

More Precision



capa^NCDT CS

Capacitive sensors for displacement, distance and position

- Robust & high-resolution sensors
- Excellent temperature stability
- Simple and reproducible mounting



Model		CS-025	CS-05	CS-1	CS-2	CS-3	CS-5	CS-10
Measuring range	Reduced	0.125 mm	0.25 mm	0.5 mm	1 mm	1.5 mm	2.5 mm	5 mm
	Nominal	0.25 mm	0.5 mm	1 mm	2 mm	3 mm	5 mm	10 mm
	Extended	0.5 mm	1 mm	2 mm	4 mm	6 mm	10 mm	20 mm
Resolution ^[1]	Static	0.19 nm	0.375 nm	0.75 nm	1.5 nm	2.25 nm	3.75 nm	7.5 nm
	Dynamic	5 nm	10 nm	20 nm	40 nm	60 nm	100 nm	200 nm
Linearity ^[2]		< ±0.25 µm	< ±0.25 µm	< ±1 µm	< ±1 µm	< ±0.9 µm	< ±1.5 µm	< ±15 µm
Temperature stability ^[3]		-0.015 µm/K	-0.02 µm/K	-0.04 µm/K	-0.13 µm/K	-0.3 µm/K	-0.35 µm/K	-0.5 µm/K
Recommended target size (flat) ^[4]		Ø 5 mm	Ø 7 mm	Ø 9 mm	Ø 17 mm	Ø 27 mm	Ø 37 mm	Ø 57 mm
Connection		Plug connection via triaxial socket (type C)		Plug connection via triaxial socket (type B)				
Temperature range	Storage	-50 ... 200 °C						
	Operation	-50 ... 200 °C						
Humidity		0 % RH ... 95 % RH (non-condensing)						
Shock (DIN EN 60068-2-27)		50 g / 5 ms in 6 directions, 1000 shocks each						
Vibration (DIN EN 60068-2-6)		30 g / 10 ... 2000 Hz in 3 axes 2.5 mm, 10 cycles each						
Protection class (DIN EN 60529)		IP40						
Material		NiFe (magn.)			1.4404 (non-magn.)			
Weight		approx. 1.8 g	approx. 3.6 g	approx. 7.7 g	approx. 45.6 g	approx. 64.2 g	approx. 91.3 g	approx. 179.1 g
Mounting		Radial clamping						
Recommended mounting position		at the defined clamping range (marking on the sensor)				on the mandrel (Ø 20 mm); 7.5 mm behind the sensor face		
Compatibility		Compatible with all capacitive controllers from Micro-Epsilon Sensors can be exchanged as required without recalibration (sensitivity error)						

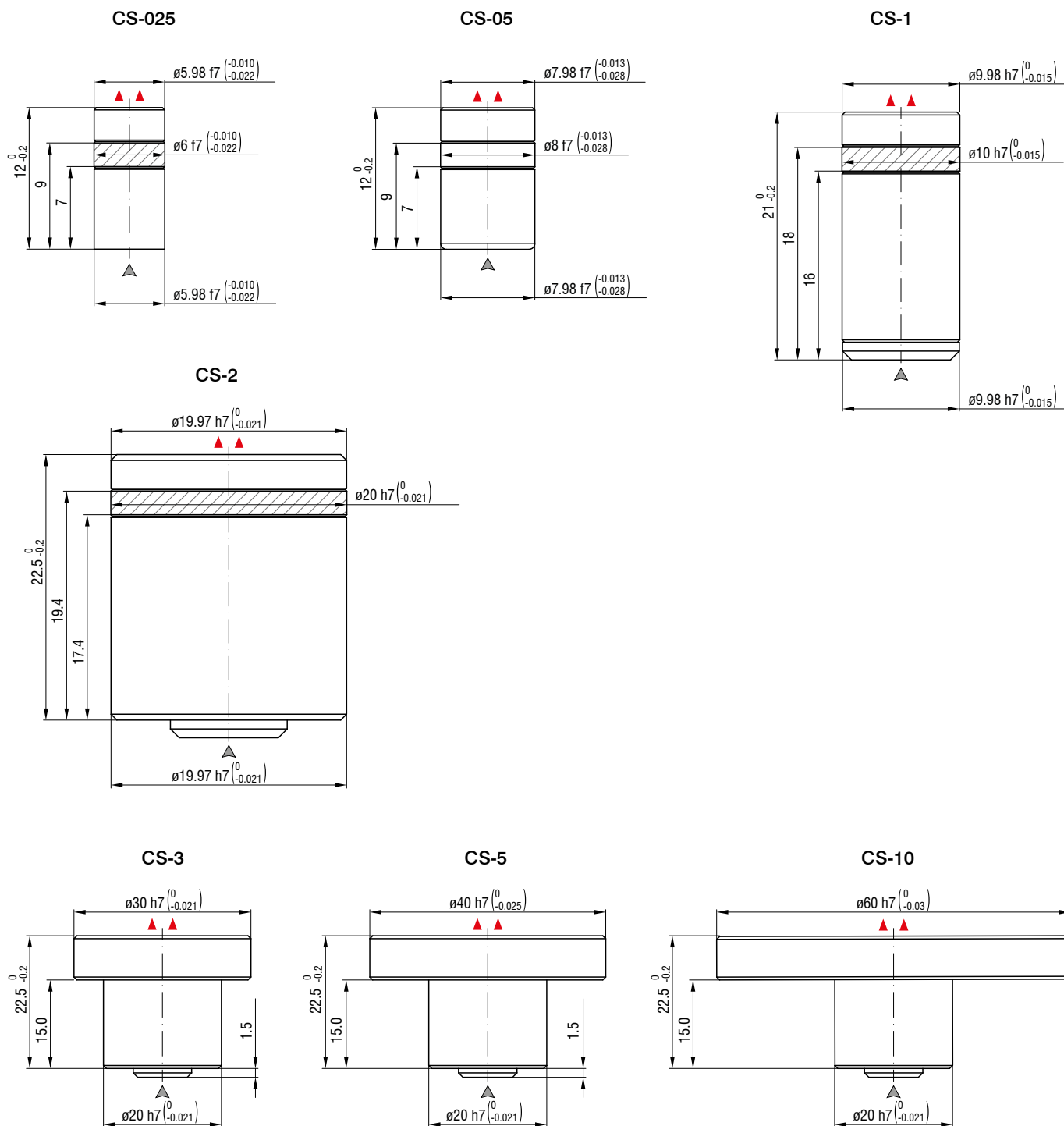
^[1] RMS noise related to the mid of the measuring range and to the nominal measuring range with standard cable CCm (1.4 m); valid for operation with DT6530: static 2 Hz, dynamic 8.5 kHz

^[2] Typical linearity that must be added to the controller linearity; applies to standard cable tuning CCm (1.4 m)

^[3] In recommended mounting position; from a temperature of +150 °C: non-linear signal drift

^[4] In relation to the nominal measuring range

Dimensions:



▲ ▲ Measurement direction

▲ Connector side

Dimensions in mm, not to scale.