Shipping & Packing List

Package 1 of 1 contains:
1 - Danfoss RTC DDC assembly (A1)
1 - Return air sensor (A2) with P62 connector
1 - Discharge air sensor (RT1) with P63 connector
1 - Bracket, DDC controls
1 - Bag assembly containing:
   4 - #8-32 X 1/2" screws
   1 - Wiring diagram sticker
   6 - #10-16 X 5/8" screws

Application

The Danfoss RTC DDC is used with SCC/SGC series units.

An A2 return air sensor monitors return air temperature and provides input to the DDC to determine unit heating or cooling function.

An A74 room air sensor is used to monitor space temperature. Do not install the return air sensor if a room air sensor is used. The room air sensor is wired to the Prodigy® control by the controls contractor.

The RT1 discharge air sensor monitors discharge or supply air temperature.

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a qualified installer or service agency.

CAUTION

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Use caution when working near these areas during installation or while servicing this equipment.

Figure 1. 036, 060, 120 Units - Installing DDC Hinged Mounting Panel
Pivot hinged panel away from Prodigy® control board to access the DDC. See figure 2.

Figure 2. 036, 060, 120 Units - Accessing DDC (Top View)

5. **240 Units**:—Attach the hat section provided in the kit to the DDC assembly using two 5/8” screws (see figure 3.)

![Figure 3. 240 Units - Attaching DDC Hinged Mounting Panel to Hat Section](image)

**Figure 3. 240 Units - Attaching DDC Hinged Mounting Panel to Hat Section**

Position the DDC assembly as shown in figure 4. Make sure the DDC faces the A55 Prodigy control board. Align holes on hat section with dimples on the unit side. Secure hat section to unit with four 5/8” screws.

![Figure 4. 240 Units - Installing DDC/Hat Section](image)

**Figure 4. 240 Units - Installing DDC/Hat Section**

Pivot hinged panel away from A55 Prodigy control board to access DDC (see figure 5).

![Figure 5. 240 Units - Accessing DDC (Top View)](image)

**Figure 5. 240 Units - Accessing DDC (Top View)**

Route harnesses coming from sub-assembly as shown in figure 6 for the following steps 1 through 3.

1. Disconnect J264C from M2 board and connect to P303 of controller sub-assembly.
2. Connect connectors (J297A, B and C) to M2 board J297.
3. Route J63 Harness through conduit bushing.
4. Route harnesses coming from DDC Control sub-assembly J63 down to lower blower support panel.
5. Route J62 Harness over top of blower section and in-front of evaporator coil.
6. Continue to route J62 inside conduit on-top of filter rack toward filter access door and economizer section. See figure 9.
NOTES:
1. ATTACH ITEM 01 WITH ITEM 04 FROM OUTSIDE OF MULLION.
2. UNPLUG J264C FROM M2 BOARD AND CONNECT TO P303 OF CONTROLLER SUB ASSEMBLY AS SHOWN.
3. SECURE P303 TO HARNESS BUNDLE IN AREA SHOWN.
4. ROUTE WIRES THROUGH WIRE TIE AS SHOWN AND PULL TIGHT.

Figure 6. Connecting DDC Jack/Plugs
Figure 7. Routing J63 RT1 Harness (036,060 Units)
Figure 8. Routing J63 RT1 Harness (120,240 Units)
## Return Air Sensor

1. Open filter access door.
2. Insert return air sensor probe into hole (location shown in figure 9). Secure with screws provided.

**NOTE** - When an optional field-provided A74 room air sensor is installed, the controls contractor wires the sensor to Prodigy Controller P298 Terminal Strip. Do not install the return air sensor in these applications.

![Figure 9. Return Air Sensor](image)

## Discharge Air Sensor RT1

1. Insert discharge air sensor probe into knockout as shown in figure 10 (036, 060 units) or figure 11 (120, 240 units). Secure with two screws provided.

![Figure 10. RT1 Discharge Air Sensor (036, 060 Units)](image)

2. Connect RT1 discharge air sensor plug P63 to RT1 discharge air sensor jack J63.

![Figure 11. RT1 Discharge Air Sensor (120, 240 Units)](image)

## Wiring

### Field Wiring

Controls contractor completes field wiring connections to optional system components shown in dotted lines in figure 13.

### Wiring Diagrams

Wiring diagram sections are affixed to inside of unit panel in alpha-numeric order. Figure 12 shows an example of a complete system diagram on an installation consisting of an SGA240 unit with an electro-mechanical or electronic control system and modulating economizer. Affix the “C7” section wiring diagram, provided, over the top of the existing “C” section wiring diagram.

![Figure 12. Complete System Diagram](image)

## Final Wiring Check

Before applying power to unit check the following wiring:

1. Jack/plug connections to DDC and RT1 sensor.
2. Jack/plug connections to system options such as electric heat or economizers.
3. Polarity of wiring between A16 control microprocessor, room air sensor if used, and TB1 terminal strip.
4. Line voltage to unit and/or options such as electric heat.
Figure 13. Control for SCC/SGC Units - Danfoss RTC
Check-Out Procedure

Connect jumpers or toggle switches between the DDC output terminals to simulate a thermostat demand and confirm proper unit operation. See figure 16. Refer to unit installation instruction and Prodigy Control manual provided with unit.

1. Disconnect 24V power connector on DDC.
2. Use Prodigy Control manual to troubleshoot and/or clear any errors codes from the Prodigy Control main board readout.
3. Install a jumper wire across fan output terminals C and NO.
4. Apply power to unit; blower will operate. Leave blower jumper in place throughout check-out.
5. Manually activate stages of heating and cooling with a jumper connection between terminal NO and C as follows:
   - HEAT 1 First-stage heating
   - HEAT 2 Second-stage heating
   - COOL 1 First-stage cooling
   - COOL 2 Second-stage cooling
   - DAMPER Economizer

   The corresponding indicating light on the A55 M2 main control board should turn on. This indicates that the Prodigy Control board is receiving a demand from the DDC. This also indicates that wiring between the DDC output terminal block and the Prodigy Control input terminal is correct for each function.

   **IMPORTANT**
   Do not jumper cooling and heating outputs at the same time.

6. Turn off power.
7. Remove all jumpers or toggle switches.

   IMPORTANT - All field installed jumpers or toggle switches should be removed after service has been completed to ensure that unit control has been switched back to the DDC.
8. Connect 24V power connector to DDC.
9. Restore power to unit. Check the SERVICE LED - Flashing or steady-ON indicates replace board; OFF indicates board OK.
10. Repeat check-out procedure if needed.

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**Figure 14. Danfoss RTC**