PACKAGED UNITS KITS
AND ACCESSORIES

507473-02
7/2021
Supersedes 1/2018

OUTDOOR AIR CFM CONTROL KIT

INSTALLATION INSTRUCTIONS FOR OUTDOOR AIR CFM CONTROL KIT (13J76; 613720-01) USED ON LG/LC 092-360 PACKAGED ROOFTOP UNITS

Shipping and Packing List

Package 1 of 1 contains:

1- Outdoor air CFM flow control (A24) assembly

Bag assembly containing:

    2-#10 - 5/8" Sheet metal screws
    1-Wire tie
    1-Bracket
    6-#10 - 5/8" Self drilling screws
    1-Template
    2-#10 - 1" Sheet metal screws

Application

Units must be equipped with a supply air variable frequency drive (VFD), an economizer, and an M3/M4 Unit Controller.

When the supply air VFD is operating at lower speeds, the amount of fresh air pulled into the system may not meet minimum outdoor air requirements. Based on input from the O.A. control, the Unit Controller modulates outdoor air dampers to maintain a constant amount of fresh air regardless of blower speed.

Install Collar On Sensor

1- Install collar onto sensor at the 10.5 mark. See figure 1. Secure with the screw provided with sensor.

⚠CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier

Install Sensor

1- Disconnect power to unit and open access panels.

2- Align the template provided in this kit as shown in figure 2 or 3. Mark and drill holes. Discard the template.
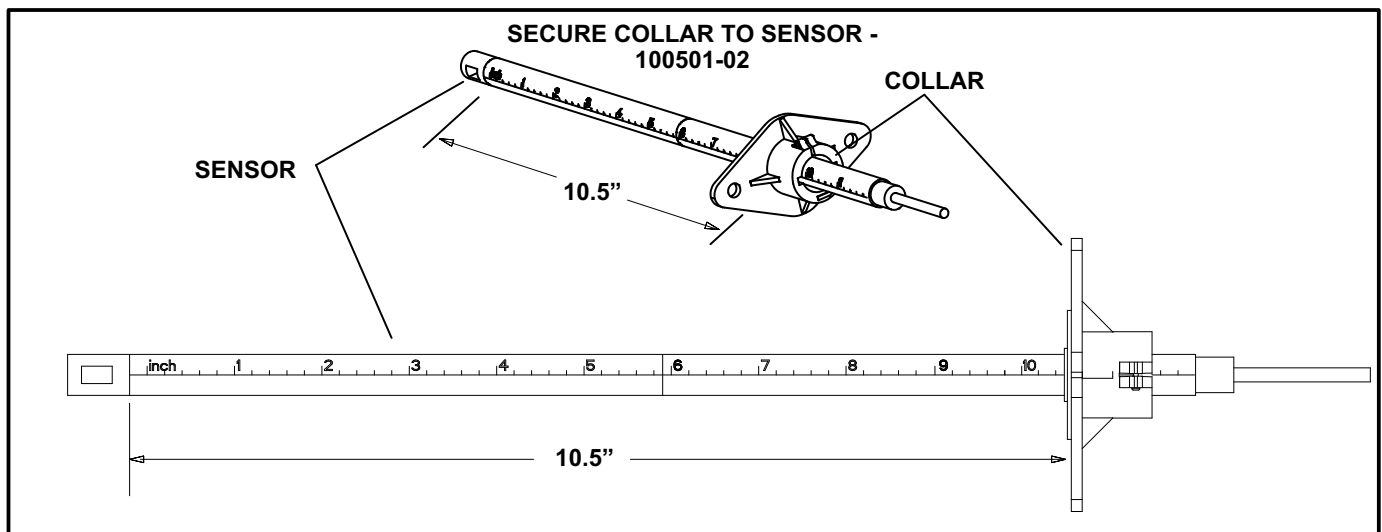

FIGURE 1

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3- Install the sensor. See figure 4 for 092-150 units and figure 5 for 156-360 units. Secure sensor with two #10X5/8" sheet metal screws.

Note - Make sure the air velocity sensor is aligned parallel with the air stream.

4- Coil excess probe cable and secure to low voltage harness with wire tie.

POSITION TEMPLATE - 092-150 UNITS

BRACKET PROVIDED ONLY ON UNITS EQUIPPED WITH A DDC CONTROL

3/32"

1"

3/32"

TEMPLATE

ALIGN TEMPLATE WITH HOLES

FIGURE 2

POSITION TEMPLATE - 156-360 UNITS

TEMPLATE

ALIGN HOLES ON TEMPLATE WITH HOLES IN UNIT

3/32"

3/32"

1"

FIGURE 3

092-150 UNITS

SENSOR

A24 CONTROL

FIGURE 4

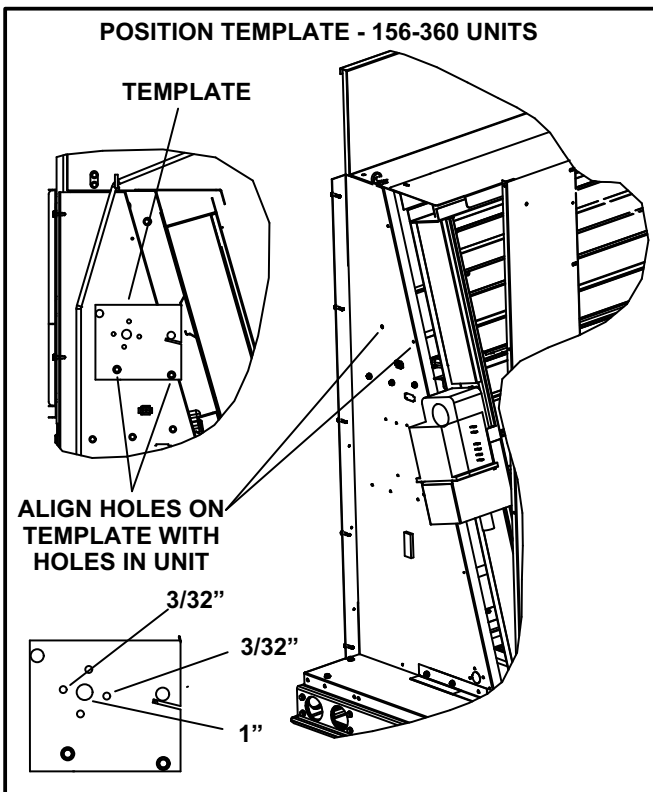**LGH/LCH156-360 UNITS**
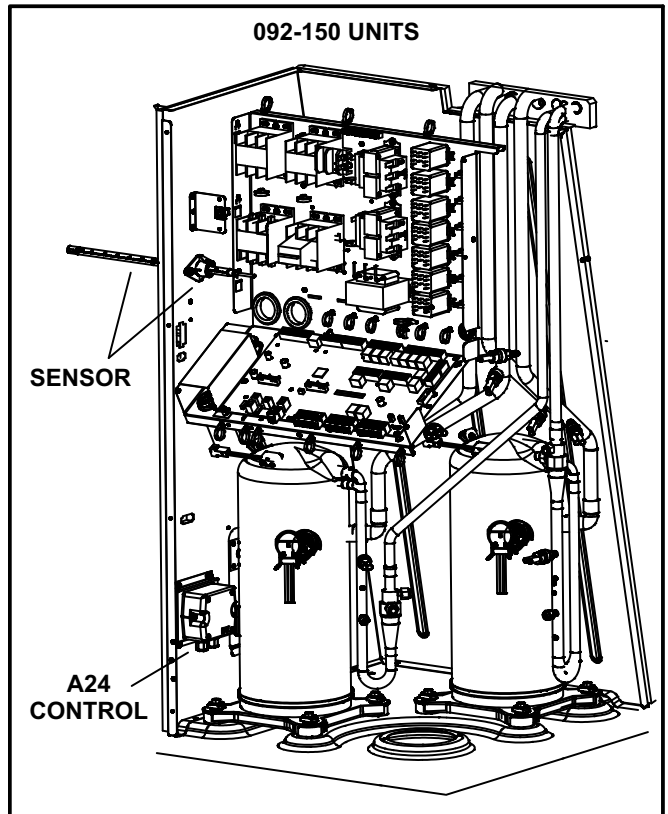

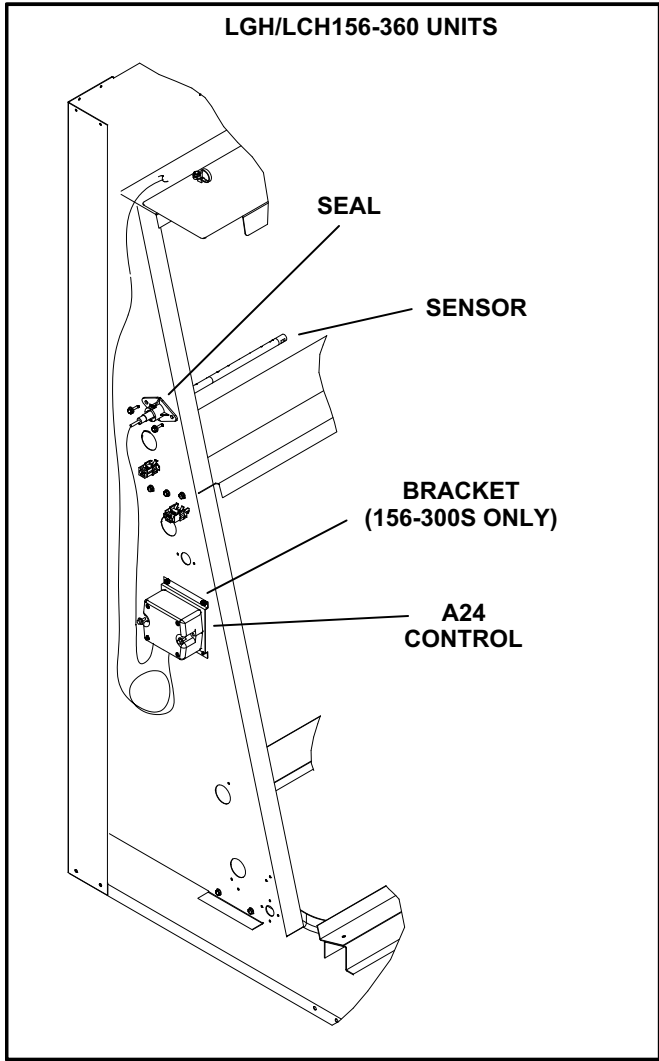SEAL

SENSOR

BRACKET
(156-300S ONLY)

A24
CONTROL

FIGURE 5

Install A24 Control

Use a field-provided, 22AWG, 3-wire cable to wire the outdoor air control. Cable should be 30" long for 092-150 units and 120" long for 156-360 units.

1- Remove the A24 cover and connect the field-provided cable as shown in figure 6.

2- *092-240 & 300S Units Only -*
Secure the A24 control onto the bracket and secure with two 1" screws provided in kit. Install the bracket assembly into the unit and secure with 5/8" self drilling screws. See figure 7 for 092-150 units and figure 8 for 156-240 & 300S units.

242, 300H, & 360 -
Install the A24 control into the unit and secure with 1" sheet metal screws. See figure 8. The bracket and 5/8" self drilling screws are not used.

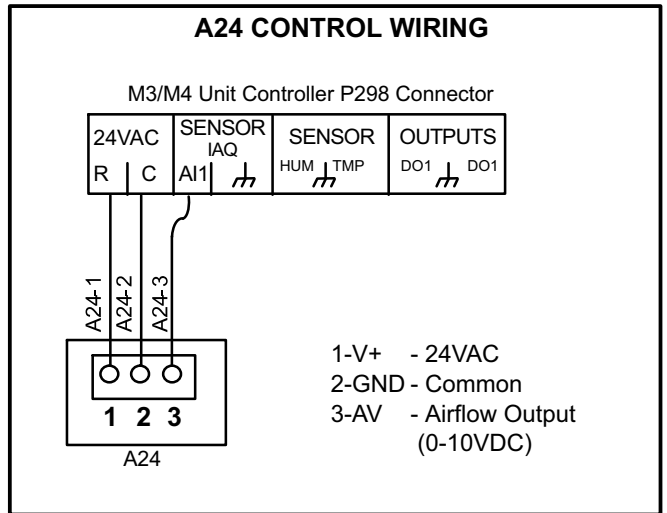3- Route the cable to the Unit Controller. See figure 7 for 092-150 units and figure 8 for 156-360 units.
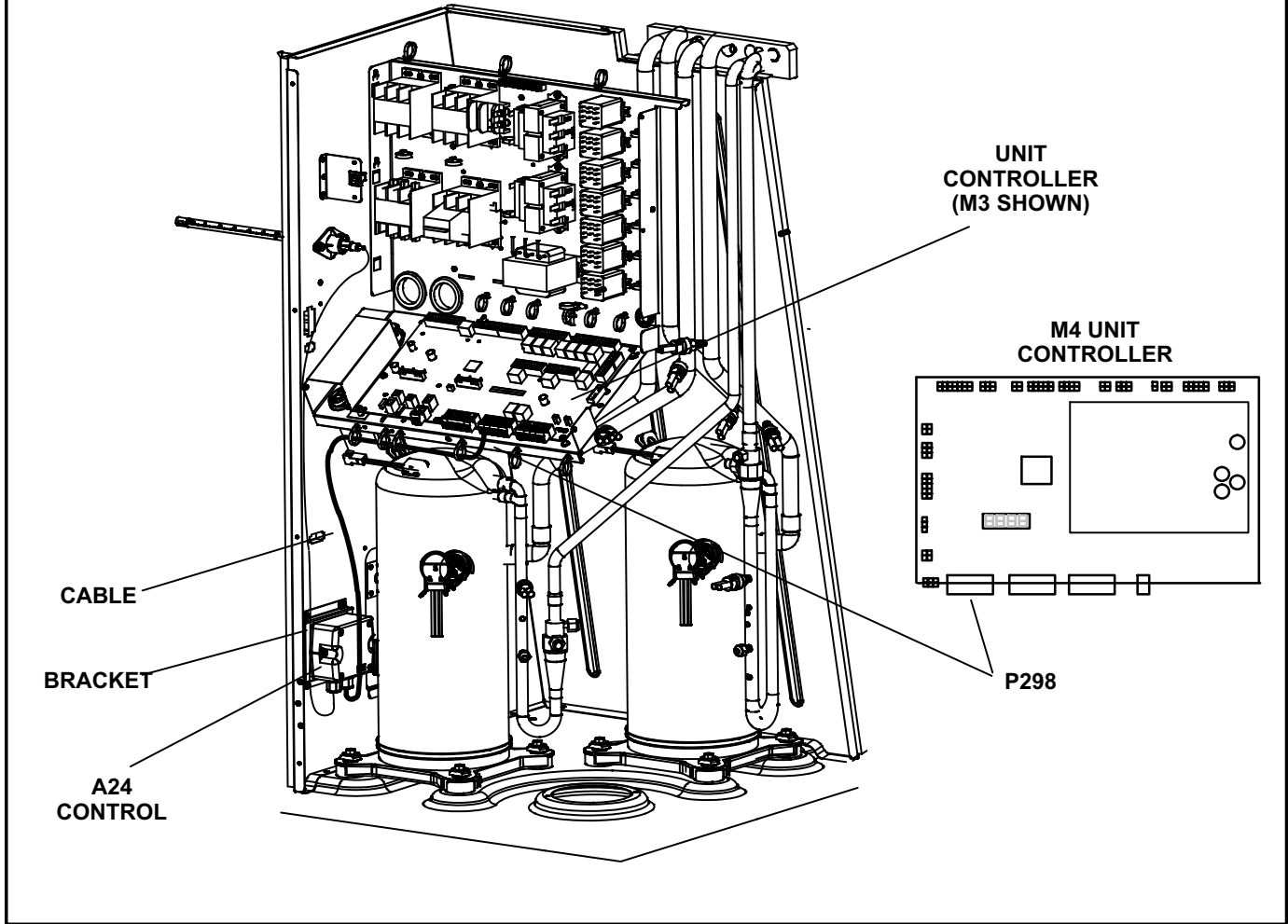

A24 CONTROL WIRING

M3/M4 Unit Controller P298 Connector

24VAC		SENSOR IAQ		SENSOR		OUTPUTS	
R	C	AI1	⏚	HUM │ TMP	⏚	DO1 │ DO1	⏚

A24-1 A24-2 A24-3

1 2 3
A24

1-V+ - 24VAC
2-GND - Common
3-AV - Airflow Output
(0-10VDC)

FIGURE 6

WIRE ROUTING - 092-150 UNITS

UNIT
CONTROLLER
(M3 SHOWN)

M4 UNIT
CONTROLLER

CABLE

BRACKET

P298

A24
CONTROL

FIGURE 7

WIRE ROUTING - 156-360 UNITS

ROUTE CABLE
THROUGH TUBING

M3 UNIT
CONTROLLER

SENSOR

BRACKET
(156-240 & 300S
ONLY)

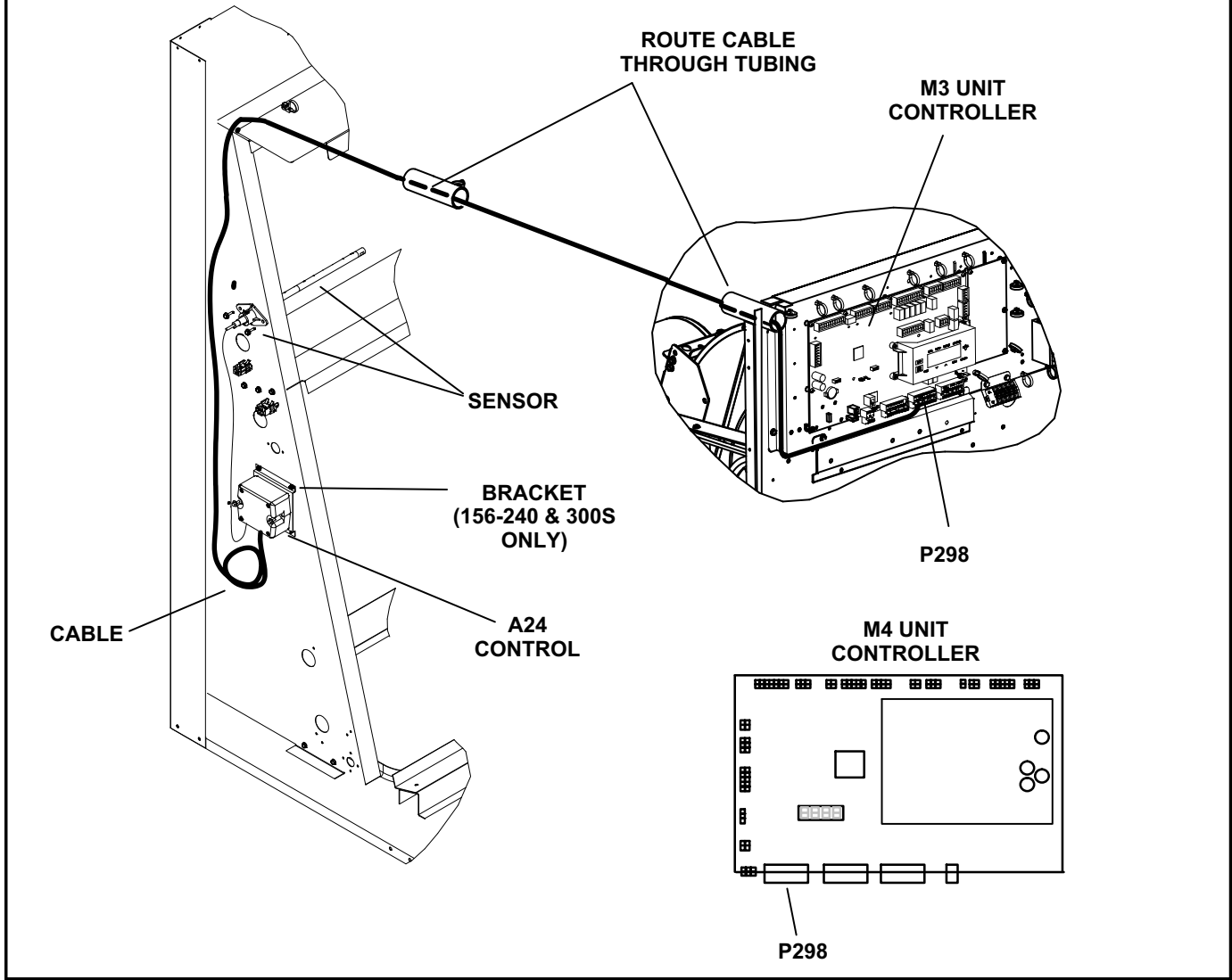P298

CABLE

A24
CONTROL

M4 UNIT
CONTROLLER

P298

FIGURE 8

Configuration ID Setting

1- Enable the Outdoor Air Control feature and set the velocity sensor range using the M3/M4 Unit Controller **SETUP > INSTALL** menu. Navigate to **Configuration ID 1**. Set position **8** to:

   H - Outdoor air control installed with A24 control set for high range (0-1968ft/min)

2- Make sure the A24 jumper is installed in the low range position as shown in figure 9.

3- Operate the blower in high speed and adjust the minimum damper position. Use **SETUP > TEST & BALANCE > DAMPER > MIN DAMPER POSITION** menu. Adjust minimum damper position and press **SAVE.** The Unit Controller will automatically save and display the velocity setpoint. Press **SAVE** again to confirm.

Note - The minimum damper position setting MUST be set lower than the OAC max damper position setting (50% default). To modify the max damper position setting, navigate to **SETTINGS > EDIT PARAMETERS** *and select parameter 117 (DCV MAX DAMPER OPEN).*

Additional outdoor air CFM control settings are available. See parameters 117 and 134 in the Unit Controller manual. Make adjustments through the **SETTINGS > EDIT PARAMETERS** menu; select the required parameter.

4- Replace A24 control cover.

NOTE - Refer to local codes or authorities having jurisdiction when determining design minimum outdoor air requirements.

Velocity Sensor Settings

The A24 control is factory-set for 0-10m/s. (0-1968ft/min.)

Note - The configuration ID velocity range must be set to "H" and the jumper setting on the A24 control must be set at low range. No other combinations may be used with the 100501-02 sensor.

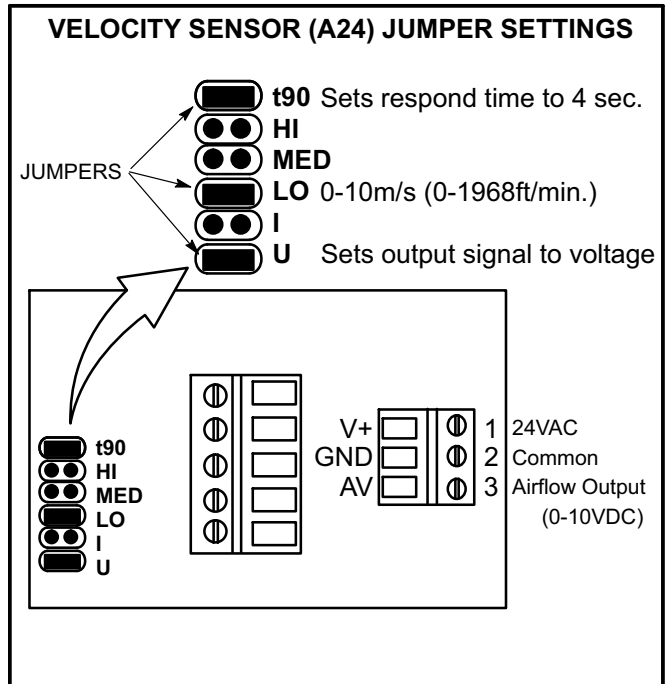The jumper is factory-set at low range (0-1968ft/min).

FIGURE 9