

**INSTALLATION INSTRUCTIONS FOR NTC BYPASS CONTROLLER KIT (11W31; 100809-01)  
 USED WITH L CONNECTION® NETWORK**

**Shipping and Packing List**

Package 1 of 1 contains:

- 1 - NTC Bypass Controller
- 1 - Wiring diagram

*NOTE - A static pressure transducer is required for proper operation and must be ordered separately.*

Check controller for shipping damage. Receiving party should contact last carrier immediately if shipping damage is found.

These instructions are intended as a general guide and do not supersede local codes in any way. Authorities having jurisdiction should be consulted before installation.

**Application**

The NTC Bypass Controller is used in bypass damper changeover zoning applications. The Bypass Controller is used on units controlled by a Network Thermostat Control (NTC). The Bypass Controller modulates bypass dampers based on readings from a supply duct static pressure sensor (ordered/shipped separately).

The bypass damper will modulate open as the duct static increases.

**⚠ WARNING**

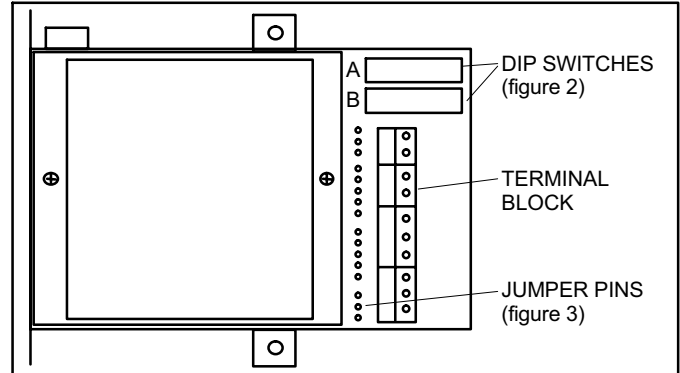
**Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer or service agency.**

**⚠ CAUTION**

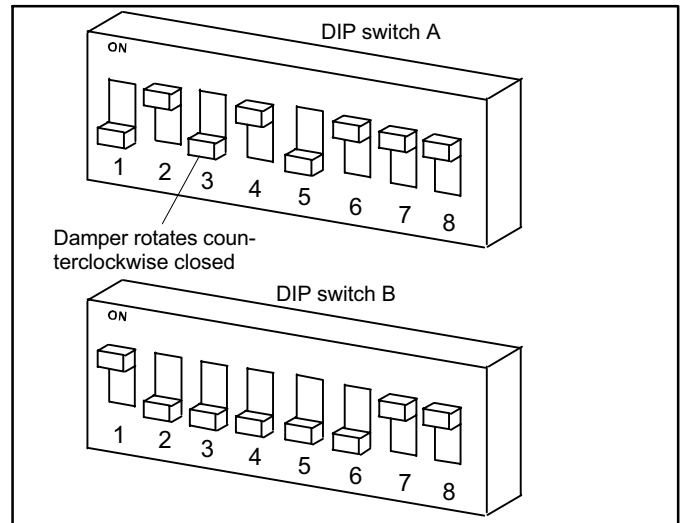
**Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.**

**Bypass Controller Setup**

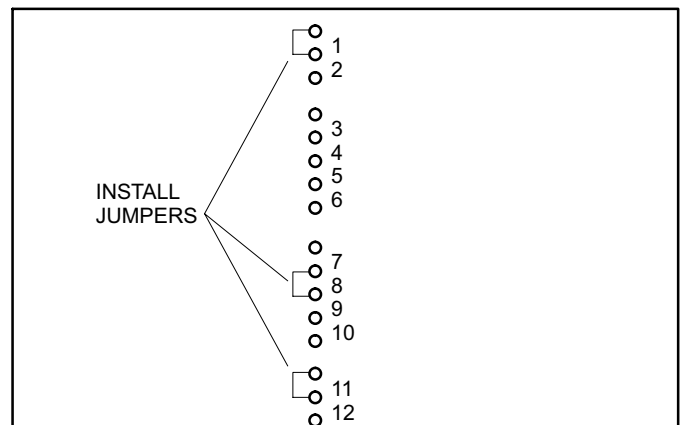
1. Locate the bypass controller DIP switches (figure 1) and set as shown in figure 2.
2. Locate the bypass controller jumpers (figure 1) and install as shown in figure 3.



**Figure 1. Bypass Controller**



**Figure 2. Bypass Controller Dip Switches**

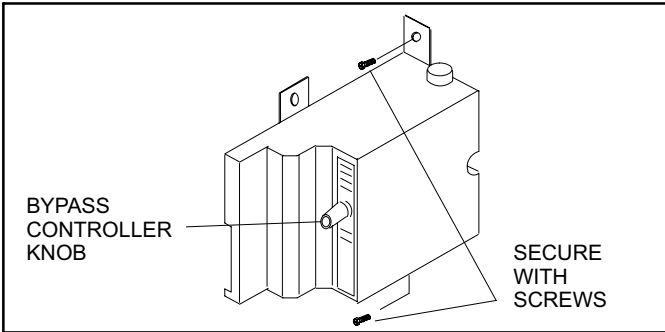


**Figure 3. Bypass Controller Jumpers**



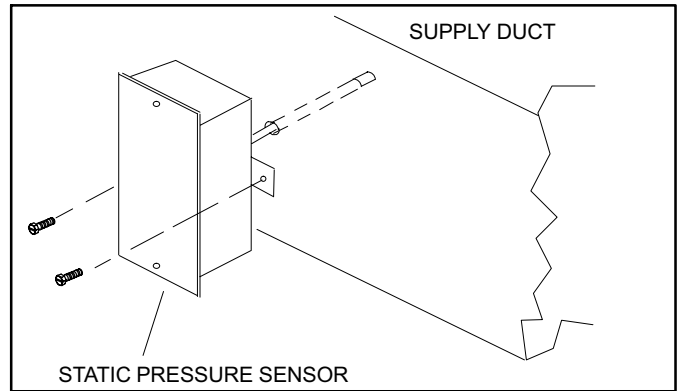
## Installation

1. Install the Bypass Controller in the unit or on the side of the supply duct two-thirds of the way down the longest duct (near the pressure sensor). See figure 4.



**Figure 4. NTC Bypass Controller (A153)**

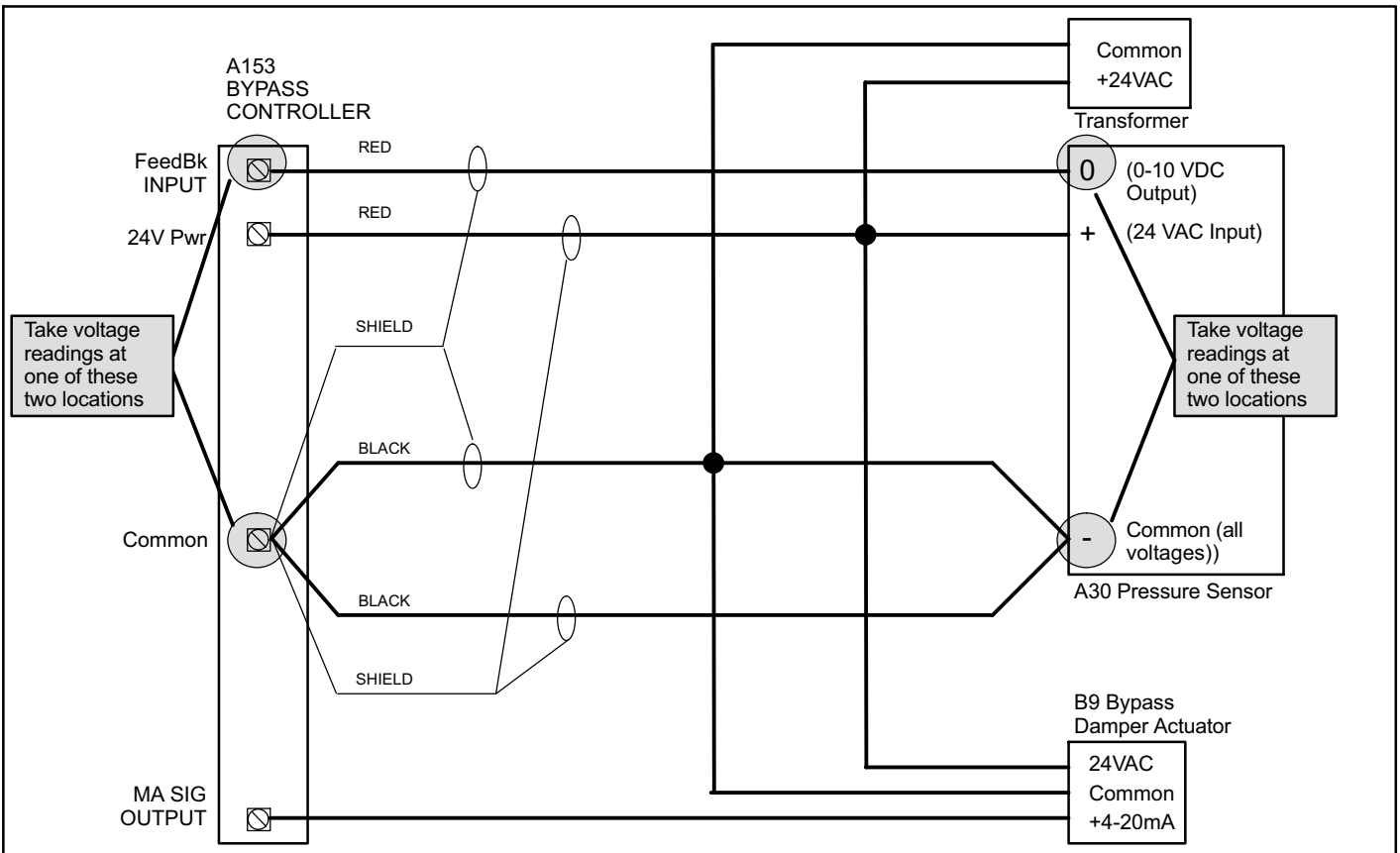
2. Install the static pressure sensor (A30) on the side of the supply duct two-thirds of the way down the longest duct (see figure 5). Secure with two #8 self-tapping screws.



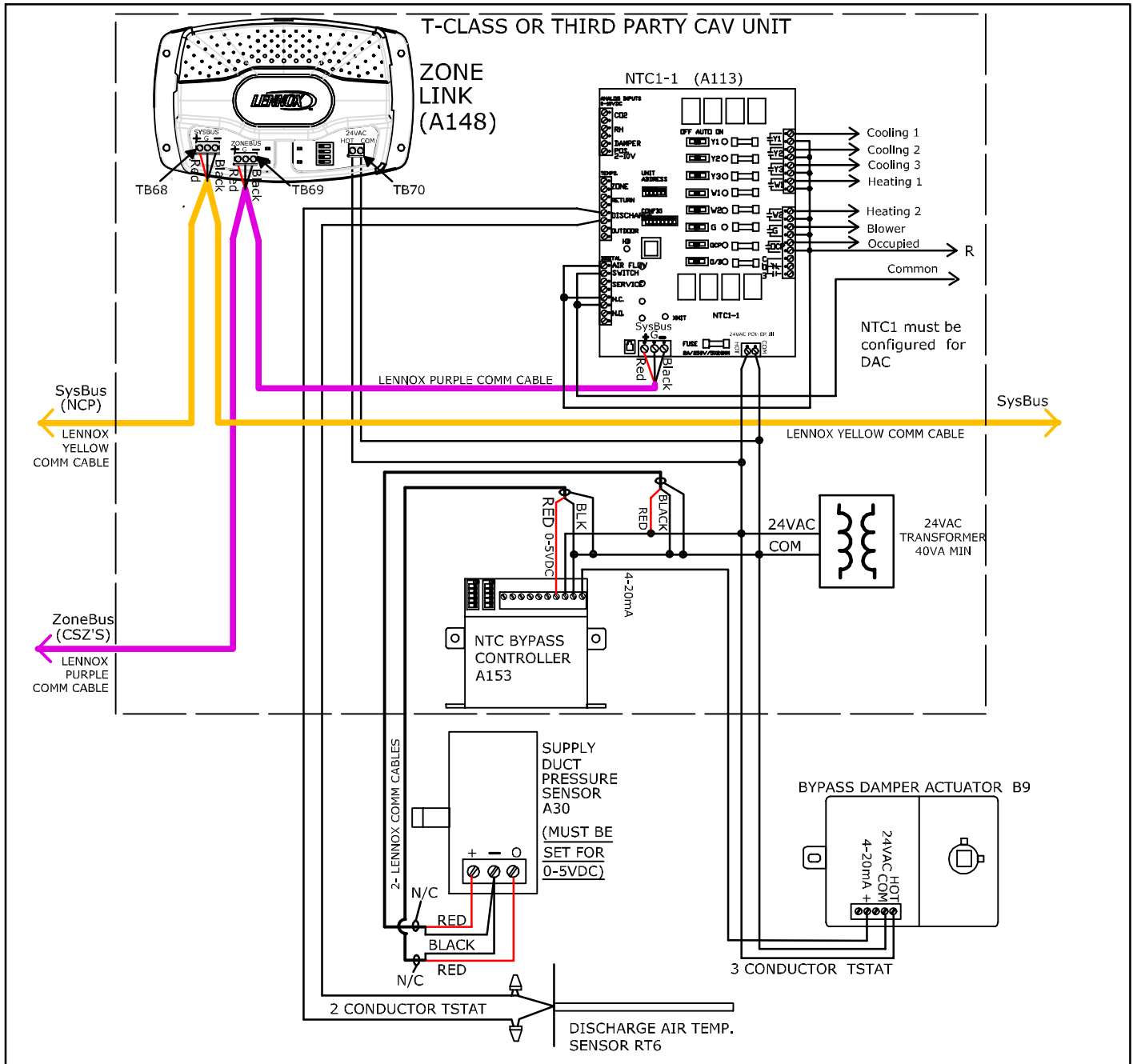
**Figure 5. Install Static Pressure Sensor (A30)**

## Wiring

1. Connect wiring as shown in figures 6 and 7.
2. Affix wiring diagram to inside unit panel near other diagrams.



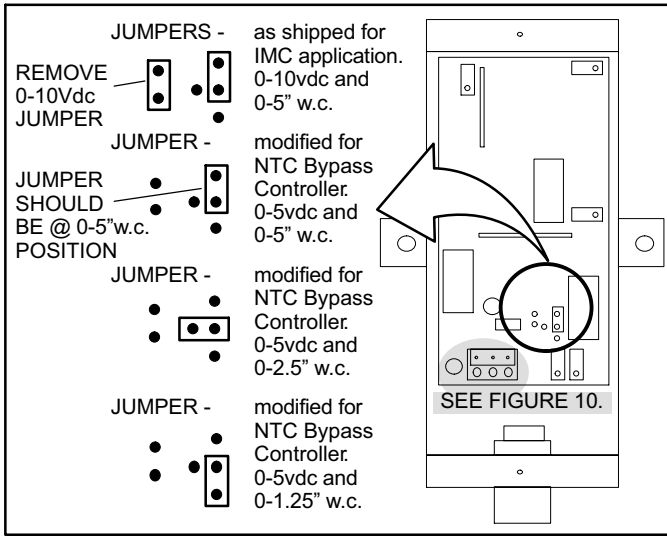
**Figure 6. Wiring**



**Figure 7. T-Class/3rd Party Unit Low Voltage Wiring for CAV Bypass Zoning**

## Static Pressure Sensor Setup

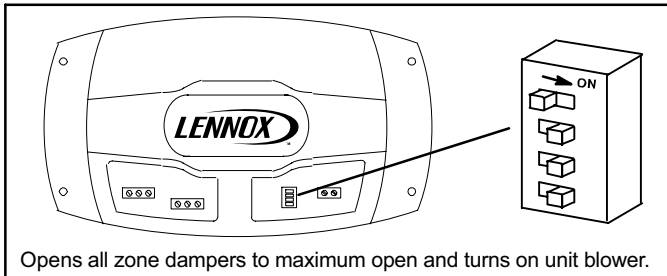
Remove cover from pressure sensor and remove the 0-10Vdc jumper and set the output range as shown figure 8.



**Figure 8. Pressure Sensor Jumper Settings**

Use the following steps to adjust the range:

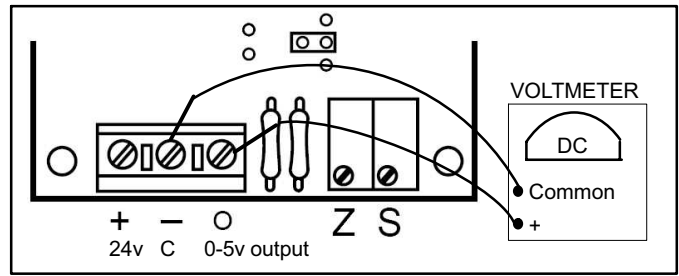
1. Apply power to unit.
2. Set Zone Link SW1 MAX DMP DIP switch on to open all zone dampers and bring on the unit blower. See figure 9.



**Figure 9. Zone Link SW1 DIP Switch**

3. Connect a voltmeter (use DC volt setting) between the "0" and "-" terminals of the pressure transducer (see figure 10).

4. Make sure Bypass Controller knob is set to 100%.



**Figure 10. Connect Voltmeter**

5. Measure pressure transducer Vdc output. If less than 2.50 Vdc, select next lower static pressure range (move jumper to 0-2.5 " w.c., figure 8).
6. Measure pressure transducer Vdc output with new range selected.
7. If 2.5 Vdc or greater, find percentage in table 1. This will be the bypass controller setpoint.

**Table 1. Pressure Transducer Outputs**

Vdc Output (%)	Output Voltage	Static Pressure Range Setting (in. w.c.)		
		0 - 5	0 - 2.5	0 - 1.25
0	0.00	0.00	0.00	0.00
10	0.50	0.50	0.25	0.13
20	1.00	1.00	0.50	0.25
30	1.50	1.50	0.75	0.38
40	2.00	2.00	1.00	0.50
50	2.50	2.50	1.25	0.63
60	3.00	3.00	1.50	0.75
70	3.50	3.50	1.75	0.88
80	4.00	4.00	2.00	1.00
90	4.50	4.50	2.25	1.13
100	5.00	5.00	2.50	1.25

**Example:** If the pressure transducer voltage output is 3.5 Vdc, then the corresponding percentage is 70%; rotate knob to 70%. If fine tuning is required, use the following procedure:

- rotate knob slightly clockwise (higher setting) to maintain a higher operating static pressure control point.
- rotate knob counter-clockwise (lower setting) to maintain a lower operating static pressure control point.