Block Gauge			
Axial cable outlet	DK/2	DK/5	DK/10
Radial cable outlet	DKR/2	DKR/5	DKR/10
Measurement range (mm)	2	5	10
Total mechanical travel (mm)	3	6	11
Accuracy (% of reading)[1]	0.05	0.05	0.08
Repeatability (µm) @0.7 N tip force	0.25	0.25	0.5
Tip force (N) at centre of travel (horiz. attitude) ±20%	1.5	1.5	1.5
Mass of moving parts (g) less tool holder	35	90	95
Temperature coefficient (µm/°C)	±0.2	±0.5	±1.0
Environmental protection	IP65		

Tip force is affected by mounting attitude and weight of accessories. Tip force can be adjusted higher or lower using a selection of springs. Tip force depends on the weight of accessories + the selected springs + air pressure. See page 28 for tool and tip holders, springs and pneumatic actuators.

Flexure Gauge	
Axial cable outlet	DU/2/S
Radial cable outlet	DU/2/R
Measurement range (mm)	2
Total mechanical travel (mm)	2.5
Accuracy (% of reading)[1]	0.05
Repeatability (µm) @0.7 N tip force	0.1
Tip force (N) at centre of travel (horiz. attitude)	1.5
Environmental protection	IP65

Mini Probe	DM/0.5/S		DM/1.0/S	
Measurment range (mm)	0.5		1	
Accuracy (% of reading)[1]	0.20		0.2	
Repeatability (µm) ...at 100µ from limit stop ...at 250µ from limit stop ...at 500µ from limit stop ...at 1000µ from limit stop	on axis 0.1 0.25 0.5 -	cross axis 0.1 0.15 0.25 -	on axis 0.1 - 0.15 0.3	cross axis 0.1 - 0.1 0.15
Tip force (at centre of range) (N)	0.7 ±25%			
Temperature coefficient (µm/°C)	0.08			
Tip adjustment (mm)	±0.25 from the factory position. Refer to manual			
Mounting	1x M3 hex head screw (supplied)			

1 Accuracy 1µm or % reading, whichever greater

Lever Probe	
Measurement range (mm)	0.5
Mechanical travel (mm)	0.6
Stylus adjustment	180°
Accuracy (% of reading)[1]	0.2
Repeatability (µm) (on axis)	<0.15
Hysteresis (µm)	<0.25
Tip force (N) in 0.05N increments	0.05 - 0.3
Temperature coefficient	0.1µm/°C

Digital Probe interface electronics		
Bandwidth	Up to 460Hz	
Output	Serial RS485 signal level, Solartron Orbit Protocol	
Power (VDC)	5± 0.25@0.06A, includes power for probe	
IP Rating	43 (65 available on request)	
Weight (grams)	Probe interface electronics T connector DIN rail adaptor + connector	52 36 46

Temperature ranges (°C)	
Storage (all)	-20 to +70
Operating (all)	5 to 60

Materials	
Body / frame	Stainless steel (not mini probe)
Probe tip	various options
Gaiter	High grade polymer (not lever probe)
Cable	2m PUR (not mini probe - see P29)

Also see...	
Dimensions and drawings	Page 27 ▶
Special probe tips	Page 34 ▶
Electronics / instrumentation	Page 18 ▶

Controllers

Whether it be PC, laptop or PLC, Solartron Metrology offers a range of plug-and-go interfaces for directly connecting an Orbit network to the controller of your choice.

	PCI Network card	USB Interface Module (USBIM)	RS232 Interface Module (RS232IM)	Ethernet Interface Module (ETHIM)
Computer Interface				
Bus	PCI	USB 2.0 full speed	RS232 (up to 115.2 kB)	Ethernet
Operating system	Microsoft Windows			
Network Interface				
Signal	RS485			
Protocol	Orbit			
Number of Orbit modules (with external PSIM)[1]	Up to 100	Up to 31	Up to 100	To be confirmed
Number of Orbit modules without external PSIM)[2]	Up to 10 depending on module type	Up to 4 depending on module type	0	
Baud Rate	187.5kB or 1.5MB		187.5kB	
Measurement Modes supported[3]	All modes	Standard/Buffered		
Power Requirement				
Voltage Range (VDC)	4.7 to 5.25			To be confirmed
No Load Current (mA)	250	250	62	
Environmental				
Operating Temp. Range (°C)	0 to +60			To be confirmed
Storage Temp. Range (°C)	-20 to +85			
IP Rating	-	43		
Mechanical & Connections				
Computer connections	PCI card slot	USB socket type A	RS232 port	Ethernet port
Dimensions (mm)	-	65 x 61 x 18 excluding connector (refer to PIE drawings on page 30)		
Weight (g)	89	98g max(Din Rail option)		
Material	-	Nylon and ABS plastic		

1 1 PSIM required per channel.
2 The specifications quoted are dependant on the power available from the computer in use.
3 Orbit provides three measurement modes. **Standard** where modules are communicated with on an individual basis. Each module is asked for its measurement data by the controller as required. **Buffered** where modules are told by the controller to take a series of measurements and store them in internal module memory. This data is then extracted in one block by the controller when the required measurements have been taken. **Dynamic** where modules take measurements on receipt of a common synchronization pulse sent to the modules from the controller. Each module in turn sends its data back to the controller within a specific time frame. This process continues until the required number of measurements have been taken.