MICRO-EPSILON

More Precision

capaNCDT MD6-22 // Mobile gap gauge

Capacitive gap gauge

capaNCDT MD6-22

- *High-precision gap measurement*
- *Intuitive operation*
- *For electrically conductive measurement objects*
- *Comprehensive sensor portfolio*
- *Cable lengths up to 4 m*

Mobile gap measurement at the highest precision

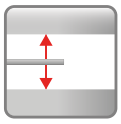
The capaNCDT MD6-22 gauge is a capacitive dual-channel handheld gauge which is compatible with all capacitive sensors from Micro-Epsilon.

This measuring system is used in mobile gap and distance measurements and impresses with high accuracy, versatile application possibilities and intuitive operation.

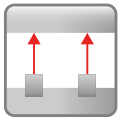
Supported with up to 5h battery life and storage of measurement data on SD card, the MD6-22 is ideally suited to mobile applications in service and maintenance tasks. For example, it is used for rotor gap monitoring in wind turbines and to measure the air gap between the turbine blade and the housing.

This handheld measuring instrument offers three different measurement modes:

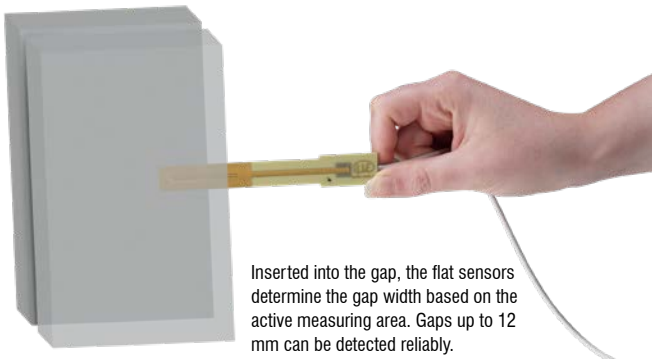
Gap Measurement (single-sided)
One or two flat sensors for single-sided gap measurement are used.



Gap Measurement (double-sided)
One flat sensor for double-sided gap measurement is used.



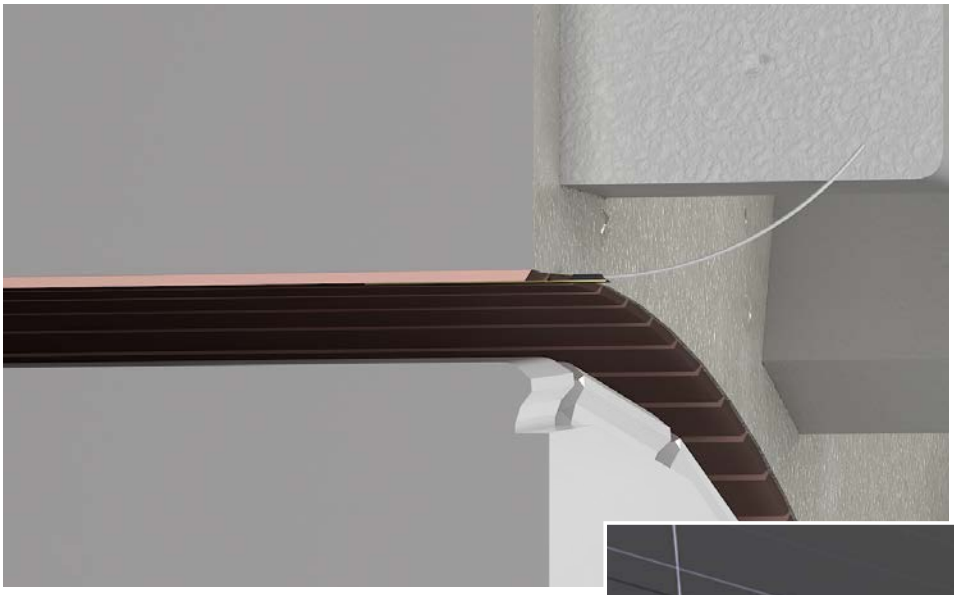
Raw Measurement
Two distance sensors are used which can be calculated together.

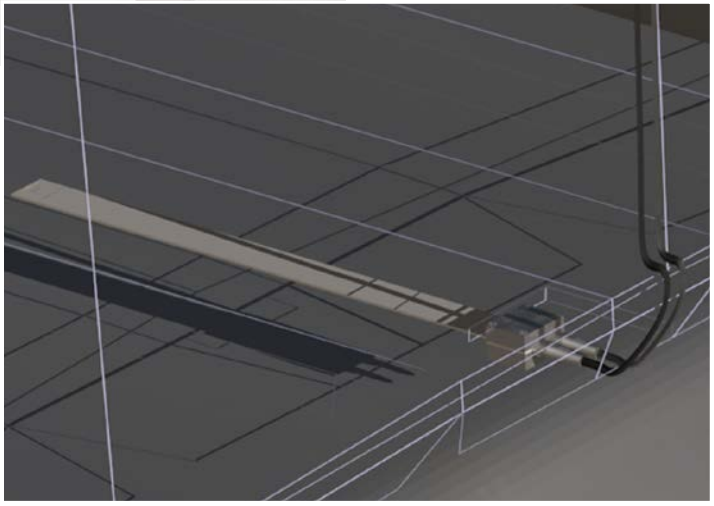


Inserted into the gap, the flat sensors determine the gap width based on the active measuring area. Gaps up to 12 mm can be detected reliably.

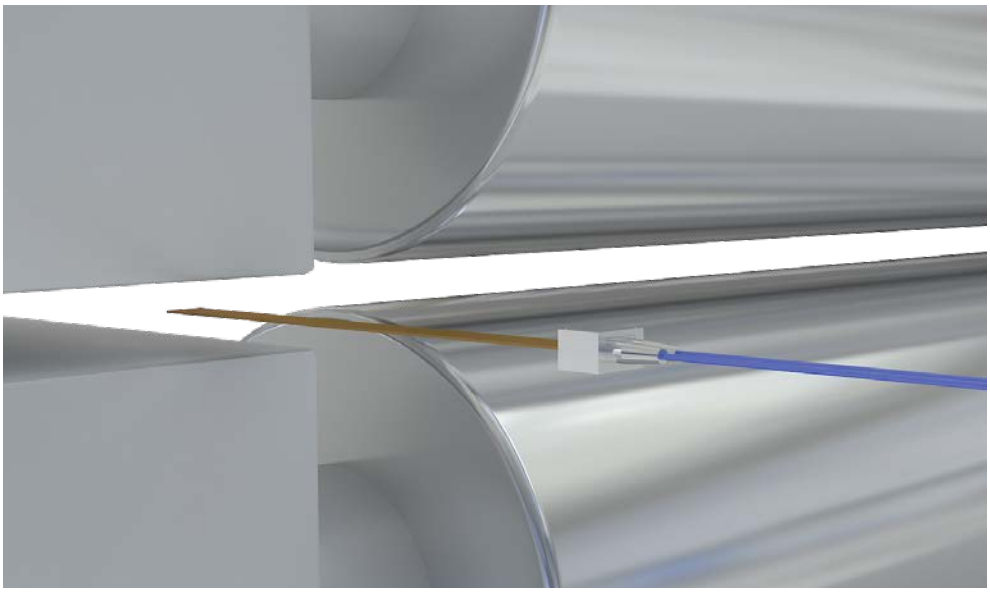
Scope of supply

- Robust carry case
- Handheld measuring instrument MD6-22
- capaNCDT sensor with integrated cable
- Power supply unit / international / 24V / DC / 1A
- Magnetic holder incl. Allen wrench for installation
- 4 x batteries NiMH / Mignon (AA, HR6)
- Cable for ground connection





Rotor gap measurement in the generator
The MD6-22 is used for commissioning and maintenance of generators. Inserted into the rotor gap, the flat sensors detect the distance.



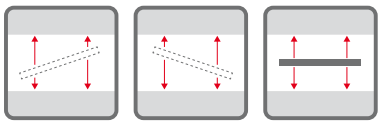
Alignment of rollers
The MD6-22 is used to adjust rollers. Used in commissioning and service tasks, the double-sided flat sensor determines the roller gap.

Mobile gap gauge

The MD6-22 handheld gauge calculates the sensor signals. It has two connections for two sensors or one dual-channel sensor. The rear magnet enables on-site mounting. Based on intuitive touch operation, all parameters can be set quickly. The measurement values are displayed and can be stored on an SD card.

Calibrated system for measurements independent of the alloy

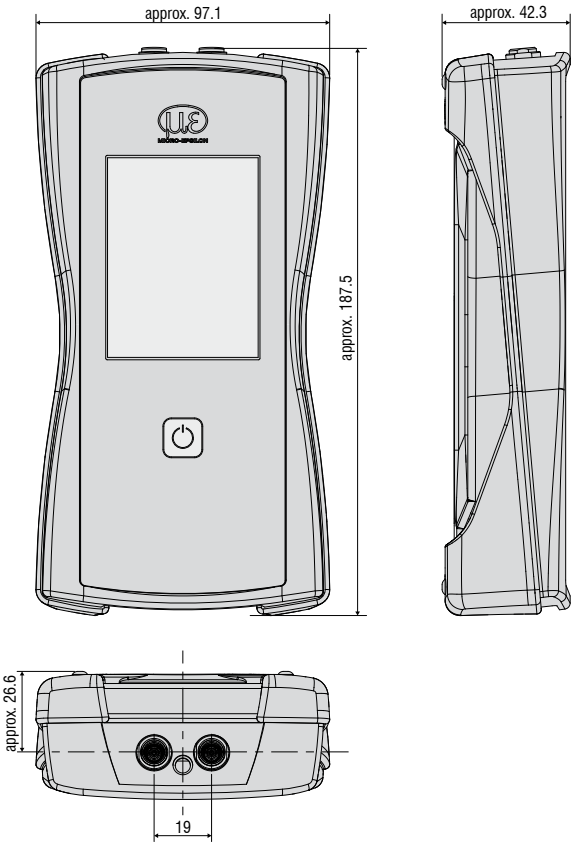
The capacitive measuring principle enables measurements on all conductive measurement objects. The sensor and the controller are factory-calibrated and matched to one another. When replacing the sensors, recalibration in the factory is recommended in order to maintain the high measurement accuracy. Up to 5 different characteristic curves can be stored in the handheld gauge.

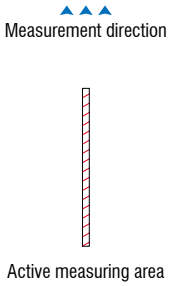


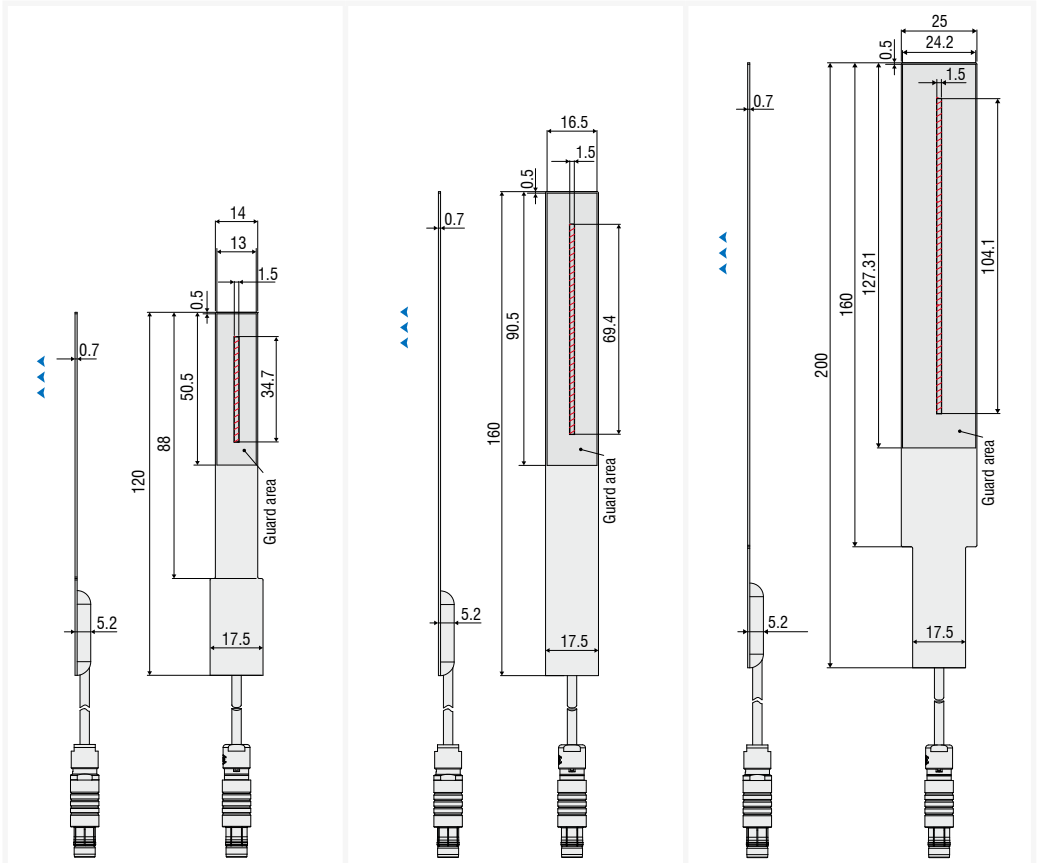
Automatic gap detection
Automatic gap detection simplifies parallel alignment of flat sensors for double-sided measurements, while the sensor is rotated around its longitudinal axis. The system recognizes the correct gap width and displays it.

		MD6-22
Resolution	(dynamic 100 Hz)	0.02 % FSO
Frequency response (-3dB)		100 Hz
Linearity		< ± 0.2 % FSO
Temperature stability		< 200 ppm FSO / K
Sensitivity		< ± 0.2 % FSO
Long-term stability		< 0.04 % FSO / month
Synchronization		yes
Connection		2 x sockets (type B)
Temperature range	Operation	+10 … +50 °C
	Storage	-10 … +65 °C
Shock (DIN-EN 60068-2-27)		40 g / half-sine 6 ms in XYZ axes / 1000 shocks per axis
Vibration (DIN-EN 60068-2-64)		10 rms / 10 … 500 Hz in XYZ axes / 30 minutes per axis
Protection class (DIN-EN 60529)		IP30
No. of measurement channels		2
Weight		500 g (without magnetic holder)
Battery life		5 hours (with 2500 mAh)
Control and display element		touch display
Features		2 synchronized measurement channels; compatible with all capaNCDT sensors Storage of measured values on micro SC/SDHC card (not included, max. storage capacity 32 GB)

FSO = full scale output



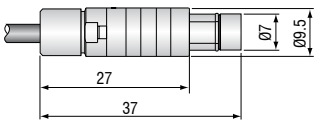


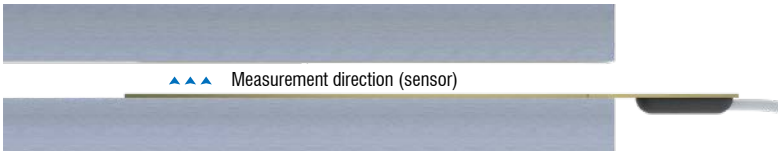


Model		CSF2-CRg4.0	CSF4-CRg4.0	CSF6-CRg4.0
Measuring range	reduced	1	2	3
	nominal	2	4	6
	expanded	4	8	12
Linearity [1]		< ± 4 µm	< ± 8 µm	< ± 12 µm
Resolution [1]	dynamic	0.4 µm	0.8 µm	1.2 µm
Temperature stability [2]		< 0.2 µm/K	< 0.4 µm/K	< 0.6 µm/K
Temperature range	Operation	-40 …+100 °C		
	Storage	-40… +100 °C		
Humidity [3]		0 … 95 % r.H.		
Required gap width		≥ 0.75 mm		
Min. target size (flat)		approx. 50.5 x 14 mm	approx. 90.5 x 17.5 mm	approx. 127.31 x 25 mm
Shock (DIN-EN 60068-2-29) [4]		30 g / 5 ms in XY axes / 1000 shocks per axis		
Vibration (DIN-EN 60068-2-6) [4]		20 g / 58 Hz … 2000 Hz in XY axes / 10 cycles per axis		
Protection class (DIN-EN 60529)		IP40		
Weight		75 g	77 g	80 g
Material		hard tissue (GFRP)		
Connection		integrated sensor cable, 4 m		

[1] valid for operation with MD6-22 and nominal measuring range
[2] valid for disassembled state
[3] non condensing
[4] with locked connector

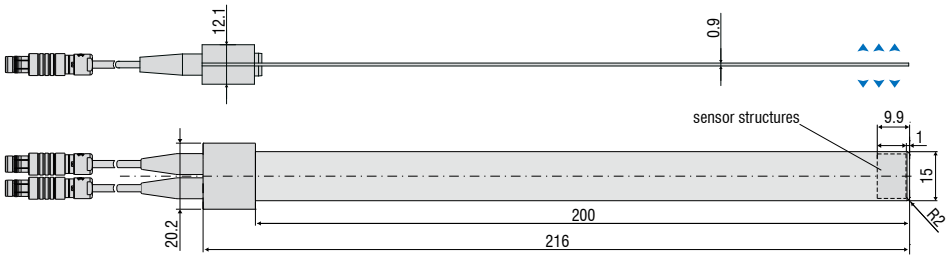
Connector type B



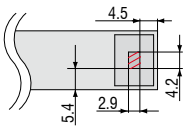


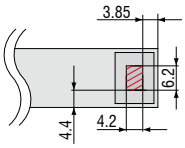
Minimum bending radius (sensor cable) >10 mm, dynamic > 22 mm (30 mm recommended)

Measurement direction



Active measuring area

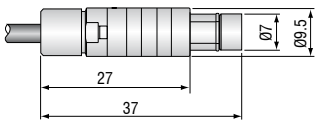


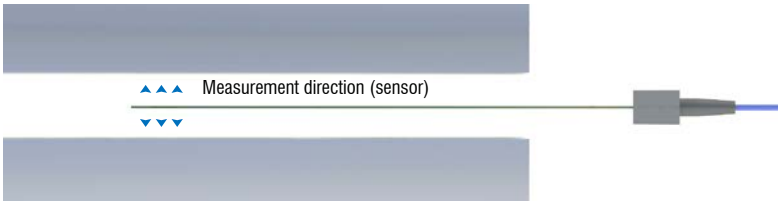


Model		CSG0,5-CAm2,0	CSG1,0-CAm2,0
Measuring range [1]	reduced	0.25 mm	0.5 mm
	nominal	0.5 mm	1 mm
	expanded	1 mm	2 mm
Linearity [2]		< ± 1 µm	< ± 2 µm
Resolution [2]	dynamic	0.4 µm	0.8 µm
Temperature stability		< 0.08 µm/K	< 0.1 µm/K
Temperature range	Operation	-50…+100 °C	
	Storage	-50…+100 °C	
Humidity [3]		0 … 95 % r.H.	
Required gap width		≥ 0.9 mm	
Min. target size (flat)		approx. 9.9 x 15 mm	
Shock (DIN-EN 60068-2-29) [4]		30 g / 5 ms in XY axes / 1000 shocks per axis	
Vibration (DIN-EN 60068-2-6) [4]		20 g / 50 Hz … 2000 Hz in XY axes / 10 cycles per axis	
Protection class (DIN-EN 60529)		IP40	
Weight		77 g	
Material		hard tissue (GFRP)	
Connection		integrated sensor cable, 2 m	

[1] Measuring range per measurement direction
[2] valid for operation with MD6-22 and nominal measuring range
[3] non condensing
[4] with locked connector

Connector type B





Minimum bending radius (sensor cable) >7 mm, dynamic > 15 mm (25 mm recommended)

Sensors and Systems from Micro-Epsilon

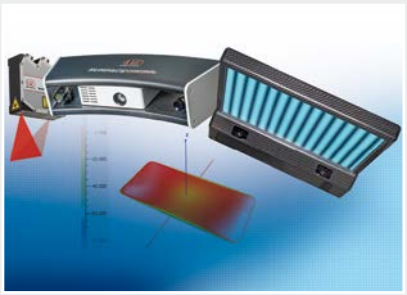
Sensors and systems for displacement, distance and position

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

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