

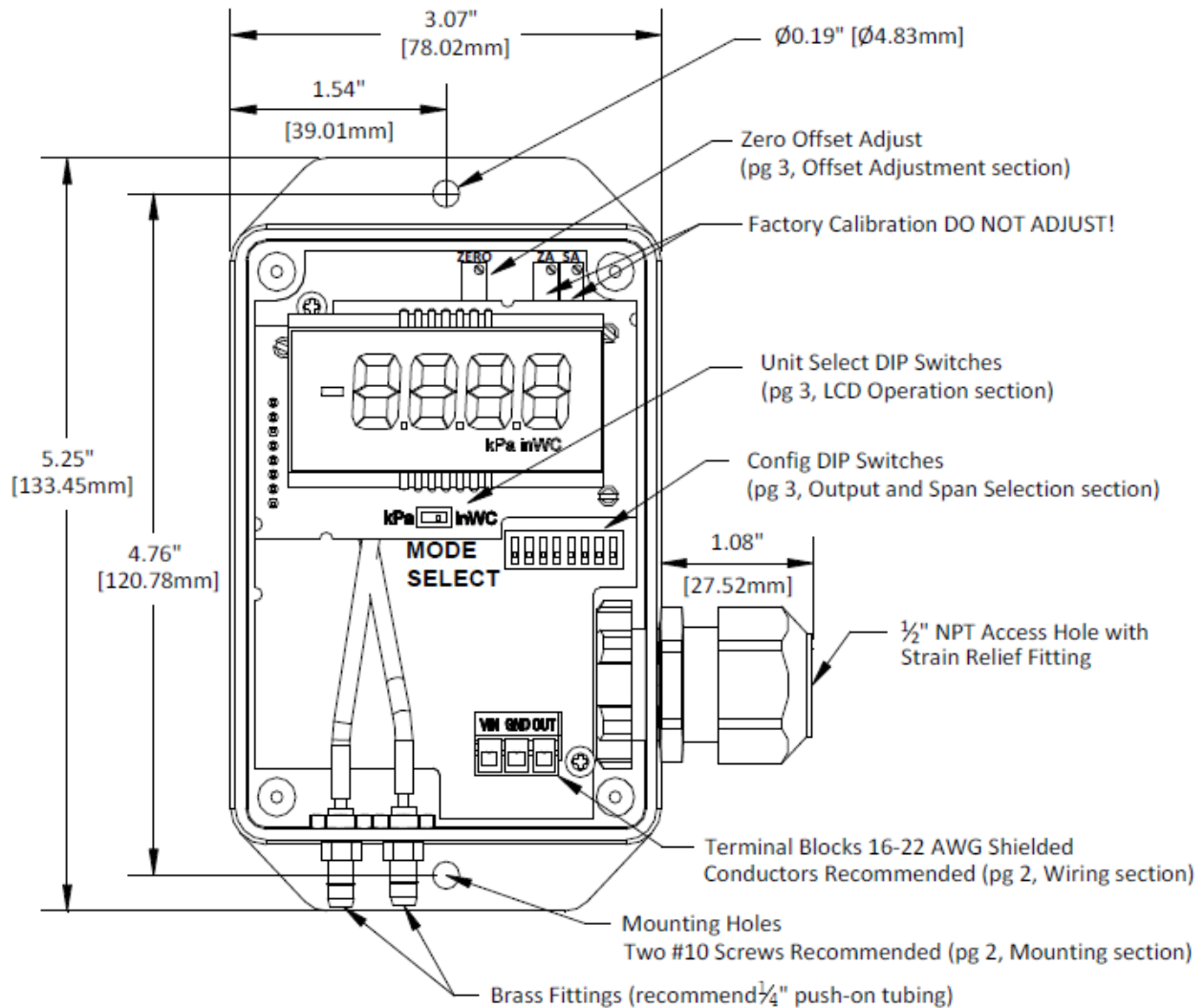


Figure 1: DPA II Differential Pressure Transmitter Dimensions and Hardware

PRECAUTIONS

- **REMOVE POWER BEFORE WIRING. NEVER CONNECT OR DISCONNECT WIRING WITH THE POWER APPLIED. DO NOT ALLOW LIVE WIRES TO TOUCH THE CIRCUIT BOARD.**
- **AN ISOLATION TRANSFORMER IS RECOMMENDED WHEN POWERING THE DEVICE WITH 24VAC.**
- **DO NOT RUN THE WIRING IN ANY CONDUIT WITH LINE VOLTAGE.**
- **FAILURE TO WIRE DEVICES WITH THE CORRECT POLARITY WHEN USING A SHARED TRANSFORMER MAY RESULT IN DAMAGE TO ANY DEVICE POWERED BY THE SHARED TRANSFORMER.**

MOUNTING

Two size #10 screws are recommended. Mount the unit vertically with the brass fittings pointing towards the ground. Attach the unit to the mounting surface using the two mounting holes located on the top and bottom flanges.

WIRING

Shielded cable with 16 to 22AWG conductors is recommended. The cover must be removed to wire the unit's de-pluggable terminal blocks. Retaining washers help prevent the screws from being completely detached from the cover. Use the Wiring Connections table below to determine the proper wiring.

Output Signal	Supply Voltage	Wire Connections		
VDC	AC/DC	VIN	GND	OUT
mA	AC	VIN	GND	OUT
mA	DC	VIN		OUT

Table 1: Wiring Connections

- Make sure the label on the terminal block is aligned properly with the label on the circuit board.
- When using ½" conduit, the strain relief fitting must be removed from the enclosure.
- Make sure that any conduit or metal fittings do not come in contact with the circuit board.

PRESSURE CONNECTIONS

The recommended connection tubing is ¼" push-on tubing (1/8" – 3/16" I.D.). The DPA II units are uni-directional and must have a positive pressure applied to the HI pressure port to generate an output voltage or current.

ZERO PRESSURE OFFSET ADJUSTMENT

Do not adjust the potentiometers labeled "ZA" or "SA". These are used for factory calibration and adjusting will change the output accuracy and may void the factory warranty. The zero adjustment should only be performed with no pressure applied.

Small positive or negative pressure offsets can be removed by adjusting the potentiometer labeled ZERO. It is recommend to use a small piece of tubing connected between the HI and LO brass fittings before adjusting the zero offset. Slowly turn the ZERO potentiometer until the output reaches 4mA (1V for 1-5VDC output, or 2V for 2-10VDC output).

OUTPUT SELECTION

It is recommended to remove power from the unit when modifying the output selection switches. The DPA II units can be field configured for either 2 or 3-wire applications using switches 7 and 8 of the Mode Select DIP switches. See Table 2.

Power Supply	4-20mA Output	1-5VDC Output	2-10VDC Output
AC/DC (3-Wire)	ON * * * * * * 1 2 3 4 5 6 7 8	ON * * * * * * 1 2 3 4 5 6 7 8	ON * * * * * * 1 2 3 4 5 6 7 8
DC (2-Wire)	ON * * * * * * 1 2 3 4 5 6 7 8		
*Refer to the Span Selection section for DIP switch positions 1 through 6.			

Table 2: Output Selection

SPAN SELECTION

The DPA II units can be field configured for a limited number of pressure spans other than the one ordered using switches 1 through 6 of the Mode Select DIP switches. See Table 3.

To change the span selection, determine your DPA II model number, find the desired span in that row, and set the DIP switches as shown at the bottom of the column.

DPA II Series Installation and Operating Instructions

Model No.	Span Mode Select			
DPAII-1	1.0 inWC Δ	0.3 kPa	2.0 inWC	0.5 kPa
DPAII-2	1.0 inWC	0.3 kPa	2.0 inWC Δ	0.5 kPa
DPAII-3	3.0 inWC Δ	4.0 inWC	1.0 kPa	5.0 inWC
DPAII-4	3.0 inWC	4.0 inWC Δ	1.0 kPa	5.0 inWC
DPAII-5	3.0 inWC	4.0 inWC	1.0 kPa	5.0 inWC Δ
DPAII-10	1.6 kPa	10.0 inWC Δ	2.5 kPa	n/a
DPAII-20	3.2 kPa	20.0 inWC Δ	5.0 kPa	n/a
DPAII-300	1.0 inWC	0.3 kPa Δ	2.0 inWC	0.5 kPa
DPAII-500	1.0 inWC	0.3 kPa	2.0 inWC	0.5 kPa Δ
DPAII-1000	3.0 inWC	4.0 inWC	1.0 kPa Δ	5.0 inWC
DPAII-1600	1.6 kPa Δ	10.0 inWC	2.5 kPa	n/a
DPAII-2500	1.6 kPa	10.0 inWC	2.5 kPa Δ	n/a
				
* Refer to the Output Selection section for DIP switch positions 7 & 8.				
Δ - Default span as shipped from the factory.				

Table 3: Span Selection

LCD OPERATION (optional)

The LCD displays the current pressure reading in the selected units. The displays are field configurable and can be changed by moving the Unit Select DIP switch to the desired units. On power-up, the selected pressure span will be displayed for a short duration before changing to the pressure reading.

- “OP” displayed when the pressure reading exceeds 110% of the selected span.
- “SPAN” displayed when the selected span is n/a. See Table 3.

PRODUCT SPECIFICATIONS

Supply Voltage	250 Ohm Load: 15-36 VDC / 24VAC 1-5 VDC: 15-36 VDC / 24VAC 500 Ohm Load: 20-36 VDC / 24VAC 2-10 VDC: 20-36 VDC / 24VAC
Supply Current	23mA minimum
Output	2-wire, Linear 4 to 20mA DC Current or 3-wire, 1-5 or 2-10VDC, or 4-20mA
Sensor Accuracy ¹	+/- 0.85% FSO
Response Time	500 uS
Operating Temperature Range	-4 to 140°F (-20 to 60°C)
Compensated Temperature Range	32 to 122°F (0 to 50°C)
Humidity	0 to 95% RH, non-condensing
Thermal Effects ²	+/-0.067%FSO/°F (+/-0.12% FSO/°C)
Proof Pressure	100 inWC (24.9 kPa)
Burst Pressure	200 inWC (49.8 kPa)
Media	Dry air or inert non-conductive gases
Features	DIP switch selectable ranges and outputs Adjustable null pressure offset
LCD Features (optional)	Large 4-digit LCD display DIP switch selectable display units (kPa or inWC) Over-pressure notification for +110% selected range.
Enclosure	UL94-V0 rated, flame retardant ABS
Approvals	CE REACH RoHS WEEE
Note 1: Accuracy includes linearity, hysteresis and repeatability. Note 2: Shift is relative to 77°F (25°C).	

Table 4: Product Specifications

WARRANTY SPECIFICATION

The DPA II Series differential pressure transmitters are covered by Kele's Five (5) Year Limited Warranty.