

Electrical Data Supplement

NOTE: Read the entire instruction manual before starting the installation

This supplement only applies to 50HC size 14 units when the 10th digit of the Model Number is a “3”, as shown in the Model Number Nomenclature diagram below. Check the Unit Nameplate (see Figs. 1 & 2). If the digit in the 10th position is not a “3” discard this document.

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5	0	H	C	-	D	1	4	A	3	A	5	-	0	A	0	A	0

Unit Heat Type

50 = Electric Heat
Packaged Rooftop

Model Series - WeatherMaster

HC = High Efficiency

Heat Size

- = None (Field Installed Accessory)

Refrig. Systems Options

A = Single stage cooling models
B = Single stage cooling models
with Humidi-MiZer
D = Two stage cooling models
E = Two stage cooling models
with Humidi-MiZer

Indoor Fan Options: 12.5 Ton Models Only

1 = Standard Static Option – Belt Drive
2 = Medium Static Option – Belt Drive
3 = High Static Option – Belt Drive

Sensor Options

A = None
B = RA Smoke Detector
C = SA Smoke Detector
D = RA + SA Smoke Detector
E = CO2
F = RA Smk Det and CO2
G = SA Smk Det and CO2
H = RA + SA Smk Det and CO2


Cooling Tons

14 = 12.5 ton

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Nameplate Location

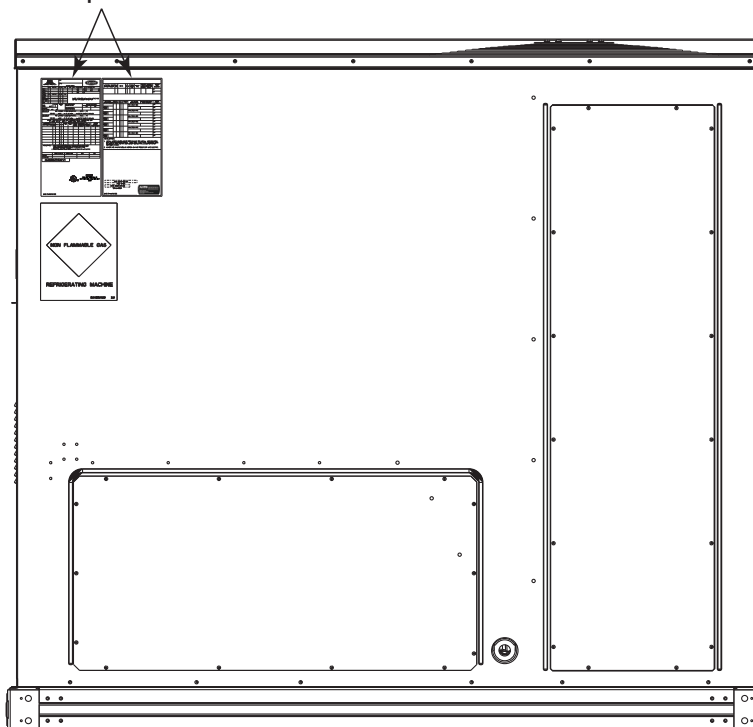


Fig. 1 - Location of Unit Nameplate

CAUTION

ELECTRICAL HAZARD

Failure to follow this caution may result in personal injury or product and property damage.

The electrical data contained in this document is only for use with 50HC size 14 units which display a “3” in the 10th position of the 18 digit model number as displayed on the unit’s nameplate.

See Fig. 1 for location of the unit’s nameplate.

See Fig. 2 for details of the 18 digit model number.

WARNING


ELECTRICAL SHOCK HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lockout tag. Unit may have more than one power switch.

Carrier Corporation 730 WEST MORRIS STREET INDIANAPOLIS, IN 46223 U.S.A.		MODEL 50HC-D14A3A5-0A0A0		SERIAL		Carrier					
FACTORY CHARGED											
COMPR A	QTY	VOLTS AC	PH	HZ	RLA	LRA	REF. SYSTEM R-410A				
COMPR B							LBS kg HI PSI kPa				
COMPR C							LBS kg LO PSI kPa				
FAN MTR	QTY	VOLTS AC	PH	HZ	FLA						
OUTDOOR											
INDOOR											
PWR EXHAUST											
ELEC. HEAT											
OTHER											
CHARGE SYSTEM PER INSTALLATION INSTRUCTIONS SUITABLE FOR OUTDOOR INSTALLATION											
POWER SUPPLY	VOLTS	PH	HZ	MIN. CKT AMPS	MAX FUSE OR HACR BREAKER PER NEC	MIN UNIT DISCONNECT					
						FLA	LRA				
PERMISSIBLE VOLTAGE AT UNIT MAX MIN MAX OVERCURRENT PROTECTION DEVICE											
DOWN SUPPLY	MIN. CLEARANCE TO COMBUSTIBLE MATERIALSINCHES.....mm.										
FOR FIRSTINCHES.....mm. OF DUCT WHENkW. ELECTRIC HEATER IS INSTALLED.											
SIDE SUPPLY	MIN. CLEARANCE TO COMBUSTIBLE MATERIALSINCHES.....mm.										
FOR FIRSTINCHES.....mm. OF DUCT WHENkW. ELECTRIC HEATER IS INSTALLED.											
* FOR INSTALLATION ON COMBUSTIBLE FLOORING OR CLASS A, B, OR C ROOFING MATERIAL											
ACCESSORY POWER EXHAUST OR HEATER MODEL NUMBER	CHECK HERE	VOLTS	PH	HZ	HEATER FLA	MIN. CKT. AMPS	FUSE OR HACR BREAKER PER NEC	MAXIMUM OVERCURRENT PROTECTION DEVICE	SINGLE PT. BOX MODEL NUMBER	MINIMUM UNIT DISCONNECT FLA	LRA
INSTALLER NOTE: 1. INSTALL ACCESS HEATER PER INSTALL INSTR ENCLOSED WITH HEATER. MARK SPACE "CHECK HERE" FOR MODEL USED. USE MIN CKT AMPS AND MAX OVERCURRENT DEVICE AMPS LISTED FOR HEATER. IF NO HEATER IS USED MARK SPACE "CHECK HERE" FOR NONE. 2. HEATERS ARE MANUFACTURED BY EMERSON HEATING PRODUCTS OR TUTCO ELECTRIC.											
CAPACITY Btu/Hr		CAPACITY KW		EER		COP					
COOLING											
HP HEATING											
THIS EQUIPMENT COMPLIES WITH THE 2004 REQUIREMENTS OF ASHRAE 90.1											

LISTED
COOLING PORTION OF
HEATING AND COOLING UNIT
36N2



ACCESSORY POWER EXHAUST NUMBER	CHECK HERE	VOLTS	PH	HZ	POWER EXHAUST FLA	MIN CKT AMPS	FUSE OR HACR BREAKER PER NEC	MAXIMUM OVERCURRENT PROTECTION DEVICE	MINIMUM UNIT DISCONNECT
									FLA LRA
ACCESSORY HEATER NUMBER	CHECK HERE	VOLTS	PH	HZ	HEATER FLA	FUSE OR HACR BREAKER PER NEC	MAXIMUM OVERCURRENT PROTECTION DEVICE	MINIMUM UNIT DISCONNECT	
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA
SINGLE PT BOX MODEL NUMBER							MIN. CIRCUIT AMPS	FLA	LRA

INSTALLER NOTE:
1. INSTALL ACCESS HEATER AND/OR POWER EXHAUST PER INSTALL INSTR ENCLOSED WITH HEATER AND POWER EXHAUST. MARK SPACE "CHECK HERE" FOR MODEL USED. USE MIN CKT AMPS AND MAX OVER CURRENT DEVICE AMPS LISTED FOR HEATER AND POWER EXHAUST.
2. HEATERS ARE MANUFACTURED BY EMERSON HEATING PRODUCTS OR TUTCO ELECTRIC.

DATE OF MANUFACTURE:

50HC--*14

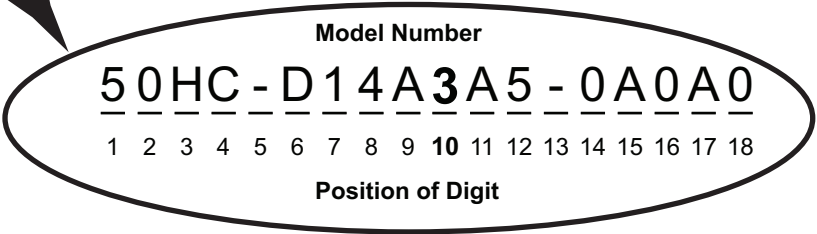


Fig. 2 - Unit Nameplate with Model Number Detail

C101302

Table 1 – Unit Wire/Fuse or HACR Breaker Sizing Data

UNIT	NOM. V – Ph – Hz	IFM TYPE	ELEC. HTR			PE	NO C.O. or UNPWR C.O.								
			CRHEATER ***A00	Nom (kW)	FLA	FLA	NO PE.				w/ PE. (pwrd fr/unit)				
							MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE		
									FLA	LRA			FLA	LRA	
50HC--*14	208/230 – 3 – 60	STD	NONE	–	–	3.8	54.8	60	58	314	58.6	70	62	318	
			291A00	12.4/16.5	34.4/39.7		54.8/59.0	60/60	58/58	314/314	58.6/63.8	70/70	62/62	318/318	
			288A00,291A00	19.9/26.5	55.3/63.8		78.5/89.1	80/90	72/82	314/314	83.3/93.9	90/100	77/86	318/318	
			294A00	25.2/33.5	69.9/80.6		96.8/110.1	100/125	89/101	314/314	101.5/114.9	110/125	93/106	318/318	
			288A00,294A00	32.7/43.5	90.7/104.7		122.8/140.3	125/150	113/129	314/314	127.5/145.0	150/150	117/133	318/318	
			291A00,294A00	37.6/50.0	104.3/120.3		139.8/129.7	150/150	129/147	314/314	144.5/134.4	150/150	133/151	318/318	
		MED	NONE	–	–	3.8	57.3	70	60	331	61.1	80	65	335	
			291A00	12.4/16.5	34.4/39.7		57.3/62.1	70/70	60/60	331/331	61.1/66.9	80/80	65/65	335/335	
			288A00,291A00	19.9/26.5	55.3/63.8		81.6/92.3	90/100	75/85	331/331	86.4/97.0	90/100	79/89	335/335	
			294A00	25.2/33.5	69.9/80.6		99.9/113.3	100/125	92/104	331/331	104.6/118.0	110/125	96/109	335/335	
			288A00,294A00	32.7/43.5	90.7/104.7		125.9/143.4	150/150	116/132	331/331	130.6/148.1	150/150	120/136	335/335	
			291A00,294A00	37.6/50.0	104.3/120.3		142.9/132.8	150/150	131/150	331/331	147.6/137.6	150/150	136/154	335/335	
		HIGH	NONE	–	–	3.8	64.3/62.3	80/80	68/66	342	68.1/66.1	80/80	73/70	346	
			291A00	12.4/16.5	34.4/39.7		64.3/68.4	80/80	68/66	342/342	69.0/73.1	80/80	73/70	346/346	
			288A00,291A00	19.9/26.5	55.3/63.8		90.4/98.5	100/100	83/91	342/342	95.1/103.3	100/110	88/95	346/346	
			294A00	25.2/33.5	69.9/80.6		108.6/119.5	110/125	100/110	342/342	113.4/124.3	125/125	104/114	346/346	
			288A00,294A00	32.7/43.5	90.7/104.7		134.6/149.6	150/150	124/138	342/342	139.4/154.4	150/175	128/142	346/346	
			291A00,294A00	37.6/50.0	104.3/120.3		151.6/139.1	175/175	139/156	342/342	156.4/143.8	175/175	144/160	346/346	
	50HC--D14	460 – 3 – 60	STD	NONE	–	–	1.8	27.6	35	29	158	29.4	35	31	160
				292A00	16.5	19.9		29.1	35	29	158	31.4	35	31	160
				289A00,292A00	26.5	31.9		44.1	45	41	158	46.4	50	43	160
				295A00	33.5	40.3		54.6	60	50	158	56.9	60	52	160
				289A00,295A00	43.5	52.3		69.6	70	64	158	71.9	80	66	160
				292A00,295A00	50.0	60.2		64.5	70	73	158	66.7	70	75	160
MED		NONE	–	–	1.8	28.6	35	30	167	30.4	40	32	169		
		292A00	16.5	19.9		30.4	35	30	167	32.6	40	32	169		
		289A00,292A00	26.5	31.9		45.4	50	42	167	47.6	50	44	169		
		295A00	33.5	40.3		55.9	60	51	167	58.1	60	53	169		
		289A00,295A00	43.5	52.3		70.9	80	65	167	73.1	80	67	169		
		292A00,295A00	50.0	60.2		65.7	80	74	167	68.0	80	76	169		
HIGH		NONE	–	–	1.8	31.8	40	34	172	33.6	40	36	174		
		292A00	16.5	19.9		34.4	40	34	172	36.6	40	36	174		
		289A00,292A00	26.5	31.9		49.4	50	45	172	51.6	60	47	174		
		295A00	33.5	40.3		59.9	60	55	172	62.1	70	57	174		
		289A00,295A00	43.5	52.3		74.9	80	69	172	77.1	80	71	174		
		292A00,295A00	50.0	60.2		69.7	80	78	172	72.0	80	80	174		
575 – 3 – 60	STD	NONE	–	–	3.8	21.6	25	23	128	25.4	30	27	132		
		293A00	16.5	15.9		23.4	25	23	128	28.1	30	27	132		
		290A00,293A00	26.5	25.5		35.4	40	33	128	40.1	45	37	132		
		296A00	33.5	32.2		43.8	45	40	128	48.5	50	45	132		
		290A00,296A00	43.5	41.8		55.8	60	51	128	60.5	70	56	132		
		293A00,296A00	50.0	48.1		51.6	60	59	128	56.4	60	63	132		
	MED	NONE	–	–	3.8	21.6	25	23	128	25.4	30	27	132		
		293A00	16.5	15.9		23.4	25	23	128	28.1	30	27	132		
		290A00,293A00	26.5	25.5		35.4	40	33	128	40.1	45	37	132		
		296A00	33.5	32.2		43.8	45	40	128	48.5	50	45	132		
		290A00,296A00	43.5	41.8		55.8	60	51	128	60.5	70	56	132		
		293A00,296A00	50.0	48.1		51.6	60	59	128	56.4	60	63	132		
HIGH	NONE	–	–	3.8	24.9	30	26	131	28.7	35	31	135			
	293A00	16.5	15.9		27.5	30	26	131	32.3	35	31	135			
	290A00,293A00	26.5	25.5		39.5	40	36	131	44.3	45	41	135			
	296A00	33.5	32.2		47.9	50	44	131	52.6	60	48	135			
	290A00,296A00	43.5	41.8		59.9	60	55	131	64.6	70	59	135			
	293A00,296A00	50.0	48.1		55.7	60	62	131	60.5	70	67	135			

NOTE: See page 6 for table legend and notes.

Table 1 — Unit Wire/Fuse or HACR Breaker Sizing Data (cont)

UNIT	NOM. V-Ph-Hz	IFM TYPE	ELEC. HTR			PE	w/ PWRD C.O.							
			CRHEATER ***A00	Nom (kW)	FLA	FLA	NO PE.				w/ PE. (pwrd fr/unit)			
							MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
									FLA	LRA			FLA	LRA
50HC-D14	208/230-3-60	STD	NONE	-	-		59.6	70	63	319	63.4	80	67	323
			291A00	12.4/16.5	34.4/39.7		59.6/65.0	70/70	63/63	319/319	63.4/69.8	80/80	67/67	323/323
			288A00,291A00	19.9/26.5	55.3/63.8	3.8	84.5/95.1	90/100	78/88	319/319	89.3/99.9	90/100	82/92	323/323
			294A00	25.2/33.5	69.9/80.6		102.8/116.1	110/125	95/107	319/319	107.5/120.9	110/125	99/111	323/323
			288A00,294A00	32.7/43.5	90.7/104.7		128.8/146.3	150/150	118/135	319/319	133.5/151.0	150/175	123/139	323/323
			291A00,294A00	37.6/50.0	104.3/120.3		145.8/135.7	150/150	134/152	319/319	150.5/140.4	175/150	138/157	323/323
		MED	NONE	-	-		62.1	80	66	336	65.9	80	70	340
			291A00	12.4/16.5	34.4/39.7		62.1/68.1	80/80	66/66	336/336	66.3/72.9	80/80	70/70	340/340
			288A00,291A00	19.9/26.5	55.3/63.8	3.8	87.6/98.3	90/100	81/90	336/336	92.4/103.0	100/110	85/95	340/340
			294A00	25.2/33.5	69.9/80.6		105.9/119.3	110/125	97/110	336/336	110.6/124.0	125/125	102/114	340/340
			288A00,294A00	32.7/43.5	90.7/104.7		131.9/149.4	150/150	121/137	336/336	136.6/154.1	150/175	126/142	340/340
			291A00,294A00	37.6/50.0	104.3/120.3		148.9/138.8	150/150	137/155	336/336	153.6/143.6	175/175	141/160	340/340
	HIGH	NONE	-	-		69.1/67.1	80/80	74/72	347	72.9/70.9	80/80	78/76	351	
		291A00	12.4/16.5	34.4/39.7		70.3/74.4	80/80	74/72	347/347	75.0/79.1	80/80	78/76	351/351	
		288A00,291A00	19.9/26.5	55.3/63.8	3.8	96.4/104.5	100/110	89/96	347/347	101.1/109.3	110/110	93/101	351/351	
		294A00	25.2/33.5	69.9/80.6		114.6/125.5	125/150	105/115	347/347	119.4/130.3	125/150	110/120	351/351	
		288A00,294A00	32.7/43.5	90.7/104.7		140.6/155.6	150/175	129/143	347/347	145.4/160.4	150/175	134/148	351/351	
		291A00,294A00	37.6/50.0	104.3/120.3		157.6/145.1	175/175	145/161	347/347	162.4/149.8	175/175	149/165	351/351	
	460-3-60	STD	NONE	-	-		29.8	35	32	160	31.6	40	34	162
			292A00	16.5	19.9		31.9	35	32	160	34.1	40	34	162
			289A00,292A00	26.5	31.9	1.8	46.9	50	43	160	49.1	50	45	162
			295A00	33.5	40.3		57.4	60	53	160	59.6	60	55	162
			289A00,295A00	43.5	52.3		72.4	80	67	160	74.6	80	69	162
			292A00,295A00	50.0	60.2		67.2	80	76	160	69.5	80	78	162
MED		NONE	-	-		30.8	40	33	169	32.6	40	35	171	
		292A00	16.5	19.9		33.1	40	33	169	35.4	40	35	171	
		289A00,292A00	26.5	31.9	1.8	48.1	50	44	169	50.4	60	46	171	
		295A00	33.5	40.3		58.6	60	54	169	60.9	70	56	171	
		289A00,295A00	43.5	52.3		73.6	80	68	169	75.9	80	70	171	
		292A00,295A00	50.0	60.2		68.5	80	77	169	70.7	80	79	171	
HIGH	NONE	-	-		34.0	40	36	174	35.8	45	38	176		
	292A00	16.5	19.9		37.1	40	36	174	39.4	45	38	176		
	289A00,292A00	26.5	31.9	1.8	52.1	60	48	174	54.4	60	50	176		
	295A00	33.5	40.3		62.6	70	58	174	64.9	70	60	176		
	289A00,295A00	43.5	52.3		77.6	80	71	174	79.9	80	73	176		
	292A00,295A00	50.0	60.2		72.5	80	81	174	74.7	80	83	176		
575-3-60	STD	NONE	-	-		23.3	30	25	130	27.1	30	29	134	
		293A00	16.5	15.9		25.5	30	25	130	30.3	35	29	134	
		290A00,293A00	26.5	25.5	3.8	37.5	40	35	130	42.3	45	39	134	
		296A00	33.5	32.2		45.9	50	42	130	50.6	60	47	134	
		290A00,296A00	43.5	41.8		57.9	60	53	130	62.6	70	58	134	
		293A00,296A00	50.0	48.1		53.7	60	60	130	58.5	60	65	134	
	MED	NONE	-	-		23.3	30	25	130	27.1	30	29	134	
		293A00	16.5	15.9		25.5	30	25	130	30.3	35	29	134	
		290A00,293A00	26.5	25.5	3.8	37.5	40	35	130	42.3	45	39	134	
		296A00	33.5	32.2		45.9	50	42	130	50.6	60	47	134	
		290A00,296A00	43.5	41.8		57.9	60	53	130	62.6	70	58	134	
		293A00,296A00	50.0	48.1		53.7	60	60	130	58.5	60	65	134	
HIGH	NONE	-	-		26.6	30	28	133	30.4	35	33	137		
	293A00	16.5	15.9		29.6	30	28	133	34.4	35	33	137		
	290A00,293A00	26.5	25.5	3.8	41.6	45	38	133	46.4	50	43	137		
	296A00	33.5	32.2		50.0	60	46	133	54.8	60	50	137		
	290A00,296A00	43.5	41.8		62.0	70	57	133	66.8	70	61	137		
	293A00,296A00	50.0	48.1		57.9	60	64	133	62.6	70	69	137		

50HC--*14

NOTE: See page 6 for table legend and notes.

Legend and Notes for Table 1

LEGEND:

BRKR	-	Circuit breaker
CO	-	Convenience outlet
DISC	-	Disconnect
FLA	-	Full load amps
IFM	-	Indoor fan motor
LRA	-	Locked rotor amps
MCA	-	Minimum circuit amps
PE	-	Power exhaust
PWRD CO	-	Powered convenient outlet
UNPWR CO	-	Unpowered convenient outlet



NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60



AB = 224 v
BC = 231 v
AC = 226 v

$$\begin{aligned} \text{Average Voltage} &= \frac{(224 + 231 + 226)}{3} = \frac{681}{3} \\ &= 227 \end{aligned}$$

Determine maximum deviation from average voltage.

$$(AB) 227 - 224 = 3 \text{ v}$$

$$(BC) 231 - 227 = 4 \text{ v}$$

$$(AC) 227 - 226 = 1 \text{ v}$$

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{4}{227} \\ &= 1.76\% \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

