

Warnings

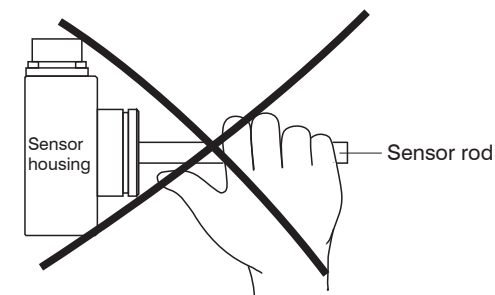
Connect the power supply according to the safety regulations for electrical equipment.

- > Risk of injury
- > Damage to or destruction of the sensor

The supply voltage must not exceed the specified limits. Avoid shocks and impacts to the sensor. Do not bend or cant the sensor rod and the measuring tube.

Do not carry the sensor on the sensor rod.

- > Damage to or destruction of the sensor



Notes on CE Marking

The following apply to induSENSOR EDS eddy current long-stroke displacement sensors with current output:

- EU Directive 2014/30/EU
- EU Directive 2011/65/EU

The sensor satisfies the requirements if the guidelines in the operating instructions are maintained in installation and operation.

Proper Environment

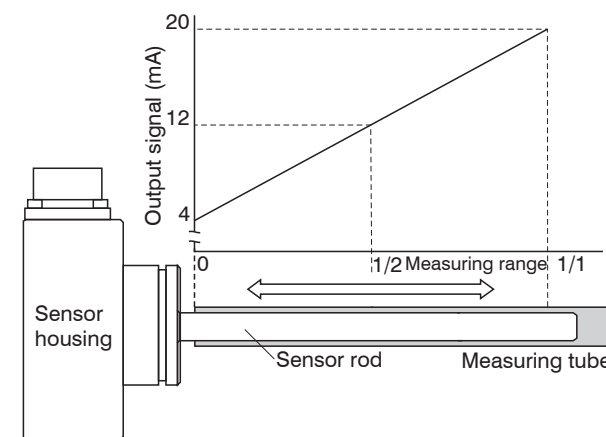
- Protection class:
 - Front side: 450 bar
 - Rear side: 1 IP65
- Temperature range:
 - Storage: -40 ... +100 °C (-40 ... +212 °F)
 - Operation: -40 ... +85 °C (-40 ... +185 °F)
- Humidity: 5 - 95 % (non-condensing)
- Ambient pressure: 450 bar (front side)

1) Models with plug connection only with suitable and connected mating plug

Scope of Supply

- 1 Eddy current long-stroke displacement sensor
- 1 Measuring tube
- 1 O-ring (mounted on sensor)
- 1 5-pole cable connector
- 1 Test report
- 1 Assembly instructions

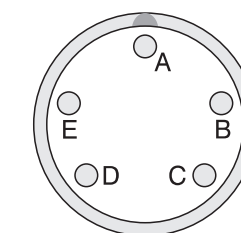
Measuring Principle



Output characteristic of an eddy current long-stroke displacement sensor.
Position of measuring tube: Start of measuring range

Pin Assignment for Power Supply and Analog Output

The 5-pin connector on the sensor housing ensures power supply and signal output.



View on solder pin side

5-pole cable connector
(ITT-Cannon, type CA06COM-PG14S-5S-B with bayonet lock)

Pin	Assignment	Color (cable: C705-x) ¹
A	Supply + (18 ... 30 VDC)	White
B	Power supply ground/ signal ground	Brown/yellow
C	Signal 4 ... 20 mA ²	Green
D	Shield (housing)	-
E	Not used	Gray

Pin assignment for power supply and analog output

A 5-pin cable connector for the users to assemble their own connection cable is included in the scope of supply.

- 1) The C705-5 sensor cable is available as an optional accessory, see Appendix of the Operating Instructions.
- 2) Can be converted to voltage output with external load resistor!



Assembly Instructions
induSENSOR
EDS- ... -F Series



Installation and Assembly

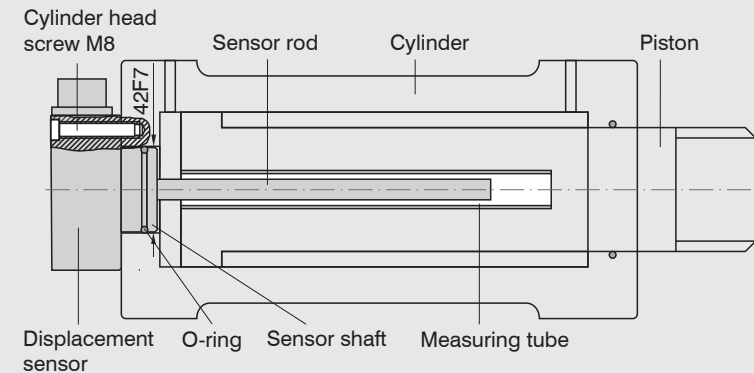
Precautions

- The measuring tube must not contact the sensor rod during operation.
- > Damage to or destruction of the sensor through abrasion is possible.
- Do not deform or shorten the measuring tube.
- > Loss of specified technical data
- Do not crush the O-ring or damage through sharp-edged items.
- > Loss of functionality

Sensor Mounting

- ▶ Mount the sensor on the cylinder with 6 cylinder head screws (M8 x 6).

Sealing is provided by a supplied O-ring on the sensor shaft.



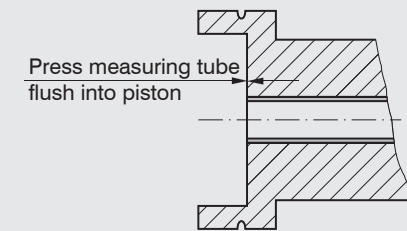
Sensor mounting in a hydraulic cylinder

- Pressure chamber seal:
- O-ring: 38.5 x 2.0
 - Material: PUR
- Mounting hole for flange: Ø42F7
- Borehole surface:
- $R_a = 0.8$
 - $R_{max} = 3.2$

Dimension	Tolerance
	μm
42F7	+50
	+25

Measuring Tube Guidance and Fastening

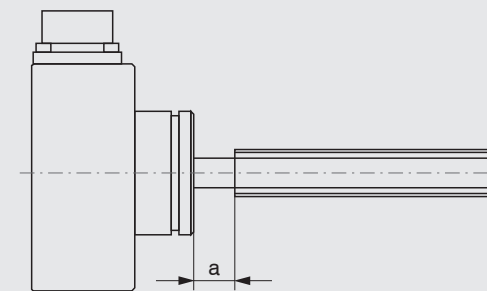
- ▶ Mount the measuring tube flush in the piston bore.



The dimensions for the measuring tube can be found in the adjacent dimensional drawing. The measuring tube must not touch the sensor shaft when the piston is retracted.

Note the measuring tube position at zero point (= 4 mA output).

- > Improper measuring tube guidance can lead to increased wear and premature failure.



Zero position of the measuring tube

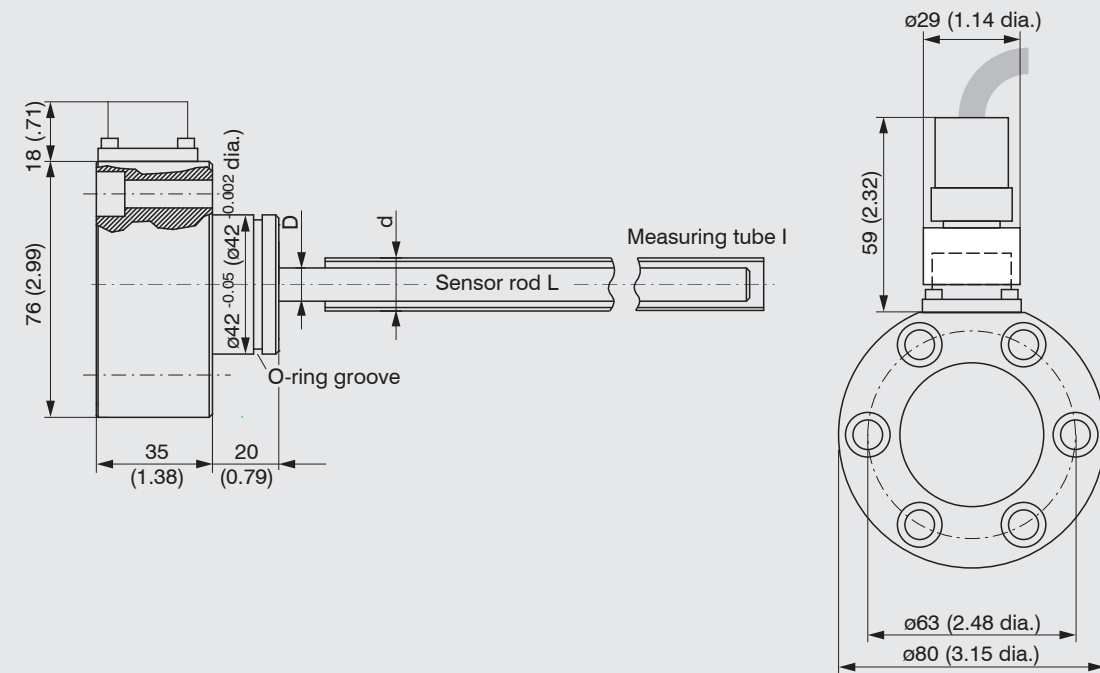
Measuring range	100 (3.93)	160 (6.29)	200 (7.87)	250 (9.84)	300 (11.81)	400 (15.74)	630 (24.80)
Dimension a	20 (.79)	20 (.79)	20 (.79)	20 (.79)	20 (.79)	25 (.98)	25 (.98)

A slightly eccentric mounting of the measuring tube has no negative influence on the sensor signal.

- ▶ Mount the measuring tube in the piston by means of pressing or glueing. Spot clamping is not permissible.

i The specified technical data only apply when the measuring tube supplied by MICRO-EPSILON is used!

Dimensional Drawing



induSENSOR with radial connector, EDS- ... -F series, measuring range: 100 / 160 / 200 / 250 / 300, 400, 630, dimensions in mm (inches)

Measuring range	Sensor rod		Measuring tube	
	L	D	l	d
100 (3.93)	140 (5.51)	10 (0.39)	140 (5.51)	16 (0.63)
160 (6.29)	200 (7.87)	10 (0.39)	200 (7.78)	16 (0.63)
200 (7.87)	240 (9.45)	10 (0.39)	240 (9.45)	16 (0.63)
250 (9.84)	290 (11.42)	10 (0.39)	290 (11.42)	16 (0.63)
300 (11.81)	340 (13.39)	10 (0.39)	340 (13.39)	16 (0.63)
400 (15.74)	450 (17.72)	12 (0.47)	460 (18.11)	26 (1.02)
630 (24.80)	680 (26.77)	12 (0.47)	690 (27.17)	26 (1.02)

You can find more information about the sensor in the operating instructions. They are available online at <https://www.micro-epsilon.com/download-file/man--induSENSOR-EDS--en.pdf>

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