TRANE	FILE NUMBER:	DRAWING NUMBER: 2309-3700	SHEET: 1 OF 1	REV M
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DRAWN BY: D SHANNON	TRANE® DATE: 12-28-06			
REPLACES:	REVISION DATE: 10-29-09			
CAD SYSTEM USED: PRO/DETAIL	SIMILAR TO:			

ROOFTOP PACKAGED AIR CONDITIONER DIAGRAM

CONNECTIONS - CONTROL BOX
STANDARD AIR COOLED (90T-150T) 1PC
SHEET 1 OF 4

1U3
MULTI-CIRCUIT COMPRESSOR MODULE #1
SEE CONTROL MODULES CONNECTION PRINT FOR DETAILS

1U66
NETWORK COMM. MODULE (BCI)
(SEE MODULES PRINT FOR DETAILS)

1U1
ROOFTOP MODULE (RTM)
SEE CONTROL MODULES CONNECTION PRINT FOR DETAILS

AC/AD/AE/AF/W8

1TB17 (N/C)

C	AC	W/V U	BE	BE	RP	KG	J	DC
1	2	3	4	5	6	7	8	9	10	11	12
101	102	102	102	102	106	120	100	100	100	100	100
BA	BA	AE	MFG	RPJ	DCA	DCA	ZAAX	UVS	CCCY		BACJ

1TB18 (N/C)

FC	F	CJ	FC
1	2	3	4	5	6	7	8	9	10	11	12
138	138	--	--	--	110	125	--	100	100	139	139
BA	ED/W				CBA	CBA		CACBCK	ED/W	BA	

115V 1T1 460V/60HZ: X2 99A, X1 100B; LINE H1 54A, H2, H3, H4 55A
115V 1T1 575V/60HZ: LINE H1 54A, H2 55A
115V 1T1 380V/50HZ: LINE H1 54A, H3 55A
100A
562A, 700U

1K
- 1K 1F10 38A, 38B
- 2K 1F11 39A, 39B
- 3K 1F12 40A, 40B
- 1L 1F13 59A, 59B
- 2L 1F14 60A, 60B
- 3L 1F15 61A, 61B

1K9: 38A, 115B, 39A, 100U, 40A → 41A, 42A, 43A
1K10: 38B, 112A, 39B, 100V, 40B → 44A, 45A, 46A
1K11: 59A, 128B, 60A, 100Z, 61A → 62A, 63A, 64A
1K12: 59B, 127A, 60B, 100AA, 61B → 65A, 65B, 66A, 66B, 67A, 67B

CONDENSER FAN CONNECTORS (MOUNTED IN CONTROL BOX WALL)
1J1 1P1: 41A–46B, 28B, 29B, 30B → 41B–46C, 28C, 29C, 30C
WIRES FOR 130T & 150T ONLY
1J2 1P2: 62A–67B → 62B–67C, 7B, 8B, 9B
WIRES FOR 130T & 150T ONLY

1TB9 (N/C)

A. B. C	550	1	
D. E. F	550	2	G. J
M. P/W. R	550	3	S. T
	550	4	
A. B. C	551	5	
D. E. F	551	6	G. J
M. P. R	551	7	S. T
	551	8	
A. B	715	9	
A. B	716	10	
R. S	700	11	M
K. L	700	12	T

1TB10 (N/C)

A. B. G	502	1	D
C. J	502	2	K/L. E
A. B. E	602	3	D. L
C. J	602	4	K
A. B. C	702	5	
E. F. G	702	6	D
A. B. G	700	7	D. C
T. U	700	8	E. F
A. J. C	600	9	K
B. E	600	10	D. L
A. C. J	500	11	K/M. E
B. L	500	12	D

1TB11 (N/C)

A. B. C	703	1	D
	--	2	
	--	3	
A. B. C	704	4	
A. B	620	5	
A. B	691	6	
A. B	690	7	
A. B	688	8	
A. B	689	9	
A. B	532	10	
A. B	533	11	
A. B	698	12	

NOTES

1. JUMPER BETWEEN 1TB16-13 AND 1TB16-14 REQUIRED FOR 2-STAGE NATURAL GAS HEAT (<1800 MBH) OR ELECTRIC HEAT ONLY.
2. 1TB7 AND ASSOCIATED WIRING REQUIRED WITH OPTIONAL GBAS 0-5V MODULE ONLY.
3. 1TB8 AND ASSOCIATED WIRING REQUIRED WITH OPTIONAL GBAS 0-10V MODULE ONLY.
4. REMOVE JUMPER BETWEEN 1TB13-23 AND 1TB13-24 WHEN HIGH DUCT TEMP T-STAT (4S17 & 8S17) IS ORDERED.
5. 1F25, 1F26, AND 1S8 AND ASSOCIATED WIRING REQUIRED FOR CONVENIENCE OUTLET OPTION ONLY.
6. WIRES 1AB, 2AB AND 3AB ARE ONLY REQUIRED FOR SPECIFIC ELECTRIC HEATER CONFIGURATIONS. SEE APPLICABLE HEATER SCHEMATIC.
7. REMOVE JUMPER BETWEEN 1TB4-15 AND 1TB4-16 WHEN A REMOTE EMERGENCY STOP SWITCH IS USED.
8. 1TB29 NOT AVAILABLE WHEN BOTH 0-5V GBAS AND 0-10V GBAS ARE INSTALLED. IF A SINGLE GBAS IS INSTALLED, 1TB29 WILL OCCUPY THE POSITION WHERE THE TERMINAL BLOCK SUPPORTING THE SECOND GBAS WOULD BE PLACED. (SEE INSET 1A)
9. CIRCUIT BREAKERS CB1, CB2, CB3 & CB4 MUST CONNECT TO COLORED AUX CONTACT WIRES BLU/YEL (COM) AND YEL (NO) WHEN SHORT CIRCUIT WITHSTAND RATING (SCWR) IS CHOSEN AS AN OPTION.
10. FOR RETURN FAN INSTALL JUMPER BETWEEN 1TB13-11 & 1TB13-12. FOR EXHAUST FAN PROVING INSTALL WIRES 548B AND 549B.

SEE CONTROL MODULES CONNECTION PRINT FOR DETAILS

- 1U5 EXHAUST/COMPARATIVE ENTHALPY MODULE (ECEM)
- 1U6 HEAT MODULE (HEAT)
- 1U7 LONTALK COMMUNICATIONS MODULE (LCI)
- 1U8 VENTILATION OVERRIDE MODULE (VOM)
- 1U9 MULTI-PURPOSE MODULE (MPM)
- 1U10 GBAS 0-5V MODULE
- 1U11 GBAS 0-10V MODULE
- 1U12 INTERPROCESSOR COMMUNICATIONS MODULE (IPCB)
- 1U15 MODULATING DEHUMIDIFICATION MODULE (MDM)

460V/60HZ 380V/50HZ / 575V/60HZ
2T. 2U: LINE 1T 1U; 1T2 24V LOAD; 501A 500A
2U. 2V: LINE 1U 1V; 1T3 24V LOAD; 601A 600A
2V. 2W: LINE 1V 1W; 1T4 24V LOAD; 701A 701B 700A 700P
ENERGY WHEEL ONLY
2W: LINE 1W; 1T5 24V LOAD; 701B 700P

1U2 (HUMAN INTERFACE)
NOTE: CONNECTIONS SHOWN FROM VIEWING BACK OF 1U2
J2: 502C 562A 500C; J1: 550D 551D

FUSE AND SWITCH PANEL
601A; 501A 701A; 1S3 NO NO NO; 502A 602A
1S2 C NO 102A 101B
99A 101A 1F1
2M 54A 1F3
102G 109B 1F7
102J 119B 1F8
3M 55A 1F4
1S42: 138A NO 136A; 139A C NO 137A — MARINE LIGHTS
1S8: 68A NO 1Z; 69A C NO 2Z — 5 OPTIONAL CONVENIENCE OUTLET
68A 70A 1F25
69A 71A 1F26

OPTIONAL ENERGY WHEEL
- 1Y 1F39 301A
- 2Y 1F40 302A
- 3Y 1F41 303A
301A 135A 302A 102AE 303A → 1K38 → 310A 311A 312A → 1U65 → 93A 94A 95A

1AA 2AA 3AA 6; 1AB 2AB 3AB; T1 T2 T3; 1TB3; L1 L2 L3; 1B 2B 3B
OPTIONAL ELECTRIC HEAT

2C 2D 3C; 1C 1D 1E 1F 1K 1L 1R 1S 1T 1Y; 2D 2E 2F 2K 2L 2M 2R 2S 2T 2Y; 3D 3E 3F 3K 3L 3M 3R 3S 3T 3Y
T1 T2 T3; 1TB2; L1 L2 L3; 1A 2A 3A

S/A DUCT PRESSURE: 540B 541B 542B → CBL4U27 → 1J14/1P14
INLET GUIDE VANE: 700E 702D 544C → CBL5U36 → 1J16/1P16
ECONOMIZER: 700C 702B 703B → CBL7U33 → 1J19/1P19
R/A SPACE PRESSURE: 588B 589B 590B 591B 592B → CBL8U38 → 1J38/1P38
EXHAUST DAMPER: 700D 702C 704A → CBL8U35 → 1P22/1J22
R/A PLENUM PRESSURE (RTN FAN ONLY): 603B 604B 605B 606B 607B → CBL8U50 → 1J40/1P40
ENERGY RECOVERY (EXHAUST FAN ONLY): 700S 702E 698B → CBL7U51 → 1P79/1J79; 700L 702F 620B → CBL7U49 → 1P80/1J80; 700M 702G 703D → CBL7U58 → 1P82/1J82

1R 2R 3R; 1CB5 COM BLU/YEL 121A; NO YEL 122C; NC BLU; 47A 48A 49A
1S 2S 3S; 1CB6 COM BLU/YEL 114A; NO YEL 113C; NC BLU; 50A 51A 52A
OPTIONAL EXHAUST/RTN FAN

OPTIONAL ELECTRIC HEAT: 1B 2B 3B; 1A 2A 3A; 1 2 3; 1TB1 OR 1S1
OPTIONAL CONVENIENCE OUTLET: 1Z 2Z
LINE VOLTAGE

47A 48A 49A; 102W; 1K5 NO NC A1 / NO NC A2; 100C; 166B; 121A; NO NO NC NC; 32A 33A 34A
50A 51A 52A; 703C; 1K6 NO NC A1 / NO NC A2; 100D; 704B; 114A; NO NO NC NC; 56A 57A 58A

CUSTOMER GROUND CUSTOMER GROUND CUSTOMER GROUND

OPT. MARINE LIGHTS: 136A 137A; 1TB30 T1 T2 L1 L2; 120 VAC/60HZ

1TB13 (N/C)

	536	1	A. B
	537	2	A. B
	538	3	A. B
	539	4	A. B
	--	5	
	--	6	
	526	7	A. B
	527	8	A. B
	546	9	A. B
	547	10	A. B
10	548	11	A. B
	549	12	A. B
	584	13	A
	585	14	A
	586	15	A
	587	16	A
	--	17	
	544	18	A. C
	542	19	A. B
	534	20	A. B
	535	21	A. B
	518	22	A. B
4	517	23	A. B
	519	24	A. B

1TB14 (N/C)

	564	1	A. B
	565	2	A. B
	566	3	A. B
	567	4	A. B
	568	5	A. B
	569	6	A. B
	572	7	A. B
	573	8	A. B
	574	9	A. B
	575	10	A. B
	576	11	A. B
	577	12	A. B
	578	13	A. B
	579	14	A. B
	582	15	A. B
	583	16	A. B
	552	17	A. [C/F/K/P/W10]
	553	18	A. [C/F/K/P/W9]
	545	19	A. [W22/W20]
	554	20	A. [B/E]
	--	21	
	--	22	
	--	23	
	--	24	

1TB15 (N/C)

	588	1	A. B
	589	2	A. B
	590	3	A. B
	591	4	A. B
	592	5	A. B
	593	6	A. B
	594	7	A. B
	595	8	A. B
	596	9	A. B
	603	10	A. B
	604	11	A. B
	605	12	A. B
	606	13	A. B
	607	14	A. B
	--	15	
	--	16	
	612	17	A. B
	613	18	A. B
	614	19	A. B
	615	20	A. B
	616	21	A. B
	617	22	A. B
	618	23	A. B
	619	24	A. B

1TB16 (N/C)

	122	1	A. C
	113	2	A. C
	109	3	A. B
	103	4	A. B
	108	5	A. B
	115	6	A. B
	--	7	
	119	8	A. B
	118	9	A. B
	124	10	A. B
	128	11	A. B
	134	12	A. B
1	160	13	A. [C/W4]
	162	14	A. [B/W13]
	161	15	A. [C/W7]
	163	16	A. [E/M/W6]
	164	17	A. [F/W11]
	165	18	A. [F/K/W12]
	166	19	B. [C/F/K/W5]
	133	20	A. B
	--	21	
	--	22	
	--	23	
	--	24	

1CB1 1E 2E 3E; 120B; 9; N O C; 123A; 4A 5A 6A
1CB2 1F 2F 3F; 123A; 9; N O C; 124A; 11A 12A 13A
1CB3 1D 2D 3D; 108A; 9; N O C; 107A; 18A 19A 20A
1CB4 1C 2C 3C; 106B; 9; N O C; 107A; 25A 26A 27A

1K1 100X 100Y 125B; 4A 4B 5A 6A 6B; NC L1 L2 L3 AUX 2 C NO NC; AUX 1; C T1 T2 T3; 4B; 10A; 7A 7B 8A 8B 9A 9B; 142A 143A
1K2 100Y 126A; 11A 11B 12A 12B 13A; 11B; 17A; 14A 15A 16A
1K3 100T 111A; 18A 19A 19B 20A 20B; 19B; 24A; 21A 22A 23A
1K4 100S 100T 110B; 25A 25B 26A 26B 27A; 25B; 31A; 28A 28B 29A 29B 30A 30B

ENERGY RECOVERY (EXHAUST FAN ONLY) 1J143/1P143: 93A 94A 95A → 93J 94J 95J

INSET 1A - CUSTOMER CONNECTION TB CONFIGS
- W/O GBAS 0-5V, GBAS 0-10V, AND ERW: 1TB4 1TB5; 1TB6
- W/ ENERGY RECOVERY (ERW): 1TB4 1TB5; 1TB6 1TB29
- W/ GBAS 0-5V AND ERW: 1TB4 1TB5; 1TB6 1TB7 1TB29 (8)
- W/ GBAS 0-10V AND ERW: 1TB4 1TB5; 1TB6 1TB29 1TB8 (8)
- W/ GBAS 0-5V AND GBAS 0-10V: 1TB4 1TB5; 1TB6 1TB7 1TB8

1TB4

G	502	513	12 A
A	503	514	13 A
A	504	515	14 A
A	505	516	15 A
A	506	517	16 A
A	507	520	17 A
A	508	521	18 A
A	509	522	19 A
A	510	555	20 A
A	511	557	21 A
A	512	556	22 A

1TB5

A	523	560	12 A
A	524	561	13 A
A	525	705	14 A
A	530	706	15 A
A	531	707	16 A
A	528	500	17 L
A	529	621	18 A
A	540	622	19 A
A, B	541	623	20 A/B
A, B	558	624	21 A/B
A	559	--	22

7

1TB6

A	597	633	12 A
A	598	634	13 A
A	599	635	14 A
A	625	636	15 A
A	626	637	16 A
A	627	610	17 A
A	628	611	18 A
A	629	661	19 A
A	630	662	20 A
A	631	663	21 A
A	632	648	22 A

1TB7

A	638	646	12 A
A	639	647	13 A
A	640	652	14 A
A	641	653	15 A
A	642	654	16 A
A	643	655	17 A
A	644	656	18 A
A	645	657	19 A
A	649	658	20 A
A	650	659	21 A
A	651	660	22 A

GBAS 0-5V ONLY (2)

1TB8

A	664	675	12 A
A	665	676	13 A
A	666	677	14 A
A	667	678	15 A
A	668	679	16 A
A	669	680	17 A
A	670	681	18 A
A	671	682	19 A
A	672	683	20 A
A	673	684	21 A
A	674	685	22 A

GBAS 0-10V ONLY (3)

1TB29

A	570	--	12
A	571	--	13
	--	--	14
	--	--	15
	--	--	16
	--	--	17
	--	--	18
	--	--	19
	--	--	20
	--	--	21
	--	--	22

ENERGY RECOVERY (8)