Proper Environment

- Protection class: IP30
- Temperature range
  - Operation:
    - Sensor: -25 ... +85 °C (-13 ... +185 °F)
      -40 ... +100 °C (-40 ... +212 °F) (< 10.000 h)
    - Controller: +10 ... +50 °C (+10 ... +122 °F)
  - Storage:
    - Sensor, sensor cable: -25 ... +85 °C (-13 ... +185 °F)
    - Controller: -10 ... +65 °C (+14 ... +149 °F)
- Humidity: 5 - 95 % (non-condensing)
- Ambient pressure: Atmospheric pressure

- The space between the sensor surface and the target must have an unvarying dielectric constant.
- The space between the sensor surface and the target may not be contaminated (for example water, rubbed-off parts, dust, etc.).

Delivery

1 Handheld gauge MD6-22
1 capaNCDT sensor with integrated cable (optional)
1 Assembly instructions
1 Robust carry case
1 Power supply unit / international 24 VDC, 1 A
1 Magnetic holder. incl. allen wrench for installation
4 Batteries NiMH / Mignon (AA, HR6)
1 MicroSD card
1 Cable for ground connection

➡ Carefully remove the components of the measuring system from the packaging and ensure that the goods are forwarded in such a way that no damage can occur.
➡ Check the delivery for completeness and shipping damage immediately after unpacking.
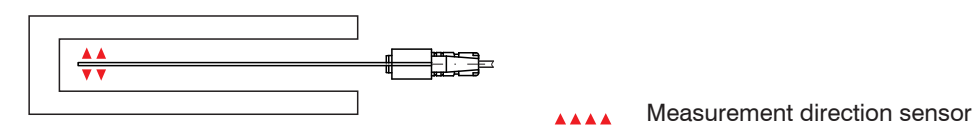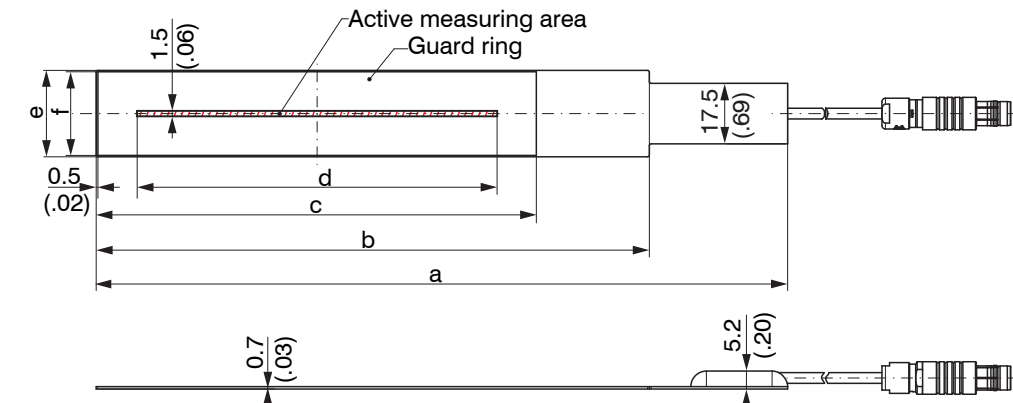➡ If there is damage or parts are missing, immediately contact the manufacturer or supplier.
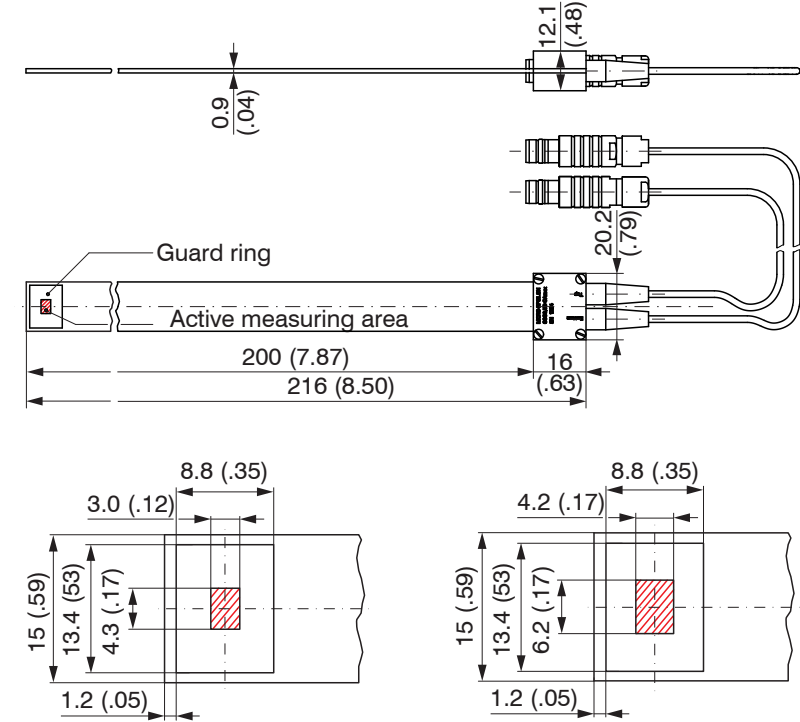
Controller Operating Elements and Connections

1 On/Off switch
  Switch on: briefly press the button.
  Switch off: keep the button pressed for more than 3 seconds.
2 Sensor connections
3 Connection socket for ground connection. When using CSFxx/CSGxx sensors, a ground connection to the measurement object is required to ensure a stable measurement signal.
4 LED for battery state of charge
  The LED is illuminated while the battery is being charged.

5 Mini USB
  Internal use
6 MicroSD card (max. 32 GB)
  MicroSD or microSDHC card to store the protocol
7 Supply
  Power supply unit for battery charging or for operation without batteries
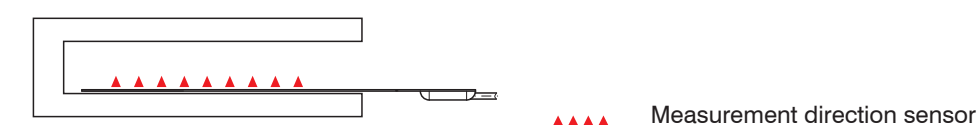8 Split ferrite
  Braid-breaker for interference suppression

Software Operation

Operating Elements on the Touch Display

▷	Next menu item	Start	Start the measurement
◁	Previous menu item	Auto	Start automatic measurement
↩	Close menu, one menu level back	Stop	Stop the measurement
✓	Finish entry	Report	Display the analysis of current measurement series
Sensor	Current sensor settings	Save	Store value or analysis on SD card (csv-file)
		Cancel	Cancel measured value or analysis

Decommissioning, Disposal

Incorrect disposal may cause harm to the environment.

Dispose of the device, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use.

In connection with devices that are operated with batteries or accumulators and which are included or can be obtained separately, we are obliged under the German battery law (BattG) to provide information on the relevant regulations and obligations:
- Batteries and accumulators must not be disposed of in household waste. You are legally obliged to return used batteries and accumulators.
- Used batteries may contain harmful substances that can damage the environment or your health if not stored or disposed of properly. However, batteries also contain important raw materials such as iron, zinc, manganese or nickel and are recycled. You will not incur any recycling costs. You are also welcome to return the batteries/accumulators you purchased from us at no costs after use. Please return batteries/accumulators to the address given in the imprint.

The crossed garbage can symbol means that batteries and accumulators must not be disposed of with household waste.

If the batteries and accumulators contain pollutants, the chemical name of the corresponding pollutants is located under the symbol of the crossed garbage can. Examples are:
- Pb: Battery contains lead
- Cd: Battery contains cadmium
- Hg: Battery contains mercury

Overview of Measured Values

ℹ The handheld gauge is immediately ready for use. To ensure precise measurements, the measuring system should warm up for approx. 10 minutes after switching on.

Measuring program	Sensor 1	Sensor 2	
Gap Measure (1-sided), see operating instructions Chapter 6.1	x	o	
Gap Measure (2-sided) Min, see operating instructions Chapter 6.2 for bent surfaces	x	x	
Gap Measure (2-sided) Max, see operating instructions Chapter 6.3 for straight surfaces	x	x	
Raw Data Measure, see operating instructions Chapter 6.4	x	o	

x Standard   o Optional

If the sensor is tilted in the measuring gap, measurements might be inaccurate. Therefore, insert the sensor as parallel as possible into the measuring gap.

Status Headline

Date/Time

16.04.2019 15:34:05 [SD] ⚡ 12%   [SD] SD card is ready

Status SD Card

[SD] No SD card available
[...] SD card recognized, check

Battery state of charge

[100%] Battery operation
⚡[100%] Charging operation

Read the detailed instruction manual before using the sensor. The manual is available online on
www.micro-epsilon.com/download/manuals/man--capaNCDT-MD6-22--en.pdf.

Dimensional Drawing Sensor CSGx

During measurement, take care that the active measuring area is not scratched.

Measuring area CSG0,5-CAm2,0   *Measuring area CSG1,0-CAm2,0*

Model	CSG0,50-CAm2,0	CSG1,00-CAm2,0
Measuring range	1 (.04)	2 (.08)
Required gap width	≥ 0,9	
Min. target size (flat)	approx. 9.9 x 15	

Dimensional drawing CSGx-CAm2,0, dimensions in mm (inches)

Dimensional Drawing Sensor CSFx

During measurement, take care that the active measuring area is not scratched.

Model	CSF2-CRgx	CSF4-CRgx	CSF6-CRgx
Measuring range	4 (.16)	8 (.31)	12 (.47)
Required gap width	≥ 0.75		
Min. target size (flat)	approx. 50.5 x 14	approx. 90.5 x 17.5	approx. 127.31 x 25
a	120 (4.72)	160 (6.30)	200 (7.87)
b	88 (3.46)	-	160 (6.30)
c	50.5 (1.99)	90.5 (3.56)	127.31 (5.01)
d	34.7 (1.37)	69.4 (2.73)	104.1 (4.10)
e	14 (.55)	17.5 (.69)	25 (.98)
f	13 (.51)	16.5 (.65)	24.2 (.95)

Dimensional drawing CSFx-CRgx, dimensions in mm (inches)

The sensor is connected to the controller by the sensor cable. The connection is made by simple plugging. The connector locks automatically. The tight fit can be checked by pulling the connector housing (cable bushing). The lock can be released and the connector can be opened by pulling the knurled housing sleeve of the cable bushing.

Maintenance

Make sure that the sensor surface is always clean.
➡ Switch off the power supply before cleaning.
➡ Clean with a clamp cloth; then rub the sensor surface dry.

Disconnect the power supply before touching the sensor surface.
> Static discharge
> Risk of injury

If the controller, sensor or sensor cable is defective please send us the affected parts for repair or exchange. If the cause of a fault cannot be clearly identified, please send the entire measuring system to:

Sensors of the same type can be replaced without calibrating the controller.

MICRO-EPSILON MESSTECHNIK GmbH & Co. KG
Koenigbacher Str. 15
94496 Ortenburg / Germany

Tel. +49 (0) 8542 / 168-0
Fax +49 (0) 8542 / 168-90
info@micro-epsilon.com
www.micro-epsilon.com

Liability for Material Defects

All components of the device have been checked and tested for functionality at the factory. However, if defects occur despite our careful quality control, MICRO-EPSILON or your dealer must be notified immediately.

The liability for material defects is 12 months from delivery. Within this period, defective parts, except for wearing parts, will be repaired or replaced free of charge, if the device is returned to MICRO-EPSILON with shipping costs prepaid. Any damage that is caused by improper handling, the use of force or by repairs or modifications by third parties is not covered by the liability for material defects. Repairs are carried out exclusively by MICRO-EPSILON.

Further claims can not be made. Claims arising from the purchase contract remain unaffected. In particular, MICRO-EPSILON shall not be liable for any consequential, special, indirect or incidental damage.
In the interest of further development, MICRO-EPSILON reserves the right to make design changes without notification.

For translations into other languages, the German version shall prevail.

Decommissioning, Disposal

➡ Remove the power supply from the controller.

Incorrect disposal may cause harm to the environment.

➡ Dispose of the device, its components and accessories, as well as the packaging materials in compliance with the applicable country-specific waste treatment and disposal regulations of the region of use.

Assembly Instructions
capaNCDT MD6-22

Intended Use

- The capaNCDT MD6-22 is designed for use in industrial and laboratory applications. It is used for mobile distance and gap measurements.
- The measuring system must only be operated within the limits specified in the technical data, see operating instructions Chap. 2.3.
➡ The measuring system must be used in such a way that no persons are endangered or machines and other material goods are damaged in the event of malfunction or total failure of the sensor.
➡ Take additional precautions for safety and damage prevention in case of safety-related applications.

Warnings

Avoid shocks and impacts to the sensor and controller.
> Damage to or destruction of the sensor and controller

Protect the sensor cable against damage.
> Destruction of the sensor
> Failure of the measuring device

Gap Measure (1-sided)
07.05.2019 13:35:56 · SD · 100% · MD6-22

Gap Measure (2-sided, Min)
07.05.2019 13:35:56 · SD · 100% · MD6-22

Gap Measure (2-sided, Max)
07.05.2019 13:35:56 · SD · 100% · MD6-22

Raw Data Measure
07.05.2019 13:35:56 · SD · 100% · MD6-22

Device Info
07.05.2019 13:35:56 · SD · 100% · MD6-22
MICRO-EPSILON — μɛ

Enter user settings
User: Max
Factory/Location: Werk 1
File name (e.g. machine): EN123
Temperature: -

Enter user settings
User: Max
Factory/Location: Werk 1
File name (e.g. machine): EN123
Temperature: -

Enter user settings
User: Max
Factory/Location: Werk 1
File name (e.g. machine): EN123
Temperature: -

Device Info (1/2)
Name: MD6-22
Serial No.: 1004
Firmware: V1.1f_build315
Display SW: V1.0f
Micro-Epsilon Messtechnik GmbH & Co.KG
www.micro-epsilon.com
SD-Card Info
4.5 MB used
15185.5 MB total

Set date / time (2/2)
(DD.MM.YYYY): 7 5 .20 19
(hh:mm:ss): 13 35 : 56

Presets
Measuring mode:
● Instant measurement
○ Manual gap detection
○ Automatic gap detection
Sensor type: CSxx
i Sensor

Presets
Measuring mode:
● Instant measurement
○ Manual gap detection
○ Automatic gap detection
Sensor type: CSxx
i Sensor

Calculation
= 0.0   Offset μm
+ 1.0   x Sensor 1
+ 1.0   x Sensor 2
Sensor type: CSxx
i Sensor

Sensor type (1/2)
Sensor 1: CSxx
Range (μm): 2000.0
Offset (μm): 0.0
Sensor 2:
Range (μm): 8000.0
Offset (μm): 1100.0
☑ Activated

Gap Measure (1-sided)
Position No.: 1
	Sensor 1 (μm)	Sensor 2 (μm)
Current:	2122.4	2122.4
Minimum:	---	---
Status: Save (No. 1) ... OK!
Report · Save

	Sensor 1 (μm)	Sensor 2 (μm)
Current:	2122.4	2122.4
Minimum:	---	---
Status: Find Minimum Gap ...!
Report · Start

	Sensor 1 (μm)	Sensor 2 (μm)
Current:	2122.4	2122.4
Minimum:	---	---
Status: Wait for Auto start ...!
Report · Auto

Sensor type (1/2)
Sensor 1/2: CSxx
Range (μm): 2000.0
Offset (μm): 0.0
☑ Activated

Gap Measure (2-sided)
Position No.: 1
Sensor 1/2: 2122.4 9264.4
Current (μm): 11386.8
Gap result (μm): ---
Status: Save (No. 1) ... OK!
Report · Save

Sensor 1/2: 2122.4 9264.4
Current (μm): 11386.8
Gap result (μm): ---
Status: Find Maximum Gap ....!
Report · Start

Sensor 1/2: 2122.4 9264.4
Current (μm): 11386.8
Gap result (μm): ---
Status: Wait for Auto Start ...!
Report · Auto

Sensor type (1/5)
Sensor 1: CSxx
Range (μm): 2000.0
Offset (μm): 0.0
Sensor 2: CSxx
Range (μm): 8000.0
Offset (μm): 1100.0
☐ Not activated

Raw Data Measurement
Sensor 1: 2122.40 μm
Sensor 2: 2122.40 μm
Result: 4244.81 μm
Status: OFF
Interval (s): 10.0
Start

Master Measurement
Master Value: 1250.0 (μm)
Current Value: 1250.0 (μm)
Offset: 1739.3 (μm)
Status: Offset saved
Save · Auto

Master Measurement
Master Value: 2250.0 (μm)
Current Value: 2250.0 (μm)
Offset: 1993.5 (μm)
Status: Offset saved
Save · Auto

Master Measurement
Master Value: 1258.0 (μm)
Current Value: 1258.0 (μm)
Offset: 1747.3 (μm)
Status: Offset saved
Save · Auto

Master Measurement
Master Value: 1254.0 (μm)
Current Value: 1254.0 (μm)
Offset: 1743.3 (μm)
Status: Offset saved
Auto

Master Measurement
Master Value: 2254.0 (μm)
Current Value: 2254.0 (μm)
Offset: 1997.5 (μm)
Status: Offset saved
Auto

Buttons legend:
↩ Reject entry / Go back
↵ Accept entry / Go back