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DAP82

DIFFERENTIAL / LINE PRESSURE DUAL OUTPUT PRESSURE SENSOR

SPECIFICATIONS

- **Differential and Line Pressure Dual Output**
- **Hastelloy C276 or 316L SS Media Isolated - Option**
- **Compact size base cell with 17.45mm (0.687″) length**
- **19mm Diameter Package**
- **Flange and Base Plate Optional**
- **Vacuum Stability at 1 Pa**

DAP82 Dual Output Pressure Platform offers exceptional performance to flow measurement customers by leveraging TE's broad range of high stability MEMS DIE. Differential and Line Pressure Output can be obtained through an interconnection PCB or two independent rows of pins.

Multiple Differential / Line pressure combinations available to meet the most demanding flow measurement needs in Semiconductor and Industrial Process Control applications. Increased proof pressure capability enables highly reliable long-term deployment under the most difficult operating conditions.

Hastelloy C276 wetted materials allow UHP environment and Harsh media direct contact, custom flange and base design allow fast installation to the flow control module.

Applications

- **Mass Flow Controller**
- **Differential Flow Meter**
- **Corrosive Fluid/Gas Measurement System**
- **Level Transmitters**
- **OEM Equipment**

Features

- **Weld Ring Interface at both Ports**
- **Up to ±0.1%FS Linearity**
- **±0.1%Span/Year Typical Long-Term Stability**
- **High Overload Pressure**
- **Low Differential Pressure Range**

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Specifications

Supply Voltage: 5Vdc, Ambient Temperature: 25°C (unless otherwise specified)

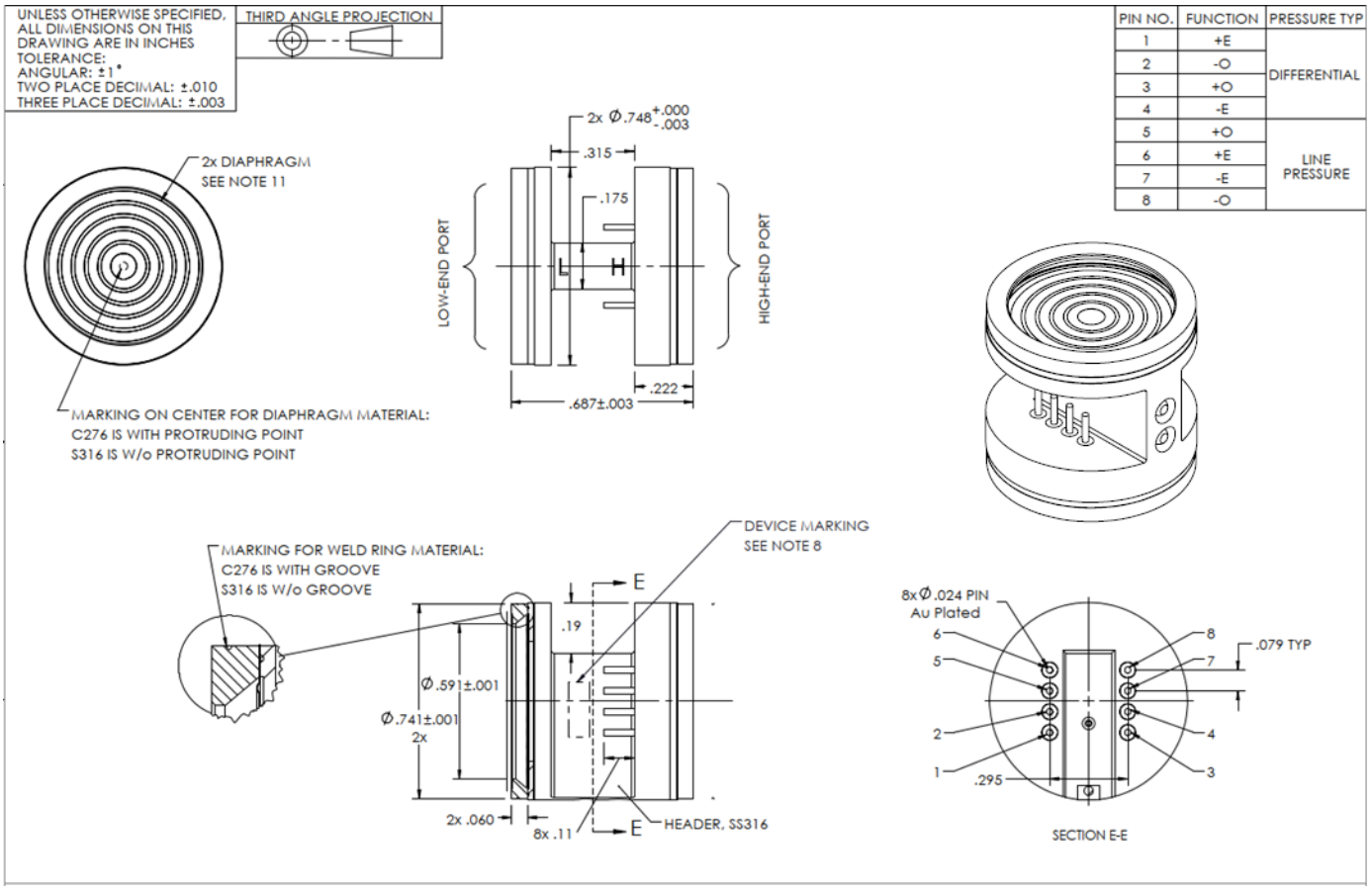
PARAMETERS	DIFFERENTIAL PRESSURE									LINE PRESSURE			UNITS	NOTES
	01D5			005D			036D, 145D							
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
SENSITIVITY	11	-	28	11	-	28	11	-	28	12	-	27	mV/V@FS	
ZERO PRESSURE OUTPUT	-5.0	-	+5.0	-5.0	-	+5.0	-5.0	-	+5.0	-6.0	-	+8.0	mV/V	1
PRESSURE NON LINEARITY	-0.75	-	+0.75	-0.25	-	+0.25	-0.25	-	+0.25	-0.1	-	+0.1	%SPAN	2
PRESSURE HYSTERESIS	-0.1	-	+0.1	-0.1	-	+0.1	-0.05	-	+0.05	-0.05	±0.02	+0.05	%SPAN	
INPUT/OUTPUT RESISTANCE	5K	6K	7K	5K	6K	7K	5K	6K	7K	3.8K	4.5K	5.8K	Ohm	
TEMP COEFFICIENT - SPAN	-2.3K	-	-1.7K	-2.3K	-	-1.7K	-2.3K	-	-1.7K	-1.65K	-1.25K	-1.0K	ppm/°C	3
TEMP COEFFICIENT - OFFSET	-80	-	+80	-50	-	+50	-30	-	+30	-30	-	+30	uV/V/°C	3
TEMP COEFFICIENT - RESISTANCE	0.4K	-	1.0K	0.4K	-	1.0K	0.4K	-	1.0K	1.30K	1.51K	1.75K	ppm/°C	3
THERMAL HYSTERESIS - SPAN	-0.5	±0.05	+0.5	-0.5	±0.05	+0.5	-0.3	±0.05	+0.3	-0.25	±0.05	+0.25	%SPAN	3
THERMAL HYSTERESIS - OFFSET	-0.5	±0.05	+0.5	-0.5	±0.05	+0.5	-0.3	±0.05	+0.3	-0.25	±0.05	+0.25	%SPAN	3
LONG TERM STABILITY - OFFSET	-	±0.25	-	-	±0.1	-	-	±0.1	-	-	±0.1	-	%SPAN/YEAR	
INSULATION RESISTANCE (50VDC)	50M	-	-	50M	-	-	50M	-	-	50M	-	-	OHM	4
LINE PRESSURE EFFECT ON ZERO	-0.02	-	+0.02	-0.007	-	+0.007	-0.007	-	+0.007	N/A			%SPAN/PSI	7
LINE PRESSURE PRESSURE OVER PRESSURE	N/A									-	-	3X	RATED	5,7
LINE PRESSURE PRESSURE BURST	N/A									4X	-	-	RATED	6,7
DIFFERENTIAL PRESSURE OVER PRESSURE	SEE TABLE : Ordering Information									N/A			PSI	5
DIFFERENTIAL PRESSURE BURST	SEE TABLE : Ordering Information												PSI	6
OPERATING TEMPERATURE	-40	-	+125	-40	-	+125	-40	-	+125	-40	-	+125	°C	
STORAGE TEMPERATURE	-40	-	+125	-40	-	+125	-40	-	+125	-40	-	+125	°C	
SUPPLY VOLTAGE	-	5	9.5	-	5	9.5	-	5	9.5	-	5	9.5	VDC	

Notes

1. Measured at ambient for differential(D) pressure sensor, vacuum for line pressure (A) sensor.
2. Best fit straight line.
3. TC values are first order coefficients to a quadratic fit over a temperature range of 0°c to 70°c
4. Between case and sensing element.
5. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
6. The minimum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
7. Line Pressure be applied simultaneously to both ports of sensor. Rating is in reference to Absolute pressure range.
8. Device marking: each part shall be laser marking with model number, pressure range, type, lot number, serial number, and date code.
9. Shipping: the diaphragms are protected by a static dissipative cap.
   Each unit is packaged individually in a plastic vial with antistatic foam.
10. Product description: piezoresistive type pressure sensor with combined differential pressure and absolute pressure output.
11. Direct mechanical contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, fingerprints, etc.) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective cap whenever devices are not in use.

Dimensions and Connection

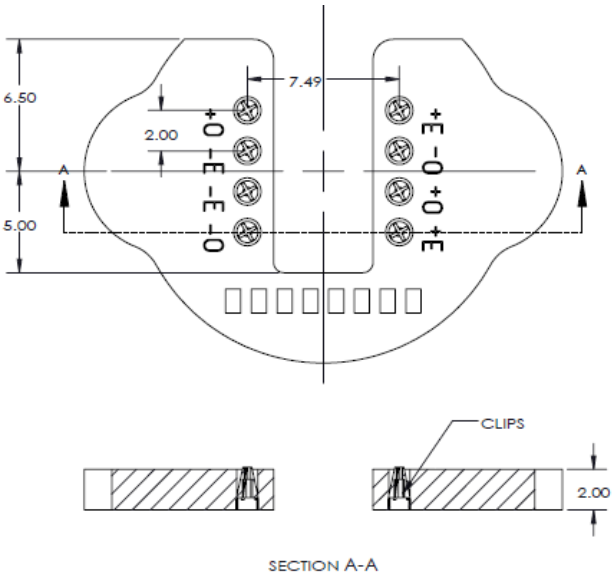
unit: inch



PIN NO.	FUNCTION	PRESSURE TYP
1	+E	DIFFERENTIAL
2	-O	
3	+O	
4	-E	
5	+O	LINE PRESSURE
6	+E	
7	-E	
8	-O	

RECOMMEND CONNECT TYPE

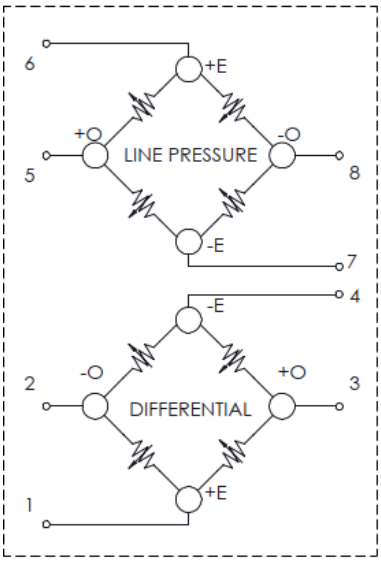
unit: mm



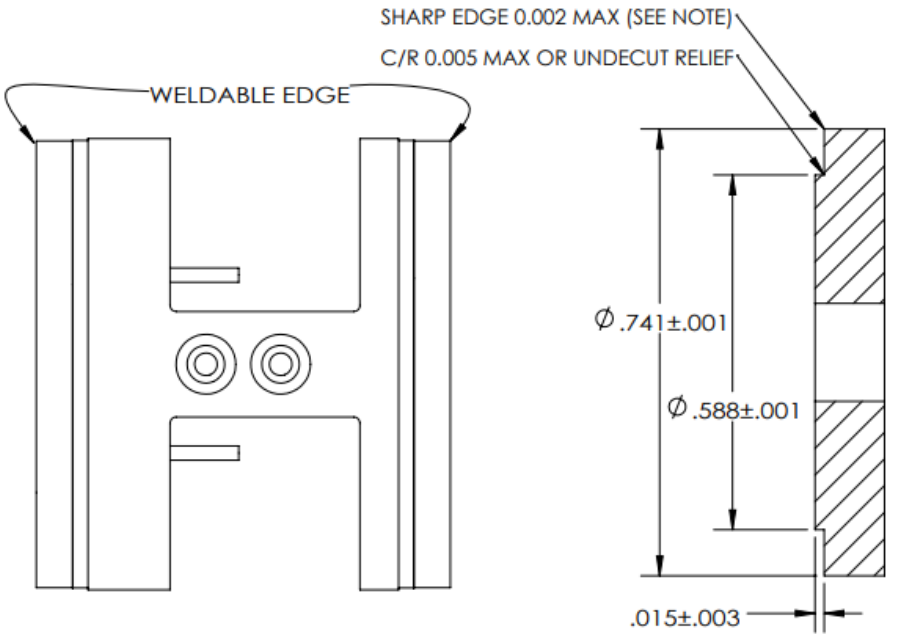
SECTION A-A

Note: Recommended use the PCB with clips press-fit or solder to the pin of sensor, for details of PCB and Clips, please consult TE.

SCHEMATIC



WELDABLE INSTALLATION NOTE



NOTE: PRECAUTION MUST BE TAKEN TO PROTECT THIS EDGE.
NO NICKS, DENTS, OR BURRS PERMITTED.

Ordering Information

Part Number	Model/ Description	Operating Pressure		Differential Over Pressure		Differential Burst Pressure		Wetted Material (Diaphragm and Weld Ring)
		Differential /PSID	Line Pressure /PSIA	High-end port /PSIA max	Low-end port /PSIA max	High-end port /PSIA min	Low-end port /PSIA min	
20021118-00	DAP82H-005D015A-11957	5	15	45	45	55	55	C276
20021118-01	DAP82H-01D5015A-11957	1.5	15	45	45	55	55	C276
20021118-02	DAP82H-005D050A-11957	5	50	145	70	155	85	C276
20021118-04	DAP82H-01D5050A-11957	1.5	50	45	45	55	55	C276
20021118-06	DAP82H-036D050A-11957	36	50	145	145	155	155	C276
20021118-07	DAP82H-01D5100A-11957	1.5	100	45	45	55	55	C276
20021118-08	DAP82H-005D100A-11957	5	100	145	70	155	85	C276
20021118-09	DAP82H-036D100A-11957	36	100	300	145	400	155	C276
20021118-20	DAP82S-005D015A-11957	5	15	45	45	55	55	316L
20021118-21	DAP82S-01D5015A-11957	1.5	15	45	45	55	55	316L
20021118-23	DAP82S-005D050A-11957	5	50	145	70	155	85	316L
20021118-24	DAP82S-01D5050A-11957	1.5	50	45	45	55	55	316L
20021118-26	DAP82S-036D050A-11957	36	50	145	145	155	155	316L
20021118-27	DAP82S-01D5100A-11957	1.5	100	45	45	55	55	316L
20021118-28	DAP82S-005D100A-11957	5	100	145	70	155	85	316L
20021118-29	DAP82S-036D100A-11957	36	100	300	145	400	155	316L
20021118-30	DAP82S-145D300A-11957	145	300	800	145	850	155	316L

For other pressure ranges and configurations, please consult TE

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