

Convertible Variable Speed – Communicating Air Handlers 2/4TEE3C49A1000A

IMPORTANT — This document contains a wiring diagram and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER BEFORE SERVICING

PRODUCT SPECIFICATIONS

MODEL	2/4TEE3C49A1000A	
RATED VOLTS/PH/HZ.	200-230/1/60	
RATINGS ①	See O.D. Specifications	
INDOOR COIL — Type	Plate Fin	
Rows — F.P.I.	4 — 14.0	
Face Area (sq. ft.)	6.19	
Tube Size (in.)	3/8 - Copper	
Refrigerant Control	TXV - Non-Bleed ④	
Drain Conn. Size (in.) ②	3/4 NPT	
DUCT CONNECTIONS	See Outline Drawing ⑤	
INDOOR FAN — Type	Centrifugal	
Diameter-Width (In.)	10 x 10	
No. Used	1	
Drive - No. Speeds	Direct - Serial ECM	
CFM vs. in. w.g.	See Fan Performance Table	
No. Motors — H.P.	1 — 3/4	
Motor Speed R.P.M.	Variable	
Volts/Ph/Hz	200-230/1/60	
F.L. Amps	6.8	
FILTER		
Vertical Applications		
Filter Furnished?	Yes	
Type Recommended	Low Velocity	
No.-Size-Thickness	1 - 20 X 25 - 1 in.	
Horizontal Applications		
Filter Furnished?	See Note ⑥	
Recommended Size	See Note ③	
REFRIGERANT		
	R-22	R-410A
Ref. Line Connections	Brazed	Brazed
Coupling or Conn. Size — in. Gas	1-1/8	7/8
Coupling or Conn. Size — in. Liq.	3/8	3/8
DIMENSIONS		
	H x W x D	
Crated (In.)	59-1/2 x 28-1/2 x 23-1/2	
Uncrated	57-7/8 x 26 x 21	
WEIGHT		
Shipping (Lbs.) / Net (Lbs.)	188 / 173	

① These Air Handlers are A.R.I. certified with various Split System Air Conditioners and Heat Pumps (ARI STANDARD 210/240). Refer to the Split System Outdoor Unit Product Data Guides for performance data.

② 3/4" Male Plastic Pipe (Ref.: ASTM 1785-76)

③ Minimum filter size for horizontal applications will be based on airflow selection and will be calculated as follows:

Low Velocity Filter: Face area (Sq. Ft.) = CFM / 300

High Velocity Filter: Face area (Sq. Ft.) = CFM / 500

④ Torque Spec for TXV = Tighten 1/6 turn past finger tight

⑤ See Installer's Guide for drawings

⑥ For customer ease of filter maintenance, it is recommended that a properly sized, **remote filter** and grille be installed for horizontal applications. Airflow should not exceed the face value of the filter being used. **The factory installed filter should then be removed from the unit.**

AIRFLOW ADJUSTMENT

If the airflow needs to be increased or decreased, see the Airflow Label on the air handler or the Blower Performance table in these Service Facts. Information on changing the speed of the blower motor for your specific outdoor model size is in the Blower Performance Table or User Interface Menu.

Blower speed changes are made with the User Interface Menu mounted in the control box.

⚠ WARNING

THIS INFORMATION IS INTENDED FOR USE BY INDIVIDUALS POSSESSING ADEQUATE BACKGROUNDS OF ELECTRICAL AND MECHANICAL EXPERIENCE. ANY ATTEMPT TO REPAIR A CENTRAL AIR CONDITIONING PRODUCT MAY RESULT IN PERSONAL INJURY AND OR PROPERTY DAMAGE. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ CAUTION

RECONNECT ALL GROUNDING DEVICES.

All parts of this product that are capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

Airflow Performance 2/4TEE3C49A1: with Wet coil, No Heaters, Filter								
Outdoor Unit Size	Airflow Settings		Airflow Power	EXTERNAL STATIC PRESSURE (in.w.g.)				
	Name	CFM/ton		0.1	0.3	0.5	0.7	0.9
3 tons	Low	290	CFM	847	876	880	875	876
			Watts	94	139	182	223	267
	Med-Lo	350	CFM	1029	1045	1053	1051	1042
			Watts	133	181	229	277	325
	Med-Hi	400	CFM	1177	1191	1198	1196	1187
			Watts	179	231	282	337	389
High	450	CFM	1326	1334	1335	1337	1326	
		Watts	235	292	347	402	464	
3.5 tons	Low	290	CFM	1013	1012	1007	993	966
			Watts	144	188	232	275	315
	Med-Lo	350	CFM	1204	1213	1214	1218	1206
			Watts	190	239	292	349	392
	Med-Hi	400	CFM	1375	1381	1382	1386	1373
			Watts	257	314	370	430	488
High	450	CFM	1541	1546	1545	1544	1545	
		Watts	340	405	468	534	595	
4 tons	Low	290	CFM	1211	1220	1227	1225	1212
			Watts	195	249	304	357	408
	Med-Lo	350	CFM	1374	1382	1383	1388	1377
			Watts	257	317	374	434	496
	Med-Hi	400	CFM	1563	1571	1573	1574	1570
			Watts	355	421	486	553	610
High	450	CFM	1746	1759	1766	1754	1734	
		Watts	478	552	626	695	738	
5 tons	Low	290	CFM	1415	1421	1420	1418	1422
			Watts	282	342	400	463	520
	Med-Lo	350	CFM	1707	1716	1717	1714	1727
			Watts	446	519	588	658	731
	Med-Hi	400	CFM	1953	1938	1878	1791	1707
			Watts	638	710	734	722	747
High	450	CFM	2048	1962	1876	1788	1703	
		Watts	736	731	728	725	720	
NOTES:	Airflow Demand is OD size (tons) * Speed (cfm/ton) COMM SYS mode will auto-detect OD size, with default speed 400cfm/ton & 1.5 minute off-delay At continuous fan setting: Airflow values are approximately 50% of listed values.							

Pressure Drop for BAYHTR14/34 Series Electric Heater Accessories							
BAYHTR	1405	1408	1410 3410	1415 3415	1419	1425	AIRFLOW RANGE (CFM)
HEATER SIZE (KW @ 240V)	4.80	7.68	9.60	15.36	19.20	24.96	
AIR PRESSURE DROP (Inches W.G.)	0.14	0.17	0.17	0.20	0.23	0.26	1800 or more
	0.11	0.13	0.13	0.16	0.19	0.21	1000-1800
	0.03	0.04	0.04	0.05	0.06	0.07	up to 1000
NOTES:	1. See product data or air handler nameplate for approved combinations of air handlers and heaters. 2. Heater model number may have additional suffix digits.						

NOTES:									
*** = 000, BRK or PDC - 000 = pigtails, BRK = contains circuit breakers & PDC = contains pull disconnect.									
IMPORTANT: Any power supply and / or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical codes									
	VOLT	MTR AMPS	HEATER AMPS	MCA	MOP	MIN BLOWER SPEED		CAPACITY	
						WITH OUT HEAT PUMP	WITH HEAT PUMP	KW	TOTAL HEATER BTUH
2/4TEE3C49		6.80		9	15				
BAYHTR1405***C	208		17.3	30	30	800	1100	3.60	12300
	240		20.0	34	35	800	1100	4.80	16400
BAYHTR1408***C	208		27.7	43	45	800	1100	5.76	19700
	240		32.0	49	50	800	1100	7.68	26200
BAYHTR1410***C	208		34.6	52	60	800	1400	7.20	24600
	240		40.0	59	60	800	1400	9.60	32800
circuit 1 BAYHTR1415 BRKC	208		34.6	52	60	1100	1700	7.20	39300
	240		40.0	59	60	1100	1700	9.60	52400
circuit 2 BAYHTR1415 BRKC	208		20.8	26	30			4.33	
	240		24.0	30	30			5.76	
with single circuit power source kit BAYSPEK140B	208		55.4	78	80	1100	1700	11.5	39300
	240		64.0	89	90	1100	1700	15.4	52400
BAYHTR3410-000C	208		30.0	37	40	800	1400	7.20	24600
	240		34.6	43	45	800	1400	9.60	32800
BAYHTR3415-000C	208		33.1	49	50	1100	1700	11.53	39300
	240		38.2	55	60	1100	1700	15.36	52400
circuit 1 BAYHTR1419 BRKC	208		27.7	43	45	1400	1700	5.76	49200
	240		32.0	49	50	1400	1700	7.68	65500
circuit 2 BAYHTR1419 BRKC	208		41.6	52	60			8.66	
	240		48.0	60	60			11.52	
with single circuit power source kit BAYSPEK140B	208		69.3	95	100	1400	1700	14.4	49200
	240		80.0	109	110	1400	1700	19.2	65500
circuit 1 BAYHTR1425BRKC	208		38.1	48	50	1400	1700	7.93	63900
	240		44.0	55	60	1400	1700	10.56	85200
circuit 2	208		34.6	52	60			7.20	
	240		40.0	59	60			9.60	
circuit 3	208		17.3	22	25			3.60	
	240		20.0	25	25			4.80	

UNIT TEST MODE

Unit Test Mode (Air Handler)

The system must be idle or thermostat switched to "OFF" before the Unit Test will run the air handler. The unit will work the same way in either the Communicating Mode or 24 volt AC mode.

To access the Unit Test Mode scroll down through the User Interface Information Menu until you see the Unit Test option. Press ENTER. When prompted select YES and press ENTER. When the User Interface displays ARE YOU SURE? select YES and press ENTER to begin the Unit Test.

NOTE: While in Test Mode all thermostat requests will be ignored but if any button on the User Interface is pressed, the Unit Test will exit. The Unit Test will exit if a fault is detected during the test sequence.

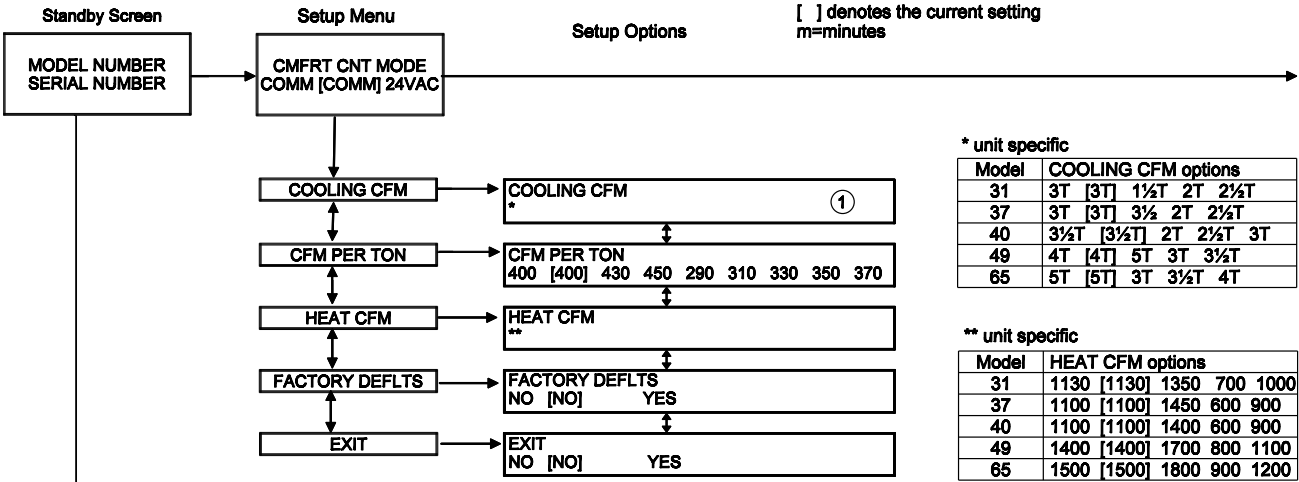
The Unit Test will perform the following steps without delays.

1. Start blower at 50% airflow and Energize EAC relay.
2. After 10 seconds, go to 100% airflow for 10 seconds.
(User Interface displays UNIT TEST – BLWR)
3. Energize Y1 relay for 15 seconds with 100% airflow.
(User Interface displays UNIT TEST – COOL)
4. De-energize Y1 relay and go to Electric Heat airflow.
(User Interface displays UNIT TEST – HEAT)
5. Energize blower interlock and stage 1 heat relay.
6. Energize humidifier relay.
7. After 1 second energize stage 2 heat relay.
8. After 1 more second energize stage 3 heat relay.
9. After 5 seconds de-energize blower interlock, stage 1, 2 & 3 heat, humidifier and EAC relays.
(User Interface displays UNIT TEST – EXIT)

Displayed for three seconds

NOTE: Airflow is default or programmed selections.

2/4TEE3C49A USER INTERFACE MENU

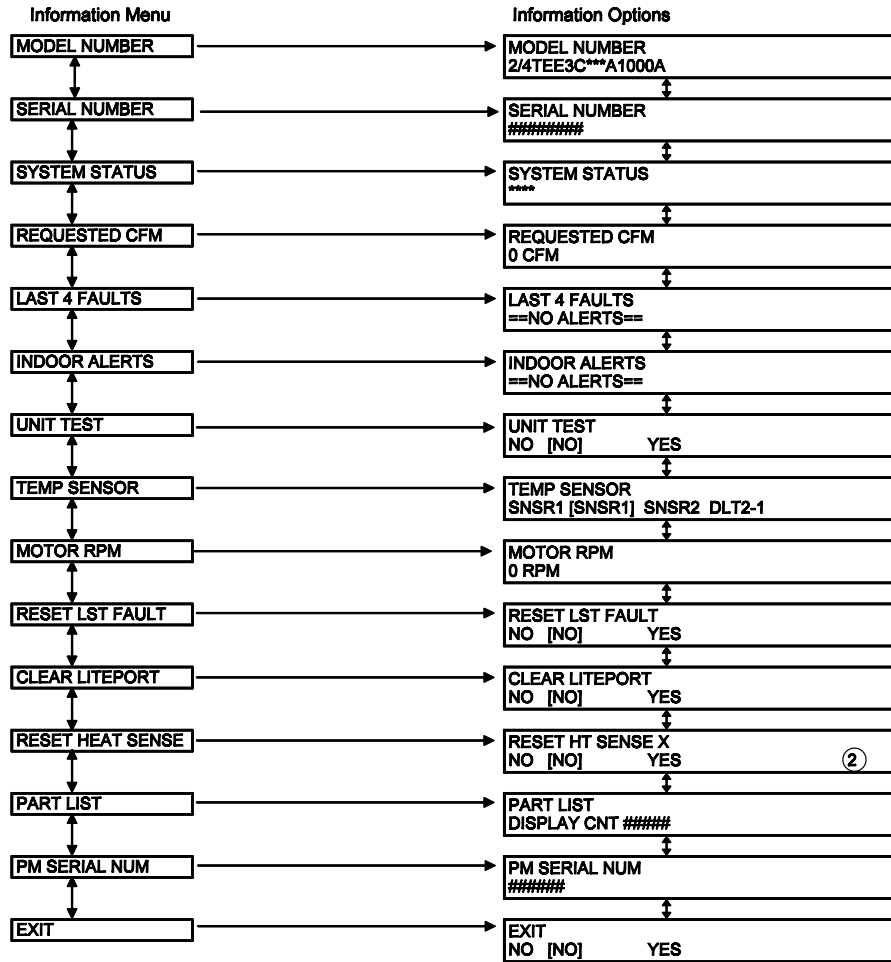


* unit specific

Model	COOLING CFM options
31	3T [3T] 1½T 2T 2½T
37	3T [3T] 3½ 2T 2½T
40	3½T [3½T] 2T 2½T 3T
49	4T [4T] 5T 3T 3½T
65	5T [5T] 3T 3½T 4T

** unit specific

Model	HEAT CFM options
31	1130 [1130] 1350 700 1000
37	1100 [1100] 1450 600 900
40	1100 [1100] 1400 600 900
49	1400 [1400] 1700 800 1100
65	1500 [1500] 1800 900 1200



*** unit specific

Can be 31, 37, 40, 49 or 65

**** SYSTEM STATUS Options

OFF	
ON FAN	
ON CLG#	(#: Highest active cooling stage)
ON HP#	(#: Highest active HP stage)
ON HT	□□□
ON HP+HT #+	□□□ (#: Highest active HP stage)

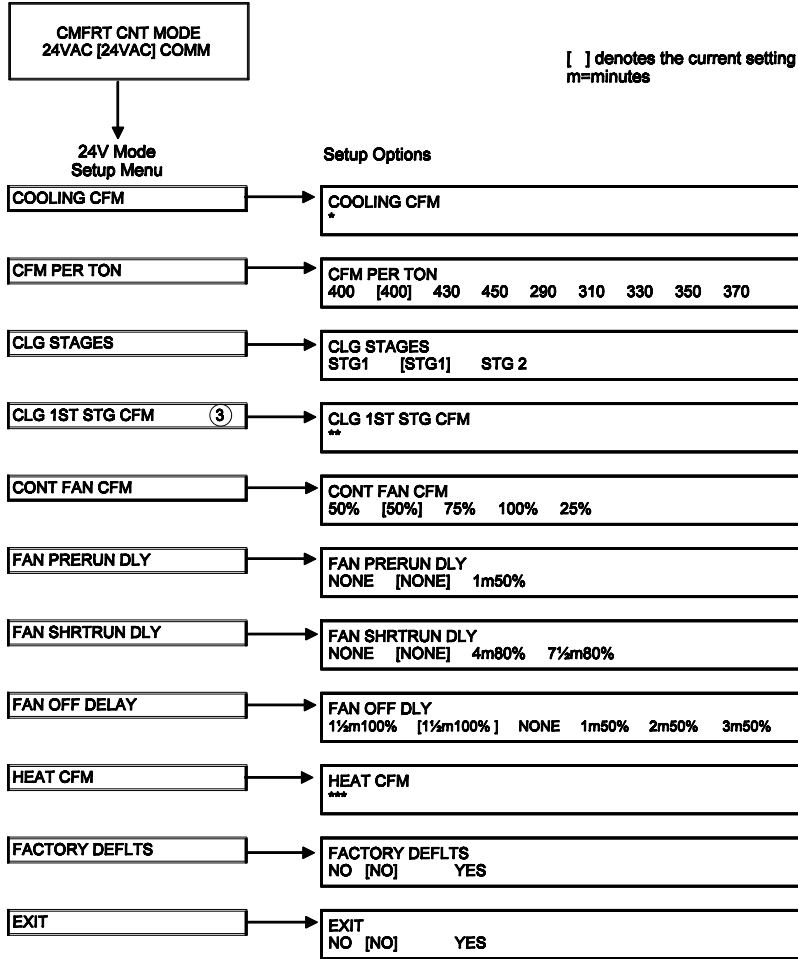
An open box, □, designates a contactor sensed, but not energized. A closed box, ■, designates a contactor that is energized, present, or not. A hyphen, -, designates a contactor not sensed and not energized.

Notes:

- ① Shown only when Outdoor Communicating Unit is not detected.
- ② X indicates actual number of heat banks detected under reset menu.

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2/4TEE3C49A USER INTERFACE MENU- 24V MODE



[] denotes the current setting
m=minutes

* unit specific

Model	COOLING CFM options
31	3T [3T] 1½T 2T 2½T
37	3T [3T] 3¼ 2T 2½T
40	3½T [3½T] 2T 2½T 3T
49	4T [4T] 5T 3T 3½T
65	5T [5T] 3T 3½T 4T

** unit specific

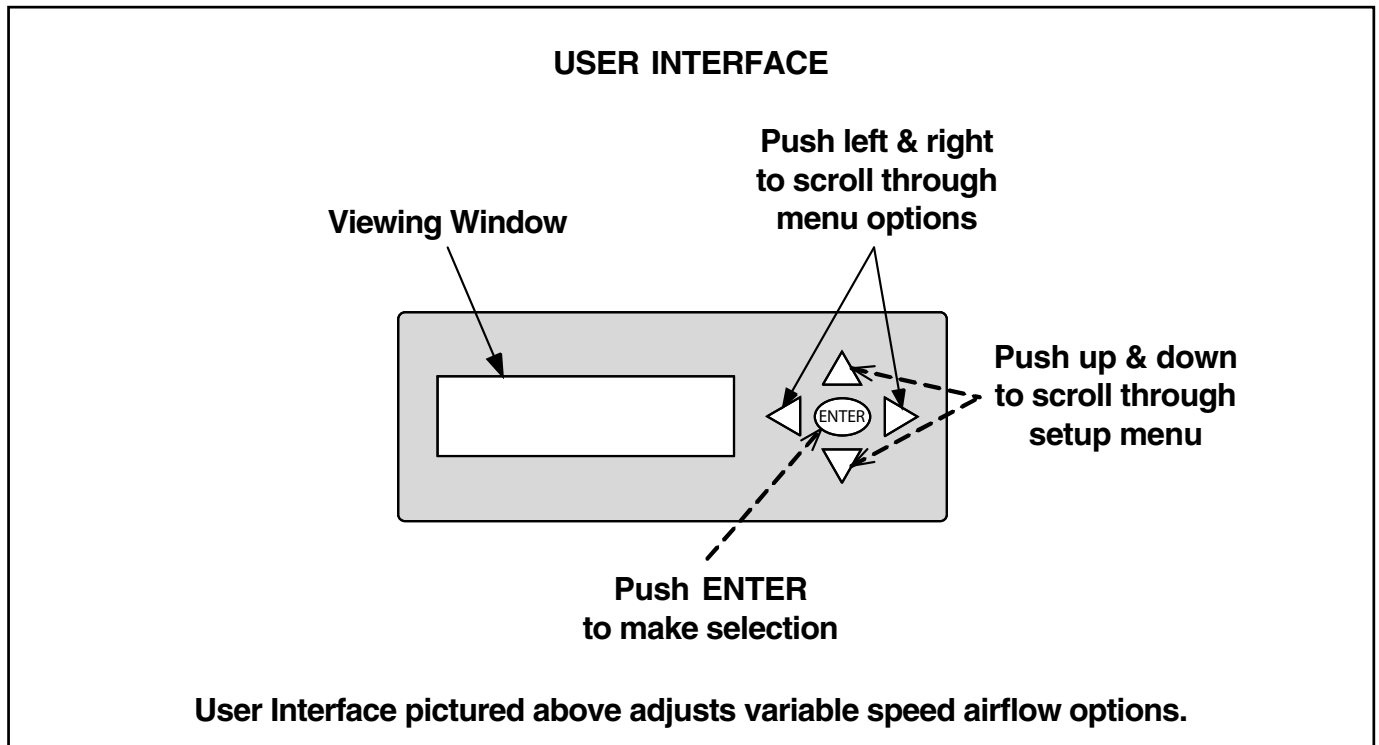
Model	CLG 1ST STG CFM options
31	50% [50%] 55% 65% 80%
37	50% [50%] 55% 65% 80%
40	55% [55%] 65% 80% 50%
49	55% [55%] 65% 80% 50%
65	60% [60%] 65% 80% 50%

*** unit specific

Model	HEAT CFM options
31	1130 [1130] 1350 700 1000
37	1100 [1100] 1450 600 900
40	1100 [1100] 1400 800 900
49	1400 [1400] 1700 800 1100
65	1500 [1500] 1800 900 1200

③. CLG 1ST STG CFM menu will not appear if STG1 is selected in CLG stages menu.

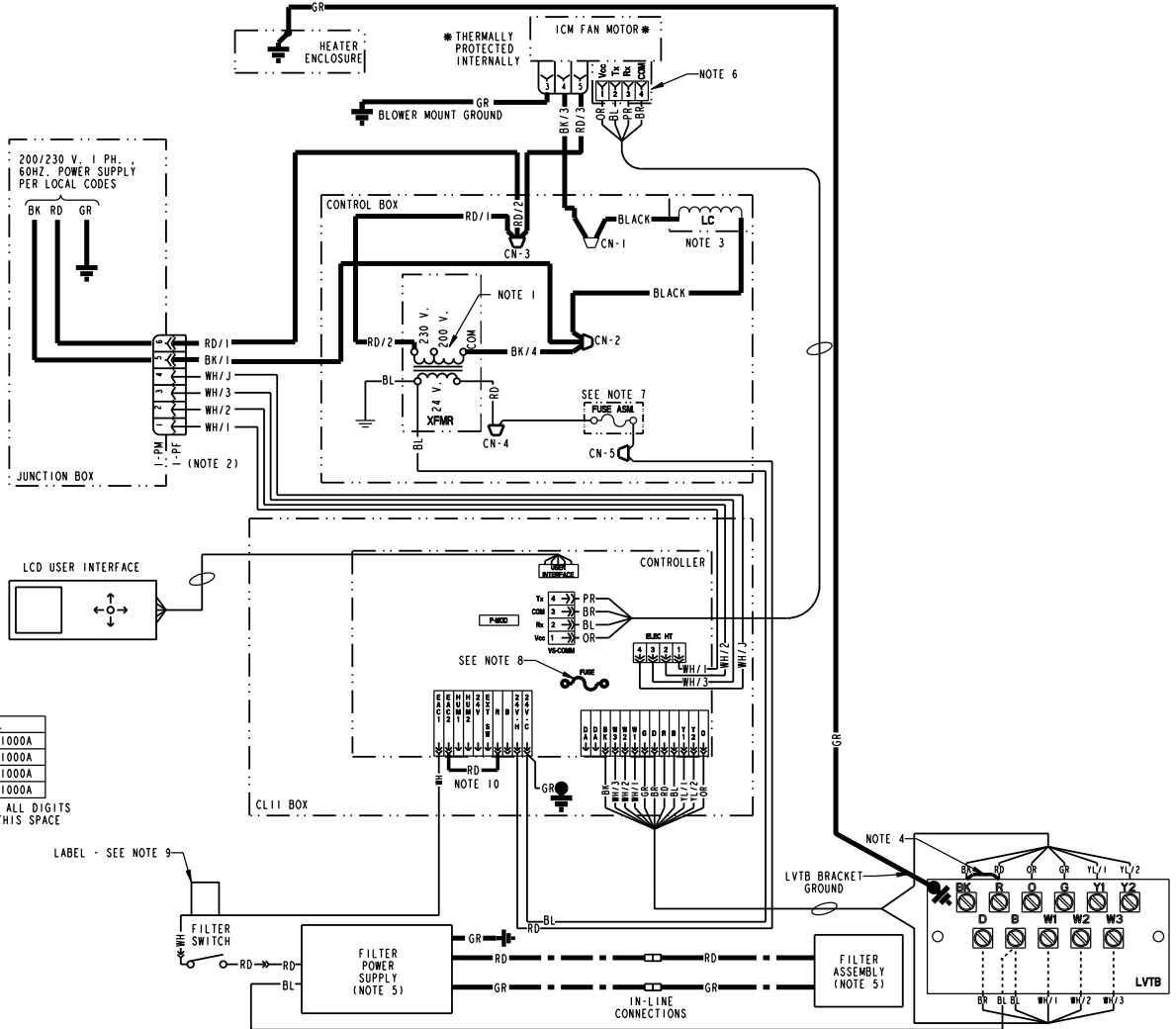
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AIR HANDLER FLASH CODES

Alert Notification				Alert Code	Alert Group	Alert Description
Fault LED	COMM LED	User Interface Display	Comfort Control Display			
Solid ON ‡	N/A	CNTRL FAULT †	ERR 18	18	Control Failure	Internal Control Error
Solid ON ‡	N/A	CHECK FUSE †	N/A +	92	Fuse Failure	24V Fuse Open Error
1 Flash *	N/A	EXT SW OPEN *	ERR 106 *	106	External Shutdown Fault	External Shutdown Input Open Error
2 Flash	N/A	PM MEM ERR	ERR 114	114	PM Bad or Missing Fault	PM Data Corrupt Error
		PM MISSING				PM Missing Error
		ID MTR ERR				Motor Mismatch Error
		PM UNIT ERR	PM Unit Data Error			
		CAP MISMATCH	Compressor Capacity Mismatch Error			
		PM DATA ERR	PM Data Section Error			
3 Flash **	Fast Flash	NO SYS CLK	ERR 91	91	Communication Inactive Fault	COMM Bit Master Clock Error
		SYS COMM ERR				COMM Heat/Cool Demand Error
3 Flash	N/A	BLW COMM ERR				Serial Motor Communication Inactive Error ¹
3 Flash **	Fast Flash	SYS COMM CRC	N/A	90	Communication Busy Fault	COMM System Busy Error
3 Flash	N/A	BLW COMM CRC				Serial Motor Communication Busy Error
4 Flash	N/A	HT+LK ON ERR	ERR 105	105	Heater Interlock Relay Fault	Both Interlock Relay & Heater Relay Stuck Closed Error
		INTLK ON ERR				Interlock Relay Stuck Closed Error
		NTLK OFF ERR				Interlock Relay Stuck Open Error
4 Flash	N/A	HT ON ERR	ERR 104	104	Heater Relay Fault	Heater Relay Stuck Closed Error
		HT OFF ERR				Heater Relay Stuck Open Error
5 Flash *	N/A	DAS RNG ERR *	ERR 118 *	118	Discharge Air Temperature Fault	Discharge Air Temperature Range Error
		DAS UL ERR *				Discharge Air Temperature Upper Limit Error
		DAS LL ERR *				Discharge Air Temperature Lower Limit Error
5 Flash *	N/A	DAS SHORT *	N/A	52	Discharge Air Sensor Fault	Discharge Air Sensor Short Error
		DAS OPEN *				Discharge Air Sensor Open Error
6 Flash *	N/A	RAS RNG ERR *	N/A	117	Return Air Temperature Fault	Return Air Temperature Range Error
6 Flash *	N/A	RAS SHORT *	N/A	110	Return Air Sensor Fault	Return Air Sensor Short Error
		RAS OPEN *				Return Air Sensor Open Error
7 Flash	N/A	Y1 ON ERR	ERR 101	101	Y1 Relay Fault	Y1 Relay Stuck Closed Error
		Y1 OFF ERR				Y1 Relay Stuck Open Error
8 Flash	N/A	TWIN ERROR	N/A	19	Twinning Fault	Air Handler Twinning Error
9 Flash	N/A	DEMAND ERR *	N/A	123	Demand Configuration	Heat/Cool Demand Conflict Error
		HT CFG ERR				Electric Heat Configuration Error
Notes:	† If Air Handler processor is reset or fuse is open, COMM Alert cannot be reported; if the processor is reset the User Interface will not be updated * Alert flash code will not be implemented for initial release ** COMM communication errors may also be flashed on Fault LED ‡ LitePort™ transmissions will be allowed during ON flash codes + Fuse alert notification level would show on Comfort Control, but when fuse is open the COMM bus has no power ¹ Comfort Control will switch system to "OFF" until this fault condition clears					

WIRING DIAGRAM FOR 2/4TEE3C49A



MODEL
2TEE3C**A1000A
4TEE3C**A1000A
2TEE3D**B1000A
4TEE3D**B1000A

* SIGNIFIES ALL DIGITS USED IN THIS SPACE

LEGEND

- 24 V. LINE V.
- MULTIWIRE HARNESS
- GROUND
- JUNCTION
- CAPACITOR
- WIRE NUT OR CONNECTOR
- TERMINAL
- TRANSFORMER
- FUSE
- TERMINAL BLOCK/BOARD
- RELAY CONTACT NO.
- MAGNETIC COIL
- POL. PLUG FEMALE HOUSING (MALE TERMINALS)
- POL. PLUG MALE HOUSING (FEMALE TERMINALS)
- CN WIRE CONNECTOR
- MTR/ICM INTEGRAL CONTROL MOTOR
- LC LINE CHOKE
- PF POLARIZED PLUG (FEMALE HOUSING)
- PM POLARIZED PLUG (MALE HOUSING)
- XFR TRANSFORMER
- EAC ELECTRONIC AIR CLEANER
- HUM HUMIDIFIER
- DA DISCHARGE AIR SENSOR
- EXTSW EXTERNAL SWITCH
- PMOD PERSONALITY MODULE (MODULE ALWAYS REMAINS WITH UNIT)
- COLOR OF WIRE
 - BK/BL BLACK WIRE WITH BLUE MARKER
 - BK BLACK
 - RD RED
 - OR ORANGE
 - BL BLUE
 - WH WHITE
 - GR GREEN
 - BR BROWN
 - YL YELLOW
 - PR PURPLE

NOTES:

1. FOR 200V OPERATION SWAP RED TRANSFORMER LEAD AND INSULATED CAP ON 200V CENTER TRANSFORMER TERMINAL.
2. WHEN HEATERS ARE USED, DISCARD 1-PF WITH ATTACHED LEADS AND CONNECT 1-PF TO THE MATING PLUG IN THE HEATER CONTROL BOX.
3. LINE CHOKE MAY NOT BE USED ON ALL MODELS. IF CHOKE NOT USED, BK/3 MTR (PIN4) LEAD CONNECTS TO BK/2 MTR(L2) TERMINAL.
4. IF OPTIONAL HUMIDISTAT IS USED, REMOVE R TO BK JUMPER ON TERMINAL BOARD AND INSTALL HUMIDISTAT BETWEEN R AND BK. JUMPER R TO O FOR COOLING-ONLY NON-HEAT PUMP SYSTEMS WITH A HUMIDISTAT.
5. FILTER ASSEMBLY, POWER SUPPLY & SWITCH, ARE USED ON 2/4TEE3D**B MODELS ONLY.
6. R_x (RECEIVE) ON MOTOR CONNECTS TO T_x (TRANSMIT) ON BOARD. T_x (TRANSMIT) ON MOTOR CONNECTS TO R_x (RECEIVE) ON BOARD.
7. FOR REPLACEMENT FUSE, USE LITTLE FUSE LWF 3-2/10 OR BUSSMAN GMD 3-2/10.
8. 5 AMP AUTOMOTIVE TYPE FUSE TO PROTECT CONTROL BOARD.
9. ON "C" MODELS, THE WHITE WIRE IS USED TO HOOKUP THE IFD FILTER POWER SUPPLY OR AN ADD ON EAC (SEE EAC INSTRUCTIONS FOR WIRING).
10. REMOVE THIS JUMPER IF A 240/120 VOLT EAC IS TO BE APPLIED AND CONTROLLED VIA THE AH CONTROL.

WARNING

HAZARDOUS VOLTAGE!
DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

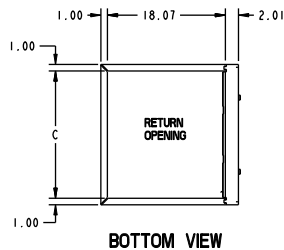
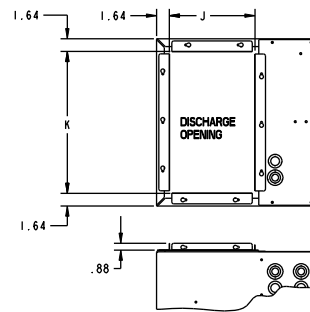
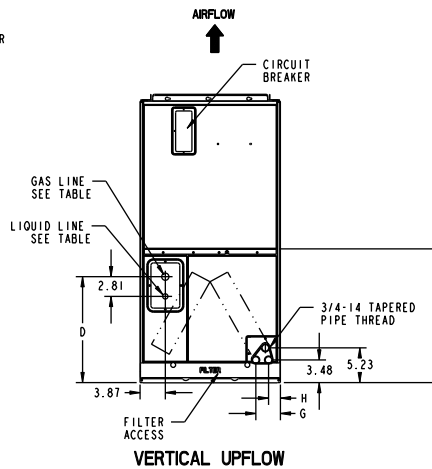
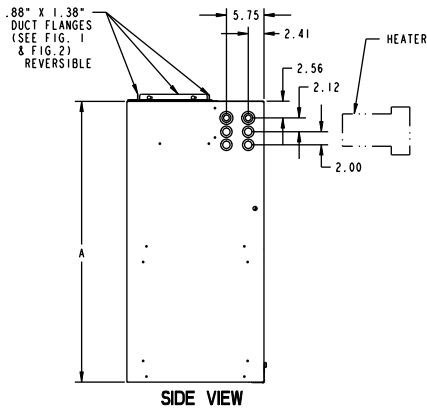
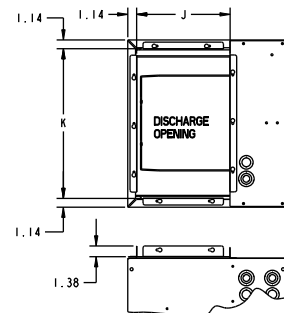
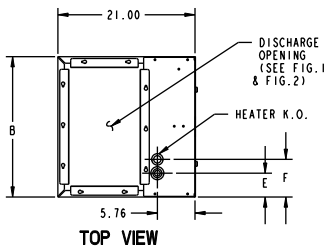
CAUTION

USE COPPER CONDUCTORS ONLY!
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.

Failure to do so may cause damage to the equipment.

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OUTLINE DRAWING FOR 2/4TEE3C49A



MODEL NO.	FIG. 1		FIG. 2	
	J	K	J	K
2TEE3D31, 4TEE3D31 2TEE3C31, 4TEE3C31	12.0	19.5	11.0	18.5
2TEE3D37, 2TEE3F39, 4TEE3D37, 4TEE3F39 2TEE3C37, 2TEE3F48, 4TEE3C37, 4TEE3F48 2TEE3F64, 4TEE3F64		21.5		20.5
2TEE3D40, 4TEE3D40, 2TEE3C40, 4TEE3C40 2TEE3D49, 4TEE3D49, 2TEE3C49, 4TEE3C49 2TEE3D65, 4TEE3D65, 2TEE3C65, 4TEE3C65	24.0		23.0	

	TO COMBUSTIBLE MATERIAL (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
SIDES	0"	2"
FRONT	0"	21"
BACK	0"	0"
INLET DUCT	0"	1"
OUTLET DUCT	1"	

* 1" FOR THE FIRST 3 FT. OF OUTLET DUCT WHEN ELECTRIC HEATERS ARE INSTALLED.

MODEL NO.	A	B	C	D	E	F	G	H	L	FLOW CONTROL	GAS LINE BRAZE	LIQ. LINE BRAZE
2TEE3D31, 4TEE3D31 2TEE3C31, 4TEE3C31	43	21.50	19.50	15.57	3.65	5.77	3.62	1.89	N/A	TXV/NB	3/4	5/16
2TEE3D37, 2TEE3C37	45	23.50	21.50	17.57	4.65	6.77			N/A		7/8	3/8
2TEE3D40, 2TEE3C40	51.75			18.33					36.00		1-1/8	
2TEE3D49, 2TEE3C49	57.90	26	24	27.12	5.90	8.02	3.21	1.48	N/A	7/8		
2TEE3D65, 2TEE3C65	62.75								36.00	3/4		
4TEE3D37, 4TEE3C37	45	23.50	21.50	17.57	4.65	6.77	3.62	1.89	N/A	1-1/8		
4TEE3D40, 4TEE3C40	51.75			18.33					36.00	7/8		
4TEE3D49, 4TEE3C49	57.90	26	24	27.12	5.90	8.02	3.21	1.48	31.15	1-1/8		
4TEE3D65, 4TEE3C65	62.75								31.15	7/8		
2TEE3F39	57.90			17.00						3/4		
4TEE3F39	57.90	23.50	21.50	26.77	4.65	6.77	3.62	1.89		1-1/8		
2TEE3F48, 2TEE3F64 4TEE3F48, 4TEE3F64	57.90									7/8		

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For more information contact
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Since the manufacturer has a policy of continuous product and product data improvement, it reserves the right to change design and specifications without notice.