## Wiring Diagrams

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The wiring diagrams for the 33CSSP2-FC and 33CSSN2-FC thermostats are the same; however, the 33CSSP2-FC thermostat is programmable while the 33CSSN2-FC thermostat is non-programmable.
†Wall-mounted space temperature sensor is not included with Open FC control package. Space temperature sensors can be ordered as accessories.
**Open FC controller is available only if there is same end coil connections unit. Open FC controller is not available with opposite end connections.

**LEGEND (Fig. 1-108)**

<table>
<thead>
<tr>
<th>AWG</th>
<th>American Wire Gage</th>
<th>OCC/FS</th>
<th>Occupied Fan Status</th>
<th>Terminal (Unmarked)</th>
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<td>OPN-FC</td>
<td>Open FC</td>
<td>Terminal Block</td>
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<td>C/O</td>
<td>Quick Connect</td>
<td>Splice</td>
</tr>
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<td>DX</td>
<td>Direct Expansion</td>
<td>RA</td>
<td>Return Air</td>
<td>Factory Wiring*</td>
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<tr>
<td>ELEC</td>
<td>Electric</td>
<td>RH</td>
<td>Relative Humidity</td>
<td>Optional Wiring*</td>
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<td>Ground</td>
<td>RAT</td>
<td>Return Air Temperature</td>
<td>Stripped Wire Lead*</td>
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<td>RNET</td>
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<td>Wire Connection*</td>
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<td>LonWorks Option Card</td>
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<td>TSTAT</td>
<td>Thermostat</td>
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<td>W/O</td>
<td>Without</td>
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<td>OAD</td>
<td>Outdoor Air Damper</td>
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*Use WHT for 120/277 v. Use BLK for 208/240 v.
NOTES (Fig. 1-98):
1. Disconnect power before servicing.
2. See nameplate for correct voltage. Use 75 C minimum copper conductors only. Unit terminals are not designed to accept any other wiring.
3. Motor(s) is thermally protected. Units with 2 motors are wired parallel.
4. Provide disconnect means and overcurrent protection as required.
5. Motor shown for 120/277 v operation; for 208/240 v motor common is ORG or YEL.
6. Valve optional, factory-supplied or field-supplied with NEC class 1 wiring. Do not exceed thermostat rating.
7. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (first on, last off).
8. All contractor wiring must conform to national and local electrical codes.
OPERATION

Manual Fan Control — The standard fan-speed switch is furnished unit-mounted and wired on all vertical cabinet units. On all vertical furred-in units and all horizontal units, the switch is shipped separately on a decorative wall plate for field mounting and wiring.

The standard switch has LOW, MEDIUM, HIGH and OFF positions plus an auxiliary contact to energize thermostats, valves, dampers, etc.

Thermostatic Fan Control, 2-Pipe Systems —
The thermostat cycles the fan on and off from any selected speed setting to maintain selected room temperature. Controls can be wired for heating-only, cooling-only or for heating/cooling with the addition of an automatic changeover device that senses water temperature and changes the action of the thermostat as required.

Thermostatic Fan Control, 2-Pipe Systems with Safety Cycle — This control is used for high humidity situations in which condensate problems can occur if fan is turned off while chilled water is still running through the coil.

The wiring provides fan cycling from HIGH to LOW on the cooling cycle and from LOW to OFF on the heating cycle. An ON-OFF toggle switch replaces the standard 3-speed fan switch. The toggle switch can be concealed to ensure that the unit runs on low speed when cooling. This action greatly reduces the chance of condensation problems that exist with other standard fan cycling controls.

Thermostatic Electric Valve Control, 2-Pipe —
A thermostatically controlled 2-position valve provides superior control to fan cycling. With this control, the fan runs continuously unless it is manually switched to the OFF position. The fan must be on before the valve can be opened to supply water to the coil.

This system can be used for normal 2-pipe changeover systems and can also be furnished for cooling-only or heating-only applications by omitting the changeover and specifying which application is intended.

Thermostatic 2-Pipe Auxiliary Electric Heat with Valve Control — This system, also called Twilight or Intermediate Season electric heat, goes a long way towards solving the spring and fall control problems of 2-pipe systems.

Chilled water can be available late into the fall. It may also be turned on early in the spring and still provide heat to all units when required.

In winter, the system is switched over to hot water and requires 2 auto changeover devices (aquastats). One device controls the switching of the thermostat, the other device locks out the electric heater when hot water is in the coil.

With this system, the fan runs continuously unless manually switched to the OFF position. Fan must be on before thermostat can send signal to open chilled water valve or turn on electric heater.

Two control methods are available:
1. Use of a standard automatic changeover thermostat with a deadband between heating and cooling.
2. Use of a manual changeover thermostat. Only one changeover is required with this method.

A 2-way or 3-way electric valve must be included with this system.

Thermostat 2-Pipe Total Electric Heat with Valve Control — With this system, the complete heating requirement for the space is provided by the electric heater; the water system is never changed over for heating. It is therefore possible, just as with 4-pipe systems, to have heating or cooling at any time of the year.

The fan runs continuously unless it is manually switched to the OFF position. Fan must be on before thermostat can send signal to open chilled water valve or turn on electric heater.

Normally, an automatic changeover thermostat with a deadband between heating and cooling is used, but a manual changeover thermostat is also suitable. A 2-way or 3-way valve can also be used so that the chilled water is off whenever the heater is on. No changeover device to sense water temperature is necessary.

Thermostatic Valve Control, 4-Pipe — The 4-pipe system provides the ultimate in economy and room temperature control. Both hot water and chilled water are available at any time.

Normally an automatic changeover thermostat is used, but a manual changeover thermostat is also suitable. Two 2-way valves, two 3-way valves, or one 2-way plus one 3-way valve must be selected. An automatic changeover device to sense water temperature is not required.

With this system, the fan runs continuously unless it is manually switched to the OFF position. The fan must be on before thermostat can send a signal to open the chilled water or hot water valve.
Fig. 1 — 42C, S, V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling Only — 24-v Controls by Others

Fig. 2 — 42C, S, V (except VG) and 42D 2-Pipe Cooling Only — 24-v Controls by Others (ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment)
Fig. 3 — 42C,S,V and 42D (600-1000 cfm) 2-Pipe Cooling Only — Line Voltage Controls by Others

Fig. 4 — 42D (1200-2000) 2-Pipe Cooling Only — Field-Supplied and Installed Controls (Line Voltage and Control Valves)
Fig. 5 — 42SG, SH, SJ, VA, VB, VF 2-Pipe Cooling Only — Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

Fig. 6 — 42C, S, V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling Only — Remote/Wall-Mounted Debonair Thermostat (24-v)
Fig. 7 — 42D (1200-2000) 2-Pipe Cooling Only — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Fig. 8 — 42C,S,V and 42D (600-1000 cfm) 2-Pipe Cooling Only — Remote/Wall-Mounted Thermostat
Fig. 9 — 42D (1200-2000) 2-Pipe Cooling Only — Remote/Wall-Mounted Thermostat (Line Voltage)
Fig. 10 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) 2-Pipe Cooling Only — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 11 — 42D (1200-2000 cfm) 2-Pipe Cooling Only — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 12 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) 2-Pipe Cooling Only — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 13 — 42D (1200-2000 cfm) 2-Pipe Cooling Only — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 14 — 42C,S,V (except VG) and 42D 2-Pipe Cooling Only — Open FC Controller (24-v) with ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment
Fig. 15 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating Only — 24-v Controls by Others

Fig. 16 — 42C,S,V (except VG) and 42D 2-Pipe Heating Only — 24-v Controls by Others (ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment)
Fig. 17 — 42C, S, V and 42D (600-1000 cfm) 2-Pipe Heating Only — Line Voltage Controls by Others

Fig. 18 — 42D (1200-2000) 2-Pipe Heating Only — Field-Supplied and Installed Controls
(Line Voltage and Control Valves)
Fig. 19 — 42SG, SH, SJ, VA, VB, VF 2-Pipe Heating Only — Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

Fig. 20 — 42C, S, V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating Only — Remote/Wall-Mounted Debonair Thermostat (24-v)
Fig. 21 — 42D (1200-2000) 2-Pipe Heating Only — Remote/Wall-Mounted Debonair Thermostat (24-v)

Fig. 22 — 42C,S,V and 42D (600-1000 cfm) 2-Pipe Heating Only — Remote/Wall-Mounted Thermostat (Line Voltage)
Fig. 23 — 42D (1200-2000) 2-Pipe Heating Only — Remote/Wall-Mounted Thermostat (Line Voltage)
Fig. 24 — 42C,S,V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating Only — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 25 — 42D (1200-2000 cfm) — 2-Pipe Heating Only — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 26 — 42C, S, V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating Only — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 28 — 42C,S,V (except VG) and 42D 2-Pipe Heating Only — Open FC Controller (24-v) with ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment.
Fig. 29 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Automatic Changeover — 24-v Controls by Others

Fig. 30 — 42C,S,V (except VG) and 42D 2-Pipe Heating and Cooling with Automatic Changeover — 24-v Controls by Others (ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment)
Fig. 33 — 42SG, SH, SJ, VA, VB, VF 2-Pipe Heating and Cooling with Automatic Changeover — Unit-Mounted Debonair® Thermostat (24-v), Duct Sensor

Δ

120-V WHT ALL OTHERS BLK

NEC CLASS 1 WIRING

![Diagram of 2-Pipe Heating and Cooling with Automatic Changeover]

Fig. 34 — 42SG, SH, SJ, VA, VB, VC, VE, VF 2-Pipe Heating and Cooling with Automatic Changeover — Unit-Mounted Thermostat (Line Voltage)
Fig. 35 — 42C, S, V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Automatic Changeover — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Fig. 36 — 42D (1200-2000) 2-Pipe Heating and Cooling with Automatic Changeover — Remote/Wall-Mounted Debonair Thermostat 24-v
Fig. 37 — 42C,S,V and 42D 2-Pipe Heating and Cooling with Automatic Changeover — Remote/Wall-Mounted Thermostat (Line Voltage)
Fig. 38 — 42C,S,V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating and Cooling with Automatic Changeover — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 39 — 42D (1200-2000 cfm) — 2-Pipe Heating and Cooling with Automatic Changeover — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 40 — 42C,S,V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating and Cooling with Automatic Changeover — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 41 — 42D (1200-2000 cfm) — 2-Pipe Heating and Cooling with Automatic Changeover — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 42 — 42C,S,V (except VG) and 42D 2-Pipe Heating and Cooling with Automatic Changeover — Open FC Controller (24-v) with ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment
Fig. 43 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — 24-v Controls by Others

Fig. 44 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Line Voltage Controls by Others
Fig. 45 — 42D (1200-2000) 2-Pipe Heating and Cooling with Auxiliary Heat — Field-Supplied and Installed Controls (Line Voltage and Control Valves or Electric Heat)

Fig. 46 — 42SG,SH,SJ,VA,VB,VC,VE,VF 2-Pipe Heating and Cooling with Auxiliary Heat — Unit-Mounted Debonair® Thermostat (24-v), Duct Sensor and Dual Power Source
Fig. 47 — 42C, S, V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Fig. 48 — 42D (1200-2000) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v)
Fig. 49 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Debonair Thermostat (24-v) and Dual Power Source

Fig. 50 — 42D (1200-2000) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v) and Dual Power Source
Fig. 51 — 42C.S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Thermostat (Line Voltage) and Dual Power Source

Fig. 52 — 42D (1200-2000) 2-Pipe Heating and Cooling with Auxiliary Heat — Remote/Wall-Mounted Thermostat (Line Voltage) and Dual Power Source
Fig. 53 — 42C.S.V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating and Cooling with Auxiliary Heat —
Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 54 — 42D (1200-2000 cfm) — 2-Pipe Heating and Cooling with Auxiliary Heat — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 55 — 42C,S,V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Heating and Cooling with Auxiliary Heat — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 56 — 42D (1200-2000 cfm) — 2-Pipe Heating and Cooling with Auxiliary Heat — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 57 — 42C,S,V (except VG) and 42D 2-Pipe Heating and Cooling with Auxiliary Electric Heat —
Open FC Controller (24-v) With ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment
Fig. 58 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — 24-v Controls by Others

Fig. 59 — 42C,S,V (except VG) and 42D 2-Pipe Cooling with Total Electric Heat — 24-v Controls by Others (ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment)
Fig. 60 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Line Voltage Controls by Others

Fig. 61 — 42D (1200-2000) 2-Pipe Cooling with Total Electric Heat — Field-Supplied and Installed Controls (Line Voltage and Control Valves or Electric Heat)
Fig. 62 — 42SG, SH, SJ, VA, VB, VC, VE, VF 2-Pipe Cooling with Total Electric Heat — Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

NOTE: Units may have 2 or 4 elements. Elements wired in parallel.

Fig. 63 — 42SG, SH, SJ, VA, VB, VC, VE, VF 2-Pipe Cooling with Total Electric Heat — Unit-Mounted Debonair Thermostat (24-v), Duct Sensor and Dual Power Source
Fig. 64 — 42D (1200-2000) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v)

Fig. 65 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Thermostat (Line Voltage)
**Fig. 66 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Debonair® Thermostat (24-v) and Dual Power Source**

- **Transformer:**
  - Black (COOL)
  - White/Red (HEAT)
  - Black

- **Limit Switch:**
  - Black
  - Black

- **Equipment Ground:**
  - Black
  - Black

- **Remote Device Box:**
  - Black
  - Black
  - Yellow

- **Quick Connect:**
  - Black
  - Yellow

- **Blower Motor:**
  - Black
  - Black
  - Blue

- **Elec. Heaters:**
  - 2 NO 6
  - COM
  - 4
  - 3
  - NC
  - 0
  - 6
  - 8
  - 7
  - 1

- **Valve:**
  - Cool
  - Black
  - Black
  - Yellow

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**Fig. 67 — 42D (1200-2000) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Debonair Thermostat (24-v) and Dual Power Source**

- **Transformer:**
  - Black (COOL)
  - White/Red (HEAT)
  - Black

- **Limit Switch:**
  - Black
  - Black

- **Equipment Ground:**
  - Black
  - Black

- **Remote Device Box:**
  - Black
  - Black
  - Yellow

- **Quick Connect:**
  - Black
  - Yellow

- **Blower Motor:**
  - Black
  - Black
  - Blue

- **Elec. Heaters:**
  - 2 NO 6
  - COM
  - 4
  - 3
  - NC
  - 0
  - 6
  - 8
  - 7
  - 1

- **Valve:**
  - Cool
  - Black
  - Black
  - Yellow
Fig. 68 — 42C,S,V (except VG) and 42D (600-1000 cfm) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Thermostat (Line Voltage) and Dual Power Source

Fig. 69 — 42D (1200-2000) 2-Pipe Cooling with Total Electric Heat — Remote/Wall-Mounted Thermostat (Line Voltage) and Dual Power Source
Fig. 70 — 42C,S,V (except VC, VE, VG) and 42D (600-1000 cfm) — 2-Pipe Cooling with Total Electric Heat —
Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 71 — 42D (1200-2000 cfm) — 2-Pipe Cooling with Total Electric Heat — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 72 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) — 2-Pipe Cooling with Total Electric Heat — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 73 — 42D (1200-2000 cfm) — 2-Pipe Cooling with Total Electric Heat — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 74 — 42C,S,V (except VG) and 42D — 2-Pipe Cooling with Total Electric Heat — Open FC Controller (24-v) with ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment
Fig. 75 — 42C,S,V (except VG) and 42D (600-1000 cfm) 4-Pipe Heating and Cooling —
24-v Control by Others
Fig. 76 — 42C,S,V (except VG) and 42D 4-Pipe Heating and Cooling —
24-v Controls by Others (ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment)
Fig. 77 — 42C,S,V (except VG) and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Line Voltage Control by Others

NEC CLASS 1 WIRING

Δ120-V WHT ALL OTHERS BLK

Fig. 78 — 42D (1200-2000) 4-Pipe Heating and Cooling — Field-Supplied and Installed Controls (Line Voltage and Control Valves)
Fig. 79 — 42SG,SH,SJ,VA,VB,VC,VE,VF 4-Pipe Heating and Cooling —
Unit-Mounted Debonair® Thermostat (24-v) and Duct Sensor

Fig. 80 — 42SG,SH,SJ,VA,VB,VC,VE,VF 4-Pipe Heating and Cooling —
Unit-Mounted Thermostat (Line Voltage)
Fig. 83 — 42C, S, V (except VG) and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Remote/Wall-Mounted Thermostat (Line Voltage)

Fig. 84 — 42D (1200-2000) 4-Pipe Heating and Cooling — Remote/Wall-Mounted Thermostat (Line Voltage)
Fig. 85 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 86 — 42D (1200-2000 cfm) 4-Pipe Heating and Cooling — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 87 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) 4-Pipe Heating and Cooling — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 88 — 42D (1200-2000 cfm) 4-Pipe Heating and Cooling — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 89 — 42C, S, V (except VG) and 42D 4-Pipe Heating and Cooling — Open FC Controller (24-v) with ECM, 3-Discrete Speed Input, Potentiometer Field Speed Adjustment.
Fig. 90 — 42C,S,V (except VC,VE,VG) and 42D (600-1000 cfm) 4-Pipe Heating and DX Cooling — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 91 — 42D (1200-2000 cfm) 4-Pipe Heating and DX Cooling — Open FC Controller (24-v) with Motorized Control Valve (2-Position)
Fig. 92 — 42C, S, V (except VC, VE, VG) and 42D (600-1000 cfm) 4-Pipe Heating and DX Cooling —
Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 93 — 42D (1200-2000 cfm) 4-Pipe Heating and DX Cooling — Open FC Controller (24-v) with Modulating Control Valve (0-10 vdc)
Fig. 94 — 42SG, SH, SJ, VA, VB, VC, VE, VF No Controls — Unit-Mounted 3-Speed Switch Only

Fig. 95 — 42C, S, V and 42D (600-1000 cfm) No Controls — Wall-Mounted 3-Speed Switch Only
Fig. 96 — 42D (1200-2000) No Controls — Wall-Mounted 3-Speed Switch Only

Fig. 97 — 42B No Controls — Single-Phase Unit
Fig. 98 — 42B No Controls — 3-Phase Unit

**Only used with overflow switch.**

NOTES:

1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only.
4. Unit terminals are not designed to accept any other wiring.
5. Blower motor(s) thermally protected.
6. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (first on, last off).
7. All contractor wiring must conform to electrical codes, national and local.

Fig. 99 — 42B Motor Controls — Single-Phase Only
Fig. 100 — 42B Motor Controls — 3-Phase Only

NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only.
4. Blower motor(s) thermally protected.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (first on, last off).
6. All contractor wiring must conform to electrical codes, national and local.

**WIRE** | **GAUGE** | **COLOR**
---|---|---
1 | 1-18 AWG | BLACK
2 | 1-18 AWG | RED
3 | 1-12 AWG | BLUE
4 | 1-18 AWG | BLACK
5 | 1-18 AWG | RED
6 | 1-18 AWG | YELLOW
7 | 1-18 AWG | ORANGE
8 | 1-18 AWG | YELLOW
9 | 1-18 AWG | ORANGE
10 | 1-18 AWG | BLACK
11 | 1-14 AWG | RED
12 | 1-14 AWG | BLUE
13 | 1-14 AWG | GREEN
14 | 1-14 AWG | ORANGE

**Note:** Only used with overflow switch.

Fig. 101 — 42B Motor Controls — Single-Phase with Interlocking Disconnect

NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only.
4. Blower motor(s) thermally protected.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (first on, last off).
6. All contractor wiring must conform to electrical codes, national and local.
7. Wire as detail A for 120/277-v.

**WIRE** | **GAUGE** | **COLOR**
---|---|---
1 | 1-18 AWG | BLACK
2 | 1-18 AWG | RED
3 | 1-12 AWG | BLUE
4 | 1-12 AWG | RED
5 | 1-12 AWG | BLUE
6 | 1-12 AWG | WHITE
7 | 1-12 AWG | WHITE
8 | 1-12 AWG | WHITE
9 | 1-12 AWG | WHITE
10 | 1-12 AWG | WHITE
11 | 1-12 AWG | WHITE
12 | 1-12 AWG | WHITE
13 | 1-12 AWG | WHITE
14 | 1-12 AWG | WHITE
15 | 1-12 AWG | WHITE
NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only.
   Unit terminals are not designed to accept any other wiring.
4. Blower motor(s) thermally protected.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (first on, last off).
6. All contractor wiring must conform to codes, national and local electrical.

Fig. 102 — 42B Motor Controls — 3-Phase with Interlocking Disconnect
Fig. 103 — 42B Motor Controls — Single-Phase with Interlocking Disconnect and Single-Stage Electric Heater

NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75 C minimum copper conductors only. Unit terminals are not designed to accept any other wiring.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (i.e., first on will be last off).
6. All contractor wiring must conform to national and local electrical codes.
7. L2 or N label to be placed on bridge near terminal block or disconnect. Label to be oriented along path of incoming L2 or N.
8. Wires 4 and 5 to be installed as shown in detail A when using part number E035-50011401 disconnect switch, except wire 5 as shown in Detail C when 120/277-v. All other disconnect switches to be wired as shown in main diagram.
Fig. 104 — 42B Motor Controls — 3-Phase with Interlocking Disconnect and Single-Stage Electric Heater

NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75 °C minimum copper conductors only. Unit terminals are not designed to accept any other wiring.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (i.e., first on will be last off).
6. All contractor wiring must conform to national and local electrical codes.
7. Wires 9, 13, and 14 will terminate inside contactor lug.
8. Wires 4, 5, and 6 to be installed as shown in Detail A when using part number E035-50011401 disconnect switch. All other disconnect switches to be wired as shown in the main diagram.
9. Use applicable heater configuration shown for proper connections.
NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only. Unit terminals are not designed to accept any other wiring.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (i.e., first on will be last off).
6. All contractor wiring must conform to local and national electrical codes.
7. Wires 9, 13, and 14 will terminate inside contactor lug.
8. Wires 4, 5, and 6 to be installed as shown in Detail A when using part number E035-50011401 disconnect switch. All other disconnect switches to be wired as shown in the main diagram.

Fig. 105 — 42B Motor Controls — 3-Phase with Interlocking Disconnect and 2-Stage Electric Heater
Fig. 106 — 42B Motor Controls — 3-Phase with Interlocking Disconnect and 3-Stage Electric Heater

NOTES:
1. This is a point-to-point electrical diagram.
2. Caution: Disconnect power before servicing.
3. See nameplate for correct voltage. Use 75°C minimum copper conductors only. Unit terminals are not designed to accept any other wiring.
5. To ensure proper fan interlock and sequencing, external controller must energize heater stages in numerical order shown and deenergize stages in reverse order (i.e., first on will be last off).
6. All contractor wiring must conform to local and national electrical codes.
7. Wires 4, 5, and 6 to be installed as shown in Detail A when using part number E035-5001401 disconnect switch. All other disconnect switches to be wired as shown in the main diagram.
Fig. 107 — Master/Slave Wiring Diagram (Special Request) — Master Control Option

Fig. 108 — Master/Slave Wiring Diagram (Special Request) — Slave Control Option