

# 3 mm Diameter Digital Pencil Probe

The thinnest digital probe

Space is always at a premium in dimensional gauging applications, which makes the advent of a smaller diameter probe ever so vital. Be it a difficult feature on a part, tight slots, or maximising the number of contacts points in a minimum area, Solartron Metrology's 3 mm diameter digital pencil probe offers simple solutions for difficult challenges.

The 3 mm pencil is result of a continuous development which entails reducing the size of industry standard 8 mm probe by two thirds while maintaining the high accuracy, sub-micron repeatability, and resolution associated with Orbit<sup>®</sup> 3 gauging sensors. Despite its thin size and short body length, the probe has a measurement range of 1 mm. As part of the Orbit<sup>®</sup> 3 measurement system, these probes can be networked to a PLC or PC.

- ▶ 3 mm Body diameter
- ▶ Measurement range - 1 mm
- ▶ Spring loaded
- ▶ Probe has IP50 rating
- ▶ Resolution programmable to < 0.1  $\mu$ m
- ▶ Excellent repeatability and linearity
- ▶ Traceable calibration



**D3P/1/S**



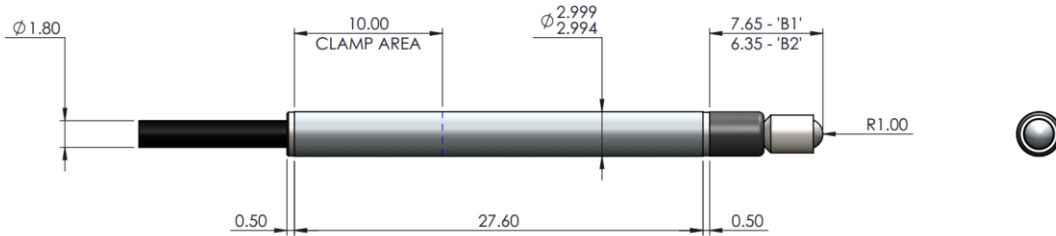
**D3T/1/S**



Precision. Quality. Reliability

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## Dimensions



NOTES:-  
DIM 'B1' - IN FULLY EXTENDED BEARING POSITION  
DIM 'B2' - IN FULLY RETRACTED BEARING POSITION

## Technical Specification

<b>Product</b>		
Spring Push Axial Cable	D3P/31/S	D3T/1/S
Body Width (mm)	3h6	3h6
<b>Measurement Performance</b>		
Measurement Range (mm)	1	1
Accuracy (% of Reading) (Note 1)	0.1	0.1
Repeatability (µm) (Note 2)	0.5	0.5
Resolution (µm)	<0.01	<0.01
Pre Travel (mm)	0.075	0.075
Post Travel (mm)	0.3	0.3
Tip Force at Middle of Range (N) ±20%	0.5	0.3
<b>Environmental</b>		
Sealing	IP50	
Sealing for Probe Interface Electronics	IP43 for Module and TCON	
Storage Temperature (°C)	+5 to +65	
Probe Operating Temperature (°C)	+5 to +65	
Electronics Operating Temperature (°C)	0 to +60	
EMC Emissions	EN61000-6-3	
EMC Immunity	EN61000-6-2	
Shock	Do not subject to excessive shocks or loads	
Life	Greater than 10 million cycles depending on application	
<b>Material</b>		
Probe Body	Stainless Steel	
Tips	Nyon, Ruby, Tungsten Carbide, Silicon Nitride	
Gaiter	N/A	
Cable	PUR Standard	
Electronics Module	ABS	
<b>Electronics Interface</b>		
Orbit@3 Interface Options	USB, RS232, Ethernet, Modbus, Ethernet I/P, Bluetooth	
Reading Rate	3906 readings per second	
Bandwidth of Electronics (Hz) user selectable	460, 230, 115, 58, 29, 14, 7,4	
Power	5±0.25 VDC @ 0.06A typical	

Note 1: Accuracy 0.5 µm or % reading (whichever greater)

Note 2: Repeated operation against a carbide target with side load applied to the bearing using max-min

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### Distributors

Solartron have 30+ distributors worldwide, see website [www.solartronmetrology.com](http://www.solartronmetrology.com) for your nearest distributor

### Precision Driven...

In the laboratory, on the shop floor or in the field, Solartron Metrology's products provide precise linear measurements for quality control, test and measurement and machine control. Solartron Metrology is a world leader in the innovation, design and manufacture of precision digital and analogue dimensional LVDT gauging probes, displacement sensors, optical linear encoders and associated instrumentation.



Solartron Metrology pursues a policy of continuous development. Specifications in this document may therefore be changed without notice.