



# More Precision

**induSENSOR** // Linear inductive displacement sensors



Ideal for customer-specific adaptions  
**induSENSOR**

## Examples for customer-specific modifications

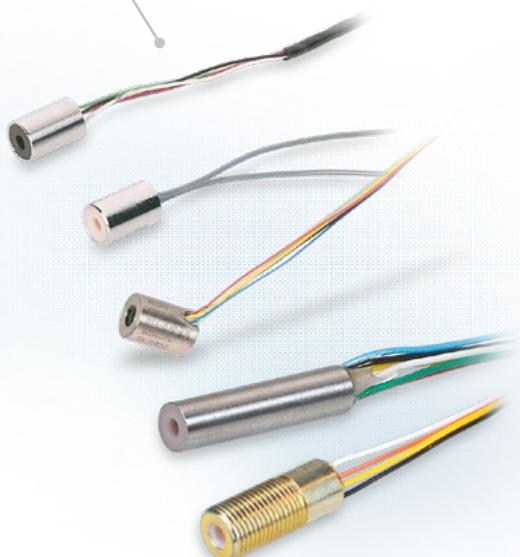
## Special Systems

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



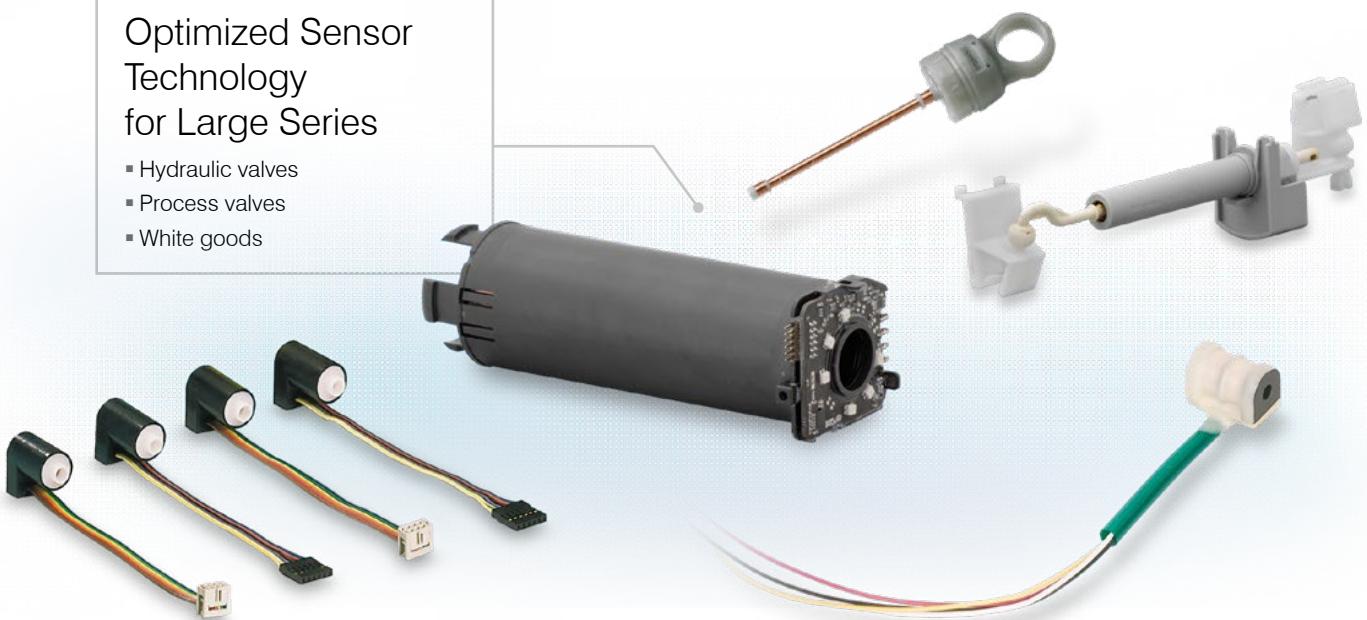
## Miniature LVDTs

- Small measuring ranges and designs for installation into confined spaces



## Optimized Sensor Technology for Large Series

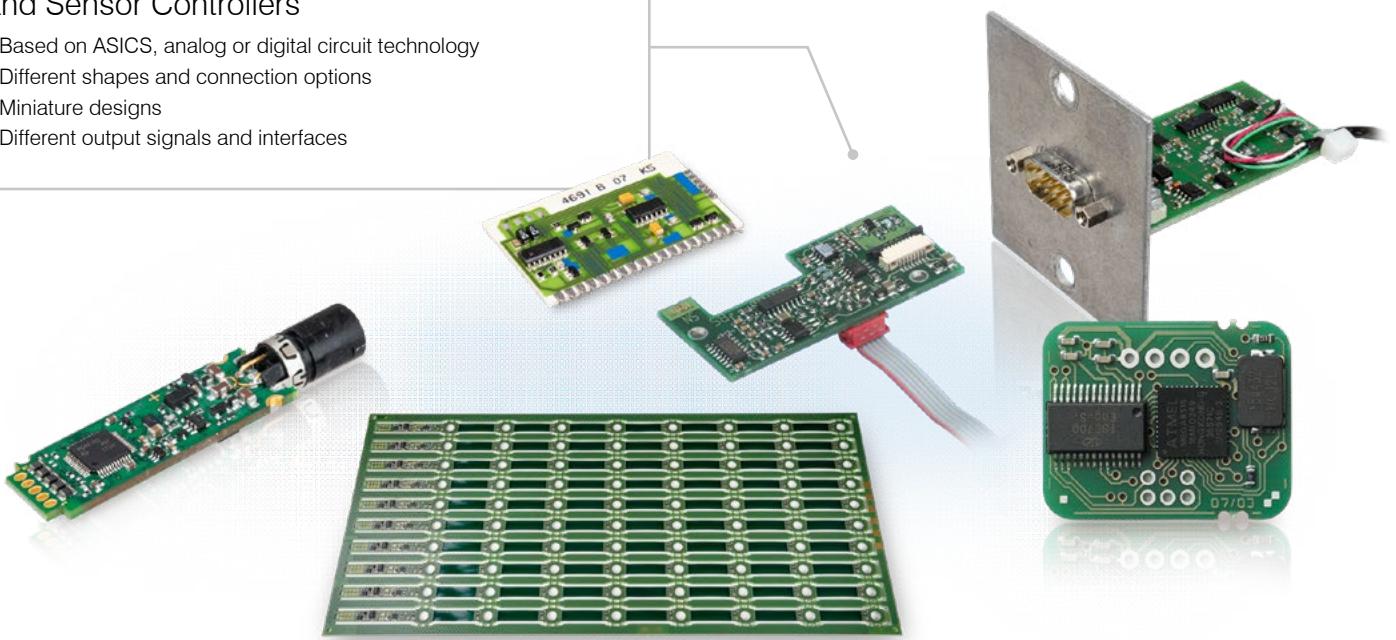
- Hydraulic valves
  - Process valves
  - White goods



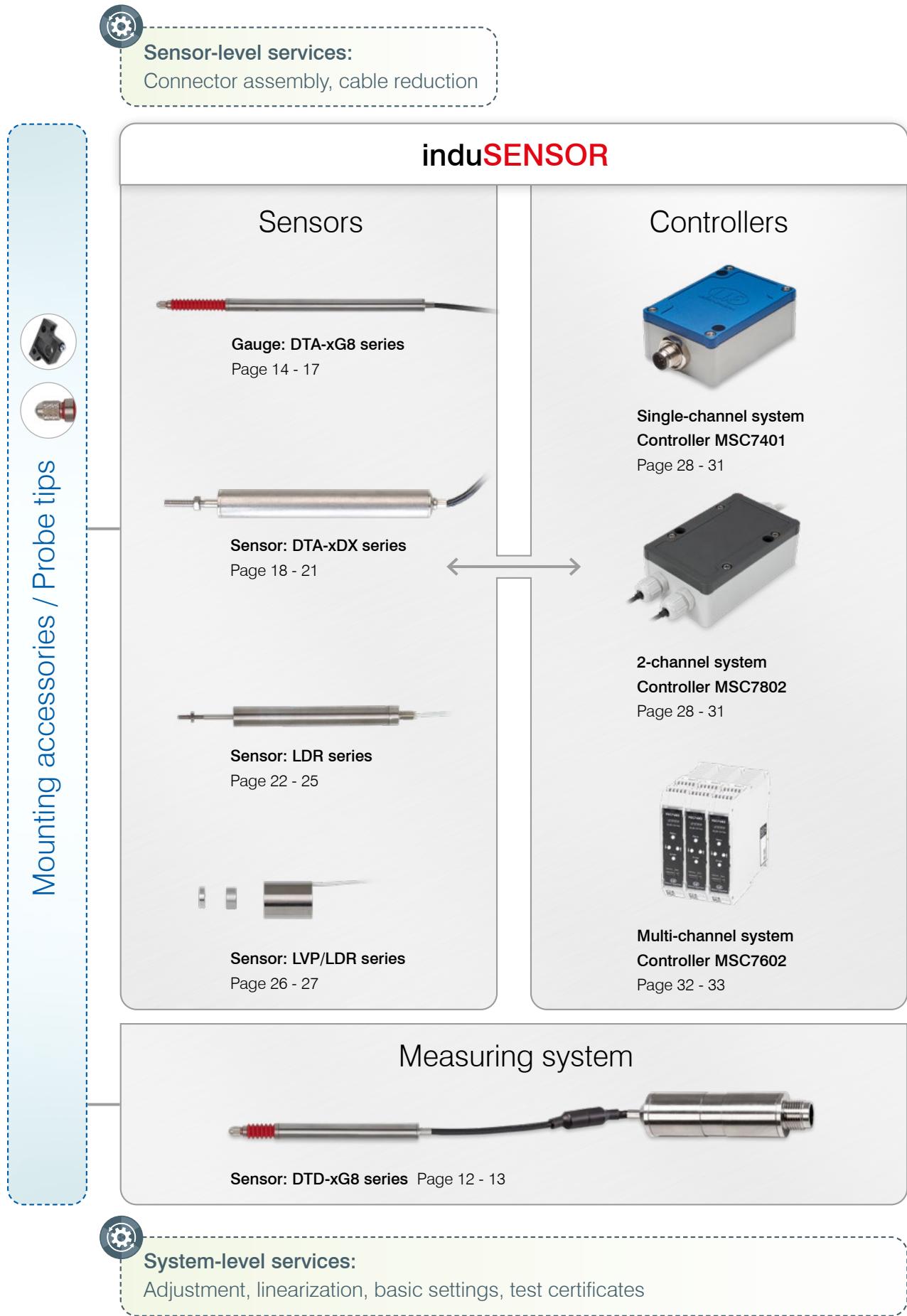


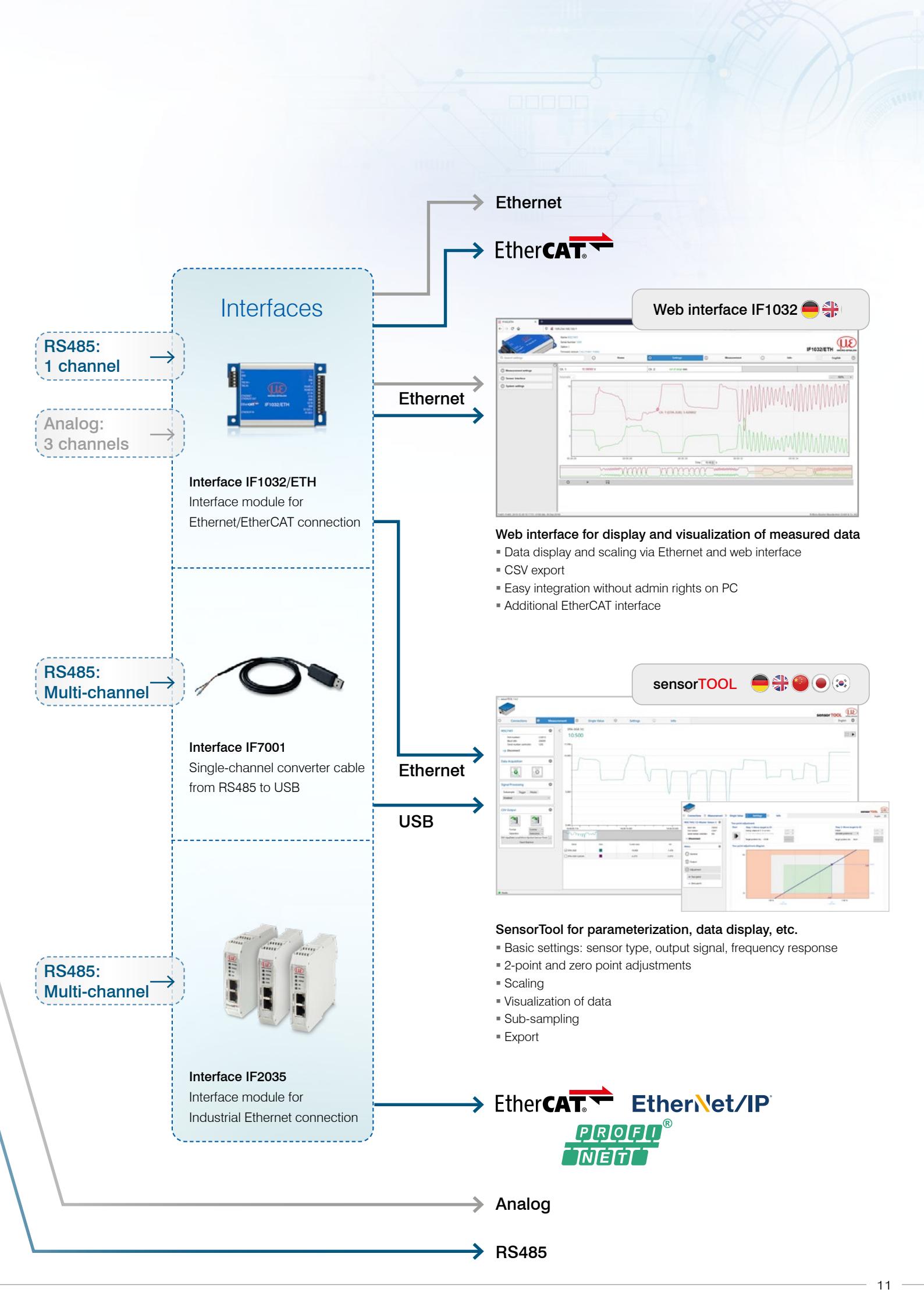
### Adapted Controller Components and Sensor Controllers

- 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 induSENSOR





RS485:  
1 channel

Analog:  
3 channels

RS485:  
Multi-channel

RS485:  
Multi-channel

Interfaces



Interface IF1032/ETH  
Interface module for  
Ethernet/EtherCAT connection



Interface IF7001  
Single-channel converter cable  
from RS485 to USB



Interface IF2035  
Interface module for  
Industrial Ethernet connection

Ethernet

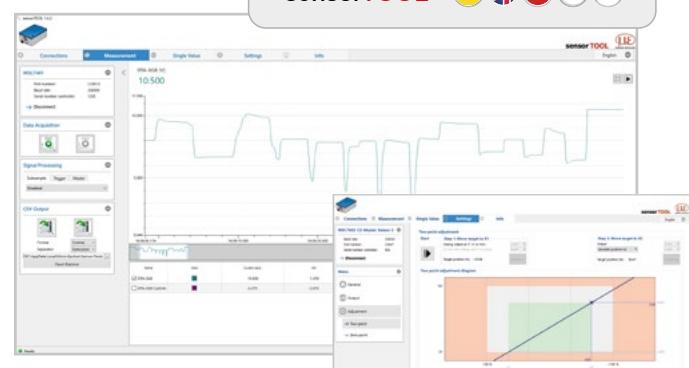
EtherCAT®

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

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®  
NET

Analog

RS485

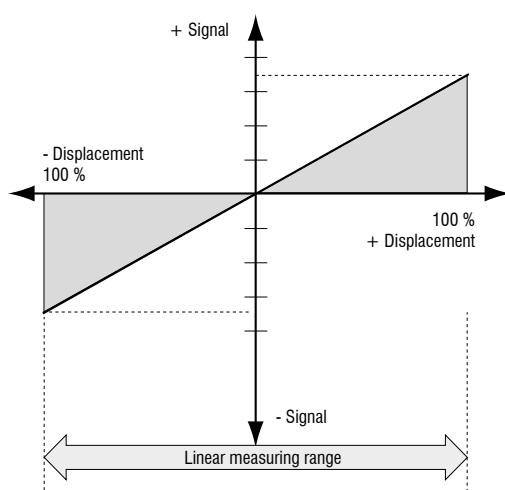
# Technology and measuring principle induSENSOR

## LVDT Gauges and LVDT displacement sensors (DTA series)

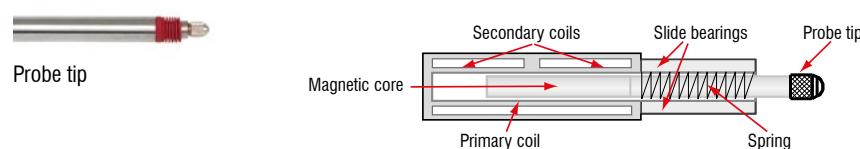
LVDT displacement sensors and gauges (Linear Variable Differential Transformer) are constructed with a primary and two secondary coils, which are arranged symmetrically to the primary winding. As a measuring object, a rod shaped soft-magnetic core can be moved within the differential transformer. An 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



Measuring principle gauging sensor



Measuring principle displacement sensor

