



MICRO-EPSILON

Assembly Instructions induSENSOR, LVDT series Gauging Sensor

Warnings

Avoid shock and vibration to the gauging sensor.
> Damage to or destruction of the gauging sensor

The oscillator voltage may not exceed the specified limits (amplitude and frequency).

> Damage to or destruction of the gauging sensor

Protect the sensor cable against damage.

> Damage to the gauging sensor

> Failure of the measuring device

Do not clamp gauging sensors with a grub screw on its clamping cylinder.

> Damage to the gauging sensor.

Do not transport the sensor on the probe tip.

> Risk of damage to the probe tip.

Correctly lay the compressed air hose for gauging sensors with pneumatic drive (avoid kinks in the hose and do not pull over sharp edges, comply with the permissible bending radius).

Check the pneumatic system for tight sealing.

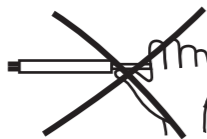
> Damage to the gauging sensor, loss of functionality

Supply gauging sensors having pneumatic drive with clean compressed air (free of oil, dust and water).

Install maintenance units with water and oil traps and with fine filters (5 μm).

> Damage to the gauging sensor

> Loss of functionality



Notes on CE Identification

Inductive gauging sensors on the LVDT principle are not automatically operable devices (components). An EC declaration of conformity or CE identification is therefore not required by EMC law. An EMC check of the gauging sensors was done together with the series MSC 710 signal conditioning electronics. Sources: EMC law, Guidelines on the application of council directive 2004/108/EC

Proper Environment

- Protection class:
 - with bellows: IP 65
 - without bellows: IP 54
- Operating temperature:
 - with bellows: 0 °C up to 80 °C (+32 up to +176 °F)
 - without bellows: -20 °C up to +80 °C (-4 up to +176 °F)
- Storage temperature: -40 °C up to +80 °C (-40 up to +176 °F)
- Humidity: 5 - 95 % (no condensation)
- Ambient pressure: Atmospheric pressure

Installation and Assembly

Precautions

There must be no radial forces acting on the probe tip of gauging sensors. Protect the cable sheath of the sensor cable from sharp edges and pointed or heavy objects.

The minimum bending radius of the cable must not be exceeded. Avoid kinks.

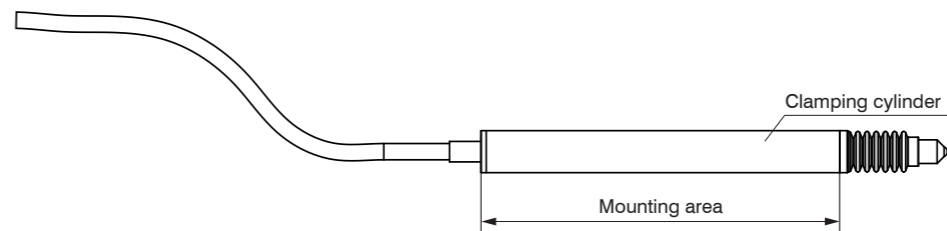
Sensor Mounting

➤ Use circumferential clamping on the housing (gauging sensors) to mount the sensor.

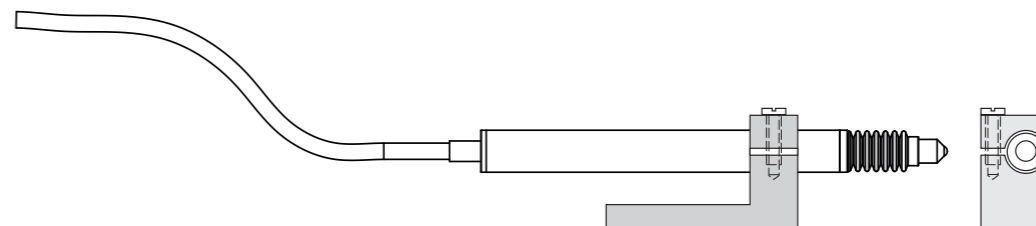
This offers the highest reliability because the gauging sensor is clamped flatly on its cylindrical housing.

The probe tip on the gauging sensor is pressed onto the measurement object by the integral spring.

➤ Connect the gauging sensors to the controller by connectors or by wire terminals (see pin assignment) depending on the version used.



Mounting of gauging sensors



Mounting of gauging sensors with circumferential clamping

Inductive Gauging Sensor with Pneumatic Drive

For gauging sensors with pneumatic drive, the probe tip is withdrawn into the sensor housing by the force of a spring (rest position). By applying compressed air at a low pressure (8 ... 15*10⁴ Pa respectively 0.8 ... 1.5 bar) probe tips are extended and pressed against the test object in the measuring position.

Compressed air is therefore only needed at the moment of measurement. If the air feed is interrupted, the gauging sensors automatically release the test object.

The following measures and operating notes must be observed when using gauging sensors with pneumatic drive:

➤ Operate all gauging sensors with pneumatic drive with an air pressure of 0.8 ... 1.5 bar.

At low temperatures, it might be necessary to use higher pressure in order to move the probe tip faster.

➤ Use a one-way restrictor for each compressed air hose to a gauging sensor.

This means that the movement of each gauging-sensor probe tip can be individually controlled and any tolerances in the clamping holder or on the sensor can be compensated.

➤ Keep the length of the compressed air hose between the gauging sensor and the air valve as short as possible.

This ensures a fast build-up and decay of pressure.

Demounting the Bellows

➤ Unscrew the probe tip.

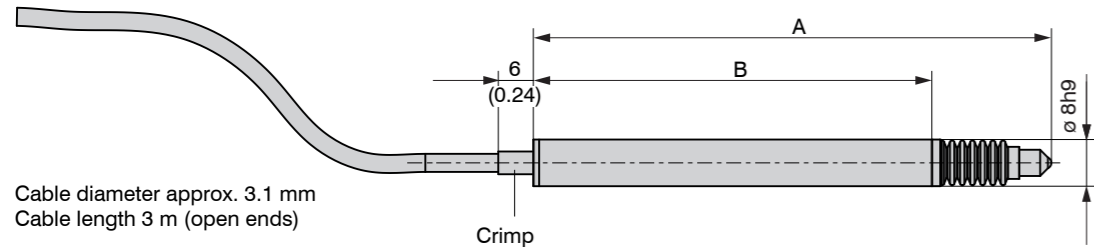
➤ Remove the front support ring.

➤ Remove the rear support ring.

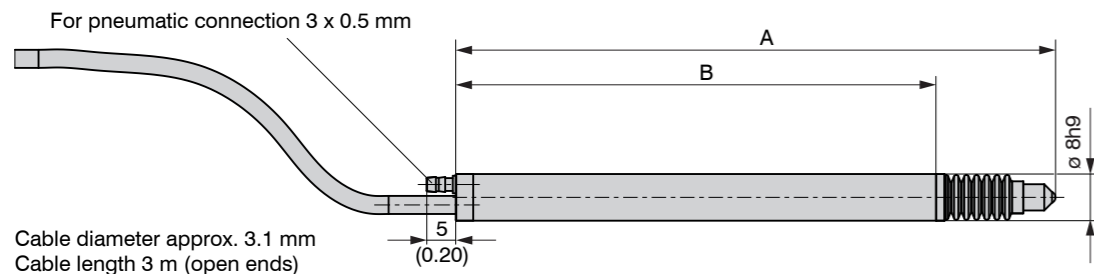
➤ Remove the bellows.

➤ Attach the probe tip again.

Dimensional Drawings



Housing dimensions for gauging sensor DTA-xG8-3-CA



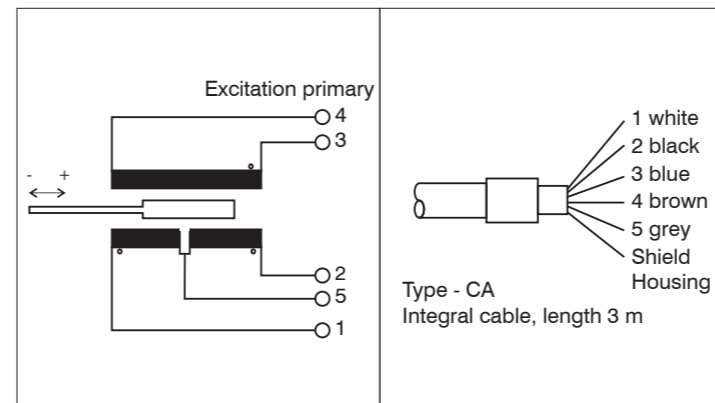
Housing dimensions for gauging sensor DTA-xG8-3-CA-V

Model	A (zero setting)	B
DTA-1G8-3-CA	83 mm (3.27)	64.3 mm (2.53)
DTA-3G8-3-CA	89 mm (3.50)	68.3 mm (2.69)
DTA-5G8-3-CA	118 mm (4.65)	89.5 mm (3.52)
DTA-10G8-3-CA	155 mm (6.10)	121.7 mm (4.80)

Model	A (zero setting)	B
DTA-1G8-3-CA-V	95 mm (3.74)	76.3 mm (3.00)
DTA-3G8-3-CA-V	103 mm (4.06)	82.3 mm (3.24)
DTA-5G8-3-CA-V	134 mm (5.28)	105.3 mm (4.15)
DTA-10G8-3-CA-V	170.8 mm (6.72)	137.3 mm (5.41)S

Dimensions in mm (inches), not to scale

Pin Assignment



Pin assignment for electrical connections

➡ Shrink during shortening of the sensor cable and using the controller MSC 710 before assembly of the insulation displacement connector (IDC) on each strand the enclosed shrinking hose (shrink temperature $T_{max} = 130 \text{ }^{\circ}\text{C}$).

For further informations about the gauging sensor read the instruction manual. You will find this online at:
www.micro-epsilon.com/download/manuals/man--induSENSOR-Serie-LVDT-Messtaster--de-en.pdf

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