



142PC05D



Actual product appearance may vary.

Pressure Sensors: Measurement Type: Differential, Gage; Signal Conditioning: Amplified; Pressure Range: 0 psi to 5.0 psi; Port Style: Straight

Features

- Robust package
- PCB termination
- Fully signal conditioned
- Amplified

Potential Applications

Medical

- Oxygen and nitrogen gas distribution in hospitals
- Dental chairs
- CPAP (Continuous Positive Airway Pressure) equipment
- Respirators and ventilators
- Blood glucose monitors
- Oxygen conservers
- Oxygen concentrators
- Nebulizers
- Kidney dialysis machines
- Blood cell separators

Environmental

- Water control valves
- Instrumentation
- Irrigation equipment
- Filter monitoring equipment
- Leak detection systems in underground telecommunications cables
- Radiometers

Industrial Instrumentation

- Robotics
- Pressure valves
- Leak detection
- Air compressors

Analytical Instrumentation

- Gas chromatography
- Chemical analyzers

Description

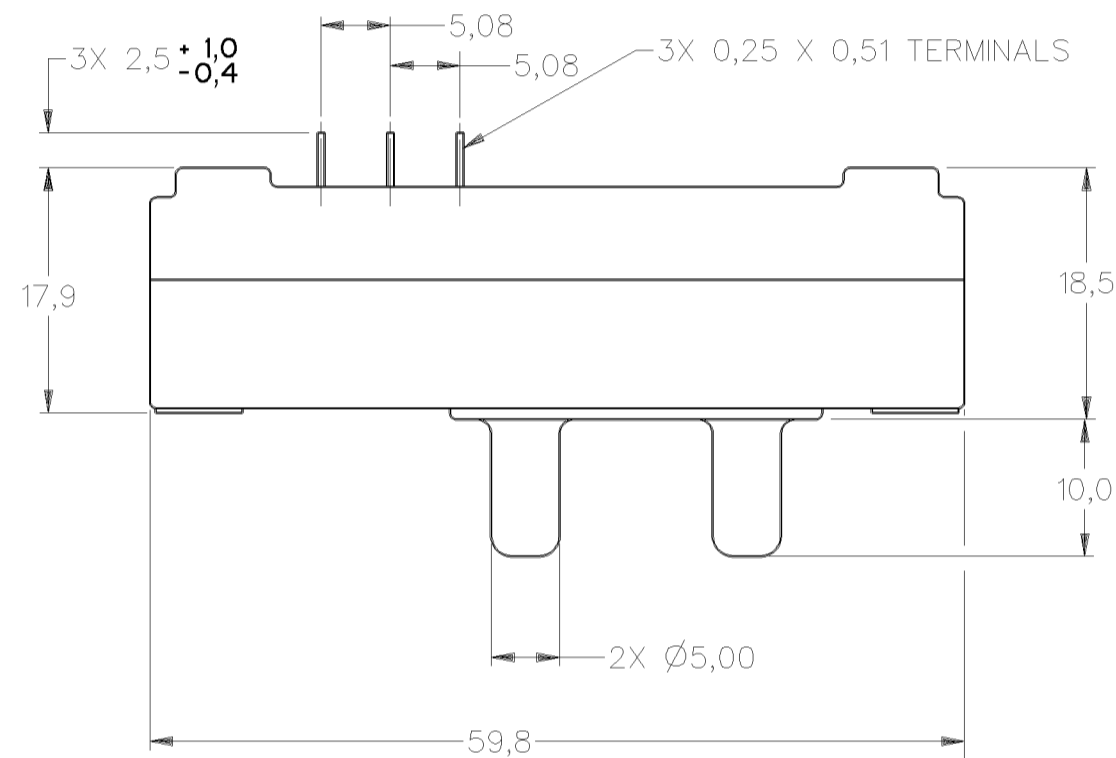
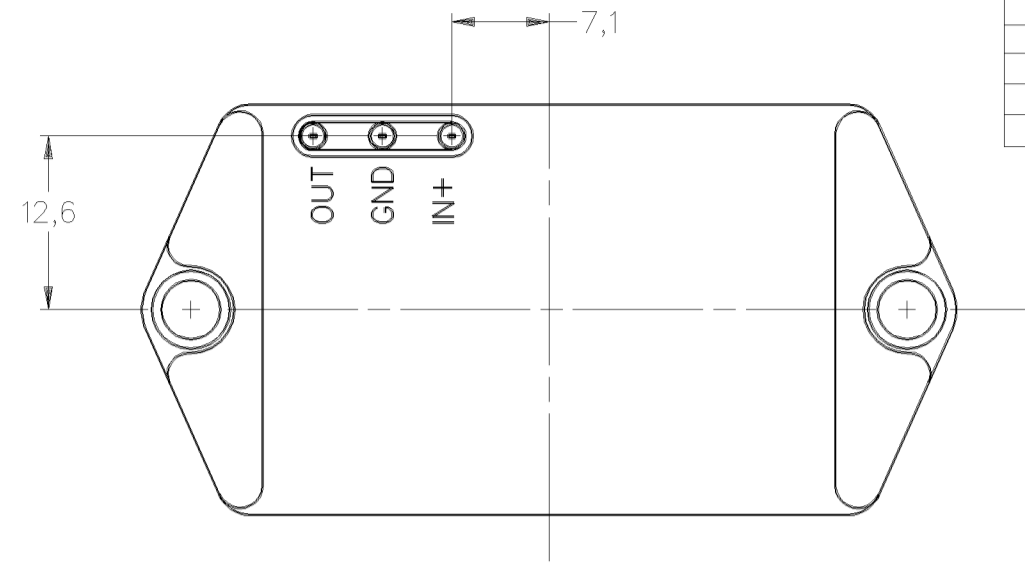
140PC Series pressure sensors provide an output voltage that is proportional to the pressure applied. They operate in ranges from 0 psi to 1.0 psi to 0 psi to 30.0 psi using a single, positive supply voltage ranging from 7.0 Vdc to 16.0 Vdc.

Product Specifications	
Measurement Type	Differential, Gage
Signal Conditioning	Amplified
Pressure Range	0 psi to 5.0 psi
Maximum Overpressure	20.0 psi
Supply Voltage	7.0 Vdc min., 8.0 Vdc typ., 16.0 Vdc max.
Compensated	Yes
Output Calibration	Yes
Response Time	1 ms max.
Termination	PCB
Port Style	Straight
Package Style	Honeywell - 100PC
Linearity	$\pm 1.50\%$ span max. ($P2 > P1$), $\pm 0.75\%$ span max. ($P2 < P1$)
Typical Sensitivity	1.0 V/psi
Full Scale Span	5.0 Vdc typ.
Null Offset	1.0 Vdc typ.
Repeatability & Hysteresis Error	$\pm 0.25\%$ span typ.
Shock	Qualification tested to 150 g
Vibration	MIL-STD-202 Method 213 (150 g half sine 11 ms)
Weight	28 g [0.987 oz]
Operating Temperature Range	-40 °C to 85 °C [-40 °F to 185 °F]
Compensated Temperature Range	-18 °C to 63 °C [0 °F to 145 °F]
Storage Temperature Range	-55 °C to 125 °C [-67 °F to 257 °F]
Media Compatibility	Port 1: Dry gases only. Port 2: Wetted materials. Polyester housing, epoxy adhesive, silicon, borosilicate glass and silicon-to-glass bond.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	140PC

CATALOG LISTING	TYPE	OPERATING PRESSURE RANGE
141PC05G ¹	G	0 TO -5 PSIG
④ 142PC05D ¹	A	0 TO 5 PSIA
142PC05D ¹	D	0 TO 5 PSID
142PC05G ¹	G	0 TO 5 PSIG
142PC05D22 ⁵	D	0 TO 5 PSID
142PC05D73 ⁶	D	0 TO 5 PSID

GENERAL OPERATING CHARACTERISTICS

PRESSURE RANGE	0 TO 259 mmHg (0 TO 5 PSI)
OVERPRESSURE	1035 mmHg (20 PSI)
TEMPERATURE RANGES	
STORAGE	-55°C TO +125°C
OPERATING	-40°C TO +85°C
COMPENSATED	-18°C TO +63°C
SUPPLY VOLTAGE	7 TO 16 VDC
SUPPLY CURRENT	20mA MAX WITH 10K LOAD
OUTPUT VOLTAGE	PROPORTIONAL TO SUPPLY VOLTAGE OVER ABOVE RECOMMENDED RANGE
SHORT CIRCUIT LIMIT	MAY BE SHORTED INDEFINITELY
OUTPUT RIPPLE	NONE
GROUND REFERENCE	SUPPLY AND OUTPUT ARE COMMON



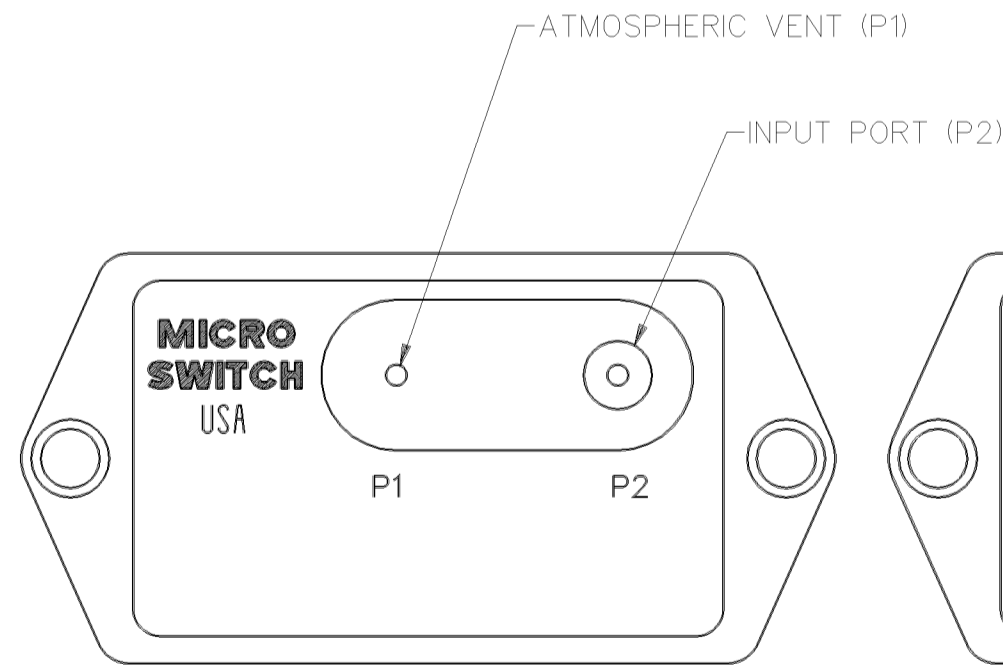
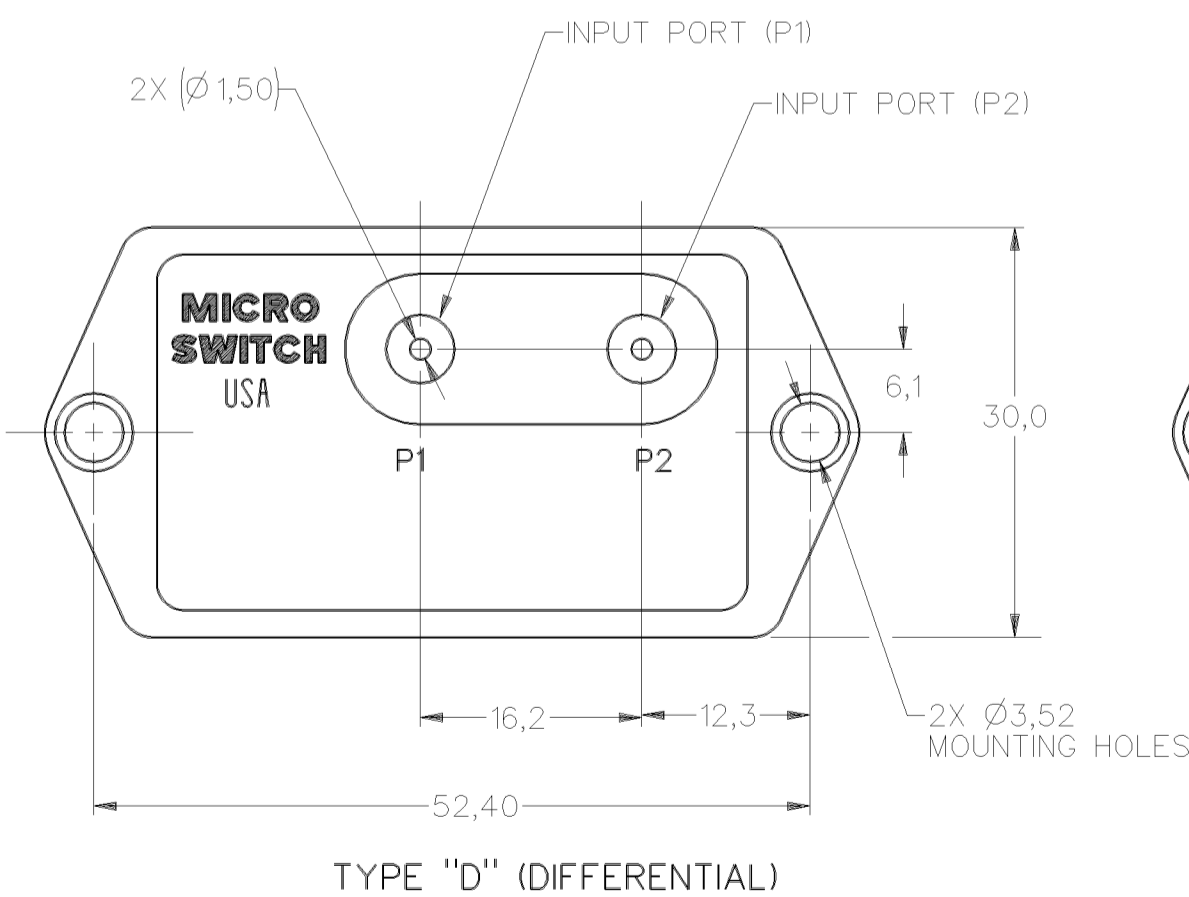
NOTES

- 1 - INPUT MEDIA:
P1 - DRY GASES ONLY: CONNECTION SIDE OF SENSOR
P2 - LIMITED ONLY TO THOSE MEDIA THAT WILL NOT ATTACK POLYESTER, SILICON OR SILICONE BASED ADHESIVE
- 2 - TERMINALS ARE PLATED FOR SOLDERING
- 3 - LIMIT SOLDERING TO 315°C MAX FOR 10 SECONDS MAX
- 4 - UNITS ARE OF PLASTIC CONSTRUCTION
- ⑤ P2 - MATERIAL SELECTED FOR RESISTANCE TO GASOLINE AND GASOLINE VAPOR
- ⑥ ALLOW ±13mV NULL

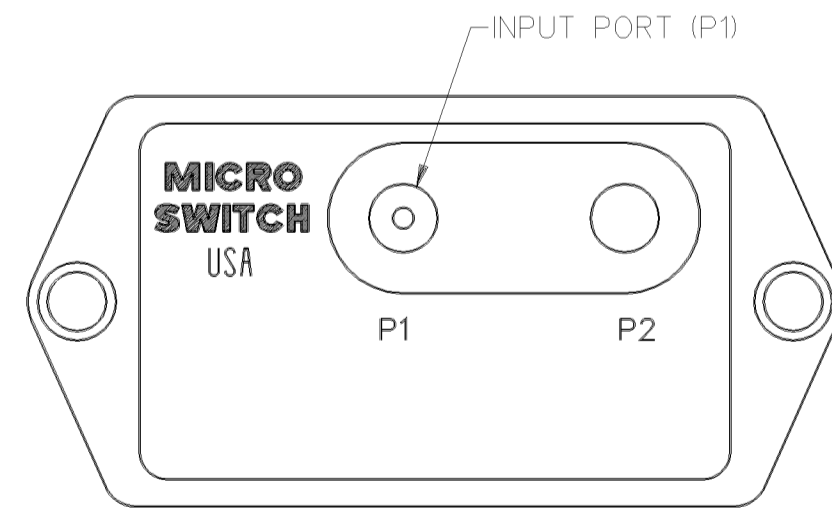
ELECTRICAL PERFORMANCE AT 25°C AND 8.00±.01 VDC SUPPLY

OUTPUT VOLTAGE	
141PC05G	
NULL (0 PSIG)	1.000±.050 VDC
FULL SCALE (5 PSIG)	6.000VDC TYP P1 > P2
SPAN	5.000±.050 VDC
142PC05D OR G	
NULL (0 PSIG)	1.000±.050 VDC
FULL SCALE (5 PSIG)	6.000 VDC TYP P2 > P1
SPAN	5.000±.050 VDC
SENSITIVITY	1000 mV/PSI TYP
LINEARITY (B.F.S.L.)	.75% SPAN MAX P1 > P2 1.50% SPAN MAX P2 > P1
HYSTERESIS & REPEATABILITY	.25% SPAN TYP
TEMPERATURE ERROR	
+5°C TO +45°C	.50% SPAN TYP
-18°C TO +63°C	1.00% SPAN MAX
-40°C TO +85°C	2.00% SPAN TYP
142PC05A	
NULL (0 PSIA)	1.000 VDC TYP
REFERENCE (2 PSIA)	3.000±.050 VDC
FULL SCALE (5 PSIA)	6.000 VDC TYP P1 > P2
SPAN (2 TO 5 PSIA)	3.000±.050 VDC
SENSITIVITY	1000 mV/PSI TYP
LINEARITY (B.F.S.L.)	1.25% SPAN MAX
HYSTERESIS & REPEATABILITY	.25% SPAN TYP
TEMPERATURE ERROR	
+5°C TO +45°C	.83% SPAN TYP
-18°C TO +63°C	1.67% SPAN MAX
-40°C TO +85°C	3.33% SPAN TYP

DRAWING NUMBER 140PC05 SERIES CHART 1
 ISSUE 16
 PAGES 1 OF 1
 RELEASE NO. DR-2103-3
 REPLACES
 REVISIONS
 A CO77436
 17 MAY 94
 B CO78224
 8 JUL 94
 C CO-172837
 LUP
 20 APR 95
 D CO-95394
 3 FEB 00
 E 201727
 CSL
 1 MAR 01
 DRAWN J A F
 CHECK K A G
 19 MAY 94
 RASTER
 MASTER REDUCED
 ANSI Y14.5M-1982 APPLIES
 MICRO SWITCH
 a Honeywell Division
 FED. MFG. CODE 91929



TYPE "G" (GAGE)



TYPE "A" (ABSOLUTE)

METRIC	INCH
0,4	.016
0,25	.010
0,51	.020
1,0	.039
1,5	.04
2,5	.099
3,52	.139
5,00	.197
5,08	.200
6,1	.240
7,1	.280
10,0	.39
12,3	.484
12,6	.496
16,2	.64
17,9	.70
18,5	.73
30,0	1.18
52,40	2.06
59,8	2.35

THIRD ANGLE PROJECTION

SCALE 2 : 1

DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

NO PLACE	(0)	± 1 mm
ONE PLACE	(0.0)	± 0.4 mm
TWO PLACE	(0.00)	± 0.15 mm
ANGLES		±

WEIGHT 31 GRAMS

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CATALOG LISTING

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PRESSURE TRANSDUCER

140PC05 SERIES
CHART 1