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XE-PDA4PM-R0A

FRC
A Safe Fleet Brand

ELECTRONIC PRESSURE INDICATOR
MODEL PDA400

Looks like a traditional style pressure gauge.

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INTRODUCTION

Overview

The FRC PDA400 pressure indicator is a traditional style electronic pressure gauge. (The PDA400 updates the P4000 and P3000 series.)

The pressure indicator is an electronically controlled analog display. During normal operation pressure information is provided from a solid state pressure sensor. The pressure sensor provides an electrical signal to the input of the display module. A microprocessor controls the needle movement to provide an accurate and steady pressure display. Leakage and freeze-up problems common in mechanical pressure gauges are eliminated.

Features

NFPA Color Coded Bezel (Optional)

Specifications

Display Module

Supply Voltage:	9 to 30 VDC
Supply Current:	0.5 Amps Maximum
Dimensions:	
Height	4.4"
Width	4.4"
Depth	3.4"

Pressure Sensor

Model Number:	XE-FP4000PT3
Pressure Range:	0 - 600 PSI
Proof Pressure:	1200 PSI
Excitation Voltage:	5 VDC
Output Voltage:	0.5 - 4.75 VDC (Refer to Table 1)

Table 1. Pressure Sensor Output Voltage

PRESSURE (PSI)	VOLTAGE (VDC)
0	0.5
100	1.21
150	1.56
200	1.92
250	2.27
300	2.625
600	4.75

Components

The pressure indicator kit consists of the following components:

Display Module

Pressure Sensor

Cables

Display Module

The pressure indicator display module is waterproof and has dimensions of 4 3/8 inches high by 4 3/8 inches wide by 2 7/8 inches deep. It is available with optional NFPA color coded bezels. (The bezel is an intricate part of the display module and must be factory installed.) There is an LED on the front and two buttons on the rear of the module used for calibration. The LED blinks green in the calibration mode and red if there is a problem with the pressure sensor.

Pressure Sensor

The pressure sensor provides an input signal to the display module that is proportional to the discharge pressure. It is mounted on the downstream side of the discharge valve. The electrical connector is waterproof and molded into the pressure sensor housing.

Cables

Interconnecting cables are provided. Refer to Wiring Section.

INSTALLATION

Note: Plumbing systems are always unique and may cause small deviations in the factory calibration. It is recommended that the pressure indicator is checked after installation for accuracy and calibrated when necessary.

Install Display Module

Display modules are interchangeable. It is recommended to check display accuracy if modules are swapped and calibrated when necessary.

1. Measure and mark mounting location for display module panel cutout and mounting screw holes. Make sure there is clearance behind the panel for the display and cables before cutting holes. Refer to Figure 1 for layout and dimensions.
2. Cut out a 3 3/4 inch diameter hole and drill four holes (clearance or tapped) for 10-32 mounting screws.
3. Place display module in position and secure with four screws.
4. Connect the cables and wires. (Refer to Wiring Section.)

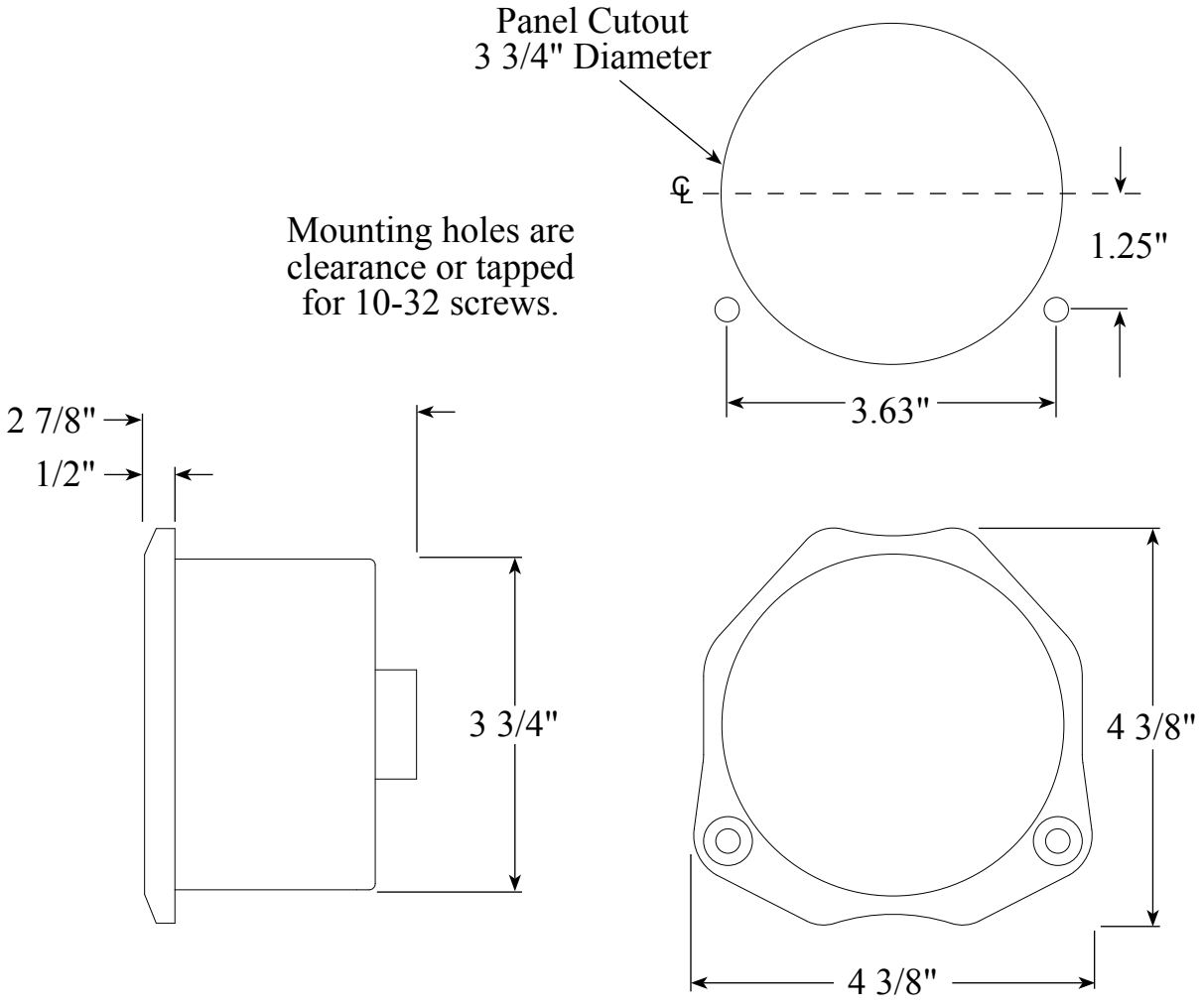


Figure 1. Display Module Mounting Dimensions

Install Pressure Sensor

The pressure sensor is mounted downstream of the discharge valve.

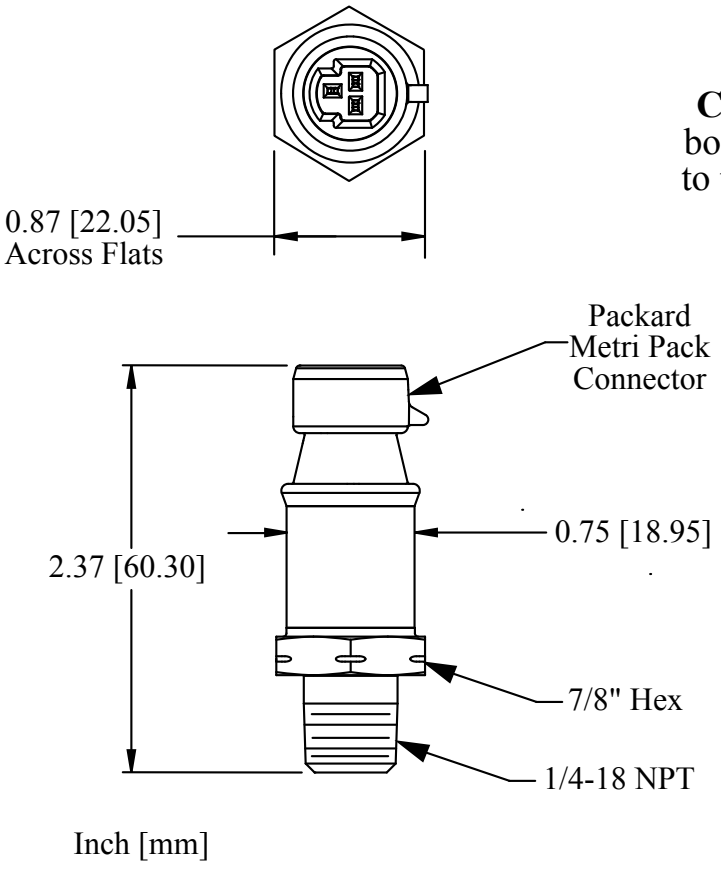
Pressure sensors are interchangeable. It is recommended to check display accuracy if sensors are swapped and calibrated when necessary.

Note: Install the pressure sensor upright so water in the end of the sensor drains back into the pipe.

1. Screw the sensor into a 1/4-18 NPT hole.

Caution: Do not use the main body that houses the electronics to tighten the pressure sensor. Damage to the sensor may occur.

2. Tighten the sensor with a 3/4-inch wrench on the lower hex fitting.
3. Connect the pressure sensor cable from the control module to the sensor. (Refer to Wiring Section.)



Caution: Do not use the main body that houses the electronics to tighten the sensor. Damage to the sensor may occur.

Figure 2. Pressure Sensor Dimensions

CALIBRATION

The pressure indicator is precalibrated and tested at the factory. It is recommended that the pressure indicator is checked after installation for accuracy and calibrated when necessary. The indicator should be calibrated with the pressure sensor that will be connected to it.

Note: To calibrate use a precalibrated pressure indicator or gauge as a reference.

The indicator is calibrated at two pressure settings. For the low side 0 PSI is generally used, for the high side any higher pressure will work, it is recommended that a pressure in the normal operating range be used.

There are two buttons at the rear that are used to perform the calibration. The LED indicator is at the front of the module. When in calibration mode the L-CAL and the H-CAL buttons will move the needle. If no button is pressed for 10 seconds, the program will time out.

Pressing and releasing the H-CAL button moves the needle 1 PSI higher.

Pressing and releasing the L-CAL button moves the needle 1 PSI lower.

Holding either button for more than 1 second causes the needle to move continuously.

Note: If the pressure input voltage is out-of-range, the LED blinks fast for about 3 seconds to indicate a problem. Troubleshoot as necessary.

Set Low Side Pressure

1. Set the pressure at the selected low pressure.
2. Press and hold the L-CAL button for 5 seconds.

   Result: The LED will blink green indicating the calibration program is started.
3. Use the L-CAL or H-CAL buttons to position the needle at the correct pressure.

   Result: After releasing both buttons for 10 seconds the program is reset to the new set point and checks the pressure input voltage for an out-of-range condition. (If there is an out-of-range condition or a problem with the pressure sensor the LED blinks red.)

Set High Side Pressure

1. Set the pressure at the sensor to the selected high pressure.
2. Press and hold the H-CAL button for 5 seconds.

   Result: The LED will blink green indicating the calibration program is started.

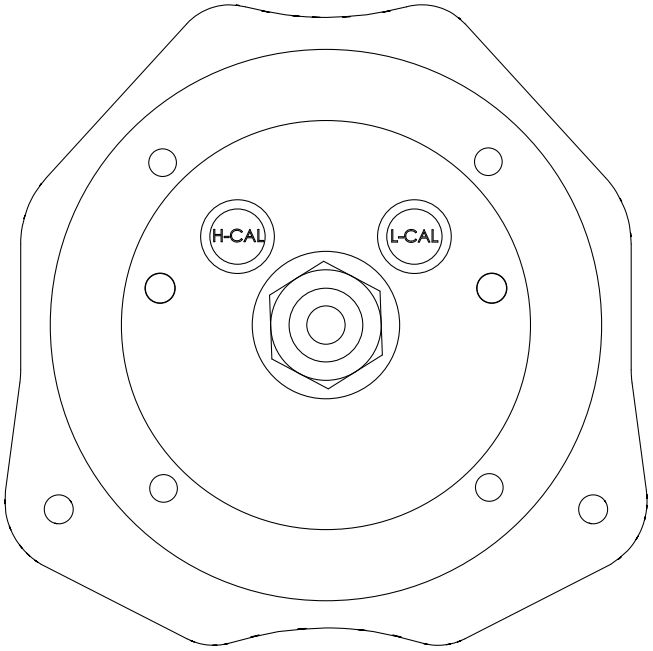
3. Use the L-CAL or H-CAL buttons to position the needle at the correct pressure.

   Result: After releasing both buttons for 10 seconds the program is reset to the new set point and checks the pressure input voltage for an out-of-range condition. (If there is an out-of-range condition or a problem with the pressure sensor the LED blinks red.)

WIRING

The following figures include wiring and cable information.

Display Module



Rear View

Connector/Cable Wiring

Wire Color	Description
Red	+12 VDC
Black	Ground

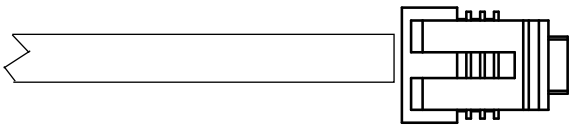
4-Pin Deutsch Plug

Pin/Wire	
1/White	+5 VDC Sensor
2/Green	Ground Sensor
3/Blue	Signal Sensor
4	N/C

Figure 3. Display Module Wiring

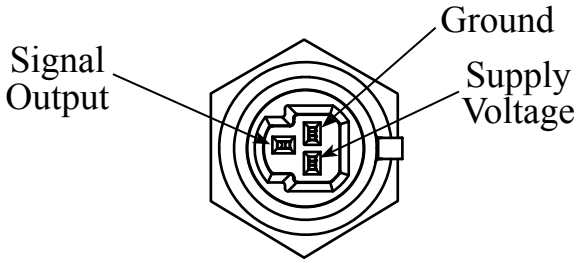
Pressure Sensor

Sensor Cable



Sensor Cable 3-Pin Connector	
Pin/Wire	Description
A/Black	Ground
B/Red	Supply Voltage
C/White	Signal

Pressure Sensor
Top View



Pressure Sensor
Side View

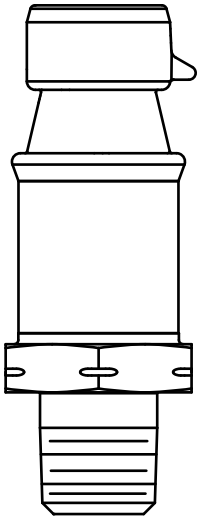


Figure 4. Pressure Sensor Wiring

DANGER

PERSONAL RESPONSIBILITY CODE

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.
2. It is your responsibility to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called upon to use.
3. It is your responsibility to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.
4. It is your responsibility to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. It is your responsibility to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns or other severe injury.

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