APPENDIX A

CCN Tables

A_UNIT (General Unit Parameters)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
Control Mode	0 = Test 1 = Local Off 2 = CCN Off 3 = Clock Off 4 = Emergency Stop 5 = Local On 6 = CCN On 7 = Clock On 8 = Heat Enabled 9 = Pump Delay		STAT	N
Occupied	No/Yes		OCC	N
CCN Chiller	Start/Stop		CHIL_S_S	Y
Low Sound Active	No/Yes		LSACTIVE	N
Alarm State	Normal/Alert/Alarm		ALM	N
Active Demand Limit	0 to 100	%	DEM_LIM	Y
Override Modes in Effect	No/Yes		MODE	N
Percent Total Capacity	0 to 100	%	CAP_T	N
Requested Stage	0 to 99		STAGE	N
Active Set Point	–20 to 70	°F	SP	N
Control Point	–20 to 70	°F	CTRL_PNT	Y
Entering Fluid Temp	snnn.n	°F	EWT	N
Leaving Fluid Temp	snnn.n	°F	LWT	N
Emergency Stop	Enable/Emstop	Enable	EMSTOP	Y
Minutes Left for Start	00:00 to 15:00	minutes	MIN_LEFT	N
PUMPS				
Cooler Pump Relay 1	Off/On		COOLPMP1	N
Cooler Pump Relay 2	Off/On		COOLPMP2	N
Cooler Pump 1 Interlock	Open/Close		PMP1_FBK	N
Cooler Pump 2 Interlock	Open/Close		PMP2_FBK	N
Cooler Flow Switch	Open/Close		COOLFLOW	N
Rotate Cooler Pumps Now	No/Yes		ROT_PUMP	
Heat/Cool Select	Heat/Cool		HC_SEL	N

CIRCADIO (Circuit A Discrete Inputs/Outputs)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
CIRC. A DISCRETE OUTPUTS				
Compressor A1 Relay	On/Off		K_A1_RLY	N
Compressor A2 Relay	On/Off		K_A2_RLY	N
Minimum Load Valve Relay	On/Off		MLV_RLY	N
CIRC. A DISCRETE INPUTS				
Compressor A1 Feedback	On/Off		K_A1_FBK	N
Compressor A2 Feedback	On/Off		K_A2_FBK	N

CIRCA_AN (Circuit A Analog Parameters)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
CIRCUIT A ANALOG VALUES				
Percent Total Capacity	0-100	%	CAPA_T	N
Percent Available Cap.	0-100	%	CAPA_A	N
Discharge Pressure	nnn.n	PSIG	DP_A	N
Suction Pressure	nnn.n	PSIG	SP_A	N
Calculated HP Setpoint A	nnn.n	°F	HSP_A	N
Saturated Condensing Tmp	snnn.n	°F	TMP_SCTA	N
Saturated Suction Temp	snnn.n	°F	TMP_SSTA	N
Compr Return Gas Temp	snnn.n	°F	TMP_RGTA	N
Suction Superheat Temp	snnn.n	ΔF	SH_A	N

CIRCBDIO (Circuit B Discrete Inputs/Outputs)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
CIRC. B DISCRETE OUTPUTS				
Compressor B1 Relay	On/Off		K_B1_RLY	N
Compressor B2 Relay	On/Off		K_B2_RLY	N
Minimum Load Valve Relay	On/Off		MLV_RLY	N
CIRC. B DISCRETE INPUTS				
Compressor B1 Feedback	On/Off		K_B1_FBK	N
Compressor B2 Feedback	On/Off		K_B2_FBK	N

CIRCB_AN (Circuit B Analog Parameters)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
CIRCUIT B ANALOG VALUES				
Percent Total Capacity	0-100	%	CAPB_T	N
Percent Available Cap.	0-100	%	CAPB_A	N
Discharge Pressure	nnn.n	PSIG	DP_B	N
Suction Pressure	nnn.n	PSIG	SP_B	N
Calculated HP Setpoint B	nnn.n	°F	HSP_B	N
Saturated Condensing Tmp	snnn.n	°F	TMP_SCTB	N
Saturated Suction Temp	snnn.n	°F	TMP_SSTB	N
Compr Return Gas Temp	snnn.n	°F	TMP_RGTB	N
Suction Superheat Temp	snnn.n	ΔF	SH_B	N

OPTIONS (Unit Parameters)

DESCRIPTION	VALUE	UNITS	POINT NAME	FORCEABLE
FANS				
Fan 1 Relay	Off/On		FAN_1	N
Fan 2 Relay	Off/On		FAN_2	N
Cooler/Pump Heater	Off/On		COOL_HTR	N
UNIT ANALOG VALUES				
Cooler Entering Fluid	snnn.n	°F	COOL_EWT	N
Cooler Leaving Fluid	snnn.n	°F	COOL_LWT	N
Lead/Lag Leaving Fluid	snnn.n	°F	DUAL_LWT	N
TEMPERATURE RESET				
4-20 mA Reset Signal	nn.n	mA	RST_MA	N
Outside Air Temperature	snnn.n	°F	OAT	Y
Space Temperature	snnn.n	°F	SPT	Y
DEMAND LIMIT				
4-20 mA Demand Signal	nn.n	mA	LMT_MA	N
Demand Limit Switch 1	Off/On		DMD_SW1	N
Demand Limit Switch 2	Off/On		DMD_SW2	N
CCN Loadshed Signal	0 = Normal 1 = Redline 2 = Loadshed		DL_STAT	N
MISCELLANEOUS				
Heat Request	Off/On		HEAT_REQ	N
Dual Setpoint Switch	Off/On		DUAL_IN	N
Cooler LWT Setpoint	snnn.n	°F	LWT_SP	N
Ice Done	Off/On		ICE_DONE	N

ALARMDEF (Alarm Definition Table)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Alarm Routing Control	00000000	00000000		ALRM_CNT
Equipment Priority	0 to 7	4		EQP_TYPE
Comm Failure Retry Time	1 to 240	10	min	RETRY_TM
Re-alarm Time	1 to 255	30	min	RE-ALARM
Alarm System Name	XXXXXXXX	CHILLER		ALRM_NAM

BRODEFS (Broadcast POC Definition Table)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
CCN Time/Date Broadcast	Yes/No	No		CCNBC
CCN OAT Broadcast	Yes/No	No		OATBC
Global Schedule Broadcast	Yes/No	No		GSBC
CCN Broadcast Ack'er	Yes/No	No		CCNBCACK
Daylight Savings Start:				
Month	1 to 12	4		STARTM
Week	1 to 5	1		STARTW
Day	1 to 7	7		STARTD
Minutes to Add	0 to 99	60	min	MINADD
Daylight Savings Stop				
Month	1 to 12	10		STOPM
Week	1 to 5	5		STOPW
Day	1 to 7	7		STOPD
Minutes to Subtract	0 to 99	60	min	MINSUB

DISPLAY (Marquee Display SETUP)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Service Password	nnnn	1111		PASSWORD
Password Enable	Enable/Disable	Enable		PASS_EBL
Metric Display	Off/On	Off		DISPUNIT
Language Selection	0 = ENGLISH 1 = FRANCAIS 2 = ESPANOL 3 = PORTUGUES	0		LANGUAGE

DUALCHIL (Dual Chiller Configuration Settings)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
LEAD/LAG				
Lead/Lag Chiller Enable	Enable/Dsable	Dsable		LL_ENA
Master/Slave Select	Master/Slave	Master		MS_SEL
Slave Address	0 to 239	2		SLV_ADDR
Lead/Lag Balance Select	0 = None	0		LL_BAL
Lead/Lag Balance Delta	40 to 400	168	hours	LL_BAL_D
Lag Start Delay	0 to 30	5	minutes	LL_DELAY
Parallel Configuration	Yes	Yes		PARALLEL

OPTIONS1 (Options 1 Configuration)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Cooler Fluid	1 = Water 2 = Med. Brine	1		FLUIDTYP
Minimum Load Vlv Select	No/Yes	No		MLV_FLG
Return Gas Sensor Enable	Dsable/Enable	Dsable		RGT_ENA
Motormaster Select	No/Yes	No		MTR_TYPE
Cooler Pump Control	Off/On	Off		CPC
Cooler Pump 1 Enable	No/Yes	No		PMP1_ENA
Cooler Pump 2 Enable	Dsable/Enable	Dsable		PMP2_ENA
Cooler Pmp Periodic Strt	No/Yes	No		PUMP_PST
Cooler Pump Select	0 = Automatic 1 = Pump 1 2 = Pump 2	0		PMP_SLCT
Cooler Pump Shutdown Dly	0 to 10	1	minutes	PUMP_DLY
Pump Changeover Hours	10 to 2000	500	hours	PMP_DLTA
EMM Module Installed	No/Yes	No		EMM_BRD

OPTIONS2 (Options 2 Configuration)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Control Method	0 = Switch 2 = Occupancy 3 = CCN	0		CONTROL
Loading Sequence Select	1 = Equal Loading 2 = Staged Loading	1		SEQ_TYP
Lead/Lag Circuit Select	0 = Automatic 1 = Circuit A Leads 2 = Circuit B Leads	0		LEAD_TYP
Cooling Setpoint Select	0 = Single 1 = Dual, remote switch controlled 2 = Dual CCN occupancy 3 = 4-20 mA input	0		CLSP_TYP
Ramp Load Select	Enable/Dsable	Enable		RAMP_EBL
Heat Cool Select	Cool/Heat	Cool		HEATCOOL
High LCW Alert Limit	2 to 60	60.0	ΔF	LCW_LMT
Minutes off time	0 to 15	0	min	DELAY
Deadband Multiplier	1.0 to 4.0	2.0		Z_GAIN
Ice Mode Enable	Enable/Dsable	Dsable		ICE_CNFG
Close Control Select	Enable/Dsable	Dsable		CLS_CTRL
Low Sound Mode Select	0 = Disabled 1 = Fan only 2 = Capacity/Fans	1		LS_MODE
Low Sound Start Time	00:00 to 23:59	00:00		LS_START
Low Sound End Time	00:00 to 23:59	00:00		LS_END
Low Sound Capacity Limit	0 to 100	100	%	LS_LIMIT
Enable Short Loop Gain	Enable/Dsable	Enable		SAGENABL

RESETCON (Temperature Reset and Demand Limit)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
COOLING RESET				
Cooling Reset Type	0 = No Reset 1 = 4-20 mA input 2 = External temp – OAT 3 = Return Fluid 4 = External temp - SPT	0		CRST_TYP
4-20 MA RESET				
4-20 – Degrees Reset	–30 to 30	0.0	ΔF	420_DEG
REMOTE RESET				
Remote – No Reset Temp	0 to 125	125.0	°F	REM_NO
Remote – Full Reset Temp	0 to 125	0.0	°F	REM_FULL
Remote – Degrees Reset	–30 to 30	0.0	ΔF	REM_DEG
RETURN TEMPERATURE RESET				
Return – No Reset Temp	0 to 125	10.0	ΔF	RTN_NO
Return – Full Reset Temp	0 to 125	0.0	ΔF	RTN_FULL
Return – Degrees Reset	–30 to 30	0.0	ΔF	RTN_DEG
DEMAND LIMIT				
Demand Limit Select	0 = None 1 = External switch input 2 = 4-20 mA input 3 = Loadshed	0		DMD_CTRL
Demand Limit at 20 mA	0 to 100	100	%	DMT20MA
Loadshed Group Number	0 to 99	0		SHED_NUM
Loadshed Demand Delta	0 to 60	0	%	SHED_DEL
Maximum Loadshed Time	0 to 120	60	minutes	SHED_TIM
Demand Limit Switch 1	0 to 100	80	%	DLSWSP1
Demand Limit Switch 2	0 to 100	50	%	DLSWSP2

SCHEDOVR (Timed Override Setup)

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Schedule Number	0 to 99	1		SCHEDNUM
Override Time Limit	0 to 4	0	hours	OTL
Timed Override Hours	0 to 4	0	hours	OVR_EXT
Timed Override	No/Yes	No		TIMEOVER

SETPOINT

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
COOLING				
Cooling Setpoint 1	–20 to 70	44.0	°F	CSP1
Cooling Setpoint 2	–20 to 70	44.0	°F	CSP2
ICE Setpoint	–20 to 32	32.0	°F	CSP3
RAMP LOADING				
Cooling Ramp Loading	0.2 to 2.0	1.0		CRAMP
Brine Freeze Point	–20 to 34	34.0	°F	BRN_FRZ

UNIT

DESCRIPTION	VALUE	DEFAULT	UNITS	POINT NAME
Compressor A1 Size	8 to 15	**60 Hz:** 010-10; 015-15; 018-9; 022-9; 025-13; 030-15; 035-9; 040-13; 045-10; 050-13; 055-15 **50 Hz:** 010-11; 015-7; 018-9; 022-11; 025-13; 032-8; 035-13; 042-11; 045-13		SIZE_A1
Compressor A2 Size	0 to 15	**60 Hz:** 018-9; 022-13; 025-13; 030-15; 035-13; 040-13; 045-13; 050-13; 055-15 **50 Hz:** 015-7; 018-9; 022-11; 025-13; 032-11; 035-13; 042-11; 045-13		SIZE_A2
Compressor B1 Size	0 to 15	**60 Hz:** 035-15; 040-15; 045-10; 050-13; 055-15 **50 Hz:** 032-13; 035-13; 042-11; 045-13		SIZE_B1
Compressor B2 Size	0 to 15	**60 Hz**: 045-13; 050-13; 055-15 **50 Hz:** 042-11; 045-13		SIZE_B2
Suction Superheat Setpt	10 to 40	15		SH_SP
Refrigerant	1 = R22	1		REFRIG_T
Fan Staging Select	1 = 1 Fan 2 = 2 Fans 3 = 3 Fans 4 = 4 Fans	1 = One Fan (010-018) 2 = Two Fans (022-030) 3 = Three Fans (032-040) 4 = Four Fans (042-055)		FAN_TYPE

MAINTENANCE

ALARMS: Maintenance Display

DESCRIPTION	VALUE	POINT NAME
Active Alarm #1	Axxx or Txxx	ALARM01C
Active Alarm #2	Axxx or Txxx	ALARM02C
Active Alarm #3	Axxx or Txxx	ALARM03C
Active Alarm #4	Axxx or Txxx	ALARM04C
Active Alarm #5	Axxx or Txxx	ALARM05C
Active Alarm #6	Axxx or Txxx	ALARM06C
Active Alarm #7	Axxx or Txxx	ALARM07C
Active Alarm #8	Axxx or Txxx	ALARM08C
Active Alarm #9	Axxx or Txxx	ALARM09C
Active Alarm #10	Axxx or Txxx	ALARM10C
Active Alarm #11	Axxx or Txxx	ALARM11C
Active Alarm #12	Axxx or Txxx	ALARM12C
Active Alarm #13	Axxx or Txxx	ALARM13C
Active Alarm #14	Axxx or Txxx	ALARM14C
Active Alarm #15	Axxx or Txxx	ALARM15C
Active Alarm #16	Axxx or Txxx	ALARM16C
Active Alarm #17	Axxx or Txxx	ALARM17C
Active Alarm #18	Axxx or Txxx	ALARM18C
Active Alarm #19	Axxx or Txxx	ALARM19C
Active Alarm #20	Axxx or Txxx	ALARM20C
Active Alarm #21	Axxx or Txxx	ALARM21C
Active Alarm #22	Axxx or Txxx	ALARM22C
Active Alarm #23	Axxx or Txxx	ALARM23C
Active Alarm #24	Axxx or Txxx	ALARM24C
Active Alarm #25	Axxx or Txxx	ALARM25C

CURRMODS: Maintenance Display

DESCRIPTION	VALUE	POINT NAME
FSM controlling Chiller	On/Off	MODE_1
WSM controlling Chiller	On/Off	MODE_2
Master/Slave control	On/Off	MODE_3
Ramp Load Limited	On/Off	MODE_5
Timed Override in effect	On/Off	MODE_6
Low Cooler Suction TempA	On/Off	MODE_7
Low Cooler Suction TempB	On/Off	MODE_8
Slow Change Override	On/Off	MODE_9
Minimum OFF time active	On/Off	MODE_10
Dual Setpoint	On/Off	MODE_13
Temperature Reset	On/Off	MODE_14
Demand/Sound Limited	On/Off	MODE_15
Cooler Freeze Protection	On/Off	MODE_16
Low Temperature Cooling	On/Off	MODE_17
High Temperature Cooling	On/Off	MODE_18
Making ICE	On/Off	MODE_19
Storing ICE	On/Off	MODE_20
High SCT Circuit A	On/Off	MODE_21
High SCT Circuit B	On/Off	MODE_22
Minimum Comp. On Time	On/Off	MODE_23
Pump Off Delay Time	On/Off	MODE_24
Low Sound Mode	On/Off	MODE_25
Short Loop Override	On/Off	MODE_26

DUALCHIL: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Dual Chiller Link Good?	Yes/No		DC_LINK
Master Chiller Role	Stand Alone, Lead Chiller, Lag Chiller		MC_ROLE
Slave Chiller Role	Stand Alone, Lead Chiller, Lag Chiller		SC_ROLE
Lead Chiller Ctrl Point	snnn.n	°F	LEAD_CP
Lag Chiller Ctrl Point	snnn.n	°F	LAG_CP
Control Point	snnn.n	°F	CTRL_PNT
Cool EnteringFluid-Slave	snnn.n	°F	COOLEWTS
Cool Leaving Fluid-Slave	snnn.n	°F	COOLLWTS
Cooler Entering Fluid	snnn.n	°F	COOL_EWT
Cooler Leaving Fluid	snnn.n	°F	COOL_LWT
Lead/Lag Leaving Fluid	snnn.n	°F	DUAL_LWT
Percent Avail.Capacity	0-100	%	CAP_A
Percent Avail.Cap.Slave	0-100	%	CAP_A_S
Lag Start Delay Time	hh:mm		LAGDELAY
Load/Unload Factor	snnn.n		SMZ
Load/Unload Factor-Slave	snnn.n		SMZSLAVE
Lead SMZ Clear Commanded	Yes/No		LEADSMZC
Lag- SMZ Clear Commanded	Yes/No		LAG_SMZC
Lag Commanded Off?	Yes/No		LAG_OFF
Dual Chill Lead CapLimit	0-100	%	DCLDCAPL
Dual Chill Lag CapLimit	0-100	%	DCLGCAPL

LEARNFNS: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Fan 1 Delta SCT point 1	snnn.n	°F	F1DLTA1
Fan 1 Delta SCT point 2	snnn.n	°F	F1DLTA2
Fan 1 Delta SCT point 3	snnn.n	°F	F1DLTA3
Fan 1 Delta SCT point 4	snnn.n	°F	F1DLTA4
Fan 1 Delta SCT point 5	snnn.n	°F	F1DLTA5
Fan 2 Delta SCT point 1	snnn.n	°F	F2DLTA1
Fan 2 Delta SCT point 2	snnn.n	°F	F2DLTA2
Fan 2 Delta SCT point 3	snnn.n	°F	F2DLTA3
Fan 2 Delta SCT point 4	snnn.n	°F	F2DLTA4
Fan 2 Delta SCT point 5	snnn.n	°F	F2DLTA5
SCT Delta for Comp A1	snnn.n	°F	A1SCTDT
SCT Delta for Comp A2	snnn.n	°F	A2SCTDT
SCT Delta for Comp B1	snnn.n	°F	B1SCTDT
SCT Delta for Comp B2	snnn.n	°F	B2SCTDT
SAGP for Compressor A1	nn.n		SAGA1P
SAGM for Compressor A1	nn.n		SAGA1M
SAGP for Compressor A2	nn.n		SAGA2P
SAGM for Compressor A2	nn.n		SAGA2M
SAGP for Compressor B1	nn.n		SAGB1P
SAGM for Compressor B1	nn.n		SAGB1M
SAGP for Compressor B2	nn.n		SAGB2P
SAGM for Compressor B2	nn.n		SAGB2M

LOADFACT: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
CAPACITY CONTROL			
Load/Unload Factor	snnn.n		SMZ
Control Point	snnn.n	°F	CTRL_PNT
Entering Fluid Temp	snnn.n	°F	EWT
Leaving Fluid Temp	snnn.n	°F	LWT
Ramp Load Limited	On/Off		MODE_5
Slow Change Override	On/Off		MODE_9
Cooler Freeze Protection	On/Off		MODE_16
Low Temperature Cooling	On/Off		MODE_17
High Temperature Cooling	On/Off		MODE_18
Minimum Comp. On Time	On/Off		MODE_23

OCCUPANCY SUPERVISORY (OCCDEFM): Maintenance Display

DESCRIPTION	VALUE	POINT NAME
Current Mode (1=Occup.)	0/1	MODE
Current Occup. Period #	0-8	PER-NO
Timed-Override in Effect	Yes/No	OVERLAST
Time-Override Duration	0-4 hours	OVR_HRS
Current Occupied Time	hh:mm	STRTTIME
Current Unoccupied Time	hh:mm	ENDTIME
Next Occupied Day		NXTOCDAY
Next Occupied Time	hh:mm	NXTOCTIM
Next Unoccupied Day		NXTUNDAY
Next Unoccupied Time	hh:mm	NXTUNTIM
Previous Unoccupied Day		PRVUNDAY
Previous Unoccupied Time	hh:mm	PRVUNTIM

PM-COIL: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Coil Cleaning Srvc Inter	nnnnnn	hours	SI_COIL
Coil Service Countdown	nnnnnn	hours	CL_CDOWN
Coil Cleaning Maint.Done	Yes/No		CL_MAINT
Coil Cleaning Maint.Date	mm/dd/yy hh:mm		COIL_PM0
Coil Cleaning Maint.Date	mm/dd/yy hh:mm		COIL_PM1
Coil Cleaning Maint.Date	mm/dd/yy hh:mm		COIL_PM2
Coil Cleaning Maint.Date	mm/dd/yy hh:mm		COIL_PM3
Coil Cleaning Maint.Date	mm/dd/yy hh:mm		COIL_PM4

PM-PUMP: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Pump Service Interval	nnnnnn	hours	SI_PUMPS
Pump 1 Service Countdown	nnnnnn	hours	P1_CDOWN
Pump 1 Maintenance Done	Yes/No		P1_MAINT
Pump 2 Service Countdown	nnnnnn	hours	P2_CDOWN
Pump 2 Maintenance Done	Yes/No		P2_MAINT
Pump 1 Maintenance Date	mm/dd/yy hh:mm		PMP1_PM0
Pump 1 Maintenance Date	mm/dd/yy hh:mm		PMP1_PM1
Pump 1 Maintenance Date	mm/dd/yy hh:mm		PMP1_PM2
Pump 1 Maintenance Date	mm/dd/yy hh:mm		PMP1_PM3
Pump 1 Maintenance Date	mm/dd/yy hh:mm		PMP1_PM4
Pump 2 Maintenance Date	mm/dd/yy hh:mm		PMP2_PM0
Pump 2 Maintenance Date	mm/dd/yy hh:mm		PMP2_PM1
Pump 2 Maintenance Date	mm/dd/yy hh:mm		PMP2_PM2
Pump 2 Maintenance Date	mm/dd/yy hh:mm		PMP2_PM3
Pump 2 Maintenance Date	mm/dd/yy hh:mm		PMP2_PM4

PM-STRN: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Strainer Srvc Interval	nnnnnn	hours	SI_STRNR
Strainer Srvc Countdown	nnnnnn	hours	ST_CDOWN
Strainer Maint. Done	Yes/No		ST_MAINT
Strainer Maint. Date	mm/dd/yy hh:mm		STRN_PM0
Strainer Maint. Date	mm/dd/yy hh:mm		STRN_PM1
Strainer Maint. Date	mm/dd/yy hh:mm		STRN_PM2
Strainer Maint. Date	mm/dd/yy hh:mm		STRN_PM3
Strainer Maint. Date	mm/dd/yy hh:mm		STRN_PM4

RUNTEST: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Percent Total Capacity	nnn	%	CAPA_T
Percent Available Cap.	nnn	%	CAPA_A
Discharge Pressure	nnn.n	psig	DP_A
Suction Pressure	nnn.n	psig	SP_A
Calculated HP Setpoint A	nnn.n	°F	HSP_A
Saturated Condensing Tmp	nnn.n	°F	TMP_SCTA
Saturated Suction Temp	nnn.n	°F	TMP_SSTA
Compr Return Gas Temp	nnn.n	°F	TMP_RGTA
Suction Superheat Temp	nnn.n	^F	SH_A
Compressor A1 Relay	On/Off		K_A1_RLY
Compressor A2 Relay	On/Off		K_A2_RLY
Minimum Load Valve Relay	On/Off		MLV_RLY
Compressor A1 Feedback	On/Off		K_A1_FBK
Compressor A2 Feedback	On/Off		K_A2_FBK
Percent Total Capacity	nnn	%	CAPB_T
Percent Available Cap.	nnn	%	CAPB_A
Discharge Pressure	nnn.n	psig	DP_B
Suction Pressure	nnn.n	psig	SP_B
Calculated HP Setpoint B	nnn.n	°F	HSP_B
Saturated Condensing Tmp	nnn.n	°F	TMP_SCTB
Saturated Suction Temp	nnn.n	°F	TMP_SSTB
Compr Return Gas Temp	nnn.n	°F	TMP_RGTB
Suction Superheat Temp	nnn.n	^F	SH_B
Compressor B1 Relay	On/Off		K_B1_RLY
Compressor B2 Relay	On/Off		K_B2_RLY
Minimum Load Valve Relay	On/Off		MLV_RLY
Compressor B1 Feedback	On/Off		K_B1_FBK
Compressor B2 Feedback	On/Off		K_B2_FBK
Fan 1 Relay	On/Off		FAN_1
Fan 2 Relay	On/Off		FAN_2
Outside Air Temperature	nnn.n	°F	OAT
Space Temperature	nnn.n	°F	SPT
Cooler Pump Relay 1	On/Off		COOLPMP1
Cooler Pump Relay 2	On/Off		COOLPMP2
Cooler Pump 1 Interlock	Open/Closed		PMP1_FBK
Cooler Pump 2 Interlock	Open/Closed		PMP2_FBK
Cooler Entering Fluid	nnn.n	°F	COOL_EWT
Cooler Leaving Fluid	nnn.n	°F	COOL_LWT
Compressor A1 Size	nnn	tons	SIZE_A1
Compressor A2 Size	nnn	tons	SIZE_A2
Compressor B1 Size	nnn	tons	SIZE_B1
Compressor B2 Size	nnn	tons	SIZE_B2
Cooler Flow Switch	On/Off		COOLFLOW

STRTHOUR: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Machine Operating Hours	nnnnnn	hours	HR_MACH
Machine Starts	nnnnnn		CY_MACH
Circuit A Run Hours	nnnnnn	hours	HR_CIRA
Compressor A1 Run Hours	nnnnnn	hours	HR_A1
Compressor A2 Run Hours	nnnnnn	hours	HR_A2
Circuit B Run Hours	nnnnnn	hours	HR_CIRB
Compressor B1 Run Hours	nnnnnn	hours	HR_B1
Compressor B2 Run Hours	nnnnnn	hours	HR_B2
Circuit A Starts	nnnnnn		CY_CIRA
Compressor A1 Starts	nnnnnn		CY_A1
Compressor A2 Starts	nnnnnn		CY_A2
Circuit B Starts	nnnnnn		CY_CIRB
Compressor B1 Starts	nnnnnn		CY_B1
Compressor B2 Starts	nnnnnn		CY_B2
PUMP HOURS			
Pump 1 Run Hours	nnnnnn	hours	HR_PUMP1
Pump 2 Run Hours	nnnnnn	hours	HR_PUMP2

TESTMODE: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
Service Test Mode	On/Off		NET_CTRL
Compressor A1 Relay	On/Off		S_A1_RLY
Compressor A2 Relay	On/Off		S_A2_RLY
Compressor B1 Relay	On/Off		S_B1_RLY
Compressor B2 Relay	On/Off		S_B2_RLY
Fan 1 Relay	On/Off		S_FAN_1
Fan 2 Relay	On/Off		S_FAN_2
Cooler Pump Relay 1	On/Off		S_CLPMP1
Cooler Pump Relay 2	On/Off		S_CLPMP2
Minimum Load Valve Relay	On/Off		S_MLV
Remote Alarm Relay	On/Off		S_ALM

VERSIONS: Maintenance Display

DESCRIPTION	VERSION	VALUE
MBB	CESR131279-	nn-nn
EMM	CESR131174-	nn-nn
MARQUEE	CESR131171-	nn-nn
NAVIGATOR	CESR130227-	nn-nn

WSMDEFME: Maintenance Display

DESCRIPTION	VALUE	UNITS	POINT NAME
WSM Active?	Yes		WSMSTAT
Chilled water temp	snn.n	°F	CHWTEMP
Equipment status	On		CHLRST
Commanded state	Enable Dsable None		CHLRENA
CHW setpoint reset value	nn.n	^F	CHWRVAL
Current CHW setpoint	snn.n	°F	CHWSTPT

APPENDIX B

FACTORY SETTINGS FOR COMPRESSOR, FAN, PUMP, AND MANUAL STARTERS

UNIT SIZE 30RA	VOLTAGE V-PH-Hz	VOLTAGE SERIES	OVERLOAD RELAY (CA1) SETTING FOR COMPRESSOR A1	OVERLOAD RELAY (CA2) SETTING FOR COMPRESSOR A2	MANUAL STARTER SETTING FOR FANS FC-HS/LS	MANUAL STARTER SETTING FOR FANS FC-A1/A2	MANUAL STARTER SETTING FOR CHC (Heaters)	MANUAL STARTER (CWP1, CWP2) SETTINGS FOR PUMP OPTIONS (Model Number Position 9)				
								A/F	B/G	C/H	D/J	E/K
010	575-3-60	-100	15.5	—	3.6	—	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	24.2	—	5.5	—	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	37.1	—	9.1	—	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	41.2	—	10.1	—	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	19.2	—	4.6	—	1.8	2.8	3.1	3.1	4.4	—
	230-3-50	-800	40.9	—	7.6	—	2.5	3.4	4.8	4.8	6.1	—
	380/415-3-50	-900	23.8	—	4.6	—	1.8	2.0	2.9	2.9	3.7	—
015	575-3-60	-100	22.7	—	3.6	—	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	36.1	—	5.5	—	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	52.6	—	9.1	—	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	58.4	—	10.1	—	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	28.6	—	4.6	—	1.8	2.8	3.1	3.1	4.4	—
	230-3-50	-800	31.1	31.1	7.6	—	2.5	3.4	4.8	4.8	6.1	—
	380/415-3-50	-900	17.2	17.2	4.6	—	1.8	2.0	2.9	2.9	3.7	—
018	575-3-60	-100	13.6	13.6	3.6	—	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	21	21	5.5	—	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	31.9	31.9	9.1	—	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	35.4	35.4	10.1	—	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	16.9	16.9	4.6	—	1.8	2.8	3.1	3.1	4.4	—
	230-3-50	-800	33.7	33.7	7.6	—	2.5	3.4	4.8	4.8	6.1	—
	380/415-3-50	-900	18.7	18.7	4.6	—	1.8	2.0	2.9	2.9	3.7	—
022	575-3-60	-100	14.6	19.9	—	2.3	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	22.7	31.7	—	3.5	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	35.3	44	—	5.8	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	39.2	49	—	7.0	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	17.5	24.2	—	2.9	1.8	2.8	3.1	3.1	4.4	—
	230-3-50	-800	40.9	40.9	—	4.6	2.5	3.4	4.8	4.8	6.1	—
	380/415-3-50	-900	23.8	23.8	—	3.7	1.8	2.0	2.9	2.9	3.7	—
025	575-3-60	-100	19.9	19.9	—	2.3	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	31.7	31.7	—	3.5	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	44	44	—	5.8	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	49	49	—	7.0	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	24.2	24.2	—	2.9	1.8	2.8	3.1	3.1	4.4	—
	230-3-50	-800	49.9	49.9	—	4.6	2.5	3.4	4.8	4.8	6.1	—
	380/415-3-50	-900	29	29	—	3.7	1.8	2.0	2.9	2.9	3.7	—
030	575-3-60	-100	22.7	22.7	—	2.3	1.8	1.9	2.5	2.5	3.6	—
	380-3-60	-200	36.1	36.1	—	3.5	1.8	2.9	3.7	3.7	5.4	—
	230-3-60	-400	52.6	52.6	—	5.8	2.5	4.8	6.2	6.2	8.9	—
	208/230-3-60	-500	58.4	58.4	—	7.0	2.5	5.3	7.0	7.0	9.8	—
	460-3-60	-600	28.6	28.6	—	2.9	1.8	2.8	3.1	3.1	4.4	—

FACTORY SETTINGS FOR COMPRESSOR, FAN, PUMP, AND MANUAL STARTERS (cont)

UNIT SIZE 30RA	VOLTAGE V-PH-Hz	VOLTAGE SERIES	OVERLOAD RELAY (CA1) SETTING FOR COMPRESSOR A1	OVERLOAD RELAY (CA2) SETTING FOR COMPRESSOR A2	OVERLOAD RELAY (CB1) SETTING FOR COMPRESSOR B1	OVERLOAD RELAY (CB2) SETTING FOR COMPRESSOR B2	MANUAL STARTER FOR FANS FC-HS/LS	MANUAL STARTER SETTING FOR FC-A1/A2	MANUAL STARTER SETTING FOR CHC (Heaters)	MANUAL STARTER SETTINGS FOR PUMP OPTIONS (Model Number Position 9)				
										A/F	B/G	C/H	D/J	E/K
032	230-3-50	-800	31.4	40.9	49.9	—	7.6	4.6	2.5	—	4.8	—	6.1	10.4
	380/415-3-50	-900	17.4	23.8	29	—	4.6	3.7	1.8	—	2.9	—	3.7	6.4
035	575-3-60	-100	14.6	19.9	22.7	—	3.6	2.3	1.8	—	2.5	—	3.6	6.0
	380-3-60	-200	22.7	31.7	36.1	—	5.5	3.5	1.8	—	3.7	—	5.4	9.1
	230-3-60	-400	35.3	44	52.6	—	9.1	5.8	2.5	—	6.2	—	8.9	15.1
	208/230-3-60	-500	39.2	49	58.4	—	10.1	7.0	2.5	—	7.0	—	9.8	16.7
	460-3-60	-600	17.5	24.2	28.6	—	4.6	2.9	1.8	—	3.1	—	4.4	7.6
	230-3-50	-800	49.9	49.9	49.9	—	7.6	4.6	2.5	—	4.8	—	6.1	10.4
	380/415-3-50	-900	29	29	29	—	4.6	3.7	1.8	—	2.9	—	3.7	6.4
040	575-3-60	-100	19.9	19.9	22.7	—	3.6	2.3	1.8	—	2.5	—	3.6	6.0
	380-3-60	-200	31.7	31.7	36.1	—	5.5	3.5	1.8	—	3.7	—	5.4	9.1
	230-3-60	-400	44	44	52.6	—	9.1	5.8	2.5	—	6.2	—	8.9	15.1
	208/230-3-60	-500	49	49	58.4	—	10.1	7.0	2.5	—	7.0	—	9.8	16.7
	460-3-60	-600	24.2	24.2	28.6	—	4.6	2.9	1.8	—	3.1	—	4.4	7.6
042	230-3-50	-800	40.9	40.9	40.9	40.9	—	4.6	2.5	—	4.8	—	6.1	10.4
	380/415-3-50	-900	23.8	23.8	23.8	23.8	—	3.7	1.8	—	2.9	—	3.7	6.4
045	575-3-60	-100	15.5	19.9	15.5	19.9	—	2.3	1.8	—	2.5	—	3.6	6.0
	380-3-60	-200	24.2	31.7	24.2	31.7	—	3.5	1.8	—	3.7	—	5.4	9.1
	230-3-60	-400	37.1	44	37.1	44	—	5.8	2.5	—	6.2	—	8.9	15.1
	208/230-3-60	-500	41.2	49	41.2	49	—	7.0	2.5	—	7.0	—	9.8	16.7
	460-3-60	-600	19.2	24.2	19.2	24.2	—	2.9	1.8	—	3.1	—	4.4	7.6
	230-3-50	-800	49.9	49.9	49.9	49.9	—	4.6	2.5	—	4.8	—	6.1	10.4
	380/415-3-50	-900	29	29	29	29	—	3.7	1.8	—	2.9	—	3.7	6.4
050	575-3-60	-100	19.9	19.9	19.9	19.9	—	2.3	1.8	—	2.5	—	3.6	6.0
	380-3-60	-200	31.7	31.7	31.7	31.7	—	3.5	1.8	—	3.7	—	5.4	9.1
	230-3-60	-400	44	44	44	44	—	5.8	2.5	—	6.2	—	8.9	15.1
	208/230-3-60	-500	49	49	49	49	—	7.0	2.5	—	7.0	—	9.8	16.7
	460-3-60	-600	24.2	24.2	24.2	24.2	—	2.9	1.8	—	3.1	—	4.4	7.6
055	575-3-60	-100	22.7	22.7	22.7	22.7	—	2.3	1.8	—	2.5	—	3.6	6.0
	380-3-60	-200	36.1	36.1	36.1	36.1	—	3.5	1.8	—	3.7	—	5.4	9.1
	230-3-60	-400	52.6	52.6	52.6	52.6	—	5.8	2.5	—	6.2	—	8.9	15.1
	208/230-3-60	-500	58.4	58.4	58.4	58.4	—	7.0	2.5	—	7.0	—	9.8	16.7
	460-3-60	-600	28.6	28.6	28.6	28.6	—	2.9	1.8	—	3.1	—	4.4	7.6

APPENDIX C

Building Interface — The 30RAN chiller can be interfaced with multi-vendor control systems through 3 levels of inter-operability using BAClink, DataPort™, or DataLink™ controls. BAClink controls function as a gateway between a CCN and a BACnet™ system to facilitate the passing of data from the CCN to BACnet. The Carrier DataPort control is an interface device that allows other HVAC control systems to "read only" values in system elements connected to a CCN communication bus. The Carrier DataLink control is an interface device that allows other HVAC control systems to read and change ("read/write") values in system elements connected to a CCN bus. Both DataPort and DataLink controls request data from a specified CCN system element and translate this data into ASCII characters off network. Information from the 30RAN chiller control to support interface are listed in the following tables.

DataPort, DataLink, BAClink Object Definition

CCN TABLE NAME	DESCRIPTION	STATUS	UNITS	POINT	DataPort	DataLink	BAClink
A_UNIT	GENERAL PARAMETERS						
	Control Mode	(Modes 0-9)		STAT	RO	RO	RO
	Occupied	No/Yes		OCC	RO	RO	RO
	CCN Chiller	Start/Stop		CHIL_S_S	RO	RW	RW
	Low Sound Active	No/Yes		LSACTIVE	RO	RO	NA
	Alarm State	Normal/Alert/Alarm		ALM	RO	RO	RO
	Active Demand Limit	0 to 100	%	DEM_LIM	RO	RW	RW
	Override Modes In Effect	No/Yes		MODE	RO	RO	NA
	Percent Total Capacity	0 to 100	%	CAP_T	RO	RO	RO
	Requested Stage	0 to 99		STAGE	RO	RO	NA
	Active Setpoint	–20 to 70 (–28.8 to 21.1)	°F (°C)	SP	RO	RO	NA
	Control Point	–20 to 70 (–28.8 to 21.1)	°F (°C)	CTRL_PNT	RO	RW	RW
	Entering Fluid Temp	snnn.n	°F (°C)	EWT	RO	RO	RO
	Leaving Fluid Temp	snnn.n	°F (°C)	LWT	RO	RO	RO
	Emergency Stop	Enable/Emstop		EMSTOP	RO	RW	RW
	Minutes Left for Start	00:00 to 15:00	Minutes	MIN_LEFT	RO	RO	NA
	PUMPS						
	Cooler Pump Relay 1	Off/On		COOLPMP1	RO	RO	NA
	Cooler Pump Relay 2	Off/On		COOLPMP2	RO	RO	NA
	Cooler Pump 1 Interlock	Open/Close		PMP1_FBK	RO	RO	NA
	Cooler Pump 2 Interlock	Open/Close		PMP2_FBK	RO	RO	NA
	Cooler Flow Switch	Off/On		COOLFLOW	RO	RO	NA
	Lead Pump	0, 1, 2		LEADPUMP	RO	RO	NA
	Rotate Cooler Pumps Now	No/Yes		ROT_PUMP	RO	RO	NA
	Heat/Cool Select	Heat/Cool		HC_SEL	RO	RO	NA
CIRCADIO	CIRC. A DISCRETE OUTPUTS						
	Compressor A1 Relay	Off/On		K_A1_RLY	RO	RO	RO
	Compressor A2 Relay	Off/On		K_A2_RLY	RO	RO	RO
	Minimum Load Valve Relay	Off/On		MLV_RLY	RO	RO	NA
	CIRC. A DISCRETE INPUTS						
	Compressor A1 Feedback	Off/On		K_A1_FBK	RO	RO	NA
	Compressor A2 Feedback	Off/On		K_A2_FBK	RO	RO	NA
CIRCA_AN	CIRCUIT A ANALOG VALUES						
	Percent Total Capacity	0 to 100	%	CAPA_T	RO	RO	RO
	Percent Available Cap.	0 to 100	%	CAPA_A	RO	RO	RO
	Discharge Pressure	nnn.n	PSIG (KPA)	DP_A	RO	RO	RO
	Suction Pressure	nnn.n	PSIG (KPA)	SP_A	RO	RO	RO
	Calculated HP Setpoint A	nnn.n	°F (°C)	HSP_A	RO	RO	NA
	Saturated Condensing Tmp	snnn.n	°F (°C)	TMP_SCTA	RO	RO	RO
	Saturated Suction Temp	snnn.n	°F (°C)	TMP_SSTA	RO	RO	RO
	Compr Return Gas Temp	snnn.n	°F (°C)	TMP_RGTA	RO	RO	NA
	Suction Superheat Temp	snnn.n	dF (dC)	SH_A	RO	RO	RO
CIRCBDIO	CIRC. B DISCRETE OUTPUTS						
	Compressor B1 Relay	Off/On		K_B1_RLY	RO	RO	RO
	Compressor B2 Relay	Off/On		K_B2_RLY	RO	RO	RO
	Minimum Load Valve Relay	Off/On		MLV_RLY	RO	RO	NA
	CIRC. B DISCRETE INPUTS						
	Compressor B1 Feedback	Off/On		K_B1_FBK	RO	RO	NA
	Compressor B2 Feedback	Off/On		K_B2_FBK	RO	RO	NA
CIRCB_AN	CIRCUIT B ANALOG VALUES						
	Percent Total Capacity	0 to 100	%	CAPB_T	RO	RO	RO
	Percent Available Cap.	0 to 100	%	CAPB_A	RO	RO	RO
	Discharge Pressure	nnn.n	PSIG (KPA)	DP_B	RO	RO	RO
	Suction Pressure	nnn.n	PSIG (KPA)	SP_B	RO	RO	RO
	Calculated HP Setpoint B	nnn.n	°F (°C)	HSP_B	RO	RO	NA
	Saturated Condensing Tmp	snnn.n	°F (°C)	TMP_SCTB	RO	RO	RO
	Saturated Suction Temp	snnn.n	°F (°C)	TMP_SSTB	RO	RO	RO
	Compr Return Gas Temp	snnn.n	°F (°C)	TMP_RGTB	RO	RO	NA
	Suction Superheat Temp	snnn.n	dF (dC)	SH_B	RO	RO	RO

LEGEND

NA — Not Available
RO — Read Only
RW — Read/Write

NOTE: In order to write to any point with DataLink or BAClink controls, the machine must be configured for CCN control. CTRL *Control Method* (Configuration mode, sub-mode OPT2) must be set to 3 = CCN Control.

DataPort, DataLink, BAClink Object Definition (cont)

CCN TABLE NAME	DESCRIPTION	STATUS	UNITS	POINT	DataPort	DataLink	BAClink
OPTIONS	FANS						
	Fan 1 Relay	Off/On		FAN_1	RO	RO	RO
	Fan 2 Relay	Off/On		FAN_2	RO	RO	RO
	Cooler/Pump Heater	Off/On		COOL_HTR	RO	RO	NA
	UNIT ANALOG VALUES						
	Cooler Entering Fluid	snnn.n	°F (°C)	COOL_EWT	RO	RO	RO
	Cooler Leaving Fluid	snnn.n	°F (°C)	COOL_LWT	RO	RO	RO
	Lead/Lag Fluid	snnn.n	°F (°C)	DUAL_LWT	RO	RO	NA
	TEMPERTURE RESET						
	4-20 mA Reset Signal	nn.n	ma	RST_MA	RO	RO	RO
	Outside Air Temperature	snnn.n	°F (°C)	OAT	RO	RW	NA
	Space Temperature	snnn.n	°F (°C)	SPT	RO	RW	NA
	DEMAND LIMIT						
	4-20 mA Demand Signal	nn.n	ma	LMT_MA	RO	RO	RO
	Demand Limit Switch 1	Off/On		DMD_SW1	RO	RO	NA
	Demand Limit Switch 2	Off/On		DMD_SW2	RO	RO	NA
	CCN Loadshed Signal	0, 1, 2		DL_STAT	RO	RO	RO
	MISCELLANEOUS						
	Heat Request	Off/On		HEAT_REQ	RO	RO	NA
	Dual Setpoint Switch	Off/On		DUAL_IN	RO	RO	NA
	Cooler LWT Setpoint	snnn.n	°F (°C)	LWT_SP	RO	RO	NA
	Ice Done	Off/On		ICE_DONE	RO	RO	NA
SETPOINT	COOLING						
	Cooling Setpoint 1	–20 to 70 (–28.8 to 21.1)	°F (°C)	CSP1	NA	RW	RW
	Cooling Setpoint 2	–20 to 70 (–28.8 to 21.1)	°F (°C)	CSP2	NA	RW	NA
	Ice Setpoint	–20 to 32 (–28.8 to 0.0)	°F (°C)	CSP3	NA	RW	NA
	RAMP LOADING						
	Cooling Ramp Loading	0.2 to 2.0 (0.1 to 1.1)	dF (dC)	CRAMP	NA	RW	NA
	Brine Freeze Point	–20 to 34 (–28.8 to 1.1)	°F (°C)	BRN_FRZ	NA	RW	NA
OCCPC01S	Timed Override Hours	0	Hours	OVR-EXT	NA	RW	RW
	Period 1 DOW (MTWTFSSH)	00000000		DOW1	NA	RW	RW
	Occupied Time	00:00		OCCTOD1	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD1	NA	RW	RW
	Period 2 DOW (MTWTFSSH)	00000000		DOW2	NA	RW	RW
	Occupied Time	00:00		OCCTOD2	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD2	NA	RW	RW
	Period 3 DOW (MTWTFSSH)	00000000		DOW3	NA	RW	RW
	Occupied Time	00:00		OCCTOD3	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD3	NA	RW	RW
	Period 4 DOW (MTWTFSSH)	00000000		DOW4	NA	RW	RW
	Occupied Time	00:00		OCCTOD4	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD4	NA	RW	RW
	Period 5 DOW (MTWTFSSH)	00000000		DOW5	NA	RW	RW
	Occupied Time	00:00		OCCTOD5	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD5	NA	RW	RW
	Period 6 DOW (MTWTFSSH)	00000000		DOW6	NA	RW	RW
	Occupied Time	00:00		OCCTOD6	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD6	NA	RW	RW
	Period 7 DOW (MTWTFSSH)	00000000		DOW7	NA	RW	RW
	Occupied Time	00:00		OCCTOD7	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD7	NA	RW	RW
	Period 8 DOW (MTWTFSSH)	00000000		DOW8	NA	RW	RW
	Occupied Time	00:00		OCCTOD8	NA	RW	RW
	Unoccupied Time	00:00		UNOCTOD8	NA	RW	RW

LEGEND

NA — Not Available
RO — Read Only
RW — Read/Write

NOTE: In order to write to any point with DataLink or BAClink controls, the machine must be configured for CCN control. CTRL *Control Method* (Configuration mode, sub-mode OPT2) must be set to 3 = CCN Control.

START-UP CHECKLIST FOR 30RA LIQUID CHILLER

(Remove and use for Job File)

I. Project Information

JOB NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP_____

INSTALLING CONTRACTOR _____

SALES OFFICE _____

START-UP PERFORMED BY _____

Design Information

CAPACITY	CEAT	EWT	LWT	FLUID TYPE	FLOW RATE	P.D.

UNIT MODEL _____ SERIAL _____

II. Preliminary Equipment Check

IS THERE ANY PHYSICAL DAMAGE? ☐ YES ☐ NO

DESCRIPTION _____

_____

1. UNIT IS INSTALLED LEVEL AS PER THE INSTALLATION INSTRUCTIONS. ☐ YES ☐ NO
2. POWER SUPPLY AGREES WITH THE UNIT NAMEPLATE. ☐ YES ☐ NO
3. ELECTRICAL POWER WIRING IS INSTALLED PROPERLY. ☐ YES ☐ NO
4. UNIT IS PROPERLY GROUNDED. ☐ YES ☐ NO
5. ELECTRICAL CIRCUIT PROTECTION HAS BEEN SIZED AND INSTALLED PROPERLY. ☐ YES ☐ NO
6. ALL TERMINALS ARE TIGHT. ☐ YES ☐ NO
7. ALL PLUG ASSEMBLIES ARE TIGHT. ☐ YES ☐ NO
8. ALL CABLES AND THERMISTORS HAVE BEEN INSPECTED FOR CROSSED WIRES. ☐ YES ☐ NO
9. ALL THERMISTORS ARE FULLY INSERTED INTO WELLS. ☐ YES ☐ NO

Chilled Water System Check

1. ALL CHILLED WATER VALVES ARE OPEN. ☐ YES ☐ NO
2. ALL PIPING IS CONNECTED PROPERLY. ☐ YES ☐ NO
3. ALL AIR HAS BEEN PURGED FROM THE SYSTEM. ☐ YES ☐ NO
4. CHILLED WATER PUMP IS OPERATING WITH THE CORRECT ROTATION. ☐ YES ☐ NO

5. CHILLED WATER PUMP STARTER INTERLOCKED WITH CHILLER. ☐ YES ☐ NO

6. CHILLED WATER FLOW SWITCH IS OPERATIONAL. ☐ YES ☐ NO

7. WATER LOOP VOLUME GREATER THAN MINIMUM REQUIREMENTS. (See Table 40). ☐ YES ☐ NO

8. PROPER LOOP FREEZE PROTECTION PROVIDED TO _____ °F (°C). ☐ YES ☐ NO
   ANTIFREEZE TYPE _____ CONCENTRATION _____%.
   IF OUTDOOR AMBIENT IS BELOW 32 F (0° C) THEN ITEMS 9-11 HAVE TO BE COMPLETED TO PROVIDE COOLER FREEZE PROTECTION TO –20 F (–29 C). (REFER TO WINTER SHUTDOWN FOR PROPER COOLER WINTERIZATION PROCEDURE.)

9. OUTDOOR PIPING WRAPPED WITH ELECTRIC HEATER TAPE, INSULATED AND OPERATIONAL. ☐ YES ☐ NO

10. COOLER HEATERS INSTALLED AND OPERATIONAL. ☐ YES ☐ NO

11. CHILLED WATER PUMP CONTROLLED BY CHILLER. ☐ YES ☐ NO

III. Unit Start-Up

1. COMPRESSOR OIL LEVEL IS CORRECT. ☐ YES ☐ NO

2. VERIFY COMPRESSOR MOUNTING BOLT TORQUE IS 10-14 FT-LB. (13.5-18.9 N-M). ☐ YES ☐ NO

3. LEAK CHECK UNIT. LOCATE, REPAIR AND REPORT ANY REFRIGERANT LEAKS. ☐ YES ☐ NO

4. VOLTAGE IS WITHIN UNIT NAMEPLATE RANGE. ☐ YES ☐ NO

5. CONTROL TRANSFORMER PRIMARY CONNECTION SET FOR PROPER VOLTAGE. ☐ YES ☐ NO

6. CONTROL TRANSFORMER SECONDARY VOLTAGE = _____

7. CHECK VOLTAGE IMBALANCE: A-B _____ A-C _____ B-C _____
   AVERAGE VOLTAGE = _____ (A-B + A-C + B-C)/3
   MAXIMUM DEVIATION FROM AVERAGE VOLTAGE = _____
   VOLTAGE IMBALANCE = _____% (MAX. DEVIATION/AVERAGE VOLTAGE) X 100
   VOLTAGE IMBALANCE LESS THAN 2%. ☐ YES ☐ NO
   (DO NOT START CHILLER IF VOLTAGE IMBALANCE IS GREATER THAN 2%. CONTACT LOCAL UTILITY FOR ASSISTANCE.)

8. VERIFY COOLER FLOW RATE. ☐ YES ☐ NO

PRESSURE ENTERING COOLER	_____ psig (kPa)
PRESSURE LEAVING COOLER	_____ psig (kPa)
COOLER PRESSURE DROP	_____ psig (kPa)
Psig X 2.31 ft./psi =	_____ ft of water
kPa X 0.334 m/psi	_____ m of water
COOLER FLOW RATE	_____ gpm (l/s) (See Cooler Pressure Drop Curves from Installation, Start-up and Service Instructions)

Start and Operate Machine. Complete the Following:

1. COMPLETE COMPONENT TEST. ☐ YES ☐ NO

2. CHECK REFRIGERANT AND OIL CHARGE. ☐ YES ☐ NO

3. RECORD COMPRESSOR MOTOR CURRENT. ☐ YES ☐ NO

4. RECORD CONFIGURATION SETTINGS. ☐ YES ☐ NO

5. RECORD OPERATING TEMPERATURES AND PRESSURES. ☐ YES ☐ NO

6. PROVIDE OPERATING INSTRUCTIONS TO OWNER'S PERSONNEL. Instruction Time _____ hours.

OPERATING DATA:

RECORD THE FOLLOWING INFORMATION FROM THE PRESSURES AND TEMPERATURES MODES WHEN MACHINE IS IN A STABLE OPERATING CONDITION:

PRESSURE/TEMPERATURE

	CIRCUIT A	CIRCUIT B
DISCHARGE PRESSURE	DP.A	DP.B
SUCTION PRESSURE	SP.A	SP.B
SATURATED CONDENSING TEMP	SCT.A	SCT.B
SATURATED SUCTION TEMP	SST.A	SST.B
LIQUID LINE TEMPERATURE*		
DISCHARGE LINE TEMPERATURE*		
RETURN GAS TEMPERATURE*		

*Readings taken with a digital thermometer.

COOLER EWT	EWT	
COOLER LWT	LWT	
OUTDOOR-AIR TEMPERATURE	OAT	
CONTROL POINT	CTPT	
PERCENT TOTAL CAPACITY	CAP	
LEAD/LAG LEAVING FLUID	DLWT	(Dual Chiller Control Only)

Compressor Running Current — All readings taken at full load.

COMPRESSOR MOTOR CURRENT	L1	L2	L3
COMPRESSOR A1			
COMPRESSOR A2			
COMPRESSOR B1			
COMPRESSOR B2			

CONDENSER FAN MOTOR CURRENT	L1	L2	L3
FAN MOTOR 1			
FAN MOTOR 2			
FAN MOTOR 3			
FAN MOTOR 4			

COOLER PUMP MOTOR CURRENT	L1	L2	L3
COOLER PUMP 1			
COOLER PUMP 2			

Record Software Versions
MODE — RUN STATUS

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION
VERS	MBB		CESR-131279- _ _-_ _
	MARQ		CESR-131171- _ _-_ _
	EMM		CESR-131174- _ _-_ _
	NAVI		CESR-131227- _ _-_ _

(PRESS ENTER & ESCAPE SIMULTANEOUSLY TO OBTAIN SOFTWARE VERSIONS)

COMMENTS:

SIGNATURES:

START-UP TECHNICIAN _____

DATE _____

CUSTOMER REPRESENTATIVE _____

DATE _____

III. Unit Start-Up (cont)

RECORD CONFIGURATION SETTINGS

UNIT (Configuration Settings)

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
UNIT			UNIT CONFIGURATION	
	SZA.1	XX	COMPRESSOR A1 SIZE	
	SZA.2	XX	COMPRESSOR A2 SIZE	
	SZB.1	XX	COMPRESSOR B1 SIZE	
	SZB.2	XX	COMPRESSOR B2 SIZE	
	SH.SP	XX.X ΔF	SUPERHEAT SETPOINT	
	REFG	X	REFRIGERANT	
	FAN.S	X	FAN STAGING SELECT	

PRESS ESCAPE KEY TO DISPLAY ‘UNIT’. PRESS DOWN ARROW KEY TO DISPLAY ‘OPT1’.
PRESS ENTER KEY. RECORD CONFIGURATION INFORMATION BELOW:

OPTIONS1 (Options Configuration)

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
OPT1			UNIT OPTIONS 1 HARDWARE	
	FLUD	X	COOLER FLUID	
	MLV.S	YES/NO	MINIMUM LOAD VALVE SELECT	
	MMR.S	YES/NO	MOTORMASTER SELECT	
	RG.EN	ENBL/DSBL	RETURN GAS SENSOR ENABLE	
	CPC	ON/OFF	COOLER PUMP CONTROL	
	PM1E	YES/NO	COOLER PUMP 1 ENABLE	
	PM2E	YES/NO	COOLER PUMP 2 ENABLE	
	PM.P.S	YES/NO	COOLER PMP PERIODIC STRT	
	PM.SL	X	COOLER PUMP SELECT	
	PM.DY	XX MIN	COOLER PUMP SHUTDOWN DLY	
	PM.DT	XXXX HRS	PUMP CHANGEOVER HOURS	
	ROT.P	YES/NO	ROTATE COOLER PUMPS NOW	
	EMM	YES/NO	EMM MODULE INSTALLED	

III. Unit Start-Up (cont)

PRESS ESCAPE KEY TO DISPLAY 'OPT1'. PRESS DOWN ARROW KEY TO DISPLAY 'OPT2'. PRESS ENTER KEY.

RECORD CONFIGURATION INFORMATION BELOW.

OPTIONS2 (Options Configuration)

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
OPT2			UNIT OPTIONS 2 CONTROLS	
	CTRL	X	CONTROL METHOD	
	CCNA	XXX	CCN ADDRESS	
	CCNB	XXX	CCN BUS NUMBER	
	BAUD	X	CCN BAUD RATE	
	LOAD	X	LOADING SEQUENCE SELECT	
	LLCS	X	LEAD/LAG CIRCUIT SELECT	
	LCWT	XX.X ΔF	HIGH LCW ALERT LIMIT	
	DELY	XX	MINUTES OFF TIME	
	ICE.M	ENBL/DSBL	ICE MODE ENABLE	
	CLS.C	ENBL/DSBL	CLOSE CONTROL SELECT	
	LS.MD	X	LOW SOUND MODE SELECT	
	LS.ST	00:00	LOW SOUND START TIME	
	LS.ND	00:00	LOW SOUND END TIME	
	LS.LT	XXX %	LOW SOUND CAPACITY LIMIT	

RSET (Reset Configuration Settings)

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
RSET			RESET COOL TEMP	
	CRST	X	COOLING RESET TYPE	
	MA.DG	XX.X °F	4-20 - DEGREES RESET	
	RM.NO	XXX.X °F	REMOTE - NO RESET TEMP	
	RM.F	XXX.X °F	REMOTE - FULL RESET TEMP	
	RM.DG	XX.X °F	REMOTE - DEGREES RESET	
	RT.NO	XXX.X °F	RETURN - NO RESET TEMP	
	RT.F	XXX.X °F	RETURN - FULL RESET TEMP	
	RT.DG	XX.X °F	RETURN - DEGREES RESET	
	DMDC	X	DEMAND LIMIT SELECT	
	DM20	XXX %	DEMAND LIMIT AT 20 MA	
	SHNM	XXX	LOADSHED GROUP NUMBER	
	SHDL	XXX %	LOADSHED DEMAND DELTA	
	SHTM	XXX	MAXIMUM LOADSHED TIME	
	DLS1	XXX %	DEMAND LIMIT SWITCH 1	
	DLS2	XXX %	DEMAND LIMIT SWITCH 2	
	LLEN	ENBL/DSBL	LEAD/LAG CHILLER ENABLE	
	MSSL	SLVE/MAST	MASTER/SLAVE SELECT	
	SLVA	XXX	SLAVE ADDRESS	
	LLBL	X	LEAD/LAG BALANCE SELECT	
	LLBD	XXX	LEAD/LAG BALANCE DELTA	
	LLDY	XXX	LAG START DELAY	
	PARA	YES/NO	PARALLEL CONFIGURATION	

III. Unit Start-Up (cont)

PRESS ESCAPE KEY TO DISPLAY ‘RSET’. PRESS DOWN ARROW KEY TO DISPLAY ‘SLCT’. PRESS ENTER KEY.

RECORD CONFIGURATION INFORMATION BELOW:

SLCT (Setpoint and Ramp Load Configuration)

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
SLCT			SETPOINT AND RAMP LOAD	
	CLSP	X	COOLING SETPOINT SELECT	
	RL.S	ENBL/DSBL	RAMP LOAD SELECT	
	CRMP	X.X	COOLING RAMP LOADING	
	SCHD	XX	SCHEDULE NUMBER	
	Z.GN	X.X	DEADBAND MULTIPLIER	

PRESS ESCAPE KEY SEVERAL TIMES TO GET TO THE MODE LEVEL (BLANK DISPLAY). USE THE ARROW KEYS TO SCROLL TO THE SET POINT LED. PRESS ENTER TO DISPLAY SETPOINTS. RECORD CONFIGURATION INFORMATION BELOW:

SETPOINT

SUBMODE	ITEM	DISPLAY	DESCRIPTION	VALUE
COOL			COOLING SETPOINTS	
	CSP.1	XXX.X °F	COOLING SETPOINT 1	
	CSP.2	XXX.X °F	COOLING SETPOINT 2	
	CSP.3	XXX.X °F	ICE SETPOINT	
HEAD			HEAD PRESSURE SETPOINTS	
	HD.P.A	XXX.X °F	CALCULATED HP SETPOINT A	
	HD.P.B	XXX.X °F	CALCULATED HP SETPOINT B	
FRZ			BRINE FREEZE SETPOINT	
	BR.FZ	XXX.X °F	BRINE FREEZE POINT	

III. Unit Start-Up (cont)

COMPONENT TEST

USE ESCAPE/ARROW KEYS TO ILLUMINATE CONFIGURATION LED. PRESS ENTER TO DISPLAY 'DISP'. PRESS ENTER AGAIN TO DISPLAY 'TEST' FOLLOWED BY 'OFF'. PRESS ENTER TO STOP DISPLAY AT 'OFF' AND ENTER AGAIN SO 'OFF' DISPLAY FLASHES. 'PASS' AND 'WORD' WILL FLASH IF PASSWORD NEEDS TO BE ENTERED. PRESS ENTER TO DISPLAY PASSWORD FIELD AND USE THE ENTER KEY FOR EACH OF THE FOUR PASSWORD DIGITS. USE ARROW KEYS IF PASSWORD IS OTHER THAN STANDARD. AT FLASHING 'OFF' DISPLAY, PRESS THE UP ARROW KEY TO DISPLAY 'ON' AND PRESS ENTER. ALL LED SEGMENTS AND MODE LEDS WILL LIGHT UP. PRESS ESCAPE TO STOP THE TEST. PRESS ESCAPE TO RETURN TO THE 'DISP' DISPLAY. PRESS THE ESCAPE KEY AGAIN AND USE THE ARROW KEYS TO ILLUMINATE THE SERVICE TEST LED. PRESS ENTER TO DISPLAY 'TEST'. PRESS ENTER TO STOP DISPLAY AT 'OFF' AND ENTER AGAIN SO 'OFF' FLASHES. PRESS THE UP ARROW KEY AND ENTER TO ENABLE THE MANUAL MODE. PRESS ESCAPE AND DISPLAY NOW SAYS 'TEST' 'ON'. REFER TO THE TABLE BELOW.

Service Test Mode and Sub-Mode Directory

SUB-MODE	KEYPAD ENTRY	ITEM	DISPLAY	ITEM EXPANSION	COMMENT	Completed (Yes/No)
TEST	ENTER		ON/OFF	SERVICE TEST MODE	To Enable Service Test Mode, move Enable/Off/Remote Contact switch to OFF. Change TEST to ON. Move switch to ENABLE.	
OUTS	OUTPUTS AND PUMPS					
	ENTER	FAN1	ON/OFF	FAN 1 RELAY	SIZES 010-018, Condenser fan at low speed SIZES 022-030 Condenser fan A1 energized SIZES 032-055, Condenser fan A2 energized	
	↓	FAN2	ON/OFF	FAN 2 RELAY	SIZES 022-030, Condenser fan A2 energized SIZES 032-040, Condenser fan B1 at high speed SIZES 042-055, Condenser fan B2 energized	
	↓	CLP.1	ON/OFF	COOLER PUMP 1 RELAY		
	↓	CLP.2	ON/OFF	COOLER PUMP 2 RELAY		
	↓	CL.HT	ON/OFF	COOLER/PUMP HEATER		
	↓	RMT.A	ON/OFF	REMOTE ALARM RELAY		
CMPA	CIRCUIT A COMPRESSOR TEST					
	ENTER	CC.A1	ON/OFF	COMPRESSOR A1 RELAY		
	↓	CC.A2	ON/OFF	COMPRESSOR A2 RELAY		
	↓	MLV	ON/OFF	MINIMUM LOAD VALVE RELAY		
CMPB	CIRCUIT B COMPRESSOR TEST					
	ENTER	CC.B1	ON/OFF	COMPRESSOR B1 RELAY	See Note	
	↓	CC.B2	ON/OFF	COMPRESSOR B2 RELAY	See Note	
	↓	MLV	ON/OFF	MINIMUM LOAD VALVE RELAY	See Note	

NOTE: If the unit has a single circuit, the Circuit B items will not appear in the display, except the ability to configure circuit B will be displayed.

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE