CF
Condensers & Condensing Units
Engineering Catalog

Table of Contents

Index of Tables and Figures

Tables:

Figures:

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(ACP J000237)

AAON CF Series Features and Options Introduction

Energy Efficiency
- Two-Stage, 10-100% Variable Capacity, or Tandem R-410A or R-454B Scroll Compressors
- Air-Source Heat Pump
- VFD Controlled or ECM Driven Condenser Fans
- Low Sound ECM Condenser Fans

Humidity Control
- Modulating Hot Gas Reheat
- Makeup Air Applications up to 100% Outside Air

Safety
- Phase and Brownout Protection
- Single Point Non-Fused Disconnect Power Switch
- Automatic Low Pressure and Manual Reset High Pressure Safety Cut-outs
- Adjustable Compressor Lockout

Installation and Maintenance
- Isolated Controls and Compressor Compartment
- Access Doors with Full Length Stainless Steel Piano Hinges
- Molded Lockable Handles
- Color-Coded Wiring Diagrams
- Run Test Report and Installation Manual Included in Controls Compartment
- Factory Installed Convenience Outlet
- Service Access Lights
- Remote Start/Stop Terminals
- Liquid Line Sight Glass
- Compressor Isolation Valves

System Integration
- Complete Split System with AAON DX Air Handling Units
- Remote Air-Cooled Condenser Option
- Labeled Split System Piping Stub Outs with Shut-Off Valves
- Flooded Condenser 0°F Low Ambient Controls
- Terminal Block for Thermostat with Isolation Relays
- Constant Air Volume (CAV), Variable Air Volume (VAV), Single Zone Variable Air Volume (SZ VAV), and Make Up Air (MUA)

Environmentally Friendly
- R-410A Refrigerant
- R-454B Refrigerant

Extended Life
- Optional 5 Year Compressor Warranty
- G90 Galvanized Steel Construction
- 2,500 Hour Salt Spray Tested Exterior Corrosion Protection
- 10,000 Hour Salt Spray Tested Polymer E-Coated Condenser Coils
- Condenser Coil Guards
- Custom Color Paint Options

CF Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	MJRE	SIZE	SERIE	MNRE	VLT	A1	A2	A3	A4	A5	1	2A	2B	3A	3B	4	5	6A	6B	6C	7	8A	8B	8C	8D	9	10	11	12	13	14	15	16	17	18	19	20	21	22
CF	A	- 015	- B	- A	- 3	- D	A	0	0	K :	0	-	0	0	-	E	0	-	C	0	-	A	N	0	-	D	-	D	E	0	0	-	0	0	A	0	C	0	0
																																	0	A	0	0	0	D	B

MODEL OPTIONS

SERIES AND GENERATION
CF

MAJOR REVISION
A

UNIT SIZE
002 = 2 ton Capacity
003 = 3 ton Capacity
004 = 4 ton Capacity
005 = 5 ton Capacity
006 = 6 ton Capacity
007 = 7 ton Capacity
009 = 9 ton Capacity
011 = 11 ton Capacity
013 = 13 ton Capacity
015 = 15 ton Capacity
016 = 16 ton Capacity
018 = 18 ton Capacity
020 = 20 ton Capacity
025 = 25 ton Capacity
026 = 26 ton Capacity
030 = 30 ton Capacity
031 = 31 ton Capacity
040 = 40 ton Capacity
050 = 50 ton Capacity
060 = 60 ton Capacity
070 = 70 ton Capacity

SERIES
A = 2-7 ton units
B = 9-15 ton units
C = 16-25 and 30 ton units
D = 26 and 31-70 ton units

MINOR REVISION
A

VOLTAGE
1 = 230V/1Φ/60Hz
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz

VOLTAGE (continued)
4 = 575V/3Φ/60Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz

A1: COMPRESSOR STYLE
0 = Air-Cooled Condenser - No Compressors (1 Circuit)
A = R-410A Scroll Compressors
B = R-410A Two Stage Capacity Scroll Compressors
D = R-410A Variable Capacity Scroll Compressors
E = R-410A Tandem Scroll Compressors
G = R-410A Tandem Variable Capacity Scroll Compressors
J = R-454B Scroll 2-Step Capacity Compressor
L = R-454B Variable Capacity Scroll Compressor
M = R-454B Tandem Scroll Compressor
P = Air-Cooled Condenser - No Compressors (2 Circuits)
Q = Air-Cooled Condenser - No Compressors (4 Circuits)

A2: CONDENSER STYLE
A = Air-Cooled Microchannel Condenser
C = Air-Cooled Condenser (Fin and Tube)
J = Air-Source Heat Pump (Fin and Tube)

A3: CONFIGURATION
0 = Standard

A4: COATING
0 = Standard
E = Polymer E-Coated Condenser Coil

A5: STAGING
0 = No Cooling
G = 1 Two-Step Refrigeration System
H = 1 Variable Capacity Refrigeration System
J = 2 On/Off Refrigeration Systems
K = 1 Variable Capacity Refrigeration System + 1 On/Off Refrigeration System
L = 2 Variable Capacity Refrigeration Systems
M = 2 Two-Step Refrig Systems

CF Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	MJREV	SIZE	SERIES	MNREV	VLT	A1	A2	A3	A4	**A5**	**1**	**2A**	**2B**	**3A**	**3B**	**4**	**5**	**6A**	**6B**	**6C**	7	8A	8B	8C	8D	9	10	11	12	13	14	15
CF	A	- 015	- B	- A	- 3	- D	A	0	0	**K**	**:0**	**- 0**	**0**	**- E**	**0**	**- C**	**0**	**- A**	**N**	**0**	**_**	D	- D	E	0	0	- 0	0	A	0	C	0
																																0

A0 0 0 DB

16 17 18 19 20 21 22

A5: STAGING (continued)
N = 1 Variable Refrig System + 1 Two-Step Refrig System
R = 4 On/Off Refrigeration Systems
T = 2 Variable Capacity Refrigeration Systems + 2 On/Off Refrigeration Systems
U = 4 Variable Capacity Refrigeration Systems

UNIT FEATURE OPTIONS

1: UNIT ORIENTATION
0 = Vertical Condenser Discharge - Standard Access
A = Horizontal Condenser Discharge - Standard Access

2A: REFRIGERATION CONTROL
0 = Standard
A = 5 Minute Compressor Off Timer + 20 Second Compressor Stage Delay
C = Adjustable Fan Cycling
D = Adjustable Compressor Lockout
G = Option A + Adjustable Fan Cycling
H = Option A + Adjustable Compressor Lockout
W = Option A + Adjustable Fan Cycling + Adjustable Compressor Lockout

2B: BLANK
0 = Standard

3A: REFRIGERATION OPTIONS
0 = Standard
A = Hot Gas Bypass Lead Stage [HGB]
B = HGB Lead + HGB Lag
E = Modulating Hot Gas Reheat [MHGR]
H = HGB + MHGR
J = HGB Lead + HGB Lag + MHGR

3B: BLANK
0 = Standard

4: REFRIGERATION ACCESSORIES
0 = Standard
A = Sight Glass
B = Compressor Isolation Valves
C = Options A + B
D = One Circuit Flooded Condenser 0°F Low Ambient Controls
E = Options A + D
F = Options B + D
G = Options A + B + D
H = Two Circuit Flooded Condenser 0°F Low Ambient Controls
J = Options A + H
K = Options B + H
L = Options A + B + H
R = Four Circuit Flooded Condenser 0°F Low Ambient Controls
S = Options A + R
T = Options B + R
U = Options A + B + R

5: BLANK
0 = Standard

6A: UNIT DISCONNECT TYPE
0 = Single Point Power Block
A = Single Point Power Non-Fused Disconnect

6B: DISCONNECT SIZE
0 = Standard
N = 100 amps
R = 150 amps
V = 250 amps
Z = 400 amps

6C: BLANK
0 = Standard

CF Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN MJRE SIZE SERIE MNRE VLT A1 A2 A3 A4 A5 : 1 2A 2B 3A 3B 4 5 6A 6B 6C 7 8A 8B 8C 8D 9 10 11 12 13 14 15

CF A - 015 - B - A - 3 - D A 0 0 K : 0 - 0 0 - E 0 - C 0 - A N 0 - D - D E 0 0 - 0 0 A 0 C 0 0

0 A 0 0 0 D B

16 17 18 19 20 21 22

7: ACCESSORIES
0 = Standard
B = Phase & Brown Out Protection
D = Suction Pressure Transducer on Each Refrigeration Circuit
E = Compressor Sound Blanket
L = Options B + D
M = Options B + E
Q = Options D + E
1 = Options B + D + E

8A: CONTROL SEQUENCE
A = Terminal Block for Thermostat w/ Isolation Relays
D = VAV Unit Controller - VAV Cool + CAV Heat
E = CAV Unit Controller - CAV Cool + CAV Heat
F = Makeup Air Unit Controller - CAV Cool + CAV Heat
H = Constant Volume HP Unit Controller - CAV Cool + CAV Heat
J = Makeup Air HP Unit Controller - CAV Cool + CAV Heat
N = Field Installed DDC Controls by Others with Isolation Relays

8B: CONTROL SUPPLIERS
0 = Standard Terminal Block
J = AAON Refrigeration System Supervisory Controls

8C: CONTROL SUPPLIER OPTIONS
0 = Standard

8D: BMS CONNECTION & DIAGNOSTICS
0 = Standard

9: BLANK
0 = Standard

10: BLANK
0 = Standard

11: MAINTENANCE ACCESSORIES
0 = Standard
A = Factory Wired 115VAC Convenience Outlet
B = Field Wired 115VAC Convenience Outlet
C = Service Lights
E = Remote Unit Start/Stop Terminals
F = Options A + C
H = Options A + E
J = Options B + C
L = Options B + E
N = Options C + E
R = Options A + C + E
U = Options B + C + E

12: CODE OPTIONS
0 = Standard ETL USA Listing
B = ETL USA + Canada Listing

13: AIR-COOLED CONDENSER ACCESSORIES
0 = Standard
A = Condenser Coil Guard
C = ECM Condenser Fan Head Pressure Control
E = VFD Condenser Fan Head Pressure Control
G = Options A + C
J = Options A + E

14: BLANK
0 = Standard

15: BLANK
0 = Standard

16: ELECTRICAL OPTIONS
0 = Standard 5 kAIC
C = 10 kAIC

CF Series Feature String Nomenclature

Model Options : Unit Feature Options

GEN	MJREV	SIZE	SERIES	MNREV	VLT	A1	A2	A3	A4	A5	**1**	**2A**	**2B**	**3A**	**3B**	**4**	**5**	**6A**	**6B**	**6C**	**7**	8A	8B	8C	8D	9	10	11	12	13	14	15
CF	A	- 015	- B	- A	- 3	- D	A	0	0	K:	0	- 0	0	- E	0	- C	0	- AN	0	- D	- DE	0	0	- 0	0	A	0	C	0	0
																										0	**A**	**0**	**0**	**D**	**B**	
																										16	**17**	**18**	**19**	**20**	**21**	**22**

17: SHIPPING OPTIONS
0 = Standard
A = Crating
B = Export Crating

18: BLANK
0 = Standard

19: BLANK
0 = Standard

20: CABINET MATERIAL
0 = Galvanized Steel Cabinet

21: WARRANTY
0 = Standard
D = Extended Compressor Warranty - Years 2 thru 5

22: TYPE
B = Premium AAON Gray Paint Exterior
E = Premium AAON Gray Paint Exterior + Shrink Wrap
X = SPA + Premium AAON Gray Paint Exterior
1 = SPA + Premium AAON Gray Paint Exterior + Shrink Wrap

Model Options

Generation, Major Revision, and Unit Size

Example: **CFA-015-**B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

Unit size designates nominal gross tons cooling at AHRI conditions for CF Series condensing units. Actual capacities will vary with conditions. Refer to AAON ECat for performance and cooling capacities at design conditions.

Table 1 - Generation, Major Revision, Unit Sizes, and Cabinet Series

Unit Size	Cabinet Series	Compressors/ Circuits	Discharge
CFA-002	A	1/1	Horizontal
CFA-003			
CFA-004			
CFA-005			
CFA-007			
CFA-009	B	2/2	Vertical
CFA-011			
CFA-013			
CFA-015			
CFA-016	C		
CFA-018			
CFA-020			
CFA-025			
CFA-030			
CFA-026	D	4/2 or 4/4	
CFA-031			
CFA-040			
CFA-050			
CFA-060			
CFA-070			

Model Option
Series

Example: CFA-015-**B**-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

A = *A Cabinet* - Available on sizes 2 - 7 tons. A Cabinet has a horizontal discharge, with a forklift base on the front and side of the unit. Service access door for controls and compressors is on the same side as the discharge air to minimize the clearances on all the other sides of the unit. Low voltage electrical board is a swinging panel. A cabinet is a single circuit unit with one condenser fan. The unit is constructed of G90 galvanized steel panels and coated with 2,500 hour salt spray tested exterior corrosion protection paint.

B = *B Cabinet* - Available on sizes 9 - 15 tons. B Cabinet has a vertical discharge, with a forklift base on the front and lifting lugs on both sides of the unit. A single service access door protects the controls and compressors from the outside elements. B cabinet is a dual circuit unit with two condenser fans. The unit is constructed of G90 galvanized steel panels coated with 2,500 hour salt spray tested exterior corrosion protection paint.

C = *C Cabinet* - Available on sizes 16 - 25 & 30 tons. C Cabinet has a vertical discharge, with a forklift base on the front and lifting lugs on both sides of the unit. Two service access doors protect the controls and compressors from the outside elements. C cabinet is a dual circuit unit with two (16-20 ton) or four (25 & 30 ton) condenser fans. The unit is constructed of G90 galvanized steel panels coated with 2,500 hour salt spray tested exterior corrosion protection paint.

D = *D Cabinet* - Available on sizes 26 & 31 - 70 tons. D Cabinet has a vertical discharge, with lifting lugs on both sides of the unit. Two service access doors protect the controls and compressors from the outside elements. D cabinet is either a dual or four circuit unit with four condenser fans. The unit is constructed of G90 galvanized steel panels coated with 2,500 hour salt spray tested exterior corrosion protection paint.

Model Option
Minor Revision

Example: CFA-015-B-**A**-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

A = *First Revision* - This digit is used for future product updates and improvements.

Model Option
Voltage

Example: CFA-015-B-A-**3**-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

All units have single point power connections with grounding lugs, 24 VAC control circuits, and branch circuit fusing.

1 = 230V/1Φ/60Hz - Single phase voltages are only available for CF-009 & CF-011
2 = 230V/3Φ/60Hz
3 = 460V/3Φ/60Hz
4 = 575V/3Φ/60Hz
8 = 208V/3Φ/60Hz
9 = 208V/1Φ/60Hz - Single phase voltages are only available for CF-009 & CF-011

Model Option
Model Option A1 - Compressor Style

Example: CFA-015-B-A-3-**D**A00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Air-Cooled Condenser - No Compressor (1 Circuit)* - Air-cooled condenser without compressors. Condensing coils are factory charged with a nitrogen holding charge. Refrigerant connections on this unit are one discharge & one liquid. Option is available on CF Series 2-7 ton units. Note: the matching air handling unit must have one circuit.

A = *R-410A Scroll Compressor (Four Circuits)*- Standard on/off R-410A scroll compressors that provide one stage of capacity. Compressors include crankcase heaters. See Model Option A5 - Staging for number of refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for number of individual compressors in each unit size.

Model Option A1 – Compressor Style Continued

Example: CFA-015-B-A-3-**D**A00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

B = *R-410A Two Stage Capacity Compressor* - R-410A two stage scroll compressors that provide two stages of capacity, 67% and 100%, for more energy efficient part load operation. Compressors include crankcase heaters. Option is only available on CF Series 2-20 ton units. Refrigerant connections on this unit are suction and liquid.

D = *R-410A Variable Capacity Scroll Compressor* - R-410A variable capacity scroll compressors that provide 10-100% modulating capacity for load matching cooling and heating and more energy efficient part load operation. Option is not available on CF Series 2 ton units. Compressors include crankcase heaters. Option requires a factory installed controller option or a 1-5 VDC control signal to control compressor capacity modulation. See Model Option A5 - Staging for number of variable capacity and on/off refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for number of individual compressors in each unit size.

E = *R-410A Tandem Scroll Compressors* - On/off R-410A scroll compressors connected in tandem. Compressors include crankcase heaters. Option is only available on CF Series 26 & 31-70 ton units. See Model Option A5 - Staging for number of refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for the number of individual compressors in each unit size.

G = *R-410A Tandem Variable Capacity Scroll Compressor* - R-410A variable capacity scroll compressors connected in tandem that provide 10-100% modulating capacity for load matching cooling and heating and more energy efficient part load operation. Option is only available on CF Series 26 & 31-70 ton units. Compressors include crankcase heaters. Option requires a factory installed controller option or a 1-5 VDC control signal to control compressor capacity modulation. See Model Option A5 - Staging for number of variable capacity and on/off refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for number of individual compressors in each unit size.

J =*R-454B Scroll 2-Step Capacity Compressor* - R-454B two stage scroll compressors that provide two stages of capacity, 67% and 100%, for more energy efficient part load operation. Compressors include crankcase heaters. Option is only available on CF Series 2-20 ton units. Refrigerant connections on this unit are suction and liquid.

L = *R-454B Variable Capacity Scroll Compressor* - R-454B variable capacity scroll compressors that provide 10-100% modulating capacity for load matching cooling and heating and more energy efficient part load operation. Option is not available on CF Series 2 ton units. Compressors include crankcase heaters. Option requires a factory installed controller option or a 1-5 VDC control signal to control compressor capacity modulation. See Model Option A5 - Staging for number of variable capacity and on/off refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for number of individual compressors in each unit size.

M = *R-454B Tandem Scroll Compressors* - On/off R-454B scroll compressors connected in tandem. Compressors include crankcase heaters. Option is only available on CF Series 26 & 31-70 ton units. See Model Option A5 - Staging for number of refrigeration circuits. Refrigerant connections on this unit are suction and liquid. See the General Data tables for the number of individual compressors in each unit size.

P = *Air-Cooled Condenser - No Compressor (2 Circuits)* - Air-cooled condenser without compressors. Condensing coils are factory charged with a nitrogen holding charge. Refrigerant connections on this unit are two discharge & two liquid. Option is available on CF Series 9-70 ton units. Note: the matching air handling unit must have two circuits.

Q = *Air-Cooled Condenser - No Compressor (4 Circuits)* - Air-cooled condenser without compressors. Condensing coils are factory charged with a nitrogen holding charge. Refrigerant connections on this unit are four discharge & four liquid. Option is available on CF Series 26 & 31-70 ton units. Note: the matching air handling unit must four circuits.

Model Option

Model Option A2 - Condenser Style

Example: CFA-015-B-A-3-D**A**00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

A = *Air-Cooled Microchannel Condenser* - Air-cooled condenser with aluminum microchannel coils. The unit includes a factory installed liquid line filter drier and shut off valves. Option is for cooling only condensing units, sizes 2-25 & 30 tons.

J = *Air-Source Heat Pump (Fin and Tube)* - This option uses a different aluminum fin and copper tube condenser coil sized for energy efficient heat pump heating and cooling. The following components are factory installed on the condensing unit: reversing valve, TXV with internal or external check valve, bi-flow liquid line filter drier (or filter drier loop), suction line accumulator, liquid line receiver, and shut off valves. Option is for heat pump condensing units.

Model Option

Model Option A3 - Configuration

Example: CFA-015-B-A-3-DA**0**0K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

Model Option
Model Option A4 - Coating

Example: CFA-015-B-A-3-DA0**0**K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*
E = *Polymer E-Coated Condenser Coil* - Polymer e-coating applied to condenser coils. Complete coil and casing are coated. Coating capable of withstanding at least 10,000 hours of salt spray per ASTM B117, yet is only 0.8-1.2 mils thick and has excellent flexibility. Option is intended for use in coastal saltwater conditions under the stress of heat, salt, sand and wind and is applicable to all corrosive environments where a polymer e-coating is acceptable. Coating includes a 5 year warranty, from the date of original equipment shipment from the factory. Instructions coil cleaning, maintenance, and recording keeping must be followed. Refer to the unit Installation, Operation and Maintenance Manual.

Model Option
Model Option A5 - Staging

Example: CFA-015-B-A-3-DA00**K**:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *No Cooling* - Remote Air-Cooled Condenser without compressors.

G = *1 Two-Step Refrigeration System* - Single refrigeration circuit with two-stage capacity control. Option is available on CF Series 2-7 ton units. Note: the matching air handling unit must have one circuit.

H = *1 Variable Refrigeration System* - Single refrigeration circuit with 10-100% variable capacity control. Option is available on CF Series 3-7 ton units. Note: the matching air handling unit must have one circuit.

J = *2 On/Off Refrigeration Systems* - Two refrigeration circuits with on/off capacity control. Option is available on CF Series 9-70 ton units. Note: the matching air handling unit must have two circuits.

K = *1 Variable Refrigeration System + 1 On/Off Refrigeration System* - Lead refrigeration circuit includes 10-100% variable capacity control and lag refrigeration circuit with on/off capacity control. Option is available on CF Series 9-70 ton units. Note: the matching air handling unit must have two circuits.

Model Option A5 - Staging Continued

L = *2 Variable Refrigeration Systems* - Two refrigeration circuits with 10-100% variable capacity control. Option is available on 9-70 ton units. Note: the matching air handling unit must have two circuits.

M = *2 Two-Step Refrig System* – Two circuits with two-stage capacity control. Option is available on CF Series 9-20 ton units. Note: the matching air handling unit must have one circuit.

N = *1 Variabl Refrig System + 1 Two-Step Refrig System* – Two refrigeration circuits, one circuit with 10 – 100% variable capacity control; one circuit with two-stage capacity control. Option is available on CF Series 9-20 tons units. Note: the matching air handling unit must have one circuit.

R = *4 On/Off Refrigeration Systems* - Four refrigeration circuits with on/off capacity control. Option is available on CF Series 26 & 31-70 ton units. Note: the matching air handling unit must have four circuits.

T = *2 Variable Refrigeration Systems + 2 On/Off Refrigeration Systems* - Four refrigeration circuits with circuits 1 and 3 including 10-100% variable capacity control and circuits 2 and 4 including on/off capacity control. Option is available on CF Series 26 & 31-70 ton units. Note: the matching air handling unit must have four circuits.

U = *4 Variable Refrigeration Systems* - Four refrigeration circuits with 10-100% variable capacity control. Option is available on CF Series 26 & 31-70 ton units. Note: the matching air handling unit must have four circuits.

Unit Feature 1

Unit Feature 1 - Unit Orientation

Example: CFA-015-B-A-3-DA00K:**0**-00-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Vertical Condenser Discharge with End Control Panel* - Condenser fans will discharge air vertically from the unit. Full length stainless steel piano hinges and quarter turn, lockable handles provide service access to compressor and controls compartment. Option is available on CF Series 9-70 ton units.

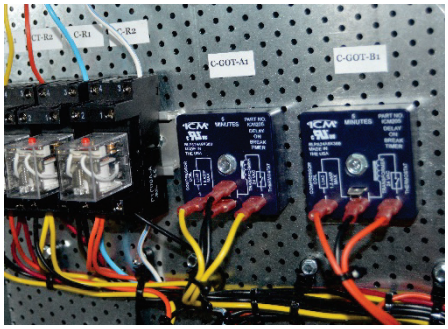
A = *Horizontal Condenser Discharge with Standard Access* - Condenser fans will discharge air horizontally from the unit. Full length stainless steel piano hinges and quarter turn, lockable handles provide service access to compressor and controls compartment. Option is available on CF Series 2-7 ton units.

Unit Feature 2

Unit Feature 2A - Refrigeration Control

Example: CFA-015-B-A-3-DA00K:0-**0**0-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard* - Selectable on units with no compressors and units that include AAON Controls since the controller includes 3 minute compressor off timer & compressor stage delays.



A = *5 Minute Compressor Off Timer & 20 Second Compressor Stage Delay* - Option includes controls that guarantees 5 minutes of compressor off time to avoid compressor short cycling. Units with multiple refrigeration circuits, CF Series 9-70 ton units, also include a staging delay timer that requires 20 seconds of delay before an additional cooling stage energizes.

G = *5 Minute Compressor Off Timer & 20 Second Compressor Stage Delay + Adjustable Fan Cycling* -

H = *5 Minute Compressor Off Timer & 20 Second Compressor Stage Delay + Adjustable Compressor Lockout* -

W = *5 Minute Compressor Off Timer & 20 Second Compressor Stage Delay + Adjustable Fan Cycling + Adjustable Compressor Lockout* -

Unit Feature 2

Unit Feature 2B - Blank

Example: CFA-015-B-A-3-DA00K:0-0**0**-E0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

Unit Feature 3

Unit Feature 3A - Refrigeration Options

Example: CFA-015-B-A-3-DA00K:0-00-**E**0-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

A = *Hot Gas Bypass Lead Stage [HGB]* - Field adjustable pressure activated bypass valve on the lead refrigeration circuit. Valve is factory setup to divert hot compressor discharge gas to the evaporator coil if pressure on the evaporator side of the valve drops below 105 psi for R-410A (34°F at sea level). The bypass valve is at full capacity after six degrees of differential (28°F at sea level). This option helps prevent coil freezing during periods of low air flow or cold entering coil conditions. This option is used for refrigerant system protection only and cannot be used for cooling capacity modulation. **Hot gas bypass is required on all Variable Air Volume (VAV) and Makeup Air (MUA) units without variable capacity compressors. Hot gas bypass on the lag circuits is recommended on all VAV and MUA units with variable capacity compressors on only the lead circuits.**

B = *HGB Lead + HGB Lag* - Field adjustable pressure activated bypass valves on the lead and lag refrigeration circuits. Valve is factory setup to divert hot compressor discharge gas to the evaporator coil if pressure on the evaporator sided of the valve drops below 105 psi for R-410A (34°F at sea level). The bypass valve is at full capacity after six degrees of differential (28°F at sea level). This option helps prevent coil freezing during periods of low air flow or cold entering coil conditions. This option is used for refrigerant system protection only and cannot be used for cooling capacity modulation. **Hot gas bypass is required on all Variable Air Volume (VAV) and Makeup Air (MUA) units without variable capacity compressors. Hot gas bypass on the lag circuits is recommended on all VAV and MUA units with variable capacity compressors on only the lead circuits.**

Unit Feature 3A - Refrigeration Options Continued

Example: CFA-015-B-A-3-DA00K:0-00-**E**0-C0-AN0-D-DE00-00A0C00-0A000DB

E = *Modulating Hot Gas Reheat [MHGR]* - A 3-way modulating valve is factory installed on the discharge line of the lead refrigeration circuit and modulating hot gas reheat controller is mounted in the controls cabinet. Modulating reheat valve diverts a varying percentage of the hot gas entering the condensing coil to the reheat coil to provide the unit with a dehumidification mode of operation. Option adds a 3-way modulating control valve, receiver tank, and modulating hot gas reheat controls. Requires additional field piped hot gas line, with drip line, from the condensing unit to the air handler. Field installed suction line accumulator/subcooler is recommended. ECM or VFD controlled condenser fan head pressure control (Feature 13) must be selected on units with MHGR. Matching air handling unit must include a reheat coil.

Depending on the type of controls selected, the unit will be factory wired for either priority dehumidification or priority cooling.

> Priority dehumidification means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in dehumidification mode until the humidity setpoint is satisfied.
>
> Priority Cooling means if the controller gets a cooling call and a dehumidification call simultaneously, the unit will run in cooling mode until the cooling setpoint temperature is satisfied. When there is no longer a call for cooling, but there is a call for dehumidification, the compressors will continue to run and the reheat will be activated.

If Standard Terminal Block is configured (Feature 8B=0), the condensing unit will include a MHGRV-X board and the supply air temperature sensor will ship loose in the condensing unit to be installed in the matching air handling unit supply air stream.

- When Feature 8A=A (terminal block for thermostat), the unit is factory wired as priority cooling.
- When Feature 8A=N (field installed DDC controls furnished by others) the unit is factory wired as priority dehumidification.

If VCCX2 Controls are configured (Feature 8B=E), the condensing unit will include a MHGRV-X board and the supply air sensor will ship in the matching air handling unit wired to the VCCX2 board to be field installed in the supply air stream. Priority dehumidification or cooling can be set through the controls in the field.

If AAON Touchscreen Controls are configured (Feature 8B=H), the condensing unit will include a Sporlan IB-G Board and the supply air sensor will ship in the matching air handling unit wired to the AAON Touchscreen Controller to be field installed in the supply air stream. Priority dehumidification or cooling can be set through the controls in the field.

Unit Feature 3A - Refrigeration Options Continued

H = *HGB Lead* + *MHGR* - Options A + E.

J = *HGB Lead* + *HGB Lag* + *MHGR* - Options B + E.

Unit Feature 3

Unit Feature 3B - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E**0**-C0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

Unit Feature 4

Unit Feature 4 - Refrigeration Accessories

Example: CFA-015-B-A-3-DA00K:0-00-E0-**C**0-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

A = *Sight Glass* - Moisture indication sight glass attached to the refrigeration circuit liquid lines. The moisture indicator shows a green color when refrigerant is dry, a chartreuse color (green with a yellow tint or bright green) indicates caution, and a yellow color indicates a wet condition. The sight glass is not a charge indicator.

Table 2 - Moisture Content in the Refrigerant

Indicator Color	75° F Liquid Line Temperature
Green DRY	Below 75 ppm
Chartreuse CAUTION	75-150 ppm
Yellow WET	Above 150 ppm

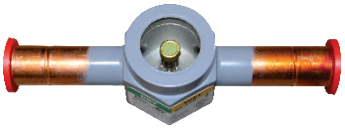


Figure 1 - Sight Glass

B = *Compressor Isolation Valves* - Ball type service valves mounted on the refrigeration circuit discharge and suction lines permitting isolation of the compressor for service or replacement. The valves are located close to the compressors and work through a quarter turn from open to closed. Teflon seals and gaskets are used with a nylon cap gasket to prevent accidental refrigerant loss. This option reduces the amount of refrigerant that must be recovered during compressor service or replacement.

Unit Feature 4 - Refrigeration Accessories Continued

C = *Sight Glass + Compressor Isolation Valves* - Options A + B.

D = *Single Circuit Flooded Condenser Low Ambient Controls* - Factory installed, flooded condenser, head pressure control option which allows cooling operation down to 0°F ambient, on one refrigerant circuit. When the ambient temperature drops, the condensing temperature drops. A three-way pressure activated valve then allows discharge gas to bypass around the condenser. Mixing of the discharge gas with liquid creates a high pressure at the condenser outlet, reducing the flow and causing liquid to back up into the condenser. Flooding the condenser reduces the area available for condensing, resulting in a rise in condensing pressure. Option adds a 3-way pressure activated valve and receiver tank. ECM or VFD controlled condenser fan head pressure control (Feature 13) must be selected on units with Low Ambient Controls.

E = *Sight Glass + Single Circuit Flooded Condenser Low Ambient Controls* - Options A + D.

F = *Compressor Isolation Valves + Single Circuit Flooded Condenser Low Ambient Controls* - Options B + D.

G = *Sight Glass + Compressor Isolation Valves + Single Circuit Flooded Condenser Low Ambient Controls* - Options A + B + D.

H = *Two Circuit Flooded Condenser Low Ambient Controls* - Factory installed, flooded condenser, head pressure control option which allows cooling operation down to 0°F ambient, on two refrigerant circuits. When the ambient temperature drops, the condensing temperature drops. A three-way pressure activated valve then allows discharge gas to bypass around the condenser. Mixing of the discharge gas with liquid creates a high pressure at the condenser outlet, reducing the flow and causing liquid to back up into the condenser. Flooding the condenser reduces the area available for condensing, resulting in a rise in condensing pressure. Option adds two 3-way pressure activated valves and two receiver tanks. Modulating head pressure control (Feature 13) must be selected on units with Low Ambient Controls.

J = *Sight Glass + Two Circuit Flooded Condenser Low Ambient Controls* - Options A + H.

K = *Compressor Isolation Valves + Two Circuit Flooded Condenser Low Ambient Controls* - Options B + H.

L = *Sight Glass + Compressor Isolation Valves + Two Circuit Flooded Condenser Low Ambient Controls* - Options A + B + H.

R = *Four Circuit Flooded Condenser Low Ambient Controls* - Factory installed, flooded condenser, head pressure control option which allows cooling operation down to 0°F ambient, on four refrigerant circuits. When the ambient temperature drops, the condensing temperature drops. A three-way pressure activated valve then allows discharge gas to bypass around the condenser.

Unit Feature 4 - Refrigeration Accessories Continued

Mixing of the discharge gas with liquid creates a high pressure at the condenser outlet, reducing the flow and causing liquid to back up into the condenser. Flooding the condenser reduces the area available for condensing, resulting in a rise in condensing pressure. Option adds four 3-way pressure activated valves and four receiver tanks. Modulating head pressure control (Feature 13) must be selected on units with Low Ambient Controls.

S = *Sight Glass + Four Circuit Flooded Condenser Low Ambient Controls* - Options A + R.

T = *Compressor Isolation Valves + Four Circuit Flooded Condenser Low Ambient Controls* - Options B + R.

U = *Sight Glass + Compressor Isolation Valves + Four Circuit Flooded Condenser Low Ambient Controls* - Options A + B + R.

Unit Feature 5

Unit Feature 5 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C**0**-AN0-D-DE00-00A0C00-0A000DB

0 = *Standard*

Unit Feature 6

Unit Feature 6A - Unit Disconnect Type

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-**A**N0-D-DE00-00A0C00-0A000DB

0 = *Standard Single Point Power Block* - Unit power is wired into a single point power block sized in accordance to unit's MOP.

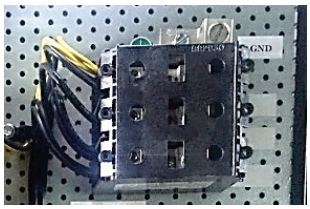


Figure 2 - Power Block

A = *Single Point Power Non-Fused Disconnect* - Unit power is wired into a single point non-fused disconnect sized in accordance to unit's MOP.

Figure 3 - Non-Fused Disconnect

Unit Feature 6

Unit Feature 6B - Disconnect Size

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-A**N**0-D-DE00-00A0C00-0A000DB

N = *100 amps* **V** = *250 amps*
R = *150 amps* **Z** = *400 amps*

Individual components within the control cabinet are fused and/or internally protected. The switch is accessible from the exterior of the unit. The switch disconnects high voltage service to the unit. To add a disconnect, choose any disconnect and after all options have been selected, AAONECat will automatically calculate the minimum allowable ampacity and choose the correct size disconnect.

Unit Feature 6

Unit Feature 6C - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN**0**-D-DE00-00A0C00-0A000DB

0 = *Standard*

Unit Feature 7

Unit Feature 7 - Accessories

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-**D**-DE00-00A0C00-0A000DB

0 = *Standard*

B = *Phase and Brown Out Protection* - Voltage monitor that is used to protect motors and compressors from voltage imbalance, over/under voltage, and phase loss. Option has an automatic reset.

Figure 4 - PBO

D = *Suction Pressure Transducer All Refrigeration Circuits* - All refrigeration circuits include a pressure transducer on the suction line used to control variable capacity compressors.

Unit Feature 7 - Accessories Continued

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-**D**-DE00-00A0C00-0A000DB

E = *Compressor Sound Blanket* - Option includes a high density insulation sound suppression blanket covering each individual compressor to dampen radiated sound and is factory installed on each compressor in the unit.

L = *Phase and Brown Out Protection + Suction Pressure Transducer All Refrigeration Circuits* - Options B + D.

M = *Phase and Brown Out Protection + Compressor Sound Blanket* - Options B + E.

Q = *Suction Pressure Transducer All Refrigeration Circuits + Compressor Sound Blanket* - Options D + E.

1 = *Phase and Brown Out Protection + Suction Pressure Transducer All Refrigeration Circuits + Compressor Sound Blanket* - Options B + D + E.

Unit Feature 8

Unit Feature 8A - Control Sequence

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-**D**E00-00A0C00-0A000DB

A = *Terminal Block for Thermostat with Isolation Relays* - Low voltage terminal block for use with a thermostat with factory installed isolation relays to prevent voltage drop in the controls circuit. Isolation relays are strongly recommended on applications where there is a question about the length of control wiring. Power and starting components include fan motor and compressor contactors, fuses, 5 minute off compressor time delay relays, internal fan motor overload protection, and power terminal block for connection to remote disconnect switch. Safety and operating controls include 24 VAC control circuit transformer, manual reset high pressure switches, and automatic reset low pressure switches. If the unit includes modulating hot gas reheat, the unit is factory wired as priority cooling (See Feature 3A for more information). This option cannot be selected with digital compressors.

D = *VAV Unit Controller VAV Cool + CAV Heat* - Standard VAV controls for cooling operation. During the cooling mode of operation, the supply fan modulates based on the supply duct static pressure and mechanical cooling modulates based on the supply air temperature. Heating mode of operation available only to provide morning warm up. Outside air temperature sensor, return air temperature sensor, supply air temperature sensor, space temperature sensor with setpoint reset and unoccupied override, and duct static pressure sensor are factory supplied with controller for field installation. See Controls section for more information.

E = *CAV Unit Controller CAV Cool + CAV Heat* - Standard Constant Volume controls for non-heat pump systems. Typically the controlling sensor (the sensor that determines cooling, heating, etc) is a space temperature sensor. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the supply air temperature. Outside air temperature sensor, supply air temperature sensor and space temperature sensor with setpoint reset and unoccupied override are factory supplied with controller for field installation. If the unit includes modulating hot gas reheat (Feature 3A), an Ebus space temperature & humidity sensor will be the controlling sensor. During the dehumidification mode of operation, the supply fan provides a constant airflow, mechanical cooling modulates based on the saturated suction temperature, and the reheat modulates based on supply air temperature. See Controls section for more information.

F = *MUA Unit Controller* - Standard Makeup Air controls for non-heat pump systems. Typically the controlling sensor is an outdoor air temperature sensor. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the supply air temperature. Outside air temperature sensor and supply air temperature sensor are factory supplied with controller for field installation. If the unit includes modulating hot gas reheat (Feature 3A), an Ebus outside air temperature & humidity

Unit Feature 8A - Control Sequence Continued

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-**D**E00-00A0C00-0A000DB

sensor will be the controlling sensor. During the dehumidification mode of operation, the supply fan provides a constant airflow, mechanical cooling modulates based on the saturated suction temperature, and the reheat modulates based on supply air temperature. See Controls section for more information.

H = *CAV Heat Pump Unit Controller CAV Cool + CAV Heat* - Standard Constant Volume controls for heat pump systems. Typically the controlling sensor (the sensor that determines cooling, heating, etc) is a space temperature sensor. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the supply air temperature. Outside air temperature sensor, supply air temperature sensor and space temperature sensor with setpoint reset and unoccupied override are factory supplied with controller for field installation. If the unit includes modulating hot gas reheat (Feature 3A), an Ebus space temperature & humidity sensor will be the controlling sensor. During the dehumidification mode of operation, the supply fan provides a constant airflow, mechanical cooling modulates based on the saturated suction temperature, and the reheat modulates based on supply air temperature. See Controls section for more information.

J = *MUA Heat Pump Unit Controller* - Standard Makeup Air controls for heat pump systems. Typically the controlling sensor is an outdoor air temperature sensor. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the supply air temperature. Outside air temperature sensor and supply air temperature sensor are factory supplied with controller for field installation. If the unit includes modulating hot gas reheat (Feature 3A), an Ebus outside air temperature & humidity sensor will be the controlling sensor. During the dehumidification mode of operation, the supply fan provides a constant airflow, mechanical cooling modulates based on the saturated suction temperature, and the reheat modulates based on supply air temperature. See Controls section for more information.

N = *Field Installed DDC Controls Furnished by Others with Isolation Relays* - Provides an expanded terminal strip to interface with controls by others, with factory installed isolation relays to prevent voltage drop in the controls circuit. Isolation relays are strongly recommended on applications where there is a question about the length of control wiring. Power and starting components include fan motor and compressor contactors, fuses, 5 minute off compressor time delay relays, internal fan motor overload protection, and power terminal block for connection to remote disconnect switch. Safety and operating controls include 24 VAC control circuit transformer, manual reset high pressure switches, and automatic reset low pressure switches. See Controls section and Field controlled Terminal sheet from AAONECat for more information. If the unit includes modulating hot gas reheat, the unit is factory wired as priority dehumidification (See Feature 3A for more information).

Unit Feature 8
Unit Feature 8B - Control Supplier

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-D**E**00-00A0C00-0A000DB

0 = *Standard Terminal Block*

E = *VCCX2 Orion Control System (Main Controller in Air Handling Unit)* - AAON supplied and factory installed VCCX2 controller in the air handling unit and RSMD or RSMSD board factory installed in the condensing unit. VCCX2 must be selected as a feature in the matching air handling unit. Requires a field installed shielded pair to be wired between the AHU & CU for system control, and an optional additional shielded pair if loop communications is desired. The RSMD or RSMSD (for single digital compressor units) board is configured for the mechanical features selected at end of line testing so the VCCX2 board in the AHU will automatically download the outdoor unit configuration when connected in the field.

J = *AAON Refrigeration System Supervisory Controls* - AAON supplied and factory installed supervisory VCCX2 controller and RSMD in the condensing unit controls the compressor and condenser fan operation. Field wiring is required for cooling, heating, and dehumidification enables.

Unit Feature 8
Unit Feature 8C - Control Supplier Option

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE**0**0-00A0C00-0A000DB

0 = *Standard*

Unit Feature 8
Unit Feature 8D - BMS Connection & Diagnostics

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE0**0**-00A0C00-0A000DB

0 = *Standard*

Unit Feature 9
Unit Feature 9 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-**0**0A0C00-0A000DB

0 = *Standard*

Unit Feature 10

Unit Feature 10 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-0**0**A0C00-0A000DB

0 = *Standard*

Unit Feature 11

Unit Feature 11 - Maintenance Accessories

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00**A**0C00-0A000DB

0 = *None*

A = *115VAC Convenience Outlet Factory Wired* - Factory wired 2x4 inch electrical box with ground fault interrupter receptacle located within the controls vestibule. The circuit is rated at 12 amps maximum and is factory wired to a step-down transformer, circuit breaker and outlet disconnect. The circuit is wired to the line side of the unit power block or power switch permitting use of the outlet while power to the unit is shut off. **Caution: When the power to the unit is disconnected with the factory installed unit power switch, the convenience outlet will remain live.**

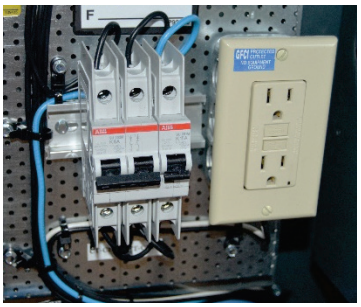


Figure 5 - Factory Wired Convenience Outlet

Unit Feature 11 - Maintenance Accessories Continued

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00**A**0C00-0A000DB

B = *115VAC Convenience Outlet Field Wired* - Field wired 2x4 inch electrical box with ground fault interrupter receptacle, located within the controls vestibule. Receptacle is rated for 20 amps. The outlet must be field wired to a 115 VAC power supply. No wiring provided from factory.

Figure 6 - Field Wired Convenience Outlet

C = *Service Access Lights* - Standard unit construction with service lights included in the controls and compressor compartment. The light circuit is wired to the line side of the unit power block, permitting use of the lights while the power to the unit is shut off.

E = *Remote Unit Start/Stop Terminals* - Remote start/stop terminals labeled ST1 and ST2. This option is normally used with a remote time clock or space type thermostat with occupied/unoccupied capability. Field supplied contact closure is needed for unit operation. When contacts are open, the low voltage circuit is broken and the unit will not operate.

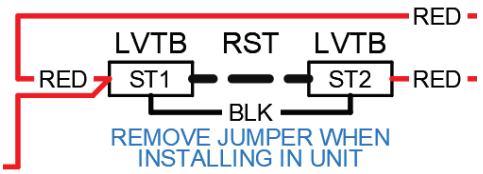


Figure 7 - Remote Start/Stop Wiring Example

F = *115VAC Convenience Outlet Factory Wired + Service Lights* - Options A + C.

H = *115VAC Convenience Outlet Factory Wired + Remote Unit Start/Stop Contacts* - Options A + E.

J = *115VAC Convenience Outlet Field Wired + Service Lights* - Options B + C.

L = *115VAC Convenience Outlet Field Wired + Remote Unit Start/Stop Contacts* - Options B + E.

N = *Service Lights + Remote Unit Start/Stop Contacts* - Options C + E.

R = *115VAC Convenience Outlet Factory Wired + Service Lights + Remote Unit Start/Stop Contacts* - Options A + C + E.

Unit Feature 11 - Maintenance Accessories Continued

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00**A**0C00-0A000DB

U = *115VAC Convenience Outlet Field Wired + Service Lights + Remote Unit Start/Stop Contacts* - Options B + C + E.

Unit Feature 12

Unit Feature 12 - Code Options

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A**0**C00-0A000DB

0 = *Standard ETL US Listing* - All AAON equipment is ETL listed and tested in accordance with the latest revision of UL 1995. If a Special Pricing Authorization (SPA) is applied there may be additional costs incurred to secure the ETL label.

B = *ETL US and Canada Listing* - Canadian and USA listings for export. The nameplate will be in English and French.

Unit Feature 13

Unit Feature 13 - Air Cooled Condenser

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0**C**00-0A000DB

0 = *Standard*
A = *Condenser Coil Guard* - Condenser coil guards fabricated from galvanized sheet metal, painted and factory installed across the condenser coil face

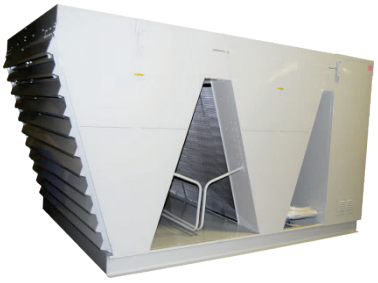


Figure 8 - CF with Condenser Coil Guard

C = *ECM Condenser Fan Head Pressure Control* - Low ambient refrigerant head pressure control option using electronically commutated motors (ECM). The motors either speed up or slow down to adjust air flow in order to maintain the head pressure setpoint. The head pressure setpoint is field adjustable from 260-400 psi with a default setting of 340 psi with a Head Pressure Control Module. Option includes ECMs, condenser head pressure controller and discharge pressure transducers. Minimum allowable ambient temperature for cooling operation is 35°F. Option available on CF sizes 002 through 040.

Unit Feature 13 - Air Cooled Condenser Continued

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0**C**00-0A000DB

E = *VFD Controlled Condenser Fan Head Pressure Control* - Factory provided and programmed VFDs receive inputs from discharge pressure transducers on each refrigerant circuit and varies the fan speed based on the pressure inputs to maintain a discharge pressure. Standard pressure setpoint is 340 psi for standard air-cooled systems and 400 psi for modulating hot gas reheat air-cooled systems. Option includes VFD driven motor, VFD, power supply, and discharge pressure transducers. If the unit is 575V, option includes VFD driven motor, VFD, condenser head pressure controller, and discharge pressure transducers. Minimum allowable ambient temperature for cooling operation is 35°F. Option available on CF sizes 013 through 070.

G = *Condenser Coil Guard + ECM Condenser Fan Head Pressure Control* - Options A + C.

J = *Condenser Coil Guard + Three Phase Condenser Fan Motor + VFD Condenser Fan Head Pressure Control* - Options A + E.

N =

Unit Feature 14

Unit Feature 14 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C**0**0-0A000DB

0 = *Standard*

Unit Feature 15

Unit Feature 15 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C0**0**-0A000DB

0 = *Standard*

Unit Feature 16

Unit Feature 16 - Electrical Options

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-**0**A000DB

0 = *Standard 5 kAIC*

C = *10 kAIC*

Unit Feature 17

Unit Feature 17 - Shipping Options

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0**A**000DB

0 = *Standard*
A = *Crating*- Standard crating includes a wood pallet and a skeleton crate fabricated of dimensional lumber. The B cabinet also has cardboard to protect the paint during shipping since the crate is tighter for that cabinet size. Crating must be field disassembled and wood pallet must be removed for unit installation. Lockable access doors are shipped with a nut and bolt through the latch. The D Cabinet cannot be crated.

Figure 9 - CF C Cabinet Crating

Figure 10 - CF B Cabinet Crating

B = *Export Crating* - Optional crating of the unit with additional supports for overseas shipping. Option includes a wood pallet, and a completely enclosed crate fabricated of dimensional lumber and plywood. Crating must be field disassembled and wood pallet must be removed for unit installation. Lockable access doors are shipped with a nut and bolt through the latch.
The D Cabinet cannot be crated.

Unit Features 18

Unit Features 18 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A**0**00DB

0 = *Standard*

Unit Features 19

Unit Features 19 - Blank

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A0**0**0DB

0 = *Standard*

Unit Features 20

Unit Features 20 - Cabinet Material

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A00**0**DB

0 = *Galvanized Steel Cabinet* – Unit construction consists of galvanized G90 sheet metal interior with painted exterior.

Unit Features 21

Unit Features 21 - Warranty

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000**D**B

0 = *Standard Warranty* - Standard warranty includes a one year parts only warranty. Unit warranty coverage is 12 months from the date of equipment startup or 18 months from the date of original equipment shipment from the factory, whichever is less.

D = *Extended Compressor Warranty - Years 2-5* - Extends warranty coverage of compressors for the second to fifth years of unit operation. Warranty period begins from the date of original equipment shipment from the factory.

Unit Feature 22

Unit Feature 22 - Paint and Special Pricing Authorizations

Example: CFA-015-B-A-3-DA00K:0-00-E0-C0-AN0-D-DE00-00A0C00-0A000D**B**

B = *Premium AAON Gray Paint Exterior* - Cabinet exterior is primer washed then spray coated with a two part polyurethane, heat-baked exterior paint. The paint is gray in color and is capable of withstanding at least 2,500 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with the ASTM B117-95 test procedure.

Unit Feature 22 - Paint and Special Pricing Authorizations Continued

E = *Premium AAON Gray Paint Exterior + Shrink Wrap* - Option B + the unit is covered by a special heat shrink plastic wrap for supplemental unit protection during shipping and storage before startup.

X = *SPA + Premium AAON Gray Paint Exterior* - Option B + the Applications Department must issue a Special Pricing Authorization (SPA) to include a non-standard option.

1 = *SPA + Premium AAON Gray Paint Exterior + Shrink Wrap* - Option X + the unit is covered by a special heat shrink plastic wrap for supplemental unit protection during shipping and storage before startup.

General Data

CF Unit Information

Table 3 - 2-5 ton CF Unit Information

	Model			
	CF-002	CF-003	CF-004	CF-005
Compressor				
Quantity/Nominal tons				
R-410A or R-454B Two Stage Scroll	1/2 Two Stage	1/3 Two Stage	1/4 Two Stage	1/5 Two Stage
Full R-410A Variable Capacity Scroll		1/3 Var.	1/4 Var.	1/6 Var.
Capacity Stages (%)	100/67, or 10-100 with variable capacity scroll compressor			
Number of Circuits	1			
Condenser Fan	1			
Discharge	Horizontal			
Quantity/Diameter	1/30”			
Standard fan hp	.33			
ECM fan hp	.33			
Liquid Line Connection	3/8”		1/2”	
Suction Line Connection	3/4”		7/8”	
Discharge Line Connection	1/2”		5/8”	
Hot Gas Bypass Line Connection	1/2”			
Hot Gas Reheat Line Connection	5/8”			

Table 4 - 6-11 ton CF Unit Information

	Model			
		CF-007	CF-009	CF-011
Compressor				
Quantity/Nominal tons				
Half R-410A Variable Capacity Scroll			1/4, 1/4 Var.	1/5, 1/5 Var.
Full R-410A Variable Capacity Scroll	1/6 Var.	1/7 Var.	2/4 Var.	2/5 Var.
Capacity Stages (%)	100 or 10-100 with variable capacity scroll compressor		100/50 or 10-100 with variable capacity scroll compressor	
Number of Circuits	1		2	
Condenser Fan	2			
Discharge	Horizontal		Vertical	
Quantity/Diameter	1/30”		2/30”	
Standard fan hp	.33			
ECM fan hp	.33			
Liquid Line Connections	1/2”		(2) 1/2”	
Suction Line Connections	7/8”		(2) 7/8”	
Discharge Line Connections	5/8”		(2) 5/8”	
Hot Gas Bypass Line Connections	5/8”		(1 or 2) 5/8”	
Hot Gas Reheat Line Connection	5/8”		5/8”	

Table 5 - 13-18 ton CF Unit Information

	Model			
	CF-013	CF-015	CF-016	CF-018
Compressor				
Quantity/Nominal tons				
Half R-410A Variable Capacity Scroll	1/6, 1/6 Var.	1/7, 1/7 Var.	1/7, 1/7 Var.	1/8, 1/8 Var.
Full R-410A Variable Capacity Scroll	2/6 Var.	2/7 Var.	2/7 Var.	2/8 Var.
Capacity Stages (%)	100/50 or 10-100 with variable capacity scroll compressor			
Number of Circuits	2			
Condenser Fan	4			
Discharge	Vertical			
Quantity/Diameter	2/30”			
Standard fan hp	.75			
ECM fan hp	1.0			
Liquid Line Connections	(2) 1/2”		(2) 5/8”	
Suction Line Connections	(2) 7/8”		(2) 7/8”	
Discharge Line Connections	(2) 5/8”		(2) 7/8”	
Hot Gas Bypass Line Connections	(1 or 2) 5/8”		(1 or 2) 5/8”	
Hot Gas Reheat Line Connection	5/8”		7/8”	

Table 6 - 20-25 & 30 ton CF Unit Information

	Model		
	CF-020	CF-025	CF-030
Compressor *Quantity/Nominal tons*			
Half R-410A Variable Capacity Scroll	1/9, 1/9 Var.	1/11, 1/11 Var.	1/13, 1/13 Var.
Full R-410A Variable Capacity Scroll	2/9 Var.	2/11 Var.	2/13 Var.
Capacity Stages (%)	100/50; 100/67 or 10-100 with variable capacity scroll compressor		
Number of Circuits	2		
Condenser Fan			
Discharge	Vertical		
Quantity/Diameter	2/30”	4/26”	
Standard fan hp	.75		
ECM fan hp	1.0		
Liquid Line Connections	(2) 5/8”		
Suction Line Connections	(2) 1-3/8”		
Discharge Line Connections	(2) 7/8”		
Hot Gas Bypass Line Connections	(1 or 2) 5/8”		
Hot Gas Reheat Line Connection	7/8”		

Table 7 - 26 & 31-40 ton CF Unit Information

	Model		
	CF-026	CF-031	CF-040
Compressor			
Quantity/Nominal tons			
R-410A On/Off Scroll	4/6	4/7	4/9
Half R-410A Variable Capacity Scroll	2/6, 2/5 Var.	2/7, 2/7 Var.	2/9, 2/9 Var.
Full R-410A Variable Capacity Scroll	4/5 Var.	4/7 Var.	4/9 Var.
Half R-410A Variable Capacity Tandem Scroll	3/6, 1/5 Var.	3/7, 1/7 Var.	3/9, 1/9 Var.
Full R-410A Variable Capacity Tandem Scroll	2/6, 2/5 Var.	2/7, 2/7 Var.	2/9, 2/9 Var.
Capacity Stages (%)	100/50, 100/75/50/25, or 5-100 with variable capacity scroll compressor		
Number of Circuits	2 or 4		
Condenser Fan			
Discharge	Vertical		
Quantity/Diameter	4/30”		
Standard fan hp	.75		
ECM fan hp	1.0		
Liquid Line Connections	(2) 5/8” or (4) 1/2”		(2) 7/8” or (4) 1/2”
Suction Line Connections	(2) 1-3/8” or (4) 7/8”		(2) 1-5/8” or (4) 1-3/8”
Discharge Line Connections	(2) 7/8” or (4) 3/4”		(2) 1-1/8” or (4) 7/8”
Hot Gas Bypass Line Connections	(2) 5/8” or (4) 5/8”		(2) 7/8” or (4) 5/8”
Hot Gas Reheat Line Connections	(1) 7/8” or (2) 7/8”		(1) 1-1/8” or (2) 7/8”

Table 8 - 50-70 ton CF Unit Information

	Model		
	CF-050	CF-060	CF-070
Compressor			
Quantity/Nominal tons			
R-410A On/Off Scroll	4/11	4/13	4/15
Half R-410A Variable Capacity Scroll	2/11, 2/11 Var.	2/13, 2/13 Var.	2/15, 2/15 Var.
Full R-410A Variable Capacity Scroll	4/11 Var.	4/13 Var.	4/15 Var.
Half R-410A Variable Capacity Tandem Scroll	3/11, 1/11 Var.	3/13, 1/13 Var.	3/15, 1/15 Var.
Full R-410A Variable Capacity Tandem Scroll	2/11, 2/11 Var.	2/13, 2/13 Var.	2/15, 2/15 Var.
Capacity Stages (%)	100/50, 100/75/50/25, or 5-100 with variable capacity scroll compressor		
Number of Circuits	2 or 4		
Condenser Fan			
Discharge	Vertical		
Quantity/Diameter	4/36”		
Standard fan hp	1.5		
ECM fan hp			
Liquid Line Connections	(2) 1-1/8” or (4) 5/8”		
Suction Line Connections	(2) 1-5/8” or (4) 1-3/8”		
Discharge Line Connections	(2) 1-1/8” or (4) 7/8”		
Hot Gas Bypass Line Connections	(2) 1-1/8” or (4) 5/8”		
Hot Gas Reheat Line Connections	(1) 1-1/8” or (2) 7/8”		

Controls
Control Options

Terminal Block

Low voltage terminal block for field wiring controls

Require Features on CF Series condensing unit
Feature 8A = A or N

Standard Terminals Labels
[R] - 24VAC control voltage
[C] - Common

[Y1], [Y2], [Y3], [Y4] - Cooling stage enables
[W1], [W2], [W3], [W4] - Heating stage enables
[O] - Reversing valve cool enable
[RH] - Humidistat or dehumidification enable input control terminal, used to activate hot gas reheat option

[AI1, COM] - Reheat control 0-10VDC
[DC1+, DC1-] - Variable capacity compressor 1-5 VDC
[SP1+, SP1-] - Suction pressure Signal, 0-5VDC
[P4], [P5], [P6], [SH] - 2nd suction pressure transducer

[C6, C7] - Supply air temperature sensor

[ST1], **[ST2]** - Remote Start/Stop terminals

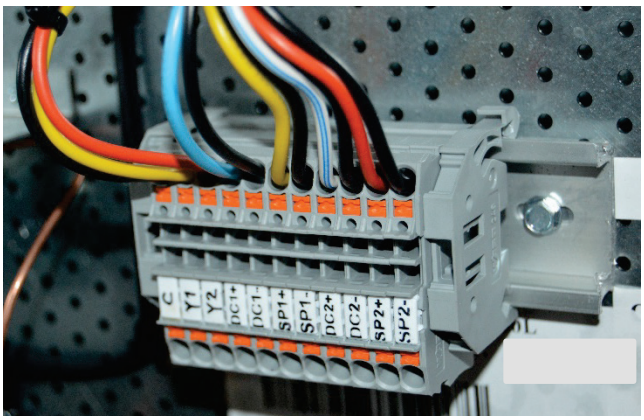


Figure 11 - Low Voltage Terminal Block Example

Single Zone Variable Air Volume (Single Zone VAV) Unit Controller

Operation - Variable Air Volume Cooling and Variable Air Volume or Constant Air Volume Heating

With standard AAON Single Zone VAV controls, during the cooling mode of operation the supply fan modulates based on the space temperature, while mechanical cooling modulates based on the supply air temperature. The space temperature sensor determines whether heating or cooling is enabled. For variable air volume heating, during the heating mode of operation the supply fan modulates based on the space temperature and heating modulates based on the supply air temperature. For constant volume heating, during the heating mode of operation the supply fan provides constant airflow and heating stages based on the supply air temperature.

Factory mounted and tested supply fan VFDs or ECMs are used to vary the speed of the supply fans and thus vary the amount of supply air. Because of the reduced speed and modulating compressors, Single Zone VAV units can be very energy efficient at part load conditions. AAON Single Zone VAV units should be applied to only a single zone.

Required Features on CF Series condensing unit

Feature A1 = D - Variable Capacity Scroll Compressor
Feature 3A = Hot Gas Bypass Lag Stage - Recommended on all circuits without variable capacity scroll compressors.

Feature 8A = N - Field Installed DDC Controls Furnished by Others with Isolation Relays (with SPA from Applications Engineering for Single Zone)
Feature 13 = ECM or VFD head pressure control

Recommended Features on Matching AAON Air Handling Unit

VFD or ECM Controlled Supply Fans
Field Installed DDC Controls Furnished by Others with Isolation Relays (with SPA from Applications Engineering for Single Zone)
Modulating Heat Source
Economizer
Fully Modulating Damper Actuators
Modulating Hot Gas Reheat (this requires ECM or VFD condenser head pressure in CU)

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override

VAV (Variable Air Volume) Unit Controller

VAV Operation

VAV controls are for cooling only units where the supply fan modulates to maintain a supply duct static pressure setpoint while mechanical cooling modulates based on the supply air temperature setpoint. Heating may be activated to provide morning warm up or cooling mode supply air tempering. For any other heating requirements, the field provided and installed VAV boxes are used.

Factory mounted and tested supply fan VFDs or ECMs are used to vary the speed of the supply fans and thus vary the amount of supply air. Because of the reduced fan speed, VAV units can be very energy efficient at part load conditions. VAV units can be used to serve multiple spaces with diverse or changing cooling requirements, with only a single unit being required for multiple zones. Each zone will have a field provided and installed VAV box.

Required Features on CF Series condensing unit

Feature 8A = D - VAV Unit Controller
Feature 8B = E - VCCX2 (Main Controller in AHU)
Feature 3A = **Hot Gas Bypass** is required on the lead refrigeration circuit without variable capacity compressors.

Recommended Features on Matching AAON Air Handling Unit

VFD or ECM Controlled Supply Fans
VCCX2 VAV Unit Controller
Modulating Gas / SCR Electric Heat
Economizer
Fully Modulating Damper Actuators
Constant Volume Outside Air - maintains a minimum volume of outside air ventilation

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature
Duct Static Pressure
Return Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override

CAV (Constant Air Volume) Unit Controller

CAV Operation

Standard AAON Constant Volume controls typically use space temperature control, which means the decision to cool, heat, or vent is made by comparing the measured space temperature to the space temperature setpoint. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the cooling supply air setpoint temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the heating supply air setpoint temperature.

Space or supply air temperature sensor can be used as the controlling sensor. If space temperature is used as the controlling sensor, the supply air temperature is used as a temperature lockout. If supply air temperature is used as the controlling sensor, space temperature sensor is used for supply air temperature setpoint reset and unoccupied override.

A Constant Volume unit can be used to serve spaces with uniform heating and cooling requirements. Multiple units may be required for multiple zones allowing for redundancy. Constant Volume units can be used in kitchen hood or lab hood applications where when the hood is on, the unit is 100% outside air, and when the hood is off, the unit is 100% recirculating unit. For this application, additional humidity sensors are required (see below).

Required Features on CF Series condensing unit

Feature 8A = E - Constant Volume (CAV) Unit Controller - for air cooled condenser unit
Feature 8A = H - Constant Volume Heat Pump Unit Controller - for air source heat pump unit
Feature 8B = E - VCCX2 (Main Controller in AHU)

Recommended Features on Matching AAON Air Handling Unit

VCCX2 CAV Unit Controller
Any Source of Heating - Hot Water Coil, Steam Coil, Electric Heat, Gas Heat
Economizer
AAONAIRE® Energy Recovery Wheel
Fully Modulating Damper Actuators
Modulating Hot Gas Reheat (this requires ECM or VFD condenser head pressure in CU)

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature
Space Temperature with Temperature Setpoint Reset and Unoccupied Override

Additional Required Sensors for Hood-On Operation

Outside Air Temperature & Humidity Sensor
Space Temperature & Humidity Sensor

MUA (Makeup Air) Unit Controller

MUA Operation

Standard AAON Makeup Air controls typically use outside air temperature and humidity control, which means the decision to cool, heat, dehumidify or vent is made by comparing the measured outside air temperature/humidity to the outside air temperature/humidity setpoint.. During the cooling mode of operation the supply fan provides constant airflow and mechanical cooling modulates based on the supply air temperature. During the heating mode of operation the supply fan provides constant airflow and heating modulates based on the supply air temperature.

Make Up Air units are designed to provide 100% outside air to the system for ventilation purposes. Make Up Air units can improve indoor air quality (IAQ) and also be used to positively pressurize the space.

Required Features on CF Series condensing unit

Feature 8A = F - Makeup Air Unit Controller
Feature 8B = E - VCCX2 (Main Controller in AHU)
Feature 3A = **Hot Gas Bypass** is required on the lead refrigeration circuit without variable capacity compressors

Recommended Features on Matching AAON Air Handling Unit

VCCX2 MUA Unit Controller
Any Source of Heating - Hot Water Coil, Steam Coil, Electric Heat, Gas Heat
AAONAIRE® Energy Recovery Wheel
Hot Gas Bypass
Modulating Hot Gas Reheat (this requires ECM or VFD condenser head pressure in CU)

Standard Supplied Sensors

Outside Air Temperature
Supply Air Temperature

Control Vendors

VCCX2 Controls System

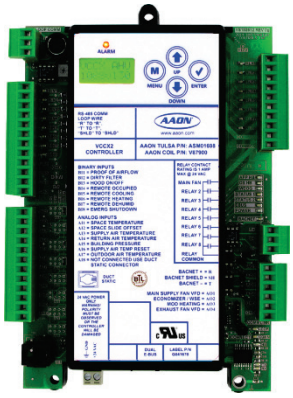


Figure 12 - VCCX2 Controller

The VCCX2 unit controller can be factory provided and factory installed in the AAON air handling unit while the Refrigerant System Module (RSM) board is factory installed in the matching AAON condensing unit. Combined, the boards provide advanced control features, without complexity, in an easy to install and setup package. The VCCX2 controllers can be individually configured, including setpoint adjustment, sensor status viewing, and occupancy scheduling. It can control Single Zone VAV, VAV with optional morning warm-up or supply air tempering, CAV with hood/on operation, MUA, and Space Temperature Control of High Percentage Outdoor Air. Additional features and options can be managed by the controller with the addition of modular expansion I/O boards for the controller. Space temperature sensor included with VCCX2 controller is used for supply air temperature setpoint reset and unoccupied override.

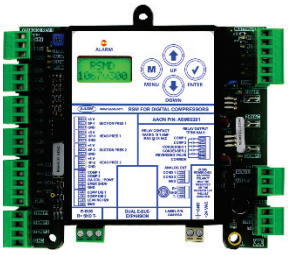


Figure 13 - RSM Board

The VCCX2 controller can be operated as a Stand Alone System, connected via modular cable to multiple VCCX2 controllers in an Interconnected System, or connected via modular cable to multiple VCCX2 controllers, VAV/Zone controllers, and Add-On controllers in a Networked System.

The VCCX2 controller has on-board BACnet® port for connection to an MS/TP network. LON is available with a field provided PT-Link.

Figure 14 - VCCX2 Controller Operator Interfaces

Required Operator Interfaces

To configure the VCCX2 controller, an operator interface is needed. Available operator interfaces are the Modular Service Tool SD, Modular System Manager SD, System Manager TS-L, and a PC equipped with free Microsoft Windows® based Prism2 software connected via a CommLink 5. With optional USB-Link2, remote connectivity to the controller via Prism2 software can be accomplished.

Electrical Service Sizing Data

Use the following equations to correctly size the electrical service wiring and disconnect switch for the unit. Electrical data for a specific unit configuration can be found with the AAONECat software. For further assistance in determining the electrical ratings, contact the Applications Department, or consult U.L. 1995.

The Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) must be calculated for all modes of operation which include the cooling mode of operation, the heating mode of operation, and if the unit is a heat pump the emergency heating mode of operation and auxiliary heating mode of operation. The emergency or backup heating mode of operation is when the secondary heater is in operation and heat pump or compressor heating is not in operation. The auxiliary or supplemental heating mode of operation is when heat pump or compressor heating is in operation and the secondary heater is also in operation.

To calculate the MCA and MOP, the number of motors and other current drawing devices in operation must be known for each mode of operation. The largest MCA and MOP values calculated from all the modes operation are the correct values and are also on the unit nameplate.

For example, during the heating mode of operation of an air-cooled DX unit or an air-source heat pump the supply fans, compressors, and condenser fans are all in operation. During the heating mode of operation of an air-cooled DX unit or the emergency heating mode of operation of an air-source heat pump only the supply fans and heater are in operation. During the auxiliary heating mode of operation of an air-source heat pump the supply fans, compressors, condenser fans, and secondary heater are all in operation. In split systems, the MCA and MOP are calculated separately for each unit. In the last example, the supply fans and secondary heater will be used to calculate MCA and MOP values for the air handling unit and the condenser fans and compressor will be used to calculate the MCA and MOP values for the condensing unit.

Once it is determined what current drawing devices are operating during each mode of operation use the equations shown below to calculate the MCA and MOP.

Use Rated Load Amps (RLA) for compressors and Full Load Amps (FLA) for all other motors and electric heaters.

Load 1 = Current of the largest motor/compressor in operation
Load 2 = Sum of the currents of the remaining motors/compressors in operation
Load 3 = Current of electric heaters in operation
Load 4 = Any remaining loads greater than or equal to 1 amp

Electrical Service Sizing Data Continued

Electric Heat FLA Calculation

Single Phase

$$FLA = \frac{(Heating\ Element\ kW)\ x\ 1000}{Rated\ Voltage}$$

Three Phase

$$FLA = \frac{(Heating\ Element\ kW)\ x\ 1000}{(Rated\ Voltage)\ x\ \sqrt{3}}$$

Cooling Mode Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Heating Mode or Emergency/Backup Heating Mode without Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Heating Mode or Emergency/Backup Heating Mode with Less than 50 kW of Electric Heat Equations

MCA = 1.25(Load 1 + Load 2 + Load 3 + Load 4)
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Heating Mode or Emergency/Backup Heating Mode with Greater than or Equal to 50 kW of Electric Heat Equations

MCA = 1.25(Load 1 + Load 2) + Load 3 + 1.25(Load 4)
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Auxiliary/Supplemental Heating Mode without Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 4

Auxiliary/Supplemental Heating Mode with Less than 50 kW of Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + 1.25(Load 3) + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Auxiliary/Supplemental Heating Mode with Greater than or Equal to 50 kW of Electric Heat Equations

MCA = 1.25(Load 1) + Load 2 + Load 3 + Load 4
MOP = 2.25(Load 1) + Load 2 + Load 3 + Load 4

Electrical Service Sizing Data Continued

Fuse Selection

Select a fuse rating equal to the MOP value. If the MOP does not equal a standard fuse rating select the next lower standard fuse rating. If the MOP is less than the MCA then select the fuse rating equal to or greater than the MCA.

The standard ampere ratings for fuses, from the *NEC Handbook, 240-6*, shall be considered 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 700, 800 and 1000 amperes.

Disconnect (Power) Switch Size

DSS $\geq$ MOP

Select the standard switch size equal to the calculated MOP value. If this value is not a standard size, select the next larger size.

Literature Change History

August 2020
Updated AAON controls to 3 minute off timer for compressors. Updated terminal block labels and picture.

Literature Change History Continued

October 2021
Added microchannel condenser coil option to Feature A2. Added AAON Refrigeration System Supervisory Controls option to Feature 8B. Added 10kAIC option to Feature 16.

December 2023
Start of new CF only Engineering Catalog. Removed all information about CB unit since it is now obsolete. Added R-454B refrigerant Compressor style options. Removed On/Off options for Feature A5: Staging. Removed AAON Touchscreen Controller options for Feature 8B. Removed Low Sound Condenser Fan option for Feature 13.

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