

Orbit®3 Digital Probes with In Line Connector

Description

Solartron Metrology, the world leader in digital gauging probe innovation introduces an accurate and innovative measuring solution whereby a digital probe and electronics are connected with an in line connector. The in line connector can be mounted close to the probe so that the probe can be replaced without having to unthread/thread the cable. It can also be mounted on the Probe Interface Electronics (PIE) module.

Solartron Metrology uses a dedicated digital probe which has much better screening for magnetic and electrical immunity. The in line connector feature allows flexibility while maintaining a very high resolution, excellent linearity and a high data speed of the Orbit®3 system. Probes can be replaced without any reprogramming of the controlling software. Small diameter of the connector allows easier threading through a machine for replacement. It has a lightweight, corrosion resistant glass reinforced thermoplastic body, with IP67 protection against dust and water ingress

Features

- Simple Probe replacement without any need for software programming
- Available with Standard Digital Probes, Flexures and Block Gauges
- Connector has IP67 rating
- Small Diameter Connector for ease of installation
- Resolution programmable to < 0.01 µm
- Excellent repeatability and linearity
- Precision ball bearing pencil probes
- Traceable calibration



Precision. Quality. Reliability

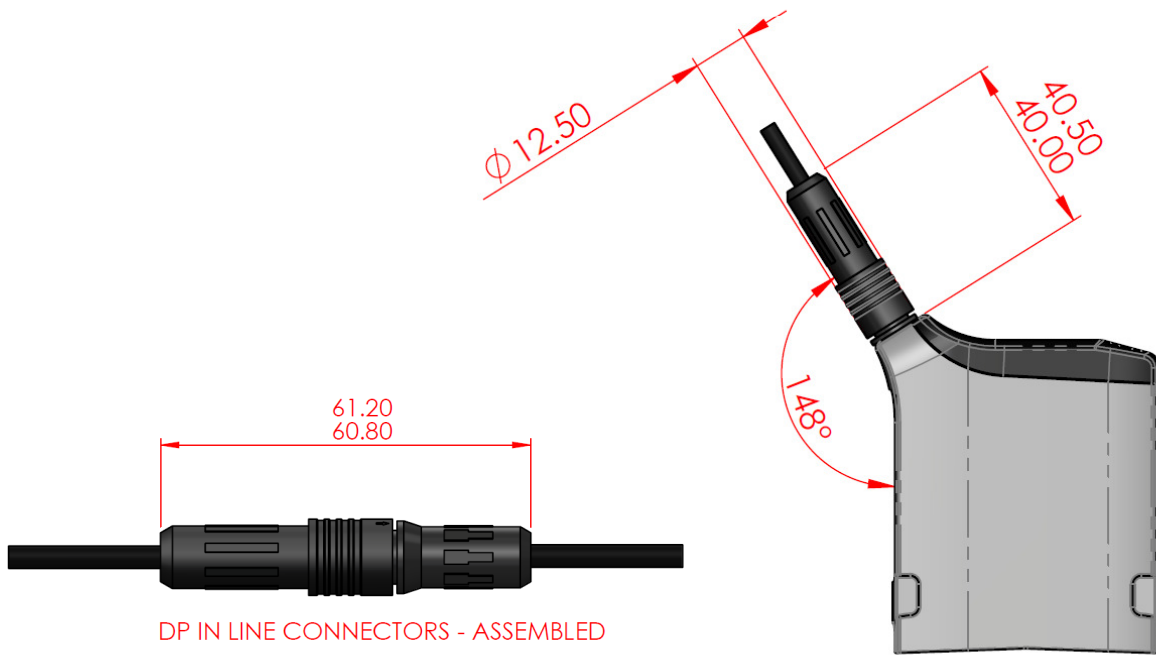
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Connector mounted on Orbit@3 Probe Interface Electronics



In Line Connector mounted close to the probe



Orbit®3 Digital Gauging Probes (with connector between probe and electronics module)

Product

Spring Push Axial Cable	DP/1/S	DP/2/S	DP/5/S	DP/10/S	DP/20/S	D6P/2/S
Spring Push Radial Cable	DPR/1/S	DPR/2/S	DPR/5/S	DPR/10/S	DPR/20/S	N/A
Pneumatic Axial Cable	N/A	DP/2/P	DP/5/P	DP/10/P	DP/20/P	N/A
Pneumatic Radial Cable	N/A	DPR/2/P	DPR/5/P	DPR/10/P	DPR/20/P	N/A
Measuring Range (mm)	1	2	5	10	20	2
Body Diameter	8h6					6h6

Performance

Accuracy (% of Reading) ¹	0.2		0.15		0.2
Repeatability μm^2	0.15				
Resolution μm -user selectable	<0.01	<0.05		<0.1	<0.01
Reading Rate	3906 readings per second				
Bandwidth of Electronics (Hz) user selectable	460, 230, 115, 58, 29, 14, 7,4				
Orbit®3 Electronics Interface	USB, Ethernet, RS232				
Pre Travel (mm)	0.15				
Post Tavel (mm)	0.35	0.85			0.35
Tip Force (N) at Middle of Range $\pm 20\%$	0.7				
Spring Push	0.7				
Pneumatic at 0.4 bar	N/A	0.8	0.85	0.7	N/A
Pneumatic at 1 bar	N/A	2.8		2.5	N/A

Environmental

Sealing for Probe	IP65 with gaiter or IP50 without gaiter				
Sealing for Probe Interface Electronics	IP43, (In line connector: IP67)				
Storage Temperature (°C)	-20 to +70				
Probe Operating Temperature with Gaiter (°C)	+5 to +80				
Probe Operating Temperature without Gaiter (°C)	-10 to +80				
Electronics Operating Temperature (°C)	0 to 60				
EMC	Emissions EN61000-6-3				
	Immunity EN61000-6-2				
Power	5 \pm 0.25 VDC @ 0.06A typical				

Material

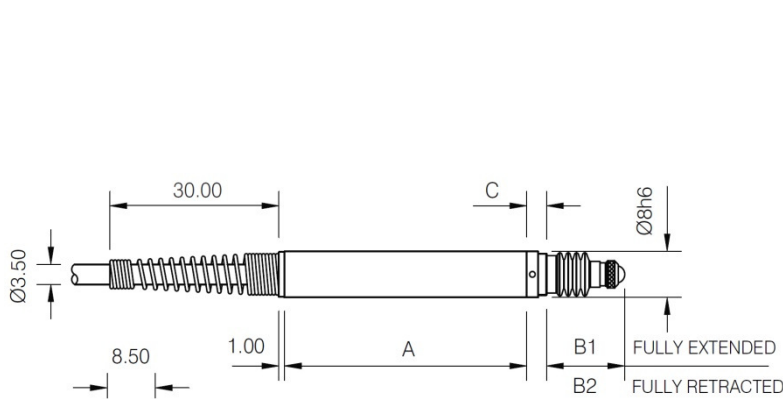
Probe Body	Stainless Steel				
Probe Tip (options)	Nylon, Ruby, Silicon Nitride, Tugsten Carbide				
Gaiter (standard)	Fluoroelastomer				
Cable	PUR				
Electronics Module	ABS				

[1] Accuracy 0.1 μm or % reading, whichever greater

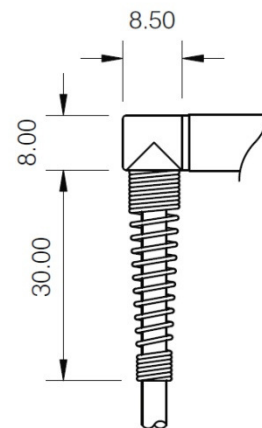
[2] Obtained by repeated operation against a carbide target with side load applied to bearing

Dimensional Drawings
Spring Push

	DP/1/S	DP/2/S	DP/5/S	DP/10/S	DP20/S
A	28	47.5	66.50	90.50	127
C	-	2.00	2.00	2.00	3.00
B1	7.45	13.90	17.40	25.40	44.90
B2	5.95	10.90	11.40	14.40	23.90



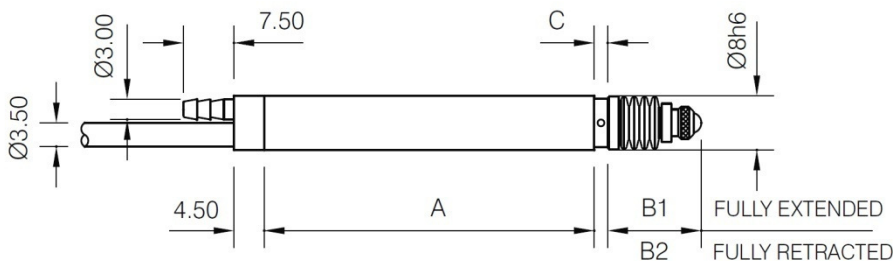
Spring Push Axial (DP/S)



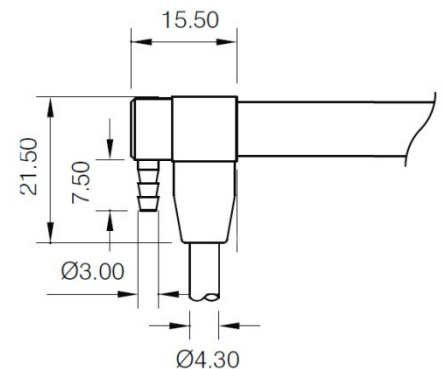
Spring Push Right Angle (DPR/S)

Pneumatic Push

	DP/2/P	DP/5/P	DP/10/P	DP/20/S
A	52.50	71.00	96.00	127.00
C	2.00	2.00	2.00	3.00
B1	13.90	17.40	25.40	4.90
B2	10.90	11.40	14.40	23/90



Pneumatic Push Axial (DP/P)



Pneumatic Push Right Angle (DPR/P)

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

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