



XPX01D



Actual product appearance may vary.

Pressure Sensors: Measurement Type: Differential, Gage, Vacuum Gage; Signal Conditioning: Unamplified; Pressure Range: #177 1.0 psi; Port Style: Button

Features

- Low Cost, Small Size
- Temperature Compensated
- Zero and Span Calibrated
- MilliVolt Output
- Gage, Differential, and Absolute Pressure
- Constant Voltage Excitation
- High Impedance - Low Current

Potential Applications

- Medical Applications
- Applications Requiring Small Size
- Applications Requiring Vacuum, Positive Pressure or Both

Description

The XPXL/XPX and XPCL/XPC Series sensors integrate silicon micromachined sensing technology, temperature compensation, and calibration in a complete family of low cost packages. This series offers the most cost-effective solution for design requirements. These piezoresistive pressure sensors use micromachined silicon chips mounted on a ceramic and protected with a plastic cap. Several tube arrangements with nylon housings are available for various pressure applications. On devices of 5 psi and above, the topside of the chip is protected against humidity by a Silgel coating. While the sensors are designed for use with noncorrosive, nonionic pressure media, they accommodate many gases that are used in medical applications.

Product Specifications	
Measurement Type	Differential, Vacuum Gage, Gage
Signal Conditioning	Unamplified
Pressure Range	± 1.0 psi
Maximum Overpressure	3.0 psi
Supply Voltage	3.0 Vdc min., 12.0 Vdc typ., 16.0 Vdc max.
Compensated	No
Output Calibration	No
Termination	PCB
Port Style	No Port
Package Style	Honeywell DI-XPX
Typical Sensitivity	180 mV/psi
Full Scale Span	75 mV typ.

Null Offset	0 mV typ.
Null Shift over Temperature	2500 ppm/°C
Span Shift Over Temperature	-1800 ppm/°C
Linearity, Hysteresis Error	± 1.0 % max.Span
Input Resistance	2600 ppm/°C
Output Resistance	-1800 ppm/°C
Operating Temperature Range	-25 °C to 85 °C [-13 °F to 185 °F]
Storage Temperature Range	-40 °C to 125 °C [-40 °F to 257 °F]
Media Compatibility	Port 1: Dry gases only. Media must be compatible with epoxy-based adhesive. Port 2: Wetted materials. Media must be compatible with nylon housing, epoxy adhesive and silicon.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	XPX

SERIES XPX

DESIGNATES PRESSURE
L - LOW PRESSURE (IN H₂O)
 - NO DESIGNATION (PSI)

ACCURACY GRADE
C - COMMERCIAL GRADE
 - NO DESIGNATION
 COMMERCIAL GRADE

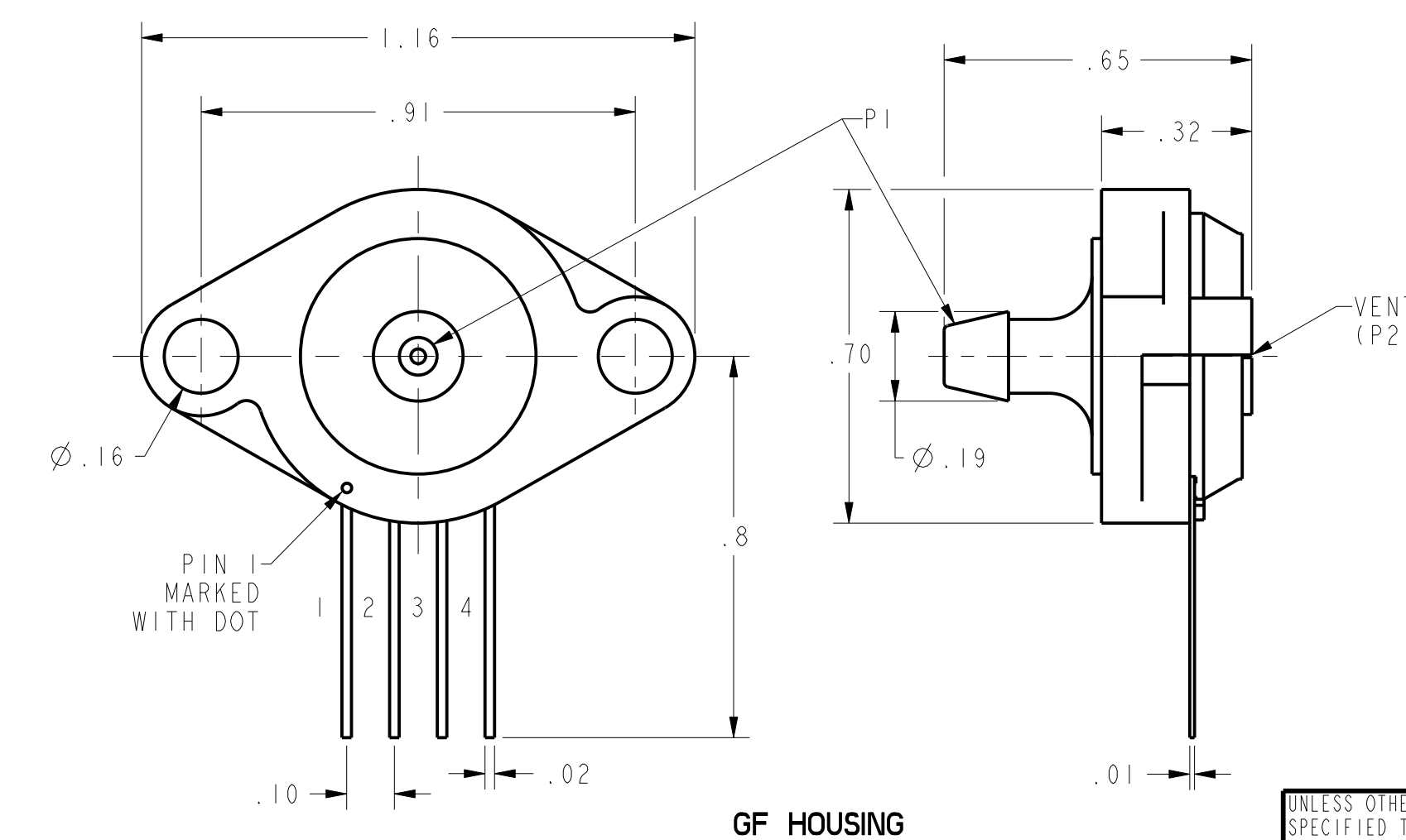
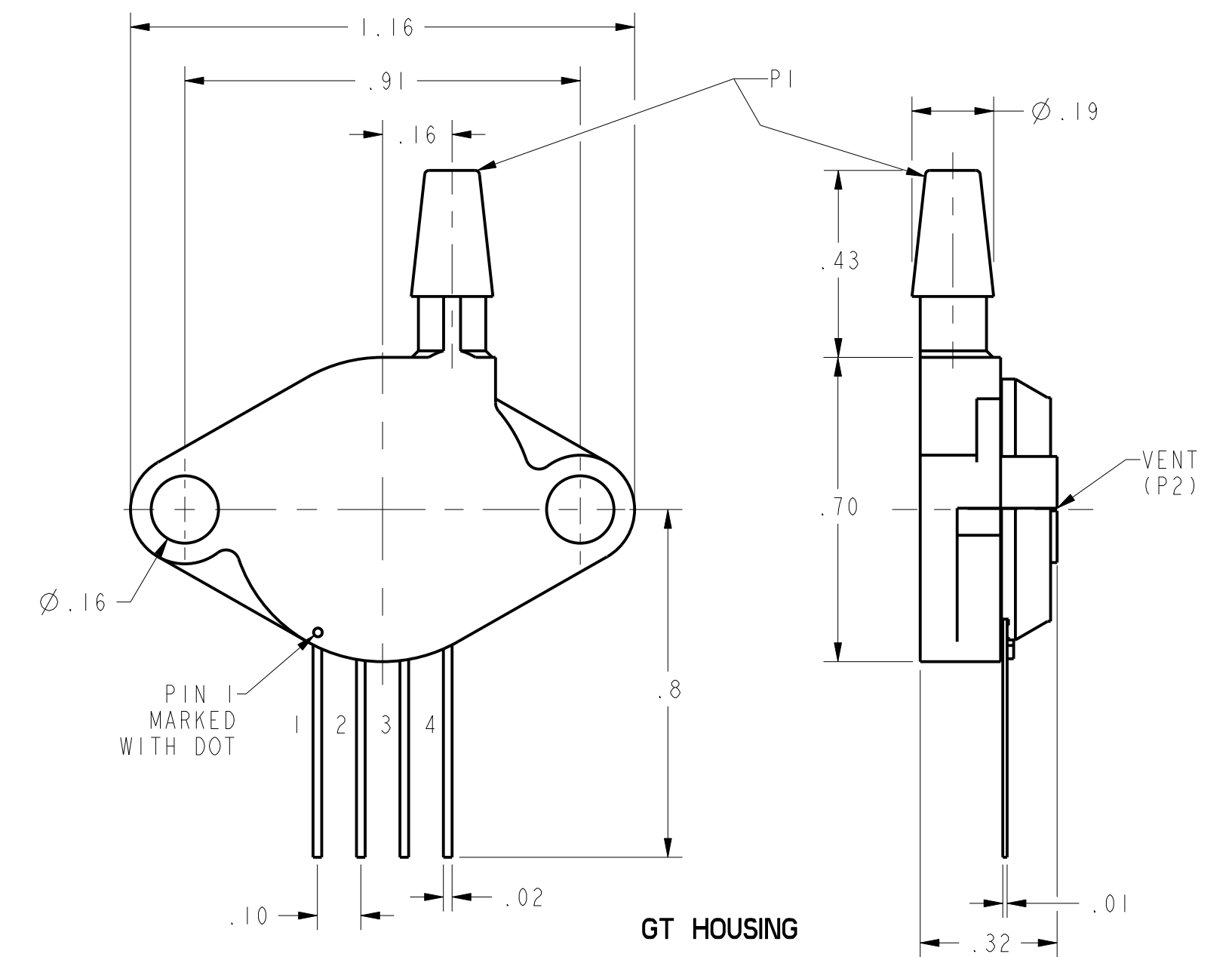
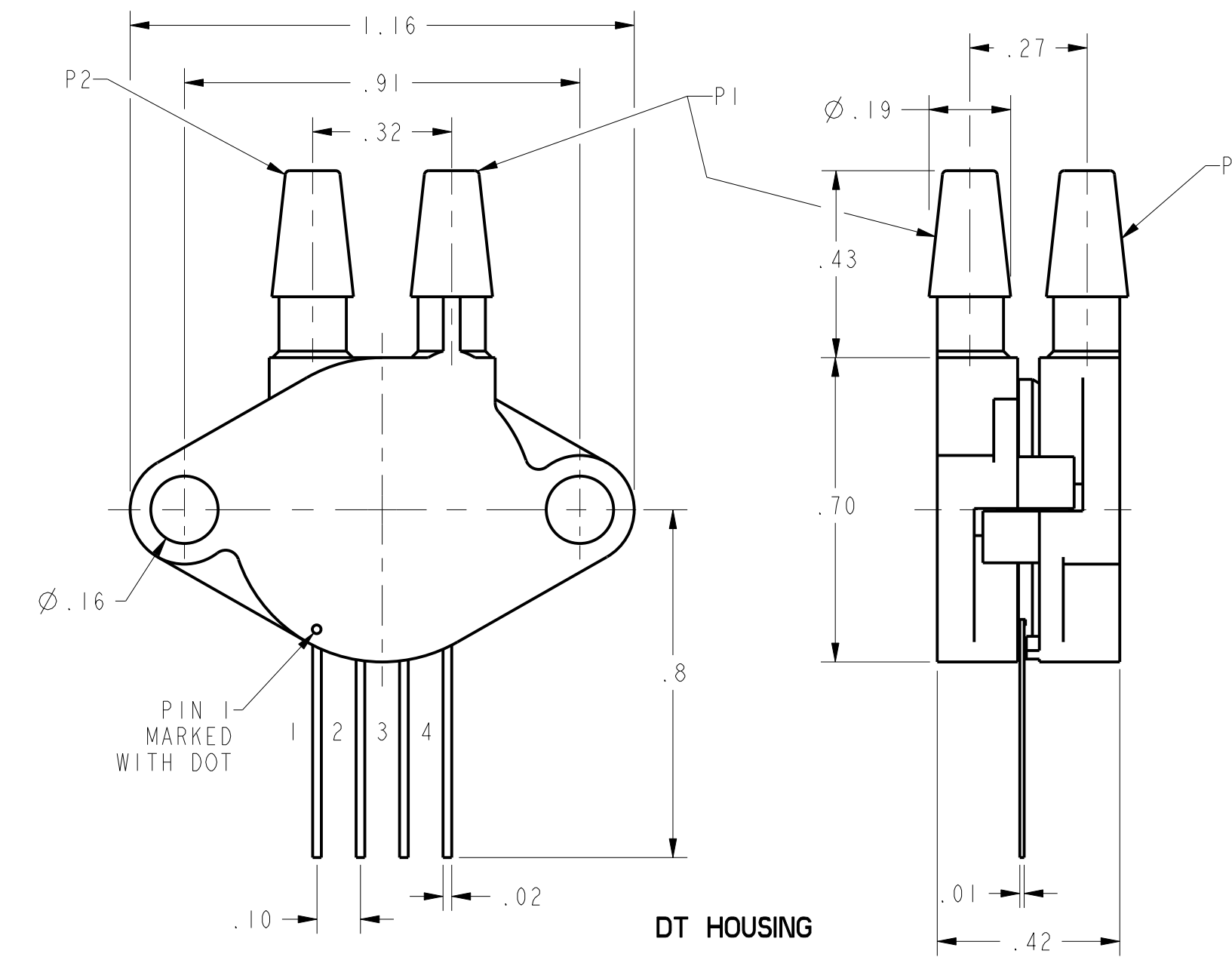
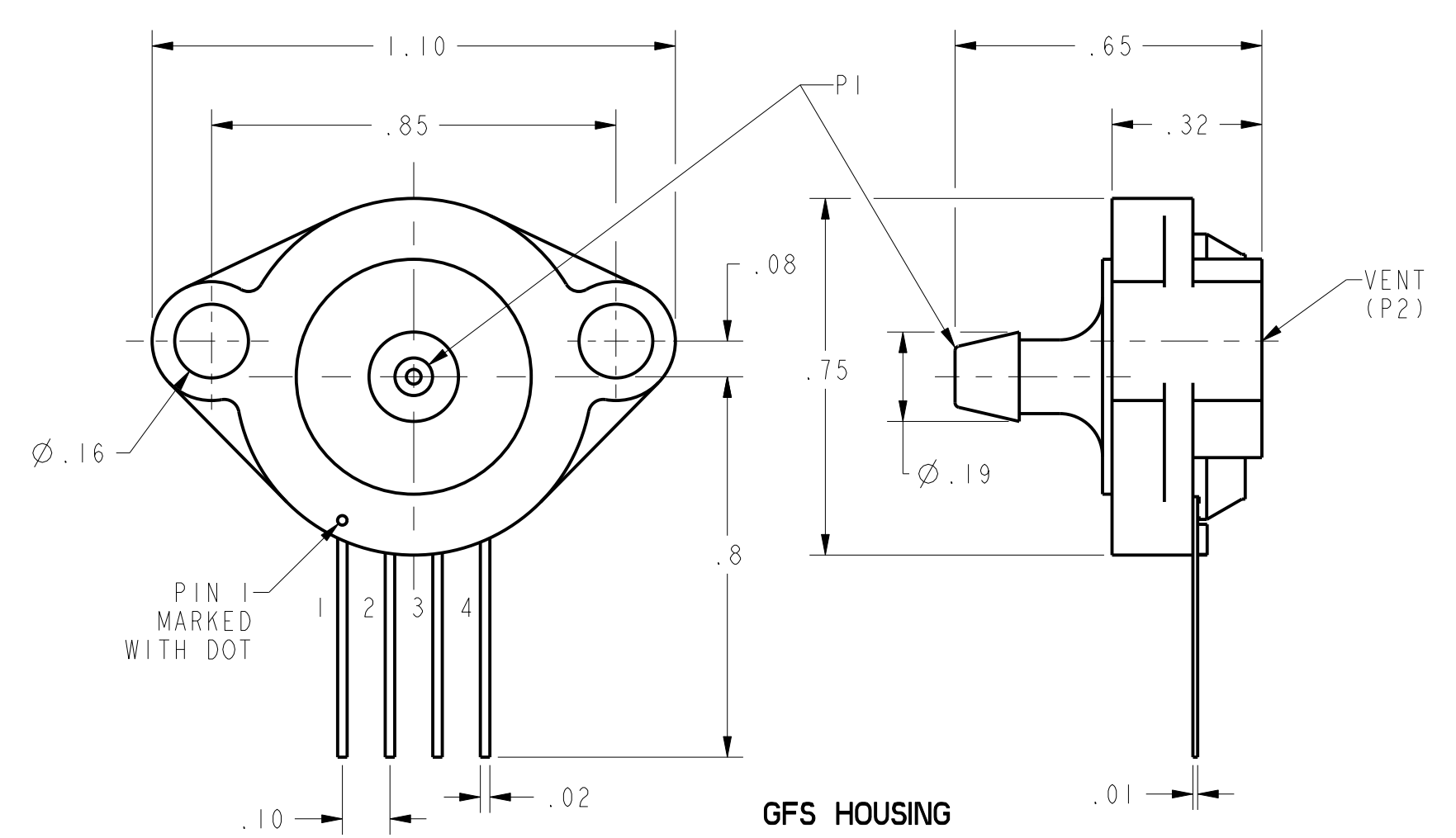
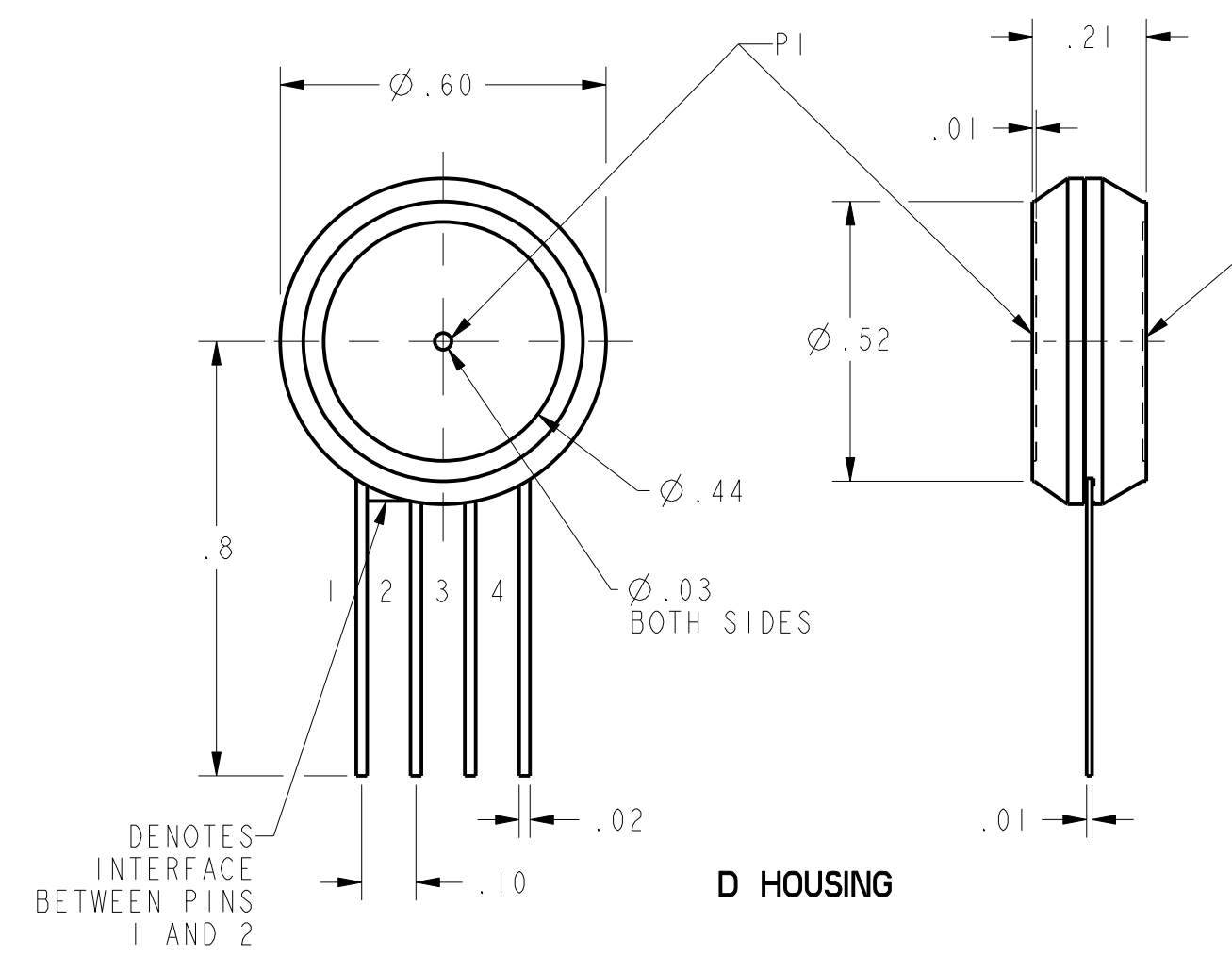
PORT OPTION
F - AXIAL
T - RADIAL
FS - OFFSET AXIAL

PRESSURE RANGE
04, 10 IN H₂O
0.3, 01, 05, 15, 30, 60, 100, 150 PSI

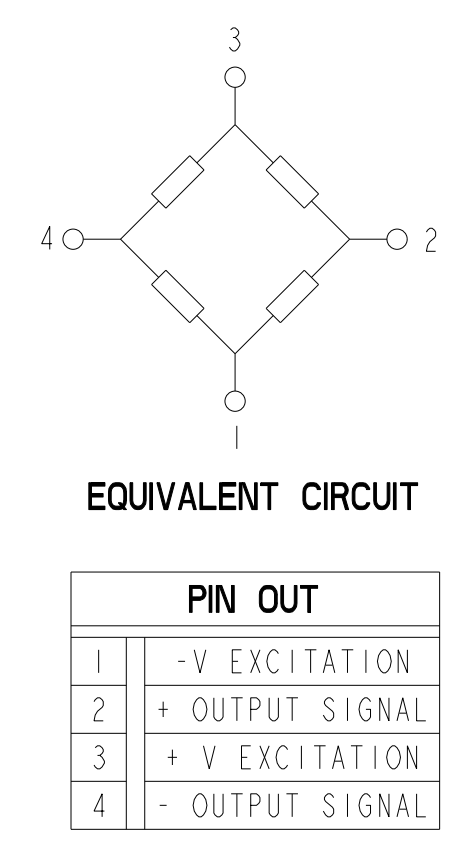
PRESSURE REFERENCE
G - GAGE
D - DIFFERENTIAL

CATALOG LISTINGS

XPXL04DTC
XPXL10DT
XPX01D
XPX15DT
XPX15GFS
XPX30DT
XPX100D
XPX100DT
XPX100GFS
XPX150D



XPX/XPXL G AND D STYLE (GAGE/DIFFERENTIAL)	PERFORMANCE AT 25°C AND 5±0.01 Vdc (UNLESS OTHERWISE STATED)			UNITS	FULL SCALE PRESSURE PSI	PROOF PRESSURE PSI	BURST PRESSURE PSI
	MIN	NOM	MAX				
OFFSET (FOR ALL LISTINGS)	-50	0	50	mV			
4 IN H ₂ O SPAN (P1>P2) (L04 LISTING)	50	68	86	mV	4 IN H ₂ O	3	5
10 IN H ₂ O SPAN (P1>P2) (L10 LISTING)	45	78.5	112	mV	10 IN H ₂ O	3	5
0.3 PSI SPAN (P1>P2)	37	65	93	mV	0.3	3	5
1 PSI SPAN (P1>P2)	40	75	110	mV	1	3	5
5 PSI SPAN (P1>P2)	112	168.5	225	mV	5	15	25
15 PSI SPAN (P1>P2)	168	253	338	mV	15	45	75
30 PSI SPAN (P1>P2)	168	253	338	mV	30	90	150
60 PSI SPAN (P1>P2)	189	263.5	338	mV	60	180	300
100 PSI SPAN (P1>P2)	210	295	380	mV	100	250	400
150 PSI SPAN (P1>P2)	187	262.5	338	mV	150	250	400
TEMPERATURE CHANGE BRIDGE RESISTANCE	---	2600	---	ppm/°C			
TEMPERATURE CHANGE SPAN	---	-1800	---	ppm/°C			
COMBINED LINEARITY AND HYSTERESIS	---	---	1	% SPAN			



GENERAL OPERATING CHARACTERISTICS	ALL PRESSURES AND GRADES			UNITS
	MIN	NOM	MAX	
EXCITATION VOLTAGE	---	5	12	Vdc
INPUT RESISTANCE	---	3000	---	OHMS
OUTPUT RESISTANCE	---	3000	---	OHMS
OPERATING TEMPERATURE	-25	25	85	°C
STORAGE TEMPERATURE	-40	---	125	°C

- NOTES**
- SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN THE OUTPUT AT FULL SCALE PRESSURE AND THE OFFSET OUTPUT
 - LINEARITY IS MEASURED AT 1/2 FULL SCALE PRESSURE USING BEST STRAIGHT LINE FIT
 - THE OUTPUT OF THE SENSOR IS PROPORTIONAL, RATIO-METRIC, TO THE EXCITATION VOLTAGE. ALL SPECIFICATIONS WILL NOMINALLY BE CHANGED BY THE RATIO OF $V_{EXCITATION}/5.0$ Vdc
 - LIMIT SOLDERING TO 315°C FOR LESS THAN 10 SECONDS
 - PIN 1 IS IDENTIFIED BY THE DOT ON THE HOUSING OR BY THE BRIDGING TAB BETWEEN TERMINALS 1 AND 2
 - APPLY PRESSURE TO PORT INDICATED ON THE DRAWINGS SHOWN
 - SENSORS ARE OPERATIONAL OVER VACUUM PRESSURE RANGE
 - P1 INPUT MEDIA RESTRICTED TO DRY GASES ONLY
 - P2 INPUT MEDIA RESTRICTED TO MEDIA COMPATIBLE WITH NYLON, EPOXY ADHESIVE AND SILICON

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	INCHES	METRIC	DRAWN	TSM	29MAR01
NO PLACE	X	±.040 ±.1	CHECK	SAV	29MAR01
ONE PLACE	.X	±.030 ±.4	THIS DRAWING COVERS A PROPRIETARY ITEM AND IS THE PROPERTY OF HONEYWELL. THIS DRAWING IS NOT TO BE COPIED OR USED WITHOUT THE PERMISSION OF HONEYWELL.		
TWO PLACE	.XX	±.015 ±.15			
THREE PLACE	.XXX	±.005 ±.			
ANGLES		±.			
RAW MATERIAL - COMMERCIAL STANDARD			DIMENSIONS ARE TO BE MET BEFORE PROTECTIVE COATINGS ARE APPLIED.		
THIRD ANGLE PROJECTION			PTC	3D	ASME Y14.5M-1994
			SCALE	3:1	WEIGHT
			SHEET 1 OF 1		

Honeywell

PRESSURE SENSOR

SIZE **D** DWG TYPE **M** DRAWING NAME **XPX GAGE DIF SERIES CHART 1** REV **5**