Measuring and Sensor Technology

STW GmbH supplies robust thin-film sensors for accurate force and pressure measurement and complete transmitters with thin-film, ceramic or silicon sensors.

STW develops and manufactures customer specific sensors, complete measurement systems and a very cost-effective line of standard transmitters. In addition to the micro-structuring, coating of the thin-film sensor and the required electronics and housing, STW develops product specific hardware for installation and connection.

For applications in extreme conditions STW supplies thin-film sensors for pressure up to 3,000 bar and medium temperatures of up to 300°C. With the various sensor and transmitter product lines STW offers the optimal solution for your individual application.
Pressure Transmitters with Thin-Film Sensors

A09

**Measuring Ranges**: up to 3,000 bar

**Output Signals**: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V, 0.5 ... 4.5 V (ratiometric)

**Pressure Connection**: G1/4", 1/4 NPT, G1/2", 9/16 - 18UNF - I (for high pressure applications)

- Thin-film sensor welded
- Completely made of stainless steel
- IP 67
- High medium compatibility
- High resistance to alternating loads (>10^8 full load cycles)
- Medium temperature up to 125°C (-HT)
- For applications in off-highway vehicles and process automation
- Connector according to DIN 43650 (optional)

A08

**Measuring Ranges**: up to 1,000 bar

**Output Signals**: 4-20 mA (2-wire-technique), 0-10 V, frequency

**Pressure Connection**: G1/4", 1/4 NPT

- Thin-film sensor welded
- Completely made of stainless steel
- IP 67
- High medium compatibility
- Medium temperature up to 125°C (-HT)
- With remote electronics up to 200°C (-XHT)

A05-CAN

**Measuring Ranges**: up to 3,000 bar

**Output Signals**: CAN 2.0B

**Pressure Connection**: G1/2", G1/4" customer specific thread

- Thin-film sensor
- CANopen protocol
- High medium compatibility
- IP 65
Pressure Transmitters with Silicon or Ceramic Sensors

C01

- Measuring Ranges: up to 25 bar
- Output Signals: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V
- Pressure Connection: G/½", ½ NPT
- Ceramic sensor
- Stainless steel housing
- IP 65
- High medium compatibility
- Compact design
- Measurement of absolute pressure possible

A07

- Measuring Ranges: up to 25 bar
- Output Signals: 4-20 mA (2-wire-technique)
- Pressure Connection: G/½"
- Silicon sensor
- Compact design
- IP 65
- For pneumatic applications

S04/S02

- Measuring Ranges: up to 200 bar (S02), up to 10 bar (S04)
- Output Signals: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V
- Pressure Connection: G/¾", (S02), G/½", G/¼", (S04)
- Silicon sensor with stainless steel diaphragm
- Completely made of stainless steel
- IP 67
- Flush diaphragm (S02)
- High medium compatibility
- Medium temperature up to 125°C (-HT) (optional)

TS02

- Measuring Ranges: up to 10 bar
- Output Signals: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V
- Transmitter used for level measurements
- Silicon sensor with stainless steel diaphragm
- Completely made of stainless steel
- Pressure equalization via capillary tube
- High medium compatibility
Measuring Ranges
Output Signals
Pressure
Connection

M01

- Measuring Ranges: up to 800 bar
- Output Signals: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V, 0.5 ... 4.5 V (ratiometric)
- Connection: G1/4", other pressure connectors upon request
- Thin film sensor element
- Medium contacting part made of stainless steel (1.4548)
- M12-connector, Bayonet connector (DIN 72585), customer specific connector on request
- For applications in off-highway vehicles
- IP 67/69 k
- Overall accuracy: 1% (0 ... 80°C)
- Low cost for series production

L03

- Measuring Ranges: up to 20 bar
- Output Signals: 4-20 mA (2-wire-technique), 0-20 mA, 0-10 V
- Pressure Connection: for mounting in weld-flange SF01
- Silicon sensor with flush stainless steel diaphragm
- Compact design
- Medium temperature up to 125°C (-HT) (optional)
- IP 67
- For applications in the food and beverage industry

IVDMS

- Measuring Ranges: 2,200 µm/m
- Output Signals: CAN interface and 4-20 mA output
- Strain gauge for mobile applications
- Easy to install
- Anodized aluminium housing
- IP 67
- Other measuring ranges on request

TPA-51

- Modular constructed digital display
- 5-digit LED-display
- 0 (4)-20 mA and 0-10 V input
- Up to 4 limit switches
- Analog output (optional)
- RS232 interface (optional)
- IP 65 (Front)

Customer Specific Solutions and Displays
## OEM-Pressure Sensors

### Pressure Sensor

<table>
<thead>
<tr>
<th>Measuring Ranges</th>
<th>up to 3,000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Signals</td>
<td>2 mV/V or 5.5 mV/V</td>
</tr>
<tr>
<td>Supply</td>
<td>up to 15 VDC</td>
</tr>
</tbody>
</table>

- NiCr- or TiON-thin film
- For welding to stainless steel receptors
- Clamp mounting (optional)
- Temperature ranges up to 200°C

![Pressure Sensor Image](image1)

### Pressure Sensor on G 1/4"-Adapter

<table>
<thead>
<tr>
<th>Measuring Ranges</th>
<th>up to 1,000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Signals</td>
<td>2 mV/V or 5.5 mV/V</td>
</tr>
<tr>
<td>Supply</td>
<td>up to 15 VDC</td>
</tr>
</tbody>
</table>

- NiCr- or TiON-thin film
- Welded to G 1/4" receptor (1.4571 or 1.4542)
- With aluminium safety cap and insulated stranded wires
- Temperature ranges up to 125°C

![Pressure Sensor on G 1/4"-Adapter Image](image2)

### Pressure Sensor – Customer Specific Version

<table>
<thead>
<tr>
<th>Measuring Ranges</th>
<th>up to 3,000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Signals</td>
<td>2 mV/V or 5.5 mV/V</td>
</tr>
<tr>
<td>Supply</td>
<td>up to 15 VDC</td>
</tr>
</tbody>
</table>

- NiCr- or TiON-thin film
- With safety cap (either aluminium or stainless steel)
- With insulated stranded wires
- Temperature ranges up to 125°C

![Pressure Sensor – Customer Specific Version Image](image3)

### High-Temperature – Pressure Sensor

<table>
<thead>
<tr>
<th>Measuring Ranges</th>
<th>up to 1,000 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Signals</td>
<td>5.5 mV/V</td>
</tr>
<tr>
<td>Supply</td>
<td>up to 15 VDC</td>
</tr>
</tbody>
</table>

- Standard with stainless steel housing and connection cables
- TiON-thin film
- Customer specific versions available
- Standard temperature range up to 200°C
- Higher temperature range available on request

![High-Temperature – Pressure Sensor Image](image4)
Thin-film Technology

- Force and pressure sensors
- Multi-Layer thin-film structures
- Standard versions or customer specific versions
- Direct application to machine parts possible
- Various thin-film materials available
- Curved surface application possible
- FEM calculation and dimensioning

In-Cylinder Pressure Measurement

- Pressure sensors for direct installation in combustion chambers of gas and diesel engines
- Temperature output
- High resistance to alternating loads (>10⁹)
- Robust construction

ESX®

- Freely programmable controller
- Specially developed for mobile applications
- Suited to harsh conditions
- IP 65 / IP 67
- TÜV-tested for safety related applications (SIL2, Kat.3)
- Diecast aluminium housing with GORE-TEX® membrane

Development-to-Production

- From development specifications to series production
- Electronic development
- Complete device development
- Electronic-line-up
- Prototype production
- Series production