50T Series Transmitters
Model 53G/A gauge/absolute flush diaphragm pressure transmitter
Ranges: -100 to 40000kPa
-1 to 400bar
-14.5 to 6000psi

- Base accuracy: $\leq 0.25\%$ (BFSL)
- Piezoresistive thin film technology
- Process connection selection
- Wide choice of ranges
- Good overpressure performance without calibration change
- Excellent long term stability
- CE - conformity
Description
50T series transmitter are suitable for liquid, gas and vapour application. An all stainless steel construction with flush diaphragm connection makes these transmitters ideally suited for measurements on viscous and heavy fluids such as paint, pulp and paper, and most uses in the refrigeration field. Those transmitters are based on a piezoresistive sensing element.

Functional Specifications
Range, span and pressure limits

<table>
<thead>
<tr>
<th>METRIC RANGES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound ranges (kPa/bar)</td>
<td>Gauge ranges (kPa/bar)</td>
<td>Absolute ranges (kPa/bar)</td>
<td>Overpressure MPa bar</td>
</tr>
<tr>
<td>-100 to 0 / -1 to 0 (Note 1)</td>
<td>0 to 100 / 0 to 1 (Note 1)</td>
<td>0 to 100 / 0 to 1 (Note 1)</td>
<td>0.3 3</td>
</tr>
<tr>
<td>-100 to 60 / -1 to 6</td>
<td>0 to 160 / 0 to 1.6</td>
<td>0 to 160 / 0 to 1.6</td>
<td>0.6 6</td>
</tr>
<tr>
<td>-100 to 100 / -1 to 1</td>
<td>0 to 250 / 0 to 2.5</td>
<td>0 to 250 / 0 to 2.5</td>
<td>0.6 6</td>
</tr>
<tr>
<td>-100 to 150 / -1 to 1.5</td>
<td>0 to 400 / 0 to 4</td>
<td>0 to 400 / 0 to 4</td>
<td>1.2 12</td>
</tr>
<tr>
<td>-100 to 300 / -1 to 3</td>
<td>0 to 600 / 0 to 6</td>
<td>0 to 600 / 0 to 6</td>
<td>1.2 12</td>
</tr>
<tr>
<td>-100 to 500 / -1 to 5</td>
<td>0 to 1000 / 0 to 10</td>
<td>0 to 1000 / 0 to 10</td>
<td>2.5 25</td>
</tr>
<tr>
<td>-100 to 900 / -1 to 9</td>
<td>0 to 1600 / 0 to 16</td>
<td>0 to 1600 / 0 to 16</td>
<td>5 50</td>
</tr>
<tr>
<td>-100 to 1500 / -1 to 15</td>
<td>0 to 2000 / 0 to 20</td>
<td>0 to 2000 / 0 to 20</td>
<td>5 50</td>
</tr>
<tr>
<td>-100 to 2400 / -1 to 24</td>
<td>0 to 2500 / 0 to 25</td>
<td>0 to 2500 / 0 to 25</td>
<td>12 120</td>
</tr>
<tr>
<td>-100 to 3900 / -1 to 39</td>
<td>0 to 4000 / 0 to 40</td>
<td>0 to 4000 / 0 to 40</td>
<td>12 120</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPERIAL RANGES</th>
<th></th>
<th></th>
<th>Overpressure psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound ranges (psi)</td>
<td>Gauge ranges (psi)</td>
<td>Absolute ranges (psi)</td>
<td></td>
</tr>
<tr>
<td>-14.5 to 0 (Note 1)</td>
<td>0 to 15 (Note 1)</td>
<td>0 to 15 (Note 1)</td>
<td>43.5</td>
</tr>
<tr>
<td>-14.5 to 15</td>
<td>0 to 30</td>
<td>0 to 30</td>
<td>87</td>
</tr>
<tr>
<td>-14.5 to 30</td>
<td>0 to 40</td>
<td>0 to 40</td>
<td>87</td>
</tr>
<tr>
<td>-14.5 to 60</td>
<td>0 to 60</td>
<td>0 to 60</td>
<td>116</td>
</tr>
<tr>
<td>-14.5 to 100</td>
<td>0 to 100</td>
<td>0 to 100</td>
<td>174</td>
</tr>
<tr>
<td>-14.5 to 200</td>
<td>0 to 200</td>
<td>0 to 200</td>
<td>360</td>
</tr>
<tr>
<td>-14.5 to 300</td>
<td>0 to 300</td>
<td>0 to 300</td>
<td>464</td>
</tr>
<tr>
<td></td>
<td>0 to 400</td>
<td>0 to 400</td>
<td>725</td>
</tr>
<tr>
<td></td>
<td>0 to 600</td>
<td>0 to 600</td>
<td>725</td>
</tr>
<tr>
<td></td>
<td>0 to 1000</td>
<td>0 to 1000</td>
<td>1160</td>
</tr>
<tr>
<td></td>
<td>0 to 1500</td>
<td>0 to 1500</td>
<td>1740</td>
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<tr>
<td></td>
<td>0 to 2000</td>
<td>0 to 2000</td>
<td>2900</td>
</tr>
<tr>
<td></td>
<td>0 to 3000</td>
<td>0 to 3000</td>
<td>4640</td>
</tr>
<tr>
<td></td>
<td>0 to 4000</td>
<td>0 to 4000</td>
<td>7250</td>
</tr>
<tr>
<td></td>
<td>0 to 6000</td>
<td>0 to 6000</td>
<td>8700</td>
</tr>
</tbody>
</table>

Note 1: G 3/4 A and G 1 A connections only.

Fatigue life
greater than 100 million cycles (full scale)

Response time
≤1ms

Vibration
10g peak sinusoidal from 20 to 2000Hz
Temperature limits

Ambient
-20°C and +85°C (4°F and 185°F)
(can be limited by intrinsically safe application)
Upper ambient limit for cables: +50°C (+122°F)

Process
-25°C and +125°C (-13°F and +257°F)

Compensated
-20°C and +80°C (-4°F and +176°F)

Physical Specification
(Refer to ordering information sheets for variant availability related to specific model or version code)

Materials

Process wetted parts
- O-ring: Nitril (NBR) or Viton (FKM)
- Flush diaphragm: AISI 316L (1.4404) stainless steel

Housing
AISI 304 / 1.4301 stainless steel

Tagging
Printed label sticked to the housing

Filling oil
Silicone oil

Environmental protection
The transmitter is dust and sand tight

Enclosure class
- IP65 with 4-pin DIN 43650 connector
- IP67 with cable gland

Hazardous atmospheres (4-20mA only)
- INTRINSIC SAFETY/EUROPE:
  ATEX/Baseefa approval
  II 1 G Ex ia IIC T4 (-20°C ≤ Ta ≤ +75°C)

Surge protection
Fast transient (Burst) immunity level: 2kV

Electrical characteristics

Power supply
The transmitter operates from 12 up to 36Vdc and is protected against reverse polarity connection.
For intrinsically safe application power supply must not exceed 28Vdc.

Load limitations
\[
\begin{align*}
\text{total loop resistance:} \\
R(Q) & = \frac{\text{Supply voltage} - 12}{0.02}
\end{align*}
\]

Output signal
4 to 20mA; 0 to 10Vdc

Insulation resistance
> 100MΩ @ 50Vdc

Performance specifications
Unless otherwise specified, errors are quoted as % of full scale

Accuracy rating
≤ 0.25% of BFSR, including combined effects of linearity, hysteresis and repeatability.

Operating influences

Ambient temperature
between the limits of -20°C to +80°C (-4 to +176°F)
Thermal error: 2% max

EMI/RFI
Meets EN50081-2 for emission and EN50082-2 for susceptibility

Stability
< 0.30% over a twelve-month period

Mass
4-pin connector ISO 4400 / DIN 43650: 225g
Add 150g for PVC cable (2m) + cable gland (PG9)

Packing
Carton for connector version.
Plastic envelope for versions with cable.
MOUNTING DIMENSIONS (not for construction unless certified) - dimensions in mm (in)

- Note: Intrinsically Safe version adds 27mm (1.06in) to length
Electrical connections

4-20mA output

<table>
<thead>
<tr>
<th>4-20mA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IN (+) / supply</td>
</tr>
<tr>
<td>2</td>
<td>IN (-) / supply</td>
</tr>
<tr>
<td>3</td>
<td>Not used</td>
</tr>
<tr>
<td>EARTH</td>
<td></td>
</tr>
</tbody>
</table>

ISO 4400 / DIN 43650 connector

Cable outlet

0-10V output

<table>
<thead>
<tr>
<th>Voltage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IN (+)</td>
</tr>
<tr>
<td>2</td>
<td>COMMON</td>
</tr>
<tr>
<td>3</td>
<td>OUT (+)</td>
</tr>
<tr>
<td>EARTH</td>
<td></td>
</tr>
</tbody>
</table>

ISO 4400 / DIN 43650 connector

Cable outlet
**BASIC ORDERING INFORMATION model 53G/A Transmitter**

Select one character or set of characters from each category and specify complete catalog number.

### BASE MODEL – 1st to 3rd characters
- Fixed Range Gauge Pressure Transmitter: 5 3 G
- Fixed Range Absolute Pressure Transmitter: 5 3 A

### Measuring units – 4th character
- kPa
- bar
- psi

### Range – 5th and 6th character
- 100 to 0 kPa (Notes 1, 2) -1 to 0 bar (Notes 1, 2) -14.5 to 0 psi (Notes 1, 2) 11
- 100 to 60 kPa (Note 2) -1 to 0.6 bar (Note 2) -14.5 to 15 psi (Note 2) 12
- 100 to 100 kPa (Note 2) -1 to 1 bar (Note 2) -14.5 to 20 psi (Note 2) 13
- 100 to 150 kPa (Note 2) -1 to 1.5 bar (Note 2) -14.5 to 30 psi (Note 2) 14
- 100 to 300 kPa (Note 2) -1 to 3 bar (Note 2) -14.5 to 60 psi (Note 2) 15
- 100 to 500 kPa (Note 2) -1 to 5 bar (Note 2) -14.5 to 100 psi (Note 2) 16
- 100 to 900 kPa (Note 2) -1 to 9 bar (Note 2) -14.5 to 200 psi (Note 2) 17
- 100 to 1500 kPa (Note 2) -1 to 15 bar (Note 2) -14.5 to 300 psi (Note 2) 18
- 100 to 3000 kPa (Note 2) -1 to 25 bar (Note 2) -14.5 to 500 psi (Note 2) 19
- 100 to 3500 kPa (Note 2) -1 to 35 bar (Note 2) -14.5 to 600 psi (Note 2) 20
- 100 to 4000 kPa (Note 2) -1 to 40 bar (Note 2) -14.5 to 700 psi (Note 2) 21
- 100 to 5000 kPa (Note 2) -1 to 50 bar (Note 2) -14.5 to 800 psi (Note 2) 22
- 100 to 6000 kPa (Note 2) -1 to 60 bar (Note 2) -14.5 to 900 psi (Note 2) 23
- 100 to 8000 kPa (Note 2) -1 to 80 bar (Note 2) -14.5 to 1200 psi (Note 2) 24
- 100 to 10000 kPa (Note 2) -1 to 100 bar (Note 2) -14.5 to 1500 psi (Note 2) 25
- 100 to 12000 kPa (Note 2) -1 to 120 bar (Note 2) -14.5 to 1800 psi (Note 2) 26
- 100 to 15000 kPa (Note 2) -1 to 150 bar (Note 2) -14.5 to 2250 psi (Note 2) 27
- 100 to 20000 kPa (Note 2) -1 to 200 bar (Note 2) -14.5 to 3000 psi (Note 2) 28
- 100 to 25000 kPa (Note 2) -1 to 250 bar (Note 2) -14.5 to 4000 psi (Note 2) 29
- 100 to 30000 kPa (Note 2) -1 to 300 bar (Note 2) -14.5 to 5000 psi (Note 2) 30
- 100 to 40000 kPa (Note 2) -1 to 400 bar (Note 2) -14.5 to 6000 psi (Note 2) 31

### Pressure connection – 7th character
- G 1/2 in DIN 3852 3
- G 3/4 in DIN 3852 B
- G 1 in DIN 3852 D

### Gasket – 8th character
- NBR (Nitril) (Not applicable with ranges equal or lower than 6000 kPa, 60 bar, 1000 psi) B
- FKM (Viton) (Not applicable with ranges equal or greater than 100000 kPa, 1000 bar, 1500 psi) V

### Output signal – 9th character
- 4 - 20mA 3
- 0 - 10V 2

### Electrical certification – 10th character
- General purpose 1
- ATEX Group II Category 1G - Intrinsic Safety EEx ia (Note 3) 2

### Electrical connection – 11th character
- Cable gland + 2 meter cable 2
- 4-pole connector ISO 4400/DIN43650 4

### Surge protection – 12th character
- Yes (fitted as standard) 2

### Calibration certificate – 13th character
- Yes (provided as standard) 2

### 14th character
- Use code 2

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**Note 1:** Not available with pressure connection code 3

**Note 2:** Not available with absolute transmitter, base model code 53A.

**Note 3:** Not available with 0-10V output signal code 2
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