



Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
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Date: 8/5/2024

Return Request: 8/12/2024

Project: LRAFB – Dorm 854 Renovation

Supplier: Trane Controls

Manufacturer: Various

Submittal: Temperature Controls

Submittal Number: 230923-01

Drawing # and Installation: Mechanical Drawings

ARCHITECT

ENGINEER

EECI
10 Corporate Hill Dr. Suite 100
Little Rock, AR 72205
501-244-0511

GENERAL CONTRACTOR

HGL Construction
P.O. Box 1035
Jacksonville, AR 72099
501-983-1160

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

--

CSUSA PROJECT NO.

24-7031

joseph@comfortar.com

9924 Landers Rd.
No. Little Rock, AR 72117



Submittal

LRAFB Repair Airmen Dormitory B854

Date: 07/25/2024

Project Name: LRAFB Repair Airmen Dormitory B854

Project Location: Little Rock Air Force Base, Jacksonville, AR 72099

Prepared For:

Comfort Systems USA NLR
4806 Rixey Road
North Little Rock, Arkansas 72117

Sold To: Comfort Systems USA NLR

Trane Sales Office:

Little Rock TCS SO AR
10303 Colonel Glenn Rd, Suite 1-O
Little Rock, AR 72204

Phone: 501-859-0689

Web: <http://www.trane.com>

Mechanical Engineer:

Energy Engineering Consultants
10 Corporate Hill Drive, Suite 100
Little Rock, Arkansas 72205

Architect:

Clements & Associates
507 Main Street
North Little Rock, Arkansas 72114

Trane Contracting Team:

Account Manager: Clayton Kinley
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Project Manager: John Garrison
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Design By: Camila Aravena
cepc@trane.com



Submittal Contents

The following is a list of documents included in this submittal in the order that they appear.

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Submittal Contents
Control Drawings

LRAFB Repair Airmen Dormitory B854

Little Rock Air Force Base

Jacksonville, AR 72099

Customer Contact

Comfort Systems USA NLR
4806 Rixey Road
North Little Rock, Arkansas 72117

Architect

Clements & Associates
507 Main Street
North Little Rock, Arkansas 72114

Mechanical Contractor

Energy Engineering Consultants
10 Corporate Hill Drive, Suite 100
Little Rock, Arkansas 72205

TRANE PROJECT TEAM

SALESPERSON:
Clayton Kinley

PROJECT MANAGER:
John Garrison

DESIGNED BY:
Camila Aravena



TRANE®

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TITLE				
CID:	NUM.	REVISION	DATE:	BY:
119880				
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR		PROJECT: LRAFB Repair Airmen Dormitory B854		
10303 Colonel Glenn Rd, Suite 1-0		Little Rock Air Force Base		
Little Rock, AR 72204		Jacksonville AR 72099		
501-859-0689				
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd		DWG 1 OF 54		

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2	DRAWING INDEX	0	7/25/2024	
3	LEGEND	0	7/25/2024	
4	WIRING NOTES	0	7/25/2024	
5	SYSTEM COMMUNICATION RISER	0	7/25/2024	
6	ADDRESS SCHEDULE (1)	0	7/25/2024	
7	ADDRESS SCHEDULE (2)	0	7/25/2024	
8	ADDRESS SCHEDULE (3)	0	7/25/2024	
9	PANEL ENCLOSURE LAYOUT	0	7/25/2024	
10	HVAC CONTROL SYSTEM SC - 1 WIRING DETAIL	0	7/25/2024	
11	HVAC CONTROL SYSTEM SC - 2 WIRING DETAIL	0	7/25/2024	
12	CHILLED WATER SYSTEM PIPING FLOW DIAGRAM	0	7/25/2024	
13	CHILLED WATER SYSTEM CHR - 1 WIRING DETAIL	0	7/25/2024	
14	CHILLED WATER SYSTEM SEQUENCE OF OPERATIONS	0	7/25/2024	
15	CHILLED WATER SYSTEM UC600 - 1 WIRING DETAIL	0	7/25/2024	
16	CHILLED WATER SYSTEM VFD - 1 WIRING DETAIL	0	7/25/2024	
17	HOT WATER SYSTEM PIPING FLOW DIAGRAM	0	7/25/2024	
18	HOT WATER SYSTEM SEQUENCE OF OPERATIONS	0	7/25/2024	
19	HOT WATER SYSTEM UC600 - 2 WIRING DETAIL	0	7/25/2024	
20	HOT WATER SYSTEM PROTONODE WIRING DETAIL	0	7/25/2024	
21	BOILER INTERCONNECT WIRING DIAGRAM	0	7/25/2024	
22	HOT WATER SYSTEM VFD - 2 WIRING DETAIL	0	7/25/2024	
23	ERAHU - 1 AIRFLOW DIAGRAM	0	7/25/2024	
24	ERAHU - 1 SEQUENCE OF OPERATIONS	0	7/25/2024	
25	ERAHU - 1 OAUTS - 1 WIRING DETAIL	0	7/25/2024	
26	ERAHU - 1 TERMINAL STRIP WIRING DETAIL	0	7/25/2024	
27	ERAHU - 1 UC600 - 3 WIRING DETAIL	0	7/25/2024	
28	ERAHU - 1 XM70 - 1 WIRING DETAIL	0	7/25/2024	
29	FCU - 101~122, 201~225, 229 AIRFLOW DIAGRAM	0	7/25/2024	
30	FCU - 101~122, 201~225, 229 SEQUENCE OF OPERATIONS	0	7/25/2024	
31	FCU - 101~122, 201~225, 229 UC400 - 1 ~ 22 & 26 ~ 51 WIRING DETAIL	0	7/25/2024	
32	FCU - 123 AIRFLOW DIAGRAM	0	7/25/2024	
33	FCU - 123 SEQUENCE OF OPERATIONS	0	7/25/2024	
34	FCU - 123 UC400 - 23 WIRING DETAIL	0	7/25/2024	

INDEX OF CONTROL SYSTEM DRAWINGS (2 of 2)				
DWG #	DRAWING TITLE	REVISION LEVEL	REVISION DATE	COMMENTS
35	FCU - 124~125, 226~228 AIRFLOW DIAGRAM	0	7/25/2024	
36	FCU - 124~125, 226~228 SEQUENCE OF OPERATIONS	0	7/25/2024	
37	FCU - 124~125, 226~228 UC400 - 24 ~ 25 & 52 ~ 54 WIRING DETAIL	0	7/25/2024	
38	FCU - 301 ~ 325, 329 AIRFLOW DIAGRAM	0	7/25/2024	
39	FCU - 301 ~ 325 SEQUENCE OF OPERATIONS	0	7/25/2024	
40	FCU - 301 ~ 325 UC400 - 55 ~ 70 WIRING DETAIL	0	7/25/2024	
41	FCU - 326 ~ 328 AIRFLOW DIAGRAM	0	7/25/2024	
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43	FCU - 326 ~ 328 UC400 - 71 ~ 73 WIRING DETAIL	0	7/25/2024	
44	DS - 1 ~ 3 WIRING DETAIL	0	7/25/2024	
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46	ELECTRIC METER PM - 1 WIRING DETAIL	0	7/25/2024	
47	WATER VALVE SCHEDULE (1)	0	7/25/2024	
48	WATER VALVE SCHEDULE (2)	0	7/25/2024	
49	WATER VALVE SCHEDULE (3)	0	7/25/2024	
50	WATER VALVE SCHEDULE (4)	0	7/25/2024	
51	INTERCONNECT WIRING DETAIL	0	7/25/2024	
52	DETAIL SHEET 1	0	7/25/2024	
53	DETAIL SHEET 2	0	7/25/2024	
54	BILL OF MATERIALS	0	7/25/2024	

DRAWING INDEX				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX				DWG 2 OF 54



TYPICAL FLOW SHAPE SYMBOLS



LEGEND				
CID: 119880	NUM.	REVISION		DATE: BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL		7/25/2024 CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689		PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099		
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 3 OF 54



WIRING NOTES

ELECTRICAL CONTRACTOR FOR TRANE:

- REFER TO DEVICE INSTALLATION MANUALS FOR SPECIFIC WIRING REQUIREMENTS.
- FIELD WIRING MUST BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, STATE AND LOCAL BUILDING CODES, AND APPLICABLE SECTIONS OF PROJECT SPECIFICATION.
- TAG ALL CONTROL WIRING AT EACH END OF THE CABLE OR WIRE PER TAGS SHOWN IN ATTACHED DRAWINGS.
- AVOID OVER TIGHTENING CABLE TIES AND OTHER FORMS OF CABLE WRAPS. THIS CAN DAMAGE THE WIRES INSIDE THE CABLES.
- DO NOT CABLE TIE TO INSULATED WATER, STEAM OR OTHER LINES.
- IN OPEN PLENUMS, DO NOT RUN NEAR LIGHTING BALLASTS.
- ALL PANELS AND FIELD DEVICES LISTED IN THIS DOCUMENT ARE TO BE INSTALLED BY CONTROL ELECTRICAL SUBCONTRACTOR UNLESS OTHERWISE NOTED ON DRAWINGS.
- MOUNT ALL ROOM SENSORS AND SWITCHES AS SHOWN ON THE CONSTRUCTION DOCUMENTS, UNLESS OTHERWISE DIRECTED IN WRITING BY THE OWNER AND/OR ENGINEER. IF NO DIRECTION IS PROVIDED IN THE CONSTRUCTION DOCUMENTS, THEN MOUNT AT 4FT (1.2M) ABOVE FINISHED FLOOR.
- FLEXIBLE CONDUIT IS NOT TO EXCEED 24" IN LENGTH.
- CONTROL PANELS ARE NOT TO BE USED AS JUNCTION BOXES OR RACEWAYS. WIRING THAT DOES NOT TERMINATE IN A CONTROL PANEL IS NOT TO BE RUN WITHIN THE PANEL.
- BINARY INPUT LIMITS: 1000 FT (300 M).
- 0~10 VDC ANALOG INPUT LIMITS: 300 FT (100 M).
- 0~20 MA ANALOG INPUT LIMITS: 1000 FT (300 M).
- VARIABLE RESISTANCE ANALOG INPUT LIMITS: 300 FT (100 M).
- ANALOG OUTPUT LIMITS: 1000 FT (300 M).
- BINARY OUTPUT LIMITS: 1000 FT (300 M).
- WIRING POWER FROM THE AC OUT TERMINALS TO POWER ANALOG INPUT DEVICES WILL CAUSE IMMEDIATE CONTROLLER FAILURE IF INPUT DEVICE USES HALF-WAVE RECTIFICATION. WHEN UNSURE, USE A SEPARATE SUPPLY FOR DEVICE.

GENERAL COMMUNICATION GUIDE:

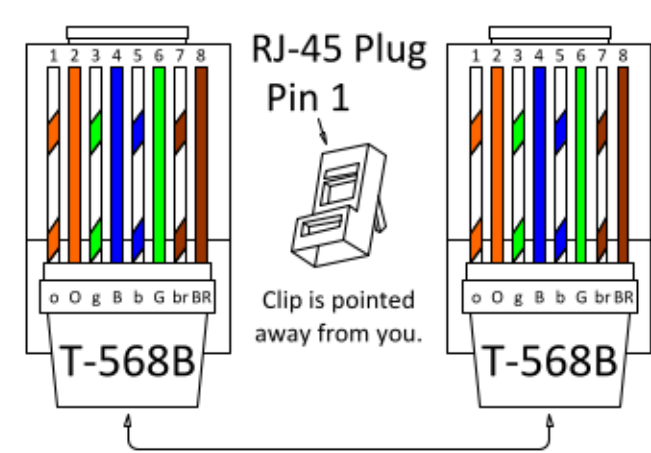
- DO NOT RUN COMMUNICATION LINK WIRING IN THE SAME CONDUIT OR WIRE BUNDLE WITH AC-POWER WIRES (INCLUDING CONDUCTORS RUNNING FROM TRIAC-TYPE OUTPUTS). KEEP POLARITY CONSISTENT THROUGHOUT THE SITE. MAKE SURE THAT THE 24 VAC POWER SUPPLIES ARE CONSISTENT IN HOW THEY ARE GROUNDED.
AVOID SHARING 24 VAC BETWEEN CONTROLLERS. USE ONLY ONE TYPE OF COMMUNICATION CABLE; DO NOT MIX CABLE. IF AN EXISTING JOB USED ALTERNATE CABLE, CONTINUE USING THE SAME CABLE AFTER APPROVAL FROM THE PROJECT MANAGER.
- BACNET MS/TP COMMUNICATION CABLE MUST BE SHIELDED TWISTED PAIR, 18 AWG MINIMUM, STRANDED, TINNED COPPER CONDUCTORS. SHIELD MUST BE CONTINUOUS THROUGHOUT, ISOLATED FROM OTHER CONDUCTORS OR GROUND, AND GROUNDED AT THE SYSTEM CONTROLLER ONLY. MAXIMUM CAPACITANCE BETWEEN CONDUCTORS IS 24 PICO FARADS PER FOOT. MAXIMUM DISTANCE IS 4000 FT (1372 M).
MAXIMUM OF 60 TRANE DEVICES PER LINK BUT LESS WHEN COMBINED WITH NON-TRANE DEVICES. A TRACER BACNET TERMINATOR IS REQUIRED AT EACH END OF THE COMMUNICATION LINK. EACH TERMINATOR REQUIRES 24 VDC POWER. EXPANSION MODULE LINK LIMIT IS 656 FT (200 M). TOPOLOGY MUST BE DAISY CHAINED.
CCP III LINK LIMIT IS 3500 FT (1090 M). 105 OHMS, 1%, 1/4 WATT TERMINATION RESISTORS ARE REQUIRED AT EACH END FOR LEVEL 4 WIRE AND 82 OHMS, 1%, 1/4 WATT AT EACH END FOR 18 AWG SHIELDED (PURPLE) WIRE. EX2 LINK LIMIT IS 1000 FT (300 M). TOPOLOGY MUST BE DAISY CHAINED.
- COMM 3 AND COMM 4 COMMUNICATION CABLE MUST BE SHIELDED TWISTED PAIR, 18 AWG MINIMUM, STRANDED, TINNED COPPER CONDUCTORS. SHIELD MUST BE CONTINUOUS THROUGHOUT, ISOLATED FROM OTHER CONDUCTORS OR GROUND, AND GROUNDED AT BCU ONLY.
MAXIMUM CAPACITANCE BETWEEN CONDUCTORS IS 24 PICO FARADS PER FOOT. MAXIMUM DISTANCE IS 5000 FT (1715 M). UNDER CERTAIN CONDITIONS, TERMINATION RESISTORS ARE REQUIRED ON A COMM 3 COMMUNICATION LINK.
- ETHERNET LAN COMMUNICATION CABLE MAXIMUM DISTANCE IS 295 FT (90 M) PLUS 33 FT (10 M) FOR PATCH CABLES.
- TRANE WIRELESS COMMUNICATION TYPICAL WCI TO WCI DISTANCE IS UP TO 200 FT (60 M) WITH COMMON BUILDING OBSTRUCTIONS. WCI IS POWERED BY 24 VDC OR 24 VAC. EACH NETWORK REQUIRES 1 WCI AS A NETWORK COORDINATOR AND SUPPORTS UP TO 30 TRANE BACNET CONTROLLERS EQUIPPED WITH WCI. TRACER SC SUPPORTS UP TO 8 NETWORK COORDINATORS AND UP TO 120 TRANE BACNET CONTROLLERS. TRACER SC NETWORK COORDINATORS MAY HAVE A COMBINED IMC WIRING LENGTH OF 656 FT (200 M). REFER TO IOM FOR DETAILS.

- MODBUS. REFER TO MANUFACTURER DOCUMENTATION FOR SPECIFIC WIRING REQUIREMENTS, TERMINATION RESISTORS, AND THE MAXIMUM NUMBER OF DEVICES SUPPORTED PER LINK. IF THIRD-PARTY PRODUCT LITERATURE IS NOT AVAILABLE, GENERAL LOW-DATA RATE GUIDELINES ARE AS FOLLOWS:
COMMUNICATION CABLE MUST BE 2-WIRE EIA/TIA-485 BRAID OR FOIL SHIELD TWISTED PAIR WIRE, 18 AWG, AND MAXIMUM CAPACITANCE BETWEEN CONDUCTIONS OF 24 PF/FT. MAXIMUM DISTANCE IS 4000FT (1200M). MAXIMUM DEVICES IS 30 DEVICES PER LINK. WIRING MUST BE ASSEMBLED IN A DAISY-CHAIN CONFIGURATION AND 1/2 WATT 120 OHM TERMINATION RESISTOR OR TRACER BACNET TERMINATOR MAY BE USED AT EACH END OF THE COMMUNICATION LINK.
- M-NET COMMUNICATION CABLE MUST BE PLENUM RATED, SHIELDED TWISTED PAIR, 16 AWG MINIMUM, STRANDED, TINNED COPPER CONDUCTORS. SHIELD MUST BE CONTINUOUS THROUGHOUT, ISOLATED FROM OTHER CONDUCTORS OR GROUND AND 2 IN. OR MORE FROM ANY POWER SOURCE WIRING. MAXIMUM CAPACITANCE BETWEEN CONDUCTORS IS 59 PICO FARADS PER FOOT. MAXIMUM DISTANCE FOR OUTDOOR UNITS IS 1640 FT (500 M). MAXIMUM DISTANCE FOR INDOOR UNITS IS 656 FT (200 M). MAXIMUM DISTANCE FOR REMOTE CONTROLLERS IS 32 FT (10 M). TOPOLOGY MUST BE DAISY CHANGED.

MECHANICAL CONTRACTOR:

- DAMPERS ARE TO BE INSTALLED BY SHEET METAL CONTRACTOR UNLESS OTHERWISE NOTED.
- CONTROL VALVES AND ACCESSORIES INSTALLED DIRECTLY INTO PIPING (SENSOR WELLS, THREADOLETS, ETC.) ARE TO BE INSTALLED BY MECHANICAL CONTRACTOR.
- FLOW DIAGRAMS SHALL NOT BE A GUIDE FOR PIPE AND VALVE INSTALLATION. REFER TO THE VALVE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR INSTALLATION GUIDANCE.

ETHERNET CAT6 T-568B WIRING DETAIL



FLAG POINT SYMBOLS

- 1 FLAG. FOR GENERAL NOTES.
- ▲ TRIANGLE. FOR REVISIONS.
- ◆ DIAMOND. FOR RETROFIT NOTES.
- SQUARE. MISCELLANEOUS NOTE.
- ⓪ OCTAGON. MISCELLANEOUS NOTE.
- ⬠ PENTAGON. MISCELLANEOUS NOTE.

CABLE MATRIX			
KEY	PART NO*	DESCRIPTION	WIRE COLORS
A	052003-S	18/2 TWIST SHLD VIOLET PLENUM CABLE	WHT, BLK
B	N/A	FACTORY PROVIDED CABLE	
C	105500	22/2 TWIST NON-SHLD BLUE COMM PLENUM CABLE	WHT, BLU/BLU
D	002320-S	18/2 TWIST SHLD WHITE PLENUM CABLE	WHT, BLK
E	002330-S	18/3 TWIST SHLD WHITE PLENUM CABLE	WHT, BLK, RED
F	002340-S	18/4 TWIST SHLD WHITE PLENUM CABLE	WHT, BLK, RED, GRN
G	002351	18/6 TWIST SHLD WHITE PLENUM CABLE	WHT, BLK, RED, GRN, BLU, BRN
H	6200FH	BELDEN 16/2 TWIST SHLD PLENUM CABLE	RED, BLK
J	N/A	1 PAIR #14 THHN STRANDED IN CONDUIT	
L	N/A	ETHERNET RG58 THINNET PLENUM CABLE	
M	555619-S	ETHERNET CAT-5 PLENUM CABLE	WHT, BLK, RED, GRN, BLU, YEL, ORN, BRN
O	002352-S	18/8 TWIST SHLD WHITE PLENUM CABLE	WHT, BLK, RED, GRN, BLU, YEL, ORN, BRN
P	106502-S	22/2 TWIST SHLD ORANGE COMM PLENUM CABLE	BLK, RED
Q	761360-S	16/2 SOLID RED SMOKE DETECTOR PLENUM CABLE	WHT, RED
2C	N/A	18/2 SOLID THERMOSTAT PLENUM CABLE	WHT, RED
3C	N/A	18/3 SOLID THERMOSTAT PLENUM CABLE	WHT, RED, GRN
5C	510005-S	18/5 SOLID THERMOSTAT PLENUM CABLE	WHT, RED, GRN, YEL, BLU
8C	510007-S	18/8 SOLID THERMOSTAT PLENUM CABLE	WHT, RED, GRN, YEL, BLU, ORN, BLK, BRN
10C	N/A	18/10 SOLID THERMOSTAT PLENUM CABLE	WHT, RED, GRN, YEL, BLU, ORN, BLK, BRN, PNK, GRY
12C	N/A	18/12 SOLID THERMOSTAT PLENUM CABLE	WHT, RED, GRN, YEL, BLU, ORN, BLK, BRN, PNK, GRY, PUR, TAN

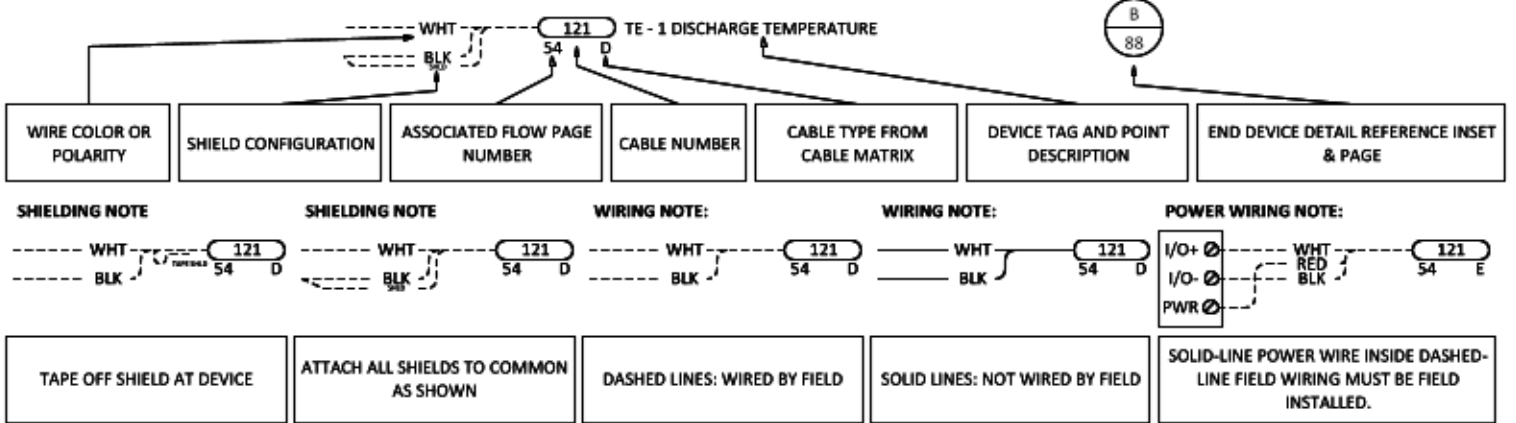
* TRANE APPROVED WINDY CITY PART NUMBERS. WHEN ORDERING CABLE SPECIFY JACKET COLOR. PART NUMBERS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

CABLE MATRIX NOTES

ALL CABLE WIRING METHODS MUST BE TRANE RECOMMENDED. CONTACT TRANE FOR RECOMMENDED CABLES AND SPECIFICATIONS

CABLE INFORMATION SHAPE (CIS)

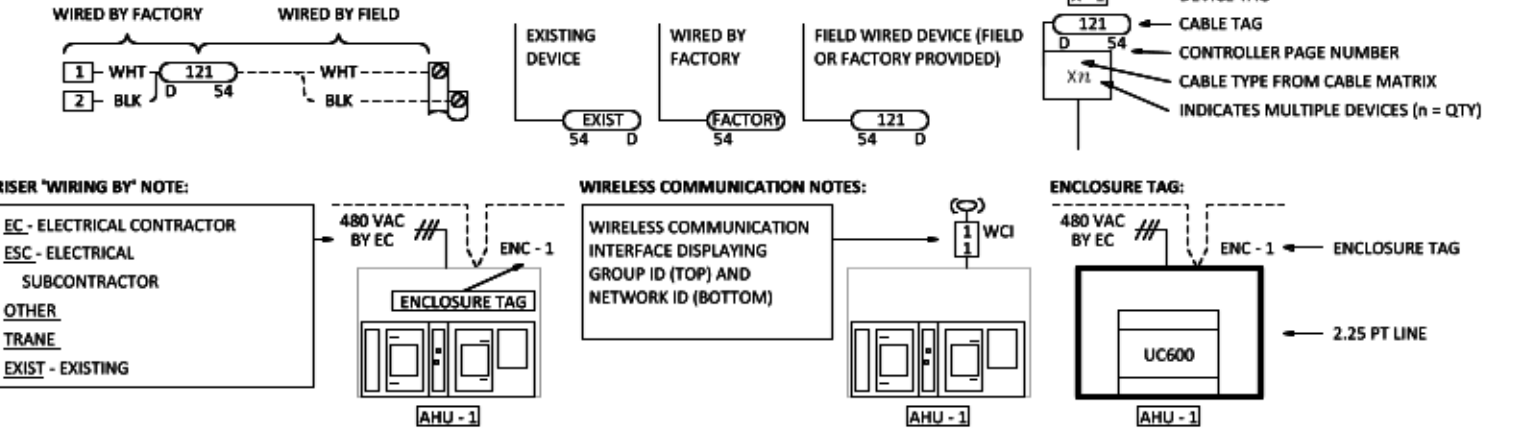
EACH CABLE CONNECTION HAS A CIS WHICH PROVIDES SOME OR ALL OF THE INFORMATION INDICATED BELOW



FACTORY MOUNTED DEVICE WITH FIELD MOUNTED CONTROLLER:

FIELD, FACTORY AND EXISTING DEVICE NOTES:

FLOW SHAPE NOTES:



INTERCONNECT WIRING DETAIL REFERENCE:

A 12 INTERCONNECT WIRING DETAIL REFERENCE INSET LETTER (TOP), PAGE NUMBER (BOTTOM)

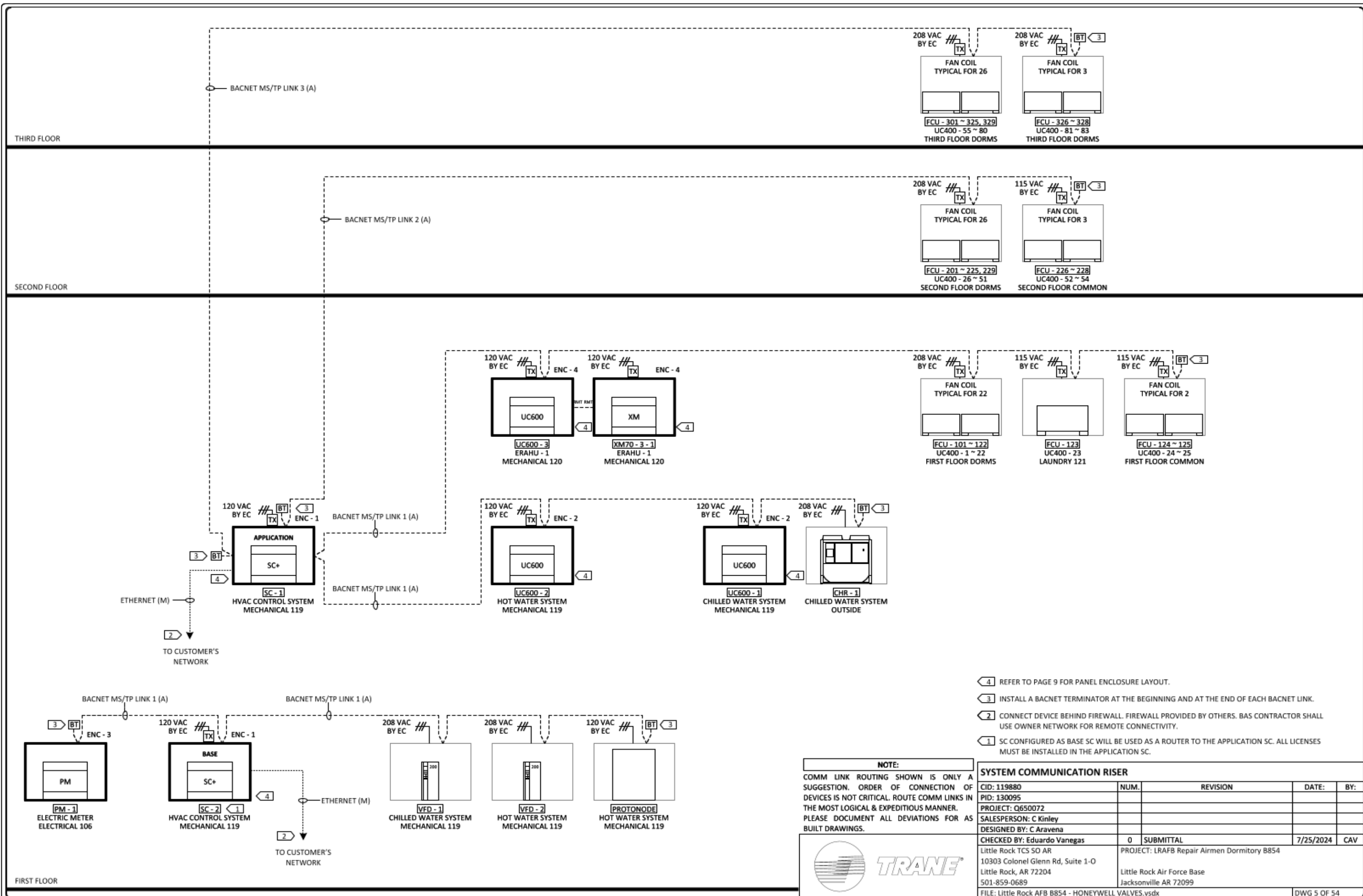
RISER TERMINATION DEVICES

- BT BACNET TERMINATOR
- R TERMINATION RESISTOR

WIRING NOTES

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
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SALESPERSON: C Kinley				
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Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw				DWG 4 OF 54





ADDRESS SCHEDULE (1 of 3)														
ITEM	LINK TYPE	LINK	RISER TAG	CONTROLLER/SYSTEM	LOCATION	AREA SERVED	GRP.	NET.	ADD.	WIRELESS SENSOR ADDRESS	IP ADDRESS	SUBNET MASK	GATEWAY	NOTE
1	BACnet	SC - 1 BACNET LINK 1	CHILLED WATER SYSTEM	UC600 - 1	MECHANICAL 119	BUILDING			001					
2	BACnet	SC - 1 BACNET LINK 1	CHR - 1	CHR - 1	OUTSIDE	CHILLED WATER SYSTEM			002					
3	BACnet	SC - 1 BACNET LINK 1	ERAHU - 1	UC600 - 3	MECHANICAL 120	BUILDING			004					
4	BACnet	SC - 1 BACNET LINK 1	FCU - 101	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 113			005					
5	BACnet	SC - 1 BACNET LINK 1	FCU - 102	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 112			006					
6	BACnet	SC - 1 BACNET LINK 1	FCU - 103	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 111			007					
7	BACnet	SC - 1 BACNET LINK 1	FCU - 104	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 114			008					
8	BACnet	SC - 1 BACNET LINK 1	FCU - 105	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 115			009					
9	BACnet	SC - 1 BACNET LINK 1	FCU - 106	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 110			010					
10	BACnet	SC - 1 BACNET LINK 1	FCU - 107	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 109			011					
11	BACnet	SC - 1 BACNET LINK 1	FCU - 108	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 116			012					
12	BACnet	SC - 1 BACNET LINK 1	FCU - 109	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 117			013					
13	BACnet	SC - 1 BACNET LINK 1	FCU - 110	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 108			014					
14	BACnet	SC - 1 BACNET LINK 1	FCU - 111	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 107			015					
15	BACnet	SC - 1 BACNET LINK 1	FCU - 112	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 118			016					
16	BACnet	SC - 1 BACNET LINK 1	FCU - 113	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 133			017					
17	BACnet	SC - 1 BACNET LINK 1	FCU - 114	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 124			018					
18	BACnet	SC - 1 BACNET LINK 1	FCU - 115	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 132			019					
19	BACnet	SC - 1 BACNET LINK 1	FCU - 116	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 125			020					
20	BACnet	SC - 1 BACNET LINK 1	FCU - 117	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 131			021					
21	BACnet	SC - 1 BACNET LINK 1	FCU - 118	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 126			022					
22	BACnet	SC - 1 BACNET LINK 1	FCU - 119	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 130			023					
23	BACnet	SC - 1 BACNET LINK 1	FCU - 120	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 127			024					
24	BACnet	SC - 1 BACNET LINK 1	FCU - 121	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 129			025					
25	BACnet	SC - 1 BACNET LINK 1	FCU - 122	FCU - 101 ~ 122	UTILITY CORRIDOR 104A	DORM 128			026					
26	BACnet	SC - 1 BACNET LINK 1	FCU - 123	FCU - 123	STORAGE 101	ENTRY 100			027					
27	BACnet	SC - 1 BACNET LINK 1	FCU - 124	FCU - 124 ~ 125	STORAGE 101	ENTRY 100			028					
28	BACnet	SC - 1 BACNET LINK 1	FCU - 125	FCU - 124 ~ 125	DAY ROOM 103	DAY ROOM 103			029					
29	BACnet	SC - 1 BACNET LINK 1	HOT WATER SYSTEM	UC600 - 2	MECHANICAL 119	BUILDING			003					
30	BACnet	SC - 1 BACNET LINK 2	FCU - 201	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 211			001					
31	BACnet	SC - 1 BACNET LINK 2	FCU - 202	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 212			002					
32	BACnet	SC - 1 BACNET LINK 2	FCU - 203	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 213			003					
33	BACnet	SC - 1 BACNET LINK 2	FCU - 204	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 210			004					
34	BACnet	SC - 1 BACNET LINK 2	FCU - 205	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 209			005					
35	BACnet	SC - 1 BACNET LINK 2	FCU - 206	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 214			006					
36	BACnet	SC - 1 BACNET LINK 2	FCU - 207	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 215			007					
37	BACnet	SC - 1 BACNET LINK 2	FCU - 208	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 208			008					
38	BACnet	SC - 1 BACNET LINK 2	FCU - 209	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 207			009					
39	BACnet	SC - 1 BACNET LINK 2	FCU - 210	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 216			010					
40	BACnet	SC - 1 BACNET LINK 2	FCU - 211	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 217			011					
41	BACnet	SC - 1 BACNET LINK 2	FCU - 212	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 206			012					
42	BACnet	SC - 1 BACNET LINK 2	FCU - 213	FCU - 201 ~ 225, 229	CORRIDOR 202A	DORM 218			013					



ADDRESS SCHEDULE				
CID: 119880	NUM.	REVISION		DATE:
PID: 130095				BY:
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL		7/25/2024 CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689		PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099		
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 6 OF 54

ADDRESS SCHEDULE (2 of 3)

ITEM	LINK TYPE	LINK	RISER TAG	CONTROLLER/SYSTEM	LOCATION	AREA SERVED	GRP.	NET.	ADD.	WIRELESS SENSOR ADDRESS	IP ADDRESS	SUBNET MASK	GATEWAY	NOTE
43	BACnet	SC - 1 BACNET LINK 2	FCU - 214	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 223			014					
44	BACnet	SC - 1 BACNET LINK 2	FCU - 215	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 234			015					
45	BACnet	SC - 1 BACNET LINK 2	FCU - 216	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 233			016					
46	BACnet	SC - 1 BACNET LINK 2	FCU - 217	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 224			017					
47	BACnet	SC - 1 BACNET LINK 2	FCU - 218	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 225			018					
48	BACnet	SC - 1 BACNET LINK 2	FCU - 219	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 232			019					
49	BACnet	SC - 1 BACNET LINK 2	FCU - 220	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 231			020					
50	BACnet	SC - 1 BACNET LINK 2	FCU - 221	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 226			021					
51	BACnet	SC - 1 BACNET LINK 2	FCU - 222	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 227			022					
52	BACnet	SC - 1 BACNET LINK 2	FCU - 223	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 230			023					
53	BACnet	SC - 1 BACNET LINK 2	FCU - 224	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 229			024					
54	BACnet	SC - 1 BACNET LINK 2	FCU - 225	FCU - 201 ~ 225, 229	CORRIDOR 202B	DORM 228			025					
55	BACnet	SC - 1 BACNET LINK 2	FCU - 226	FCU - 226 ~ 228	LAUNDRY 220	LAUNDRY 220			027					
56	BACnet	SC - 1 BACNET LINK 2	FCU - 227	FCU - 226 ~ 228	KITCHEN 205	ENTRY 200			028					
57	BACnet	SC - 1 BACNET LINK 2	FCU - 228	FCU - 226 ~ 228	DAYROOM 201	DAYROOM 201			029					
58	BACnet	SC - 1 BACNET LINK 2	FCU - 229	FCU - 201 ~ 225, 229	LAUNDRY 220	LAUNDRY 220			026					
59	BACnet	SC - 1 BACNET LINK 3	FCU - 301	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 311			001					
60	BACnet	SC - 1 BACNET LINK 3	FCU - 302	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 312			002					
61	BACnet	SC - 1 BACNET LINK 3	FCU - 303	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 313			003					
62	BACnet	SC - 1 BACNET LINK 3	FCU - 304	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 310			004					
63	BACnet	SC - 1 BACNET LINK 3	FCU - 305	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 309			005					
64	BACnet	SC - 1 BACNET LINK 3	FCU - 306	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 314			006					
65	BACnet	SC - 1 BACNET LINK 3	FCU - 307	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 315			007					
66	BACnet	SC - 1 BACNET LINK 3	FCU - 308	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 308			008					
67	BACnet	SC - 1 BACNET LINK 3	FCU - 309	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 307			009					
68	BACnet	SC - 1 BACNET LINK 3	FCU - 310	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 316			010					
69	BACnet	SC - 1 BACNET LINK 3	FCU - 311	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 317			011					
70	BACnet	SC - 1 BACNET LINK 3	FCU - 312	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 306			012					
71	BACnet	SC - 1 BACNET LINK 3	FCU - 313	FCU - 301 ~ 325, 329	CORRIDOR 302A	DORM 318			013					
72	BACnet	SC - 1 BACNET LINK 3	FCU - 314	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 334			014					
73	BACnet	SC - 1 BACNET LINK 3	FCU - 315	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 323			015					
74	BACnet	SC - 1 BACNET LINK 3	FCU - 316	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 324			016					
75	BACnet	SC - 1 BACNET LINK 3	FCU - 317	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 333			017					
76	BACnet	SC - 1 BACNET LINK 3	FCU - 318	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 332			018					
77	BACnet	SC - 1 BACNET LINK 3	FCU - 319	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 325			019					
78	BACnet	SC - 1 BACNET LINK 3	FCU - 320	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 326			020					
79	BACnet	SC - 1 BACNET LINK 3	FCU - 321	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 331			021					
80	BACnet	SC - 1 BACNET LINK 3	FCU - 322	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 327			022					
81	BACnet	SC - 1 BACNET LINK 3	FCU - 323	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 330			023					
82	BACnet	SC - 1 BACNET LINK 3	FCU - 324	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 328			024					
83	BACnet	SC - 1 BACNET LINK 3	FCU - 325	FCU - 301 ~ 325, 329	CORRIDOR 302B	DORM 329			025					
84	BACnet	SC - 1 BACNET LINK 3	FCU - 326	FCU - 326 ~ 328	LAUNDRY 320	LAUNDRY 320			026					
85	BACnet	SC - 1 BACNET LINK 3	FCU - 327	FCU - 326 ~ 328	STORAGE 305	ENTRY 300			027					

ADDRESS SCHEDULE (2)

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX				DWG 7 OF 54



ADDRESS SCHEDULE (3 of 3)

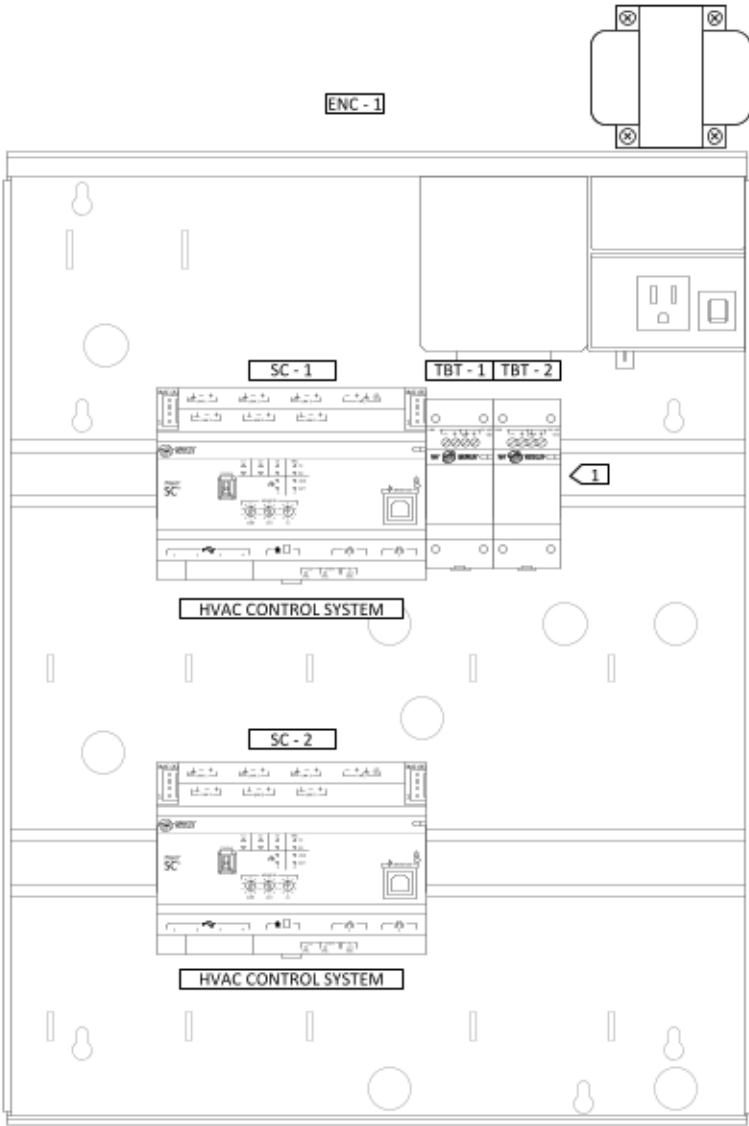
ITEM	LINK TYPE	LINK	RISER TAG	CONTROLLER/SYSTEM	LOCATION	AREA SERVED	GRP.	NET.	ADD.	WIRELESS SENSOR ADDRESS	IP ADDRESS	SUBNET MASK	GATEWAY	NOTE
86	BACnet	SC - 1 BACNET LINK 3	FCU - 328	FCU - 326 ~ 328	DAYROOOM 301	DAYROOOM 301			028					
87	BACnet	SC - 1 BACNET LINK 3	FCU - 329	FCU - 301 ~ 325, 329	LAUNDRY 320	LAUNDRY 320			029					
88	BACnet	SC - 2 BACNET LINK 1	PM - 1	PM - 1	ELECTRICAL 106	BUILDING			004					
89	BACnet	SC - 2 BACNET LINK 1	PROTONODE	PROTONODE	MECHANICAL 119	BUILDING			003					
90	BACnet	SC - 2 BACNET LINK 1	VFD - 1	VFD - 1	MECHANICAL 119	BUILDING			001					
91	BACnet	SC - 2 BACNET LINK 1	VFD - 14	VFD - 2	MECHANICAL ROOM	BUILDING			002					
92	ETHERNET	ETHERNET	SC - 1	SC - 1	MECHANICAL 119	BUILDING			001					
93	ETHERNET	ETHERNET	SC - 2	SC - 2	MECHANICAL 119	BUILDING			002					
94	IMC	UC600 - 3 IMC	ERAHU - 1	XM70 - 3 - 1	MECHANICAL 120	BUILDING			01					

ADDRESS SCHEDULE (3)

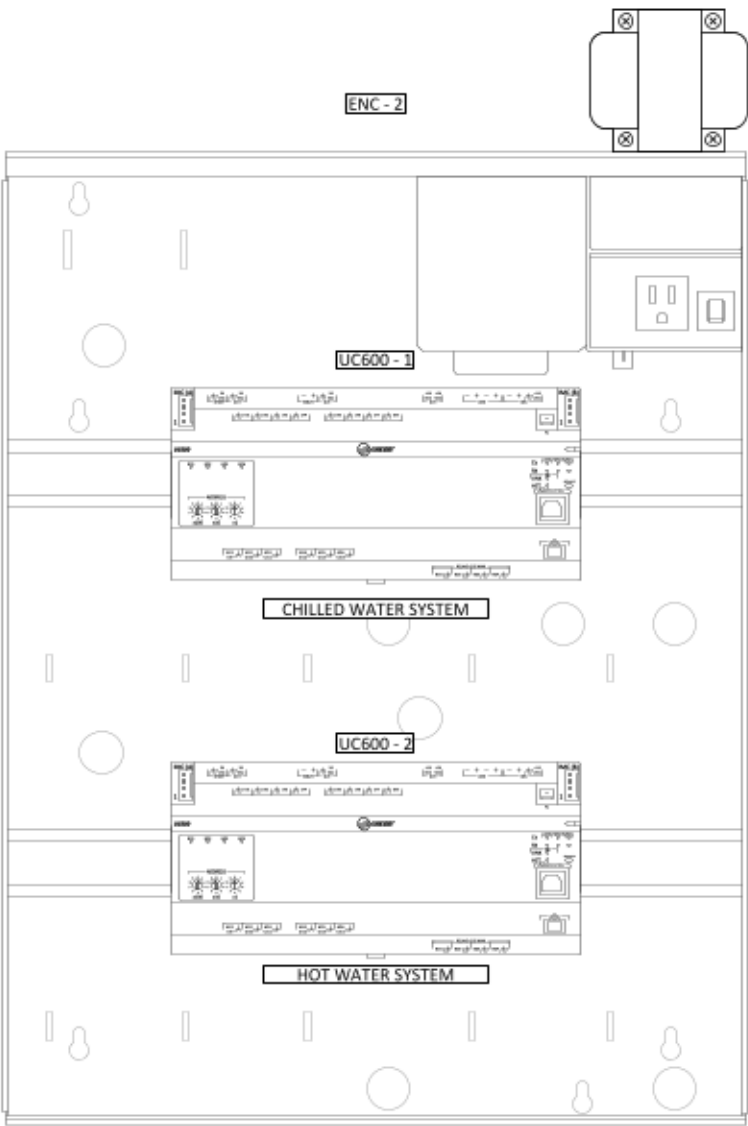
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 8 OF 54



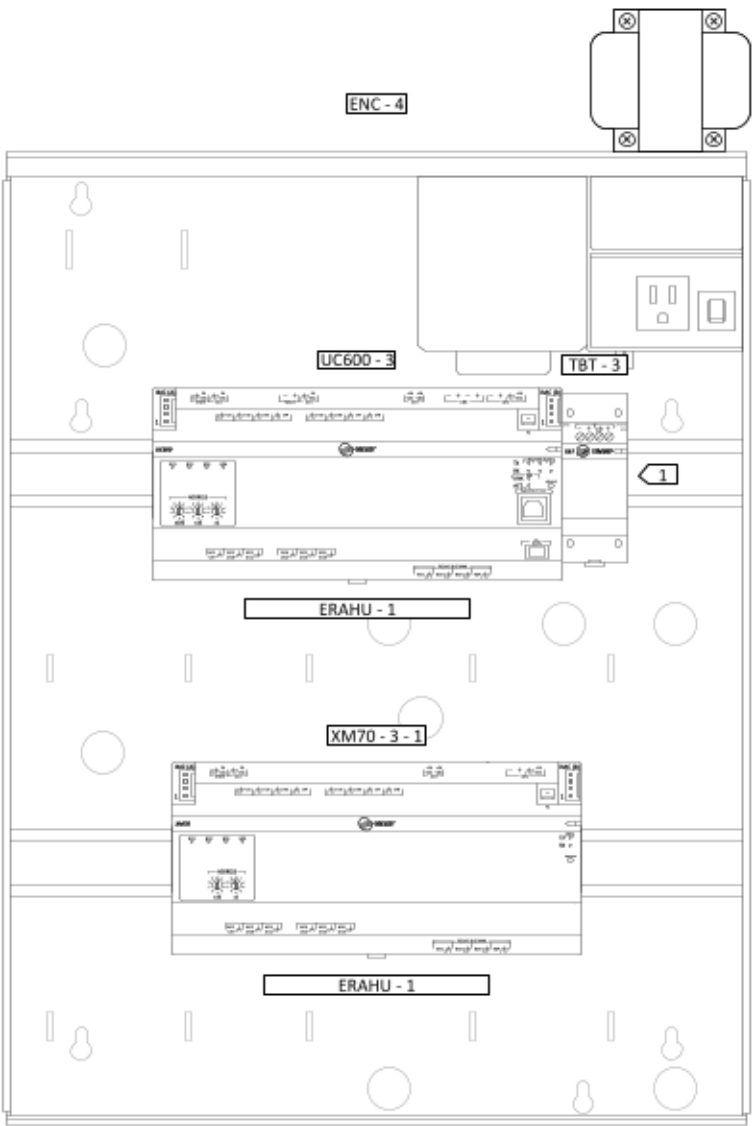
BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
ENC - 1, ENC - 2, ENC - 4	3	TRANE	X13651618010	ENC, TRACER UC, 16 INCH, 120 VAC, SOLID DOOR, UUKL



LOCATION: MECHANICAL 119



LOCATION: MECHANICAL 119



LOCATION: MECHANICAL 120

1 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.

PANEL ENCLOSURE LAYOUT				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			



(HVAC CONTROL SYSTEM)

BUILDING CONTROLLER UNIT (TRACER SC)

User Interface:

The web-based Tracer SC system is the user interface used for this facility. The Tracer SC system building control unit is the centralized DDC control which communicates with the owner's inter face (PC) and with all of the Trane HVAC controllers. Utilizing a web browser to access it, the controller allows the user to view custom floor plan graphics, individual unit graphics, control the units through schedules, monitor space conditions, create and monitor alarms and create trends to capture historical data.

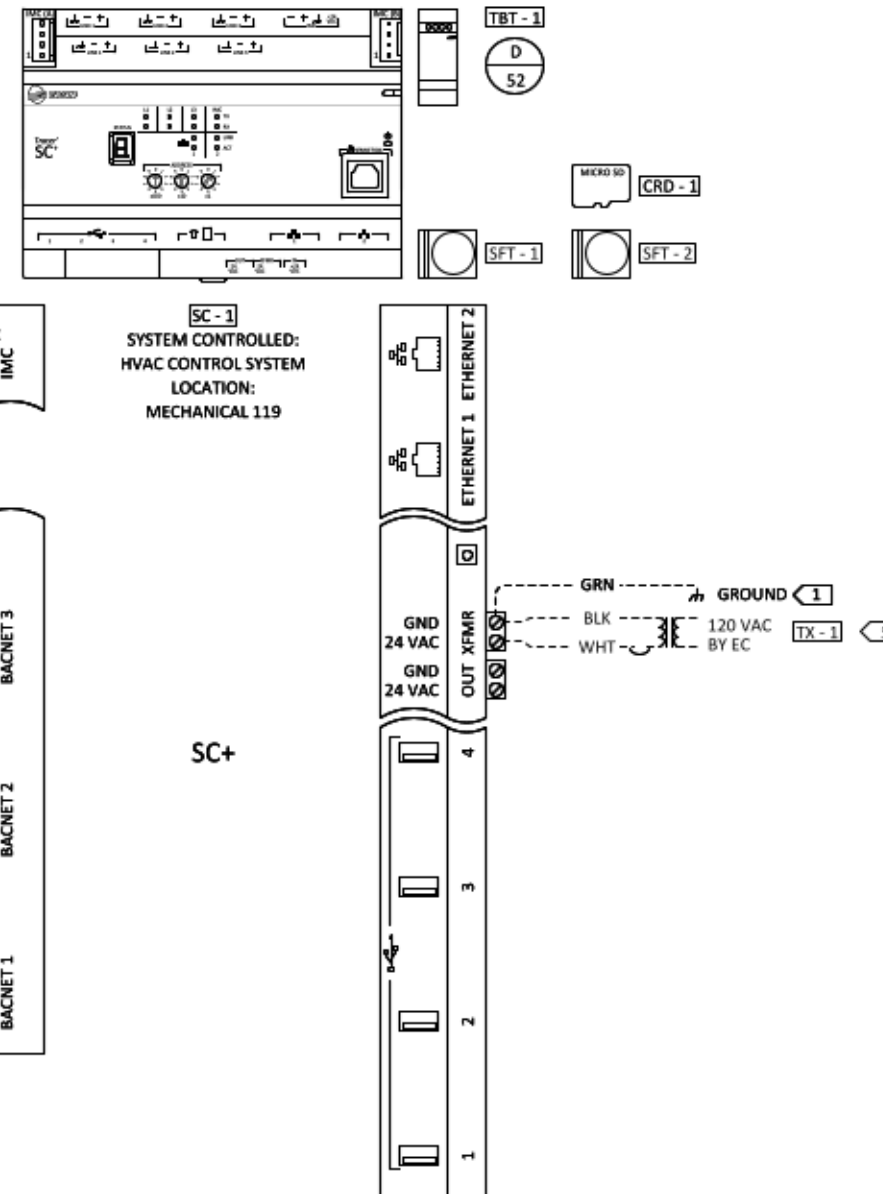
The SC controller will send the controller Occupied, Unoccupied, Night Heat/Cool, and Timed Override commands. The BAS may also send a heat/Cool mode, space Temperature and/or space temperature set point. If communication is lost with the BAS, the controller will operate using its local set points.

Time of Day Scheduling:

The time of day function in user interface is utilized to schedule the occupied and unoccupied time for the building's HVAC systems.

Area Control:

Area control is the function in the user interface which monitors the temperature in the building in unoccupied periods. The HVAC equipment will automatically start in a night heat/cool mode should the temperature in the space decrease below 60°F or rise above 85°F.



BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
SFT - 1	7	TRANE	BMCF000AAA0DB00	TRACER SC 15 LICENSE
TBT - 1	3	TRANE	X13651524-01	BACNET TERMINATOR (2 PACK)
SC - 1	1	TRANE	X13651695001	TRACER SC+ CONTROLLER
CRD - 1	1	TRANE	X13690281001	MICRO SD CARD
SFT - 2	1	TRANE	X40250125010	TRACER ENSEMBLE ADD LICENSE

SC PORT CONFIGURATION ◀ 4	
BACNET DEVICE NAME	
ROTARY ADDRESS	
IP PORT - 1	_____*_____*_____*____
SUBNET MASK - 1	_____*_____*_____*____
DEFAULT GATEWAY - 1	_____*_____*_____*____
IP PORT - 2	_____*_____*_____*____
SUBNET MASK - 2	_____*_____*_____*____
DEFAULT GATEWAY - 2	_____*_____*_____*____
PREFERRED DNS SERVER	_____*_____*_____*____
ALTERNATE DNS SERVER	_____*_____*_____*____
UDP PORT (47808 DEFAULT)	
NETWORK NUMBER	
BBMD (1 PER NETWORK)	ENABLED \ DISABLED
MSTP 1 (76800 BPS DEFAULT)	
MSTP 2 (76800 BPS DEFAULT)	
MSTP 3 (76800 BPS DEFAULT)	
BACNET TIME SYNC	DISABLED

- 6 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.
- 5 TRANSFORMER INCLUDED WITH ENCLOSURE.
- 4 TO BE COMPLETED DURING INSTALLATION AND INCLUDED IN RECORD DRAWINGS.
- 3 FOR THE CUSTOMER TO REMOTELY CONNECT TO THE SC, A SECURE NETWORK BEHIND A FIREWALL AND VPN ACCESS IS REQUIRED.
- 2 CUSTOMER TO SUPPLY NETWORK COMM ACCESS POINT.
- 1 DEVICE MUST BE GROUNDED WITH FACTORY PROVIDED GROUND WIRE AS DETAILED IN THE DEVICE INSTALLATION LITERATURE.

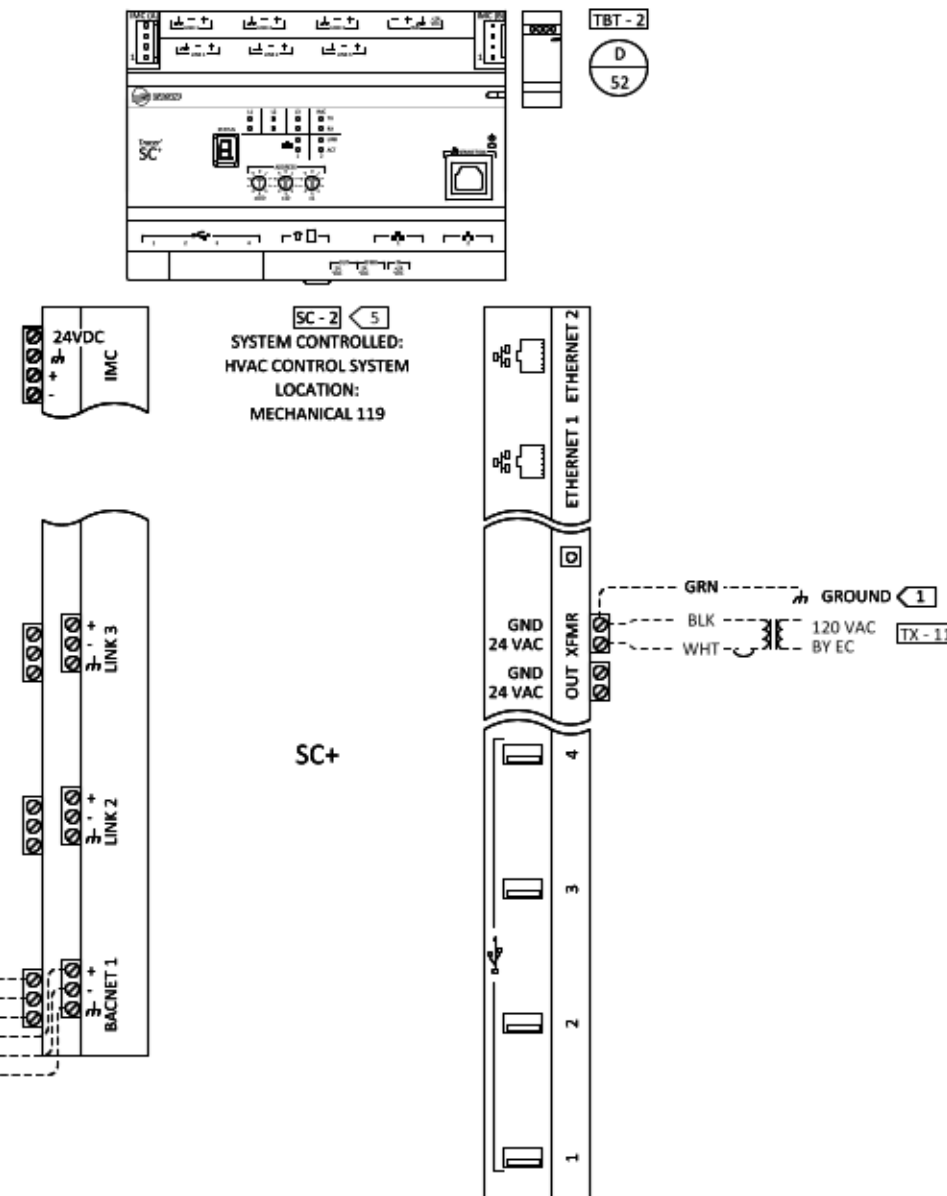
HVAC CONTROL SYSTEM SC - 1 WIRING DETAIL

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw				DWG 10 OF 54



(HVAC CONTROL SYSTEM)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
TBT - 2	1	TRANE	X13651524-01	BACNET TERMINATOR (2 PACK)
SC - 2	1	TRANE	X13651695001	TRACER SC+ CONTROLLER
TX - 11	1	KELE	TR50VA001US	XFMR, 120:24VAC, 50VA



SC PORT CONFIGURATION ◀ 4	
BACNET DEVICE NAME	
ROTARY ADDRESS	
IP PORT - 1	_____*_____*_____*_____
SUBNET MASK - 1	_____*_____*_____*_____
DEFAULT GATEWAY - 1	_____*_____*_____*_____
IP PORT - 2	_____*_____*_____*_____
SUBNET MASK - 2	_____*_____*_____*_____
DEFAULT GATEWAY - 2	_____*_____*_____*_____
PREFERRED DNS SERVER	_____*_____*_____*_____
ALTERNATE DNS SERVER	_____*_____*_____*_____
UDP PORT (47808 DEFAULT)	
NETWORK NUMBER	
BBMD (1 PER NETWORK)	ENABLED \ DISABLED
MSTP 1 (76800 BPS DEFAULT)	
MSTP 2 (76800 BPS DEFAULT)	
MSTP 3 (76800 BPS DEFAULT)	
BACNET TIME SYNC	DISABLED

————BACNET 1 DEVICES————
[TO VFD - 2, PROTONODE, PM - 1, VFD - 1]

SC+

- 5 SC CONFIGURED AS BASE SC WILL BE USED AS A ROUTER TO THE APPLICATION SC. ALL LICENSES MUST BE INSTALLED IN THE APPLICATION SC.
- 4 TO BE COMPLETED DURING INSTALLATION AND INCLUDED IN RECORD DRAWINGS.
- 3 FOR THE CUSTOMER TO REMOTELY CONNECT TO THE SC, A SECURE NETWORK BEHIND A FIREWALL AND VPN ACCESS IS REQUIRED.
- 2 CUSTOMER TO SUPPLY NETWORK COMM ACCESS POINT.
- 1 DEVICE MUST BE GROUNDED WITH FACTORY PROVIDED GROUND WIRE AS DETAILED IN THE DEVICE INSTALLATION LITERATURE.

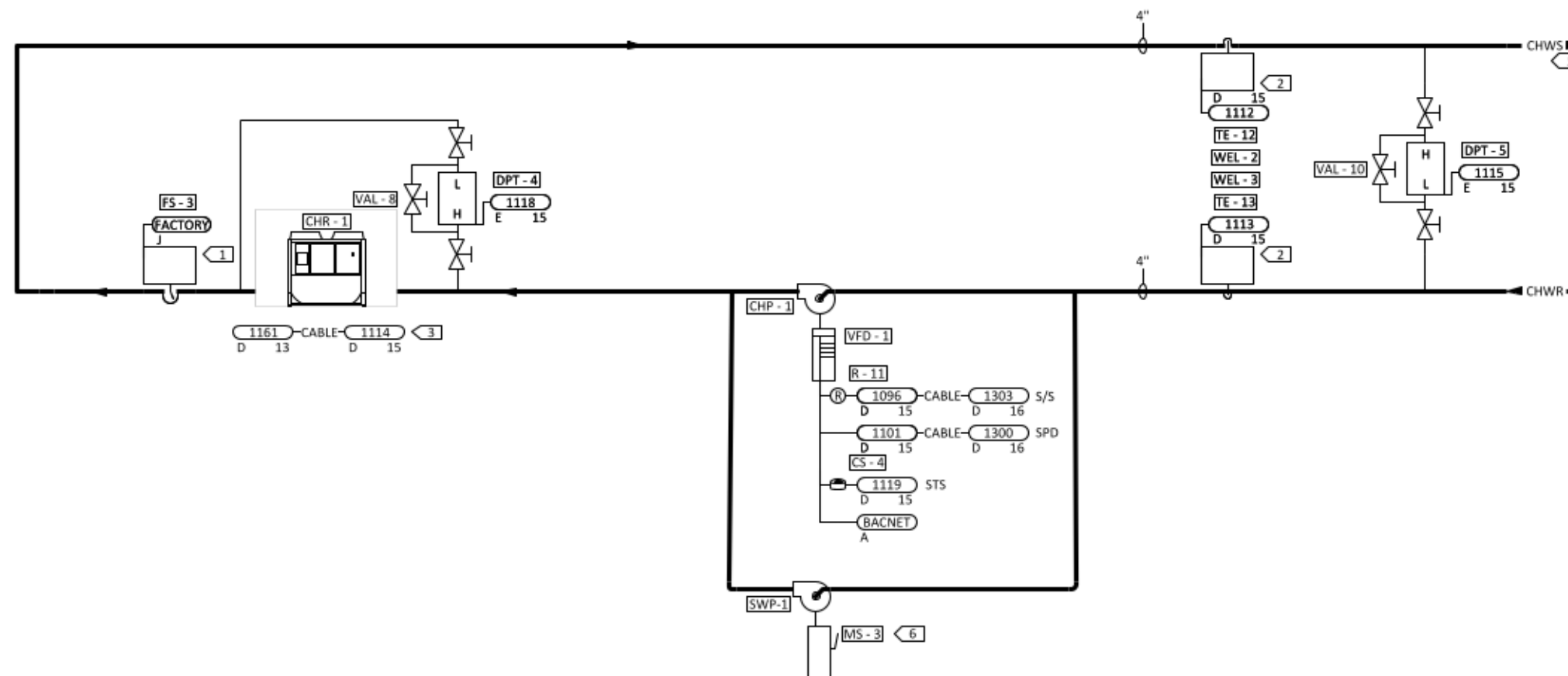
HVAC CONTROL SYSTEM SC - 2 WIRING DETAIL

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 11 OF 54	

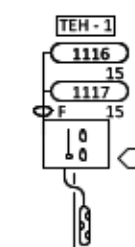


(CHILLED WATER SYSTEM)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
TC - 1	2	TRANE	4190-1114	THERMAL COMPOUND, 1 OZ
WEL - 2, WEL - 3	2	BAPI	BA/2"M304	MACHINED 304 SS - 2"
TEH - 1	1	DWYER	RHP-3R1B	HUMIDITY SENS, OA, 3%, 4-20MA, TEMP, 10K T2, W/SHLD
TE - 12, TE - 13	2	KELE	BA/10K-2-I-2"-BB	TEMP SENS, IMM, THERM, 2 IN, NEMA 4 BOX
R - 11	1	KELE	RIBU1S	RLY, SPNO, LED, 10-30 VAC/DC/120 VAC, 10 A
VAL - 10	1	VERIS	AA16A	BYPASS VALVE ASSEMBLY
CS - 4	1	VERIS	H904	CUR SW, VFD, 3.5-135A, SPLIT, NO
DPT - 4, DPT - 5	2	VERIS	PWRLX03S006A	DIFF PRESS XMTR, WTR, 0-50 PSI, 0-5 VDC/0-10 VDC/4-20 MA, 1 CD, 6 FT



OUTDOOR TEMP/HUMIDITY SENSOR



- 6 SWING PUMP, MANUALLY ACTIVATED WHEN CHILLED WATER PUMP IS NOT AVAILABLE
- 5 SCHEMATIC CONTROL FLOW DIAGRAM ONLY. SEE MECHANICAL DRAWINGS FOR PIPING DETAILS.
- 4 MOUNT OUTDOOR AIR TEMP SENSOR ON NORTHERN EXPOSURE USING A NON-CONDENSATING CONDUIT CONNECTION. MOUNT AWAY FROM EXHAUST VENTS AND OTHER HEAT SOURCES. CONSULT WITH PROJECT MANAGER BEFORE MOUNTING.
- 3 CHILLED WATER PUMP COMMAND. CONNECT CABLE FROM CHILLER TO CONTROLLER.
- 2 GREASE TEMPERATURE SENSOR PROBE WITH THERMAL COMPOUND AND INSERT INTO THERMOWELL.
- 1 WIRE SAFETY DEVICES TO CHILLER CONTROL PANEL.

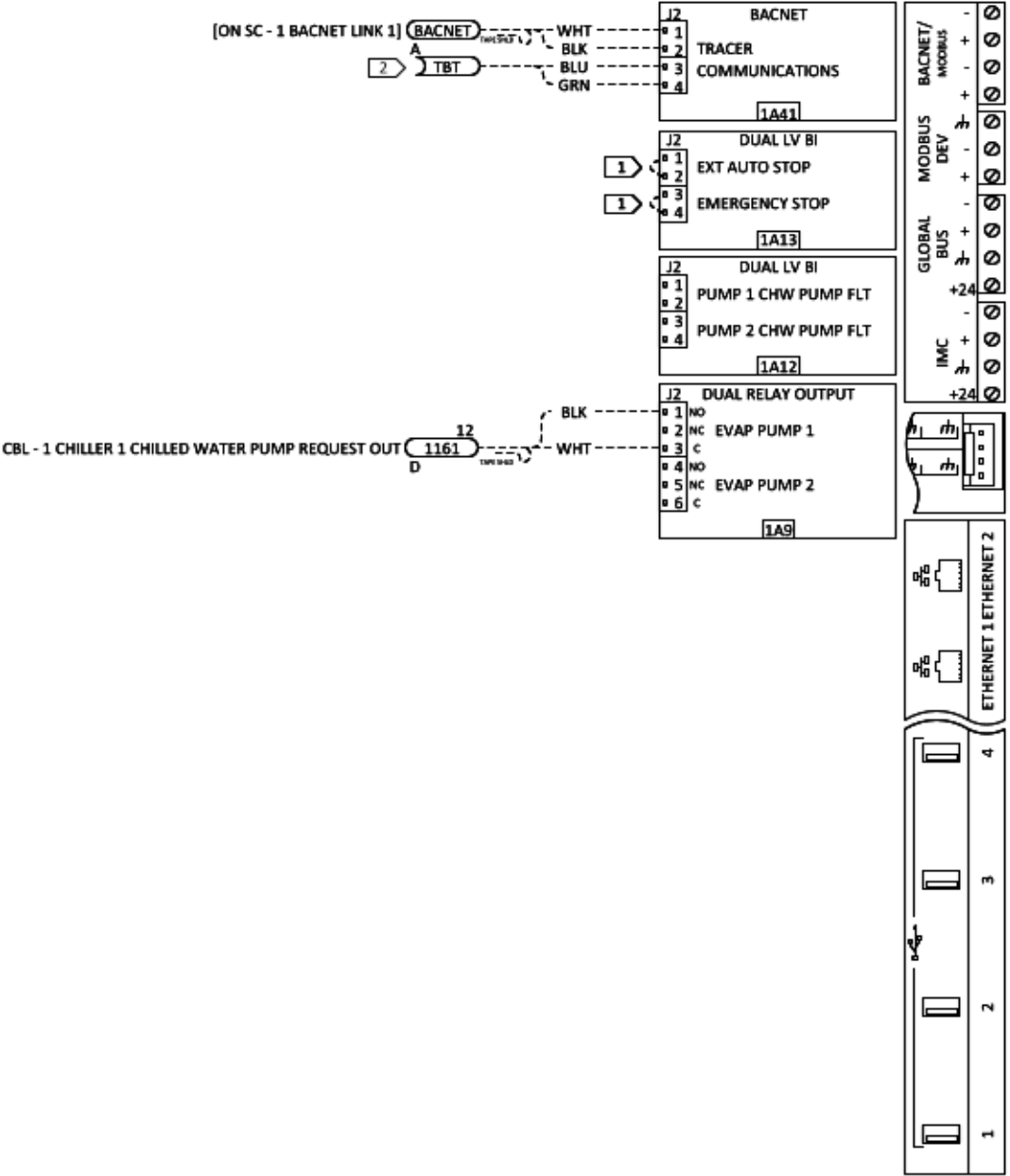
CHILLED WATER SYSTEM PIPING FLOW DIAGRAM

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw			DWG 12 OF 54	



(CHILLED WATER SYSTEM)

CHR - 1
SYSTEM CONTROLLED:
CHILLED WATER SYSTEM
LOCATION:
OUTSIDE



BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION

- 2 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.
- 1 INSTALL JUMPER FOR NORMAL OPERATION.

CHILLED WATER SYSTEM CHR - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
				DWG 13 OF 54



Sequence of Operations

Chilled Water System

System General Description:

The chilled water system consists of the following:
One (1) air cooled chiller with variable primary flow
One (1) Dedicated variable flow chilled water pump

The Building Automation System (BAS) controller provides stand-alone control or control from a higher level BAS and provides control for the chilled water pump.

Chilled Water System Enable/Disable:

The chilled water system will be enabled on a contact closure from any system chiller. When enabled, the BAS controller will start that chillers associated chilled water pump. As additional chillers make chilled water requests, their associated chilled water pump will start.

The chiller will maintain a supply temperature of 44°F(adj.)

When the chilled water system is disabled, the chilled water pumps will be off unless requested by one of the chillers.

Primary Chilled Water Pump Start/Stop:

The BAS controller will start a chilled water pump through a contact closure of the pumps variable frequency drive (VFD) run-enable contacts.

Primary Chilled Water Pump Status:

The BAS controller will detect chilled water pump run status by a VFD current switch.

Primary Chilled Water Pump Speed:

The BAS controller will monitor the chilled water system differential pressure sensor. When the pump variable frequency drive is enabled, the BAS controller will control the analog speed signal that is sent to the pump variable frequency drive to maintain a chilled water differential pressure setpoint of 15.0 psig (adj.).

Chilled Water Minimum Flow:

The BAS will monitor the minimum flow in the evaporator of the Chiller through a Differential Pressure Transmitter. If the minimum flow is not met the Chiller will be disabled and an alarm will be generated.



CHILLED WATER SYSTEM SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 14 OF 54	

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
UC600 - 1	1	TRANE	BMUC600USA0100011	UC600 CONTROLLER, DIN RAIL MOUNT (USA)

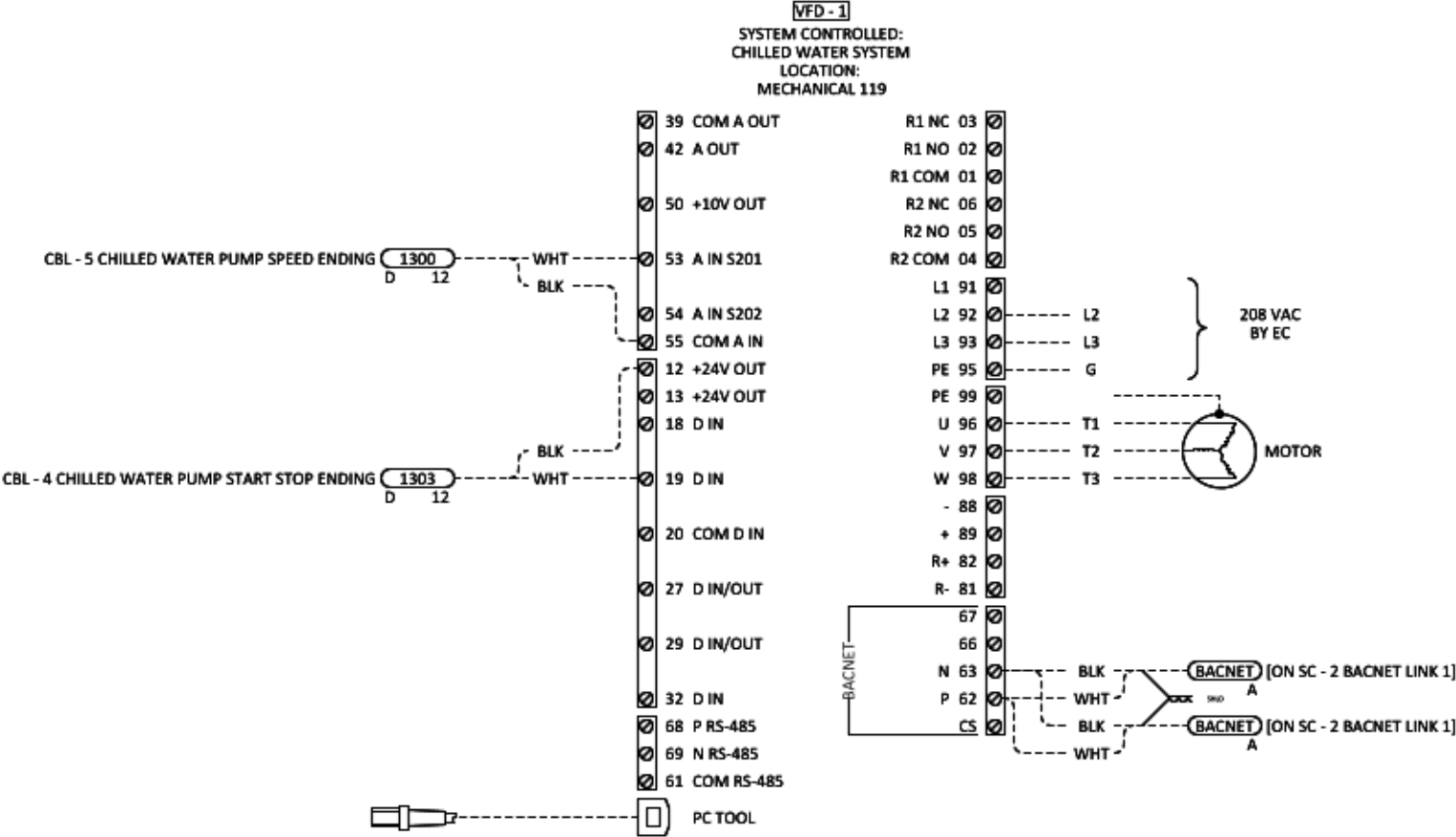


CHILLED WATER SYSTEM UC600 - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 15 OF 54	



(CHILLED WATER SYSTEM)

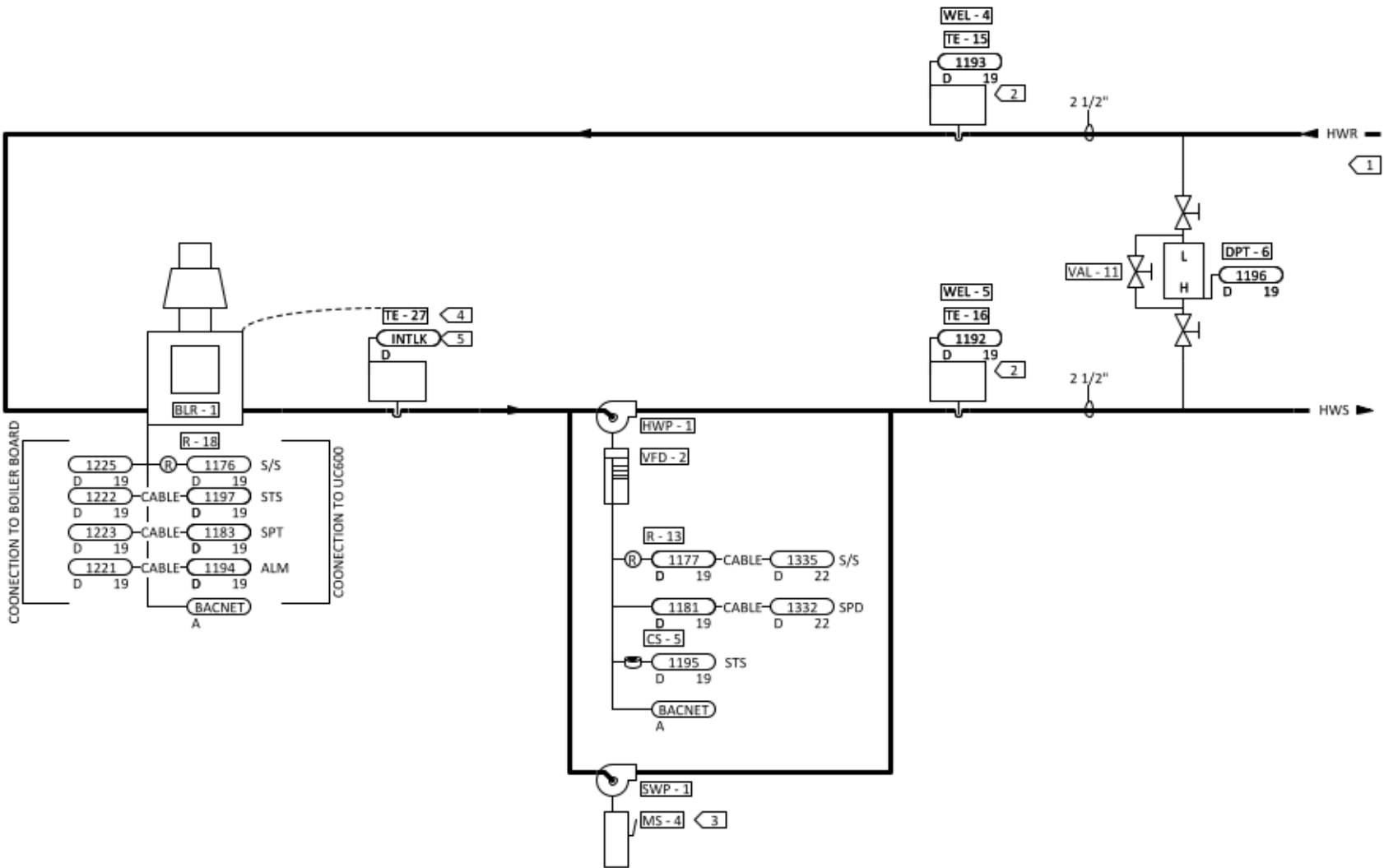
BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VFD - 1	1	TRANE	TR200	TR200 (FOR EDD)



CHILLED WATER SYSTEM VFD - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 16 OF 54	



(HOT WATER SYSTEM)



BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
TC - 2	2	TRANE	4190-1114	THERMAL COMPOUND, 1 OZ
WEL - 4, WEL - 5	2	BAPI	BA/2"M304	MACHINED 304 SS - 2"
TE - 15, TE - 16	2	KELE	BA/10K-2-I-2"-BB	TEMP SENS, IMM, THERM, 2 IN, NEMA 4 BOX
R - 18	1	KELE	RIBU1C	RLY, SPDT, LED, 10-30 VAC/DC/120 VAC, 10 A
R - 13	1	KELE	RIBU1S	RLY, SPNO, LED, 10-30 VAC/DC/120 VAC, 10 A
SW - 1	1	PILLA ELECTRICAL PRODUCTS	ST120SL-N1-BS	PUSH PULL STA N1 SUR PULL RESET BOIL SHUT-DOWN
VAL - 11	1	VERIS	AA16A	BYPASS VALVE ASSEMBLY
CS - 5	1	VERIS	H904	CUR SW, VFD, 3.5-135A, SPLIT, NO
DPT - 6	1	VERIS	PWRLX03S006A	DIFF PRESS XMTR, WTR, 0-50 PSI, 0-5 VDC/0-10 VDC/4-20 MA, LCD, 6 FT

- 6 TO DOMESTIC WATER HEATER
- 5 REFER TO PAGE 21 FOR WIRING DETAIL
- 4 FACTORY PROVIDED AND FIELD INSTALLED.
- 3 SWING PUMP, MANUALLY ACTIVATED WHEN HOT WATER PUMP IS NOT AVAILABLE
- 2 GREASE TEMPERATURE SENSOR PROBE WITH THERMAL COMPOUND AND INSERT INTO THERMOWELL.
- 1 FLOW DIAGRAM IS FOR ILLUSTRATION PURPOSES ONLY. FOR DETAILED INFORMATION REFER TO MECHANICAL PRINTS.

HOT WATER SYSTEM PIPING FLOW DIAGRAM				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			



Sequence of Operations

Hot Water System

Heating System Enable/Disable:

The heating system will be enabled when the outside air temperature falls below 60.0 deg. F (adj.) or a manual enable from higher level BAS, or the outdoor air temperature is below the freeze protection setpoint. When enabled, the BAS controller will start the hot water distribution pump and enable the boiler. The boiler factory control will operate the boiler to maintain its local supply setpoint.

Heating will be disabled when the outdoor air temperature is above 65.0 deg. F (adj.). When heating is disabled, the hot water pump and boiler will be commanded to OFF. The optional BAS controller human-interface panel will be able to individually enable the hot water distribution pump or the boiler.

Boiler Control:

The boiler sequence will be based on a weekly schedule. From the optional BAS controller human-interface panel or a BAS workstation, an operator will be able to manually change the sequence.

If the hot water distribution system supply temperature falls more than 25.0 deg. F (adj.) below setpoint for a period longer than 15 minutes (adj.), or if an active boiler signals a failure alarm, the BAS controller will send an alarm to the BAS workstation. Once the problem is corrected, the operator will be able to clear the alarm failure from the BAS controller or BAS workstation.

The boiler will be disabled when the hot water temperature rises 5.0 deg. F (adj.) above the hot water setpoint for a period of 10 minutes (adj.) or more.

Hot Water Reset:

When the outside air temperature rises above 50.0 deg. F (adj.), the supply temperature will be reset down linearly 5 deg. F (adj.) supply temperature for every 1 def. F (adj.) change in outside air temperature to 110 deg. F (adj.) at 60 deg. F (adj.). When the outside air temperature falls below 60 deg. F (adj.), the supply temperature will reset up linearly at the same rate as it resets down until it reaches 140 deg. F (adj.) at an outside air temperature of 50 deg. F (adj.).

Hot Water Distribution Pump Start/Stop:

The BAS controller will start a hot water pump through a contact closure of the pump's variable frequency drive (VFD) run-enable contacts.

Hot Water Distribution Pump Status:

The BAS controller will detect hot water pump run status by a VFD current switch.

Hot Water Distribution Pump Speed:

The BAS controller will monitor the hot water system differential pressure sensor. When the pump VFD is enabled, the BAS controller will control the analog speed signal sent to the pump VFD to maintain the hot water differential pressure (adj.) required for adequate flow determined by the TAB contractor.

Hot Water Distribution Pump Failure:

If the start/stop relay is enabled and the current switch status is off for more than 30 seconds (adj.), the BAS controller will annunciate a hot water pump failure alarm to the BAS workstation. Once the problem has been corrected, the operator will be able to clear the alarm failure from the BAS controller or BAS workstation. This action will re-enable the lead/lag sequence.

Pump Optimization:

The BAS will continually monitor the hot water control valve position of all AHU's in the hot water system.

At hot water system startup, the hot water pressure setpoint is 100% of the maximum pressure setpoint. When all hot water valves are less than 85% open, the hot water differential pressure setpoint will be lowered by 0.1 psig (adj.) of the current hot water differential pressure setpoint. This occurs every 5 minutes until at least one valve is more than 85% open, or if the setpoint is equal to the minimum hot water differential pressure setpoint, or if the pump VFD's are at a minimum speed setting (22 Hz).

When any hot water valve is more than 95% open, the hot water pressure setpoint will increase by 0.1 psig (adj.) of the current hot water differential setpoint. This occurs every 5 minutes until no valve is more than 95% open, or if the hot water differential pressure setpoint has risen to the system's maximum setting, or if the pump VFD's are at the maximum setting (60 Hz).

Freeze Protection:

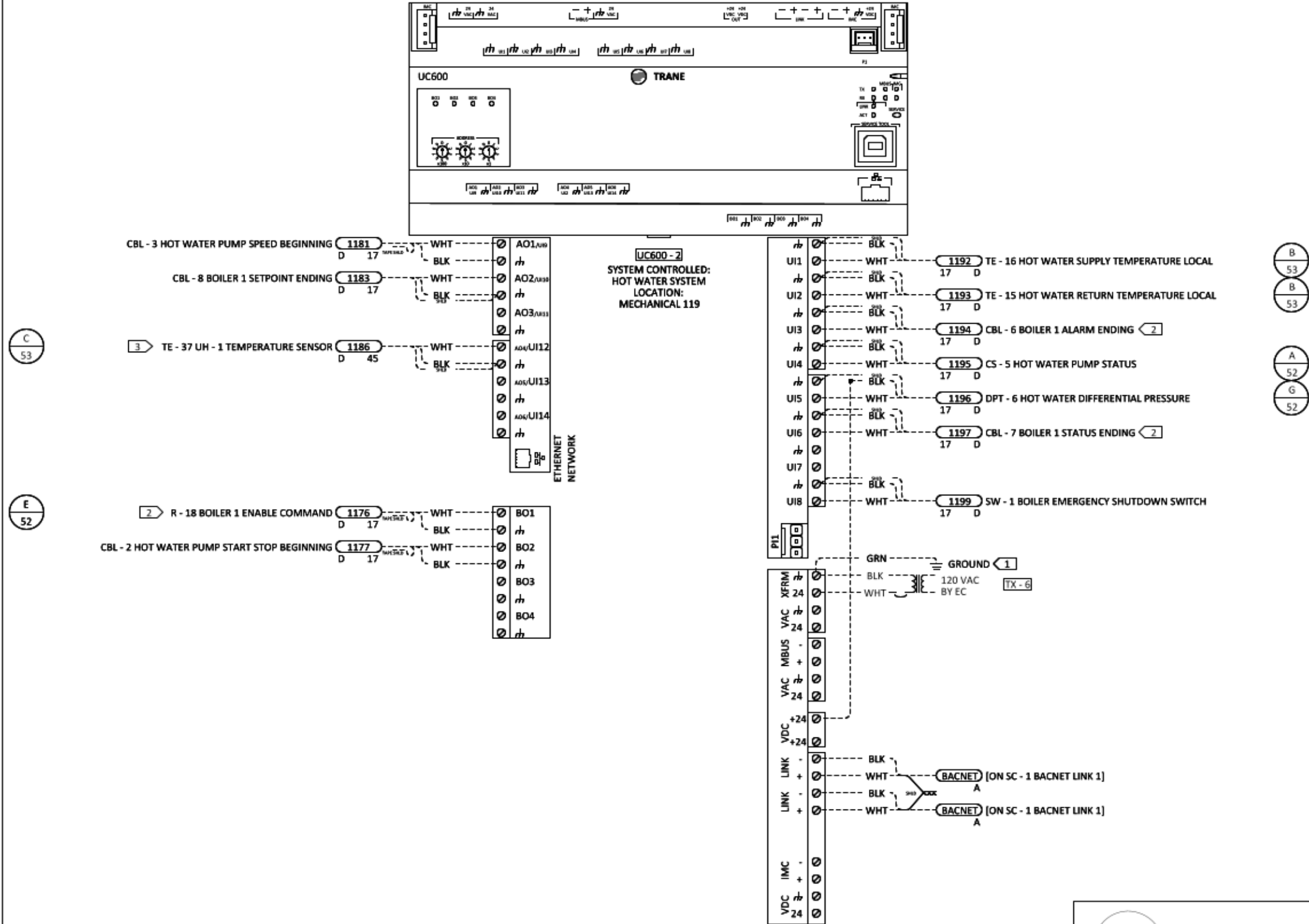
The system will be enabled when; the outdoor air temperature fails or the outdoor air temperature is below the Freeze Protection setpoint (35.0 deg. F, adj.).

HOT WATER SYSTEM SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX			DWG 18 OF 54	



(HOT WATER SYSTEM)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
UC600 - 2	1	TRANE	BMUC600USA0100011	UC600 CONTROLLER, DIN RAIL MOUNT (USA)
TX - 6	1	KELE	TR100VA004US	XFMR, 120/277/240/480:24VAC, 100VA, CB

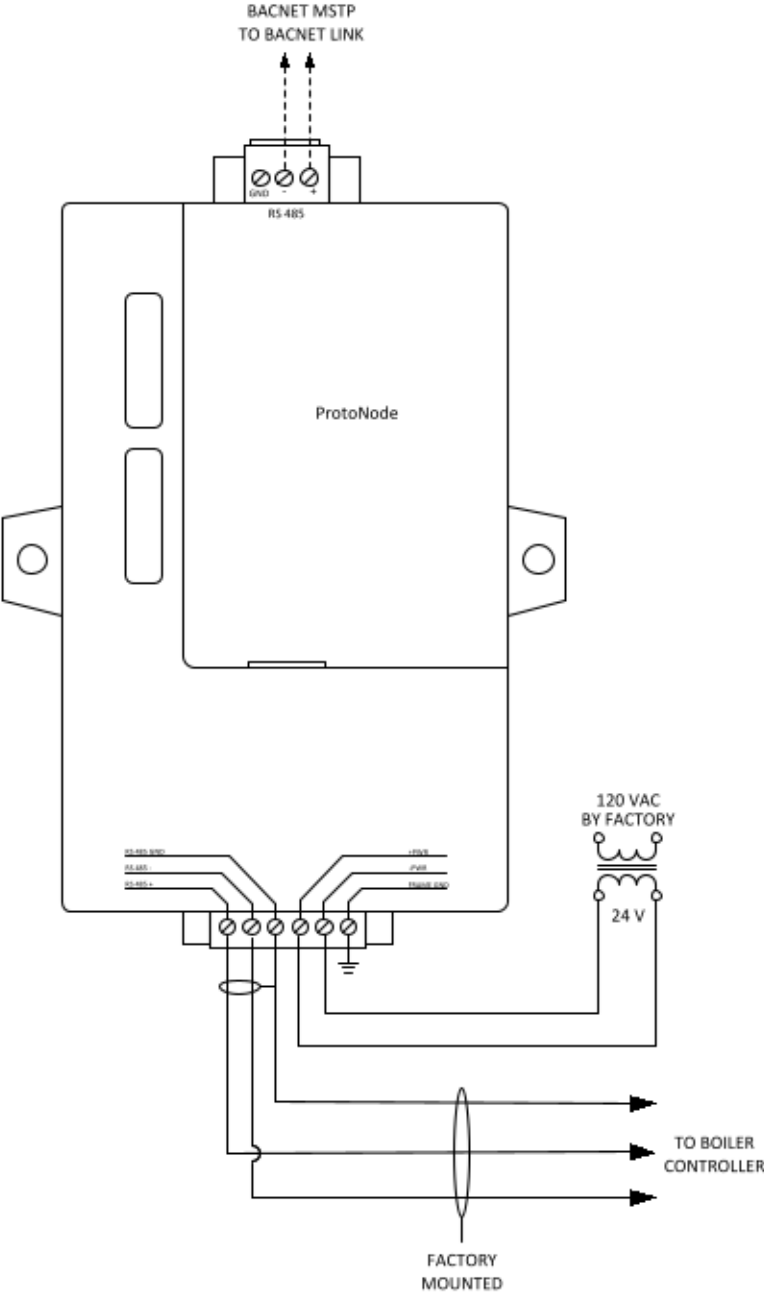


HOT WATER SYSTEM UC600 - 2 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 19 OF 54



(HOT WATER SYSTEM)

PROTONODE
SYSTEM CONTROLLED:
HOT WATER SYSTEM
LOCATION:
MECHANICAL 119



BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION

HOT WATER SYSTEM PROTONODE WIRING DETAIL

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 20 OF 54



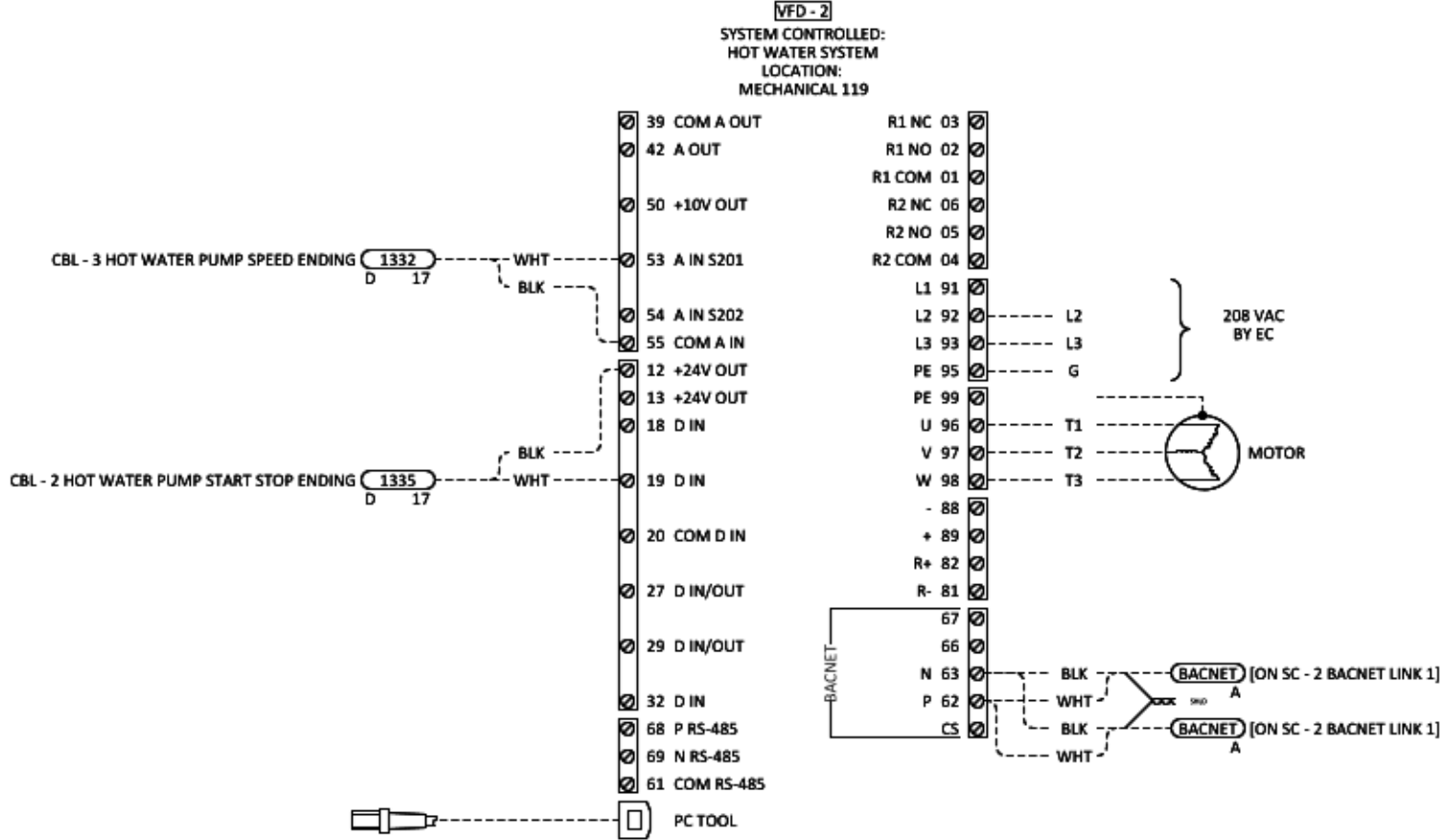
BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



BOILER INTERCONNECT WIRING DIAGRAM				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
DORMITORY TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689		PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099		
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw			DWG 21 OF 54	

(HOT WATER SYSTEM)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VFD - 2	1	TRANE	TR200	TR200 (FOR EDD)



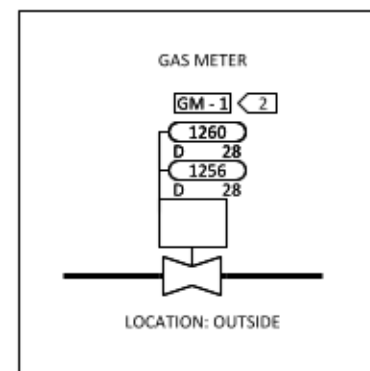
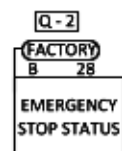
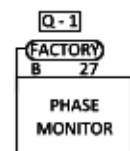
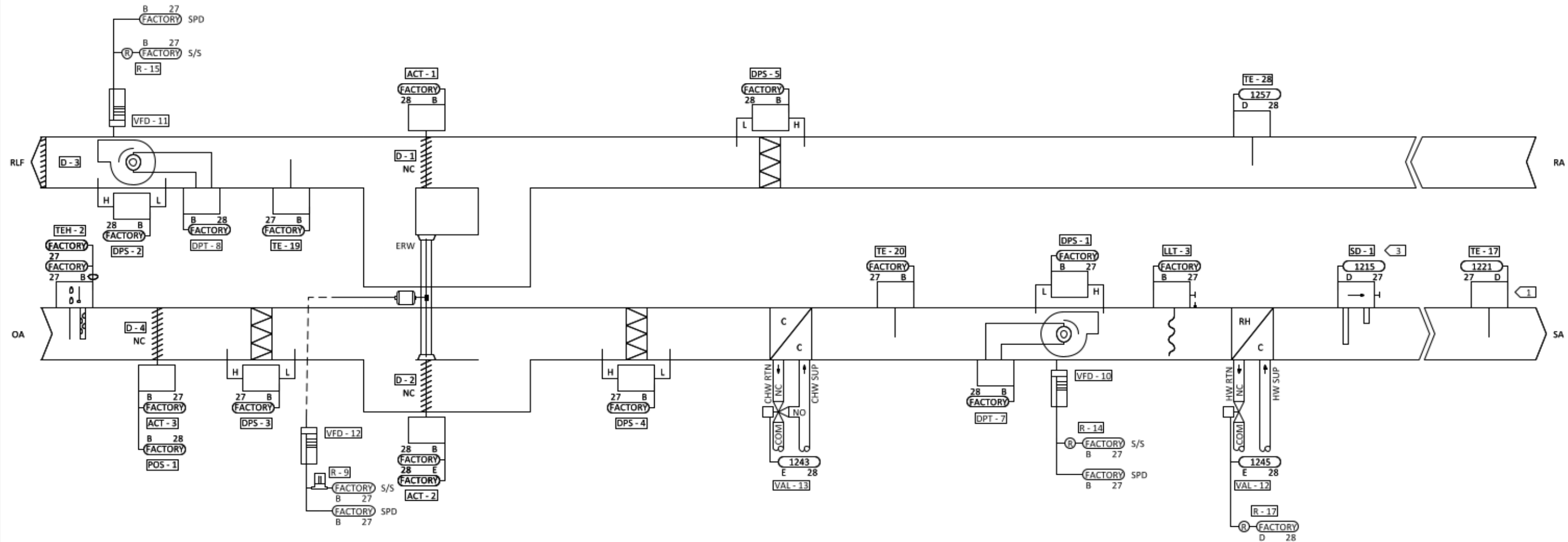
HOT WATER SYSTEM VFD - 2 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 22 OF 54	



(ERAHU - 1)

MANUFACTURER: TRANE
MODEL NUMBER: OABD036D3-F00001KM-J5D00001KG4D10B0A400
LOCATION: MECHANICAL 120

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
GM - 1	1	FOX THERMAL	FT1-30F-DD-P1	THERMAL GAS MASS FLOW METER
TE - 28	1	KELE	BA/10K-2-D-8	TEMP SENS, IMM/DUCT, THERM, 8 IN
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE



- 3 PROVIDED AND INSTALLED BY OTHERS
- 2 PROVIDED BY TRANE, INSTALLED BY OTHERS.
- 1 FACTORY PROVIDED AND FIELD INSTALLED.

ERAHU - 1 AIRFLOW DIAGRAM

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 23 OF 54



Sequence of Operations

ERAHU - 1

Building Automation System Interface:

The Building Automation System (BAS) will send the controller, Occupied / Unoccupied mode. The BAS will also send the controller a discharge air temperature setpoint.

Emergency Stop:

When contact closure at terminals TOAU-9 & 10 are open, the unit operation will be in Alarm Status and an alarm will be generated. Unit will revert to normal operation upon closure of OAUTS 9 and 10. *Important: Cycling power to unit may not resolve alarm condition.*

Temperature Control:

When the outdoor air temperature is above 80 deg. F (adj.) the controller will modulate the chilled water valve to maintain the supply air temperature at 55 deg. F (adj.). The reheat valve will be locked out and the enthalpy wheel will be in operation.

When the outside air temperature falls below 55 deg. F the chilled water valve will be closed and the heating control valve modulated to maintain a supply air temperature of 70 deg. F (adj.).

When the outside air temperature falls between 55 and 80 deg. F the chilled water valve is to be modulated to maintain a coil leaving temperature of 55 deg. F and the heating water valve is to be modulated to maintain a unit discharge temperature of 70 deg. F.

Standard ERV Frost Controls:

With ERV is enabled, when the Exhaust Temperature across the ERV drops below 28.0 deg. F, the ERV bypass dampers will slowly modulate open to bring that temperature above 28.0 deg. F. If after the bypass dampers modulate to 100% open and the Exhaust Temperature across the ERV drops below 15.0 deg. F (2 F Deadband), the unit controller will disable the ERV to remain off for 3 minutes. After 3 minutes, and with the Exhaust Temperature sensor above 28.0 deg. F, the ERV will be enabled and the cycle will repeat again.

Supply Fan Control:

The supply fan will be enabled while in the occupied mode and cycled on during the unoccupied mode. When enabled the outdoor air damper will be commanded to open. Outdoor air damper end switch closure will initialize indoor fan by sending a preset run signal (50 - 100% adj.) to the indoor fan. A differential pressure switch across the fan will monitor the differential pressure. After initializing the indoor fan, if the pressure switch does not prove flow within 60 seconds (adj.) a fan failure alarm will be annunciated and the unit will be disabled, requiring a manual reset.

Exhaust Fan Status:

A differential pressure switch will monitor the differential pressure across the fan.

Exhaust with Gravity Dampers:

In the occupied mode and after indoor fan status has been proven, the outdoor air damper status is open, and no unit alarms, the isolation dampers will be powered and the power exhaust fan speed will modulate to maintain a constant volume of airflow. If the switch is detected to be open for 30 seconds (adj.) after a request for exhaust fan operation a fan failure alarm will be annunciated at the BAS and the exhaust fan will stop. During Unoccupied Mode the powered exhaust will be disabled. A manual reset will be required.

Freeze Control:

If entering coil temperature falls below 38 deg. F the supply fan is to stop and isolation damper to close (exhaust fan to remain operational). The unit must be manually reset as condition indicates enthalpy wheel failure.

Smoke Detection:

The unit will shut down in response to a signal from the smoke detector indicating the presence of smoke. The smoke detector will be interlocked to the unit through the dry contacts of the smoke detector. The smoke detectors will be interlocked to the unit through the dry contacts of the smoke detectors. A manual reset of the smoke detector will be required to restart the unit.

Gas Meter:

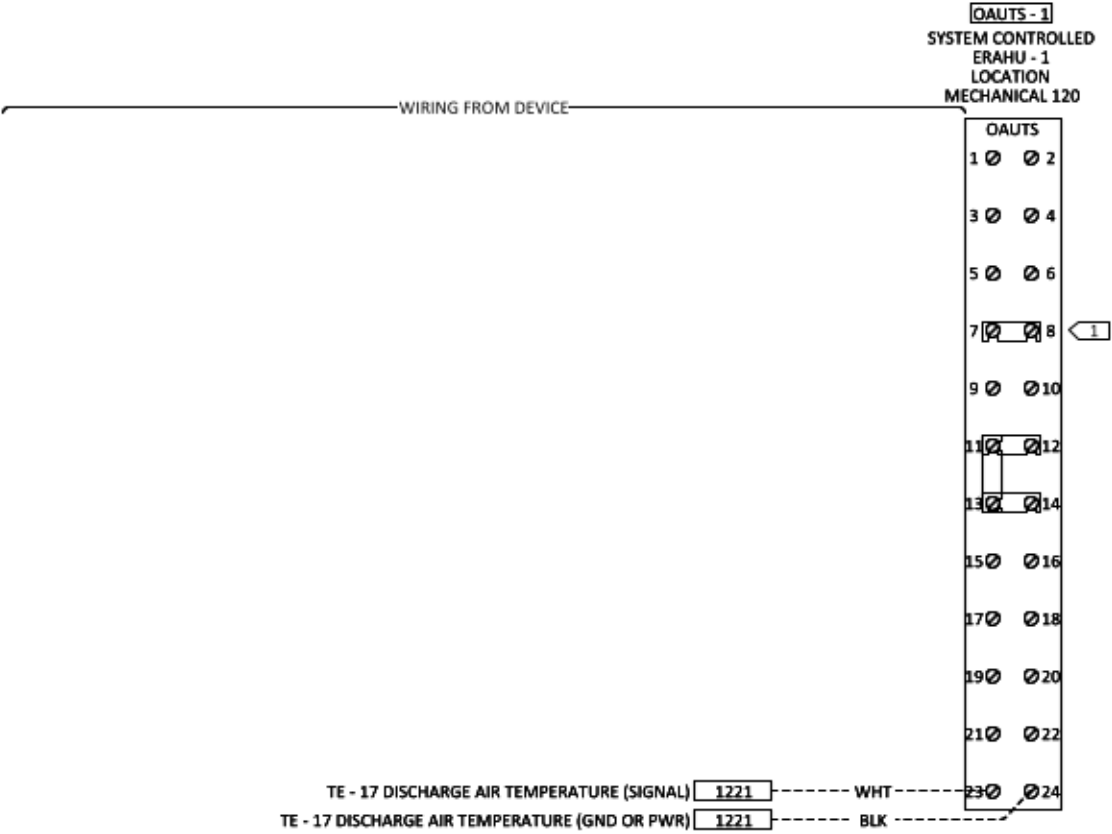
A flow meter will monitor the gas flow and report it to the BAS.



TRANE®

ERAHU - 1 SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 24 OF 54	

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



1 REMOVE JUMPER AND INSTALL FIELD SUPPLIED DRY CONTACT OR SWITCH. CLOSURE BETWEEN OAUTS-7 AND OAUTS-8 ENABLES "OCCUPIED MODE".

ERAHU - 1 OAUTS - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			



(ERAHU - 1)

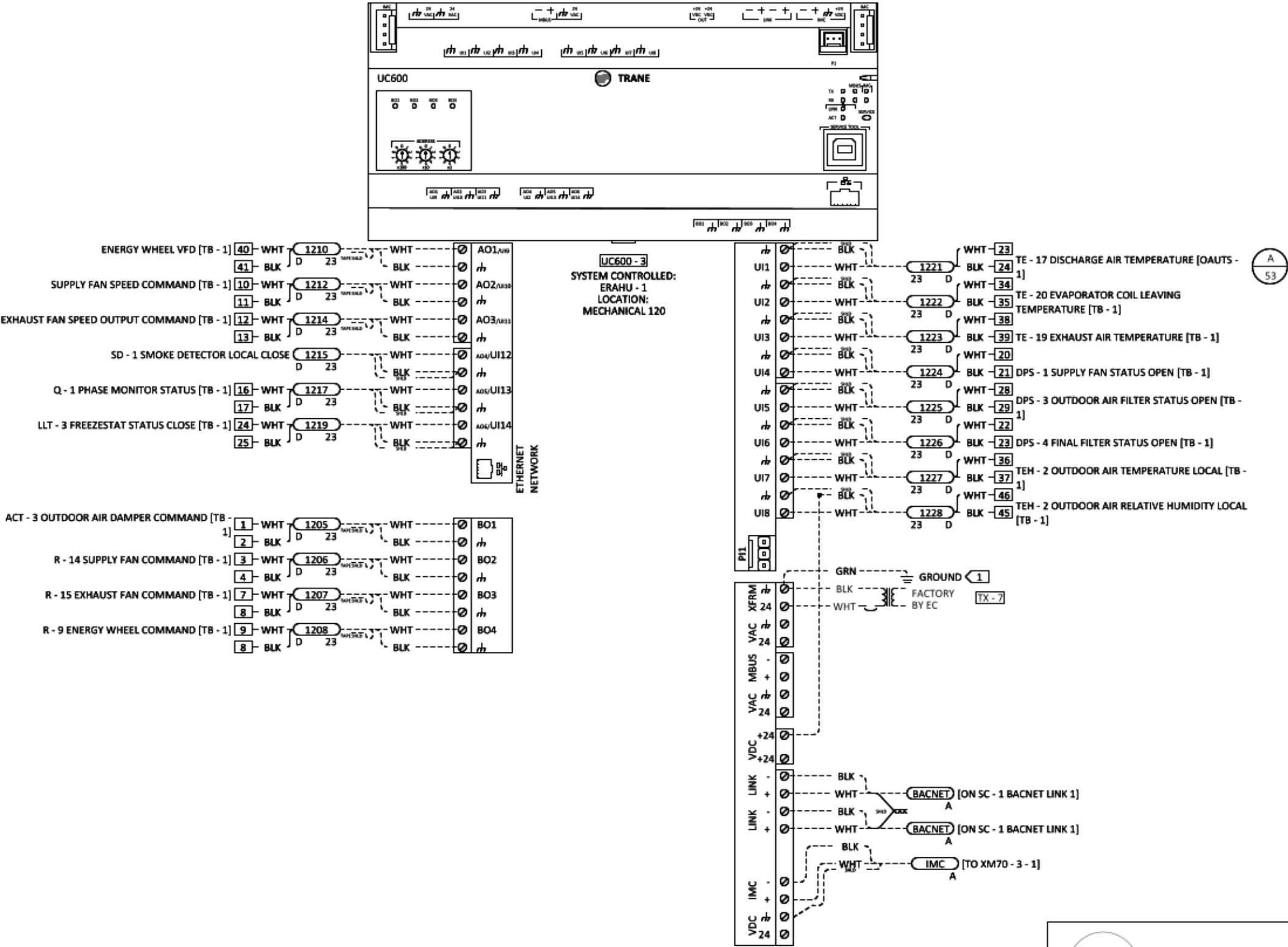
BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION

		TB - 1		SYSTEM CONTROLLED		ERAHU - 1		LOCATION			
				MECHANICAL 120							
WIRING FROM DEVICE				WIRING TO CONTROLLER							
ACT - 3 OUTDOOR AIR DAMPER COMMAND (SIGNAL)	FACTORY	WHT	1	WHT	1205	UC600 - 3 BO1 (SIGNAL)					
ACT - 3 OUTDOOR AIR DAMPER COMMAND (PWR)	FACTORY	BLK	2	BLK	1205	RTU - 1 BO1 (PWR)					
R - 14 SUPPLY FAN COMMAND (SIGNAL)	FACTORY	WHT	3	WHT	1206	UC600 - 3 BO2 (SIGNAL)					
R - 14 SUPPLY FAN COMMAND (GND)	FACTORY	BLK	4	BLK	1206	RTU - 1 BO2 (GND)					
R - 17 STAGE 1 HEAT COMMAND (SIGNAL)	FACTORY	WHT	5	WHT	1234	XM70 - 3 - 1 BO1 (SIGNAL)					
R - 17 STAGE 1 HEAT COMMAND (GND)	FACTORY	BLK	6	BLK	1234	XM70 - 2 BO1 (GND)					
R - 15 EXHAUST FAN COMMAND (SIGNAL)	FACTORY	WHT	7	WHT	1207	UC600 - 3 BO3 (SIGNAL)					
R - 15, R - 9 (GND)	FACTORY	BLK	8	BLK	*	MULTIPLE CONTROLLER POINTS (GND)					
R - 9 ENERGY WHEEL COMMAND (SIGNAL)	FACTORY	WHT	9	WHT	1208	UC600 - 3 BO4 (SIGNAL)					
SUPPLY FAN SPEED COMMAND (SIGNAL)	FACTORY	WHT	10	WHT	1212	UC600 - 3 AO2 (SIGNAL)					
ACT - 2 (PWR)	FACTORY	BLK	11	BLK	*	MULTIPLE CONTROLLER POINTS (PWR)					
EXHAUST FAN SPEED OUTPUT COMMAND (SIGNAL)	FACTORY	WHT	12	WHT	1214	UC600 - 3 AO3 (SIGNAL)					
ACT - 1 (PWR)	FACTORY	BLK	13	BLK	*	MULTIPLE CONTROLLER POINTS (PWR)					
ACT - 2 ENERGY WHEEL OUTSIDE AIR BYPASS DAMPER COMMAND (SIGNAL)	FACTORY	WHT	14	WHT	1239	XM70 - 3 - 1 AO1 (SIGNAL)					
ACT - 1 ENERGY WHEEL EXHAUST AIR BYPASS DAMPER COMMAND (SIGNAL)	FACTORY	WHT	15	WHT	1241	XM70 - 3 - 1 AO2 (SIGNAL)					
Q - 1 PHASE MONITOR STATUS (SIGNAL)	FACTORY	WHT	16	WHT	1217	UC600 - 3 UI13 (SIGNAL)					
Q - 1 PHASE MONITOR STATUS (GND)	FACTORY	BLK	17	BLK	1217	RTU - 1 UI13 (GND)					
Q - 2 EMERGENCY STOP STATUS (SIGNAL)	FACTORY	WHT	18	WHT	1255	XM70 - 3 - 1 UI6 (SIGNAL)					
Q - 2 EMERGENCY STOP STATUS (GND)	FACTORY	BLK	19	BLK	1255	XM70 - 2 UI6 (GND)					
DPS - 1 SUPPLY FAN STATUS OPEN (SIGNAL)	FACTORY	WHT	20	WHT	1224	UC600 - 3 UI4 (SIGNAL)					
DPS - 1 SUPPLY FAN STATUS OPEN (GND)	FACTORY	BLK	21	BLK	1224	RTU - 1 UI4 (GND)					
DPS - 4 FINAL FILTER STATUS OPEN (SIGNAL)	FACTORY	WHT	22	WHT	1226	UC600 - 3 UI6 (SIGNAL)					
DPS - 4 FINAL FILTER STATUS OPEN (GND)	FACTORY	BLK	23	BLK	1226	RTU - 1 UI6 (GND)					
LLT - 3 FREEZESTAT STATUS CLOSE (SIGNAL)	FACTORY	WHT	24	WHT	1219	UC600 - 3 UI14 (SIGNAL)					
TS - 1 FREEZESTAT STATUS (GND)	FACTORY	BLK	25	BLK	1219	RTU - 1 UI14 (GND)					
DPS - 5 EXHAUST FILTER STATUS OPEN (SIGNAL)	FACTORY	WHT	26	WHT	1250	XM70 - 3 - 1 UI1 (SIGNAL)					
DPS - 5 EXHAUST FILTER STATUS OPEN (GND)	FACTORY	BLK	27	BLK	1250	XM70 - 2 UI1 (GND)					
DPS - 3 OUTDOOR AIR FILTER STATUS OPEN (SIGNAL)	FACTORY	WHT	28	WHT	1225	UC600 - 3 UI5 (SIGNAL)					
DPS - 3 OUTDOOR AIR FILTER STATUS OPEN (GND)	FACTORY	BLK	29	BLK	1225	RTU - 1 UI5 (GND)					
DPS - 2 EXHAUST FAN STATUS OPEN (SIGNAL)	FACTORY	WHT	30	WHT	1251	XM70 - 3 - 1 UI2 (SIGNAL)					
DPS - 2 EXHAUST FAN STATUS OPEN (GND)	FACTORY	BLK	31	BLK	1251	XM70 - 2 UI2 (GND)					
POS - 1 OUTDOOR AIR DAMPER END SWITCH OPEN (SIGNAL)	FACTORY	WHT	32	WHT	1252	XM70 - 3 - 1 UI3 (SIGNAL)					
POS - 1 OUTDOOR AIR DAMPER END SWITCH OPEN (GND)	FACTORY	BLK	33	BLK	1252	XM70 - 2 UI3 (GND)					
TE - 20 EVAPORATOR COIL LEAVING TEMPERATURE (SIGNAL)	FACTORY	WHT	34	WHT	1222	UC600 - 3 UI2 (SIGNAL)					
TE - 20 EVAPORATOR COIL LEAVING TEMPERATURE (GND)	FACTORY	BLK	35	BLK	1222	RTU - 1 UI2 (GND)					
TEH - 2 OUTDOOR AIR TEMPERATURE LOCAL (SIGNAL)	FACTORY	WHT	36	WHT	1227	UC600 - 3 UI7 (SIGNAL)					
TEH - 2 OUTDOOR AIR TEMPERATURE LOCAL (GND)	FACTORY	BLK	37	BLK	1227	RTU - 1 UI7 (GND)					
TE - 19 EXHAUST AIR TEMPERATURE (SIGNAL)	FACTORY	WHT	38	WHT	1223	UC600 - 3 UI3 (SIGNAL)					
TE - 19 EXHAUST AIR TEMPERATURE (GND)	FACTORY	BLK	39	BLK	1223	RTU - 1 UI3 (GND)					
ENERGY WHEEL VFD (SIGNAL)	FACTORY	WHT	40	WHT	1210	UC600 - 3 AO1 (SIGNAL)					
ENERGY WHEEL VFD (GND)	FACTORY	BLK	41	BLK	1216	RTU - 1 AO4 (GND)					
			42								
			43								
			44								
TEH - 2, DPT - 7, DPT - 8 (GND)	FACTORY	BLK	45	BLK	*	MULTIPLE CONTROLLER POINTS (GND)					
TEH - 2 OUTDOOR AIR RELATIVE HUMIDITY LOCAL (SIGNAL)	FACTORY	WHT	46	WHT	1228	UC600 - 3 UI8 (SIGNAL)					
DPT - 7 SUPPLY FAN PIEZO (SIGNAL)	FACTORY	WHT	47	WHT	1253	XM70 - 3 - 1 UI4 (SIGNAL)					
DPT - 8 EXHAUST FAN PIEZO (SIGNAL)	FACTORY	WHT	48	WHT	1254	XM70 - 3 - 1 UI5 (SIGNAL)					



ERAHU - 1 TERMINAL STRIP WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 26 OF 54

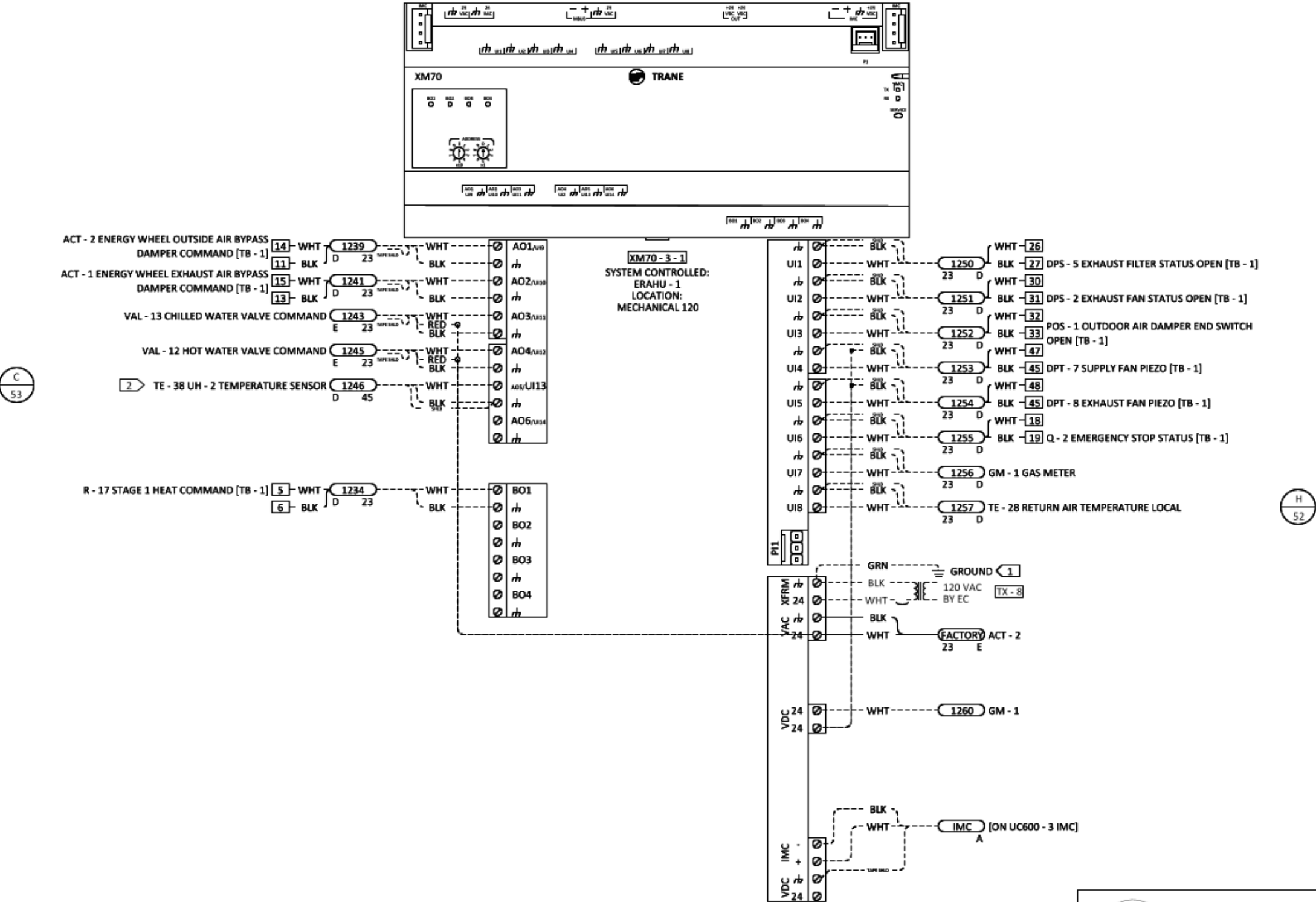
BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



ERAHU - 1 UC600 - 3 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 27 OF 54

(ERAHU - 1)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
XM70 - 3 - 1	1	TRANE	X13651597010	XM70, 19 POINT EXPANSION MODULE (USA)
TX - 8	1	KELE	TR100VA004U5	XFMR, 120/277/240/480-24VAC, 100VA, CB



2 REFER TO PAGE 45 FOR UH DIAGRAM AND WIRING DETAIL.

1 DEVICE MUST BE GROUNDED WITH FACTORY PROVIDED GROUND WIRE AS DETAILED IN THE DEVICE INSTALLATION LITERATURE.

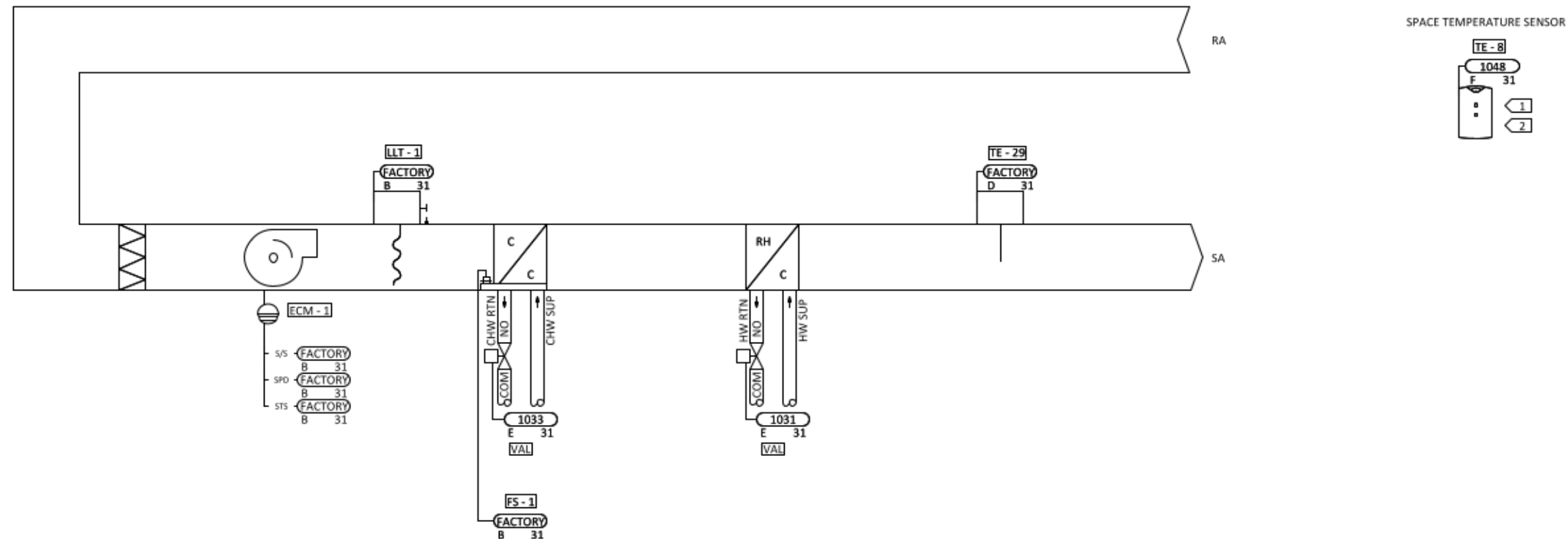
ERAHU - 1 XM70 - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 28 OF 54



TYPICAL FOR 48
(FCU - 101 ~ 122, FCU - 201 ~ 225, 229)

MANUFACTURER: TRANE
MODEL NUMBER: FCCB0402CAYF0A00BJ3M000DD3000L200CL0L

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE



- 2 LOCATION IN WATER VALVE SCHEDULE.
1 MOUNT SENSOR IN CONTROLLED SPACE.

FCU - 101~122, 201~225, 229 AIRFLOW DIAGRAM				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			



Sequence of Operations

FCU 101 ~ 122, 201 ~ 226, 229

Building Automation System Interface:

The Building Automation System (BAS) will send the controller Occupied / Unoccupied modes. The BAS will also send the controller the discharge air temperature setpoint. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.

Occupied Mode:

During occupied periods the supply fan will run continuously. The chilled water and hot water valves will modulate to maintain the active space temperature setpoint.

Occupied Bypass:

The BAS will monitor the status of the “on” and “cancel” buttons of the space temperature sensor or movement as detected by a space occupancy sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints (adj.).

Space Temperature Control:

Cascade zone control will be used in the occupied and occupied bypass modes. It maintains zone temperature by controlling the discharge air temperature to control the zone temperature while minimizing the fan speed. The space temperature will be maintained between the occupied cooling setpoint of 74.0 deg. F (adj.) and the occupied heating setpoint of 71.0 deg. F (adj.). The unit will transition to the cooling mode when the space temperature rises one degree above the occupied cooling setpoint of 74.0 deg. F (adj.). The unit will transition to the heating mode when the space temperature drops one degree below the occupied heating setpoint of 71.0 deg. F (adj.).

Supply Fan Operation:

The supply fan will cycle on demand during the unoccupied mode. When the controller transitions to the occupied mode, the supply fan will start at high speed before transitioning to continuous operation at the selected speed.

Space Temperature Sensor:

A space temperature sensor will allow the BAS to monitor the space temperature of the area served by the Fan Coil Unit. An alarm will be annunciated to the BAS when space temperature exceeds 85 deg. F (adj.).

Condensate Overflow Monitoring:

If the condensate level reaches the trip point, a condensate overflow diagnostic will be annunciated at the BAS. To prevent the condensate drain pan from overflowing and causing water damage to the building the fan will be disabled and the chilled water valve will close.

Freeze Control:

If entering coil temperature falls below 38 deg. F the supply fan is to stop. The unit must be manually reset as condition indicates enthalpy wheel failure.

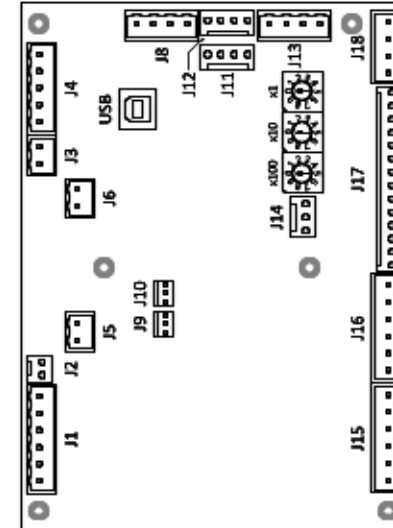
FCU - 101~122, 201~225, 229 SEQUENCE OF OPERATIONS

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 30 OF 54	

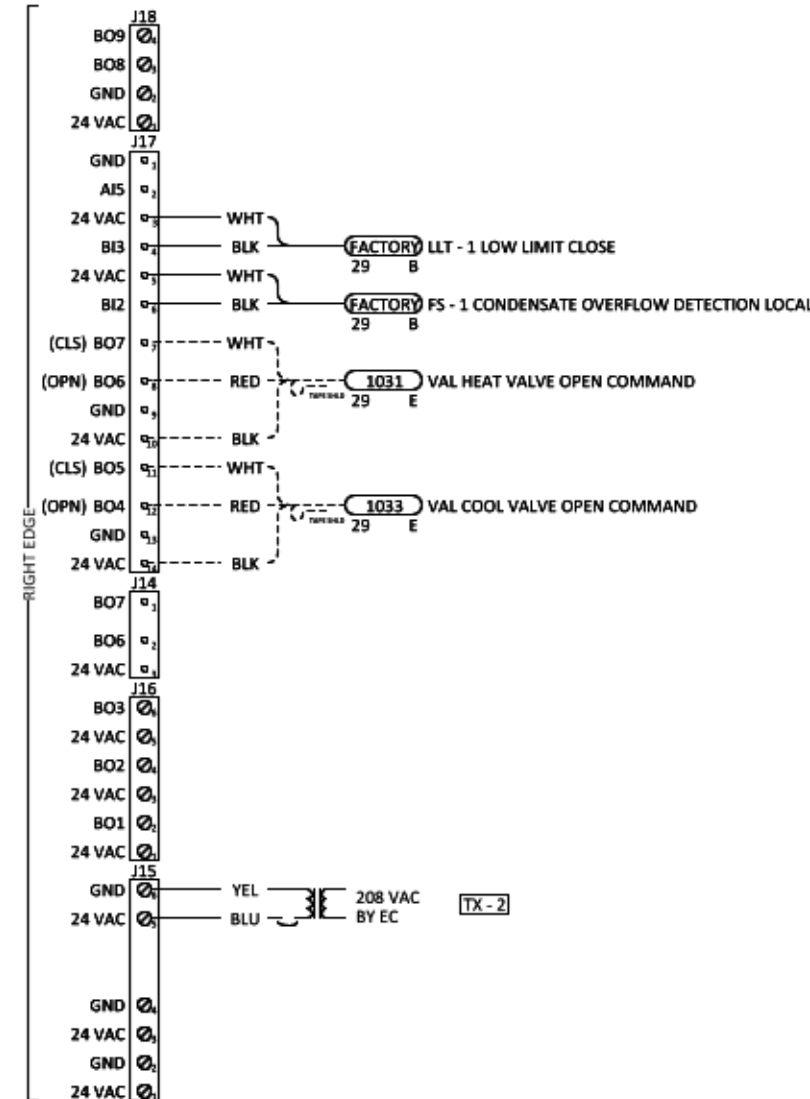
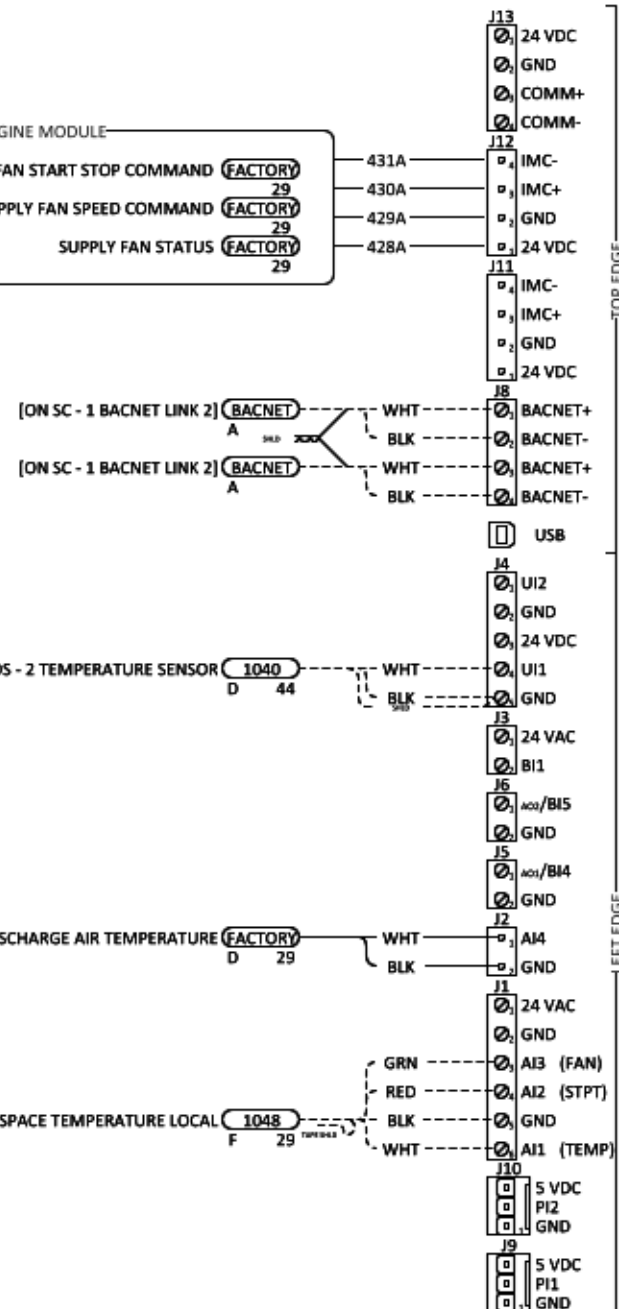


TYPICAL FOR 48
(FCU - 101 ~ 122, FCU - 201 ~ 225, 229)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



UC400 - 1 ~ 22
SYSTEM CONTROLLED:
FCU - 101 ~ 122
LOCATION:
FIRST FLOOR DORMS



C
53

1
2
TE - 34 DS - 1 / , TE - 35 DS - 2 TEMPERATURE SENSOR

TE - 29 DISCHARGE AIR TEMPERATURE

TE - 8 SPACE TEMPERATURE LOCAL

2 REFER TO PAGE 44 FOR DS DIAGRAM AND WIRING DETAIL.

1 DS - 1 SENSOR APPLIES TO FCU - 114 CONTROLLER, AND DS - 2 SENSOR APPLIES TO FCU - 214 CONTROLLER.

FCU - 101~122, 201~225, 229 UC400 - 1 ~ 22 & 26 ~ 51 WIRING DETAIL

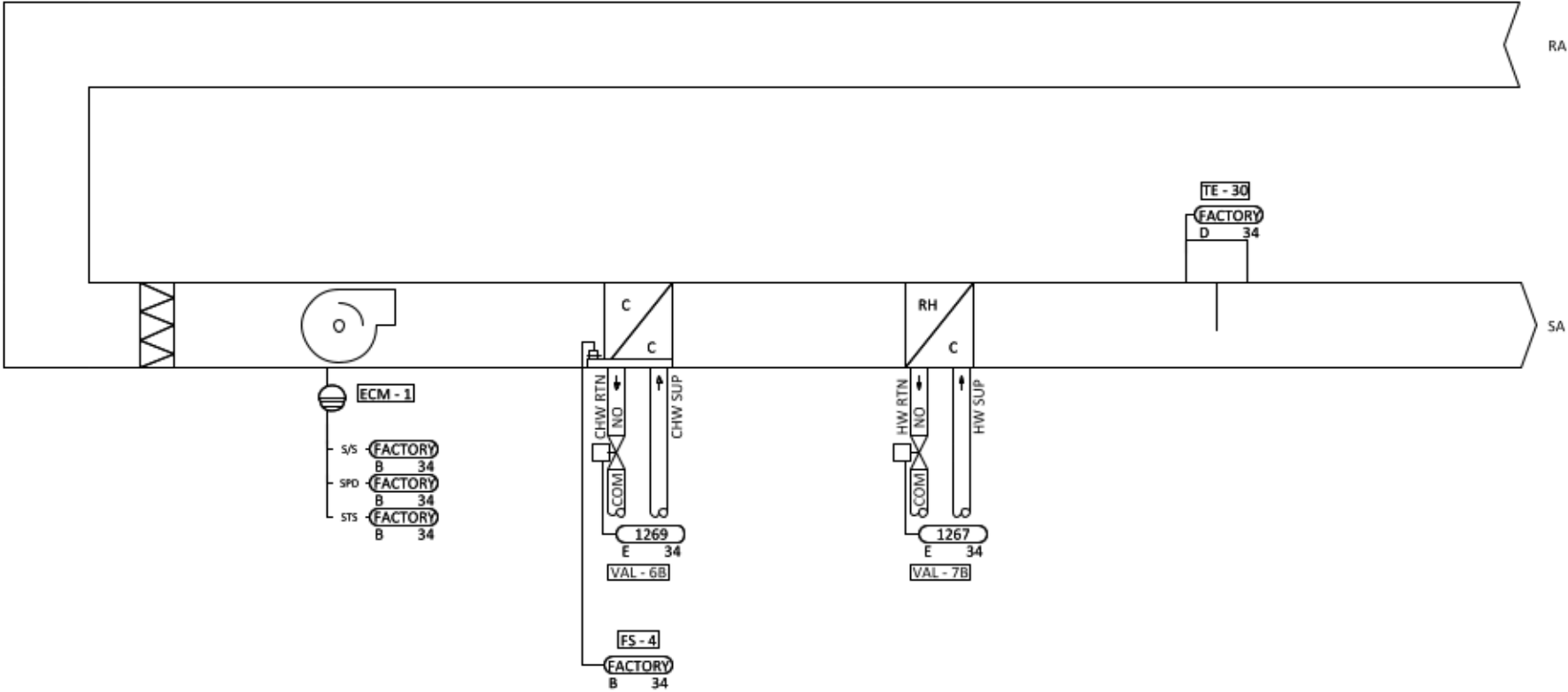
CID:	NUM.	REVISION	DATE:	BY:
119880				
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR	PROJECT: LRAFB Repair Airmen Dormitory B854			
10303 Colonel Glenn Rd, Suite 1-0	Little Rock Air Force Base			
Little Rock, AR 72204	Jacksonville AR 72099			
501-859-0689				
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	DWG 31 OF 54			



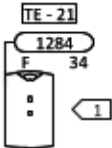
(FCU - 123)

MANUFACTURER: TRANE
MODEL NUMBER: FCD80301CAYD0B10AJ3M000DD3000L200BL0L
LOCATION: LAUNDRY 121

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
HDW - 1	1	KELE	220B	FLOW MTR, 0.5 FPS - 30 FPS, 2.5 IN - 40 IN PIPES, BRASS
FT - 1	1	KELE	UFT-1A-1	FLOW MTR ANALOG XMTR
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE

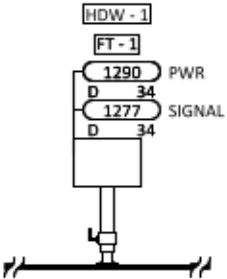


SPACE TEMPERATURE SENSOR



LOCATION: LAUNDRY 121

DOMESTIC WATER METER



LOCATION: RISER ROOM

1 MOUNT SENSOR IN CONTROLLED SPACE.

FCU - 123 AIRFLOW DIAGRAM

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
				DWG 32 OF 54



Sequence of Operations

FCU - 123

Building Automation System Interface:

The Building Automation System (BAS) will send the controller Occupied / Unoccupied modes. The BAS will also send the controller the discharge air temperature setpoint. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.

Occupied Mode:

During occupied periods the supply fan will run continuously. The chilled water and hot water valves will modulate to maintain the active space temperature setpoint.

Occupied Bypass:

The BAS will monitor the status of the “on” and “cancel” buttons of the space temperature sensor or movement as detected by a space occupancy sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints (adj.).

Space Temperature Control:

Cascade zone control will be used in the occupied and occupied bypass modes. It maintains zone temperature by controlling the discharge air temperature to control the zone temperature while minimizing the fan speed. The space temperature will be maintained between the occupied cooling setpoint of 74.0 deg. F (adj.) and the occupied heating setpoint of 71.0 deg. F (adj.). The unit will transition to the cooling mode when the space temperature rises one degree above the occupied cooling setpoint of 74.0 deg. F (adj.). The unit will transition to the heating mode when the space temperature drops one degree below the occupied heating setpoint of 71.0 deg. F (adj.).

Supply Fan Operation:

The supply fan will cycle on demand during the unoccupied mode. When the controller transitions to the occupied mode, the supply fan will start at high speed before transitioning to continuous operation at the selected speed.

Space Temperature Sensor:

A space temperature sensor will allow the BAS to monitor the space temperature of the area served by the Fan Coil Unit. An alarm will be annunciated to the BAS when space temperature exceeds 85 °F (adj.).

Condensate Overflow Monitoring:

If the condensate level reaches the trip point, a condensate overflow diagnostic will be annunciated at the BAS. To prevent the condensate drain pan from overflowing and causing water damage to the building the fan will be disabled and the chilled water valve will close.

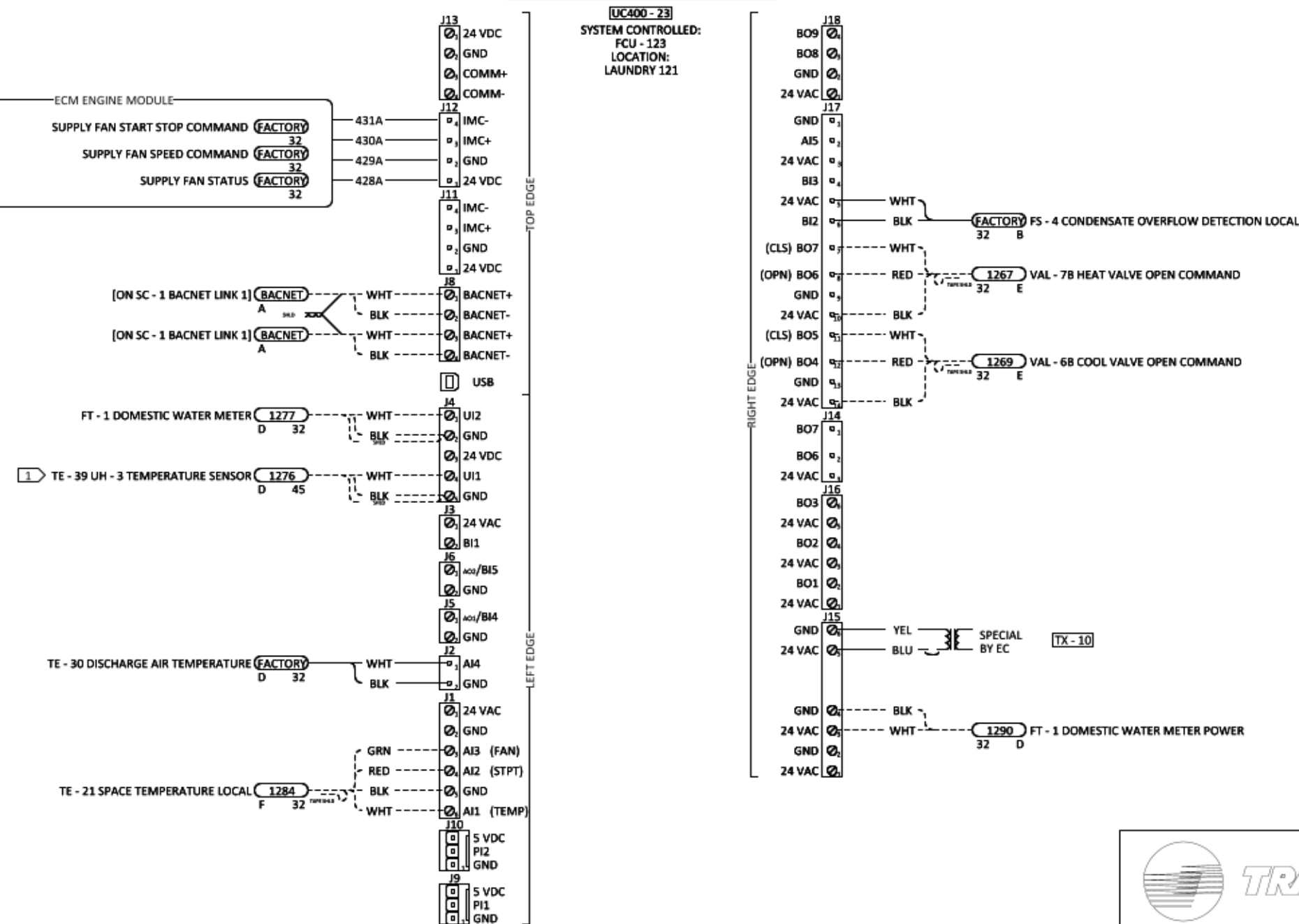
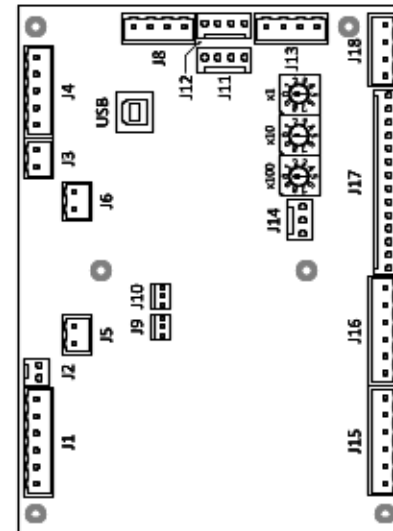
Domestic Water Meter:

A flow meter will monitor the domestic water flow and report it to the BAS.



FCU - 123 SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX			DWG 33 OF 54	

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



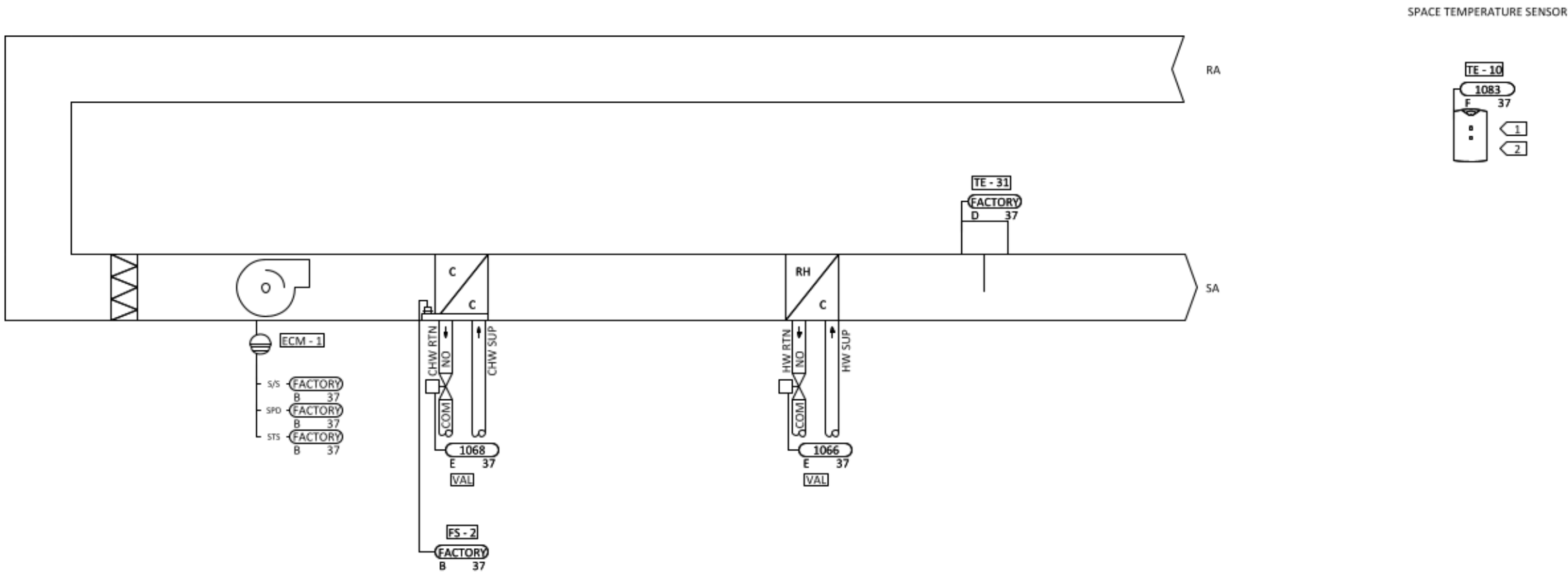
1 REFER TO PAGE 45 FOR UH DIAGRAM AND WIRING DETAIL.

FCU - 123 UC400 - 23 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw			DWG 34 OF 54	



MANUFACTURER: TRANE
MODEL NUMBER:
FCU – 124 & 227: FCCB0301CAYFA00AJ3M000DD3000L200BL0L
FCU - 226: FCDB0301CAYD0B10AJ3M000DD3000L200BL0L
FCU – 125 & 228: FCEB0401CAYD0A10BJ3M000DD3000L200BL0L

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE



2 LOCATION IN WATER VALVE SCHEDULE.

1 MOUNT SENSOR IN CONTROLLED SPACE.

FCU - 124~125, 226~228 AIRFLOW DIAGRAM

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw			DWG 35 OF 54	



Sequence of Operations

FCU – 124 ~ 125, 226 ~ 228

Building Automation System Interface:

The Building Automation System (BAS) will send the controller Occupied / Unoccupied modes. The BAS will also send the controller the discharge air temperature setpoint. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.

Occupied Mode:

During occupied periods the supply fan will run continuously. The chilled water and hot water valves will modulate to maintain the active space temperature setpoint.

Occupied Bypass:

The BAS will monitor the status of the “on” and “cancel” buttons of the space temperature sensor or movement as detected by a space occupancy sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints (adj.).

Space Temperature Control:

Cascade zone control will be used in the occupied and occupied bypass modes. It maintains zone temperature by controlling the discharge air temperature to control the zone temperature while minimizing the fan speed. The space temperature will be maintained between the occupied cooling setpoint of 74.0 deg. F (adj.) and the occupied heating setpoint of 71.0 deg. F (adj.). The unit will transition to the cooling mode when the space temperature rises one degree above the occupied cooling setpoint of 74.0 deg. F (adj.). The unit will transition to the heating mode when the space temperature drops one degree below the occupied heating setpoint of 71.0 deg. F (adj.).

Supply Fan Operation:

The supply fan will cycle on demand during the unoccupied mode. When the controller transitions to the occupied mode, the supply fan will start at high speed before transitioning to continuous operation at the selected speed.

Space Temperature Sensor:

A space temperature sensor will allow the BAS to monitor the space temperature of the area served by the Fan Coil Unit. An alarm will be annunciated to the BAS when space temperature exceeds 85 °F (adj.).

Condensate Overflow Monitoring:

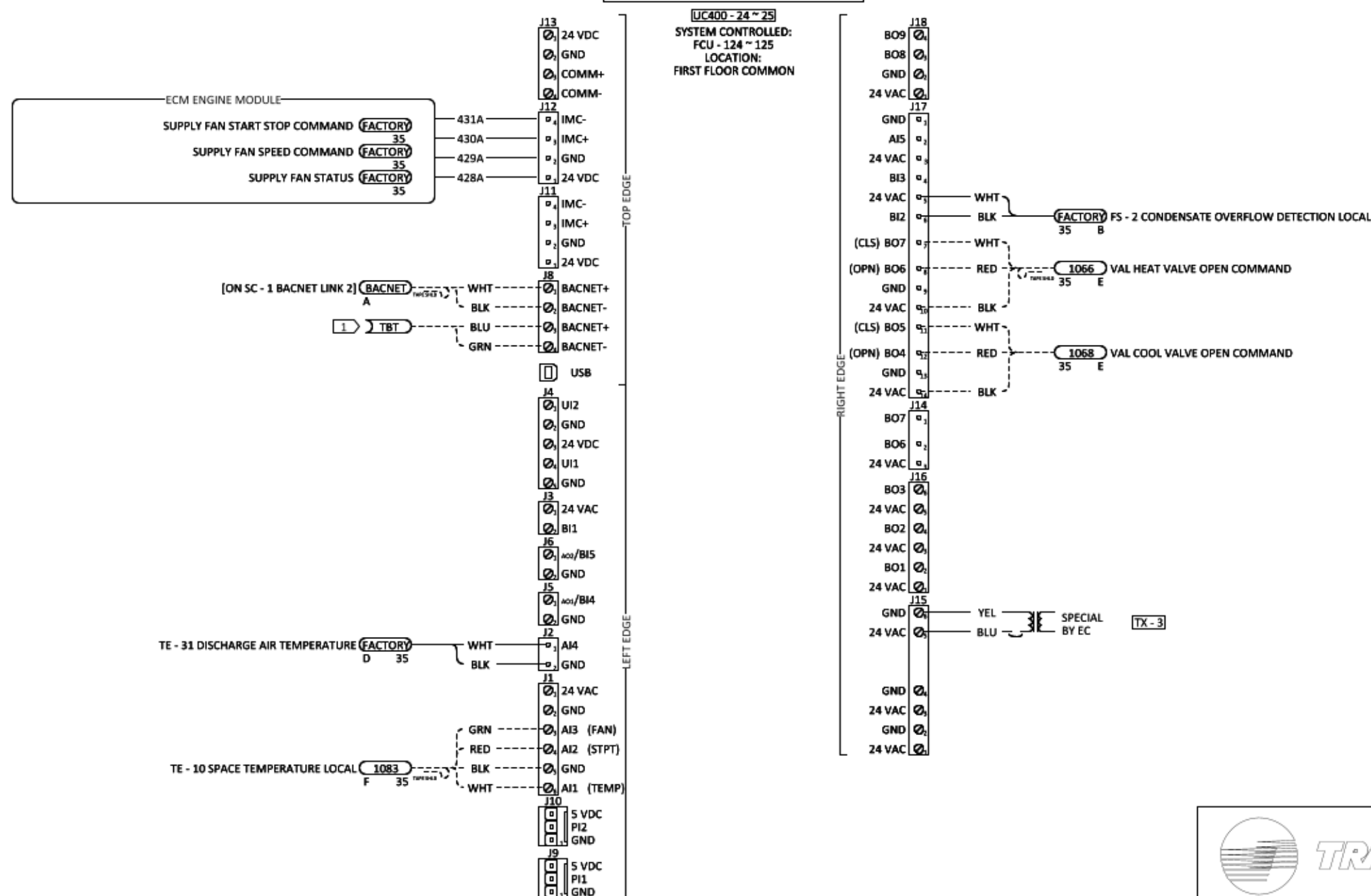
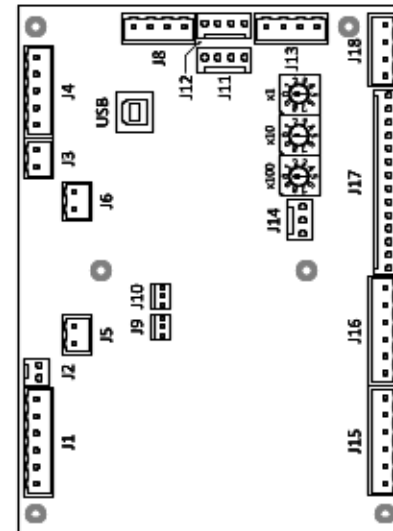
If the condensate level reaches the trip point, a condensate overflow diagnostic will be annunciated at the BAS. To prevent the condensate drain pan from overflowing and causing water damage to the building the fan will be disabled and the chilled water valve will close.



FCU - 124~125, 226~228 SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX			DWG 36 OF 54	

TYPICAL FOR 5
(FCU - 124 ~ 125, FCU - 226 ~ 228)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



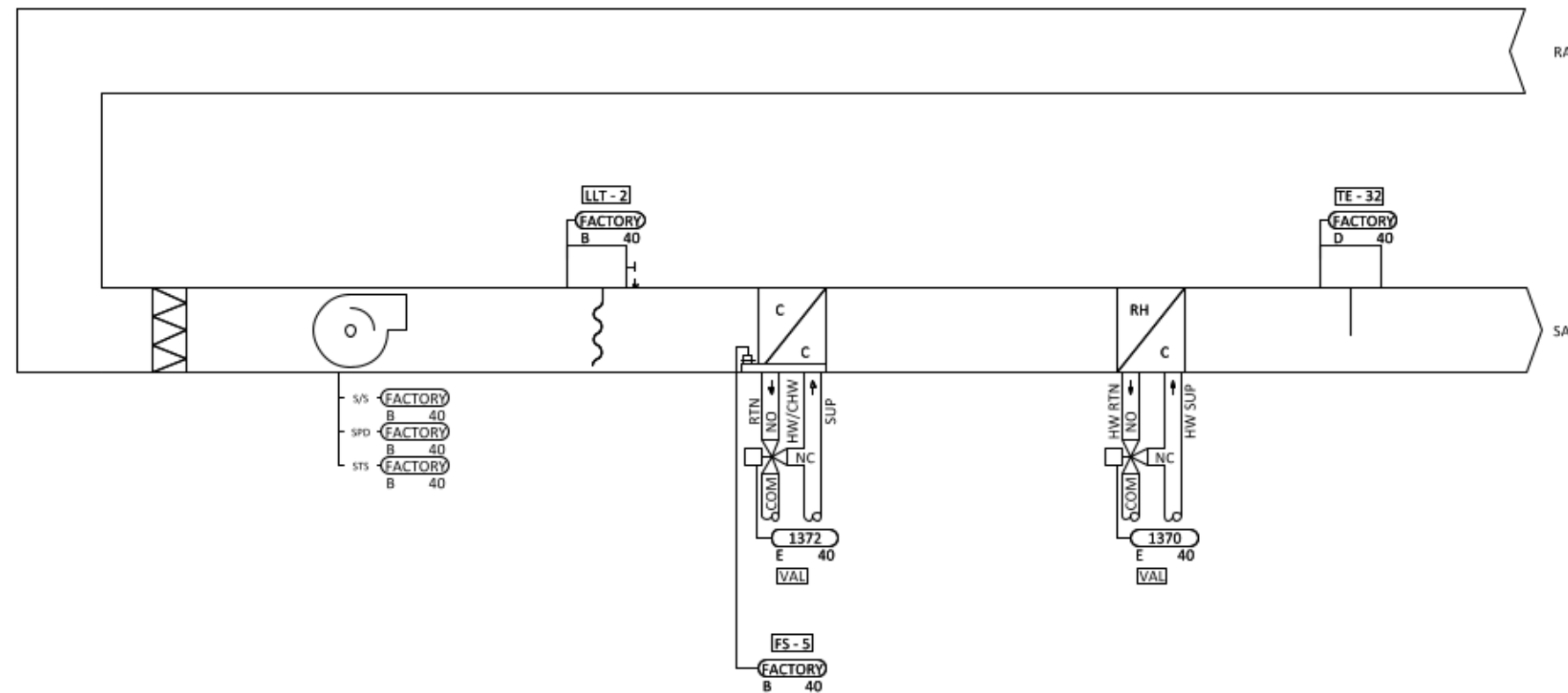
1 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.

FCU - 124~125, 226~228 UC400 - 24 ~ 25 & 52 ~ 54 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 37 OF 54



MANUFACTURER: TRANE
MODEL NUMBER: FCCB0402CAYFOA00BJ3M000DD3000L200CL0L

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE



TE - 23

1387

F 40

1

2

- 2 LOCATION IN WATER VALVE SCHEDULE.
1 MOUNT SENSOR IN CONTROLLED SPACE.

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 38 OF 54	



Sequence of Operations

FCU 301 ~ 325, 329

Building Automation System Interface:

The Building Automation System (BAS) will send the controller Occupied / Unoccupied modes. The BAS will also send the controller the discharge air temperature setpoint. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.

Occupied Mode:

During occupied periods the supply fan will run continuously. The chilled water and hot water valves will modulate to maintain the active space temperature setpoint.

Occupied Bypass:

The BAS will monitor the status of the “on” and “cancel” buttons of the space temperature sensor or movement as detected by a space occupancy sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints (adj.).

Space Temperature Control:

Cascade zone control will be used in the occupied and occupied bypass modes. It maintains zone temperature by controlling the discharge air temperature to control the zone temperature while minimizing the fan speed. The space temperature will be maintained between the occupied cooling setpoint of 74.0 deg. F (adj.) and the occupied heating setpoint of 71.0 deg. F (adj.). The unit will transition to the cooling mode when the space temperature rises one degree above the occupied cooling setpoint of 74.0 deg. F (adj.). The unit will transition to the heating mode when the space temperature drops one degree below the occupied heating setpoint of 71.0 deg. F (adj.).

Supply Fan Operation:

The supply fan will cycle on demand during the unoccupied mode. When the controller transitions to the occupied mode, the supply fan will start at high speed before transitioning to continuous operation at the selected speed.

Space Temperature Sensor:

A space temperature sensor will allow the BAS to monitor the space temperature of the area served by the Fan Coil Unit. An alarm will be annunciated to the BAS when space temperature exceeds 85 °F (adj.).

Condensate Overflow Monitoring:

If the condensate level reaches the trip point, a condensate overflow diagnostic will be annunciated at the BAS. To prevent the condensate drain pan from overflowing and causing water damage to the building the fan will be disabled and the chilled water valve will close.

Freeze Control:

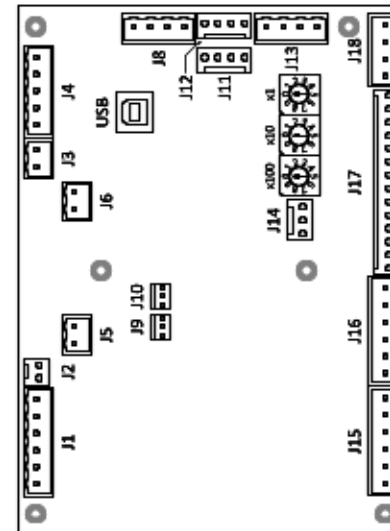
If entering coil temperature falls below 38 deg. F the supply fan is to stop. The unit must be manually reset as condition indicates enthalpy wheel failure.



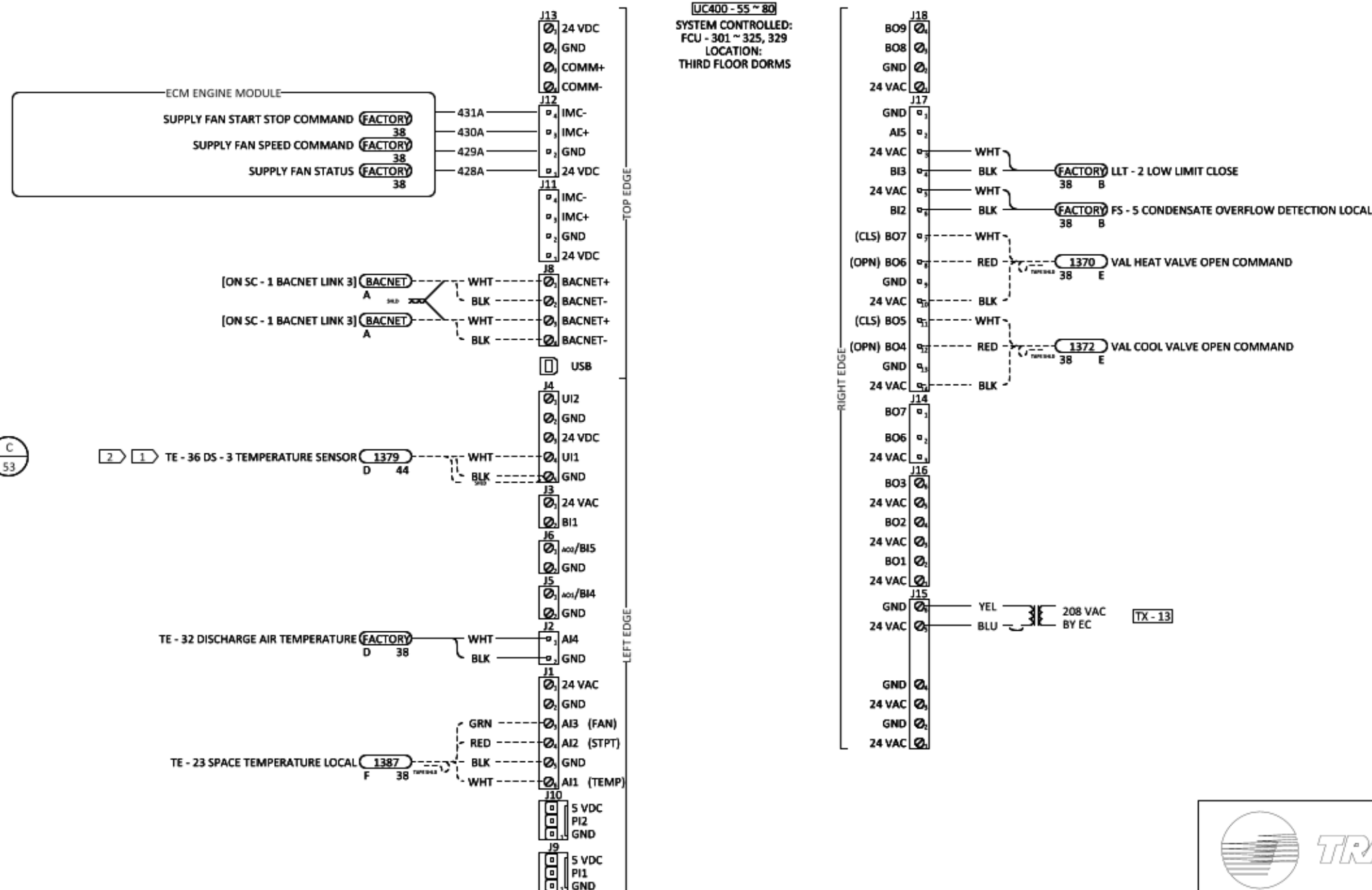
FCU - 301 ~ 325 SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 39 OF 54	

TYPICAL FOR 26
(FCU - 301 ~ 325, 329)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



UC400 - 55 ~ 80
SYSTEM CONTROLLED:
FCU - 301 ~ 325, 329
LOCATION:
THIRD FLOOR DORMS



- 2 REFER TO PAGE 44 FOR DS DIAGRAM AND WIRING DETAIL.
1 DS - 3 SENSOR APPLIES TO FCU - 315 CONTROLLER.

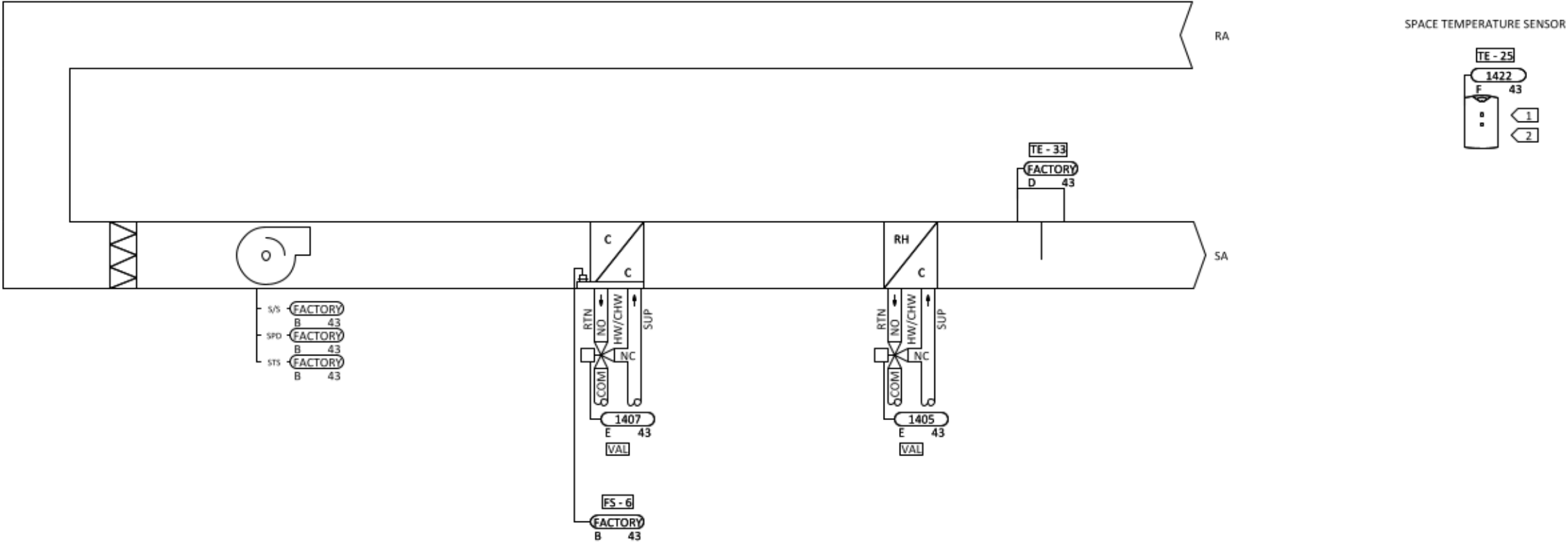
FCU - 301 ~ 325 UC400 - 55 ~ 70 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 40 OF 54



TYPICAL FOR 3
(FCU - 326 ~ 328)

MANUFACTURER: TRANE
MODEL NUMBER:
FCU - 326: FCDB0301CAYD0B10AJ3M000DD3000L200BL0L
FCU - 327: FCCB0301CAYF0A00AJ3M000DD3000L200BL0L
FCU - 328: FCEB0401CAYD0A10BJ3M000DD3000L200BL0L

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE



- 2 LOCATION IN WATER VALVE SCHEDULE.
- 1 MOUNT SENSOR IN CONTROLLED SPACE.

FCU - 326 ~ 328 AIRFLOW DIAGRAM

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
				DWG 41 OF 54



Sequence of Operations

FCU 326 ~ 328

Building Automation System Interface:

The Building Automation System (BAS) will send the controller Occupied / Unoccupied modes. The BAS will also send the controller the discharge air temperature setpoint. If a BAS is not present, or communication is lost with the BAS the controller will operate using default modes and setpoints.

Occupied Mode:

During occupied periods the supply fan will run continuously. The chilled water and hot water valves will modulate to maintain the active space temperature setpoint.

Occupied Bypass:

The BAS will monitor the status of the “on” and “cancel” buttons of the space temperature sensor or movement as detected by a space occupancy sensor. When an occupied bypass request is received from a space sensor, the unit will transition from its current occupancy mode to occupied bypass mode and the unit will maintain the space temperature to the occupied setpoints (adj.).

Space Temperature Control:

Cascade zone control will be used in the occupied and occupied bypass modes. It maintains zone temperature by controlling the discharge air temperature to control the zone temperature while minimizing the fan speed. The space temperature will be maintained between the occupied cooling setpoint of 74.0 deg. F (adj.) and the occupied heating setpoint of 71.0 deg. F (adj.). The unit will transition to the cooling mode when the space temperature rises one degree above the occupied cooling setpoint of 74.0 deg. F (adj.). The unit will transition to the heating mode when the space temperature drops one degree below the occupied heating setpoint of 71.0 deg. F (adj.).

Supply Fan Operation:

The supply fan will cycle on demand during the unoccupied mode. When the controller transitions to the occupied mode, the supply fan will start at high speed before transitioning to continuous operation at the selected speed.

Space Temperature Sensor:

A space temperature sensor will allow the BAS to monitor the space temperature of the area served by the Fan Coil Unit. An alarm will be annunciated to the BAS when space temperature exceeds 85 °F (adj.).

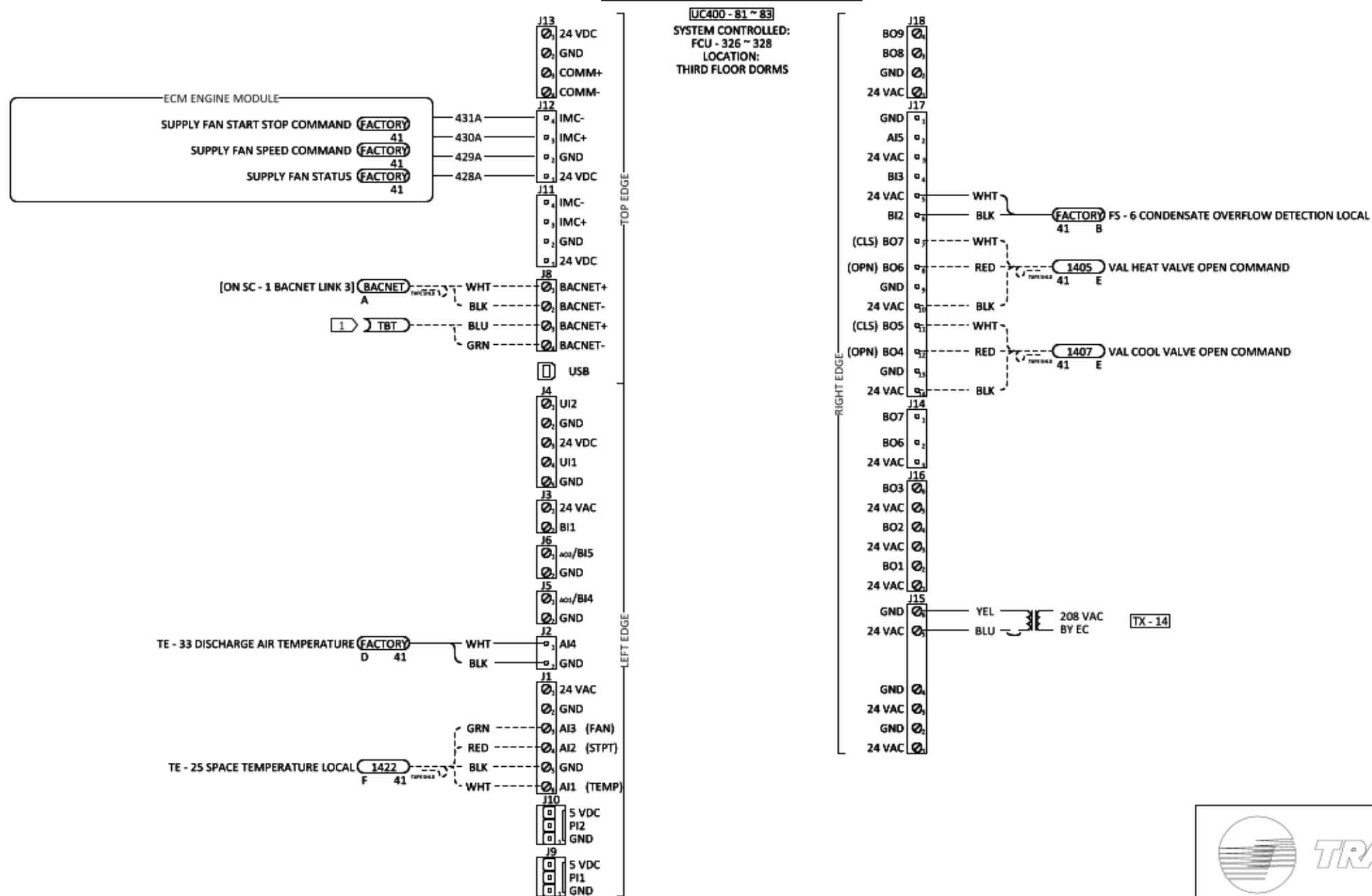
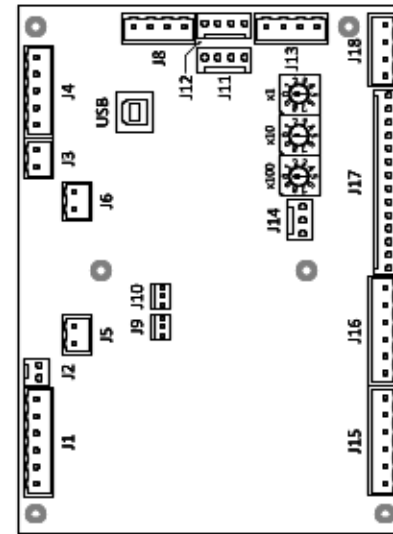
Condensate Overflow Monitoring:

If the condensate level reaches the trip point, a condensate overflow diagnostic will be annunciated at the BAS. To prevent the condensate drain pan from overflowing and causing water damage to the building the fan will be disabled and the chilled water valve will close.



FCU - 326 ~ 328 SEQUENCE OF OPERATIONS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX			DWG 42 OF 54	

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION



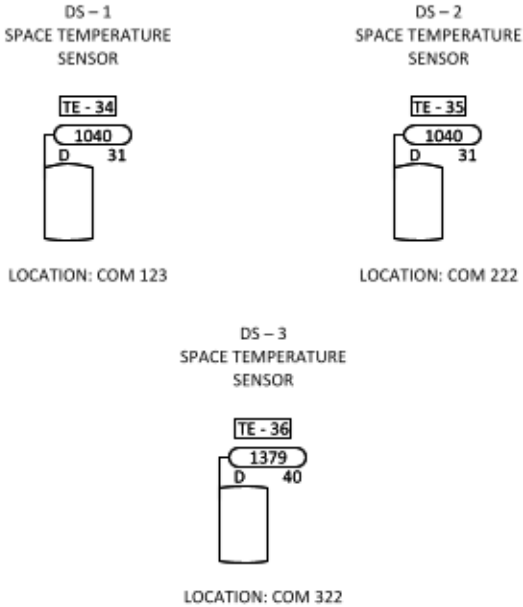
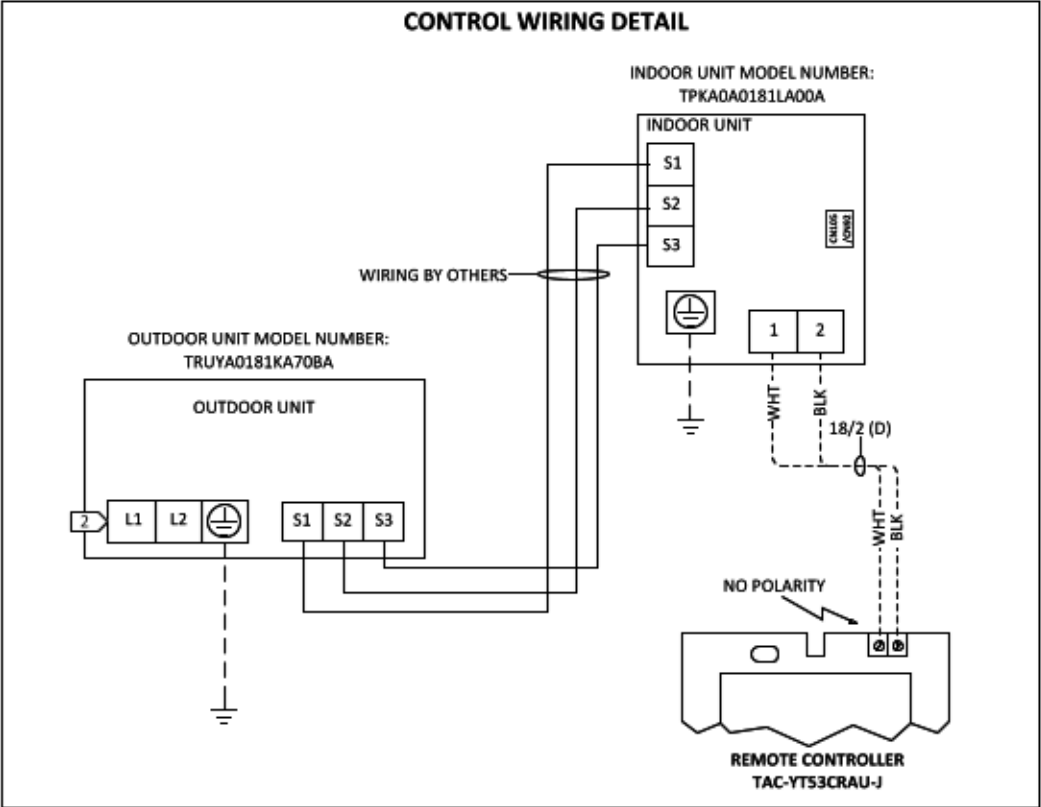
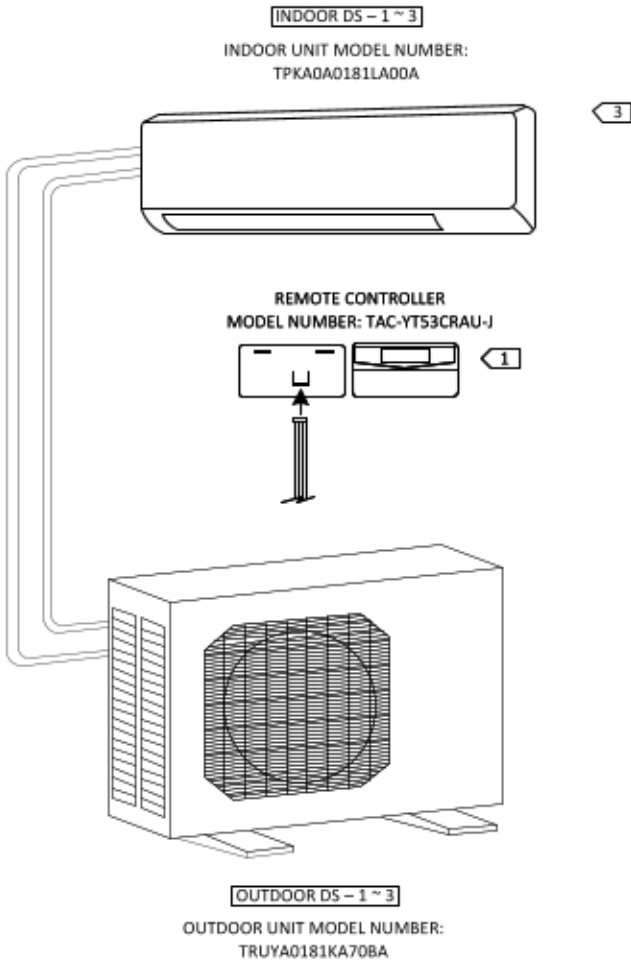
1 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.

FCU - 326 ~ 328 UC400 - 71 ~ 73 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw			DWG 43 OF 54	



TYPICAL FOR 3
(DS - 1 ~ 3)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
TE - 34, TE - 35, TE - 36	3	TRANE	X1351152801	TEMP SENS, ZONE THERM



DS LOCATION SCHEDULE				
UNIT	INDOOR UNIT MODEL NUMBER	INDOOR UNIT LOCATION	OUTDOOR UNIT MODEL NUMBER	OUTDOOR UNIT LOCATION
DS - 1	TPKA0A0181LA00A	COM 123	TRUYA0181KA70BA	OUTSIDE
DS - 2	TPKA0A0181LA00A	COM 222	TRUYA0181KA70BA	OUTSIDE
DS - 3	TPKA0A0181LA00A	COM 322	TRUYA0181KA70BA	OUTSIDE

Ductless Split Unit Sequence of Operations

The DDS will be controlled by the manufacturer's integral thermostat. When the space temperature rises above the cooling setpoint of 72°F (adj.), the thermostat will energize the DDS unit and energize the indoor unit supply fan. When the space temperature drops below the thermostat setpoint, the opposite will occur. Setpoint will be selected from the remote controller.

A separate space temperature sensor will allow the DDC system to monitor the space temperature of the area served by the Split Unit. An alarm will be annunciated to the DDC system when space temperature exceeds 85 °F (adj.).

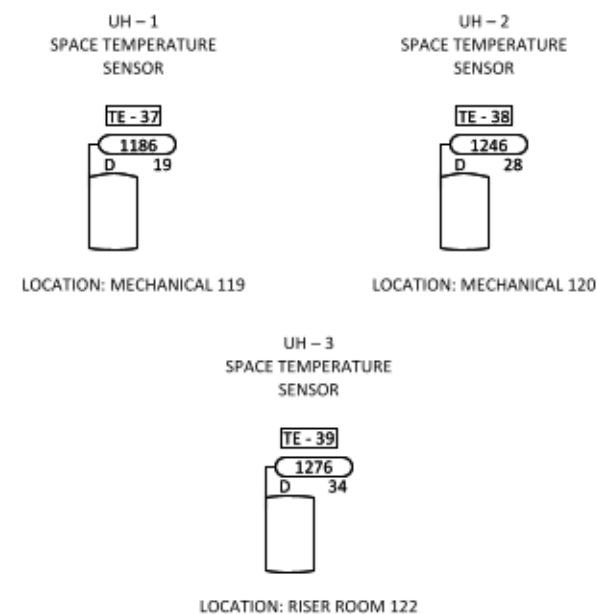
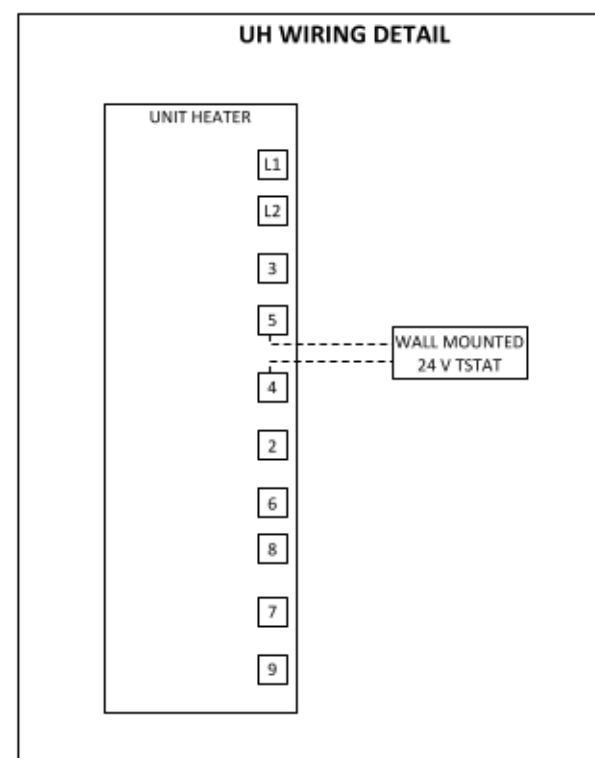
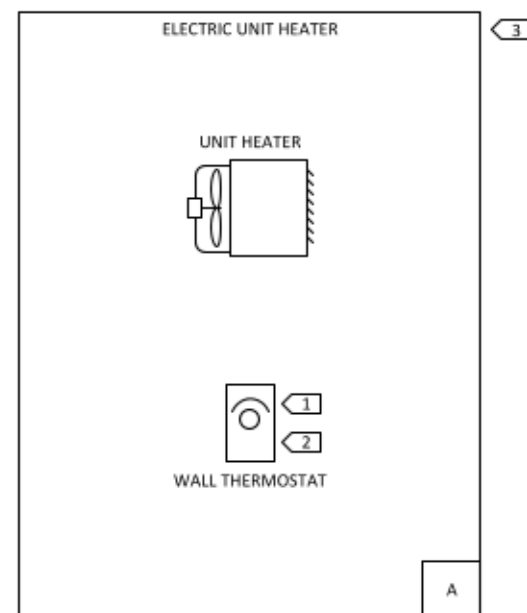
- 3 STAND ALONE SYSTEM.
- 2 LINE VOLTAGE BY OTHERS.
- 1 THERMOSTAT FACTORY-PROVIDED/FIELD-INSTALLED.

DS - 1 ~ 3 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 44 OF 54



TYPICAL FOR 3
(UH - 1 ~ 3)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
TE - 37, TE - 38, TE - 39	3	TRANE	X1351152801	TEMP SENS, ZONE THERM



Sequence of Operations

UH - 1 ~ 3

The unit heater will be controlled by the manufacturer's integral thermostat. It will cycle the electric heater to satisfy thermostat setpoint (adj.).

UH LOCATION SCHEDULE		
UNIT	UNIT MODEL NUMBER	UNIT LOCATION
UH - 1	UHEC031AACA	MECHANICAL 119
UH - 2	UHEC031AACA	MECHANICAL 120
UH - 3	UHEC031AACA	RISER ROOM 122

- 3 STAND ALONE SYSTEM.
- 2 FACTORY PROVIDED AND FIELD INSTALLED.
- 1 MOUNT SENSOR IN CONTROLLED SPACE

UH - 1 ~ 3 WIRING DETAIL

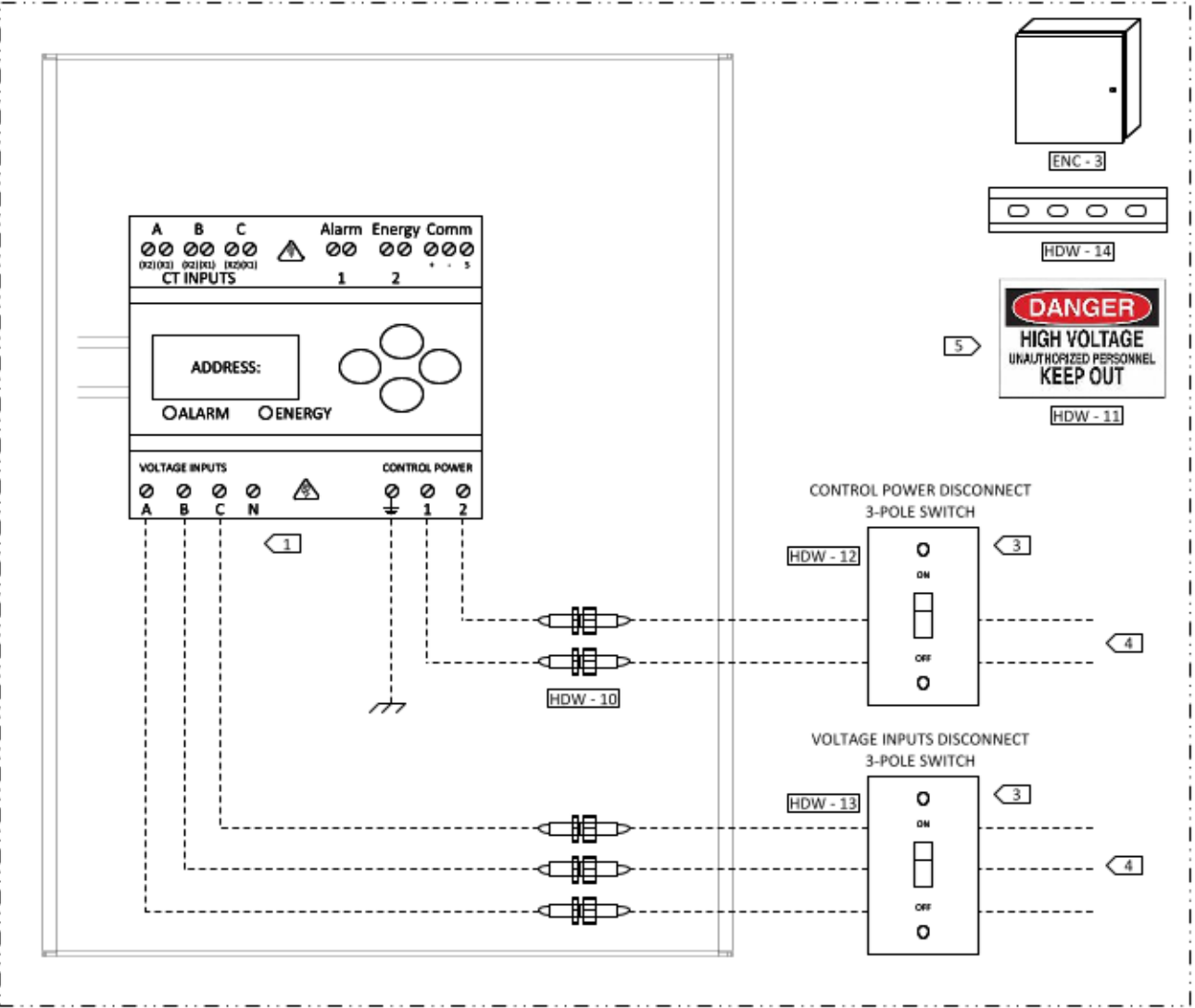
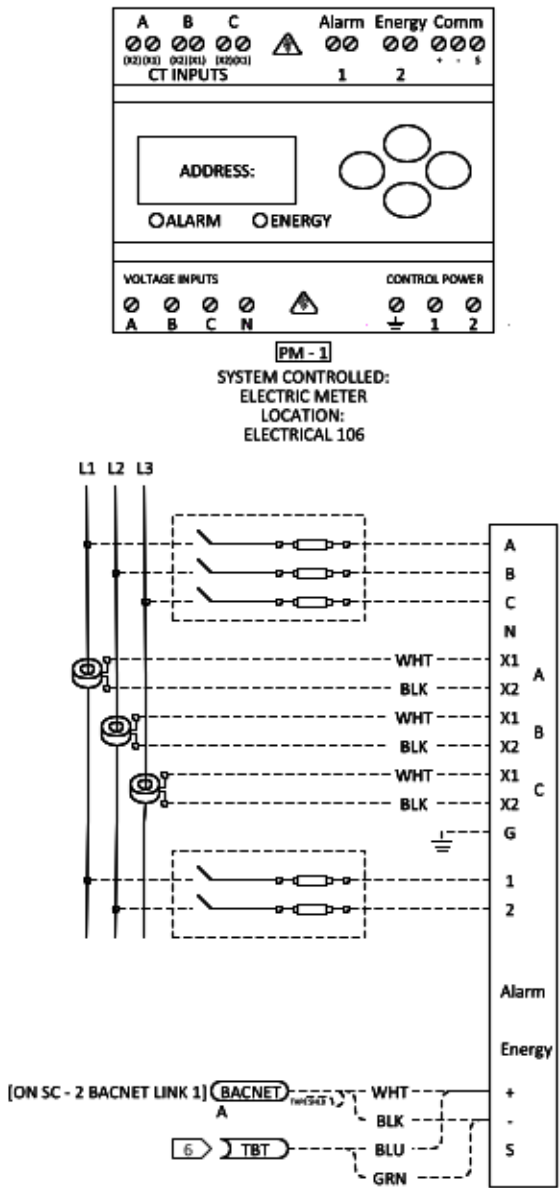
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689 FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			



(ELECTRIC METER)

BILL OF MATERIAL				
TAG	QTY	VENDOR	PART NO	DESCRIPTION
PM - 1	1	TRANE	X13651686002	POWER METER, BACNET, E50 SERIES, ROPE CT, 18 IN. W/FUSE KIT
HDW - 11	1	GRAINGER	1VC48	SAFETY SIGN LABEL, ELECTRICAL HAZARD, ENGLISH, 5 X 3.5 INCHES, POLYESTER
HDW - 14	1	KELE	DIN-3F	DIN RAIL, STEEL, 39.4 IN
ENC - 3	1	KELE	HC16126P	NEMA 1, 16X12X6 INCH, HINGED ENCLOSURE W/PERF PANEL
HDW - 12, HDW - 13	2	LEVITON	MS303-DS	TOGGLE SWITCH, 3 POLE, 600VAC, 30 AMP
HDW - 10	1	VERIS	AH03	0.5 AMP 2 FUSE PACK, 600VAC, 14AWG, 18 INCH

ENCLOSURE AND DISCONNECT LAYOUT DETAIL



- 6 INSTALL A BACNET TERMINATOR AT THE BEGINNING AND AT THE END OF EACH BACNET LINK.
- 5 INSTALL WARNING STICKER ON FRONT OF ENCLOSURE.
- 4 TO HIGH VOLTAGE POWER SOURCE - REFER TO DETAIL AT LEFT FOR MORE INFORMATION.
- 3 ESC TO PROVIDE JUNCTION BOX FOR TOGGLE SWITCH DISCONNECT PROVIDED. INSTALL NEXT TO POWER METER ENCLOSURE AS SHOWN HERE. LABEL SWITCHES.
- 2 REFER TO ATTACHED DATASHEET FOR REPLACEMENT FUSE SPECIFICATIONS.
- 1 INSTALL NEUTRAL CONDUCTOR AS SHOWN AT THE LEFT IF POWER SERVICE IS EQUIPPED.

ELECTRIC METER PM - 1 WIRING DETAIL				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 46 OF 54



WATER VALVE SCHEDULE																							
ITEM	VALVE TAG	MEDIUM	FLOW RATE (GPM)	DESIGN PRESSURE DROP (PSI)	CALC CV (PSI)	LINE SIZE (INCH)	BODY MATERIAL	TRIM MATERIAL	VALVE TYPE	VALVE PORTING	POWER FAIL POSITION	ELECTRIC POWER SUPPLY	ENCLOSURE RATING	ELECTRIC CONTROL INPUT	FEEDBACK	NOMINAL VALVE CV	EFFECTIVE VALVE CV - PIPE REDUCER EFFECT	CALC ΔP (PSI)	VALVE SIZE (INCH)	STATIC PRESSURE RATING (PSI)	CLOSEOFF PRESSURE (PSI)	VALVE BODY + ACTUATOR MODEL NUMBER	ACTUATOR QTY PER VALVE
10	ERAHU-1-RHC	HOT WATER	9.64	5	4.3	1	BRASS	BRASS	CONTROL BALL	2-WAY	A-PORT CLOSED	24 VAC	NEMA 1 / NEMA 2	2-10 VDC	ANALOG	4.3	4.3	5.03	0.75	360	130	VBN2B004.30PX+MS7103A2021+FSC	1
20	ERAHU-1-CC	CHILLED WATER	9.94	5	4.4	1.25	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	A-PORT OPEN	24 VAC	NEMA 1 / NEMA 2	2-10 VDC	ANALOG	7	6.65	2.23	0.75	360	50	VBN3B007.00PX+MS7103A2021+FSA	1
30	FCU-101-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
40	FCU-101-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
50	FCU-102-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
60	FCU-102-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
70	FCU-103-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
80	FCU-103-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
90	FCU-104-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
100	FCU-104-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
110	FCU-105-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
120	FCU-105-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
130	FCU-106-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
140	FCU-106-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
150	FCU-107-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
160	FCU-107-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
170	FCU-108-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
180	FCU-108-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
190	FCU-109-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
200	FCU-109-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
210	FCU-110-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
220	FCU-110-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
230	FCU-111-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
240	FCU-111-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
250	FCU-112-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
260	FCU-112-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
270	FCU-113-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
280	FCU-113-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
290	FCU-114-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
300	FCU-114-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
310	FCU-115-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
320	FCU-115-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
330	FCU-116-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
340	FCU-116-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
350	FCU-117-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
360	FCU-117-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
370	FCU-118-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
380	FCU-118-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
390	FCU-119-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
400	FCU-119-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
410	FCU-120-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
420	FCU-120-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
430	FCU-121-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
440	FCU-121-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1

WATER VALVE SCHEDULE

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX				DWG 47 OF 54



WATER VALVE SCHEDULE (2)																							
ITEM	VALVE TAG	MEDIUM	FLOW RATE (GPM)	DESIGN PRESSURE DROP (PSI)	CALC CV (PSI)	LINE SIZE (INCH)	BODY MATERIAL	TRIM MATERIAL	VALVE TYPE	VALVE PORTING	POWER FAIL POSITION	ELECTRIC POWER SUPPLY	ENCLOSURE RATING	ELECTRIC CONTROL INPUT	FEEDBACK	NOMINAL VALVE CV	EFFECTIVE VALVE CV - PIPE REDUCER EFFECT	CALC ΔP (PSI)	VALVE SIZE (INCH)	STATIC PRESSURE RATING (PSI)	CLOSEOFF PRESSURE (PSI)	VALVE BODY + ACTUATOR MODEL NUMBER	ACTUATOR QTY PER VALVE
450	FCU-122-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
460	FCU-122-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
470	FCU-123-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
480	FCU-123-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
490	FCU-124-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
500	FCU-124-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
510	FCU-125-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
520	FCU-125-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
530	FCU-201-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
540	FCU-201-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
550	FCU-202-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
560	FCU-202-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
570	FCU-203-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
580	FCU-203-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
590	FCU-204-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
600	FCU-204-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
610	FCU-205-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
620	FCU-205-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
630	FCU-206-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
640	FCU-206-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
650	FCU-207-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
660	FCU-207-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
670	FCU-208-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
680	FCU-208-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
690	FCU-209-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
700	FCU-209-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
710	FCU-210-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
720	FCU-210-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
730	FCU-211-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
740	FCU-211-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
750	FCU-212-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
760	FCU-212-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
770	FCU-213-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
780	FCU-213-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
790	FCU-214-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
800	FCU-214-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
810	FCU-215-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
820	FCU-215-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
830	FCU-216-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
840	FCU-216-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
850	FCU-217-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
860	FCU-217-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
870	FCU-218-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
880	FCU-218-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1

WATER VALVE SCHEDULE (2)					
CID: 119880	NUM.	REVISION		DATE:	BY:
PID: 130095					
PROJECT: Q650072					
SALESPERSON: C Kinley					
DESIGNED BY: C Aravena					
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL		7/25/2024	CAY
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099				
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdX				DWG 48 OF 54	



WATER VALVE SCHEDULE (3)																							
ITEM	VALVE TAG	MEDIUM	FLOW RATE (GPM)	DESIGN PRESSURE DROP (PSI)	CALC CV (PSI)	LINE SIZE (INCH)	BODY MATERIAL	TRIM MATERIAL	VALVE TYPE	VALVE PORTING	POWER FAIL POSITION	ELECTRIC POWER SUPPLY	ENCLOSURE RATING	ELECTRIC CONTROL INPUT	FEEDBACK	NOMINAL VALVE CV	EFFECTIVE VALVE CV - PIPE REDUCER EFFECT	CALC ΔP (PSI)	VALVE SIZE (INCH)	STATIC PRESSURE RATING (PSI)	CLOSEOFF PRESSURE (PSI)	VALVE BODY + ACTUATOR MODEL NUMBER	ACTUATOR QTY PER VALVE
890	FCU-219-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
900	FCU-219-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
910	FCU-220-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
920	FCU-220-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
930	FCU-221-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
940	FCU-221-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
950	FCU-222-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
960	FCU-222-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
970	FCU-223-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
980	FCU-223-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
990	FCU-224-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1000	FCU-224-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1010	FCU-225-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1020	FCU-225-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1030	FCU-226-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1040	FCU-226-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1050	FCU-227-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1060	FCU-227-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1070	FCU-228-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1080	FCU-228-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1090	FCU-229-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		2	2	3.84	0.5	360	130	VBN2A002.00PA+MVN613A0000	1
1100	FCU-229-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	2-WAY	IN PLACE	24 VAC	IP 40	FLOATING		0.68	0.68	2.16	0.5	360	130	VBN2A000.68PA+MVN613A0000	1
1110	FCU-301-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1120	FCU-301-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1130	FCU-302-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1140	FCU-302-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1150	FCU-303-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1160	FCU-303-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1170	FCU-304-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1180	FCU-304-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1190	FCU-305-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1200	FCU-305-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1210	FCU-306-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1220	FCU-306-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1230	FCU-307-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1240	FCU-307-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1250	FCU-308-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1260	FCU-308-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1270	FCU-309-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1280	FCU-309-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1290	FCU-310-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1300	FCU-310-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1310	FCU-311-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1320	FCU-311-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1

WATER VALVE SCHEDULE (3)					
CID: 119880	NUM.	REVISION		DATE:	BY:
PID: 130095					
PROJECT: Q650072					
SALESPERSON: C Kinley					
DESIGNED BY: C Aravena					
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL		7/25/2024	CAY
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099				
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 49 OF 54	



WATER VALVE SCHEDULE (4)

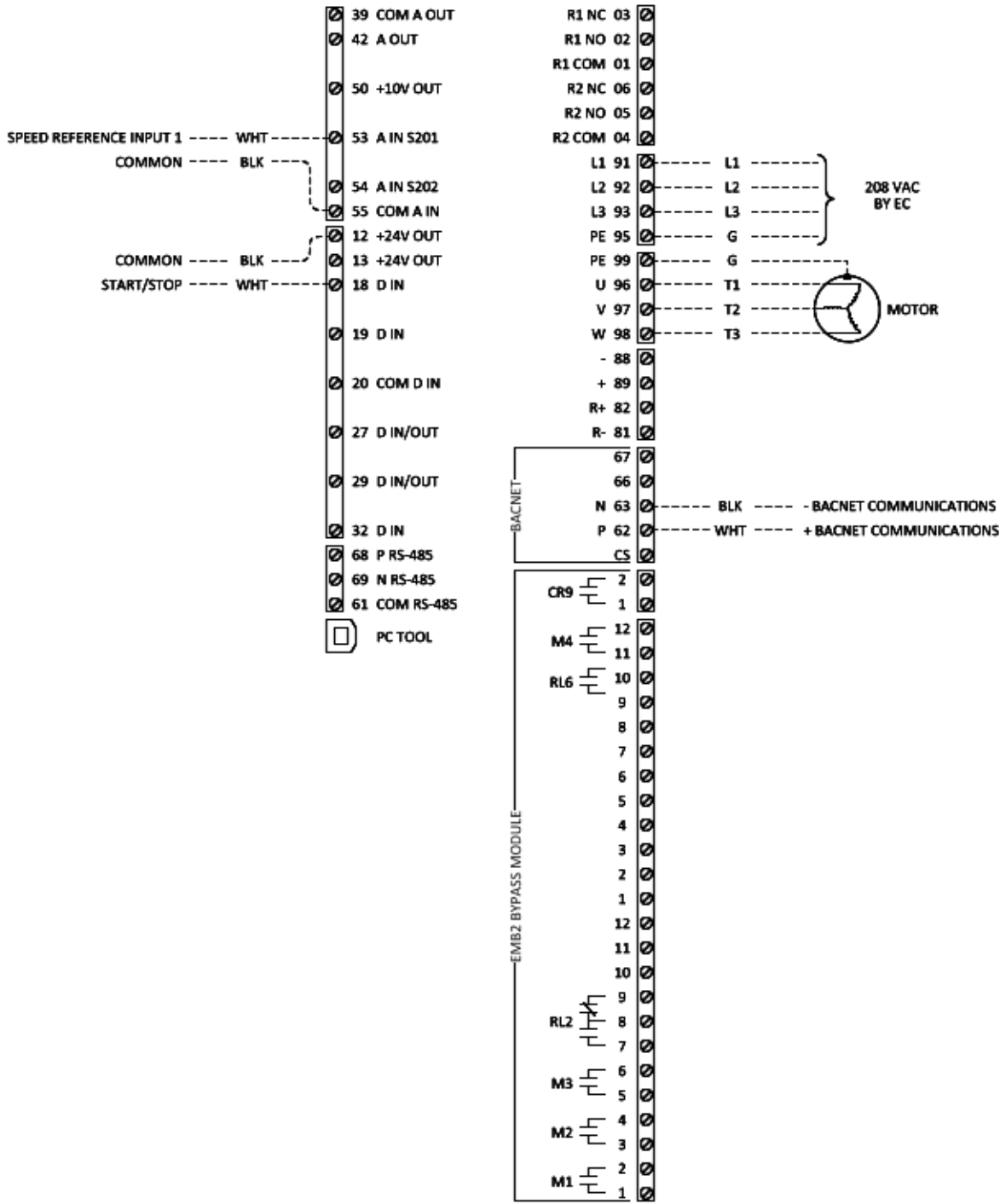
ITEM	VALVE TAG	MEDIUM	FLOW RATE (GPM)	DESIGN PRESSURE DROP (PSI)	CALC CV (PSI)	LINE SIZE (INCH)	BODY MATERIAL	TRIM MATERIAL	VALVE TYPE	VALVE PORTING	POWER FAIL POSITION	ELECTRIC POWER SUPPLY	ENCLOSURE RATING	ELECTRIC CONTROL INPUT	FEEDBACK	NOMINAL VALVE CV	EFFECTIVE VALVE CV - PIPE REDUCER EFFECT	CALC ΔP (PSI)	VALVE SIZE (INCH)	STATIC PRESSURE RATING (PSI)	CLOSEOFF PRESSURE (PSI)	VALVE BODY + ACTUATOR MODEL NUMBER	ACTUATOR QTY PER VALVE
1330	FCU-312-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1340	FCU-312-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1350	FCU-313-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1360	FCU-313-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1370	FCU-314-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1380	FCU-314-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1390	FCU-315-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1400	FCU-315-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1410	FCU-316-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1420	FCU-316-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1430	FCU-317-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1440	FCU-317-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1450	FCU-318-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1460	FCU-318-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1470	FCU-319-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1480	FCU-319-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1490	FCU-320-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1500	FCU-320-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1510	FCU-321-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1520	FCU-321-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1530	FCU-322-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1540	FCU-322-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1550	FCU-323-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1560	FCU-323-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1570	FCU-324-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1580	FCU-324-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1590	FCU-325-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1600	FCU-325-CC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1
1610	FCU-326-RHC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1620	FCU-326-CC	HOT WATER	2.59	5	1.2	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	1.16	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1630	FCU-327-RHC	CHILLED WATER	2.41	5	1.1	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	1.01	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1640	FCU-327-CC	HOT WATER	2.41	5	1.1	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	1.01	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1650	FCU-328-CC	CHILLED WATER	2.81	5	1.3	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	1.37	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1660	FCU-328-RHC	HOT WATER	1.46	5	0.7	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		1	1	2.13	0.5	360	50	VBN3A001.00PA+MVN613A0000	1
1670	FCU-329-CC	CHILLED WATER	3.92	5	1.8	0.75	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		2.4	2.4	2.67	0.5	360	50	VBN3A002.40PA+MVN613A0000	1
1680	FCU-329-RHC	HOT WATER	1	5	0.4	0.5	BRASS	BRASS	CONTROL BALL	3-WAY - MIXING (2 IN - 1 OUT)	IN PLACE	24 VAC	IP 40	FLOATING		0.59	0.59	2.87	0.5	360	50	VBN3A000.59PA+MVN613A0000	1

WATER VALVE SCHEDULE (4)

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsdw				DWG 50 OF 54



TR200 VFD



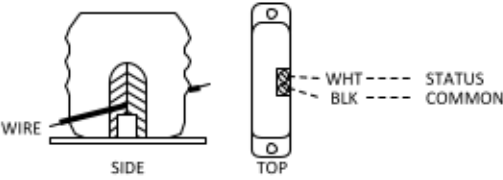
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INTERCONNECT WIRING DETAIL

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 51 OF 54

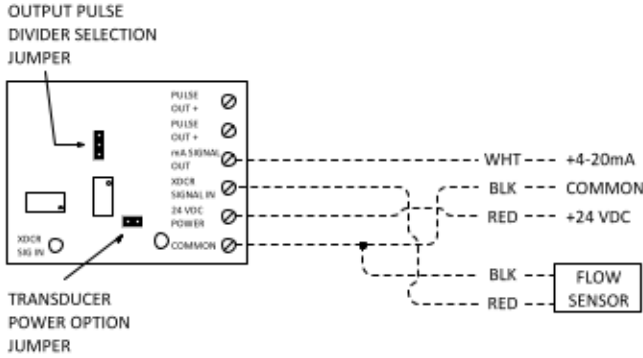


CURRENT SWITCH
VERIS
H904



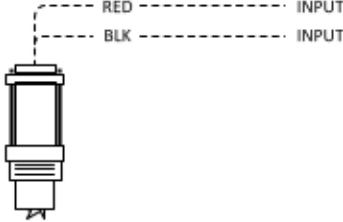
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VORTEX FLOW METER
KELE
UFT-1A-1



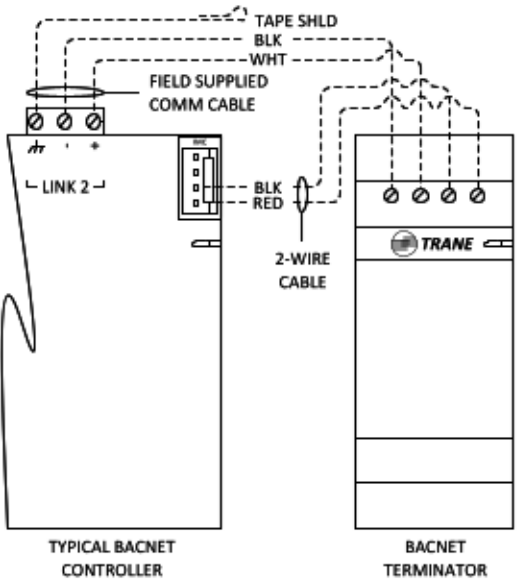
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VORTEX FLOW METER
KELE
220B



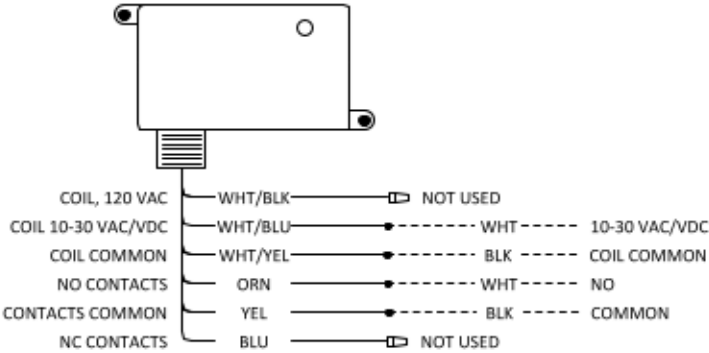
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TRACER BACNET TERMINATOR (2/PKG)
TRANE
X13651524-01



D

SPDT RELAY
KELE
RIBU1C



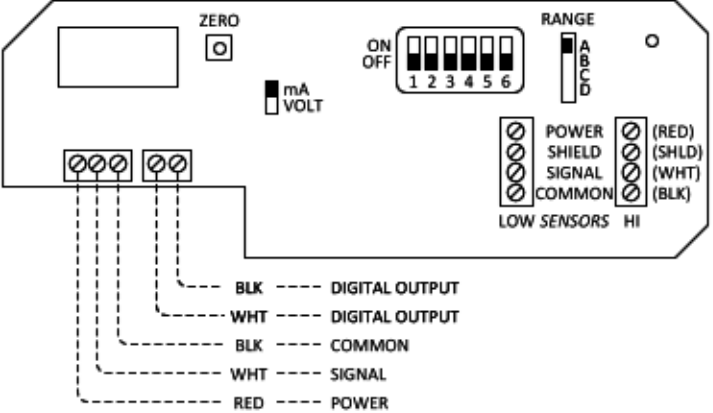
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HUMIDITY SENS, OA, 3%, 4-20MA, TEMP, 10K T2, W/SHLD
DWYER
RHP-3R1B



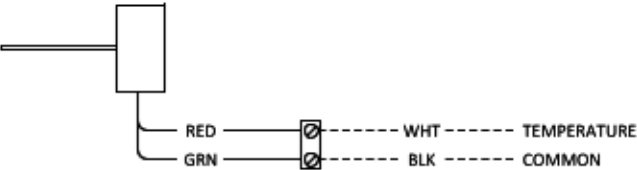
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DIFF PRESS XMTR, WTR, 0-50 PSI, 0-5 VDC/0-10 VDC/4-20 MA,
LCD, 6 FT
VERIS
PWRLX03S006A



G

SENSOR TEMP 4.5" IMM THERM
KELE
BA/10K-2-P-4.5"-TFE

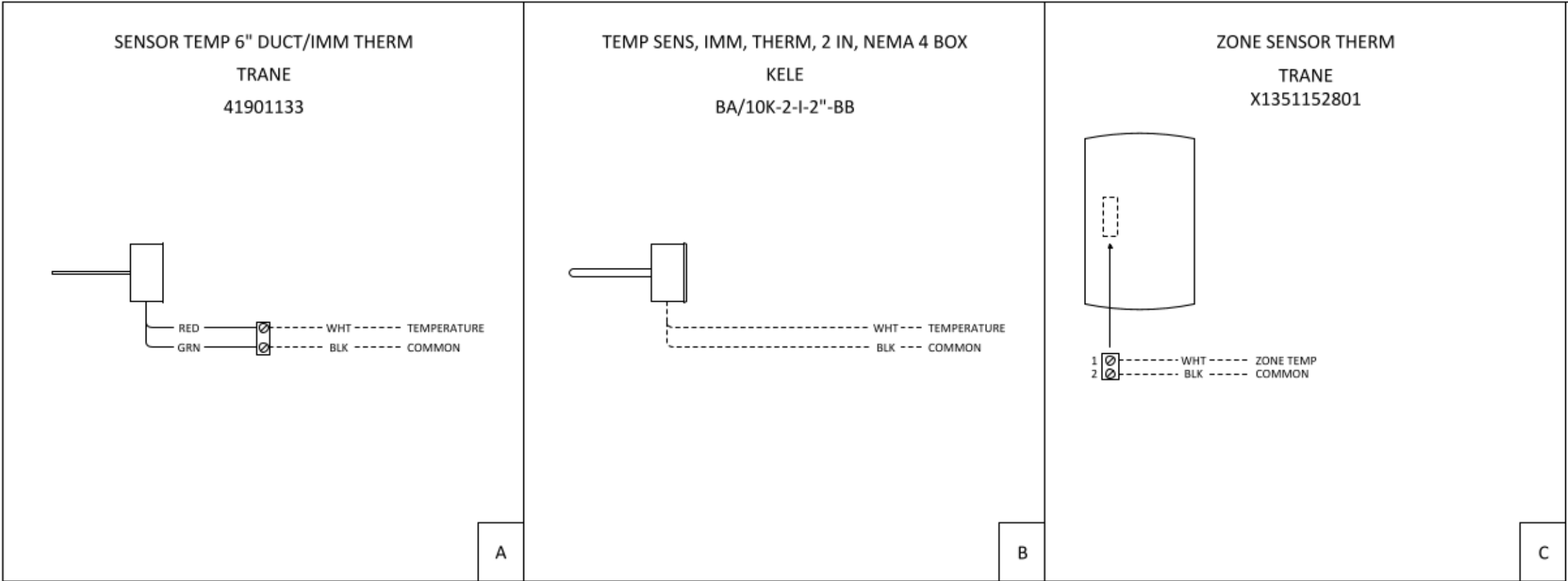


H

DETAIL SHEET

CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd				DWG 52 OF 54





DETAIL SHEET 2				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-O Little Rock, AR 72204 501-859-0689		PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099		
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 53 OF 54	

BILL OF MATERIAL				
TAG PREFIX	QTY	VENDOR	PART NO	DESCRIPTION
TC	4	TRANE	4190-1114	THERMAL COMPOUND, 1 OZ
SFT	7	TRANE	BMCF000AAA0DB00	TRACER SC 15 LICENSE
UC600	2	TRANE	BMUC600USA0100011	UC600 CONTROLLER, DIN RAIL MOUNT (USA)
VFD	2	TRANE	TR200	TR200 (FOR EDD)
TE	6	TRANE	X1351152801	TEMP SENS, ZONE THERM
TBT	4	TRANE	X13651524-01	BACNET TERMINATOR (2 PACK)
XM70	1	TRANE	X13651597010	XM70, 19 POINT EXPANSION MODULE (USA)
ENC	3	TRANE	X13651618010	ENC, TRACER UC, 16 INCH, 120 VAC, SOLID DOOR, UUKL
PM	1	TRANE	X13651686002	POWER METER, BACNET, E50 SERIES, ROPE CT, 18 IN, W/ FUSE KIT
SC	2	TRANE	X13651695001	TRACER SC+ CONTROLLER
CRD	1	TRANE	X13690281001	MICRO SD CARD
SFT	1	TRANE	X40250125010	TRACER ENSEMBLE ADD LICENSE
WEL	4	BAPI	BA/2"M304	MACHINED 304 SS - 2"
TEH	1	DWYER	RHP-3R1B	HUMIDITY SENS, OA, 3%, 4-20MA, TEMP, 10K T2, W/ SHLD
GM	1	FOX THERMAL	FT1-30F-DD-P1	THERMAL GAS MASS FLOW METER
HDW	1	GRAINGER	1VC48	SAFETY SIGN LABEL, ELECTRICAL HAZARD, ENGLISH, 5 X 3.5 INCHES, POLYESTER
HDW	1	KELE	220B	FLOW MTR, 0.5 FPS - 30 FPS, 2.5 IN - 40 IN PIPES, BRASS
TE	1	KELE	BA/10K-2-D-8	TEMP SENS, IMM/DUCT, THERM, 8 IN
TE	4	KELE	BA/10K-2-I-2"-BB	TEMP SENS, IMM, THERM, 2 IN, NEMA 4 BOX
HDW	1	KELE	DIN-3F	DIN RAIL, STEEL, 39.4 IN
ENC	1	KELE	HC16126P	NEMA 1, 16X12X6 INCH, HINGED ENCLOSURE W/PERF PANEL
R	1	KELE	RIBU1C	RLY, SPDT, LED, 10-30 VAC/DC/120 VAC, 10 A
R	2	KELE	RIBU1S	RLY, SPNO, LED, 10-30 VAC/DC/120 VAC, 10 A
TX	2	KELE	TR100VA004US	XFMR, 120/277/240/480:24VAC, 100VA, CB
TX	1	KELE	TR50VA001US	XFMR, 120:24VAC, 50VA
FT	1	KELE	UFT-1A-1	FLOW MTR ANALOG XMTR
HDW	2	LEVITON	MS303-DS	TOGGLE SWITCH, 3 POLE, 600VAC, 30 AMP
SW	1	PILLA ELECTRICAL PRODUCTS	ST120SL-N1-BS	PUSH PULL STA N1 SUR PULL RESET BOIL SHUT-DOWN
VAL	2	VERIS	AA16A	BYPASS VALVE ASSEMBLY
HDW	1	VERIS	AH03	0.5 AMP 2 FUSE PACK, 600VAC, 14AWG, 18 INCH
CS	2	VERIS	H904	CUR SW, VFD, 3.5-135A, SPLIT, NO
DPT	3	VERIS	PWRLX03S006A	DIFF PRESS XMTR, WTR, 0-50 PSI, 0-5 VDC/0-10 VDC/4-20 MA, LCD, 6 FT
VALVES / ACT	*	*	*	*SEE WATER VALVE SCHEDULE

BILL OF MATERIALS				
CID: 119880	NUM.	REVISION	DATE:	BY:
PID: 130095				
PROJECT: Q650072				
SALESPERSON: C Kinley				
DESIGNED BY: C Aravena				
CHECKED BY: Eduardo Vanegas	0	SUBMITTAL	7/25/2024	CAV
Little Rock TCS SO AR 10303 Colonel Glenn Rd, Suite 1-0 Little Rock, AR 72204 501-859-0689	PROJECT: LRAFB Repair Airmen Dormitory B854 Little Rock Air Force Base Jacksonville AR 72099			
FILE: Little Rock AFB B854 - HONEYWELL VALVES.vsd			DWG 54 OF 54	

