

MODEL FP2000

008835

Issue 7

Differential 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 differential wet/wet and wet/dry configurations.

DIFFERENTIATION

- Welded stainless steel construction
- Customized specifications available
- Configurable platform enables a sensor to be built to customer requirements
- Bi-directional functionality of pressure measurement
- Optional bi-directional calibration available
- Small package size

VALUE TO CUSTOMERS

- Built on the Honeywell history of higher-quality pressure sensing technologies
- Configurable platform creates a wide range of standard configurations
- Broad compensated temperature ranges
- Multiple outputs to choose from to meet variety of application needs

POTENTIAL APPLICATIONS

- Test stands (automotive, aerospace, and industrial)
- R&D test labs
- Hydraulic and pneumatic system monitoring
- Leak detection
- Pump and compressor control
- Tank level measurement
- Monitor pressure changes for preventive maintenance
- Flow rate measurement

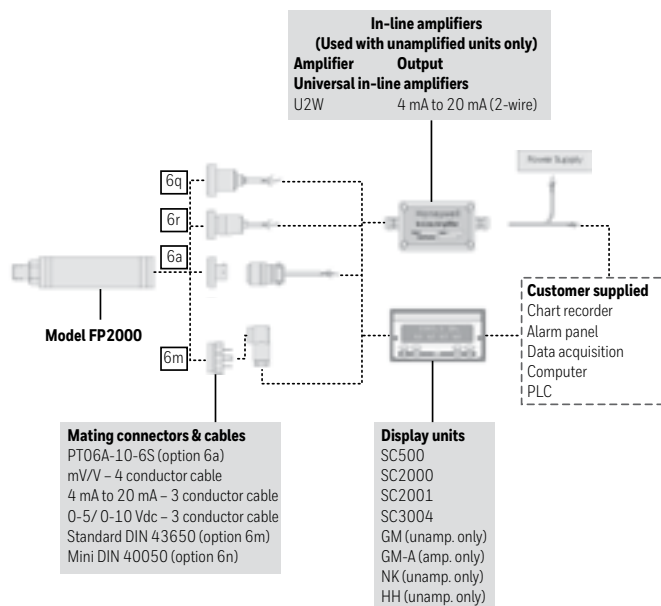


FEATURES

- mV/V, 4 mA to 20 mA, ± 5 Vdc, ± 10 Vdc
- Differential (wet/wet, wet/dry)
- Multiple electrical connector and pressure port offerings
- Intrinsically safe option
- CE available

FP2000 pressure sensors are custom built from stocked components. Please see sps.honeywell.com/ast for updated listings

FIGURE 1. TYPICAL SYSTEM DIAGRAM



PORTFOLIO



From general process pressure transducers to hazardous location pressure products, Honeywell offers a comprehensive selection of gage, absolute, differential, vacuum, and barometric pressure transducers to meet market demands. Each of our transducers can be customized to meet your needs, whatever your application. To view the entire product portfolio, [click here](#).

Honeywell

DIFFERENTIAL PRESSURE TRANSDUCER, MODEL FP2000

TABLE 1. PERFORMANCE SPECIFICATIONS

| CHARACTERISTIC | MEASURE |
|---------------------|--|
| Accuracy | see Note 1 |
| Output (selectable) | mV/V, 4 mA to 20 mA (two wire), ±5 Vdc, ±10 Vdc |
| Resolution | Infinite |

TABLE 2. ELECTRICAL SPECIFICATIONS

| CHARACTERISTIC | MEASURE |
|--------------------------------------|------------------|
| Amplified (4 mA to 20 mA; ±5 Vdc) | 9 Vdc to 28 Vdc |
| Amplified (±10 Vdc) | 15 Vdc to 28 Vdc |
| Unamplified (mV/V) | 10 Vdc |

TABLE 3. MECHANICAL SPECIFICATIONS

| CHARACTERISTIC | MEASURE |
|---|--|
| Media | Gas, liquid |
| Overload safe Positive (+) direction Model FDW and FDD | 4X full scale or 3000 psi whichever is less |
| Overload safe Negative (-) direction Model FDW and FDD | 4X full scale or 250 psi whichever is less |
| Overload burst Positive (+) direction Model FDW and FDD | 3000 psi |
| Overload burst Negative (-) direction Model FDW and FDD | 500 psi |
| Wetted material | Ha C276 & 316L Stainless Steel |

Note 1: Unless otherwise specified on order, amplified units with 4 mA to 20 mA output will provide 4 mA at 0 psid and 20 mA at positive full scale and the unit will not operate in the negative direction. Consult Factory to specify 4 mA at negative full scale and 20 mA at positive full scale.

Note 2: All amps add 2 inches to sensor housing length.




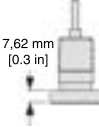
TABLE 4. ENVIRONMENTAL SPECIFICATIONS

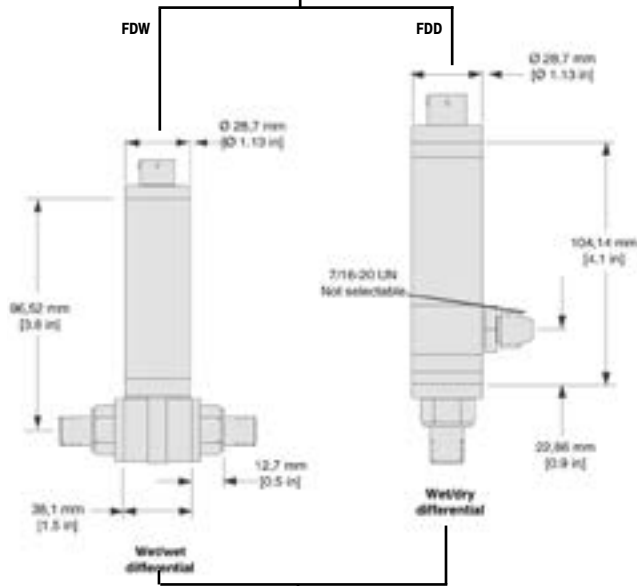
| ORDER CODE | RANGE | TEMPERATURE, COMPENSATED | TEMPERATURE, OPERATING <i>Unamplified Output: Option 2U</i> | TEMPERATURE, OPERATING <i>Voltage Output: Option 2D,2E,2F,2G Current Output: Option 2P,2Y,2N</i> |
|----------------------------|---------------------------|----------------------------------|--|---|
| FDD | less than 1 psi | 10 °C to 45 °C [50 °F to 110 °F] | -40 °C to 116 °C [-40 °F to 240 °F] | -29 °C to 85 °C [-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] | | |
| | 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 | – | – |

DIFFERENTIAL PRESSURE TRANSDUCER, MODEL FP2000

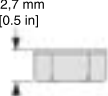
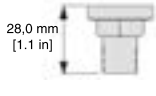
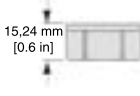
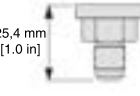
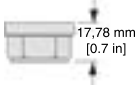
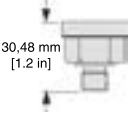
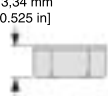
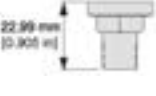
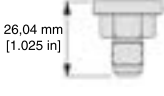
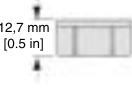
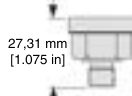
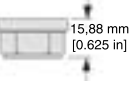
FIGURE 2. MOUNTING DIMENSIONS

ELECTRICAL TERMINATION

| Code 6a: 6-pin, vented, Bendix style | Code 6m: 4-pin, vented, standard DIN (43650) | 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 1/4-18 NPT female | Code 5b 1/4-18 NPT male | Code 5c 7/16-20 UNF female | Code 5d 7/16-20 UNF male | Code 5f G 1/4 B female | Code 5g G 1/4 B male |
|-------------------|---|---|---|--|---|---|
| Up to 1000 psi |  |  |  |  |  |  |
| | Code 5h 1/8-27 NPT female | Code 5i 1/8-27 NPT male | Code 5p M12-1.5 male | Code 5q M12-1.5 female | Code 5r 9/16-18 SAE male | Code 5s 9/16-18 SAE female |
| Up to 1000 psi |  |  |  |  |  |  |

DIFFERENTIAL PRESSURE TRANSDUCER, MODEL FP2000

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 **sps.honeywell.com/ast** you can view complete technical specifications for the FP2000.

Step 1

TRANSDUCER TYPE

☐ Differential - wet/wet

☐ Differential - wet/dry

Type Code

FDW

FDD

Unit type

☐ psi☐ torr☐ mBar☐ kPa

☐ bar☐ in Hg☐ mm Hg☐ in H₂O

Step 2

PRESSURE RANGE

Differential

☐ 0.5 psi

AN

☐ 1 psi

AP

☐ 2 psi

AR

☐ 2.5 psi

AS

☐ 5 psi

AT

☐ 10 psi

AV

☐ 15 psi

BJ

☐ 25 psi

BL

☐ 30 psi

BM

☐ 50 psi

BN

☐ 75 psi

BP

Range code

BR

CJ

CL

CN

CP

CQ

CR

CS

CT

CV

Step 3

OUTPUT

☐ mV/V

2u

☐ 5 Vdc

2d

☐ 10 Vdc

2g

☐ 4 mA to 20 mA

2p

☐ 4 mA to 20 mA (IS)

2N

Basic output code

2u

2d

2g

2p

2N

If adding 1y, 3d, 9e or 14c

2u

2e

2f

2y

2y

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

PRESSURE PORT

☐ 1/4-18 NPT female

5a

☐ 1/4-18 NPT male

5b

☐ 7/16-20 UNF female

5c

☐ 7/16-20 UNF male

5d

☐ G 1/4 B female

5f

☐ G 1/4 B male

5g

☐ 1/8-27 NPT female

5h

☐ 1/8-27 NPT male

5i

☐ M12 x 1.5 male

5p

☐ M12 x 1.5 female

5q

☐ 9/16-18 UNF SAE male

5r

☐ 9/16-18 UNF SAE female

5s

Port code

5a

5b

5c

5d

5f

5g

5h

5i

5p

5q

5r

5s

ELECTRICAL CONNECTOR

☐ Bendix PTIH-10-6P

6a

☐ DIN 43650

6m

☐ Mini DIN (40050)

6n

☐ Integral polyurethane 5-ft cable

6q

☐ 1/2 x 14 NPT conduit 5-ft cable exit

6r

Connector code

6a

6m

6n

6q

6r

Step 4

ADDERS

☐ Enhanced thermals

Differential: 0 °F to 180 °F

Shunt cal

CE rating

Zero and span adjustments

Adder code

1y

3d

9e

14c

☐ mV/V

2u

☐ 5 Vdc

2e

☐ 10 Vdc

2f

☐ 4 mA to 20 mA (CE only)

2y

☐ 4 mA to 20 mA (IS and CE)

2N (2N)

Adder code

2u

2e

2f

2y

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

☐ Mini DIN

AA161

☐ Bendix

AA111

Acc. code

AA161

AA111

Mating conn. with 15 ft. cable for Bendix connector (6A)

Without shunt

AA113

With shunt (3d)

AA513

AA116

AA516

AA117

AA517

EXAMPLE ORDER CODE

FDW 1 CN 1Y 2Y 5B 6A

Selection

Transducer type

Accuracy

Pressure range

Adders

Output

Pressure port

Electrical output connections

Description

Differential wet/wet

0.10 %

250 psi

Enhanced temperature range

4 mA to 20 mA

1/4-18 NPT male

Bendix PTIH-10-6P

Code

FDW

1

CN

1y

2y

5b

6a

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) | | | | |
|----------------|------------|----------|-------|--------|----------|-------------------------|----------|------------|-------------|------|
| Order code | Type | Accuracy | Range | Output | Pressure | Elect. conn. | Extended | Shunt cal. | IS/CE rated | Pots |
| | | | | | | | | | | |
| 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.

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