CONNECTION.

- 5) CONFIRM VFD RATED AMPERAGE WITH MOTOR AMPERAGE TO CONFIRM COMPATIBILITY.
- 6) DELIVER VFCS IN SHIPPING SPLITS OF LENGTHS THAT CAN BE MOVED PAST OBSTRUCTIONS IN DELIVERY PATH AS INDICATED
- 7) SETUP DRIVE SET POINTS TO LOCK OUT OPERATION AT FREQUENCIES THAT MAY PROVIDE MECHANICAL RESONANCE UP TO 3 INDEPENDENT BANDS OF INDEPENDENT RANGE.
- 8) PROVIDE VARIABLE FREQUENCY DRIVES FOR CONTROL OF FANS AND PUMPS AS SHOWN ON PLANS
- 9) THE VFD'S SHALL BE PROVIDED WITH THE FOLLOWING OPTIONS
- A. INPUT LINE CONDITIONING: INTEGRAL MINIMUM INPUT 5% IMPEDANCE LINE REACTORS PREWIRED AND INSTALLED WITHIN VFD ENCLOSURE. MANUFACTURER TO LIST VALUE TO BE PROVIDED IN PROJECT SUBMITTAL.
- B. UL/NEMA 1 ENCLOSURE OR PROVIDE ENCLOSURE FOR VFD'S SUITABLE FOR OPERATING ENVIRONMENT.
- C. MANUAL/AUTOMATIC SELECTABLE BYPASS CONTACTORS
- D. DRIVE INPUT SERVICE SWITCH AND FAST ACTING SEMI-CONDUCTER FUSES SPECIFIC TO DRIVE.
- E. CIRCUIT BREAKER DISCONNECT WITH DOOR INTERLOCKED
- F. UL RATED AND LABELED 100K AIC RATED DRIVE AND BYPASS ASSEMBLY
- G. DRIVE SERVICE SWITCH
- H. CLASS 10/20/30 ADJUSTABLE OVERLOAD RELAY.
- I. PROVIDE BMS BACNET GATEWAY INTERFACE WHICH SHALL ALLOW ALL PARAMETER SETTINGS OF VFD TO BE PROGRAMMED VIA BMS CONTROL, PROVIDE CAPABILITY FOR VFD TO RETAIN THESE SETTINGS WITHIN THE NONVOLATILE MEMORY. THE VFD AND BYPASS MUST COMMUNICATE OVER THE BMS BACNET GATEWAY FOR SEAMLESS COMMUNICATIONS IN THE EVENT OF VFD FAILURE OR LOSS OF BMS COMMUNICATION. BYPASS SELECTION AND BYPASS MONITORING OF UP TO 45 POINTS SHALL BE AVAILABLE OVER THE BACNET COMMUNICATION NETWORK. BACNET SERIAL COMMUNICATION BYPASS CAPABILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO; BYPASS RUN-STOP CONTROL; THE ABILITY TO FORCE THE UNIT TO BYPASS; AND THE ABILITY TO LOCK AND UNLOCK THE KEYPAD THE BYPASS SHALL HAVE THE CAPABILITY OF ALLOWING THE DDC TO MONITOR FEEDBACK SUCH AS, BYPASS CURRENT (IN AMPS), BYPASS KILOWATT HOURS (RESETTABLE), BYPASS OPERATING HOURS (RESETTABLE), AND BYPASS LOGIC BOARD TEMPERATURE. THE DDC SHALL ALSO BE CAPABLE OF MONITORING THE BYPASS RELAYS OUTPUT STATUS, AND ALL DIGITAL INPUT STATUS, ALL BYPASS DIAGNOSTIC WARNING AND FAULT INFORMATION SHALL BE TRANSMITTED OVER THE SERIAL COMMUNICATIONS BUS. REMOTE BYPASS FAULT RESET SHALL BE POSSIBLE.
- J. THE BYPASS CONTROL SHALL MONITOR THE STATUS OF THE VFD AND BYPASS CONTACTORS AND INDICATE WHEN THERE IS A WELDED CONTACTOR CONTACT OR OPEN CONTACTOR COIL THIS FAILED CONTACTOR OPERATION SHALL BE INDICATED ON THE BYPASS LCD DISPLAY AS WELL AS OVER THE SERIAL COMMUNICATIONS PROTOCOL.
- K. PROVIDE THREE ADJUSTABLE SET POINTS TO LOCK OUT OPERATION AT FREQUENCIES THAT MAY PROVIDE MECHANICAL RESONANCE
- L. PROVIDE A SEPARATE TERMINAL STRIP FOR CONNECTION OF FREEZE, FIRE, SMOKE AND ALL DAMPERS CONTACTS AND EXTERNAL START COMMAND. ALL EXTERNAL SAFETY INTERLOCKS SHALL REMAIN FULLY FUNCTIONAL WHETHER THE SYSTEM IS IN HAND, AUTO, OR BYPASS MODES, THE REMOTE START/STOP CONTACT SHALL OPERATE IN AUTO AND BYPASS MODES THE TERMINAL STRIP SHALL ALLOW FOR INDEPENDENT CONNECTION OF UP TO FOUR (4) UNIQUE SAFETY INPUTS.
- 10) EMI/RFI FILTERS. ALL VFDS SHALL INCLUDE EMI/RFI FILTERS. THE VFD SHALL COMPLY WITH STANDARD EN 61800-3 FOR THE FIRST ENVIRONMENT, RESTRICTED LEVEL WITH UP TO 100 FEET OF MOTOR CABLES. NO EXCEPTIONS. CERTIFIED TEST LAB TEST REPORTS SHALL BE PROVIDED WITH THE SUBMITTALS.
- 11) THE MANUFACTURER SHALL PROVIDE
- A. FACTORY STARTUP SERVICE, INCLUDING COMPONENT TESTING, FIELD CHECK OF CONTROL CONNECTIONS, DOCUMENTATION STATING THAT ALL WORK AND DRIVE FUNCTIONS ARE OPERATING PROPERLY
- B. PROGRAMMING OF ALL DRIVE PARAMETERS SPECIFIC TO THIS PROJECT
- C. TWO YEAR ON SITE WARRANTY FOR PARTS AND LABOR AFTER STARTUP.
- J. AIR COOLED SINGLE SPLIT AIR CONDITIONING: HEAT PUMP
- 1) THE VARIABLE CAPACITY, HEAT PUMP SYSTEM SHALL BE A DAIKIN INVERTER DRIVEN SERIES (HEAT/COOL MODEL) SPLIT SYSTEM. THE SYSTEM SHALL CONSIST OF A CEILING CASSETTE EVAPORATOR MODEL FFQ18W2VJU9 EXCLUSIVELY MATCHED TO OUTDOOR MODEL RX18WMVJU9 DIRECT EXPANSION (DX), AIR-COOLED, DAIKIN SWING VARIABLE SPEED, INVERTER DRIVEN COMPRESSOR USING R-410A REFRIGERANT. THE OUTDOOR UNIT IS A HORIZONTAL DISCHARGE, VARIABLE SPEED, SINGLE FAN UNIT USING A SINGLE-PHASE POWER SUPPLY. THE SYSTEM SHALL HAVE A SELF DIAGNOSTIC FUNCTION, 3-MINUTE TIME DELAY MECHANISM AND HAVE A FACTORY PRE-CHARGE OF R-410A ADEQUATE FOR 33 FEET OF TOTAL LINE SET LENGTH. THE SYSTEM SHALL HAVE AUTOMATIC RESTART CAPABILITY AFTER A POWER FAILURE HAS OCCURRED AND A LOW VOLTAGE CUT-OFF FEATURE TO PREVENT STALLING DURING POWER SUPPLY ISSUES.
- 2) QUALITY ASSURANCE
- A. THE UNITS SHALL BE TESTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), IN ACCORDANCE WITH ANSI/UL C22.2 NO. 60335-2-40- HEATING AND COOLING EQUIPMENT AND BEAR THE LISTED MARK.
- B. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC).
- C. EACH COMBINATION SHALL BE RATED IN ACCORDANCE WITH AIR CONDITIONING REFRIGERATION INSTITUTE'S (ARI) STANDARD 210/240 AND BEAR THE ARI LABEL.
- D. THE SYSTEM WILL BE PRODUCED IN AN ISO 9001 AND ISO 14001 FACILITY, WHICH ARE STANDARDS SET BY THE INTERNATIONAL STANDARD ORGANIZATION (ISO). THE SYSTEM SHALL BE FACTORY TESTED FOR SAFETY AND FUNCTION.

- E. THE OUTDOOR UNIT WILL BE FACTORY CHARGED FOR A LINE SET LENGTH OF 33 FEET OF REFRIGERANT WITH R-410A REFRIGERANT.
- F. A HOLDING CHARGE OF DRY NITROGEN SHALL BE PROVIDED IN THE EVAPORATOR.
- G. SYSTEM EFFICIENCY SHALL MEET OR EXCEED 18.2 SEER2, 11.5 EER2 AND 8.4 HSPF2.
- 3) DELIVERY, STORAGE AND HANDLING
- A. UNIT SHALL BE STORED AND HANDLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- WARRANTY
- A. LIMITED WARRANTY: COMPLETE WARRANTY DETAILS ARE AVAILABLE FROM YOUR LOCAL DAIKIN REPRESENTATIVE OR AT WWW.DAIKINCOMFORT.COM. THIS WARRANTY IS PROVIDED TO YOU BY DAIKIN COMFORT TECHNOLOGIES MANUFACTURING, L.P. ("DAIKIN"), WHICH WARRANTS ALL PARTS OF THIS HEATING OR AIR CONDITIONING UNIT, AS DESCRIBED BELOW.
- B. COMMERCIAL INSTALLATIONS: THIS WARRANTY APPLIES TO HEATING AND AIR CONDITIONING UNITS INSTALLED IN BUILDINGS OTHER THAN RESIDENCES AND COVERS DEFECTS IN MATERIALS AND WORKMANSHIP THAT APPEAR UNDER NORMAL USE AND MAINTENANCE, WARRANTY COVERAGE BEGINS ON THE "INSTALLATION DATE" THE INSTALLATION DATE IS ONE OF TWO DATES: (1) THE INSTALLATION DATE IS THE DATE THAT THE UNIT IS ORIGINALLY INSTALLED. (2) IF THE DATE THE UNIT IS ORIGINALLY INSTALLED CANNOT BE VERIFIED. THE INSTALLATION DATE IS THREE MONTHS AFTER THE MANUFACTURE DATE. THE WARRANTY LASTS FOR A PERIOD UP TO 5 YEARS.
- 5) EXTENDED WARRANTY -A. NON-OWNER OCCUPIED RESIDENTIAL INSTALLATIONS: IF THE UNIT IS PROPERLY REGISTERED ONLINE WITHIN 60 DAYS AFTER THE INSTALLATION DATE, AN ADDITIONAL WARRANTY (THE "REGISTERED ADDITIONAL TERM WARRANTY") IS PROVIDED AND LASTS FOR AS LONG AS THE ORIGINAL REGISTERED OWNER ("REGISTERED OWNER") OWNS THE RESIDENCE IN WHICH THE UNIT WAS ORIGINALLY INSTALLED, FOR A PERIOD UP TO 12 YEARS AFTER THE INSTALLATION DATE. THE LIMITATION OF REGISTERED ADDITIONAL TERM WARRANTY COVERAGE TO THE ORIGINAL REGISTERED OWNER DOES NOT APPLY TO ANY OWNER OF A ONE, TWO, THREE, OR FOUR-FAMILY RESIDENCE OR A RESIDENTIAL UNIT IN A MULTIUNIT STRUCTURE IN WHICH TITLE TO AN INDIVIDUAL RESIDENTIAL UNIT IS TRANSFERRED TO THE OWNER OF THE RESIDENTIAL UNIT UNDER A CONDOMINIUM

OR COOPERATIVE SYSTEM, LOCATED IN TEXAS.

- B. NEITHER THE LIMITED OR EXTENDED WARRANTIES CONTINUE AFTER THE UNIT IS REMOVED FROM THE LOCATION WHERE I WAS ORIGINALLY INSTALLED. THE REPLACEMENT OF A PART UNDER THIS WARRANTY DOES NOT EXTEND THE WARRANTY PERIOD, IN OTHER WORDS, DAIKIN WARRANTS A REPLACEMENT PART ONLY FOR THE PERIOD REMAINING IN THE APPLICABLE WARRANTY THAT COMMENCED ON THE INSTALLATION DATE.
- 6) INSTALLATION REQUIREMENTS
- A. INSTALLATION MUST COMPLY WITH INSTALLATION MANUAL. IT IS RECOMMENDED THE SYSTEM BE INSTALLED BY A CONTRACTOR/DEALER WHO HAS BEEN THROUGH DAIKIN TRAINING PROGRAMS
- PERFORMANCE
- A. THE SYSTEM PERFORMANCE SHALL BE IN ACCORDANCE WITH AHRI 210/240 TEST CONDITIONS AS SHOWN IN THE PERFORMANCE TABLE BELOW.

ODUIDUCOOLING CAPACITY RATED (MIN. ~ MAX.)HEATING CAPACITY RATED (MIN. ~

MAX.)SEER2EER2HSPF2RX18WMVJU9FFQ18W2VJU917,400 (5,100 ~ 18,800)21,600 (5,400 ~ 21,800)18.211.58.4

- B. THE COOLING PERFORMANCE IS BASED ON 80°F DB / 67°F WB FOR THE INDOOR UNIT AND 95°F DB / 75°F WB FOR THE OUTDOOR UNIT AND 25 FEET OF PIPING. THE HEATING PERFORMANCE IS BASED ON 70°F DB / 60°F WB FOR THE INDOOR UNIT AND 47°F DB / 43°F WB FOR THE OUTDOOR UNIT AND 25 FEET OF PIPING.
- C. THE OPERATING RANGE IN COOLING WILL BE 50°F DB ~ 115°F DB, AND DOWN TO -4°F DB WHEN OPTIONAL WIND BAFFLE USED AND JUMPER IS CUT ON ODU.
- D. THE OPERATING RANGE IN HEATING WILL BE 5°F WB ~ 65°F WB.
- E. THE SYSTEM SHALL BE CAPABLE OF MAXIMUM REFRIGERANT PIPING AS FOLLOWS. FOR THE 9K BTU AND 12K BTU A MAX OF 65-5/8 FEET, WITH 49-1/4 FEET VERTICAL DIFFERENCE. FOR THE 15K BTU, AND THE 18K BTU A MAX OF 98-1/2 FEET, WITH 65-5/8 FEET MAXIMUM VERTICAL DIFFERENCE, WITHOUT ANY OIL TRAPS OR ADDITIONAL COMPONENTS.
- 8) PRODUCTS
- A. INDOOR UNIT: (1) GENERAL: THE INDOOR UNIT SHALL BE FACTORY ASSEMBLED AND PRE-WIRED WITH ALL NECESSARY ELECTRONIC AND REFRIGERANT CONTROLS. BOTH LIQUID AND SUCTION LINES MUST BE INDIVIDUALLY INSULATED BETWEEN THE OUTDOOR AND INDOOR UNITS.
- B. DÉCOR PANEL (1) THE INDOOR UNIT PANEL SHALL HAVE A WHITE FINISH OR
- A WHITE FINISH WITH A SILVER TRIM. (2) PANEL SHALL BE A FOUR-WAY AIR DISTRIBUTION TYPE
- AND BE IMPACT RESISTANT.
- (3) THE FOUR AIR DISCHARGE OUTLET LOUVERS SHALL BE INDEPENDENTLY MOTORIZED AND CONTROLLABLE. EACH LOUVER SHALL HAVE A VISUAL INDICATOR TO EASILY IDENTIFY THE LOUVER AND SIMPLIFY THE AIRFLOW CONFIGURATION.
- (4) THE AIR FLOW SHALL BE CAPABLE OF FIELD MODIFICATION TO 3-WAY AND 2-WAY AIRFLOW TO ACCOMMODATE VARIOUS INSTALLATION CONFIGURATIONS INCLUDING CORNER INSTALLATIONS.
- (5) THE PANEL SHALL BE A LOW PROFILE DESIGN, EXTENDING 5/16" BELOW THE CEILING
- (6) THE PANEL DIMENSIONS SHALL MEASURE 24-7/16" X 24-7/16" AND SHALL FIT INTO A STANDARD 2X2 CEILING GRID WITH NO OVERLAP OF ADJACENT TILES.
- C. UNIT CABINET: (1) THE INDOOR UNIT SHALL BE LOCATED IN THE CEILING.
 - (2) FRESH AIR INTAKE SHALL BE POSSIBLE BY WAY OF DIRECT DUCT INSTALLATION TO THE SIDE OF THE INDOOR

UNIT CABINET.

- (3) THE CABINET SHALL BE CONSTRUCTED WITH ABSORBING FOAMED POLYSTYRENE AND POL INSULATION
- D. FAN (1) THE EVAPORATOR FAN SHALL BE AN ASSEMB CONSISTING OF A DIRECT-DRIVEN FAN BY A MOTOR.
- (2) THE FAN SHALL BE STATICALLY AND DYNAMI BALANCED AND OPERATE ON A MOTOR WITH LUBRICATED BEARINGS.
- (3) THE INDOOR FAN SHALL OFFER A CHOICE OF SPEEDS.
- (4) THE FAN SHALL HAVE A DELAYED START WH PUT INTO HEAT OPERATION, GIVING TIME FO EVAPORATOR COIL TO HEAT UP AND PREVEN DRAFT FROM ENTERING THE ROOM.
- E. COIL: (1) THE EVAPORATOR COIL SHALL BE A NONFERF ALUMINUM FIN ON COPPER TUBE HEAT EXCH. (2) ALL TUBE JOINTS SHALL BE BRAZED WITH SILV OR PHOSCOPPER.
- (3) ALL COILS WILL BE FACTORY PRESSURE TEST (4) A CONDENSATE PAN SHALL BE PROVIDED UN COIL WITH A DRAIN CONNECTION AND LIFT ME THE LIFT MECHANISM PROVIDES UP TO 24-13/ MEASURED FROM THE DRAIN OUTLET.
- F. ELECTRICAL: (1) THE OUTDOOR UNIT SHALL BE POWERED WIT VOLTS, 1 PHASE, AND 60 HERTZ POWER. THE UNIT SHALL RECEIVE 208-230 VOLT, 1 PHASE,
- POWER FROM THE OUTDOOR UNIT. (2) THE ALLOWABLE VOLTAGE RANGE SHALL BE 1 TO 253 VOLTS.
- G. CONTROL:
- (1) THE UNIT SHALL HAVE EITHER A WIRED TYPE CONTROLLER OR A BACKLIT, WIRELESS REMO INFRA-RED CONTROLLER CAPABLE TO OPERA SYSTEM.
- (2) THE UNIT SHALL BE COMPATIBLE WITH INTER WITH A BMS SYSTEM VIA OPTIONAL LONWORK BACNET GATEWAYS.
- (3) THE UNIT SHALL BE COMPATIBLE WITH A DAI INTELLIGENT TOUCH MANAGER ADVANCED MU CONTROLLER.
- (4) THE UNIT SHALL BE COMPATIBLE WITH A DKN ADAPTER.
- (5) THE CONTROLLER SHALL BE ABLE TO DISPLA FAULT CODES EXTRACTED FROM THE INDOO AID IN TROUBLESHOOTING.
- (6) THE INDOOR UNIT MICROPROCESSOR HAS T CAPABILITY TO RECEIVE AND PROCESS COMM RETURN AIR TEMPERATURE AND INDOOR CO TEMPERATURE SENSORS ENABLED BY COMM THE REMOTE CONTROL.
- H. SOUNE (1) INDOOR UNIT SOUND LEVELS ARE AS FOLLOW
- INDOOR DAIKIN MODELCOOLING MODE SOUND LEVE DB(A)HEATING MODE SOUND LEVEL (H/M/L) DB(A)FFQ18W2VJU944 / 40 / 3244 / 40 / 32 ***VALUES ARE MEASURED APPROXIMATELY 5 FEET**

JIS STANDARD OPERATING CONDITIONS.

- J. OUTDOOR UNIT
- (1) GENERAL: THE OUTDOOR UNIT SHALL BE SPE MATCHED TO THE CORRESPONDING INDOOR U THE OUTDOOR UNIT SHALL BE COMPLETE FAC ASSEMBLED AND PRE-WIRED WITH ALL NECES ELECTRONIC AND REFRIGERANT CONTROLS. OUTDOOR SHALL BE CONTROLLED BY A MICROPROCESSOR AND DEDICATED EEV'S SH PROVIDED FOR CAPACITY CONTROL DURING F OF THE INDOOR UNIT.
- K. UNIT CABINET: (1) THE OUTDOOR UNIT SHALL BE COMPLETELY WEATHERPROOF AND CORROSION RESISTAN SHALL BE CONSTRUCTED FROM RUST-PROOF STEEL PANELS COATED WITH A BAKED ENAMI
- (2) THE OUTDOOR UNIT WILL COME FURNISHED (4) MOUNTING FEET, MOUNTED ACROSS THE TO ALLOW BOLTING TO A CEMENT PAD OR O SUPPLIED MOUNTING BRACKET.
- L. FAN: (1) THE FAN SHALL BE A DIRECT DRIVE, PROPELLI
- (2) THE MOTOR SHALL BE INVERTER DRIVEN, PER LUBRICATED TYPE BEARINGS, INHERENT.
- (3) A FAN GUARD IS PROVIDED ON THE OUTDOO PREVENT CONTACT WITH FAN OPERATION.
- (4) AIRFLOW SHALL BE HORIZONTAL DISCHARGE.
- M. COIL: (1) THE OUTDOOR COIL SHALL BE NONFERROUS CONSTRUCTION WITH CORRUGATED FIN TUBE
- (2) THE FINS ARE TO BE COVERED WITH AN ANTI-ACRYLIC RESIN AND HYDROPHILIC FILM TYPE FOR UP TO 1000 HOURS SALT SPRAY.
- (3) REFRIGERANT FLOW FROM THE CONDENSER CONTROLLED VIA A METERING DEVICE.
- (4) AUTOMATIC DEFROST WILL REMOVE ANY FRO THE OUTDOOR UNIT ALLOWING THE SYSTEM T HEATING CAPACITY.
- N. COMPRESSOR: (1) THE OUTDOOR COMPRESSOR SHALL BE A PATENTED, VARIABLE SPEED DAIKIN SWING INVERTER-DRIVEN COMPRESSOR. THE ONE PIECE ACTION REDUCES NOISE, EXTENDS LIFE, BOASTS HIGHER EFFICIENCY AND REDUCES ENERGY CONSUMPTION.
- (2) THE OUTDOOR UNIT SHALL HAVE AN ACCUMULATOR AND FOUR-WAY REVERSING VALVE.
- (3) PVE REFRIGERANT OIL SHALL BE USED TO PROVIDE IMPROVED LUBRICATION & BETTER CHEMICAL STABILITY, AND NO HYDROLYSIS, LEADING TO HIGHER PRODUCT REI IABII ITY
- (4) THE COMPRESSOR SHALL HAVE AN INTERNAL THERMAL OVERLOAD.

				(5)	THE OUTDOOR UNIT (VERTICAL HEIGHT DIF OVERALL MAXIMUM L	XAN OPERATE WITH A N FERENCE OF 65-5/8 FE ENGTH OF 98-1/2 FEET	MAXIMUM EET AND WITHOUT ANY				COMPLETELY OPERATIONAL SYS
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BLY				(0)	FUNCTION TO PREVE	NT PUMPING LIQUID RE					LOWEST POINT OF THE DRAIN PA WATER IN THE DRAIN PAN THE F
SINGLE				0. ELEC	TRICAL: THE ELECTRICAL POV		208-230 VOLT.	3)	S	AFET	ALARM SHALL BE SENT TO THE B
CALLY				(-)	1-PHASE, AND 60 HZ F	'OWER.	,		A.		AT ANY TIME A UNIT COMMAND D EXCEPT IMMEDIATELY AFTER STA
PERMANENT				(2)	THE VOLTAGE RANGE OF 187 VOLTS AND A	LIMITATIONS SHALL B	e a minimum 'S.				SHALL BE GENERATED ON THE B OPERATOR OF THE SPECIFIC FAN
THREE				P. SOU (1)	ND: OUTDOOR UNIT SOUN	ID LEVELS SHALL NOT	EXCEED:		В.		IF SOME OF THE INDOOR UNITS A ONLY THOSE INDOOR UNITS THA PROBLEMS WILL STOP. IF THE CC
				Q.							EXPERIENCING A PROBLEM, ALL I ALARM SHALL BE GENERATED ON
EN INITIALLY R THE				MOD	E SOUND LEVEL DB(A)F	X18WMVJU95455R	DB(A)HEATING		C.		THE INDOOR UNIT OPERATION W
TING A COLD				S. *VAL JIS S	UES ARE MEASURED AI TANDARD OPERATING	PROXIMATELY 3 FEET CONDITIONS.	AWAY WITH	4)	0	CCUI	CONDENSER UNIT.
ROUS, IANGER				T. SYS	TEM DIAGNOSTICS				A.		THE CONDENSER UNIT SHALL ST CONNECTED INDOOR UNITS ARE
LVER ALLOY				(1)	GENERAL: THE SYSTE PRODUCING 2-DIGIT F	M SHALL BE CAPABLE	OF				THE OPERATION OF EVEN A SING THE CONDENSER UNIT RUNNING.
STED.				U. CON	TROLS:						OPERATES ACCORDING TO THE (BY THE INDOOR UNIT. HOWEVER,
NDER THE IECHANISM.				(')	IN CONTROLLER						IS RUNNING IN COOLING OPERAT INDOOR UNITS WILL STOP, OR TH
/16" OF LIFT,				(2) V. D-C⊦	WIRED CONTROLLER IECKER SOFTWARE: TH	E D-CHECKER SOFTW	ARE HAS THE				MODE IS SWITCHED FROM FAN M INDOOR UNIT IS ABLE TO OPERAT
TH 208-230				ABIL SENS	ITY TO DISPLAY ERROR SOR ON THE SYSTEM TI	CODES AND VALUES F ROUGH THE OUTDOO	For every R Unit. The				AUTOMATIC HEATING/COOLING M MODE. CONDENSER UNIT IS ABLE
E INDOOR 60 HERTZ				SENS EXPO	SOR DATA POINTS SHAL ORT TO A SPREADSHEE	L BE GRAPHED OR RE T. THE SPREADSHEET	CORDED FOR CAN THEN BE				ONLY MODE, HEATING ONLY MOD (COEXISTING UNITS IN HEATING),
187 VOLTS				ANA	NOWLEDGE PROPER OF	POT OPERATIONAL ISS PERATION.	UES OR				(COEXISTING UNITS IN COOLING) IN COOLING AND HEATING COEXI
											(COOLING MAIN OR HEATING MAII THE CONDENSER UNIT BASED ON
		K.	COLE	O CONDENSA	TE PUMP:						AND SPEED VARIATION DATA.
REMOTE OTE									В.		A WALL MOUNTED THERMOSTAT EACH INDOOR UNIT.
ATE THE			1)	PUMP SHAI BE CAPABL	L BE IN-LINE PUMPS SI E OF OPERATION WITH	VILAR TO LITTLE GIAN 115V, SINGLE PHASE F	T. PUMP SHALL Power.				
RFACING				PUMPS SHA	ALL BE RATED AT 1.75 G WITH SINGLE POINT EL	PM AT 22 FEET OF HEA ECTRICAL CONNECTIC	AD WITH 1/20 N. PROVIDE		C.		UPON A COMMAND TO START, TH ISOLATION VALVE SHALL OPEN. II
KS OR				PUMP FOR AND CHEC	EACH SUPPLEMENTAL K VALVE AT PUMP DISC	UNIT. PROVIDE DISCON HARGE. PUMP SHALL F	NECT SWITCH				ISOLATION VALVE KUNS FULLT U
IZ INI				WIRED ELE REQUIRED.	CTRICAL CONNECTION	PROVIDE TRANSFORM	/IER AS		D.		THE COMPRESSOR(S) SHALL CYC MAINTAIN THE SPACE TEMPERAT
KIN IULTI-ZONE			2)	HIGH WATE	R LEVEL SWITCH IN RE	CEIVER SHALL SHUT D	OWN AC UNIT	5)	C	OOLI	NG MODE
			,	AND TRANS	SMIT ALARM SIGNAL TO	BMS			Δ.	•	TIME OPTIMIZATION PROGRAM, T MANUAL COMMAND.
I CLOUD WI-FI	26.	AUTO	OMATIO	C CONTROLS	- GENERAL REQUIREM	ENTS			_		
AY TWO-DIGIT		A.	WOR	K INCLUDED					В.		AFTER THE INDOOR UNIT FAN ST. CURRENT SENSING RELAY, THE T
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HE MANDS VIA				BID AWARD). THE ATC CONTRACTO OR NOT AFFILIATED WI	R SHALL BE AN INDEPI TH THE MECHANICAL (ENDENT CONTRACTOR:				CONDENSER UNIT SHALL TURN C
MANDS FROM			2)						D.		INDOOR UNIT COOLING CAPACITY
			2)	APPROVAL			3 BELOW FOR				COOLING TEMPERATURE SETPOI (ADJ.) SHALL BE MAINTAINED BET
WS:			3)	PROVIDE P	OWER FOR PANELS AN	D CONTROL DEVICES F	ROM A				TEMPERATURE AND COOLING TE MODULATING THE LINEAR EXPAN
EL (H/M/L)				SOURCE D	ESIGNATED BY THE ELE	CTRICAL CONTRACTO	K.		E.		AN INITIAL CALL FOR COOLING, W
· · · ·			4)	COORDINA CONTRACT	TE INSTALLATION SCHE OR AND GENERAL CON	DULE WITH THE MECH TRACTOR.	IANICAL				FIXED DEADBAND FROM SET TEN COMMAND THE INDOOR UNIT'S LE
AWAY WITH			5)								BASED ON THE ZONE'S EFFECTIV DEVIATION FROM SET TEMPERAT
			3)	FOR THE S	YSTEM TO BE COMPLET	ELY OPERATIONAL RE	GARDLESS OF				TEMPERATURE DROPS, THE LEV OFF CONDITION BASED ON A FIXE
ECIFICALLY				TONOTION	ON VOLTAGE, UNLESS	JINERWISE STATED.					TEMPERATURE OF -1.0°F. THE INI THERMO OFF CONDITION UNTIL T
UNIT SIZE.		В.	SUBN	MITTALS							THE CONDITION OF THE LEV (LINE STATIC MINIMUM POSITION WHILE
THE			1)	PRODUCT I FOR EACH	DATA: INCLUDE MANUF/ CONTROL DEVICE INDIC	ACTURER'S TECHNICAL CATED, LABELED WITH	LITERATURE	6)	HI	EATI	NG MODE
HALL BE PART LOAD				ADJUSTAB CAPACITIE	LE RANGE OF CONTROL S, PERFORMANCE CHAI	INDICATE DIMENSION RACTERISTICS, ELECTI	NS, RICAL		Α.		THE INDOOR UNIT SHALL BE STAI TIME OPTIMIZATION PROGRAM, T
				CHARACTE	RISTICS, FINISHES FOR	MATERIALS, AND INST REACH TYPE OF PROD	ALLATION UCT				MANUAL COMMAND.
				INDICATED					В.		AFTER THE INDOOR UNIT FAN ST. CURRENT SENSING RELAY, THE 1
FED MILD			2)	SHOP DRAY	WINGS: DETAIL EQUIPM IS, WEIGHTS, LOADS, RI	ENT ASSEMBLIES AND EQUIRED CLEARANCE	INDICATE S, METHOD OF				ALGORITHM SHALL BE ENABLED.
				FIELD ASSE FIELD CON	EMBLY, COMPONENTS, A	AND LOCATION AND SIZ	ZE OF EACH		C.		USING HEATING MODE SIGNAL FF CONTROLLER VIA SPACE THERM
WITH FOUR BASE PAN,											CONDENSER UNIT SHALL TURN C
PTIONALLY				A. Son VAL\	/ES, AND CONTROL DE\	/ICES.	ILO, DAIVIFERO,		D.		INDOOR HEATING CAPACITY IS A
LER TYPE				B. WIRI	NG DIAGRAMS: POWER	, SIGNAL, AND CONTRO	DL WIRING.				(ADJ.), WILL COMMAND THE INDO MODULATE BASED ON THE ZONE
				C. DETA	AILS OF CONTROL PANE	EL FACES, INCLUDING (CONTROLS,				TEMPERATURE AND DEVIATION F THE ZONE TEMPERATURE RISES,
RMANENTLY				INST	RUMENTS, AND LABELII	۱G.					THERMO OFF CONDITION BASED THE ZONE. THE INDOOR UNIT WIL
		C.	QUAL	LITY ASSURA	NCE						CONDITION UNTIL THE ZONE TEM INITIAL CALL FOR HEATING LIMIT.
RUNITIO			1)	INSTALLER	QUALIFICATIONS: A QU	ALIFIED INSTALLER WI	HO IS AN				ZONE TEMPERATURE CONTINUES
Ξ.				AUTHORIZE	ED REPRESENTATIVE O ANUFACTURER FOR BO	F THE AUTOMATIC CON TH INSTALLATION AND	NTROL				1.8°F - 9.0°F) BELOW SET TEMPEF SUPPLEMENTAL SOURCE OF HEA
3				WAINTENA	VUE OF UNITS REQUIRE	UTUK INS PRUJECÍ.					OF HEATING WILL REMAIN ENERGY TEMPERATURE REACHES SET TE
BE.			2)	COMPLY W REGULATIO	ITH ALL CURRENT GOV ONS INCLUDING UL, NFP	ERNING CODES, ORDIN 'A, THE LOCAL BUILDIN	IANCES, AND G CODE, NEC,				THE CONDITION OF THE LEV (LINI MINIMUM POSITION WHILE NO LO
				ETC.				7)	DI A	RY M	ODE DRY MODE IS USED TO REDUCE
EEI, KAIED			3)	MATERIALS	SAND EQUIPMENT SHAL ACTURERS REGULARI Y	L BE THE CATALOGUE	D PRODUCTS TION AND		, .		CONTENT OF THE AIR IN THE CON SIGNIFICANTLY IMPACTING ROOM
R WILL BE				INSTALLAT	ION OF AUTOMATIC TEN BE MANUFACTURER'S	IPERATURE CONTROL LATEST STANDARD DE	SYSTEMS SIGN THAT				IS ACCOMPLISHED BY REDUCING
				COMPLIES	WITH THE SPECIFICATION	ON REQUIREMENTS.					TEMPERATURE OF THE COIL'S SU DEW POINT OF THE RETURN AIR.
OST FROM TO MAINTAIN	77	A1174	ገለለጥታ			ΔΤΙΩΝΩ					COMMAND FROM THE BMS.
	21.	7010		U UUNI KULS	ULQUENCE OF UPER				В		

- A. PACKAGED AIR COOLED VRF AIR CONDITIONING HEAT PUMP UNIT 1) THE AIR-COOLED CONDITIONING AC UNIT CONSISTS OF INDOOR FAN COIL UNIT WITH HEATING AND COOLING COILS, AND A SINGLE CONDENSER AC UNIT WITH COMPRESSOR(S), DIRECT EXPANSION COILS AND AIR COOLED CONDENSER.
 - 2) THE BMS CONTRACTOR SHALL PROVIDE: A. AN INTERFACE PANEL BETWEEN EACH MICROPROCESSOR UNIT CONTROLLER AND THE BMS. CONTRACTOR SHALL PROGRAM ALL AVAILABLE INTERFACE POINTS AT THE BMS. PROVIDE A DDC CONTROL PANEL FOR THE AIR CONDITIONING SYSTEM AND ALL SENSORS AND DEVICES DESCRIBED BELOW
 - B. MOUNT AND WIRE ALL CONTROL COMPONENTS THAT ARE SHIPPED WITH THE AC UNIT THAT ARE NOT FACTORY INSTALLED.

C. FURNISH, MOUNT AND WIRE ANY ADDITIONAL COMPONENTS NOT PROVIDED BY THE AC UNIT MANUFACTURER TO ACHIEVE A COMPLETELY OPERATIONAL SYSTEM.

- PROVIDE SINGLE POINT LIQUID LEAK DETECTORS FOR THE FCU UNIT. THE LEAK DETECTOR SHALL BE INSTALLED AT THE LOWEST POINT OF THE DRAIN PAN. UPON DETECTION OF WATER IN THE DRAIN PAN, THE FCU UNIT SHALL STOP. AN ALARM SHALL BE SENT TO THE BMS WORKSTATION
- AT ANY TIME A UNIT COMMAND DOES NOT EQUAL UNIT STATUS, EXCEPT IMMEDIATELY AFTER STARTUP, A UNIT FAILURE ALARM SHALL BE GENERATED ON THE BMS THAT NOTIFIES THE BMS OPERATOR OF THE SPECIFIC FAN THAT HAS FAILED
- IF SOME OF THE INDOOR UNITS ARE EXPERIENCING A PROBLEM, ONLY THOSE INDOOR UNITS THAT ARE EXPERIENCING THE PROBLEMS WILL STOP. IF THE CONDENSER UNIT IS EXPERIENCING A PROBLEM, ALL INDOOR UNITS WILL STOP. AN ALARM SHALL BE GENERATED ON THE BMS.
- THE INDOOR UNIT OPERATION WILL BE PROHIBITED WHEN THE SET COOLING/HEATING MODE IS DIFFERENT FROM THAT OF THE CONDENSER UNIT.
- PIED MODE THE CONDENSER UNIT SHALL STOP ONLY WHEN ALL OF THE CONNECTED INDOOR UNITS ARE EXPERIENCING PROBLEMS. THE OPERATION OF EVEN A SINGLE INDOOR UNIT WILL KEEP THE CONDENSER UNIT RUNNING. THE CONDENSER UNIT OPERATES ACCORDING TO THE OPERATION MODE COMMANDED BY THE INDOOR UNIT. HOWEVER, WHEN THE CONDENSER UNIT IS RUNNING IN COOLING OPERATION, SOME OF THE OPERATING INDOOR UNITS WILL STOP, OR THE OPERATION OF THE INDOOR UNITS WILL BE PROHIBITED EVEN WHEN THE INDOOR UNIT MODE IS SWITCHED FROM FAN MODE TO HEATING MODE. INDOOR UNIT IS ABLE TO OPERATE IN COOLING, HEATING, DRY AUTOMATIC HEATING/COOLING MODE, FAN MODE AND STOP MODE CONDENSER UNIT IS ABLE TO OPERATE IN COOLING ONLY MODE, HEATING ONLY MODE, COOLING MAIN MODE (COEXISTING UNITS IN HEATING), HEATING MAIN MODE (COEXISTING UNITS IN COOLING), OR STOP MODES. WHEN UNITS IN COOLING AND HEATING COEXIST. THE OPERATION MODE (COOLING MAIN OR HEATING MAIN) WILL BE DETERMINED BY THE CONDENSER UNIT BASED ON THE REFRIGERANT PRESSURE
- A WALL MOUNTED THERMOSTAT SHALL BE PROVIDED WITH EACH INDOOR UNIT
- UPON A COMMAND TO START, THE CONDENSER WATER ISOLATION VALVE SHALL OPEN. IN OCCUPIED MODE. THE ISOLATION VALVE RUNS FULLY OPEN CONTINUOUSLY.
- THE COMPRESSOR(S) SHALL CYCLE AS NECESSARY TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (ADJ.). ING MODE
- THE INDOOR UNIT SHALL BE STARTED BASED UPON A START TIME OPTIMIZATION PROGRAM, TIME OF DAY SCHEDULE, OR MANUAL COMMAND.
- AFTER THE INDOOR UNIT FAN STATUS IS PROVEN ON VIA A CURRENT SENSING RELAY, THE TEMPERATURE CONTROL
- USING COOLING MODE SIGNAL FROM INDOOR UNIT CONTROLLER VIA SPACE THERMOSTAT COMMAND, THE CONDENSER UNIT SHALL TURN ON IN COOLING MODE.
- INDOOR UNIT COOLING CAPACITY IS ADJUSTED BY MODULATING ITS LINEAR EXPANSION VALVE (LEV) TO MAINTAIN SPACE COOLING TEMPERATURE SETPOINT (AD.L) A DEADBAND OF 1°E (ADJ.) SHALL BE MAINTAINED BETWEEN THE SPACE AIR TEMPERATURE AND COOLING TEMPERATURE SETPOINT BY MODULATING THE LINEAR EXPANSION VALVE (LEV).
- AN INITIAL CALL FOR COOLING, WHICH WILL BE BASED ON A FIXED DEADBAND FROM SET TEMPERATURE OF +1.0°F, WILL COMMAND THE INDOOR UNIT'S LEV TO OPEN AND MODULATE DEVIATION FROM SET TEMPERATURE. AS THE ZONE TEMPERATURE DROPS THE LEV WILL MODULATE TO A THERMO OFF CONDITION BASED ON A FIXED DEADBAND FROM SET TEMPERATURE OF -1.0°F. THE INDOOR UNIT WILL MAINTAIN A THERMO OFF CONDITION UNTIL THE ZONE TEMPERATURE REACHES THE INITIAL CALL FOR COOLING LIMIT. THERMO OFF IS THE CONDITION OF THE LEV (LINEAR EXPANSION VALVE) AT STATIC MINIMUM POSITION WHILE NO LOAD DEMAND.
- ING MODE THE INDOOR UNIT SHALL BE STARTED BASED UPON A START TIME OPTIMIZATION PROGRAM, TIME OF DAY SCHEDULE, OR MANUAL COMMAND.
- AFTER THE INDOOR UNIT FAN STATUS IS PROVEN ON VIA A CURRENT SENSING RELAY, THE TEMPERATURE CONTROL ALGORITHM SHALL BE ENABLED.
- USING HEATING MODE SIGNAL FROM INDOOR UNIT CONTROLLER VIA SPACE THERMOSTAT COMMAND, THE CONDENSER UNIT SHALL TURN ON IN HEATING MODE.
- INDOOR HEATING CAPACITY IS ADJUSTED TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT (ADJ.). A DEADBAND OF 2°F (ADJ.), WILL COMMAND THE INDOOR UNIT'S LEV TO OPEN AND MODULATE BASED ON THE ZONE'S EFFECTIVE SPACE TEMPERATURE AND DEVIATION FROM SET TEMPERATURE. AS THE ZONE TEMPERATURE RISES, THE LEV WILL MODULATE TO A THERMO OFF CONDITION BASED ON THE SET TEMPERATURE OF THE ZONE. THE INDOOR UNIT WILL MAINTAIN A THERMO OFF CONDITION UNTIL THE ZONE TEMPERATURE REACHES THE INITIAL CALL FOR HEATING LIMIT. IN THE EVENT THAT THE INDOOR UNIT CAN NOT MAINTAIN SET TEMPERATURE AND THE ZONE TEMPERATURE CONTINUES TO FALL, CN24 OUTPUT WILL ENERGIZE WHEN THE ZONE TEMPERATURE DROPS 4.0°F (ADJ. 1.8°F - 9.0°F) BELOW SET TEMPERATURE TO ENABLE A SUPPLEMENTAL SOURCE OF HEATING. SUPPLEMENTAL SOURCE OF HEATING WILL REMAIN ENERGIZED UNTIL ZONE TEMPERATURE REACHES SET TEMPERATURE. THERMO OFF IS THE CONDITION OF THE LEV (LINEAR EXPANSION VALVE) AT MINIMUM POSITION WHILE NO LOAD DEMAND.
- DRY MODE IS USED TO REDUCE THE MOISTURE OR LATENT CONTENT OF THE AIR IN THE CONDITIONED SPACE WITHOUT SIGNIFICANTLY IMPACTING ROOM TEMPERATURE, REDUCTION IS ACCOMPLISHED BY REDUCING THE AIRFLOW ACROSS THE INDOOR UNIT'S HEAT EXCHANGER WHILE CONTROLLING THE TEMPERATURE OF THE COIL'S SURFACE TO JUST BELOW THE DEW POINT OF THE RETURN AIR. DRY MODE IS INITIATED BY THE REMOTE CONTROLLER MODE SELECTION OR THE COMMAND FROM THE BMS.
- B. UPON INITIATING A CALL FOR DRY MODE, THE ZONE TEMPERATURE AND SET TEMPERATURE WILL BE MONITORED FOR OPERATING CONDITIONS. THE ZONE TEMPERATURE MUST BE ABOVE 64°F FOR DRY MODE TO BE EFFECTIVE AND THE INDOOR UNIT'S SET TEMPERATURE WILL AFFECT THE DRY MODE CYCLE. IF THE INDOOR UNIT IS IN A DEMAND CONDITION (ZONE TEMPERATURE IS ABOVE SET TEMPERATURE) AND THE ZONE TEMPERATURE IS WITHIN PARAMETER RANGES, THE LINEAR EXPANSION VALVE AND THE FAN WORK SIMULTANEOUSLY TO "WRING OUT" MOISTURE OR REDUCE LATENT CONTENT OF THE AIRSTREAM.
- C. WHEN THE INDOOR UNIT INLET TEMPERATURE EXCEEDS 64°F, THE CONDENSER COMPRESSOR AND THE INDOOR UNIT FAN START THE INTERMITTENT OPERATION SIMULTANEOUSLY. WHEN THE INDOOR UNIT INLET TEMPERATURE BECOMES 64°F OR LESS, THE FAN ALWAYS RUNS AT LOW SPEED. THE CONDENSER UNIT, INDOOR UNIT AND THE SOLENOID VALVE OPERATE IN THE SAME WAY AS THEY DO IN THE COOLING OPERATION WHEN THE COMPRESSOR IS TURNED ON.

			CHANGES AND REMAINS ABOVE SET TEMPERATU MODE CHANGES TO AUT CHANGES AND REMAINS BELOW SET TEMPERATU MODE CHANGES TO AUT ON, OPERATION OF SPAI COOL MODE SEQUENCE THE DECISION BY THE IN MODE CONTROL OR HEA CONDITIONS. BECAUSE AUTOMATICALLY ADJUS EFFECTIVE SET TEMPER HEATING OPERATION IS DEADBANDS ONCE SET
	9)	INDO	OR FAN MODE
		A.	THE INDOOR UNIT SHALL SPACE TEMPERATURE S 2°F (ADJ.) OR LESS.
	10)	UNOC	CUPIED MODE
		Α.	DURING THE UNOCCUPIE HEATING SETPOINT TEM PROGRAMMED SETBACH DURING UNOCCUPIED M INCREASES ABOVE THE TEMPERATURE SETPOIN UNOCCUPIED HEATING S UNIT SUPPLY FAN AND C DESCRIBED PER THE OC HEATING OR COOLING T OUTPUT CAPACITY TO M TEMPERATURES.
	11)	PROV	IDE THE FOLLOWING POI
		Α.	AI - WATER SUPPLY TEM
		В.	AI - WATER RETURN TEN
		C.	AO - WATER FLOW CONT
		D.	DI - LEAK DETECTOR ST
		E.	DI - OCCUPANCY BUTTO
		F.	DI - INDOOR FAN STATUS
	12)	g. PROV GRAF	IDE THE FOLLOWING POIL PHIC IN ADDITION TO THE
		Α.	AC UNIT COMMAND (ENA
		В.	LEAK DETECTED ALARM
		C.	OUTSIDE AIR HUMIDITY (
		D.	OUTSIDE AIR TEMPERAT
		E.	INDOOR FAN FAILURE.
	13)	F. THE A COIL CONE	COMPRESSOR FAILURE. AIR-COOLED CONDITIONIN UNIT WITH HEATING AND DENSER AC UNIT WITH CO S AND AIR-COOLED COND
B.	GENE	RAL E	XHAUST FAN

- 1) THE FAN SHALL BE STARTED/STOPPED BASED UPON A TIME OF DAY CONTINUOUSLY. FAN SHALL BE INTERLOCKED WITH THE SHALL BE DE-ENERGIZED.
- UP TO 30 SECONDS AFTER THE FAN IS DE-ENERGIZED.
- FAN IS ENABLED
- A. ALL POINTS AVAILABLE VIA A BACNET MS/TP COMMUNICATION
- APPLICABLE).
- APPLICABLE).
- RELAY).
- APPLICABLE).
- INDICATED ABOVE:
- (1) FAN FAILURE ALARM. (2) OCCUPIED/UNOCCUPIED COMMAND. (3) SPACE/AREA SERVED.

END OF SECTION

8) INDOOR AUTOMATIC COOLING/HEATING MODE

A. ACCORDING TO SET TEMPERATURE, COOLING OPERATION

STARTS IF THE ROOM TEMPERATURE IS TOO HOT AND HEATING OPERATION STARTS IF THE ROOM TEMPERATURE IS TOO COLD. PERATION, IF THE ROOM TEMPERATURE S 3.0°F (ADJ. 1.8°F - 9.0°F) OR MORE URE FOR 3 MINUTES. THE INDOOR UNIT

> TOCOOL. IF THE ROOM TEMPERATURE S 3.0°F (ADJ. 1.8°F - 9.0°F) OR MORE URE FOR 3 MINUTES, THE INDOOR UNIT TOHEAT, DURING COOL/HEAT-THERMO

ACE CONDITIONING IS ACCOMPLISHED BY E/HEAT MODE SEQUENCE. AUTO MODE IS NDOOR UNIT'S LOGIC TO SELECT COOL AT MODE CONTROL BASED ON ZONE

E THE ROOM TEMPERATURE IS STED IN ORDER TO MAINTAIN A FIXED RATURE, COOLING OPERATION AND S PERFORMED USING MODE SPECIFIC TEMPERATURE IS REACHED.

L CONTROL FAN SPEED TO MAINTAIN SETPOINT (ADJ.) WITHIN A DEADBAND OF

IED MODE, THE SPACE COOLING AND MPERATURE IS SET TO THE K TEMPERATURE SETPOINT (ADJ. MODE WHEN THE SPACE SETPOINT UNOCCUPIED COOLING SETBACK NT (ADJ.) OR DECREASES BELOW THE SETBACK TEMPERATURE (ADJ.), THE CONDENSER UNIT WILL ENERGIZE AS

CCUPIED SEQUENCE. ON A CALL FOR THE INDOOR UNIT SHALL MODULATE MAINTAIN THE UNOCCUPIED SETPOINT

INTS HARDWIRED TO THE BMS: MPERATURE MPERATURE

ITROL VALVE. TATUS.

ON STATUS. IS (VIA CURRENT SENSING RELAY).

MMAND (ONE (1) FOR EACH STAGE). INTS ON THE ASSOCIATED EQUIPMENT HARDWIRED POINTS INDICATED ABOVE: ABLE/DISABLE).

(GLOBAL POINT). TURE (GLOBAL POINT).

NG AC UNIT CONSISTS OF INDOOR FAN COOLING COILS, AND A SINGLE OMPRESSOR(S), DIRECT EXPANSION ENSER.

SCHEDULE (INITIALLY SET TO 24/7) OR MANUAL COMMAND AND RUN CORRESPONDING EXISTING RTU UNIT. FAN SHALL RUN WHENEVER THE RTU UNIT IS OPERATING. WHEN RTU IS COMMANDED OFF, FAN

2) UPON A COMMAND TO START THE FAN, THE FAN DISCHARGE DAMPER SHALL OPEN (IF APPLICABLE). WHEN THE DAMPER IS OPEN, AS SENSED BY A DAMPER END SWITCH, THE FAN SHALL ENERGIZE. UPON A COMMAND TO DE-ENERGIZE THE FAN. THE DISCHARGE DAMPER SHALL HAVE AN ADJUSTABLE TIME DELAY TO KEEP THE DAMPER OPEN

3) MOTORIZED DAMPER SHALL BE COMMANDED OPEN WHEN EXHAUST

4) PROVIDE THE FOLLOWING POINTS HARDWIRED TO THE BMS:

INTERFACE TO THE VFD (WHERE APPLICABLE) (1) AI - EXHAUST FAN VFD SPEED FEEDBACK (0-100%; WHERE

(2) AO - EXHAUST FAN VFD SPEED CONTROL (0-100%; WHERE

(3) DI - EXHAUST FAN STATUS (VIA CURRENT SENSING

(4) DI - EXHAUST FAN VFD COMMON ALARM (WHERE

(5) DO - EXHAUST FAN COMMAND (ON/OFF).

B. PROVIDE THE FOLLOWING POINTS ON THE ASSOCIATED EQUIPMENT GRAPHIC IN ADDITION TO THE HARDWIRED POINTS

-									
	Berg+Moss Arc	hitects							
BN	/ A								
BERG + M THE BEACC 473 MAIN S BEACON, N T: 845 831 1	MOSS ARCHITECTS IN BUILDING TREET No. 1 Y 12508 318	PC							
INFO@BER	INFO@BERGMOSS.COM								
STRUCTUR	STRUCTURAL/ CIVIL ENGINEERS								
Collier	Colliers COLLIERS ENGINEERING & DESIGN								
	555 Hudson Valley Ave, Ste 101 New Windsor, NY 12553								
MECHANICA	MECHANICAL ENGINEERS								
IEL	ERS								
	498 Seventh Avenue, 17th Floor South								
	New York, NY 10018								
No.	Description	Date							
1 ISSU	ED FOR BID	11/03/23							
SPR POLI UPG	ING VALLEY CE LOCKE RADES								
DRAWING N	^{IO.} M-702.00								

SEAL & SIGNATURE

JOB NUMBER

SSUE DATE: 9-27-23 WG BY: CHK BY:

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