MICRO-EPSILON

More Precision

induSENSOR // Linear inductive displacement sensors

Ideal for customer-specific adaptions
induSENSOR

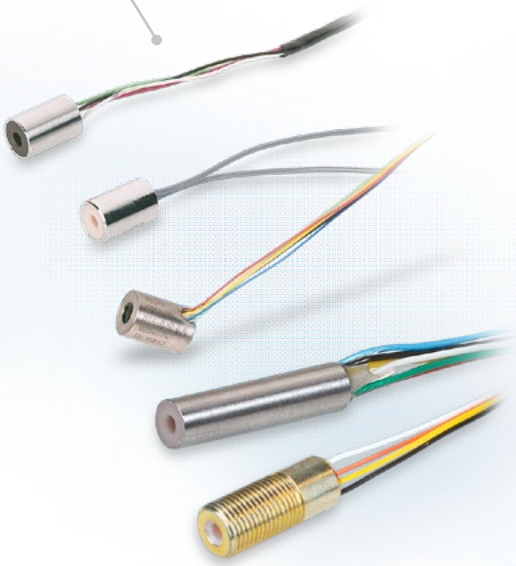
Examples for customer-specific modifications

Miniature LVDTs

- Small measuring ranges and designs for installation into confined spaces

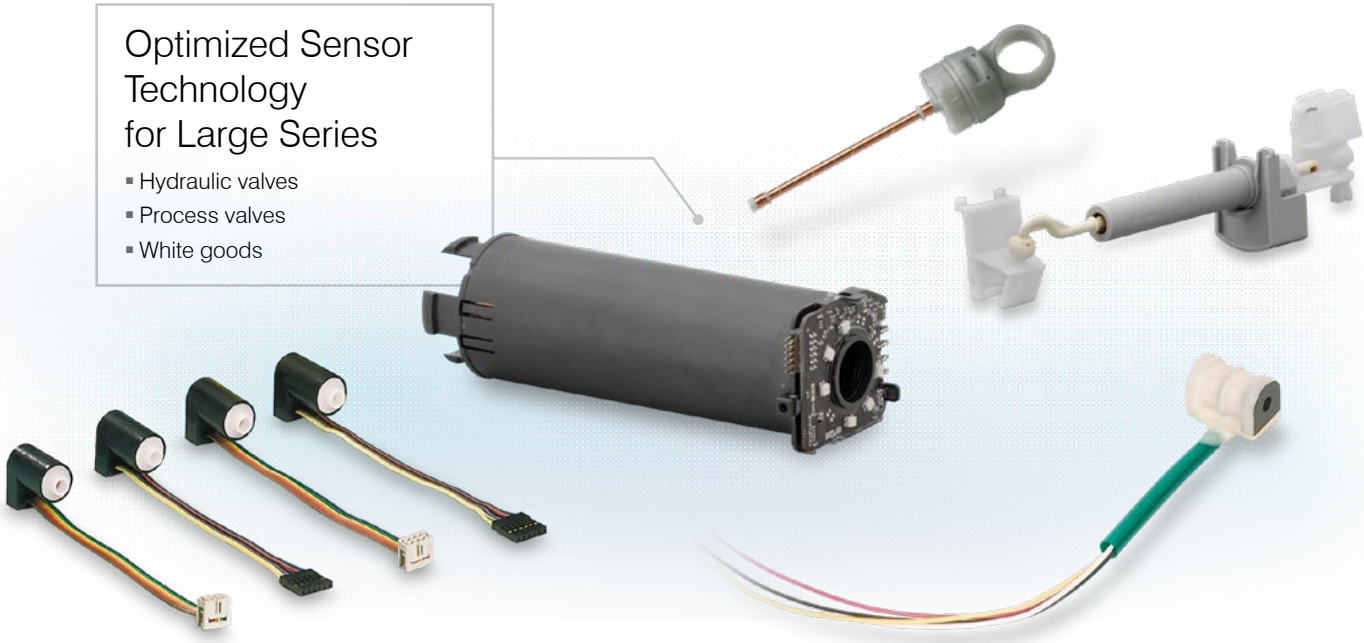
Special Systems

- Mechanical adaptions
- ATEX/FM approval
- Additional physical principles



Optimized Sensor Technology for Large Series

- Hydraulic valves
- Process valves
- White goods

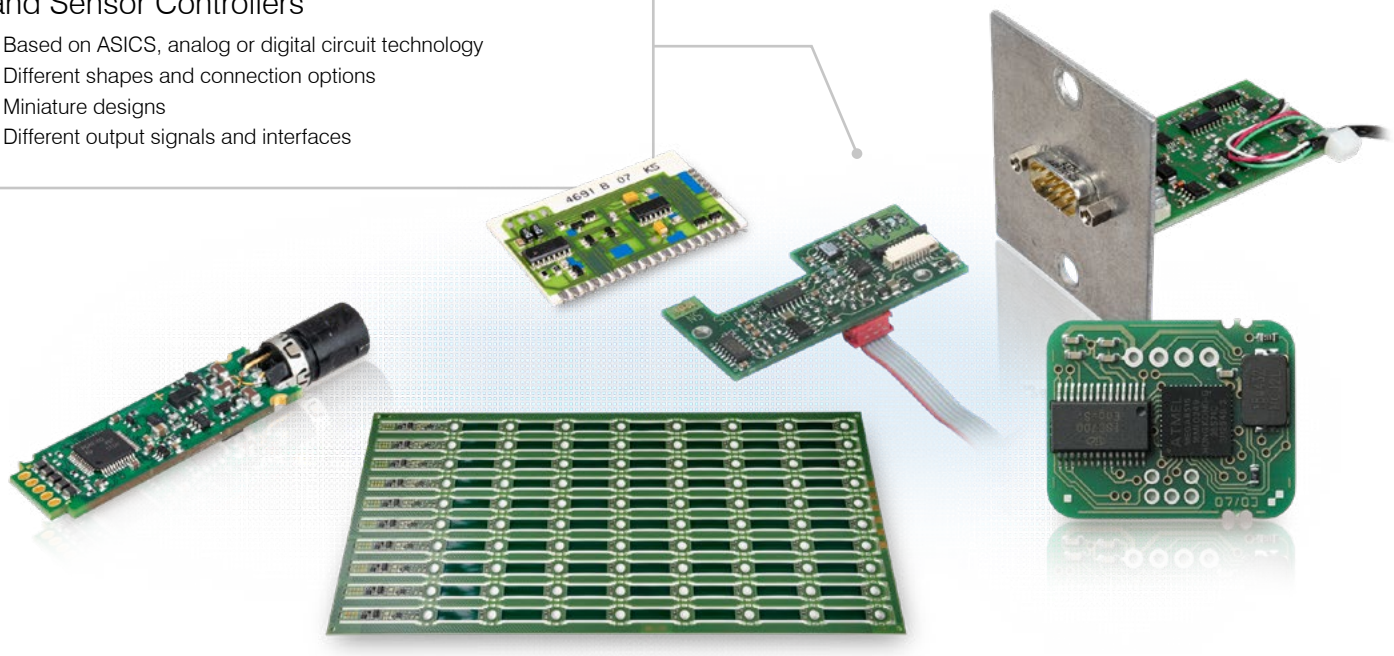


Eddy Current Long-Stroke Sensors

- High resistance to shocks, vibrations and pressure
- Adapted flanges and connectors for optimal integration
- External controllers for high temperature applications
- Miniature designs for confined installation spaces
- Designs with aluminum tube or plunger

Adapted Controller Components and Sensor Controllers

- Based on ASICS, analog or digital circuit technology
- Different shapes and connection options
- Miniature designs
- Different output signals and interfaces



Modular measurement chains and interfaces
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Sensor-level services:
Connector assembly, cable reduction

Mounting accessories / Probe tips

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Sensors

Gauge: DTA-xG8 series
Page 14 - 17

Sensor: DTA-xDX series
Page 18 - 21

Sensor: LDR series
Page 22 - 25

Sensor: LVP/LDR series
Page 26 - 27

Controllers

Single-channel system
Controller MSC7401
Page 28 - 31

2-channel system
Controller MSC7802
Page 28 - 31

Multi-channel system
Controller MSC7602
Page 32 - 33

RS485

Analog

Measuring system

Sensor: DTD-xG8 series Page 12 - 13

System-level services:
Adjustment, linearization, basic settings, test certificates

Interfaces

RS485:
1 channel

Analog:
3 channels

Interface IF1032/ETH
Interface module for
Ethernet/EtherCAT connection

RS485:
Multi-channel

Interface IF7001
Single-channel converter cable
from RS485 to USB

RS485:
Multi-channel

Interface IF2035
Interface module for
Industrial Ethernet connection

Ethernet

EtherCAT

Ethernet

Web interface IF1032

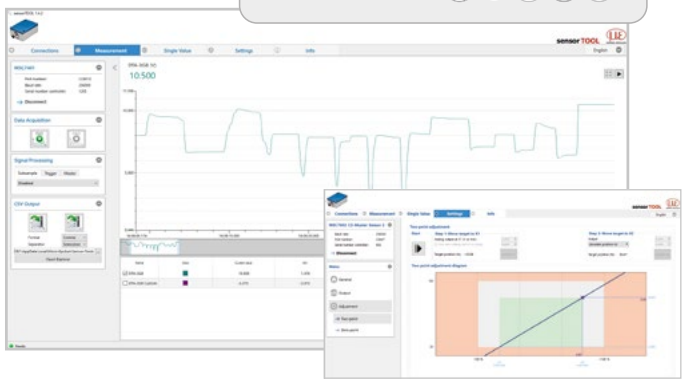
Web interface for display and visualization of measured data

- Data display and scaling via Ethernet and web interface
- CSV export
- Easy integration without admin rights on PC
- Additional EtherCAT interface

Ethernet

USB

sensorTOOL



SensorTool for parameterization, data display, etc.

- Basic settings: sensor type, output signal, frequency response
- 2-point and zero point adjustments
- Scaling
- Visualization of data
- Sub-sampling
- Export

EtherCAT EtherNet/IP PROFINET

Analog

RS485

Technology and measuring principle
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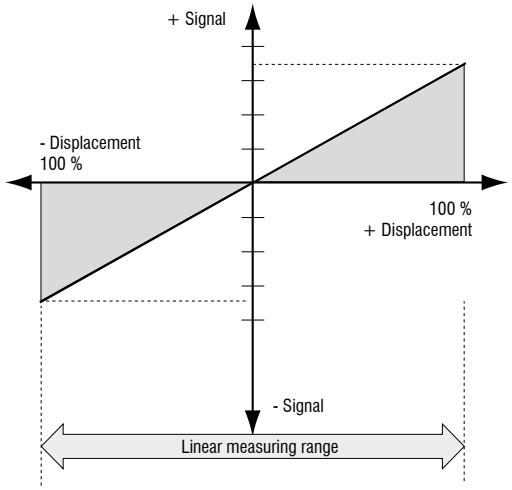
LVDT Gauges and LVDT displacement sensors (DTA series)

LVDT displacement sensors and gauges (Linear Variable Differential Transformer) are constructed with a primary and two secondary coils, which are arranged symmetrically to the primary winding. As a measuring object, a rod shaped soft-magnetic core can be moved within the differential transformer. An electronic oscillator supplies the primary coil with an alternating current of constant frequency. The excitation is an alternating voltage with an amplitude of a few volts and a frequency between 1 and 10 kHz.

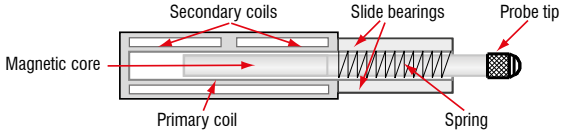
Depending on the core position, alternating voltages are induced in the two secondary windings. If the core is located in its "zero position", the coupling of the primary to both secondary coils is equally large. Movement of the core within the magnetic field of the coil causes a higher voltage in one secondary coil and a lower voltage in the second coil. The difference between the two secondary voltages is proportional to the core displacement. Due to the differential design of the sensor, the LVDT series has an output signal which is very stable.

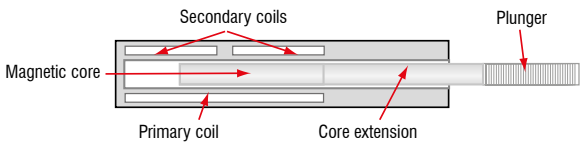
Signal LVDT sensor



Probe tip

Measuring principle gauging sensor



Plunger

Measuring principle displacement sensor