With integrated temperature measurement, integrated signal amplifier and heated sensor tip

# DAIP Series Pressure Transmitter

The DAIP offers the user maximum convenience in operation, combined with the advantages of the heatable sensor tip. The auto-zero function enables calibration directly on the device or from the control room / control unit. The mass pressure transmitter provides mA or V signals at the output.

With the patented heatable sensor tip, the sensor can easily be removed even when the melt has already cooled down. Damage caused by sticking, shrinking media such as PC, PMMA or ABS is effectively prevented.

- Heating with 24V, no danger to humans
- Combined pressure and temperature measurement
- Highly robust design with flexible intermediate part
- Patented technology
- Gneuss special coating against adhesive and sticky media as standard
- Removal is also possible when the system is switched off
- Longlife design

## Technical specifications

| | |
|---|---|
| Pressure range | 0..100 to 0..2000 bar<br>0..1500 to 0..30000 psi |
| Accuracy incl. linearity, hysterisis, and reproducibility in % to full scale | 0.25 %<br>0.50 % |
| Reproducibility in % to full scale | ± 0.1 % |
| Membrane coating | G-Coating |
| Resolution | 16 Bit |
| Max. pressure overload without influence on operating value | 2 x range up to 1000 bar (14500 psi)<br>1.5 x pressure range over 1000 bar (14500 psi) |
| Bridge resistance | 350 Ω Wheatstone Bridge |
| Temperature element: | Type J; K; L, PT 100 |
| Heater: | 24V 150W |
| Supply voltage | 19..32 V DC |
| Output signal | 4..20 mA<br>0..20 mA<br>0..10 V |
| Transmission medium | NTX™ as standard |
| Process connection | 1/2" 20 UNF or M18 x 1.5 |
| Calibration point | 80% of measuring range |
| Insulation resistance | >1000 MOhm at 50 V |
| Max. temperature at diaphragm | 300°C NTX™ (572°F)<br>400°C Hg (750°F)<br>500°C NaK (932°F) |
| Max. temperature at terminal head during operation | - 40 .. + 85°C (40°F...185°F) |
| Zero deviation with temperature Variations at the diaphragm: | ± 0.003% from final value/°C |
| Zero deviation with temperature Variations at the measuring head: | ± 0.003% from final value/°C |
| Ingress protection housing<br>Ingress protection connector | IP 65 /<br>IP 55 |
| Max torque | 1/2" 20 UNF 30 Nm (22 lbf ft)<br>M18 x 1.5 50 Nm (32 lbf ft) |

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## Order specification DAIP Series

**Pressure Transmitter Premium with V or mA output and temperature measurement, heated head**

valid from: 01.01.2015

| Order specification | | - | | - | | - | | - | | - | | - | | - | | - | | - | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Standard configuration** | | | | | | | | | | | | | | | | | | | |
| | **DAIP** | | | | | | | | | | | | | | | | | | |
| **Total measurement error FSO** | | | | | | | | | | | | | | | | | | | |
| 0.25% | *1 | | 1 | | | | | | | | | | | | | | | | |
| 0.50% | | | 2 | | | | | | | | | | | | | | | | |
| **Output signal** | | | | | | | | | | | | | | | | | | | |
| 4..20 mA (2-wire) | | | | E 2 | | | | | | | | | | | | | | | |
| 4..20 mA (3-wire) | | | | E 3 | | | | | | | | | | | | | | | |
| 4..20 mA (4-wire) | | | | E 4 | | | | | | | | | | | | | | | |
| 0..20 mA (3-wire) | | | | D 3 | | | | | | | | | | | | | | | |
| 0..20 mA (4-wire) | | | | D 4 | | | | | | | | | | | | | | | |
| 0..10 V (3-wire) | | | | C 3 | | | | | | | | | | | | | | | |
| 0..10 V (4-wire) | | | | C 4 | | | | | | | | | | | | | | | |
| **Thermocouple** | | | | | | | | | | | | | | | | | | | |
| Thermocouple type J | | | | | T H J | | | | | | | | | | | | | | |
| Thermocouple type L | | | | | T H L | | | | | | | | | | | | | | |
| Thermocouple type K | | | | | T H K | | | | | | | | | | | | | | |
| Meas. resistance PT-100 (2-wire) | | | | | P T 2 | | | | | | | | | | | | | | |
| Meas. resistance PT-100 (3-wire) | | | | | P T 3 | | | | | | | | | | | | | | |
| Meas. resistance PT-100 (4-wire) | | | | | P T 4 | | | | | | | | | | | | | | |
| **Thread connection** | | | | | | | | | | | | | | | | | | | |
| 1/2" UNF 2A (Standard) | | | | | | 1 2 A | | | | | | | | | | | | | |
| M18 X 1.5 A | | | | | | 1 8 A | | | | | | | | | | | | | |
| M18 X 1.5 B | | | | | | 1 8 B | | | | | | | | | | | | | |
| **Pressure range** | | | | | | | | | | | | | | | | | | | |
| 100 bar | | | | | | | B 1 0 Z | | | | | | | | | | | | |
| 200 bar | | | | | | | B 2 0 Z | | | | | | | | | | | | |
| 350 bar | | | | | | | B 3 5 Z | | | | | | | | | | | | |
| 400 bar | | | | | | | B 4 0 Z | | | | | | | | | | | | |
| 500 bar | | | | | | | B 5 0 Z | | | | | | | | | | | | |
| 600 bar | | | | | | | B 6 0 Z | | | | | | | | | | | | |
| 700 bar | | | | | | | B 7 0 Z | | | | | | | | | | | | |
| 800 bar | | | | | | | B 8 0 Z | | | | | | | | | | | | |
| 1000 bar | | | | | | | B 1 0 H | | | | | | | | | | | | |
| 1400 bar | | | | | | | B 1 4 H | | | | | | | | | | | | |
| 2000 bar | | | | | | | B 2 0 H | | | | | | | | | | | | |
| 1500 psi | | | | | | | P 1 5 H | | | | | | | | | | | | |
| 3000 psi | | | | | | | P 3 0 H | | | | | | | | | | | | |
| 5000 psi | | | | | | | P 5 0 H | | | | | | | | | | | | |
| 6000 psi | | | | | | | P 6 0 H | | | | | | | | | | | | |
| 7500 psi | | | | | | | P 7 5 H | | | | | | | | | | | | |
| 9000 psi | | | | | | | P 9 0 H | | | | | | | | | | | | |
| 10000 psi | | | | | | | P 1 0 T | | | | | | | | | | | | |
| 12000 psi | | | | | | | P 1 2 T | | | | | | | | | | | | |
| 15000 psi | | | | | | | P 1 5 T | | | | | | | | | | | | |
| 20000 psi | | | | | | | P 2 0 T | | | | | | | | | | | | |
| 30000 psi | | | | | | | P 3 0 T | | | | | | | | | | | | |
| **Shaft length (rigid)** | | | | | | | | | | | | | | | | | | | |
| 152 mm, 6" (Standard) | | | | | | | | S 0 | | | | | | | | | | | |
| Special length | | | | | | | | S 9 | | | | | | | | | | | |
| **Length of flexible capillary** | | | | | | | | | | | | | | | | | | | |
| 457 mm, 18" (Standard) | | | | | | | | | F 5 | | | | | | | | | | |
| 610 mm, 24" | | | | | | | | | F 6 | | | | | | | | | | |
| 760 mm, 30" | | | | | | | | | F 8 | | | | | | | | | | |
| Special length | | | | | | | | | F 9 | | | | | | | | | | |
| **Diaphragm** | | | | | | | | | | | | | | | | | | | |
| Alloy 718 | *2 | | | | | | | | | | | I | | | | | | | |
| Special diaphragm | | | | | | | | | | | | S | | | | | | | |
| **Sensor medium** | | | | | | | | | | | | | | | | | | | |
| Mercury-free (NXT 300°C / 572°F) | | | | | | | | | | | | | W | | | | | | |
| Mercury-free high temp. (NaK 500°C 932°F) | *5 | | | | | | | | | | | | N | | | | | | |
| Mercury (Hg 400°C / 752°F) | | | | | | | | | | | | | M | | | | | | |

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| **Electrical connection** | | | | | | | | | | | | | | | | | | | |
| 6-pole connection (Standard) | | | | | | | | | | | | | | | | | 6 P | | |
| 6-pole connection with optic auto-zero | | | | | | | | | | | | | | | | | 6 P A | | |
| 8-pole connection | | | | | | | | | | | | | | | | | 8 P | | |
| 6-pole connection (type 98) | | | | | | | | | | | | | | | | | 9 8 | | |
| Cable exit stainless steel , 3 m | *3 | | | | | | | | | | | | | | | | 3 3 | | |
| **Special design** | | | | | | | | | | | | | | | | | | | |
| No special design | | | | | | | | | | | | | | | | | | | 0 0 0 |
| Special design | | | | | | | | | | | | | | | | | | | X X X |

*1 Only available >= 100 bar (1500 psi)

*2 As a standard, all diaphragms are coated with Gneuss unique “G-Coating” against adhesive and glutinous media. Special coatings are available on request.

*3 For cable exit, please confirm cable length. Unless specified, the standard length will be 3 m.

*5 Mercury-free High Temperature >= 300°C (only available for 100 bar (1500 psi) up to 800bar (12000 psi))