Modulating Combustion Air System
with VSUB 8/12/16/20 Blower, CPC-3 Controller
and 460 volt VFD

PROJECT:

10' (3m) COMMUNICATIONS CABLE PROVIDED WITH EACH VFD

WARNING:
Improper wiring to this transducer will destroy the transducer. Use caution to ensure that the wiring to the transducer is correct before activating the CPC-3 Controller.

Route transducer wiring in metal conduit or use Belden Shield Cable #9939 or equivalent. Make sure the transducer wiring does not contain or cross live voltage wiring or undesired transducer performance may result.

The low voltage VFD communication wiring is to be routed in metal conduit. If longer wiring is desired, see the wire length table at left for maximum wire lengths.

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>Max. Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 AWG</td>
<td>900' (274m)</td>
</tr>
<tr>
<td>14 AWG</td>
<td>600' (183m)</td>
</tr>
<tr>
<td>16 AWG</td>
<td>390' (119m)</td>
</tr>
<tr>
<td>18 AWG</td>
<td>220' (67m)</td>
</tr>
<tr>
<td>20 AWG</td>
<td>165' (50m)</td>
</tr>
<tr>
<td>22 AWG</td>
<td>110' (34m)</td>
</tr>
</tbody>
</table>
LEGEND:

- LOW VOLTAGE / DC CONTROL WIRING
- 230 VAC SUPPLY / LOAD WIRING
- 460 VAC SUPPLY / LOAD WIRING
- VFD COMMUNICATIONS CABLE

FIGURE 8052020  11/18/04

WARNINGS:

1. Improper wiring to the transducer will destroy the transducer. Use caution to ensure that the wiring to the transducer is correct before activating the CPC-3 controller.

2. Verify that the input power voltage matches the VFD's nameplate rating before applying power. Improper supply voltage to the VFD could damage the VFD.

3. Verify that the blower (VSUB 8/12/16/20) is wired for the output voltage from the VFD. If not correct, severe damage to the blower and/or the VFD could result.

4. When the system is completely installed, perform the safety interlock and operational test as outlined in the installation manuals. Failure to do these tests could result in an unsafe and/or incorrectly operating system.

CAUTIONS:

1. All wiring must be in metal conduit (best) or shielded cable.

2. Route transducer wiring in metal conduit or use Belden Shield Cable #9939 or equivalent. Make sure the transducer wiring does not contain or cross line voltage wiring or undesired transducer performance may result.

3. Do not run the VFD's input power and output power wiring in the same conduit. Undesired VFD operation could result.

NOTES:

- If the provided 10-foot, 10-wire VFD control cable is not long enough to meet the application needs, use caution to ensure that the connections from the VFD to the CPC-3 controller are correctly located. MB to MB, MC to MC, etc. In addition, reference the Wire Length Table.

- Use caulking to seal the electrical box cover to the electrical box, and to seal the conduit holes to hole plugs.

- If required, non-fused disconnects are to be supplied by the installer.

- The FFP-1 will disable the combustion air blower when excessively hot or cold room air is detected. Refer to the FFP-1 installation instructions for details.