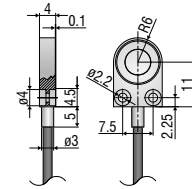
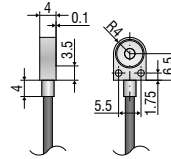
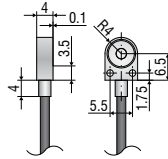




More Precision

capa**N**CDT // Capacitive displacement sensors and systems





Sensor type		CSH02FL-CRm1,4	CSH05FL-CRm1,4	CSH1FL-CRm1,4
Article No.		6610075	6610085	6610072
Measuring range	reduced	0.1 mm	0.25 mm	0.5 mm
	nominal	0.2 mm	0.5 mm	1 mm
	extended	0.4 mm	1 mm	2 mm
Linearity ¹⁾		$\leq \pm 0.05 \mu\text{m}$	$\leq \pm 0.09 \mu\text{m}$	$\leq \pm 0.2 \mu\text{m}$
		$\leq \pm 0.025 \% \text{ FSO}$	$\leq \pm 0.018 \% \text{ FSO}$	$\leq \pm 0.02 \% \text{ FSO}$
Resolution ^{1) 2)}	static 2 Hz	0.15 nm	0.38 nm	0.75 nm
	dynamic 8.5 kHz	4 nm	10 nm	20 nm
Temperature stability	Zero ⁵⁾	-37.6 or 2.4 nm/°C	-37.6 or 2.4 nm/°C	-37.6 or 2.4 nm/°C
	Sensitivity	-2.4 nm/K	-6 nm/K	-12 nm/K
Temperature range	Operation	-50... +200 °C	-50... +200 °C	-50... +200 °C
	Storage	-50... +200 °C	-50... +200 °C	-50... +200 °C
Humidity ³⁾		0 % ... 95 % r.H.	0 % ... 95 % r.H.	0 % ... 95 % r.H.
Dimensions ⁴⁾		10.5 × 8 × 4 mm	10.5 × 8 × 4 mm	17 × 12 × 4 mm
Active measuring area		Ø2.6 mm	Ø4.1 mm	Ø5.7 mm
Guard ring width		1.9 mm	1.2 mm	2.4 mm
Minimum target diameter		Ø7 mm	Ø7 mm	Ø11 mm
Weight (incl. cable and connector)		28 g	28 g	30 g
Material	Housing	1.4104 (magn.)	1.4104 (magn.)	1.4104 (magn.)
Connection	Cable integrated	Ø2.1 mm × 1.4 m radial	Ø2.1 mm × 1.4 m radial	Ø2.1 mm × 1.4 m radial
Mounting		2x thread M2	2x thread M2	2x screw M2 DIN 84A

FSO = Full Scale Output CSH Sensors are matched to controller with standard cable length

¹⁾ Valid with reference controller, relates to standard measuring range

²⁾ RMS value of the signal noise

³⁾ Non condensing

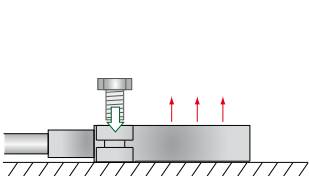
⁴⁾ Without cable, bend protection and crimp

⁵⁾ In the case of a sensor mounting on the top or underside

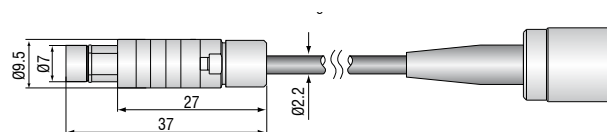
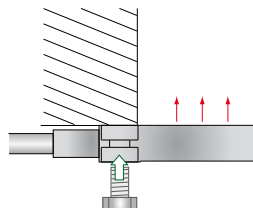
Mounting flat sensors

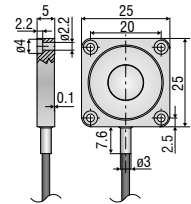
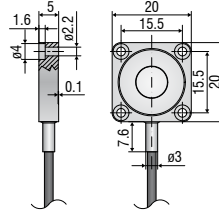
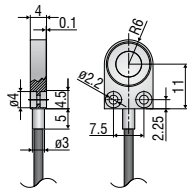
The flat sensors are attached using a threaded bore for M2 (for the sensors CSH02FL and CSH05FL) or using a through-hole for M2 bolts. The sensors can be bolted on top or below.

Screw connection from above on the underside



Screw connection from below on the sensor top side





Sensor type		CSH1,2FL-CRm1,4	CSH2FL-CRm1,4	CSH3FL-CRm1,4
Article No.		6610077	6610094	6610140
Measuring range	reduced	0.6 mm	1 mm	1.5 mm
	nominal	1.2 mm	2 mm	3 mm
	extended	2.4 mm	4 mm	6 mm
Linearity ¹⁾		0.84 μ m	0.32 μ m	$\leq \pm 0.9 \mu$ m
		0.07 % FSO	0.016 % FSO	$\leq \pm 0.03$ % FSO
Resolution ^{1) 2)}	static 2 Hz	0.9 nm	1.5 nm	2.25 nm
	dynamic 8.5 kHz	24 nm	40 nm	60 nm
Temperature stability	Zero ⁵⁾	-37.6 or 2.4 nm/ $^{\circ}$ C	-47 or 4 nm/K	-50 nm/K
	Sensitivity	-14.4 nm/K	-24 nm/K	-40 nm/K
Temperature range	Operation	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C
	Storage	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C
Humidity ³⁾		0 ... 95 % r.H.	0 ... 95 % r.H.	0 ... 95 % r.H.
Dimensions ⁴⁾		17 \times 12 \times 4 mm	20 \times 20 \times 5 mm	25 \times 25 \times 5 mm
Active measuring area		\varnothing 6.3 mm	\varnothing 8.1 mm	\varnothing 10 mm
Guard ring width		2.1 mm	4.4 mm	7.8 mm
Minimum target diameter		\varnothing 11 mm	\varnothing 17 mm	\varnothing 24 mm
Weight (incl. cable and connector)		30 g	36 g	37 g
Material	Housing	1.4104 (magn.)	1.4104 (magn.)	1.4104 (magn.)
Connection	Cable integrated	\varnothing 2.1 mm \times 1.4 m radial	\varnothing 2.1 mm \times 1.4 m radial	\varnothing 2.1 mm \times 1.4 m radial
Mounting		2x screw M2 DIN 84A	4x screw M2 DIN 84A	4x screw M2 DIN 84A

FSO = Full Scale Output CSH Sensors are matched to controller with standard cable length

¹⁾ Valid with reference controller, relates to standard measuring range

²⁾ RMS value of the signal noise

³⁾ Non condensing

⁴⁾ Without cable, bend protection and crimp

⁵⁾ In the case of a sensor mounting on the top or underside

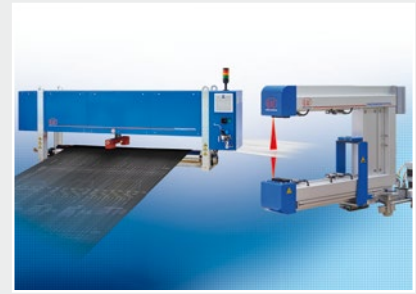
Sensors and Systems from Micro-Epsilon



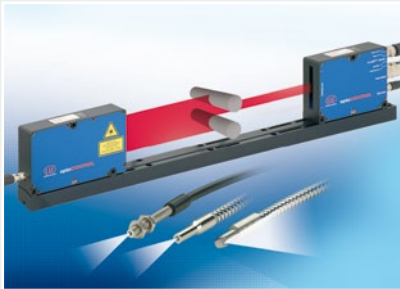
Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection