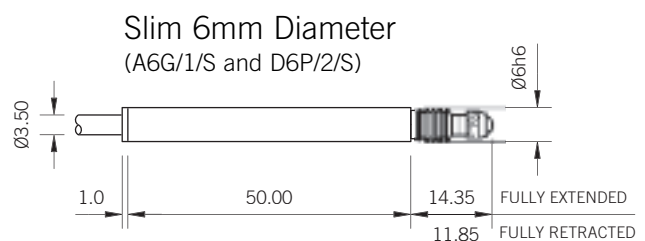
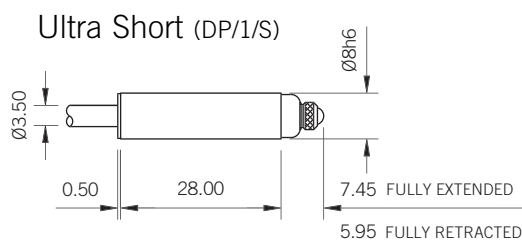
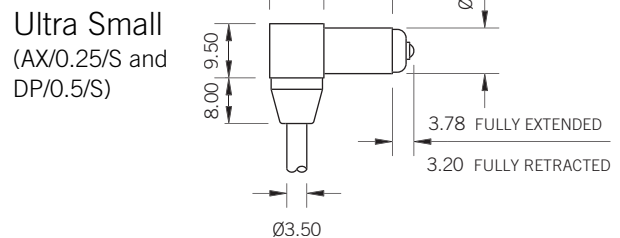
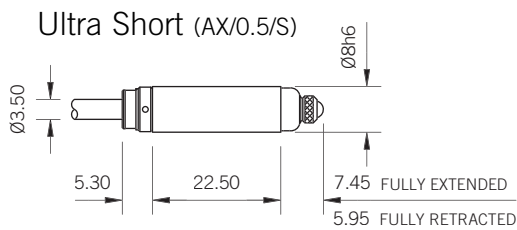


	AX/1/S	DP/2/S	AX/1.5/S	AX5/1/S	AX/2.5/S	DP/5/S	AX/5/S	DP/10/S	AX/10/S
				DP10/2/S					DP/20/S
<b>A</b>	43.00	46.00	58.00	75.00	63.00	65.00	87.00	89.00	127.00
<b>C</b>	3.5	2.00	4.00	4.00	4.00	2.00	4.00	2.00	3.00
<b>B1</b>	13.9	13.9	15.40	25.40	17.40	17.40	25.40	25.40	44.90
<b>B2</b>	11.4	10.9	11.40	14.40	11.40	11.40	14.40	14.40	23.90

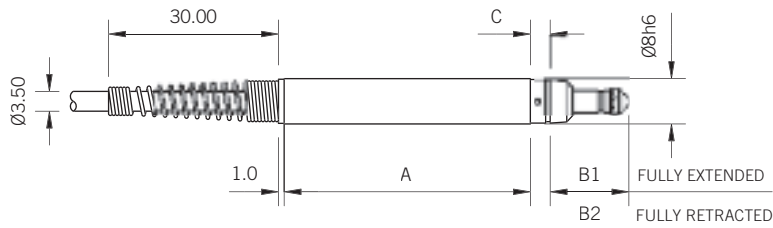
## Right Angle Spring Push (AXR and DPR)



## Special Spring Push Probes

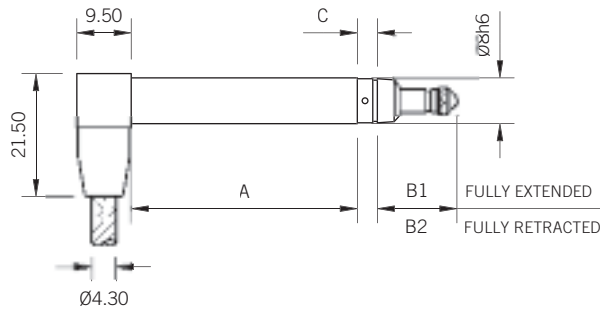


### Feather Touch Spring Push (AT/S and DT/S)

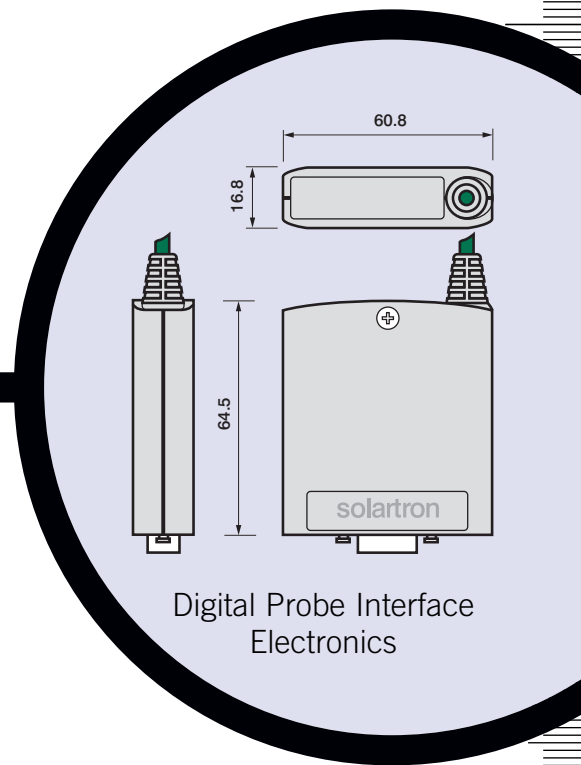


	AT/1/S	DT/2/S	AT/1.5/S	AT/2.5/S	DT/5/S	AT/5/S	DT/10/S	AT/10/S
								DT/20/S
<b>A</b>	43.00	46.00	58.00	63.00	65.00	87.00	89.00	127.00
<b>C</b>	3.50	2.00	4.00	4.00	2.00	4.00	2.00	3.00
<b>B1</b>	13.90	13.90	15.40	17.40	17.40	25.40	25.40	33.90
<b>B2</b>	11.40	10.90	11.40	11.40	11.40	14.40	14.40	12.90

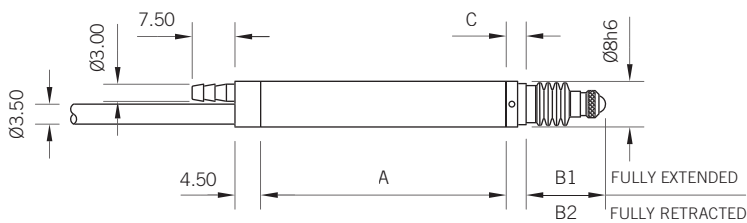
### Right Angle Feather Touch Spring Push with braided cable (ATR/S and DTR/S)



	ATR/1/S	DTR/2/S	ATR/1.5/S	ATR/2.5/S	DTR/5/S	ATR/5/S	DTR/10/S	ATR/10/S
								DTR/20/S
<b>A</b>	29.50	33.50	44.50	49.50	52.50	73.50	76.50	113.50
<b>C</b>	3.50	2.00	4.00	4.00	2.00	4.00	2.00	3.00
<b>B1</b>	13.90	13.90	15.40	17.40	17.40	25.40	25.40	33.90
<b>B2</b>	11.40	10.90	11.40	11.40	11.40	14.40	14.40	12.90



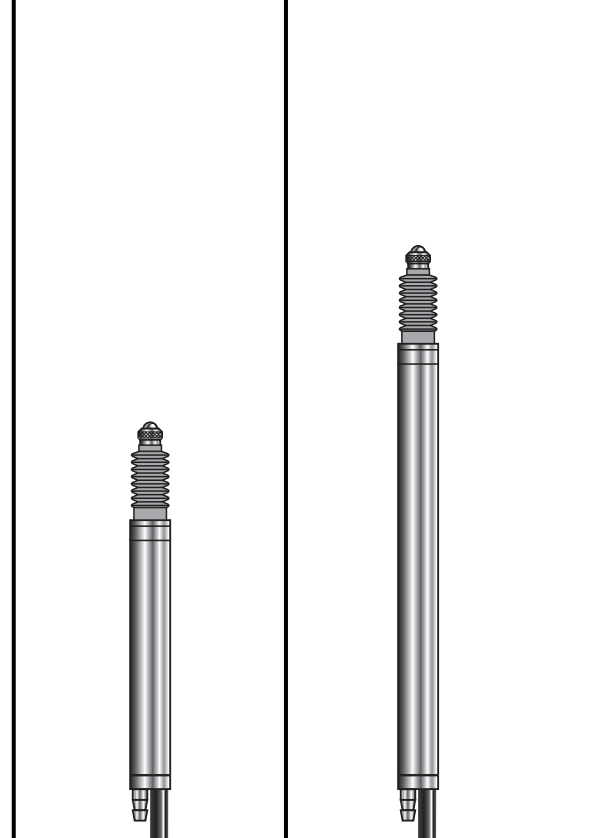
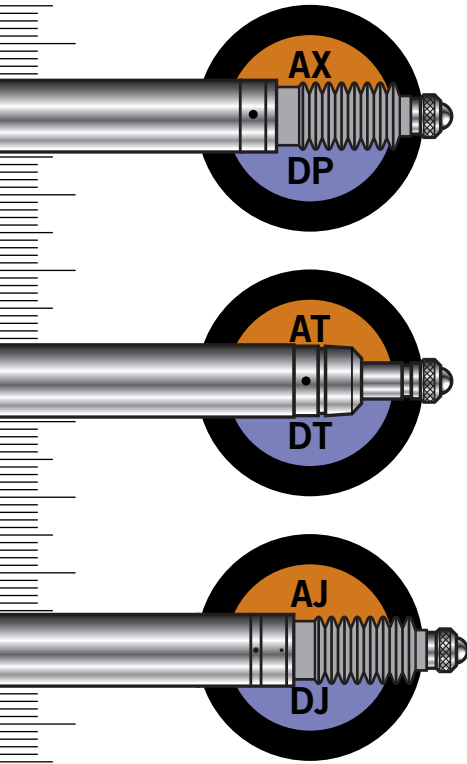
### Vacuum Retract (AX/V and DP/V)



	AX/1/V	DP/2/V	AX/5/1/V	AX/1.5/V	AX/2.5/V	DP/5/V	AX/5/V	DP/10/V	AX/10/V
									DP/20/V
<b>A</b>	43.00	46.00	84.00	58.00	63.00	65.00	87.00	96.00	127.00
<b>C</b>	3.50	2.00	4.00	4.00	4.00	2.00	4.00	2.00	3.00
<b>B1</b>	13.90	13.90	25.40	15.40	17.40	17.40	25.40	25.40	44.90
<b>B2</b>	11.40	11.40	14.40	11.40	11.40	11.40	14.40	14.40	23.90



## 24 Specification Pneumatic push



Product type	Analogue		Digital	Analogue		Digital
	LVDT	H/B		LVDT	H/B	
Axial cable outlet:	Standard Pneumatic	Jet Pneumatic	DP/2/P	AX5/1/P	AX5/1/PH	DP10/2/P
	Jet Pneumatic	Feather Touch	DJ/2/P	AJ5/1/P	AJ5/1/PH	DJ10/2/P
			DT/2/P	-	-	-
Radial cable outlet:	Feather Touch		DTR/2/P	-	-	-
<b>Measurement</b>						
<b>Measurement Range (mm)</b>	<b>±1</b>		<b>2</b>	<b>±1</b>		<b>2</b>
Accuracy <sup>1</sup> (% of reading or µm)	0.5, 1µm		0.1	0.5, 1µm		0.1
Resolution	Analogue: Dependent on electronics					
Repeatability (µm)	0.15			0.15		
Pre-travel (mm)	0.3		0.15	0.3		0.15
Post-travel (mm)	0.7		0.85	8.7		8.85
Tip Force: Standard Vacuum ±20% (N)	0.8 @ 0.4 Bar, 2.8 @ 1 Bar			0.8 @ 0.4 Bar, 2.8 @ 1 Bar		
Tip Force: Feather Touch ±30% (N)*	0.18 @ 0.3 Bar, 1.1 @ 1 Bar			0.18 @ 0.3 Bar, 1.1 @ 1 Bar		
Tip Force: Jet ±20% (N)	0.85 @ 1 Bar			0.85 @ 1 Bar		
Temperature Coefficient %FS/°C*	0.01			0.01		
<b>Mechanical</b>						
Body Diameter (mm)	8h6			8h6		
<b>Electrical Interface (Plugged)<sup>2</sup></b>						
Sensitivity (mV/V/mm ±5%)	200	73.5	-	200	73.5	-
Energising Current (mA/V ±5%)	1.8	1	-	1.8	1	-
<b>Electrical Interface (Unplugged)<sup>2</sup></b>						
Sensitivity (mV/V/mm ±5%)	210	83	-	210	83	-

\*(at mid position)

### Materials

Case: Stainless Steel  
 Tip: Nylon or Tungsten Carbide\*  
 Gaiter<sup>3</sup>: Viton®  
 Cable<sup>4</sup>: PUR

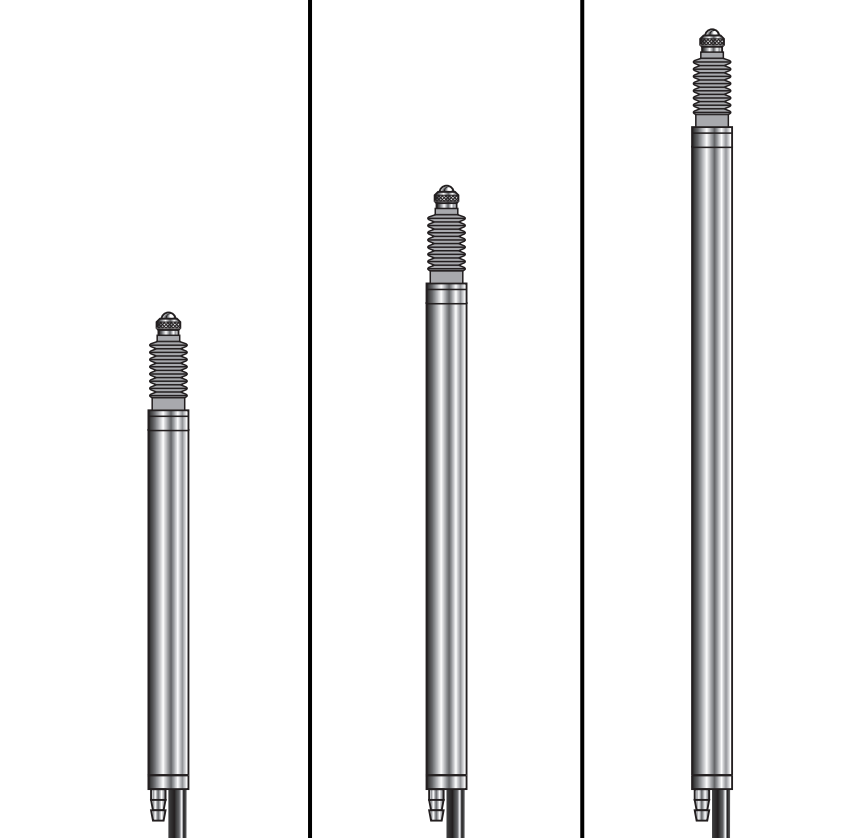
\*Other options available

### Environmental (Probe Head Only)

Storage Temp (°C): -40 to +100  
 Operating Temp<sup>6</sup> with gaiter (°C): +5 to +80  
 Operating Temp<sup>6</sup> without gaiter (°C): -10 to +80  
 IP rating: IP65

IP rating not applicable to Feather Touch or Jet





Analogue		Digital	Analogue		Digital	Analogue		Digital
LVDT	H/B		LVDT	H/B		LVDT	H/B	
AX/2.5/P	AX/2.5/PH	DP/5/P	AX/5/P	AX/5/PH	DP/10/P	AX/10/P	AX/10/PH	DP/20/P
AJ/2.5/P	AJ/2.5/PH	DJ/5/P	AJ/5/P	AJ/5/PH	DJ/10/P	-	-	-
AT/2.5/P	AT/2.5/PH	DT/5/P	AT/5/P	AT/5/PH	DT/10/P	AT/10/P	AT/10/PH	DT/20/P
ATR/2.5/P	ATR/2.5/PH	DTR/5/P	ATR/5/P	ATR/5/PH	DTR/10/P	ATR/10/P	ATR/10/PH	DTR/20/P
<b>±2.5</b>		<b>5</b>	<b>±5</b>		<b>10</b>	<b>±10</b>		<b>20</b>
0.5, 2.5µm		0.2	0.5, 5µm		0.2	0.7, 10µm		0.2
Digital: User selectable to <0.1µm								
0.15			0.15			0.15		
0.3	0.15		0.3	0.15		0.3	0.15	
0.7	0.85		0.7	0.85		0.7	0.85	
0.85 @ 0.4 Bar, 2.5 @ 1 Bar			0.70 @ 0.4 Bar, 2.5 @ 1 Bar			0.70 @ 0.4 Bar, 2.5 @ 1 Bar		
0.18 @ 0.3 Bar, 1.1 @ 1 Bar			0.18 @ 0.3 Bar, 1.1 @ 1 Bar			0.18 @ 0.3 Bar, 1.1 @ 1 Bar		
0.85 @ 1 Bar			0.85 @ 1 Bar			0.85 @ 1 Bar		
0.01			0.01			0.01		
8h6			8h6			8h6		
80	29.4	-	40	14.5	-	20	7.35	-
2	1	-	1	1.2	-	0.6	1.2	-
150	82	-	105	51	-	33	33	-

**1 Probe Accuracy**

The accuracy of the LVDT and Half Bridge probes is quoted as % of reading or µm, which ever is greater. The accuracy of the Digital Probe range is quoted as [(resolution) + (accuracy %) x D] where D is the distance from the setting master. (Please refer to the Glossary for definitions)

**2 LVDT and Half Bridge Probe Performance**

Accuracy, sensitivity and energising current are valid for the following calibration conditions: LVDT probes calibrated at 3 V, 5 kHz frequency into a 10 kΩ load or 100 kΩ for the unplugged versions. Half Bridge probes calibrated at 3 V, 10 kHz frequency into a 2 kΩ load or 1 kΩ for the unplugged versions. The probes will operate with energising voltages in the range 1 V to 10 V and with frequencies in the range 2 kHz to 20 kHz but the performance is not specified.

**3 Viton** is a trademark of DuPont Dow Elastomers.

**4 Cables**

All probes are supplied with 2 m of PUR cable as standard. Other lengths and options such as nylon braided, metal braided and armoured are available on request.

**5 Digital Probe Termination**

Digital Probes are terminated with Solartron's Probe Interface Electronics (PIE) module. Please refer to the Orbit Network for details on this module and methods of integration for Digital Probes.

**6 Below 0°C** environment must be dry

Operating Pressure Range	
Standard:	0.4 to 1 Bar relative
Feather Touch:	0.3 to 2 Bar relative
Jet:	0.6 to 2 Bar relative
Pneumatic actuation: For continual reliable operation and to maximise working life, the air supply should be clean and dry, 60% maximum relative humidity, filtered to better than 5µm particle size.	

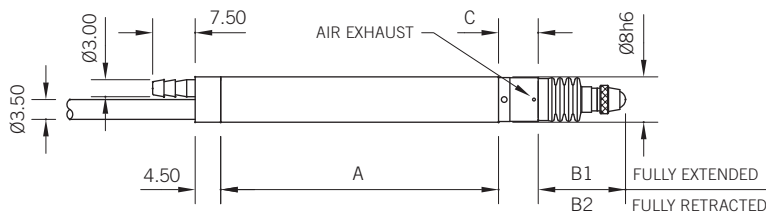
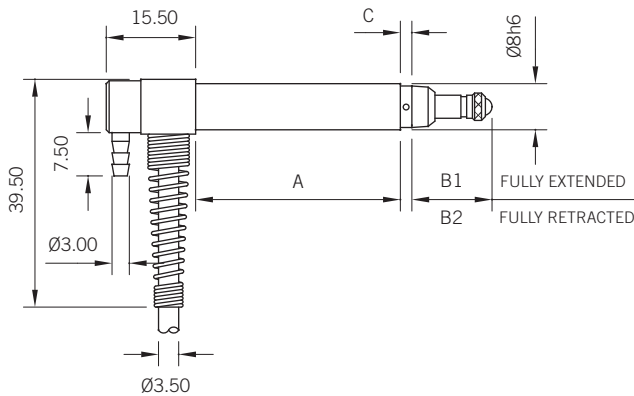
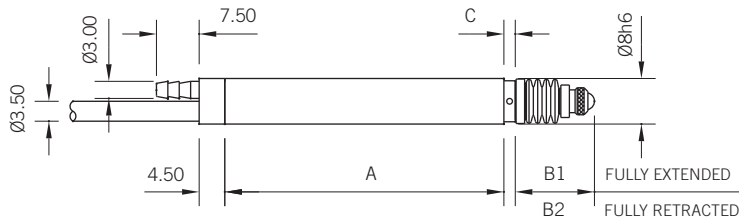
Digital Probe Interface Electronics <sup>5</sup>	
Reading Rate:	Up to 3906 readings/second
Bandwidth:	Up to 460Hz dependent on noise performance required
Output:	Serial communication-RS485 signal level (Solartron Orbit Protocol)
Power:	5 ±0.25 VDC @ 0.06A (includes power for probe)
Storage Temp (°C):	-20 to +70
Operating Temp (°C):	0 to +60
IP Rating:	IP43



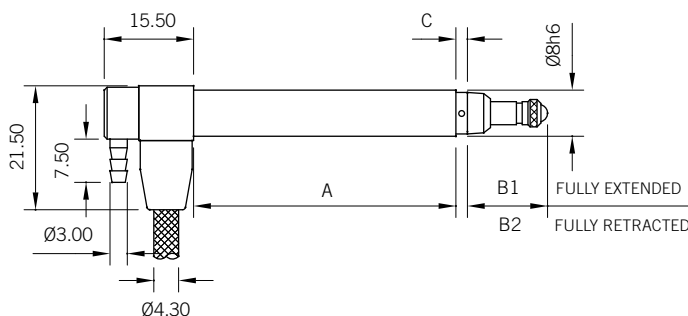
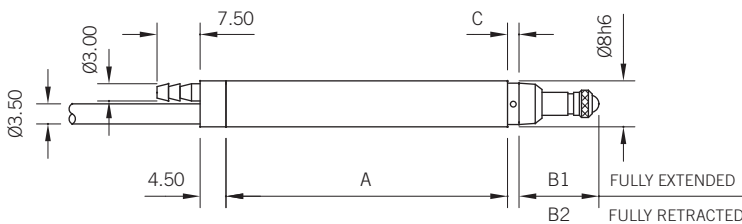
# Dimensions (mm) Pneumatic push



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During mounting, care must be taken not to clamp over the air exhaust



## Pneumatic Push

(AX/P and DP/P)

	AX/1/P	AX5/1/P	DP/2/P	AX/2.5/P	AX/5/P	AX/10/P
		DP/2/PE		DP/5/S	DP/10/P	DP/20/P
<b>A</b>	49.00	84.00	52.00	71.00	96.00	127.00
<b>C</b>	2.00	2.00	2.00	2.00	2.00	3.00
<b>B1</b>	13.90	25.40	13.90	17.40	25.40	44.90
<b>B2</b>	10.90	14.40	10.90	11.40	14.40	23.90

## Right Angled Pneumatic Push

with 90° output and non braided cable (ATR/P and DTR/P)

	ATR/1/P	DTR/2/P	ATR/2.5/P	ATR/5/P	ATR/10/P
			DTR/5/P	DTR/10/P	DTR/20/P
<b>A</b>	35.50	38.50	57.50	82.50	113.50
<b>C</b>	2.00	2.00	2.00	2.00	3.00
<b>B1</b>	13.90	13.90	17.40	25.40	33.90
<b>B2</b>	10.90	10.90	17.40	14.40	12.90

## Gaiter Independent Pneumatic Push

(AJ/P and DJ/P)

	AJ/1/P	DJ/2/P	AJ5/1/P	AJ/2.5/P	AJ/5/P
			DJ10/2/P	DJ/5/P	DJ/10/P
<b>A</b>	49.0	52.0	84.0	71.0	96.0
<b>B1</b>	15.4	15.4	26.9	18.9	26.9
<b>B2</b>	12.4	12.4	15.9	12.9	15.9
<b>C</b>	7.0	7.0	7.0	7.0	7.0

## Feather Touch Pneumatic Push

(AT/P and DT/P)

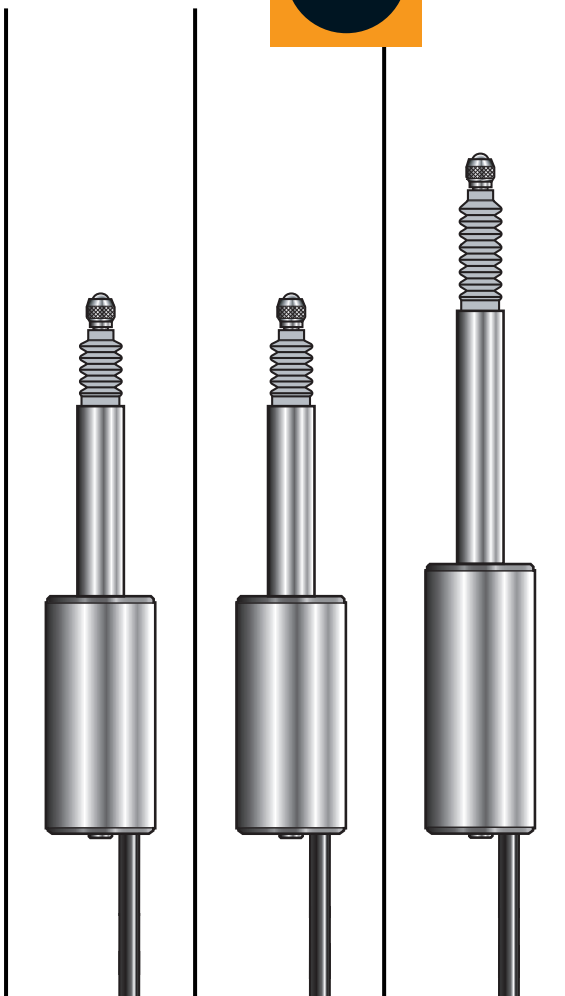
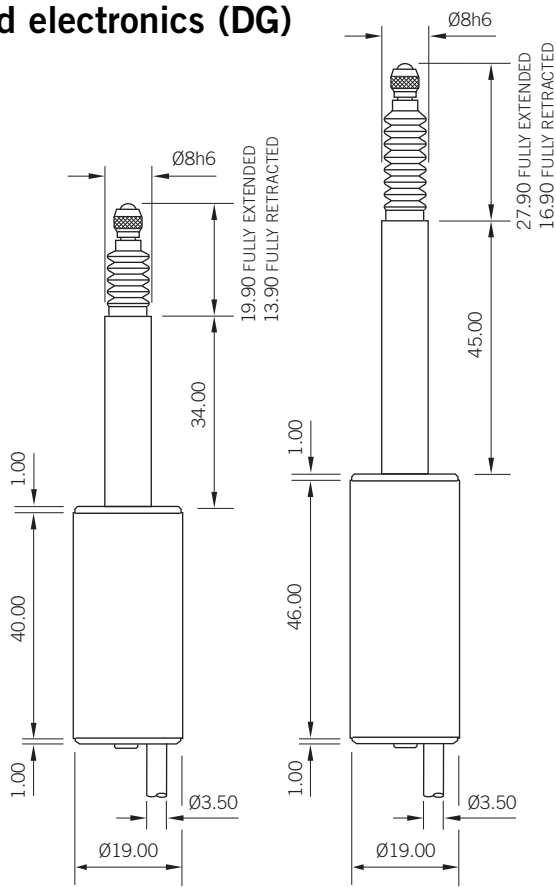
	AT/1/P	DT/2/P	AT/2.5/P	AT/5/P	DT/10/P	AT/10/P
			DT/5/P			DT/20/P
<b>A</b>	49.00	52.00	71.00	96.00	96.00	127.00
<b>C</b>	2.00	2.00	2.00	2.00	2.00	3.00
<b>B1</b>	13.90	13.90	17.40	25.40	25.40	33.90
<b>B2</b>	10.90	10.90	11.40	11.40	14.40	12.90

## Right Angle Feather Touch Pneumatic Push

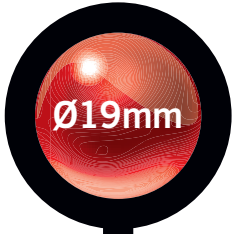
with 90° output and braided cable (ATR/P and DTR/P)

	ATR/1/P	DTR/2/P	ATR/2.5/P	ATR/5/P	ATR/10/P
			DTR/5/P	DTR/10/P	DTR/20/P
<b>A</b>	35.50	38.50	57.50	82.50	113.50
<b>C</b>	2.00	2.00	2.00	2.00	3.00
<b>B1</b>	13.90	13.90	17.40	25.40	33.90
<b>B2</b>	10.90	10.90	11.40	14.40	12.90

# Specification Spring push integrated electronics (DG)



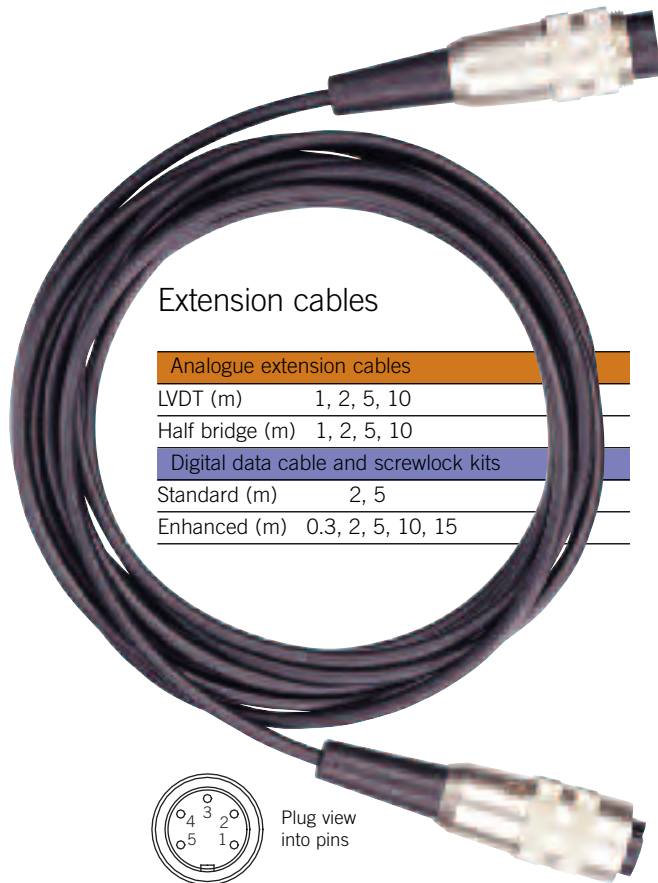
Product type	DG 1.0	DG 2.5	DG 5.0
<b>Measurement</b>			
Measurement Range (mm)	±1	±2.5	±5
Linearity (%FRO)		0.3	
Repeatability (µm)		<0.15	
Pre-travel (mm)	1.65±0.05		0.15±0.05
Post-travel (mm)	2.35±0.2		0.85±0.2
Gauging force at mid point ±20% (N)		0.9	0.7
Temperature Coefficient zero (%FRO/°C)		0.01	
Temperature Coefficient sensitivity (%FRO/°C)		0.02	
<b>Mechanical</b>			
Material	Stainless Steel		
Body Diameter (mm)	19		
Standard Cable length (m)	2		
Spring rate (g/mm)	13		10
<b>Environmental</b>			
Storage Temperature (°C)	-10 to +80		
Operating Temperature (°C)	-5 to +70		
IP rating	IP65		
<b>Electrical Interface</b>			
Energising voltage (VDC)	10-24		
Energising current @ 10VDC (mA)	10		13
Frequency response (-3dB Hz)	50		
Sensitivity @ 10VDC (mVV/mm)	75		54



**DC:** The specifications provided are for a transducer energised with 10 VDC and a calibration load of 20 kΩ at 20°C. Variation of these parameters will result in changes in performance. Please refer to manuals for electrical connections.



## 28 Accessories and spares



### Extension cables

#### Analogue extension cables

LVDT (m) 1, 2, 5, 10

Half bridge (m) 1, 2, 5, 10

#### Digital data cable and screwlocks kits

Standard (m) 2, 5

Enhanced (m) 0.3, 2, 5, 10, 15

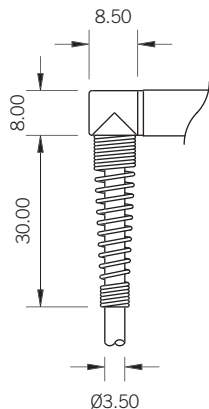


Plug view into pins

Standard extension cables are fitted with a 5 pin 270° DIN socket and a 5 pin 270° plug, and are designed to be used with Solartron Metrology standard product

### Radial outlet

To convert cable outlet from axial to radial on analogue and digital gauging probes

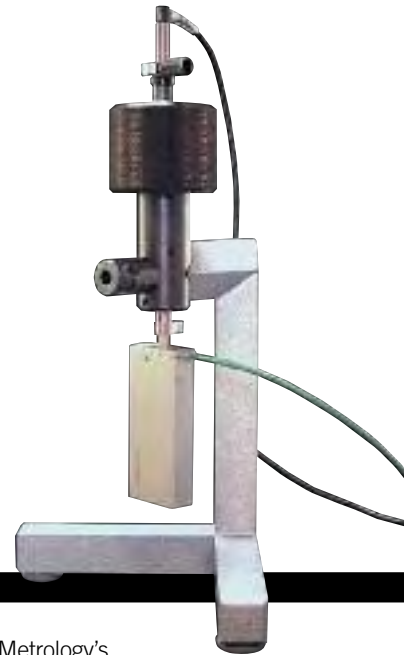


### Springs



Replacement springs for analogue gauging probes

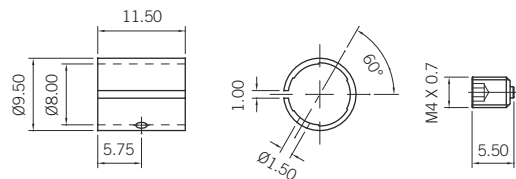
### Calibration equipment



A combination of Solartron Metrology's successful linear encoder LE/25/S, the DR600 digital readout and a precision micrometer, provides a comprehensive kit for checking and inspection of readings from a linear transducer.

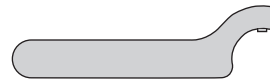
Handy and easy-to-use, Solartron calibration equipment will rapidly and precisely test any linear transducer with a stroke from  $\pm 0.25\text{mm}$  to  $\pm 10\text{mm}$ .

The kit includes an adaptor for testing smaller range transducers and comes with a comprehensive user manual.



### Clamping collet

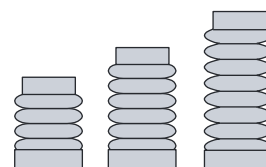
For mounting 8mm analogue and digital gauging probes



### Adjusting spanner

For adjusting the pre-travel on gauging probes

### Gaiters



Replacement gaiters for analogue and digital gauging probes and linear encoders