**Piezoresistive Pressure Transmitters**

**Absolute and Gauge Pressure / Accuracy 0.25 %FS**

The Y-line transmitters have an extremely small temperature error. This is achieved using an additional circuit containing a temperature sensor that subdivides the temperature range into fields that are 1.5 Kelvin (K) wide. The TK zero and TK compensation values are calculated for each field and programmed into the additional circuit. During operation, these values are fed into the analogue signal path depending on the temperature. Each temperature is the “calibration temperature” for this transmitter. The accuracy thereof is mainly determined by linearity. 120 fields are available, representing a possible temperature range of 180 K. The wider the temperature range, the greater the amount of testing that is needed to minimise the inaccuracy of the mathematical model.

The Series 23 SY / 25 Y product line is outstanding due to its extreme ruggedness towards electromagnetic fields. The limits of the CE standard are undercut by a factor of up to 10 with conducted and radiated fields.

- **Series 23 SY**  Ranges 0.1...1000 bar  Fully welded (no internal seals)
- **Series 25 Y**  Ranges 0.5...1000 bar  Flush, fully welded.

**A Comprehensive Range**

Absolute, barometric, gauge (positive and negative pressures). Many nominal pressure ranges. Current or voltage output.

**Flexibility**

A modular concept is used, with fast and economical production achieved by using off-the-shelf sensors. Numerous options and variations are available to meet customers’ specific requirements: Pressure ranges, pressure ports, signal outputs, electrical connectors, etc.

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**Series 23 SY**

- **Ranges:** 0.1...1000 bar
- **Type:** Fully welded (no internal seals)

**Series 25 Y**

- **Ranges:** 0.5...1000 bar
- **Type:** Flush, fully welded

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**Pressure Connections**

**Electrical Connections**

- **Series 23 SY**
- **Series 25 Y (≤ 100 bar)**
- **Series 25 Y (100...1000 bar)**

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**Pin Configuration**

- **Series 23 SY**
- **Series 25 Y**

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**Cable**

- **Green**
- **White**
- **Brown**
- **Black**

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**2-wire**

- **Current**
- **Voltage**

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**3-wire**

- **Current**
- **Voltage**

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**CE**

Subject to alterations
Companies approved to ISO 9001

www.keller-druck.com
## Specifications

### Pressure Ranges (FS) in bar

<table>
<thead>
<tr>
<th>Type</th>
<th>Pressure Range</th>
<th>Accuracy</th>
<th>Limitation</th>
<th>Supply</th>
<th>Load Resistance</th>
<th>Limiting Frequency</th>
<th>Power Consumption</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR-23 SY</td>
<td>-1 -0,5 -0,2 -0,1 0,1 ±0,1 0,2 ±0,2 0,5 ±0,5</td>
<td>±0,3 %FS</td>
<td>±1,0 %FS</td>
<td>±2 mbar</td>
<td>±2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
<td></td>
</tr>
<tr>
<td>PA-23 SY</td>
<td>-1</td>
<td>±0,3 %FS</td>
<td>±0,5 %FS</td>
<td>±3 mbar</td>
<td>2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
<td></td>
</tr>
<tr>
<td>PAA-23 SY</td>
<td>0,5</td>
<td>±0,5 %FS</td>
<td>±0,8 %FS</td>
<td>±4,5 mbar</td>
<td>2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
<td></td>
</tr>
</tbody>
</table>

### Overpressure

<table>
<thead>
<tr>
<th>Type</th>
<th>Pressure Range</th>
<th>Limitation</th>
<th>Supply</th>
<th>Load Resistance</th>
<th>Limiting Frequency</th>
<th>Power Consumption</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR-25 Y</td>
<td>-1 -0,5</td>
<td>±0,5 %FS</td>
<td>±2 mbar</td>
<td>±3 mbar</td>
<td>±2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
</tr>
<tr>
<td>PA-25 Y</td>
<td>-1</td>
<td>±0,5 %FS</td>
<td>±0,7 %FS</td>
<td>±4,5 mbar</td>
<td>2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
</tr>
<tr>
<td>PAA-25 Y</td>
<td>0,5</td>
<td>±0,5 %FS</td>
<td>±1,5 %FS</td>
<td>±4,5 mbar</td>
<td>2 kHz</td>
<td>max. 5 mA</td>
<td>max. 4 mA</td>
</tr>
</tbody>
</table>

### Storage-/Operating Temperature

-40...100 °C

### Long Term Stability

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 2...1000 bar</td>
<td>&gt; 0,3…2 bar</td>
<td>&gt; 0,1…0,3 bar</td>
</tr>
<tr>
<td>±0,25 %FS</td>
<td>±0,25 %FS</td>
<td>±0,50 %FS</td>
</tr>
<tr>
<td>±0,25 %FS</td>
<td>±0,3 %FS</td>
<td>±2 mbar</td>
</tr>
<tr>
<td>±0,5 %FS</td>
<td>±0,5 %FS</td>
<td>±3 mbar</td>
</tr>
</tbody>
</table>

### Type

- 2-wire
- 3-wire

### Signal Output

- 4...20 mA
- 0...10 V
- 0...5 V
- 0,5...4,5 V

### Limitation Signal Output

- 3,2…22,3 mA
- -1,2…11,2 V
- -0,6…5,6 V
- 0,1…4,9 V

### Supply

- 8…32 VDC
- 8…32 VDC
- 8…32 VDC

### Load Resistance

- (< U-8 V) / 0,025 A
- > 5 kΩ
- > 5 kΩ

### Limiting Frequency

- 2 kHz
- 2 kHz
- 2 kHz

### Power Consumption

- max. 5 mA
- max. 5 mA
- max. 4 mA

### Pressure Connection

<table>
<thead>
<tr>
<th>Type</th>
<th>Series 23 SY:</th>
<th>Series 25 Y:</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/4&quot;, 1/4&quot;-18NPT, G1/2&quot;, G1/2&quot; Mano</td>
<td>G1/2&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### Response Time (Supply ON)

- (0…99 %) < 5 ms

### Insulation

- > 10 MΩ@300 V

### EMC

- EN 61000-6-2: 2005
- EN 61000-6-3: 2007
- EN 61326-2-3: 2006

### Dead Volume Change

- < 0,1 mm³
- Stainless Steel AISI 316L (1,4404/1,4435); 25 Y > 400 bar: Inconel 718
- USIT or Viton® O-Ring (no internal seals)

### Material in Media Contact

- Weight
- Endurance

- 120 g (depending on version)
- > 10 million cycles, 0…100 %FS at 25 °C

### Oil Filling

- Silicone oil

### Options

- Temperature Range
- Oil Filling
- Pressure Ranges
- Pressure Connection, Electrical Connection
- Intrinsic Safety (ATEX)

### Other information

- Pressure Ranges
- Other temperature ranges on request. Maximal range: -40…+120 °C
- Other ranges on request
- Others on request

- Oil Filling
- Fluorocarbon oil (O₂-compatible), olive-oil, lowest temperature oil (-55 °C)

- Pressure Ranges
- Intermediate ranges on request, e.g. barometer 0,7…1,2 bar abs.

- Pressure Connection, Electrical Connection
- See also data sheet 23 SY EI / 25 Y EI / 26 Y EI

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The provided data is subject to alterations. Please consult the respective data sheets or contact KELLER for the most current information.