

Differential Pressure Sensor (7C-SE-C68X-X)

INTRODUCTION

Differential Pressure Sensor (DPS) extends the sensor capabilities of ClimaVision controllers. Its use opens an array of additional applications from flow sensing in variable air volume (VAV) boxes to monitoring filter performance in air handling units (AHU). The compact profile and rugged construction of DPS allow it to be mounted on the sides of VAV boxes, hard supports, or rafters.

PACKAGE CONTENTS

- Differential Pressure Sensor
- Mounting accessories
- Sensor bus communication cable
- Pipes for static and total air flows

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Guide



SPECIFICATIONS

Power	Sensor Bus powered at 3.3V with maximum current limit of 10mA
Operating range	Temperature 30°F (0°C) to 122°F (50°C)
Pressure sensing range	0 - 2" WC or 500 Pa
Protection	Protection: IP 20, NEMA Type 1 Pollution grade: 2 Certification: ROHS
Communication	Sensor bus for daisy chained sensor communication and low power 3V DC.
Zero-point Accuracy	0.1 Pa
Accuracy	3% of measured value
Span shift due to temperature variation	< 0.5% of reading per 10°C
Offset stability	< 0.05 Pa/year
Mounting	Firmly on the VAV box, hard supports, or rafters. Torque not exceeding 0.2Nm to be used to fix the device.
Flow step response time	< 3ms
Pressure medium	Air non-condensing
Storage temperature	-10°C to 70 °C



PRECAUTIONS

- 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.
- Do NOT mount the tubing so that the inside or the outside tube ends are in direct line of a breeze or draft.
- Turn off the power before wiring. Never connect or disconnect the wiring with the power turned on. Do NOT allow live wires to touch the circuit boards.
- Install in accordance with all state and local codes.

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1. Mount the Differential Pressure Sensor using two #8-1.5” self-tapping screws as shown in Figure 1. The transmitter is factory-calibrated and must be installed vertically with the air inlet nozzles pointing perpendicular to the duct. To adjust the zero, both pressure ports must be open to the atmosphere.

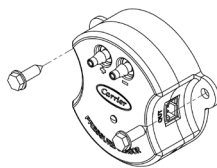


Figure 1

2. Mount the air pick-up pipe to the air inlet nozzles provided on the DPS. To fix the pipe, push one end of the flexible pipe till the edge butts out to the back of the nozzle and the other end to the crossflow tubes or pitot's installed. See Figure 2.

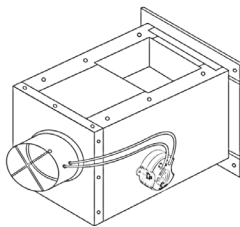


Figure 2

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1. Turn off the power. Connect one end of the Sensor bus cable to one end of the RTS port on the Smart Node and the other end to the IN port of the DPS as shown in Figure 3.



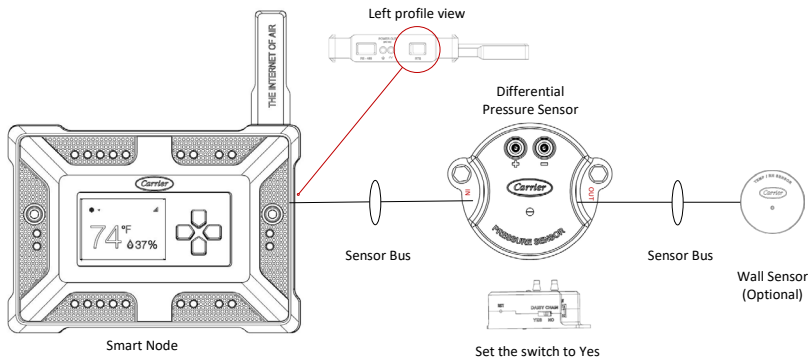


Figure 3

2. Power to the DPS is provided through the Sensor bus cable; no external power wiring is required. If an additional Wall sensor needs to be connected, connect the other Sensor bus cable to one end of the OUT port of the DPS and the other end to the RTH sensor. See Figure 4 for connections.
3. To enable Wall sensor communication, the *Daisy Chain* switch must be set to *Yes*. When there is no requirement for additional sensors to be connected to the OUT port of the DPS, the *Daisy Chain* switch must be set to *No*. See Figure 4.

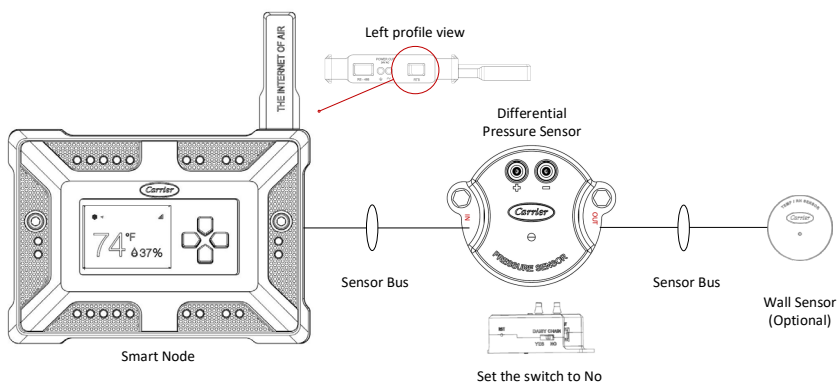


Figure 4

On the DPS, connect the static tube to “-” and the total pressure pipe to “+”. This helps the sensor calculate the differential pressure in the duct.

CARRIER CLIMAVISION TECHNICAL SUPPORT

Installation and servicing of Control Systems can be hazardous due to electrical components. Only trained and qualified service personnel should install, repair or service control system components.

For more information on wiring, commissioning, or usage of the ClimaVision product line, please refer to any documentation provided with the job. If no documentation was provided with the job, please use the ClimaVision Help Center (support.climavision.com) where you can find application specific wiring schematics and helpful user guides and videos or scan the QR code here:



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If you need help beyond that, please reach out to your local Carrier distributor for support. technical support.



For more information, contact your local Carrier Controls Expert
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