

PISeca Capacitive Sensors

SINGLE- PLATE SENSORS WITH EXCELLENT POSITION RESOLUTION



D-510

- + Non- contact measurement for distance / motion / vibration
- + Absolute position sensing
- + Sub- nanometer resolution
- + Selectable measurement ranges
- + Easy integration

Specifications

	D-510.021	D-510.051	D-510.101	Unit	Tolerance
Sensor type	Single- electrode, capacitive	Single- electrode, capacitive	Single- electrode, capacitive		
Measurement accuracy					
Nominal measurement range*	20	50	100	µm	
gap	10	25	50	µm	min.
gap	150	375	750	µm	max.
Static resolution**	<0.001	<0.001	<0.001	% of measurement range	typ.
Dynamic resolution**	<0.002	<0.002	<0.002	% of measurement range	
Linearity error***	<0.2	<0.1	<0.1	%	
Mechanical properties					
Sensor active diameter	3.8	6	8.4	mm	
Sensor active area	11.2	27.9	56.1	mm ²	
Sensor diameter	8	12	20	mm	
Sensor area	50.3	113.1	314.0	mm ²	
Mounting shaft diameter	8	8	8	mm	
Miscellaneous					
Operating temperature range	-20 to 100	-20 to 100	-20 to 100	°C	
Material	stainless steel	stainless steel	stainless steel		
Mass	8	10	16	g	±5 %
Recommended signal conditioner electronics	E-852.10	E-852.10	E-852.10		

* Extended measurement ranges available for calibration with E-852.10 signal conditioner electronics

** Static: bandwidth 10 Hz, dynamic: bandwidth 10 kHz, with E-852.10 signal conditioner electronics

*** Linearity error over nominal measurement range

Order Information

D-510.021

PISeca Single- Electrode Capacitive Sensor Probe, 8 mm Diameter, 20 µm Nominal Range

D-510.051

PISeca Single- Electrode Capacitive Sensor Probe, 12 mm Diameter, 50 µm Nominal Range

D-510.101

PISeca Single- Electrode Capacitive Sensor Probe, 20 mm Diameter, 100 µm Nominal Range

Custom designs and other cable lengths on request.

Controllers / Drivers / Amplifiers

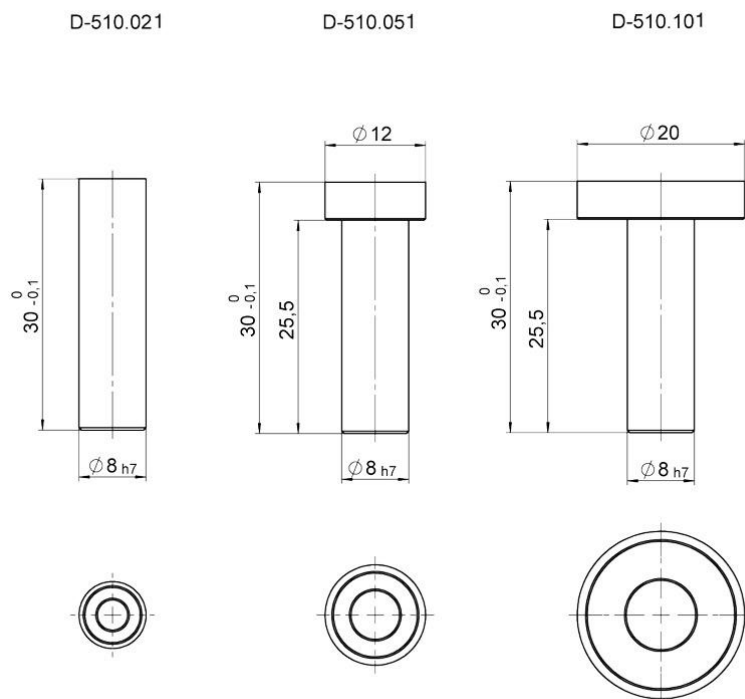
[E-709 Compact and Cost- Optimized Digital Piezo Controller](#)

[E-852 PISeca Signal Conditioner](#)

Related Products

[D-015 • D-050 • D-100 Capacitive Sensors](#)

Drawings / Images



D-510.021, D-510.051 and D-510.101 capacitive sensor probes, dimensions in mm. Sensor connection LEMO FFC00.650.CLA.543, triaxial



D-510.021 with LEMO connector for easy handling