



142PC01D



Actual product appearance may vary.

Pressure Sensors: Measurement Type: Differential, Gage; Signal Conditioning: Amplified; Pressure Range: 0 psi to 1.0 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 1.0 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	$\pm 0.75\%$ span max. ($P2 > P1$), $\pm 0.40\%$ span max. ($P2 < P1$)
Typical Sensitivity	5 V/psi
Full Scale Span	5.0 Vdc typ.
Null Offset	1.0 Vdc typ.
Repeatability & Hysteresis Error	$\pm 0.30\%$ 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

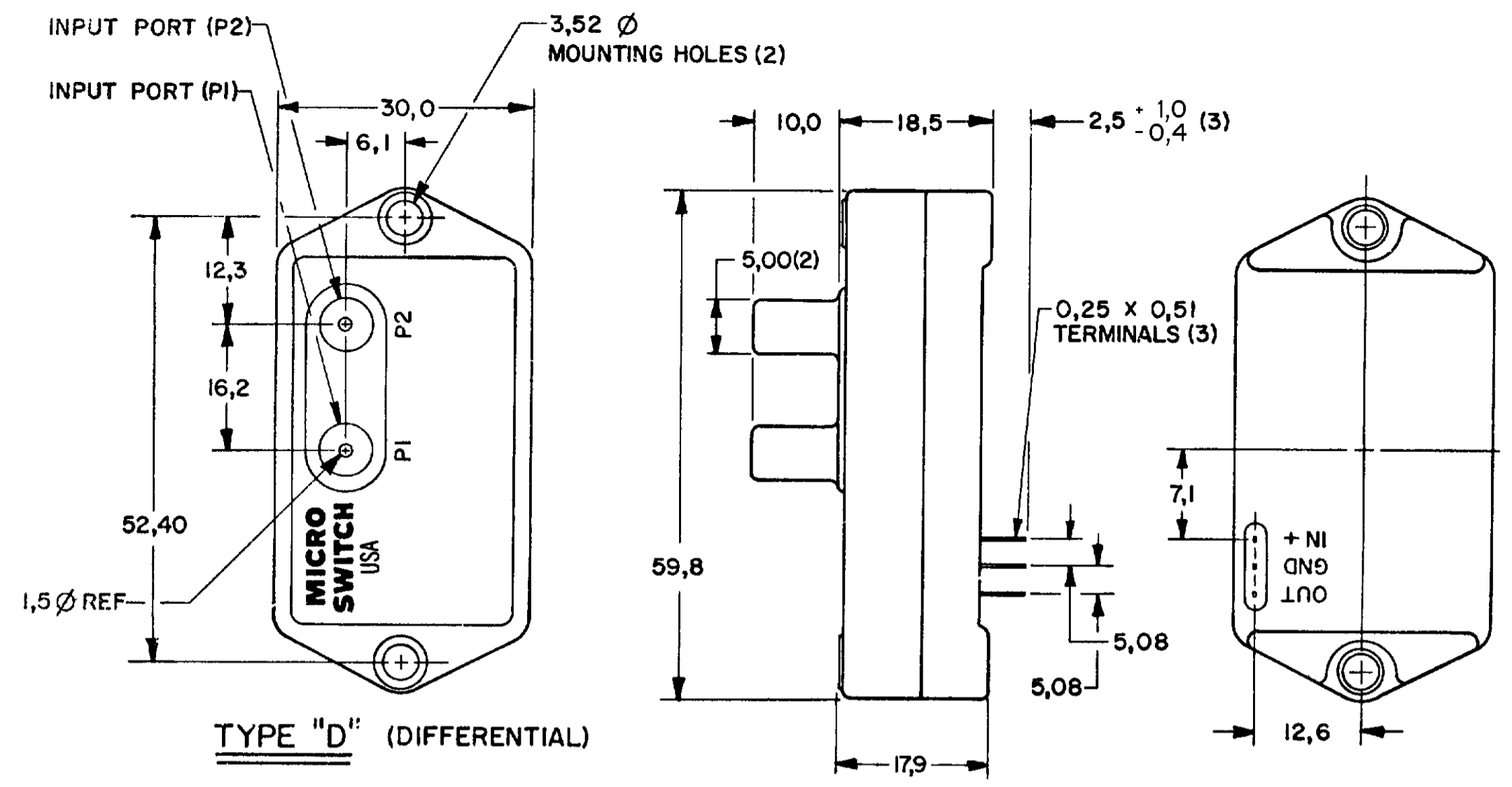
METRIC	INCH
0,4	.016
0,25	.010
0,51	.020
1,0	.039
1,5	.04
2,5	.099
3,52	.139
5,00	.197
5,08	.200
6,1	.240
7,1	.280
10,0	.39
12,3	.484
12,6	.496
16,2	.64
17,9	.70
18,5	.73
30,0	1.18
52,40	2.06
59,8	2.35

CATALOG LISTING	TYPE	OPERATING PRESSURE RANGE
141PC01D	D	0 TO -1.0 PSID
ⓑ	G	0 TO -1.0 PSIG
142PC01D	D	0 TO 1.0 PSID
142PC01G	G	0 TO 1.0 PSIG

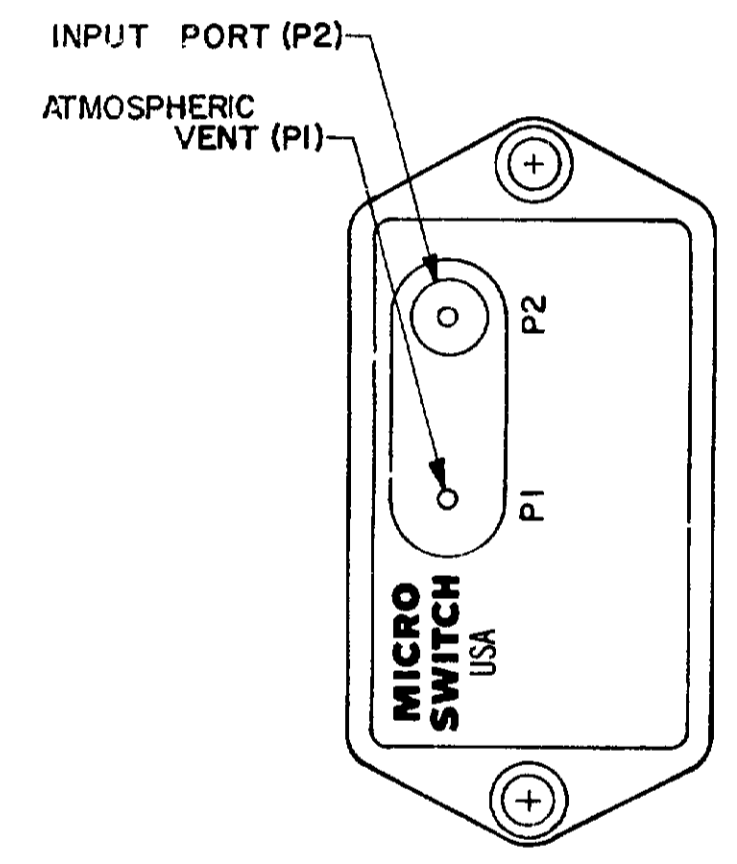
GENERAL OPERATING CHARACTERISTICS	
PRESSURE RANGE	0 TO 51.7 mmHg (0 TO 1 PSI)
OVERPRESSURE	1035 mmHg (20 PSI)
TEMPERATURE RANGES	STORAGE -55 TO +125°C OPERATE -40 TO +85°C COMPENSATED -18 TO +63°C
SUPPLY VOLTAGE	7 TO 16 VDC
SUPPLY CURRENT	20 mA MAX WITH 10K LOAD
SHORT CIRCUIT LIMIT	MAY BE SHORTED INDEFINITELY
OUTPUT RIPPLE	NONE
GROUND REFERENCE	SUPPLY AND OUTPUT ARE COMMON

ELECTRICAL PERFORMANCE AT 25°C AND 8.00 ± 0.01 VDC SUPPLY	
OUTPUT VOLTAGE	
141PC01D OR G	
NULL (0 PSIG)	1.00 ± 0.05 VDC
FULL SCALE (1.0 PSIG [51.7 mmHg])	6.00 ± .100 VDC (P2 < P1)
F.S.O. Δ	5.00 ± 0.05 VDC (P2 < P1)
142PC01D OR G	
NULL (0 PSIG)	1.00 ± 0.05 VDC
FULL SCALE (1.0 PSIG [51.7 mmHg])	6.00 ± 0.10 VDC (P2 > P1)
F.S.O. Δ	5.00 ± 0.05 VDC (P2 > P1)
SENSITIVITY	96.7 mV/mmHg (5.0 V/PSI)
LINEARITY (% F.S.O.) Δ (BFSL)	± 0.75 MAX (P2 < P1) ± 1.50 MAX (P2 > P1)
HYSTERESIS & REPEATABILITY (% F.S.O.) Δ	± 0.3 TYPICAL
TEMPERATURE ERROR (% F.S.O.) Δ	
5° < 25° > 45°C	± 1.5% MAX
RESPONSE TIME	1 m SEC MAX TYP

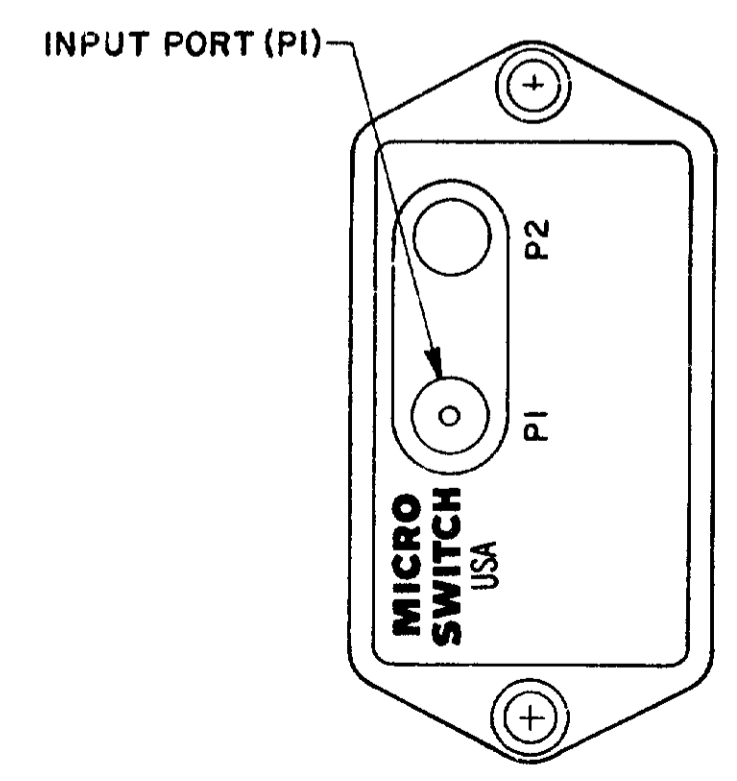
- NOTES
- INPUT MEDIA:
 - P1 - DRY GASES ONLY; CONNECTION SIDE OF SENSOR
 - P2 - LIMITED ONLY TO THOSE MEDIA THAT WILL NOT ATTACK POLYESTER SILICON, OR SILICONE BASED ADHESIVE
 - TERMINALS ARE PLATED FOR SOLDERING
 - LIMIT SOLDERING TO 315°C MAX FOR 10 SECONDS MAX
 - UNITS ARE OF PLASTIC CONSTRUCTION
- Δ F.S.O. IS THE ALGEBRAIC DIFFERENCE BETWEEN THE OUTPUT END POINTS (NULL AND FULL PRESSURE)



TYPE "D" (DIFFERENTIAL)



TYPE "G" (GAGE)



TYPE "A" (ABSOLUTE)

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MICRO SWITCH a Honeywell Division	PRESSURE TRANSDUCER	140 PC 01 SERIES CHART 1
FED. MFG. CODE 91929		WEIGHT 31 GRAMS

THIRD ANGLE PROJECTION		
SCALE NONE		
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		±