

PM 700E External remote pressure sensors

Any number of remote sensors can be individually used with a single DPI610E as all sensors hold their own calibration data and are supplied with a 2.9m (9.5 feet) cable.

Available ranges as per table:

| Type | PM 700E External pressure sensor availability | | |
|---|---|--------------------------|------------------------------|
| | Standard Accuracy 0.1% (-1) | High Accuracy 0.05% (-2) | Premium Accuracy 0.025% (-3) |
| 25 mbar / 10 inH2O / 2.5 kPa | G, L | - | - |
| 70 mbar / 1 psi / 7 kPa | G, L | - | - |
| 200 mbar / 3 psi / 20 kPa | G, L | - | - |
| 350 mbar / 5 psi / 35 kPa | G, A, L | G, L | - |
| 700 mbar / 10 psi / 70 kPa | G, A, L | G, L | - |
| 1 bar / 15 psi / 100 kPa | G, A, L | G, A, L | - |
| 750-1150 mbar / 11-17 psi / 75-115 kPa (Barometric) | B | B | - |
| 2 bar / 30 psi / 200 kPa | G, A, L | G, A, L | G,L |
| 3.5 bar / 50 psi / 350 kPa | G, A | G, A | G |
| 7 bar / 100 psi / 700 kPa | G, A | G, A | G |
| 10 bar / 150 psi / 1000 kPa | G, A | G, A | G, A |
| 20 bar / 300 psi / 2 MPa | G, A | G, A | G, A |
| 35 bar / 500 psi / 3.5 MPa | G, A | G, A | G, A |
| 70 bar / 1000 psi / 7 MPa | G, A | G, A | G, A |
| 100 bar / 1500 psi / 10 MPa | G, A | G, A | G, A |
| 135 bar / 2000 psi / 13.5 MPa | G, A | G, A | G, A |
| 200 bar / 3000 psi / 20 MPa | G, A | G, A | G, A |
| 350 bar / 5000 psi / 35 MPa | A | A | A |
| 700 bar / 10000 psi / 70 MPa | A | A | A |
| 1000 bar / 15000 psi / 100 MPa | A | A | A |
| 1400 bar / 20000 psi / 140 MPa | A | A | A |

G = Gauge

L = Differential

A = Absolute

B = Baro

Negative calibration option (OPI) (Gauge sensors)

| Full Scale Pressure Range | Standard and High Accuracy sensors | Premium accuracy sensors |
|---|--|--|
| 25 mbar to 1 bar / 10 inH2O to 15 psi / 100 kPa to 2.5 kPa | Available down to negative Full Scale by default | Not available |
| 1 bar to 20 bar / 15 psi to 300 psi / 20 kPa to 2 MPa | Available down to -1 bar g as option OPI | Available down to -1 bar g by default |
| 35 bar to 200 bar / 500 psi to 3000 psi / 3.5 MPa to 20 MPa | Not available – calibrated down to 0 bar g | Not available – calibrated down to 0 bar g |

Note: All differentials calibrated down to negative Full Scale (limited to -1bar)



PM700E (Gauge, Absolute)



PM700E (Differential)

PM 700E External remote pressure sensors

Accuracy levels

| | |
|------------|--|
| 1-Standard | ±0.1% FS Total accuracy over -10 to 50 °C including NLH&R,1 year drift and calibration uncertainty |
| 2-High | ±0.05% FS Total accuracy over -10 to 50 °C including NLH&R,1 year drift and calibration uncertainty |
| 3-Premium | ±0.025% FS Total accuracy over -10 to 50 °C including NLH&R,1 year drift and calibration uncertainty |

Accuracy specification

| Gauge/differential sensors | Standard accuracy | | High accuracy | | Premium accuracy | |
|----------------------------|---------------------------|-------------------|---------------|-------------------|------------------|-------------------|
| | NLH&R | Total uncertainty | NLH&R | Total uncertainty | NLH&R | Total uncertainty |
| | -10 to 50°C (14 to 122°F) | | | | | |
| Pressure range | (% FS) | (% FS) | (% FS) | (% FS) | (% FS) | (% FS) |
| 25 mbar | 0.3 | 0.348 | N/A | N/A | N/A | N/A |
| 70 mbar | 0.1 | 0.121 | N/A | N/A | N/A | N/A |
| 200 mbar | 0.08 | 0.1 | N/A | N/A | N/A | N/A |
| 350 mbar to 1 bar | 0.08 | 0.1 | 0.04 | 0.05 | N/A | N/A |
| 2 bar to 200 bar | 0.08 | 0.1 | 0.04 | 0.05 | 0.018 | 0.025 |

| Absolute sensors | Standard accuracy | | High accuracy | | Premium accuracy | |
|------------------------------|---------------------------|-------------------|---------------|-------------------|------------------|-------------------|
| | NLH&R | Total uncertainty | NLH&R | Total uncertainty | NLH&R | Total uncertainty |
| | -10 to 50°C (14 to 122°F) | | | | | |
| Pressure range | (% FS) | (% FS) | (% FS) | (% FS) | (% FS) | (% FS) |
| 750 - 1150 mbar (Barometric) | 0.08 | 0.1 | 0.04 | 0.075 | N/A | N/A |
| 350 mbar and 700 mbar | 0.08 | 0.1 | N/A | N/A | N/A | N/A |
| 1 bar to 7 bar | 0.08 | 0.1 | 0.04 | 0.075 | N/A | N/A |
| 10 bar to 1400 bar | 0.08 | 0.1 | 0.04 | 0.075 | 0.018 | 0.063 |

Notes:

- NLH&R Non-linearity, hysteresis and repeatability.
- Total uncertainty includes 1 year drift and calibration uncertainty. For 350mbar to 7bar absolute ranges typical values are stated – for maximum values add 0.045%FS for standard accuracy, 0.055%FS for high accuracy. For 10bar absolute ranges and above maximum values are stated above.

Media compatibility

Sensors up to and including 3.5bar (including differential) are exposed, 7-1400bar are diaphragm isolated.

| Pressure FS | Media compatibility |
|------------------------------------|--|
| 0 to 3.5 bar | Non-condensing dry gases compatible with 316L Stainless Steel, Pyrex, Silicon, Gold, Aluminium, Glass, Silicon Dioxide and RTV Adhesive. |
| Differential sensor reference port | Non-condensing dry gases compatible with 316L and 304 Stainless Steel, Pyrex, Silicon, Glass, Silicon Dioxide and RTV Adhesive. |
| 7 to 200 bar | 316L Stainless Steel and Hastelloy C276 |
| 350 to 1400 bar | Inconel 625 and 17-4PH Stainless Steel |

Pressure fittings

Remote sensors are fitted with pressure connectors as detailed below:

- P1 - G1/8 Female direct sensor connection of instrument, welded non-removable (for ranges 200 bar and below) with optional adaptor:
- P2 - G1/4 Female adaptor that goes into the instruments G1/8 female
- P3 - 1/8 NPT Female adaptor that goes into the instruments G1/8 female
- P4 - 1/4 NPT Female adaptor that goes into the instruments G1/8 female
- P5 - Quick-Fit adaptor comes with G1/8 and 1/8 NPT adaptors
- P6 - 9/16 x 18 UNF Male direct sensor connection of instrument, welded non-removable (mandatory for ranges greater than/equal to 350 bar)

Note: Only fluids that are compatible as per above table should be used, to ensure the integrity of the pressure sensor.

Optional remote RTD temperature interface/probe

Enabling users to perform plug and play temperature measurement capability, displaying units as resistance or temperature.

The Interface only option P/N RTD-INTERFACE-485 for DPI610E-PC / DPI610E-HC Safe Area or P/N RTD-INTERFACE-IS for DPI610E-SPC / DPI610E-SHC Hazardous Area allows users to use their own PT100 RTD probe.

RTD-INTERFACE is supplied with a field-rewireable M12 connector to allow users to connect their own wire-ended RTDs.

The probe option P/N RTD-PROBE-485 for DPI610E-PC / DPI610E-HC Safe Area or P/N RTD-PROBE-IS for DPI610E-SPC / DPI610E-SHC Hazardous Area comes with the interface and a 15 cm (6") class A PT100 probe. All RTD-PROBE and RTD-INTERFACE come with a 2.9m cable.



RTD Accuracy specification

| | NLH&R $\pm 1^{\circ}\text{C}$ (2°F) for 24 hrs (note 1) | Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year (note 2) | Additional error -10° to 10°C (14° to 50°F) 30° to 50°C (86° to 122°F) |
|--|---|---|--|
| 0 to 400 Ω | 0.012% Rdg + 0.005% FS | 0.015% Rdg + 0.006% FS | 0.001% FS/ $^{\circ}\text{C}$ |
| Pt 100 - Measured temp range -200 to 0°C | | 0.017% Rdg + 0.1°C | Excluding PT100 calibration error |
| Pt 100 - Measured temp range 0 to 850°C | | 0.0215% Rdg + 0.1°C | Excluding PT100 calibration error |

Notes:

- NLH&R includes stability at $\pm 2^{\circ}\text{C}$ for 24 hours, at temperatures within 10°C to 30°C .
- Total uncertainty includes 1 year drift

RTD General specifications

| | | |
|------------------------|---|--|
| | IO-RTD-PRB150 | -50°C to 200°C (when used with appropriate extension cable) |
| | RTD-INTERFACE (BODY) | -10°C to 50°C |
| Measuring temperatures | RTD-PROBE | -10°C to 50°C when directly plugged in to RTD-INTERFACE -25°C to 75°C when using supplied cable |
| | SPECIALIST RTD PROBES (Not supplied by Druck) | The capability of the RTD-INTERFACE (resistance range) with a suitable extension cable and suitable probe is 0 to 400Ω which equates to -250°C to $+650^{\circ}\text{C}$ for a PT100 probe. |
| Dimensions | IO-RTD-PRB150 RTD-PROBE | Probe tip: $\varnothing 6.35 \times 150\text{mm}$ Probe total: $\varnothing 15 \times 200\text{mm}$ |
| | RTD-INTERFACE | Body: $\varnothing 34 \times 72\text{mm}$ length |

Ordering information for PM700E external remote pressure sensors

The PM 700E and PM 700E-IS are supplied with a user guide and calibration certificate as standard.

Model type

PM700E Safe Area External remote pressure sensor

PM700EIS Hazardous Area External remote pressure sensor

Accuracy (Now offering three levels of accuracy – see page 9 for availability by pressure range)

- 1 Standard
- 2 High
- 3 Premium

Pressure range and reference type; (Mandatory to select only one e.g. 008L or 008G for each configuration)

| | Gauge (G) | Absolute (A) | Differential (L) | Barometric (B) |
|---|------------------|---------------------|-------------------------|-----------------------|
| 25 mbar/10 inH2O/2.5 kPa | 008G | - | 008L | - |
| 70 mbar/1 psi/7 kPa | 01G | - | 01L | - |
| 200 mbar/3 psi/20 kPa | 02G | - | 02L | - |
| 350 mbar/5 psi/35 kPa | 03G | 03A | 03L | - |
| 700 mbar/10 psi/70 kPa | 04G | 04A | 04L | - |
| 1 bar/15 psi/100 kPa | 05G | 05A | 05L | - |
| 750-1150 mbar/11-17 psi/ 75-115 kPa (Barometric) | - | - | - | 05B |
| 2 bar/30 psi/200 kPa | 07G | 07A | 07L | - |
| 3.5 bar/50 psi/350 kPa | 08G | 08A | - | - |
| 7 bar/100 psi/700 kPa | 10G | 10A | - | - |
| 10 bar/150 psi/1000 kPa | 11G | 11A | - | - |
| 20 bar/300 psi/2 MPa | 13G | 13A | - | - |
| 35 bar/500 psi/3.5 MPa | 14G | 14A | - | - |
| 70 bar/1000 psi/7 MPa | 16G | 16A | - | - |
| 100 bar/1500 psi/10 MPa | 165G | 165A | - | - |
| 135 bar/2000 psi/13.5 MPa | 17G | 17A | - | - |
| 200 bar/3000 psi/20 MPa | 18G | 18A | - | - |
| 350 bar/5000 psi/35 MPa | - | 20A | - | - |
| 700 bar/10000 psi/70 MPa | - | 22A | - | - |
| 1000 bar/ 15000 psi/ 100 MPa | - | 23A | - | - |
| 1400 bar/20000 psi/140 MPa | - | 24A | - | - |

Pressure fitting – Refer to page 5

| | | |
|-----------|------------------------|---|
| P1 | G1/8 Female | For ranges less than 350 bar (welded non-removable) |
| P2 | G1/4 Female adaptor | For ranges less than 350 bar |
| P3 | 1/8 NPT Female adaptor | For ranges less than 350 bar |
| P4 | 1/4 NPT Female adaptor | For ranges less than 350 bar |
| P5 | Quick-Fit adaptor | For ranges less than 350 bar |
| P6 | 9/16 x 18 UNF Male | Mandatory for ranges greater than/equal to 350 bar (welded non-removable) |

Hazardous area approvals (Mandatory to select one)

| | |
|-----------|---|
| H0 | No hazardous area approval |
| H1 | ATEX, IECEx, CSA, CCOE, XPL, KCS, NEPSI, ECASEX |
| H2 | INMETRO (Brazil) |

Options (Mandatory to select one)

| | |
|------------|--|
| OP0 | No option required |
| OP1 | Negative calibration for gauge ranges 20 bar and below |

PM700E - 1 - 07G - P2 - H0 - OP1 (Example model numbers)

PM700E Options

OP1 – Negative calibration

Optionally available for Gauge ranges of 20 bar and below (default for -3 accuracy). If this option is chosen, then the calibration certificate will include values down to -1 bar g.

UKAS calibration

We also offer UKAS accredited calibrations, please advise at the time of order placement if required.