



©2019 Lennox Industries Inc.  
Dallas, Texas, USA

**INSTALLATION INSTRUCTIONS FOR NOVAR 3051 DDC KIT (19F75)  
USED WITH SC/SG SERIES UNITS**

**THIS MANUAL MUST BE LEFT WITH THE OWNER  
FOR FUTURE REFERENCE**

**Shipping and Packing List**

**Package 1 of 1 contains:**

- 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

**NOTE: NOVAR 3051 DDC NOT INCLUDED.**

**Application**

The NOVAR 3051 DDC is used with SCC/SGC and SCH/SGH series units. It can be used as a replacement for the NOVAR 2024 DDC. This kit provides all of the necessary parts required to install the 3051 DDC on the referenced Lennox rooftop models.

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

**! WARNING**



Electric shock hazard.

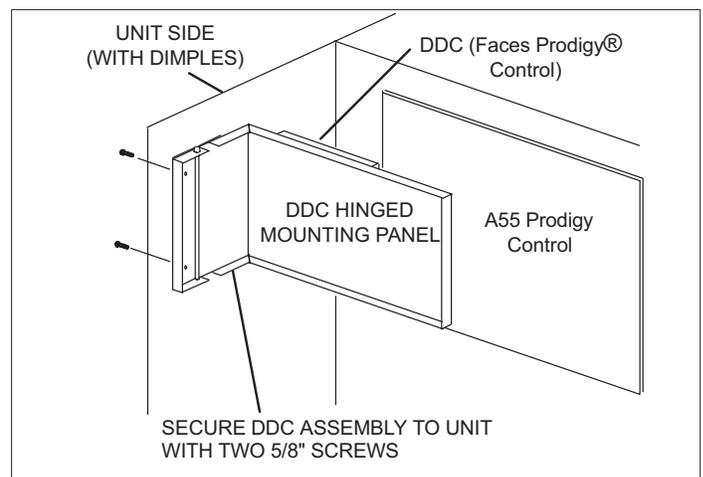
Can cause injury or death.

Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es).

Unit may have multiple power supplies.

**Installation**

1. Disconnect all electrical power to unit.
2. Open compressor section access doors.
3. If the NOVAR 3051 DDC is replacing a NOVAR 2024 DDC, remove four screws attaching 2024 DDC to mounting panel and replace with 3051 DDC, then proceed to "Figure 5. 240 Units – Accessing DDC (Top View)" on page 2 for wire routing. If 3051 DDC is a new install, perform step 4 or 5 depending on unit size.
4. 036, 060, 120 Units: Position DDC hinged mounting panel as shown in figure 1. Make sure the DDC faces the A55 Prodigy control board. Align holes on hinged bracket with dimples on the unit side. Secure DDC panel to unit with two 5/8" screws.

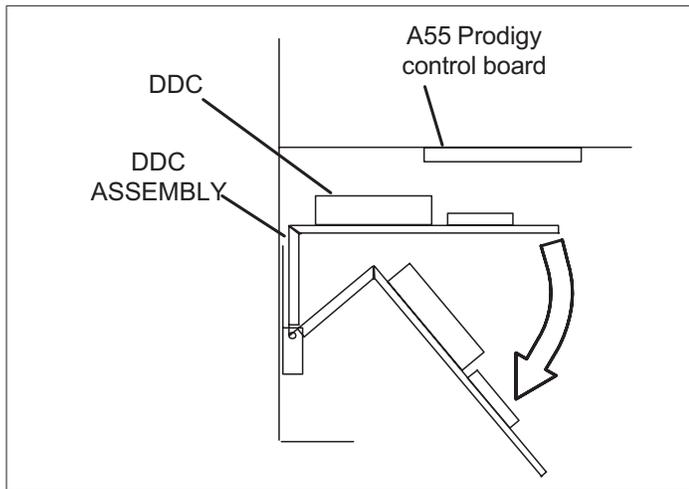


**Figure 1. 036, 060, 120 Units – Installing DDC Hinged Mounting Panel**

Pivot hinged panel away from Prodigy® control board to access the DDC.

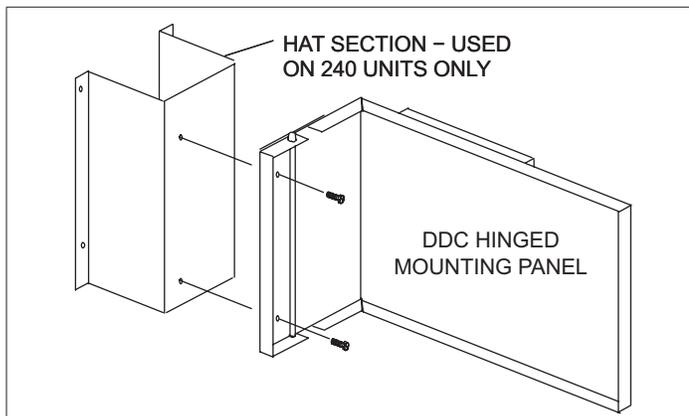
See "Figure 2. 036, 060, 120 Units – Accessing DDC (Top View)" on page 2.





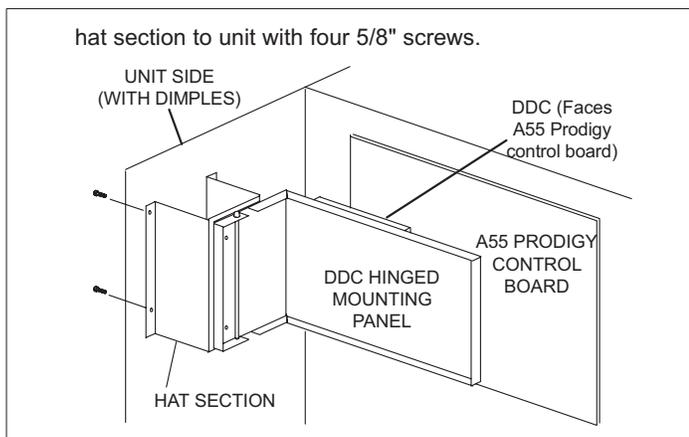
**Figure 2. 036, 060, 120 Units – Accessing DDC (Top View)**

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



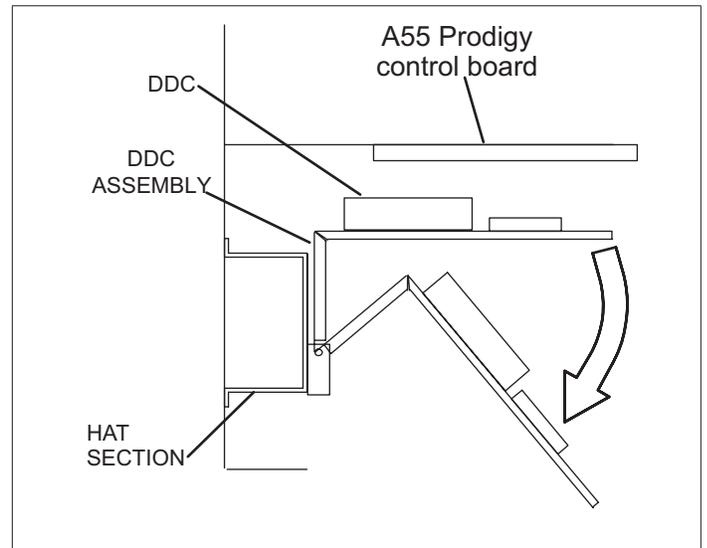
**Figure 3. 240 Units – Attaching DDC Hinged Mounting Panel to Hat Section**

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**

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



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

1. If the 3051 DDC is replacing a 2024 DDC, the old wiring harness must be removed from the unit and replaced with the 106177-01 harness provided. Refer to wiring diagram and figures 7 and 8 below to connect harness to DDC and discharge air sensor. If the 3051 DDC is a new install, route harnesses coming from sub-assembly as shown in "Figure 6. 240 Units – Accessing DDC (Top View)" on page 3 for the following steps 1 through 3. 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.
  - 036/060 units: see "Figure 7. Routing J63 RT1 Harness (036,060 Units)" on page 3.
  - 120/240 units: see "Figure 8. Routing J63 RT1 Harness (120,240 Units)" on page 4.

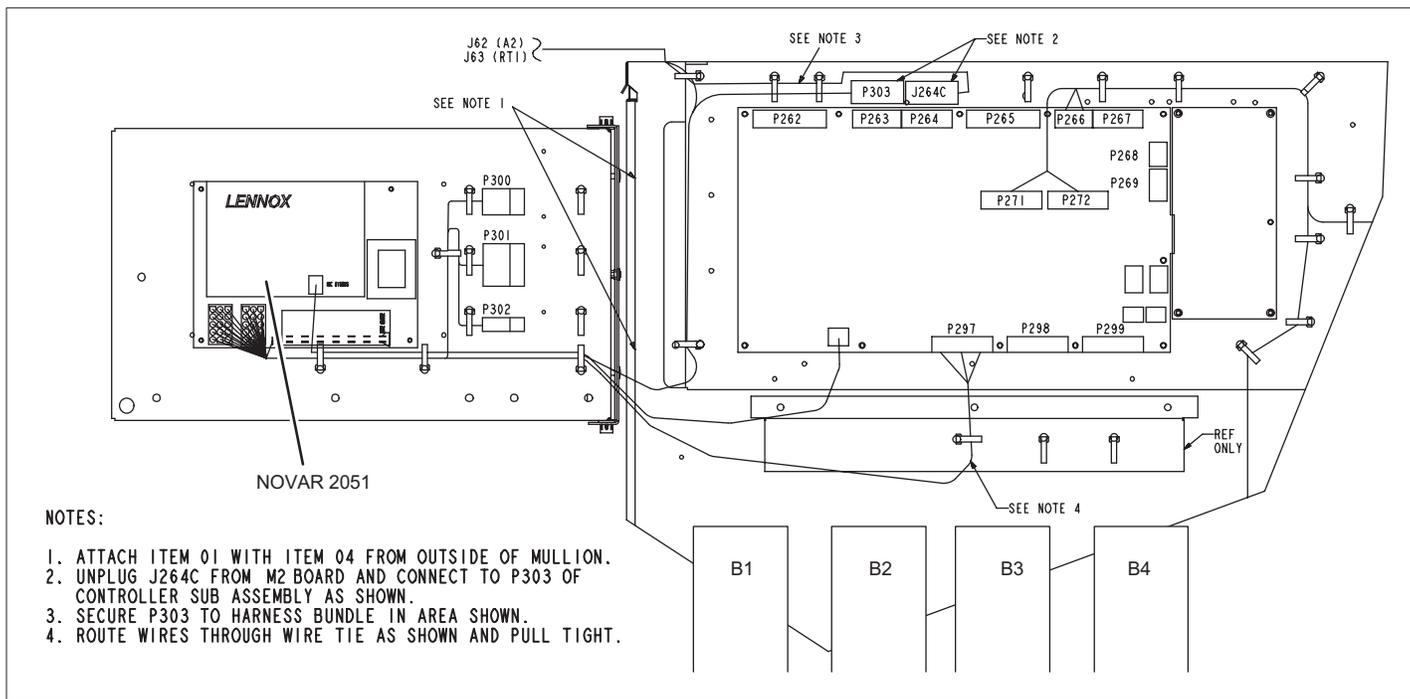


Figure 6. 240 Units - Accessing DDC (Top View)

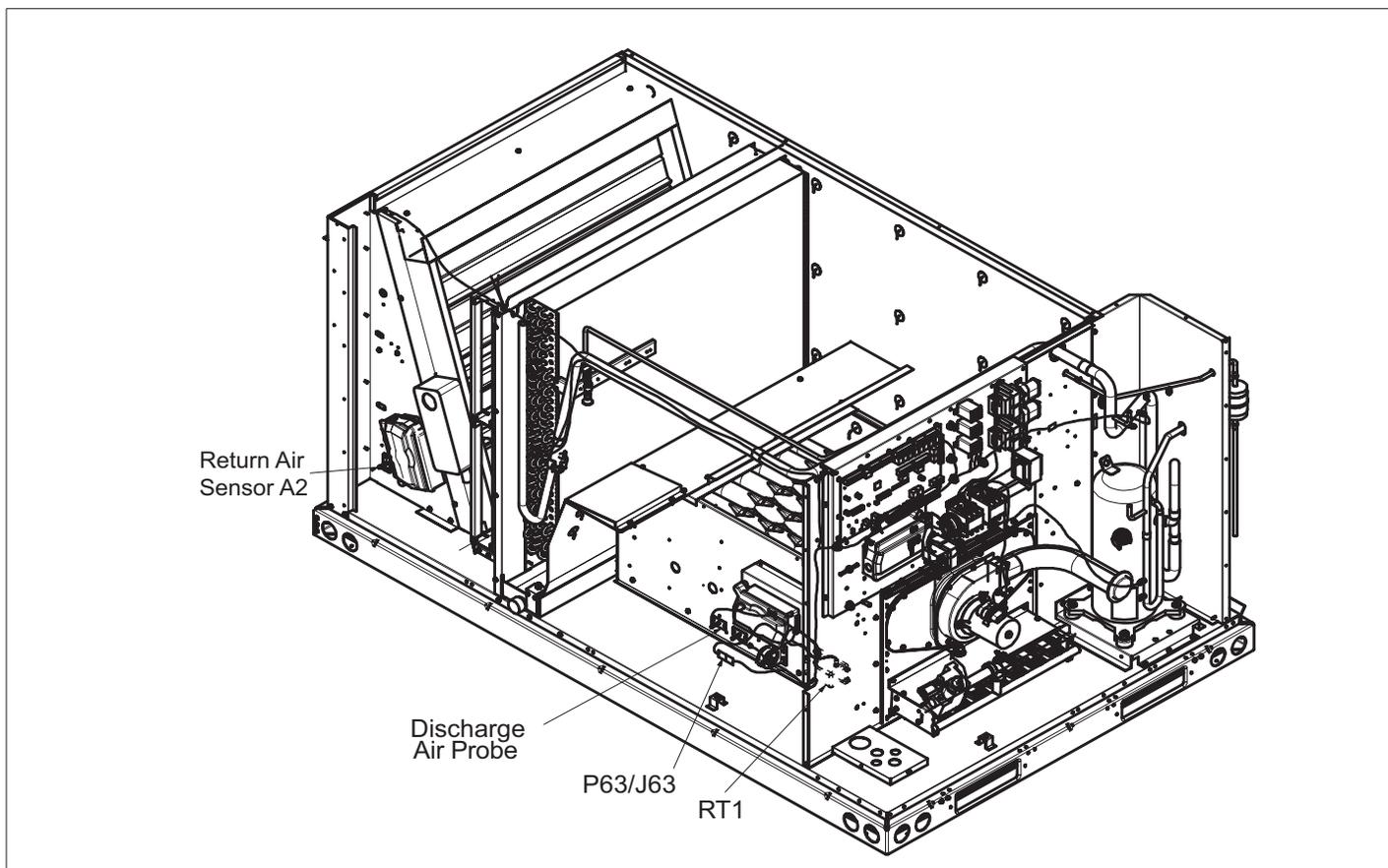
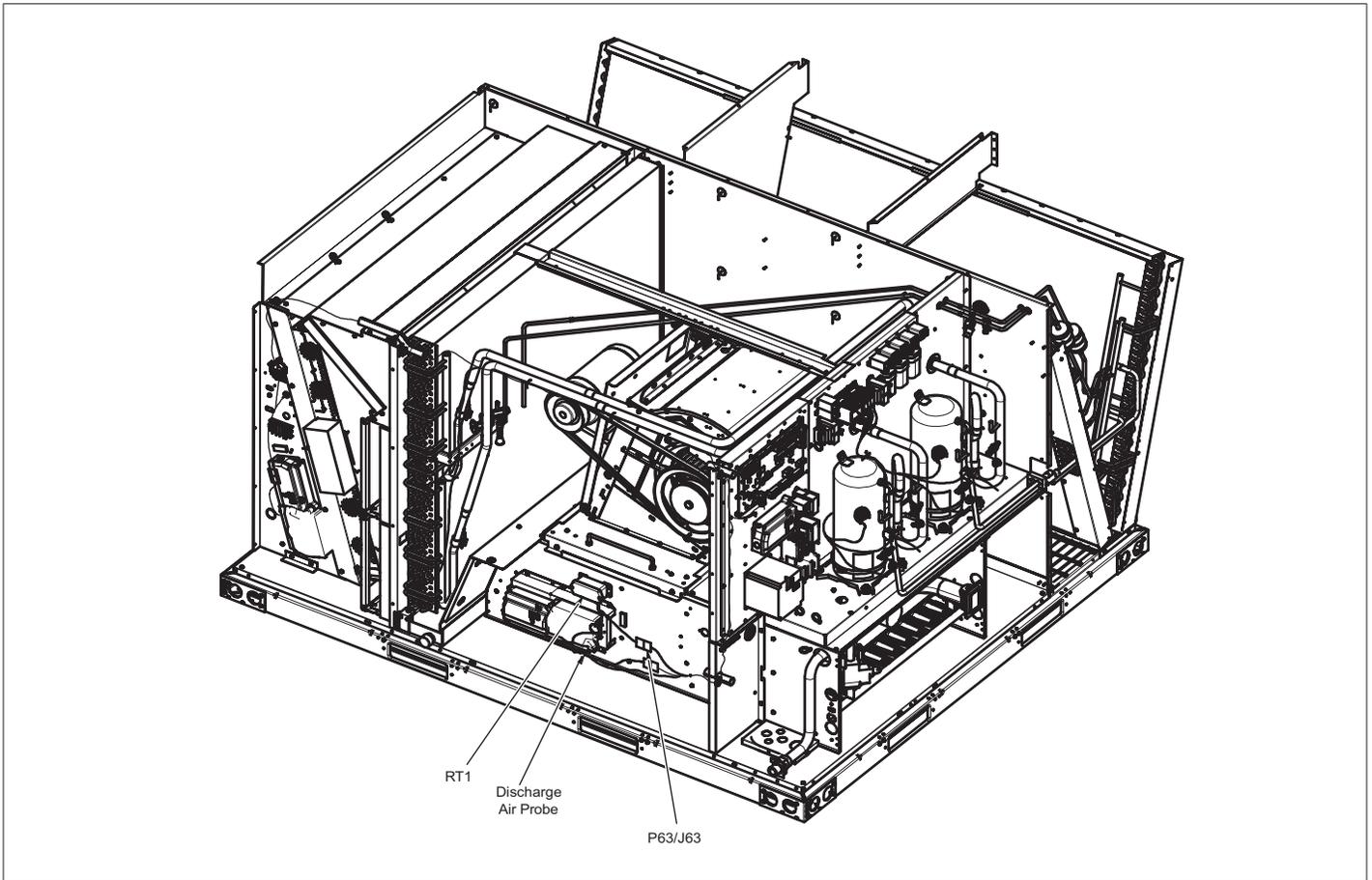


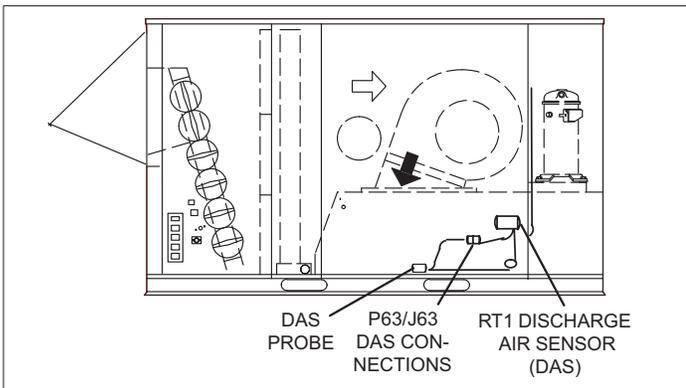
Figure 7. Routing J63 RT1 Harness (036,060 Units)



**Figure 8. Routing J63 RT1 Harness (120,240 Units)**

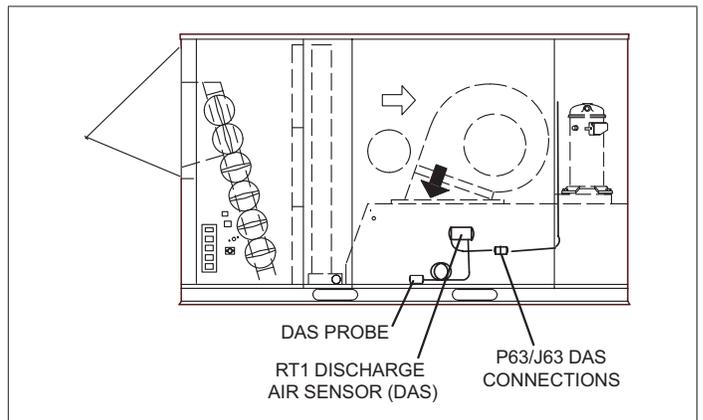
**Discharge Air Sensor RT1**

1. If NOVAR 3051 DDC is replacing a NOVAR 2024 DDC, then remove the current discharge air sensor and replace with sensor provided in kit. If the 3051 DDC is a new install, insert discharge air sensor probe into knockout as shown in figure 9 (036, 060 units) or figure 10 (120, 240 units). Secure with the provided two screws.



**Figure 9. RT1 Discharge Air Sensor (036, 060 Units)**

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



**Figure 10. RT1 Discharge Air Sensor (120, 240 Units)**

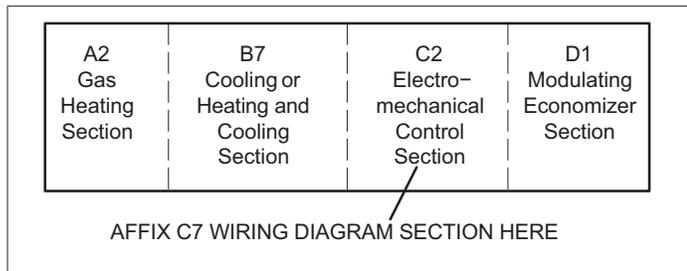
## Wiring

### FIELD WIRING

Controls contractor completes field wiring connections to optional system components shown in dotted lines in “Figure 12. Control for NOVAR 2024 Units (For Reference Purposes Only)” on page 6.

### WIRING DIAGRAMS

Wiring diagram sections are affixed to inside of unit panel in alpha-numeric order. Figure 11 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 a modulating economizer. Affix the C7” section wiring diagram, provided, over the top of the existing C” section wiring diagram.

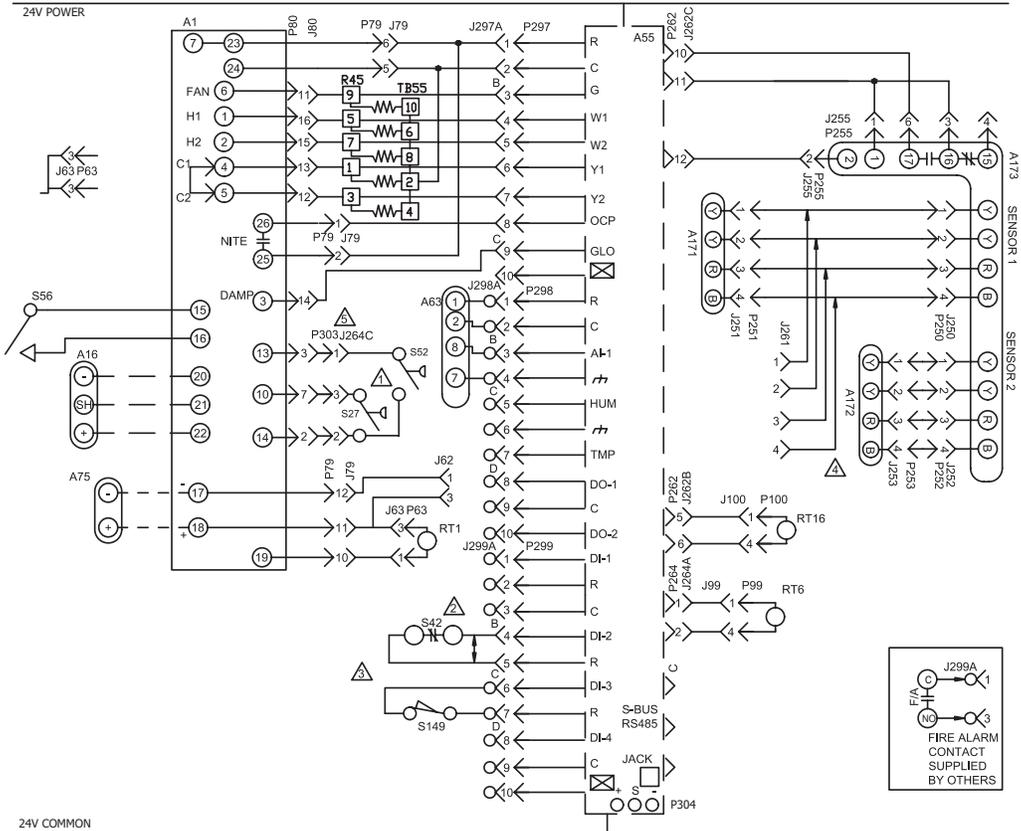


**Figure 11. Complete System Diagram**

### 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.



KEY	COMPONENT
A1	PANEL LOGIC
A16	CONTROL MICROPROCESSOR
A55	PANEL, MAIN
A63	SENSOR, CO2 (IAQ) OPTIONAL
A75	SENSOR, ROOM
A171	SENSOR ONE, SMOKE, RETURN AIR
A172	SENSOR TWO, SMOKE, SUPPLY AIR
A173	MODULE, CONTROL SMOKE DETECTION
R45	STRIP, RESISTOR 1K OHM, 5WATT, TRIAC
RT1	SENSOR, DISCHARGE AIR
RT6	SENSOR, A55 DISCHARGE AIR (IMC)
RT16	SENSOR, RETURN AIR TEMP
S27	SWITCH, FILTER
S42	SWITCH, OVERLOAD RELAY BLOWER MOTOR LO
S52	SWITCH, AIRFLOW
S56	SWITCH, MOMENTARY OVERRIDE
S149	SWITCH, OVERFLOW
TB55	TERMINAL STRIP FOR 1K RESISTOR

J/P	JACK/PLUG DESCRIPTION
62	RETURN SENSOR A2
63	DISCHARGE AIR SENSOR RT1
79	NOVAR HEADER
80	NOVAR PIGTAIL
99	RT6 RETURN AIR SENSOR
100	RT16 SUPPLY AIR SENSOR
250	SMOKE DETECTOR ONE
251	SMOKE DETECTOR ONE
252	SMOKE DETECTOR TWO
253	SMOKE DETECTOR TWO
255	MODULE, CONTROL SMOKE DETECTION
261	SUPPLY SMOKE DETECTOR JUMPER
262	ECONOMIZER
264	BLOWER DECK
297	THERMOSTAT - DDC INTERFACE
298	IAQ INTERFACE
299	SAFETY INTERFACE
303	BLOWER PROVING SWITCH
304	SYS BUS

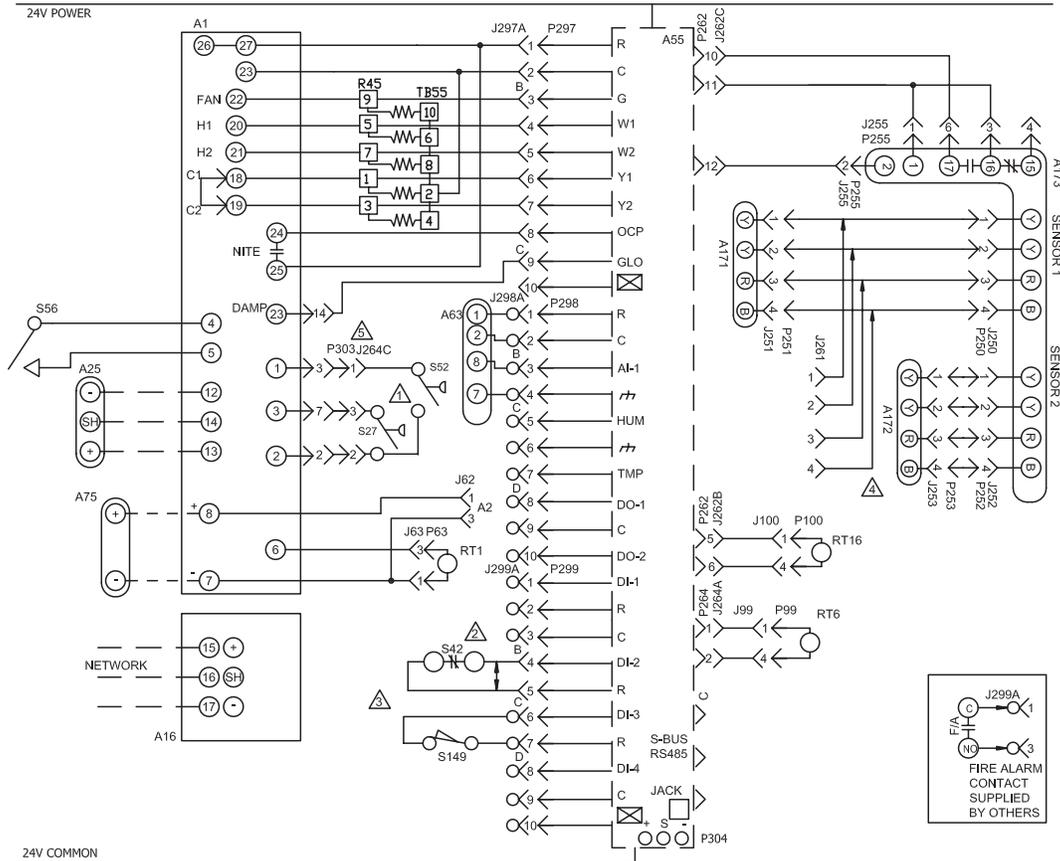
- ⚠ S27 AND S52 USED WITH ETM 2024, A55 SETTINGS NEED TO BE MODIFIED WHEN TRANSFERRING TO ETM2024
- ⚠ S42 HOOKUP FOR UNITS LESS INVERTER, SEE INVERTER WITH BYPASSING FOR S42 OR INVERTER ALARM INPUT HOOKUP
- ⚠ A55 SETTINGS NEED TO BE MODIFIED WHEN S42 OR S149 ARE INSTALLED
- ⚠ CONNECT A172 SENSOR TO J261 ON SUPPLY AIR SMOKE DETECTOR ONLY
- ⚠ WHEN FIELD INSTALLING NOVAR 2024, UNPLUG J264C FROM A55 AND CONNECT TO P303 AS SHOWN

→ DENOTES OPTIONAL COMPONENTS  
 - - - CLASS II FIELD WIRING

04/18		STRATEGOS WIRING DIAGRAM	04/18
		537479-01	
ACCESSORIES			
CONTROL FOR SG/SC UNITS NOVAR ETM 2024			
			REV 1
Supersedes		New Form No.	
537203-01		537479-01	

© 2011 Lennox Commercial

Figure 12. Control for NOVAR 2024 Units (For Reference Purposes Only)



KEY	COMPONENT
A1	PANEL LOGIC
A2	SENSOR, RETURN AIR - DUCT
A16	CONTROL MICROPROCESSOR
A25	SENSOR, ZONE CONTROL
A55	PANEL, MAIN
A63	SENSOR, CO2 (IAQ) OPTIONAL
A75	SENSOR, ROOM
A171	SENSOR ONE, SMOKE, RETURN AIR
A172	SENSOR TWO, SMOKE, SUPPLY AIR
A173	MODULE, CONTROL SMOKE DETECTION
R45	STRIP, RESISTOR 1K OHM, 5WATT, TRIAC
RT1	SENSOR, DISCHARGE AIR
RT6	SENSOR, A55 DISCHARGE AIR (IMC)
RT16	SENSOR, RETURN AIR TEMP
S27	SWITCH, FILTER
S42	SWITCH, OVERLOAD RELAY BLOWER MOTOR LO
S52	SWITCH, AIRFLOW
S56	SWITCH, MOMENTARY OVERRIDE
S149	SWITCH, OVERFLOW
TB55	TERMINAL STRIP FOR 1K RESISTOR

J/P	JACK/PLUG DESCRIPTION
62	RETURN SENSOR A2
63	DISCHARGE AIR SENSOR RT1
79	NOVAR HEADER
80	NOVAR PIGTAIL
99	RT6 RETURN AIR SENSOR
100	RT16 SUPPLY AIR SENSOR
250	SMOKE DETECTOR ONE
251	SMOKE DETECTOR ONE
252	SMOKE DETECTOR TWO
253	SMOKE DETECTOR TWO
255	MODULE, CONTROL SMOKE DETECTION
261	SUPPLY SMOKE DETECTOR JUMPER
262	ECONOMIZER
264	BLOWER DECK
297	THERMOSTAT - DDC INTERFACE
298	IAQ INTERFACE
299	SAFETY INTERFACE
303	BLOWER PROVING SWITCH
304	SYS BUS

- ⚠ S27 AND S52 USED WITH ETM 2024, M2 SETTINGS NEED TO BE MODIFIED WHEN TRANSFERRING TO ETM2024
- ⚠ S42 HOOKUP FOR UNITS LESS INVERTER, SEE INVERTER WITH BYPASSING FOR S42 OR INVERTER ALARM INPUT HOOKUP
- ⚠ M2 SETTINGS NEED TO BE MODIFIED WHEN S42 OR S149 ARE INSTALLED
- ⚠ CONNECT A172 SENSOR TO J261 ON SUPPLY AIR SMOKE DETECTOR ONLY
- ⚠ WHEN FIELD INSTALLING NOVAR 2024, UNPLUG J264C FROM M2 AND CONNECT TO P303 AS SHOWN

————— DENOTES OPTIONAL COMPONENTS  
 - - - - - CLASS II FIELD WIRING

2019/10		STRATEGOS WIRING DIAGRAM	10/19
		538070-01	
ACCESSORIES			
CONTROL FOR SG/SC UNITS NOVAR ETM 3051			
SECTION C			REV 0
Supersedes	New Form No. 538070-01		
© 2011		Lennox Commercial	

Figure 13. Control for NOVAR 3051 Units

