Identification and Overview

Outside Air Pressure Pickup Port - Zone Pressure Sensors

- Rooftop and Wall Mount or Vertical Mount for Building Soffits or Ceilings.
- Rugged, UV-Resistant and Flame-Retardant Plastic to Perform and Last Under Harsh Conditions
- Parallel Plate Design Reduces Fluctuations from Wind Gusts for More Stable Readings

Building static pressure is the pressure difference between the inside and the outside of a building. The outdoor static pressure is simply the atmospheric pressure at the building site. The building may have positive, neutral or negative pressure with respect to the outside atmosphere. Differences in pressure are due to powered supply or exhaust fans and are usually less than 0.1 inches of water.

A complication in measuring the building static pressure is the dynamic action of the wind. A gentle breeze of 10 MPH provides a pressure of 0.048 inches of water, a gale of 40 MPH is 0.772 inches and a hurricane of 75 MPH is 2.716 inches. Clearly, the wind's pressure may be more than the desired building static pressure. Measuring the wind's pressure instead of the true outdoor static pressure will radically alter the actual static pressure reading. Mounting the unit with the plate parallel to the earth's surface allows the predominantly horizontal flow of the wind an omni-directional entry between the plate and the housing. The plate forces the wind to move perpendicularly to the pressure orifice in the housing, irrespective of the wind's direction, greatly minimizing the dynamic air pressure.

Reducing the Unwanted Effects of Wind Gusts

Differences in building pressure are caused by the operation of supply fans or exhaust fans and usually measure less than 0.1 inches of water column (WC). A gentle breeze of 10 MPH provides a pressure of 0.048 inches WC, while a strong wind of 40 MPH provides 0.772 inches WC. A gale of 75 MPH can measure over 2.7 inches WC. The parallel plate design of the Outside Air Pickup Port significantly reduces these unwanted wind pressures for a stable and accurate reading at the pressure sensor and controller.

Part #: N1-ZPS-ACC10-V-A

Specifications

Environmental Operation Range:

Temperature:

-40 to 212 °F

(-40 to 100 °C)

Humidity:

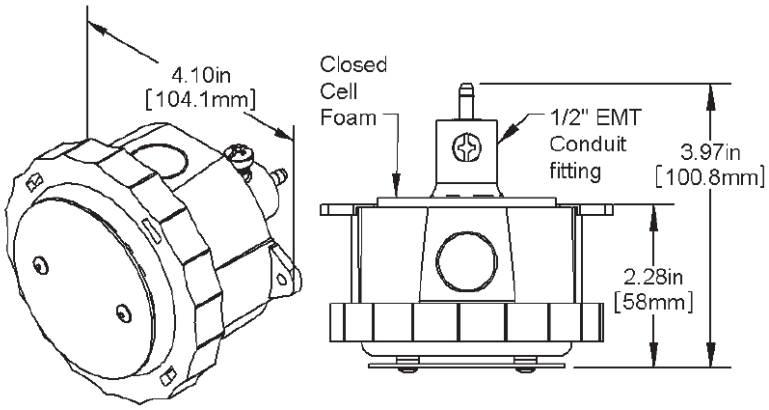
0% to 100% RH,

condensing

Material:

UV-resistant plastic

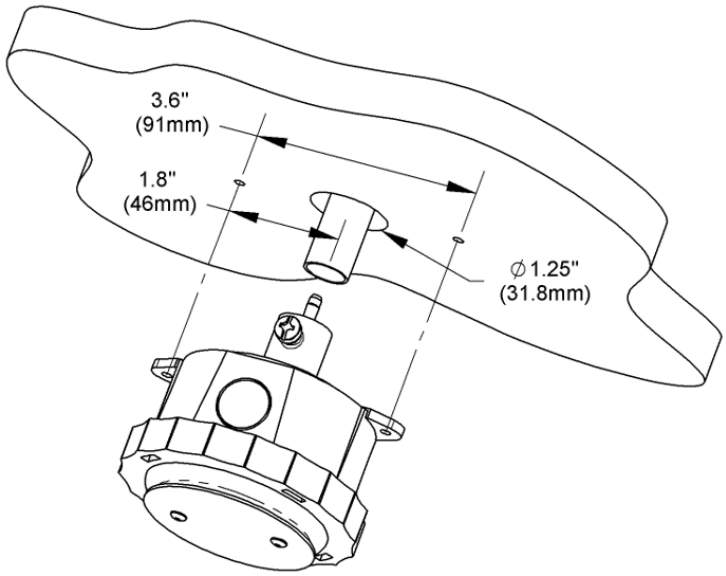
Dimensional Drawing



Mounting

Tools and Materials

#2 Philips Screwdriver, #8 screws, Drill, 1 ¼ inch hole saw, 1/8 inch drill, ½ inch EMT conduit (if needed).



Outdoors

Do not mount within 48 inches of economizers, intake or exhaust fans, or barometric dampers. Mount near the center of the building on the side of the building away from the predominant wind. Mount at least 24 inches from the wall.

Indoors

Do not mount within 48 inches of diffusers, circulating fans or return grills. Mount near the center of the space to be monitored. Do not mount in a closet or other confined space.

Conduit may or may not be used.

Conduit

Drill a 1 ¼ inch hole at the position you wish to mount the pickup. If using conduit, thread the pressure tubing through the conduit. Leave the conduit loose with at least 1 inch protruding from the 1 ¼ inch hole. Attach the pressure tubing to the barbed fitting inside the conduit fitting on the pickup port. Slide the conduit into the conduit fitting and secure the conduit with the screw in the pressure port's conduit fitting. Push the pickup port against the surface and mark the mounting holes. Drill the mounting holes with a 1/8 inch drill. Mount the unit with #8 screws. Attach the far end of the conduit and connect the pressure tube to your pressure sensor. We recommend the ZPS Differential Pressure Transmitter for the pressure sensor.

No Conduit

Drill a 1 ¼ inch hole at the position you wish to mount the pickup. Attach the pressure tubing to the barbed fitting inside the conduit fitting on the pickup port. Push the pickup port against the surface and mark the mounting holes. Drill the mounting holes with a 1/8 inch drill. Mount the unit with #8 screws. Connect the pressure tube to your pressure sensor. We recommend the ZPS Differential Pressure Transmitter for the pressure sensor.

Appendix – Symbols Key

Warning	Potential for death, serious injury, or permanent damage to a system.
Caution	Potential for injury, damage to a system, or system failure.
Tip	Useful information not related to injury or system damage.