

## Model FP2000

### Configurable Pressure Transducer



#### DESCRIPTION

The FP2000 series is a configurable differential pressure transducer which allows the customer to select the configuration which best fits the needs of the application. Choose from multiple accuracies, outputs, pressure ports, electrical terminations, and pressure ranges.

The FP2000 is available with gage, absolute, barometric, vacuum reference, or differential (wet/wet, wet/dry) and, best of all, they deliver in two weeks or less.



#### FEATURES

- mV/V, 0 Vdc to 5 Vdc, 0 Vdc to 10 Vdc, 4 mA to 20 mA
- Gage, absolute, barometric, vacuum
- Differential (wet/wet, wet/dry)
- Intrinsically safe option<sup>5</sup>
- CE available<sup>6</sup>

FP2000 pressure sensors are custom built from stocked components, and most are shipped in 10 business days or less. Please see <http://measurementsensors.honeywell.com> for updated listings

# Model FP2000

## PERFORMANCE SPECIFICATIONS

| Characteristic        | Measure                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------|
| Accuracy <sup>1</sup> | See accuracy table                                                                            |
| Output (selectable)   | mV/V (see accuracy table),<br>0 Vdc to 5 Vdc, 0 Vdc to 10 Vdc,<br>or 4 mA to 20 mA (two wire) |
| Resolution            | Infinite                                                                                      |

## ELECTRICAL SPECIFICATIONS

| Characteristic                               | Measure          |
|----------------------------------------------|------------------|
| Excitation (calibration)                     |                  |
| Amplified (4 mA to 20 mA;<br>0 Vdc to 5 Vdc) | 9 Vdc to 28 Vdc  |
| Amplified (0 Vdc to 10 Vdc)                  | 15 Vdc to 28 Vdc |
| Unamplified (mV/V)                           | 10 Vdc           |

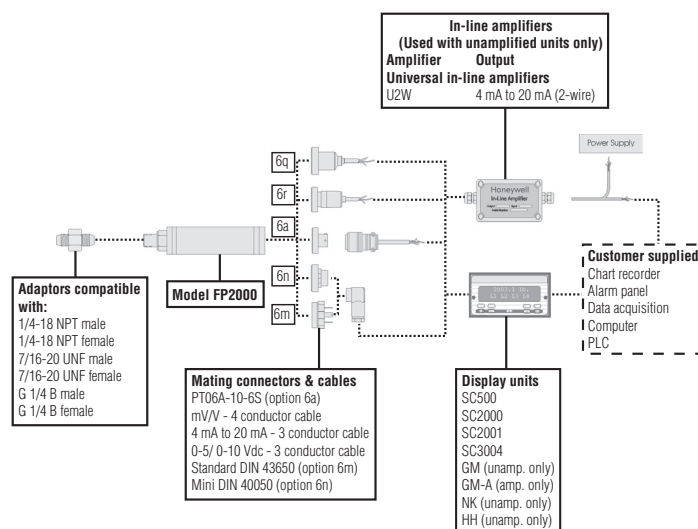
## MECHANICAL SPECIFICATIONS

| Characteristic         | Measure                                      |
|------------------------|----------------------------------------------|
| Media                  | Gas, liquid                                  |
| Overload - safe        |                                              |
| positive (+) direction | 4X full scale or 3000 psi, whichever is less |
| negative (-) direction | 4X full scale or 250 psi, whichever is less  |
| Overload - burst       |                                              |
| positive (+) direction | 3000 psi                                     |
| negative (-) direction | 500 psi                                      |
| Pressure port          | 200 % over capacity                          |
| Wetted parts material  | Ha C276 & 316L stainless steel               |

## ENVIRONMENTAL SPECIFICATIONS

| Order Code              | Range                     | Temperature, Compensated         | Temperature, Operating<br><i>Unamplified Output:<br/>Option 2U</i> | Temperature, Operating<br><i>Voltage Output:<br/>Option 2D,2E,2F,2G<br/>Current Output:<br/>Option 2P,2Y,2N</i> |
|-------------------------|---------------------------|----------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| FDD                     | less than 1 psi           | 10 °C to 45 °C [50 °F to 110 °F] | -40 °C to 116 °C<br>[-40 °F to 240 °F]                             | -29 °C to 85 °C<br>[-20 °F to 185 °F]                                                                           |
|                         | 1 psi and less than 5 psi | 5 °C to 50 °C [40 °F to 120 °F]  |                                                                    |                                                                                                                 |
|                         | 5 psi and above           | 5 °C to 60 °C [40 °F to 140 °F]  |                                                                    |                                                                                                                 |
| FDW                     | less than 1 psi           | 10 °C to 45 °C [50 °F to 110 °F] | -40 °C to 116 °C<br>[-40 °F to 240 °F]                             | -29 °C to 85 °C<br>[-20 °F to 185 °F]                                                                           |
|                         | 1 psi and less than 5 psi | 5 °C to 50 °C [40 °F to 120 °F]  |                                                                    |                                                                                                                 |
|                         | 5 psi and above           | 5 °C to 60 °C [40 °F to 140 °F]  |                                                                    |                                                                                                                 |
| Temperature, error band | 0.10 % accuracy           | ±0.5 % full scale                | —                                                                  | —                                                                                                               |
|                         | 0.25 % accuracy           | ±1.0 % full scale                | —                                                                  | —                                                                                                               |

## TYPICAL SYSTEM DIAGRAM



## Configurable Pressure Transducer

### PRESSURE RANGES AND RANGE CODES

|                                                    | psi   | Range code | torr  | Range code | mBar  | Range code | kPa   | Range code | Bar     | Range code | in Hg | Range code | mm Hg | Range code | in H <sub>2</sub> O | Range code |
|----------------------------------------------------|-------|------------|-------|------------|-------|------------|-------|------------|---------|------------|-------|------------|-------|------------|---------------------|------------|
| <b>Gage/<br/>Absolute</b>                          | 0.5*  | AN         | 15**  | HA         | 35**  | JA         | 2**   | KA         | 0.035** | MA         | 1**   | UB         | 15**  | VA         | 5**                 | WB         |
|                                                    | 1*    | AP         | 50**  | HB         | 70**  | JB         | 7**   | KB         | 0.1**   | MB         | 2**   | UD         | 50**  | VB         | 10**                | WA         |
|                                                    | 2*    | AR         | 135** | HC         | 175** | JC         | 15**  | KC         | 0.2     | MC         | 5     | UF         | 135   | VC         | 20**                | WC         |
|                                                    | 2.5*  | AS         | 250   | HD         | 350   | JD         | 35    | KD         | 0.5     | MD         | 10    | UA         | 250   | VD         | 30**                | WE         |
|                                                    | 5     | AT         | 750   | HE         | 700   | JE         | 70    | KE         | 1       | ME         | 15    | UC         | 750   | VE         | 50**                | WG         |
|                                                    | 10    | AV         | 1500  | HF         | 750   | JF         | 100   | KF         | 2       | MF         | 20    | UE         | 1500  | VF         | 100                 | WI         |
|                                                    | 15    | BJ         |       |            | 1000  | JG         | 200   | KG         | 3.5     | NA         | 30    | UG         |       |            | 120                 | WK         |
|                                                    | 25    | BL         |       |            | 3500  | JH         | 300   | KH         | 5       | MG         | 50    | UI         |       |            | 150                 | WM         |
|                                                    | 30    | BM         |       |            | 7000  | JI         | 700   | KJ         | 7       | NB         | 60    | UK         |       |            | 200                 | WP         |
|                                                    | 50    | BN         |       |            | 10000 | JK         | 1000  | KL         | 10      | MH         | 80    | UM         |       |            | 300                 | WR         |
|                                                    | 75    | BP         |       |            |       |            | 1500  | KM         | 20      | MI         | 100   | UP         |       |            | 500                 | WS         |
|                                                    | 100   | BR         |       |            |       |            | 1700  | KN         | 30      | MJ         | 200   | UH         |       |            |                     |            |
|                                                    | 150   | CJ         |       |            |       |            | 2000  | KP         | 35      | NC         | 300   | UJ         |       |            |                     |            |
|                                                    | 200   | CL         |       |            |       |            | 3000  | KQ         | 50      | MK         | 500   | UL         |       |            |                     |            |
|                                                    | 250   | CN         |       |            |       |            | 5000  | KR         | 70      | ND         | 1000  | UN         |       |            |                     |            |
|                                                    | 300   | CP         |       |            |       |            | 7000  | KS         | 100     | ML         | 0-32  | US         |       |            |                     |            |
|                                                    | 400   | CQ         |       |            |       |            | 10000 | KT         | 135     | NE         | 16-32 | UQ         |       |            |                     |            |
|                                                    | 500   | CR         |       |            |       |            | 15000 | KU         | 350     | NG         | 26-32 | UR         |       |            |                     |            |
|                                                    | 600   | CS         |       |            |       |            | 20000 | KV         | 500     | MM         |       |            |       |            |                     |            |
|                                                    | 750   | CT         |       |            |       |            | 35000 | KW         | 700     | NH         |       |            |       |            |                     |            |
|                                                    | 1000  | CV         |       |            |       |            | 50000 | KY         |         |            |       |            |       |            |                     |            |
|                                                    | 1500  | DJ         |       |            |       |            | 70000 | KZ         |         |            |       |            |       |            |                     |            |
|                                                    | 2000  | DL         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 2500  | DM         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 3000  | DN         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 5000  | DR         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 6000  | DS         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 7500  | DT         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
|                                                    | 10000 | DV         |       |            |       |            |       |            |         |            |       |            |       |            |                     |            |
| <b>Barometric<br/>(Order code<br/>FPB)</b>         |       |            |       |            |       |            |       |            |         |            | 0-30  | UG         |       |            |                     |            |
|                                                    |       |            |       |            |       |            |       |            |         |            | 16-32 | UQ         |       |            |                     |            |
|                                                    |       |            |       |            |       |            |       |            |         |            | 26-32 | UR         |       |            |                     |            |
| <b>Vacuum<br/>(Order code<br/>FPV)</b>             | 1     | AP         | 50    | HB         | 35    | JA         | 7     | KB         | 0.035   | MA         | 10    | UA         | 15    | VA         | 10                  | WA         |
|                                                    | 5     | AT         | 135   | HC         | 70    | JB         | 15    | KC         | 0.1     | MB         | 20    | UE         | 50    | VB         | 20                  | WC         |
|                                                    | 10    | AV         | 250   | HD         | 175   | JC         | 35    | KD         | 0.2     | MC         | 30    | UG         | 135   | VC         | 30                  | WE         |
|                                                    | 15    | BJ         | 750   | HE         | 350   | JD         | 100   | KF         | 0.5     | MD         |       |            | 250   | VD         | 50                  | WG         |
|                                                    |       |            |       |            | 700   | JE         |       |            | 1       | ME         |       |            | 750   | VE         | 100                 | WI         |
| <b>Differential<br/>(Order codes<br/>FDD, FDW)</b> | 0.5   | AN         | 15    | HA         | 35    | JA         | 2     | KA         | 0.035   | MA         | 1     | UB         | 15    | VA         | 5                   | WB         |
|                                                    | 1     | AP         | 50    | HB         | 70    | JB         | 7     | KB         | 0.1     | MB         | 2     | UD         | 50    | VB         | 10                  | WA         |
|                                                    | 2     | AR         | 135   | HC         | 175   | JC         | 15    | KC         | 0.2     | MC         | 5     | UF         | 135   | VC         | 20                  | WC         |
|                                                    | 2.5   | AS         | 250   | HD         | 350   | JD         | 35    | KD         | 0.5     | MD         | 10    | UA         | 250   | VD         | 30                  | WE         |
|                                                    | 5     | AT         | 750   | HE         | 700   | JE         | 70    | KE         | 1       | ME         | 15    | UC         | 750   | VE         | 50                  | WG         |
|                                                    | 10    | AV         | 1500  | HF         | 750   | JF         | 100   | KF         | 2       | MF         | 20    | UE         | 1500  | VF         | 100                 | WI         |
|                                                    | 15    | BJ         |       |            | 1000  | JG         | 200   | KG         | 3.5     | NA         | 30    | UG         |       |            | 120                 | WK         |
|                                                    | 25    | BL         |       |            | 3500  | JH         | 300   | KH         | 5       | MG         | 50    | UI         |       |            | 150                 | WM         |
|                                                    | 30    | BM         |       |            | 7000  | JI         | 700   | KJ         | 7       | NB         | 60    | UK         |       |            | 200                 | WP         |
|                                                    | 50    | BN         |       |            | 10000 | JK         | 1000  | KL         | 10      | MH         | 80    | UM         |       |            | 300                 | WR         |
|                                                    | 75    | BP         |       |            |       |            | 1500  | KM         | 20      | MI         | 100   | UP         |       |            | 500                 | WS         |
|                                                    | 100   | BR         |       |            |       |            | 1700  | KN         | 30      | MJ         | 200   | UH         |       |            |                     |            |
|                                                    | 150   | CJ         |       |            |       |            | 2000  | KP         | 35      | NC         | 300   | UJ         |       |            |                     |            |
|                                                    | 200   | CL         |       |            |       |            | 3000  | KQ         | 50      | MK         | 500   | UL         |       |            |                     |            |
|                                                    | 250   | CN         |       |            |       |            | 5000  | KR         | 70      | ND         | 1000  | UN         |       |            |                     |            |
|                                                    | 300   | CP         |       |            |       |            | 7000  | KS         |         |            | 0-32  | US         |       |            |                     |            |
|                                                    | 400   | CQ         |       |            |       |            | 10000 | KT         |         |            | 16-32 | UQ         |       |            |                     |            |
|                                                    | 500   | CR         |       |            |       |            | 15000 | KU         |         |            | 26-32 | UR         |       |            |                     |            |
|                                                    | 600   | CS         |       |            |       |            | 20000 | KV         |         |            |       |            |       |            |                     |            |
|                                                    | 750   | CT         |       |            |       |            | 35000 | KW         |         |            |       |            |       |            |                     |            |
|                                                    | 1000  | CV         |       |            |       |            | 50000 | KY         |         |            |       |            |       |            |                     |            |

\* 0.5 psi to 2.5 psi ranges are not available for absolute pressure

\*\* Not available in absolute

# Model FP2000

## INTERNAL AMPLIFIERS

| Amplifier specifications   | Unamplified output: Option 2u          | Voltage output: Option 2d             | Voltage output: Option 2g             | Current two-wire: Option 2p           |
|----------------------------|----------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Output signal              | See accuracy table                     | 0 Vdc to 5 Vdc                        | 0 Vdc to 10 Vdc                       | 4 mA to 20 mA                         |
| Input power (voltage)      | 10 Vdc                                 | 9 Vdc to 28 Vdc                       | 15 Vdc to 28 Vdc                      | 9 Vdc to 32 Vdc                       |
| Input power (current)      | 2 mA @ 10 Vdc                          | 10 mA                                 | 15 mA                                 | 4 mA to 24 mA                         |
| Frequency response         | Natural frequency                      | 300 Hz                                | 300 Hz                                | 300 Hz                                |
| Power supply rejection     | N/A                                    | 60 dB                                 | 60 dB                                 | 60 dB                                 |
| Operating temperature      | -40 °C to 116 °C<br>[-40 °F to 240 °F] | -29 °C to 85 °C<br>[-20 °F to 185 °F] | -29 °C to 85 °C<br>[-20 °F to 185 °F] | -29 °C to 85 °C<br>[-20 °F to 185 °F] |
| Reverse voltage protection | N/A                                    | Yes                                   | Yes                                   | Yes                                   |
| Short circuit protection   | N/A                                    | Momentary                             | Momentary                             | Yes                                   |

| Amplifier specifications   | Voltage output: Option 2e          | Voltage output: Option 2f          | Intrinsically safe amp: Option 2n (2N)*** | Current two-wire: Option 2y        |
|----------------------------|------------------------------------|------------------------------------|-------------------------------------------|------------------------------------|
| Output signal              | 0 Vdc to 5 Vdc                     | 0 Vdc to 10 Vdc                    | 4 mA to 20 mA                             | 4 mA to 20 mA                      |
| Input power (voltage)      | 9 Vdc to 28 Vdc                    | 15 Vdc to 28 Vdc                   | 9 Vdc to 28 Vdc                           | 9 Vdc to 32 Vdc                    |
| Input power (current)      | 10 mA                              | 15 mA                              | 4 mA to 24 mA                             | 4 mA to 24 mA                      |
| Frequency response         | 2000 Hz                            | 2000 Hz                            | 2000 Hz                                   | 2000 Hz                            |
| Power supply rejection     | 60 dB                              | 60 dB                              | 60 dB                                     | 60 dB                              |
| Operating temperature      | -29 °C to 85 °C [-20 °F to 185 °F] | -29 °C to 85 °C [-20 °F to 185 °F] | -29 °C to 85 °C [-20 °F to 185 °F]        | -29 °C to 85 °C [-20 °F to 185 °F] |
| Reverse voltage protection | Yes                                | Yes                                | Yes                                       | Yes                                |
| Short circuit protection   | Momentary                          | Momentary                          | Yes                                       | Yes                                |

## ACCURACY

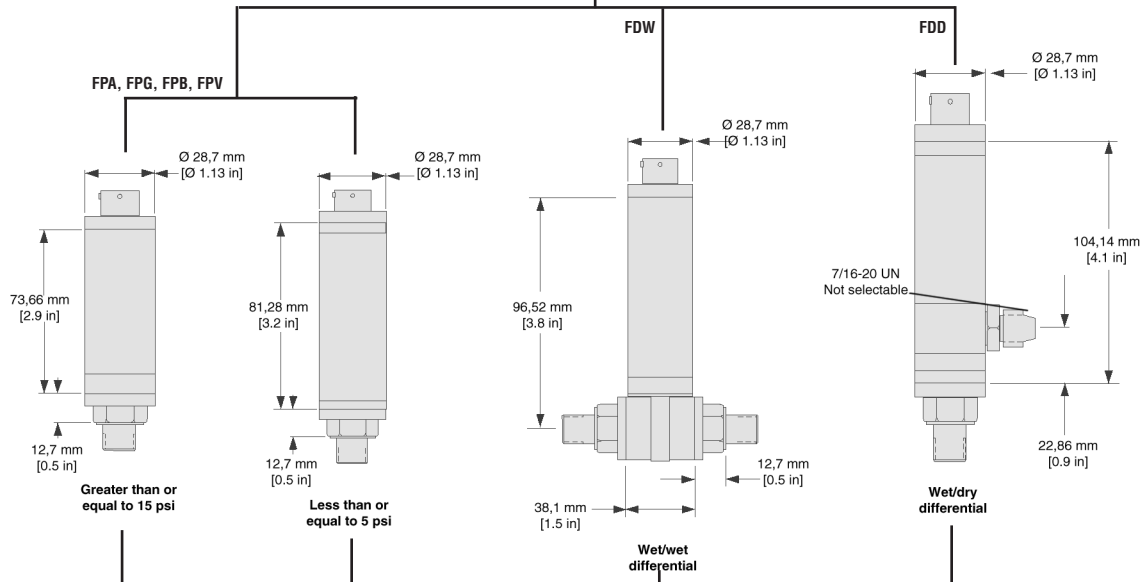
| Non-amplified output @ 10 Vdc excitation | Gage and absolute  | Vacuum | Barometric | Differential       |
|------------------------------------------|--------------------|--------|------------|--------------------|
| 0.10 % accuracy                          | 50 mV <sup>4</sup> | 25 mV  | 40 mV      | 50 mV <sup>4</sup> |
| 0.25 % accuracy                          | 100 mV             | 50 mV  | 80 mV      | 100 mV             |

## Configurable Pressure Transducer

### MOUNTING DIMENSIONS

#### Electrical termination

| Code 6a: 6-pin, vented, Bendix style | Code 6m: 4-pin, vented, standard DIN (43650) | Code 6n: 4-pin, vented, mini DIN | Code 6q: 4-conductor, vented, integral cable, 1,52 m [5 ft] | Code 6r: 4-conductor, vented, integral cable, conduit fitting 1,52 m [5 ft] |
|--------------------------------------|----------------------------------------------|----------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------|
|                                      |                                              |                                  |                                                             |                                                                             |



#### Pressure ports

|                       | Code 5a<br>1/4-18 NPT female | Code 5b<br>1/4-18 NPT male | Code 5c<br>7/16-20 UNF female | Code 5d<br>7/16-20 UNF male | Code 5f<br>G 1/4 B female   | Code 5g<br>G 1/4 B male       |
|-----------------------|------------------------------|----------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|
| Less than 1000 psi    |                              |                            |                               |                             |                             |                               |
| Greater than 1500 psi |                              |                            |                               |                             |                             |                               |
|                       | Code 5h<br>1/8-27 NPT female | Code 5i<br>1/8-27 NPT male | Code 5p<br>M12-1.5 male       | Code 5q<br>M12-1.5 female   | Code 5r<br>9/16-18 SAE male | Code 5s<br>9/16-18 SAE female |
| Less than 1000 psi    |                              |                            |                               |                             |                             |                               |
| Greater than 1500 psi |                              |                            |                               |                             |                             |                               |

# Model FP2000

## WIRING CODES

|                                          | Unamplified output:<br>Option 2u |                | Voltage output:<br>Option 2d/2e |                           | Voltage output:<br>Option 2g/2f |                            | Current two-wire:<br>Option 2p/2y |                          | Intrinsically safe<br>amp:<br>Option 2n (2N)*** |                          |
|------------------------------------------|----------------------------------|----------------|---------------------------------|---------------------------|---------------------------------|----------------------------|-----------------------------------|--------------------------|-------------------------------------------------|--------------------------|
| Bendix PTIH-10-6P (Option 6a)            |                                  |                |                                 |                           |                                 |                            |                                   |                          |                                                 |                          |
| No shunt cal                             | A                                | (+) Excitation | A                               | (+) Supply                | A                               | (+) Supply                 | A                                 | (+) Supply               | A                                               | (+) Supply               |
|                                          | B                                | (+) Excitation | B                               | (-) Supply return         | B                               | (-) Supply return          | B                                 | No connection            | B                                               | No connection            |
|                                          | C                                | (-) Excitation | C                               | (-) Output 0 Vdc to 5 Vdc | C                               | (-) Output 0 Vdc to 10 Vdc | C                                 | No connection            | C                                               | No connection            |
|                                          | D                                | (-) Excitation | D                               | (+) Output                | D                               | (+) Output Vdc             | D                                 | (+) Output 4 mA to 20 mA | D                                               | (+) Output 4 mA to 20 mA |
|                                          | E                                | (-) Output     | E                               | No connection             | E                               | No connection              | E                                 | No connection            | E                                               | Case ground              |
|                                          | F                                | (+) Output     | F                               | No connection             | F                               | No connection              | F                                 | No connection            | F                                               | No connection            |
| With shunt cal (option 3d)               | A                                | (+) Excitation | A                               | (+) Supply                | A                               | (+) Supply                 | A                                 | (+) Supply               | A                                               | (+) Supply               |
|                                          | B                                | (-) Excitation | B                               | (-) Supply return         | B                               | (-) Supply return          | B                                 | No connection            | B                                               | No connection            |
|                                          | C                                | (+) Output     | C                               | (-) Output 0 Vdc to 5 Vdc | C                               | (-) Output 0 Vdc to 10 Vdc | C                                 | No connection            | C                                               | No connection            |
|                                          | D                                | (-) Output     | D                               | (+) Output                | D                               | (+) Output                 | D                                 | (+) Output 4 mA to 20 mA | D                                               | (+) Output 4 mA to 20 mA |
|                                          | E                                | No connection  | E                               | No connection             | E                               | No connection              | E                                 | No connection            | E                                               | No connection            |
|                                          | F                                | Shunt Cal      | F                               | Shunt cal                 | F                               | Shunt cal                  | F                                 | Shunt cal                | F                                               | Shunt cal                |
| Std. DIN 43650 (Option 6m)               |                                  |                |                                 |                           |                                 |                            |                                   |                          |                                                 |                          |
| No shunt cal                             | 1                                | (+) Excitation | 1                               | (+) Supply                | 1                               | (+) Supply                 | 1                                 | (+) Supply               | 1                                               | (+) Supply               |
|                                          | 2                                | (+) Output     | 2                               | (+) Output                | 2                               | (+) Output                 | 2                                 | (+) Output 4 mA to 20 mA | 2                                               | (+) Output               |
|                                          | 3                                | (-) Output     | 3                               | Supply/ output com.       | 3                               | Supply/ output com.        | 3                                 | No connection            | 3                                               | Case ground              |
|                                          | 4                                | (-) Excitation | GND                             | No connect. to case       | GND                             | No connect. to case        | GND                               | No connection            | GND                                             | No connection            |
| With shunt cal (option 3d)               | Not Applicable                   |                | 1                               | (+) Supply                | 1                               | (+) Supply                 | 1                                 | (+) Supply               | 1                                               | (+) Supply               |
|                                          |                                  |                | 2                               | (+) Output                | 2                               | (+) Output                 | 2                                 | (+) Output 4 mA to 20 mA | 2                                               | (+) Output               |
|                                          |                                  |                | 3                               | Supply/output com.        | 3                               | Supply/output com.         | 3                                 | No connection            | 3                                               | Case ground              |
|                                          |                                  |                | GND                             | Shunt cal                 | GND                             | Shunt cal                  | GND                               | Shunt cal                | GND                                             | Shunt cal                |
| Mini DIN 40050 (Option 6n)               |                                  |                |                                 |                           |                                 |                            |                                   |                          |                                                 |                          |
| No shunt cal                             | 1                                | (+) Excitation | 1                               | (+) Supply                | 1                               | (+) Supply                 | 1                                 | (+) Supply               | 1                                               | (+) Supply               |
|                                          | 2                                | (+) Output     | 2                               | (+) Output                | 2                               | (+) Output                 | 2                                 | (+) Output 4 mA to 20 mA | 2                                               | (+) Output               |
|                                          | 3                                | (-) Output     | 3                               | Supply/output com.        | 3                               | Supply/output com.         | 3                                 | No connection            | 3                                               | Case ground              |
|                                          | 4                                | (-) Excitation | GND                             | No connect. to case       | GND                             | No connect. to case        | GND case                          | No connection to         | GND                                             | No connection            |
| With shunt cal (option 3d)               | Not Applicable                   |                | 1                               | (+) Supply                | 1                               | (+) Supply                 | 1                                 | (+) Supply               | 1                                               | (+) Supply               |
|                                          |                                  |                | 2                               | (+) Output                | 2                               | (+) Output                 | 2                                 | (+) Output 4 mA to 20 mA | 2                                               | (+) Output               |
|                                          |                                  |                | 3                               | Supply/output com.        | 3                               | Supply/output com.         | 3                                 | No connection            | 3                                               | Case ground              |
|                                          |                                  |                | GND                             | Shunt cal                 | GND                             | Shunt cal                  | GND                               | Shunt cal                | GND                                             | Shunt cal                |
| 1.83 m [5 ft] integral cable (Option 6q) |                                  |                |                                 |                           |                                 |                            |                                   |                          |                                                 |                          |
| No shunt cal                             | R                                | (+) Excitation | R                               | (+) Supply                | R                               | (+) Supply                 | R                                 | (+) Supply               | R                                               | (+) Supply               |
|                                          | Bl                               | (-) Excitation | Bl                              | (-) Supply return         | Bl                              | (-) Supply return          | Bl                                | (+) Output 4 mA to 20 mA | Bl                                              | (+) Output 4 mA to 20 mA |
|                                          | G                                | (-) Output     | G                               | (-) Output                | G                               | (-) Output                 |                                   |                          |                                                 |                          |
|                                          | W                                | (+) Output     | W                               | (+) Output 0 Vdc to 5 Vdc | W                               | (+) Output 0 Vdc to 10 Vdc |                                   |                          | W                                               | Case ground              |
| With shunt cal (option 3d)               | Not Applicable                   |                | R                               | (+) Supply                | R                               | (+) Supply                 | R                                 | (+) Supply               | R                                               | (+) Supply               |
|                                          |                                  |                | Bl                              | (-) Supply return         | Bl                              | (-) Supply return          | Bl                                | (+) Output 4 mA to 20 mA | Bl                                              | (+) Output 4 mA to 20 mA |
|                                          |                                  |                | G                               | Shunt cal                 | G                               | Shunt cal                  | G                                 | Shunt cal                |                                                 |                          |
|                                          |                                  |                | W                               | (+) Output 0 Vdc to 5 Vdc | W                               | (+) Output 0 Vdc to 10 Vdc |                                   |                          | W                                               | Case ground              |
|                                          |                                  |                |                                 |                           |                                 |                            |                                   |                          | G                                               | Shunt cal                |
| Conduit fitting (Option 6r)              |                                  |                |                                 |                           |                                 |                            |                                   |                          |                                                 |                          |
| No shunt cal                             | R                                | (+) Excitation | R                               | (+) Supply                | R                               | (+) Supply                 | R                                 | (+) Supply               | R                                               | (+) Supply               |
|                                          | Bl                               | (-) Excitation | Bl                              | (-) Supply return         | Bl                              | (-) Supply return          | Bl                                | (+) Output 4 mA to 20 mA | Bl                                              | (+) Output 4 mA to 20 mA |
|                                          | G                                | (-) Output     | G                               | (-) Output                | G                               | (-) Output                 |                                   |                          |                                                 |                          |
|                                          | W                                | (+) Output     | W                               | (+) Output 0 Vdc to 5 Vdc | W                               | (+) Output 0 Vdc to 10 Vdc |                                   |                          | W                                               | Case ground              |
| With shunt cal (option 3d)               | Not Applicable                   |                | R                               | (+) Supply                | R                               | (+) Supply                 | R                                 | (+) Supply               | R                                               | (+) Supply               |
|                                          |                                  |                | Bl                              | (-) Supply return         | Bl                              | (-) Supply return          | Bl                                | (+) Output 4 mA to 20 mA | Bl                                              | (+) Output 4 mA to 20 mA |
|                                          |                                  |                | G                               | Shunt cal                 | G                               | Shunt cal                  | G                                 | Shunt cal                |                                                 |                          |
|                                          |                                  |                | W                               | (+) Output 0 Vdc to 5 Vdc | W                               | (+) Output 0 Vdc to 10 Vdc |                                   |                          | W                                               | Case ground              |
|                                          |                                  |                |                                 |                           |                                 |                            |                                   |                          | G                                               | Shunt cal                |

Note: For wiring codes, R=red; Bl = black; W = white; G = green. Color specifies cable and letter or number specifies connection

\*\*\* See Honeywell's Web site (<http://measurementsensors.honeywell.com>) for most up-to-date information regarding Intrinsically Safe approvals ref. #008-0547-00.

## Configurable Pressure Transducer

### How to order

The **FP2000 Order Code** is an easy way for you to order exactly what you want the factory to build. Simply make one selection in each of the six required categories. Choose adders and accessories only if you require them. By visiting our Web site at [www.honeywell.com/sensing](http://www.honeywell.com/sensing) you can view complete technical specifications for the FP2000, or click to our on-line shopping site and actually place your order.

#### Step 1

##### Transducer type

|                                                 | Type Code |
|-------------------------------------------------|-----------|
| <input type="checkbox"/> Pressure - gage        | FPG       |
| <input type="checkbox"/> Pressure - absolute    | FPA       |
| <input type="checkbox"/> Differential - wet/wet | FDW       |
| <input type="checkbox"/> Pressure - barometric  | FPB       |
| <input type="checkbox"/> Differential - wet/dry | FDD       |
| <input type="checkbox"/> Pressure - vacuum      | FPV       |

| Unit type                     |                                              |
|-------------------------------|----------------------------------------------|
| <input type="checkbox"/> psi  | <input type="checkbox"/> bar                 |
| <input type="checkbox"/> torr | <input type="checkbox"/> in Hg               |
| <input type="checkbox"/> mBar | <input type="checkbox"/> mm Hg               |
| <input type="checkbox"/> kPa  | <input type="checkbox"/> in H <sub>2</sub> O |

#### Step 2

##### Pressure range

Gage, absolute, and differential

| Range code                          | Range code                            |
|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> 0.5 psi AN | <input type="checkbox"/> 250 psi CN   |
| <input type="checkbox"/> 1 psi AP   | <input type="checkbox"/> 300 psi CP   |
| <input type="checkbox"/> 2 psi AR   | <input type="checkbox"/> 400 psi CQ   |
| <input type="checkbox"/> 2.5 psi AS | <input type="checkbox"/> 500 psi CR   |
| <input type="checkbox"/> 5 psi AT   | <input type="checkbox"/> 600 psi CS   |
| <input type="checkbox"/> 10 psi AV  | <input type="checkbox"/> 750 psi CT   |
| <input type="checkbox"/> 15 psi BJ  | <input type="checkbox"/> 1000 psi CV  |
| <input type="checkbox"/> 25 psi BL  | <input type="checkbox"/> 1500 psi DJ  |
| <input type="checkbox"/> 30 psi BM  | <input type="checkbox"/> 2000 psi DL  |
| <input type="checkbox"/> 50 psi BN  | <input type="checkbox"/> 2500 psi DM  |
| <input type="checkbox"/> 75 psi BP  | <input type="checkbox"/> 3000 psi DN  |
| <input type="checkbox"/> 100 psi BR | <input type="checkbox"/> 5000 psi DR  |
| <input type="checkbox"/> 150 psi CJ | <input type="checkbox"/> 6000 psi DS  |
| <input type="checkbox"/> 200 psi CL | <input type="checkbox"/> 7500 psi DT  |
|                                     | <input type="checkbox"/> 10000 psi DV |

| Barometric                               | Vacuum                             |
|------------------------------------------|------------------------------------|
| <input type="checkbox"/> 16-32 in Hga UQ | <input type="checkbox"/> 1 psi AP  |
| <input type="checkbox"/> 26-32 in Hga UR | <input type="checkbox"/> 5 psi AT  |
| <input type="checkbox"/> 0-30 in Hga UG  | <input type="checkbox"/> 10 psi AV |
|                                          | <input type="checkbox"/> 15 psi BJ |

##### Accuracy

| Accuracy code                     |
|-----------------------------------|
| <input type="checkbox"/> 0.10 % 1 |
| <input type="checkbox"/> 0.25 % 2 |

#### Step 3

##### Output

|                                        | Basic output code | If adding 9d or 9f (<5000 psi) | If adding 1y, 3d, 9e or 14c |
|----------------------------------------|-------------------|--------------------------------|-----------------------------|
| <input type="checkbox"/> mV/V          | 2u                | NA                             | 2u                          |
| <input type="checkbox"/> 5 Vdc         | 2d                | NA                             | 2e                          |
| <input type="checkbox"/> 10 Vdc        | 2g                | NA                             | 2f                          |
| <input type="checkbox"/> 4 mA to 20 mA | 2p                | 2n(2N)                         | 2y                          |

NOTE: If any ADDERS are required, the output code must be revised. See step 4.

##### Pressure Port

|                                                 | Port code |
|-------------------------------------------------|-----------|
| <input type="checkbox"/> 1/4-18 NPT female      | 5a        |
| <input type="checkbox"/> 1/4-18 NPT male        | 5b        |
| <input type="checkbox"/> 7/16-20 UNF female     | 5c        |
| <input type="checkbox"/> 7/16-20 UNF male       | 5d        |
| <input type="checkbox"/> G 1/4 B female         | 5f        |
| <input type="checkbox"/> G 1/4 B male           | 5g        |
| <input type="checkbox"/> 1/8-27 NPT female      | 5h        |
| <input type="checkbox"/> 1/8-27 NPT male        | 5i        |
| <input type="checkbox"/> M12 x 1.5 male         | 5p        |
| <input type="checkbox"/> M12 x 1.5 female       | 5q        |
| <input type="checkbox"/> 9/16-18 UNF SAE male   | 5r        |
| <input type="checkbox"/> 9/16-18 UNF SAE female | 5s        |

##### Electrical connector

|                                                               | Connector code |
|---------------------------------------------------------------|----------------|
| <input type="checkbox"/> Bendix PTIH-10-6P                    | 6a             |
| <input type="checkbox"/> DIN 43650                            | 6m             |
| <input type="checkbox"/> Mini DIN (40050)                     | 6n             |
| <input type="checkbox"/> Integral polyurethane 5 ft cable     | 6q             |
| <input type="checkbox"/> 1/2 x 14 NPT conduit 5 ft cable exit | 6r             |

#### Step 4

##### Adders

|                                                    | Adder code |
|----------------------------------------------------|------------|
| <input type="checkbox"/> Enhanced thermals         | 1y         |
| Gage: 0 °F to 180 °F                               |            |
| Absolute: 0 °F to 180 °F                           |            |
| Differential: 0 °F to 180 °F                       |            |
| Barometric: 30 °F to 170 °F                        |            |
| Vacuum: 10 °F to 170 °F                            |            |
| <input type="checkbox"/> Shunt cal                 | 3d         |
| <input type="checkbox"/> IS rating                 | 9d         |
| <input type="checkbox"/> CE rating                 | 9e         |
| <input type="checkbox"/> IS and CE rating          | 9f         |
| <input type="checkbox"/> Zero and span adjustments | 14c        |
| <input type="checkbox"/> mV/V                      | 2u         |
| <input type="checkbox"/> 5 Vdc                     | 2e         |
| <input type="checkbox"/> 10 Vdc                    | 2f         |
| <input type="checkbox"/> 4 mA to 20 mA (CE only)   | 2y         |
| <input type="checkbox"/> 4 mA to 20 mA (IS only)   | 2n (2N)    |
| <input type="checkbox"/> 4 mA to 20 mA (IS and CE) | 2n (2N)    |

NOTE: If you choose any adder output from step 4, you must revise your output code selection using this output code chart. IS outputs available only on ranges up to 5000 psi.

##### Accessories

| Mating connectors only            | Acc. code |
|-----------------------------------|-----------|
| <input type="checkbox"/> Mini DIN | AA161     |
| <input type="checkbox"/> Bendix   | AA111     |

| Mating conn. with 15 ft. cable for Bendix connector (6A) | Without shunt | With shunt (3d) |
|----------------------------------------------------------|---------------|-----------------|
| <input type="checkbox"/> mV/V                            | AA113         | AA513           |
| <input type="checkbox"/> 4 mA to 20 mA                   | AA116         | AA516           |
| <input type="checkbox"/> 0 to 5/0 to 10 Vdc              | AA117         | AA517           |

#### Step 5

##### Example order code

**FDW 1 CN 2y 5b 6a 1y AA116**

##### Selection

|                               |
|-------------------------------|
| Transducer type               |
| Accuracy                      |
| Pressure range                |
| Output                        |
| Pressure port                 |
| Electrical output connections |
| Adders                        |
| Accessories                   |

##### Description

|                             |
|-----------------------------|
| Differential wet/wet        |
| 0.10 %                      |
| 250 psi                     |
| 4 mA to 20 mA               |
| 1/4-18 NPT male             |
| Bendix PTIH-10-6P           |
| Enhanced temperature range  |
| Mating connector with cable |

##### Code

|       |
|-------|
| FDW   |
| 1     |
| CN    |
| 2y    |
| 5b    |
| 6a    |
| 1y    |
| AA116 |

There must be a code in each of the six basic code boxes. If there are no adders or accessories chosen, leave the boxes blank.

| Description    | Basic code |          |       |        |          | Adder code (see step 4) |          |            |             |      |
|----------------|------------|----------|-------|--------|----------|-------------------------|----------|------------|-------------|------|
|                | Type       | Accuracy | Range | Output | Pressure | Elect. conn.            | Extended | Shunt cal. | IS/CE rated | Pots |
| Order code     |            |          |       |        |          |                         |          |            |             |      |
| Accessory code |            |          |       |        |          |                         |          |            |             |      |

Zero and span adjustments are located on the side. See drawing for details. No zero and span adjustments are available on mV/V output option.

# Model FP2000

# Configurable Pressure Transducer

## NOTES

1. Accuracies stated are expected for best-fit straight line for all errors, including linearity, hysteresis, and non-repeatability through zero.
2. For low pressure ranges, temperature effects may vary.
3. The wet/wet differential pressure transducer has two separate, welded Hastelloy diaphragms. In wet/dry unit, the wet port (high port) has all-welded stainless steel and Hastelloy construction. The dry port (low port) has no isolation diaphragm.
4. For low gage and differential pressure ranges at 0.10 % accuracy, non-amplified output @ 10 Vdc excitation = 100 mV.
5. Range up to and include 5000 psi.
6. Not available with 6m.

## Find out more

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