

# Orbit® Digital Measuring Probes

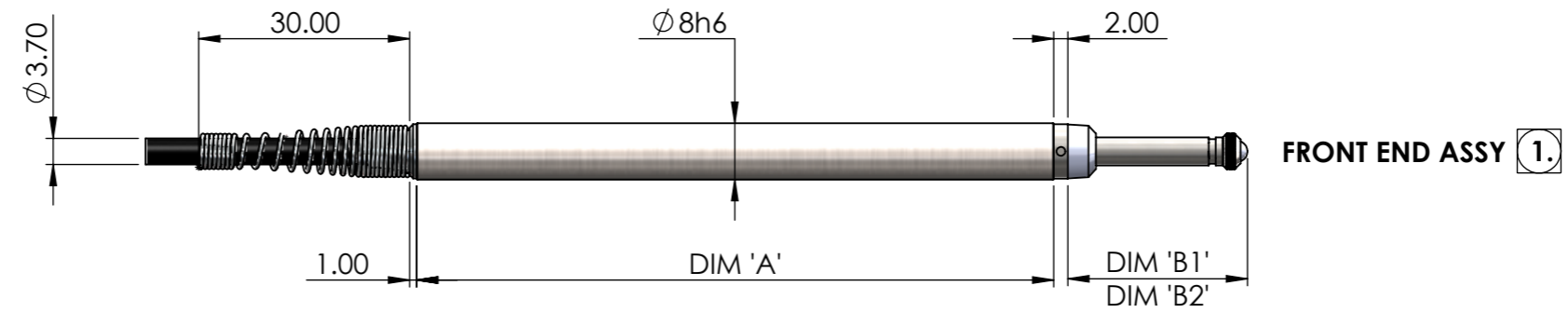
Products (Note 4)	Standard, Spring, Pneumatic and Feather Touch					
Spring Push Axial Cable	DP/0.5/S	DP/1/S	DP/2/S	DP/5/S	DP/10/S	DP/20/S
Spring Push Axial Cable Feather Touch			DT/2/S	DT/5/S	DT/10/S	DT/20/S
Pneumatic Axial Cable			DP/2/P	DP/5/P	DP/10/P	DP/20/P
Pneumatic Axial Cable Feather Touch	N/A	N/A	DT/2/P	DT/5/P	DT/10/P	DT/20/P
Pneumatic Axial Cable Jet Diameter			DJ/2/P	DJ/5/P	DJ/10/P	DJ/20/P
					8h6	
<b>Measurement Performance</b>						
Measurement Range (mm)	0.5	1	2	5	10	20
Accuracy (% of Reading) (Note 1)	0.05	0.05	0.05	0.05	0.06	0.07
Accuracy (% of Reading) (Note 1) - with In line Connector	N/A	0.20	0.20	0.15	0.15	0.15
Repeatability (worst case) µm (Note 2)	0.10	0.15	0.15	0.15	0.15	0.25
Repeatability (typical) µm (Note 3)	0.05	0.05	0.05	0.05	0.07	0.10
Resolution (µm)	0.01	0.01	0.01	0.05	0.05	0.1
Pre Travel (mm)	0.03	0.15	0.15	0.15	0.15	0.15
Post Travel (mm)	0.05	0.35	0.85	0.85	0.85	0.85
Tip Force (N) at Middle of Range ±20%						
Spring Push	0.70	0.70	0.70	0.70	0.70	0.70
Spring Push Feather Touch	0.30	0.30	0.30	0.30	0.30	0.30
Pneumatic at 0.4 bar Minimum	N/A	N/A	0.70	0.70	0.70	0.70
Pneumatic at 1 bar Maximum	N/A	N/A	2.60	2.60	2.60	2.60
Pneumatic Feather Touch ±30% at 0.3 bar	N/A	N/A	1.10	1.10	1.10	1.10
Pneumatic Feather Touch ±30% at 1 bar	N/A	N/A	1.10	1.10	1.10	1.10
Pneumatic Jet ±30% at 1 bar (Note 6)	N/A	N/A	0.85	0.85	0.85	0.85
Temperature Coefficient %FS/°C	0.01	0.01	0.01	0.01	0.01	0.01
<b>Environmental</b>						
Sealing for Probe	IP65 with gaiter or IP50 without gaiter					
Sealing for Probe Interface Electronics	IP43 for module and TCON					
Storage Temperature (°C)	-20 to +80					
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 Emission	EN61000-6-3					
EMC Immunity	EN61000-6-2					
Probe life (Operating Cycles)	100 million cycles (no side load), > 10 million cycles in most applications					
<b>Material</b>						
Probe Body	Stainless Steel					
Probe Tip (options)	Nylon, Ruby, Silicon Nitride, Tungsten Carbide					
Gaiter (Note 5)	Fluoroelastomer or Silicon					
Cable	PUR					
Electronics Module	ABS					
<b>Electronics Interface (Orbit®)</b>						
Orbit® Interface options	USB, Ethernet®					
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 @ 0.06 A typical					

# Technical Specifications

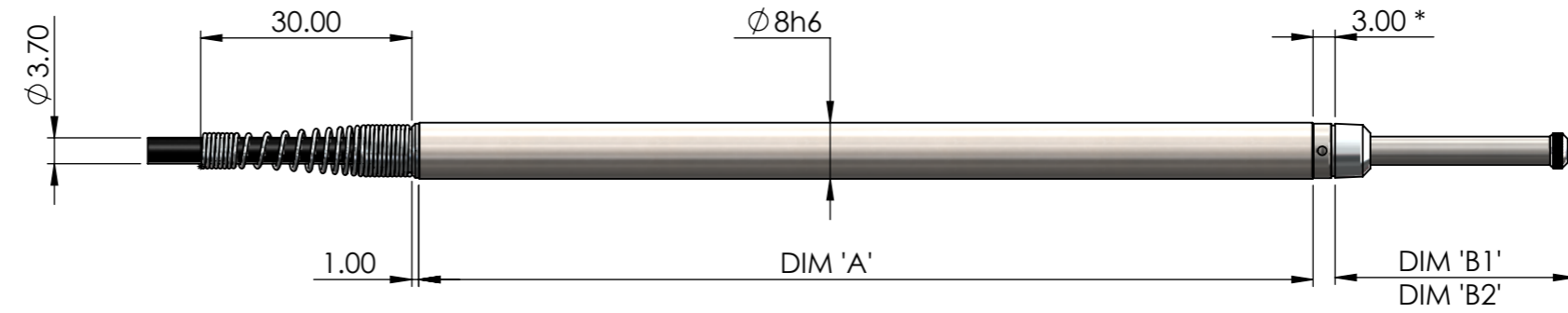
		Ultra Feather Touch		Ultra Short		Narrow Body			
DP/30/S	DP/10/2/S	DW/10/S	DP/10/S	DZ/1/S	DZ/2/S	D6P/2/S	D6P/5/S	N/A	D3P/1/S
	DT/10/2/S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	DP/10/2/P	DW/10/P	DP/10/P	N/A	N/A	N/A	N/A	N/A	N/A
DT/30/P	DT/10/2/P	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	DJ/10/2/P	N/A	N/A	N/A	N/A	D6J/2/P	D6J/5/P	D6J/12/P	N/A
			8h6				6h6		3h6
30	2	10	1	2	2	5	12	1	
0.1	0.05	0.06	0.10	0.10	0.05	0.05	0.10	0.20	
0.2	0.20	0.15	0.15	0.15	0.15	0.15	0.50	0.30	
0.5	0.15	0.15	0.05	0.05	0.05	0.05	0.25	0.5	
0.25	0.05	0.05	0.01	0.01	0.01	0.05	0.1	0.25	
0.2	0.01	0.01	0.15	0.15	0.15	0.15	0.15	0.01	
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.075	
0.85	0.85	0.85	0.35	0.35	0.85	0.85	0.85	0.30	
0.85	0.70	0.03 to 0.06	0.70	0.70	0.70	0.70	N/A	0.50	
N/A	0.30	0.03 to 0.06	0	N/A	N/A	N/A	N/A	N/A	
N/A	0.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N/A	2.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N/A	0.18	0.05	N/A	N/A	N/A	N/A	N/A	N/A	
0.85	1.10	0.25	N/A	N/A	N/A	N/A	N/A	N/A	
N/A	0.85	N/A	N/A	N/A	0.70	0.70	0.50	N/A	
0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	
		IP50		IP65 with gaiter				IP50	
				IP43 for module and TCON					
				-20 to +80				+5 to +65	
		N/A		+5 to +80				+5 to +65	
				-10 to +80				N/A	
				0 to 60					
				EN61000-6-3					
				EN61000-6-2					
				> 10 million					
		Stainless Steel		Fluoroelastomer					
		Nylon, Ruby, Silicon Nitride, Tungsten Carbide							
		PUR							
		ABS							
RS232, RS485, Modbus®, EtherNet/IP®, Bluetooth™, Profinet®, EtherCat®									
				3906 readings per second					
				460, 230, 115, 58, 29, 14, 7, 4					
				5±0.25 VDC @ 0.06 A typical					

- ▶ Note 1: Accuracy 0.1 µm or % reading whichever is greater
- ▶ Note 2: Repeated operation against a carbide target with side load applied to the bearing using max-min
- ▶ Note 3: Repeated operation against a carbide target standard deviation from average (6.8%)
- ▶ Note 4: Right angle outlet versions of all of the standard 8h6 diameter probes for measuring ranges 2 mm to 20 mm are available, part description add R after first two letters e.g DPR/2/S is right angled version of DP/2/S
- ▶ Note 5: Different gaiter materials available for specific applications - Fluoroelastomer standard option
- ▶ Note 6: D6P/2/P @ 0.8 bar, D6J/5/P and D6J/12/P at 0.9 bar

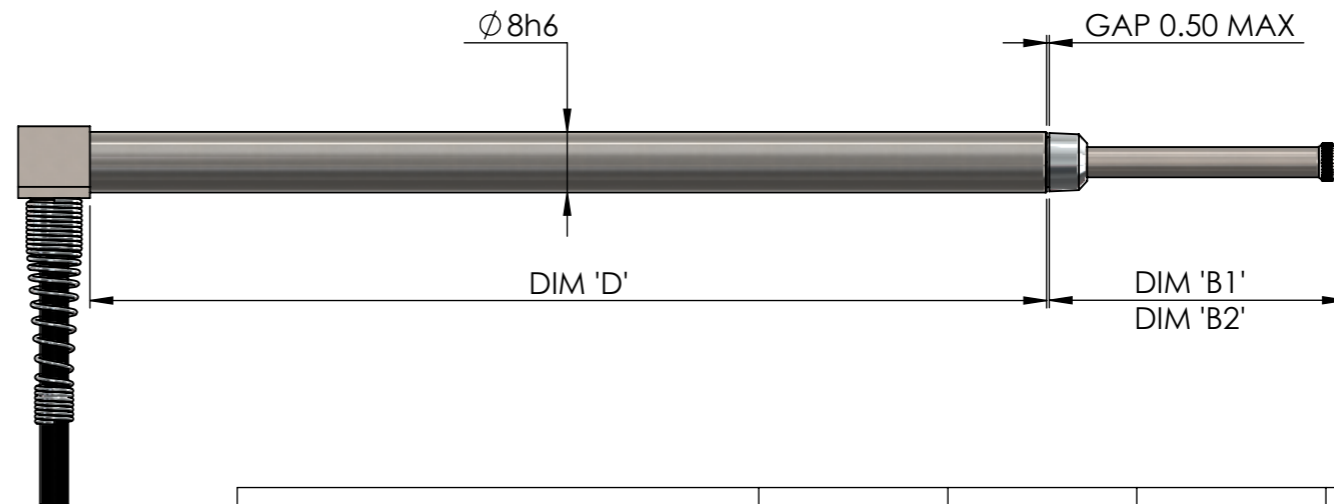
3D MODEL GUIDE		
RANGE	DT SPRING PUSH	
	AXIAL	R/A
2mm	DT2S	DTR2S
5mm	DT5S	DTR5S
10mm	DT10S	DTR10S
20mm	DT20S	DTR20S
30/5mm	DT30-5S	DTR30-5S



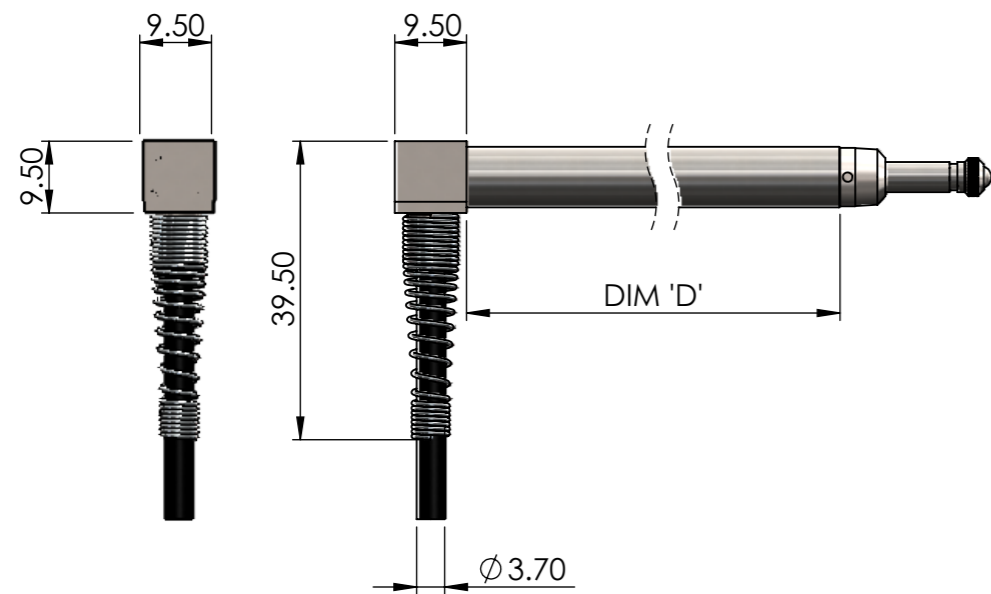
FRONT END ASSY 1.



FRONT END ASSY 2.



FRONT END ASSY 3.



RADIAL CABLE OUTLET OPTION 'R/A'

MEASUREMENT RANGE	2mm	5mm	10mm	20mm	30/5mm
CASE LENGTH AXIAL DIM. 'A'	47.50	66.50	90.50	127.00	-
CASE LENGTH R/A DIM. 'D'	33.50	52.50	76.50	113.50	126.50
FULLY EXTENDED DIM. 'B1'	14.25	18.00	25.50	34.00	39.25
PRE-TRAVEL	0.15	0.15	0.15	0.15	0.15
POST-TRAVEL	0.85	0.85	0.85	0.85	24.85
FULLY RETRACTED DIM. 'B2'	11.25	12.00	14.50	13.00	9.25
FRONT END ASSY	1.	1.	1.	2.	3.

NOTE: \* - VARIABLE DIMENSION, TOLERANCE ±0.25mm.