



**BIDDING & CONTRACT REQUIREMENTS**

Document 00 20 00 - Addendum No. 5

DATE: January 19, 2026

Project Engineer: RTM Engineering Consultants  
20 N.W. 3rd Street Suite 510  
Evansville, Indiana 47708-1356  
Telephone: 812-401-2260

TO: PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 5 TO THE BIDDING DOCUMENTS FOR

SE888 Knobview Hall – Replace Air Handling Units  
Indiana University Southeast  
IU 20250614

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents, date December 15, 2025. Acknowledge receipt of this addendum in space provided on Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

\*\*\*\*\*

**DRAWINGS:**

1. Siemens Control Drawings are attached.

**ATTACHMENTS:**

1. Siemens Temperature Control Drawings.



SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

11001 BLUGRASS PKWY,  
LOUISVILLE, KY  
US

### **Draft Print**

IU Project 20250614

Note the following:  
VFD's provided by contractor (not Siemens).  
Air Flow Measuring Stations by contractor.  
Dampers provided by contractor.

Control Installation Contractor (CIC) work will  
be provided by Siemens in their direct bid to IU.

PHONE: (502) 267-1571  
FAX: (502) 267-0316

DATE: 01/19/26

FOR INFORMATION CONTACT  
MICHAEL BURTON

ENGINEERING DATA FOR  
IUSE KNOBVIEW AHU REPLACEMENT

4201 GRANT LINE RD  
NEW ALBANY, 47150-2158  
US

PROJECT NO: 44OP-410840

DWG DESCRIPTION

GENERAL  
COVERSHEET  
CLARIFICATION SHEET  
TABLE OF CONTENTS  
SCHEDULES  
FLN SCHEDULE  
VALVE SCHEDULE  
CONTROL DRAWINGS  
LEGEND & ABBREVIATIONS  
COMMUNICATION RISER  
FLN/MSTP COMMUNICATION  
KV AHU 2 CONTROL SYSTEM  
KV AHU 2 CONTROL SYSTEM  
KV AHU 2 CONTROL SYSTEM  
KV AHU 2 SYSTEM BOM/SEQ  
KV AHU 3 CONTROL SYSTEM  
KV AHU 3 CONTROL SYSTEM  
KV AHU 3 CONTROL SYSTEM  
KV AHU 3 SYSTEM BOM/SEQ  
KV AHU 4 CONTROL SYSTEM  
KV AHU 4 CONTROL SYSTEM  
KV AHU 4 CONTROL SYSTEM  
KV AHU 4 SYSTEM BOM/SEQ

STANDARD DRAWINGS  
ANIXTER BUILDING AUTO. CABLES  
PRODUCT DOCUMENTATION

ABAC

REVISION HISTORY

SIEMENS

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

2400 NELSON MILLER  
PKWYSJUTE 130  
LOUISVILLE, KY 40223,US

PHONE: (502) 287-1571  
FAX: (502) 287-0318

IUSE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
DC	DC	MM	01/19/26	01/19/26

Table of Contents

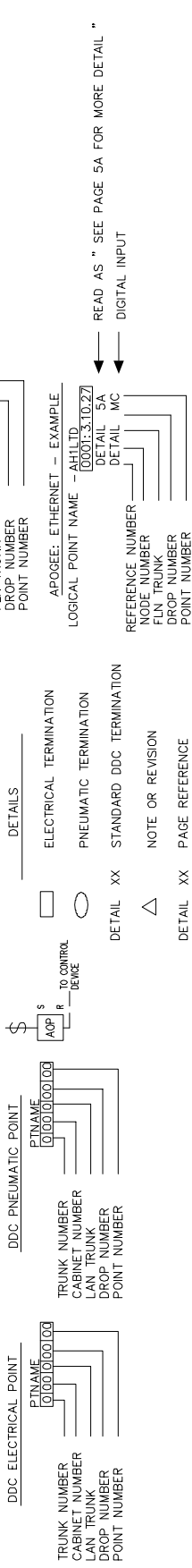
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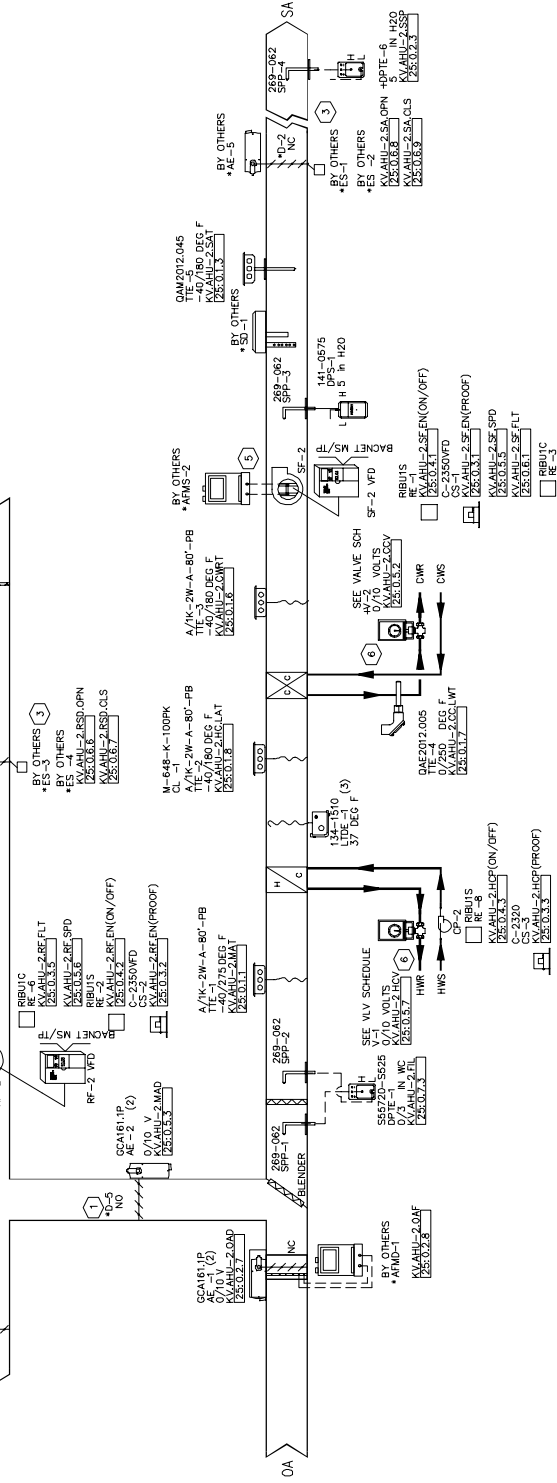
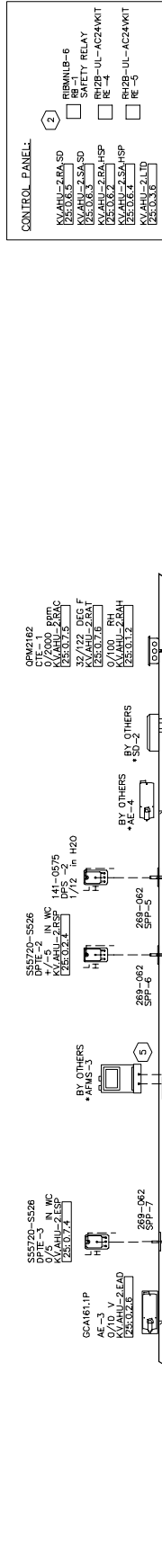
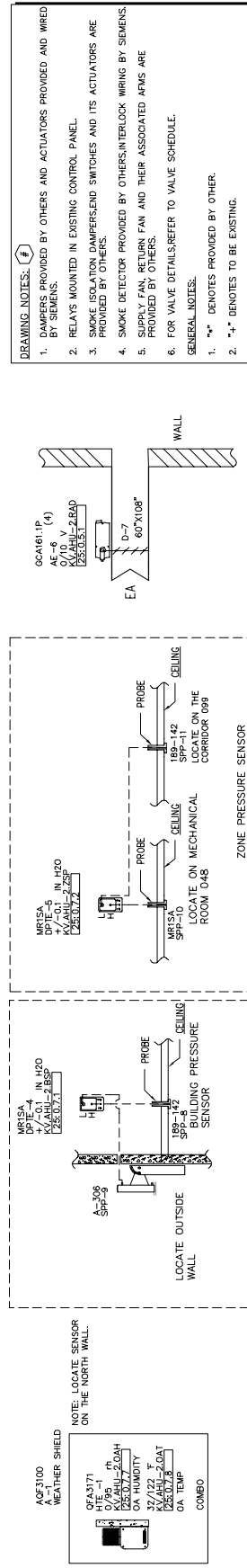


SIEMENS INDUSTRY, INC.															Valve Submittal - Water														
SMART INFRASTRUCTURE																													
LOCATION:					PROJECT NAME:										TUSE KNOBVIEW AHU REPLACEMENT					DATE:					01/19/26				
JOB NO:					440P410840															PAGE:					1				
ENGR:					DC															REV:									
<b>GENERAL NOTES:</b> 1. All valves 2-1/2" and larger have flanged ends, 2" and smaller have screwed ends. 2. All control valves and wells shall be installed by the mechanical contractor. 3. Standard abbreviations used on control valves are: <b>BODY TYPES:</b> 3W - Three way; 2W - Two way; A - Angle; N.C. - Normally Closed; N.O. - Normally Open; NOC - Ball Valve can be N.O. or N.C.; BF - Butterfly Valve; DS - Double Seated;															<b>UNITS:</b> Steam inlet pressure, actual pressure drop, and shut off pressure indicated in PSIG.  <b>ACTUATOR TYPES:</b> SR - Spring Return; NSR - No Spring Return CR - Capacitor Driven Return; DA - Double Acting														
Valve ID / Location	Qty	Product Number			Valve Size	Body Type	Body Style	Actual Cv	Actuator Type	Design P. Drop (psi)	Required Flow (gpm)	Min (gpm)	Max (gpm)	Preset (gpm)	Steam Inlet	Press Drop (psi)	Valve Spec Sheet	Shut Off	ANSI Class	Comment									
Mechanical System: 100																													
V-1	1	274-03170			2.00	2W	Globe	40.00	NO-SR	5	56.60	N/A	N/A	N/A	--	2.0022	154 006	49	250	KV-AHU02-HC V									
Mechanical System: 101																													
V-1	1	274-03169			1.50	2W	Globe	25.00	NO-SR	5	30.60	N/A	N/A	N/A	--	1.4982	154 006	80	250	KV-AHU03-HC V									
Mechanical System: 102																													
V-1	1	274-03170			2.00	2W	Globe	40.00	NO-SR	5	56.40	N/A	N/A	N/A	--	1.9881	154 006	49	250	KV-AHU04-HC V									
NOTES: All control valves and wells shall be installed by the heating contractor.																													

CONTROL SYMBOL	CONTROL SYMBOL DESCRIPTION	CONTROL SYMBOL	CONTROL SYMBOL DESCRIPTION	CONTROL SYMBOL	CONTROL SYMBOL DESCRIPTION
AC	AIR COMPRESSOR	HHC	HAND-HELD OPERATOR'S TERMINAL	RCU	REMOTE CONTROL UNIT
AD	AIR DRYER	HL	HIGH LIMIT	RE	RELAY ELECTRIC
ADXR	ACTUATOR DXR	HMI	GAMMA TOUCH PANEL	RP	RELAY PNEUMATIC
AE	ACTUATOR ELECTRIC	HOA	HAND-OFF-AUTO SWITCH	RS	RESTRICTOR
AEM	APOGEE ETHERNET MICROSERVER	HORN	HORN	RV	RELIEF VALVE
AF	AIR FILTER	HPC	HEAT PUMP CONTROLLER	S/W	SOFTWARE
AFS	AIR FLOW STATION	HTD	HIGH TEMPERATURE DETECTOR	SA	SHADE ACTUATOR
AGP	ANALOG OUTPUT, PNEUMATIC	HTE	HUMIDITY TRANSMITTER ELECTRIC	SC	STEP CONTROLLER
AP	ACTUATOR PNEUMATIC	HTP	HUMIDITY TRANSMITTER PNEUMATIC	SCU	STAND ALONE CONTROL UNIT
APS	AUX. POWER SUPPLY	INT	INTERCOM	SD	SMOKE DETECTOR
AT	AUTOMATIC TRAP	KWM	ELECTRIC KILOWATT METER	SE	SWITCH ELECTRIC
ATD	AUTO TANK DRAIN	LA	LIGHT ACTUATOR	SIO	SLX IO MODULES
ATEC	ACTUATOR TEC	LC	LIMIT CONTROLLER (LIMITEM)	SLX	APOGEE SLX CONTROLLER
AZM	AUTOZERO MODULE	LLS	LIQUID LEVEL SWITCH	SPKR	SPEAKER
BCU	BUS COUPLING UNIT	LPR	LIQUID LEVEL TRANS.	SPP	STATIC PRESSURE PROBE
BELL	BELL	LTD	LOW TEMP. DETECTOR ELECTRIC	SPR	STATIC PRESSURE REGULATOR
BIM	BOILER	LTD	LOW TEMP. DETECTOR PNEUMATIC	SV	SOLENOID VALVE
BRT	BRIGHTNESS	LUI	LOCAL USER INTERFACE	SW	SWITCH PNEUMATIC
BRT	BRIGHTNESS AND TEMPERATURE	MBC	MODULAR BUILDING CONTROLLER	T	ROOM THERMOSTAT, PNEUMATIC
BTN	BUTTON	MDM	MODEM	TBC	TERMINAL BOX CONTROLLER
CBL	CABLES	ME	ELECTRONIC ACTUATOR	TC	TEMPERATURE CONTROLLER (S200)
CKV	CHECK VALVE	MEC	MODULAR EQUIPMENT CONTROLLER	TCU	TEMPERATURE CONTROLLER UNIT
CM	CONSTRUCTION MATERIALS	MG	MAGNETIC GAUGE	TDR	TIME DELAY RELAY
CM	CONCRETE PAVING UNIT	MU	MOTOR STARTER	TE	THERMOSTAT, ELECTRIC
CRU	CATHODE RAY TUBE	ME	MOTOR STARTER	TEC	TERMINAL EQUIPMENT CONTROLLER
CRT	CURRENT SWITCH	OCC	OCCUPANCY	TH	TRUNK INTERFACE
CS	CURRENT TRANSDUCER	OCCB	OCCUPANCY AND BRIGHTNESS	TIE	TRUNK ISOLATOR, EXTENDER
CT	CO2 TEMP TRANSMITTER ELEC	OBS	OBSOLETE	TIU	TELCOM INTERFACE UNIT
CTTE	CONSTANT VOLUME CONTROLLER	ODP	OPERATOR DATA PANEL	TMR	TIMER, TIME CLOCK
D	DAMPER	PA	PULSE ACCUMULATOR	TTE	TEMPERATURE TRANSMITTER ELECTRIC
DDC	DUAL DUCT CONTROLLER	PCT	PROGRAMMABLE CLOCK TIMER	TTP	TEMPERATURE TRANSMITTER PNEUMATIC
DEM	DEMAND ENERGY MONITOR	PE	PRESSURE ELECTRIC SWITCH	TXIO	TX-I/O FAMILY CONTROLLER MODULES
DEM	DEW POINT TRANSMITTER	PL	PILOT LIGHT	UC	UNITARY CONTROLLER
DPR	DIFFERENTIAL PRESS. REGULATOR	PM	POWER MONITOR	UCC	UNIT CONDITIONER CONTROLLER
DPS	DIFFERENTIAL PRESS. SWITCH	PML	PANEL	UVC	UNIT VENT CONTROLLER
DPT	DIFFERENTIAL PRESSURE SWITCH	PNL	PANEL	V	VALVE
DPT	DIFF. PRESS. TRANSMITTER ELEC.	PPM	POINT PICKUP MODULE	V*	VALVE SERVICE PARTS
DPU	DIGITAL POINT UNIT	PRC	PRESSURE REG. CONTROLLER	VA	TEC VALVE ACTUATOR
DXR	TERMINAL EQUIPMENT CONTROLLER	PRV	PRESSURE REDUCING VALVE	VAC	VARIABLE AIR VOLUME CONTROLLER
EC	ENTHALPY COMPARTOR	PS	POSITIONING SWITCH	VB	VIBRATION ISOLATOR
EP	ELECTRO-PNEUMATIC VALVE	PSE	POSITION SENSOR ELECTRIC	VTE	VELOCITY TRANSMITTER ELECTRICAL
ES	END SWITCH	PST	PULL STATION	W	WELL
ET	ENTHALPY TRANSMITTER	PT	PITOT TUBE	WST	WEATHER STATION
EXP	EXPANSION PANEL	PTE	PRESSURE TRANSMITTER ELECTRIC	XDR	TRANSUDER
FAN	FAN	PTP	PRESSURE TRANSMITTER PNEUMATIC	XFMR	TRANSFORMER
FHC	FUME HOOD CONTROLLER	PTR	PRINTER		
FM	FLOW MTR. (FLOW METER STATION)	PV	PILOT VALVE		
FMS	FIRE MGMT. SYSTEM	PXC	PX COMPACT		
FS	FIRE SWITCH	PXC	PX-MODULAR CONTROLLER		
FTF	FLOW TRANSMITTER PNEU.	PXG	PACKET ROUTER ETHERNET-MS-/TP		
G	GAS DETECTOR	RBC	RECEIVER BUILDING CONTROLLER		
GD	GAS DETECTOR	RC	RECEIVER CONTROLLER		
H	HYGROSTATS				
HE	HUMIDIFIER ELECTRIC				



REVISION HISTORY	SIEMENS	2400 NELSON MILLER PKWYSUITE 130 LOUISVILLE, KY 40223,US	440P-410840
	SIEMENS INDUSTRY, INC. SMART INFRASTRUCTURE	PHONE: (502) 287-1671 FAX: (502) 287-0316	0
			LEG



REF#		FIELD PANEL NAME	FIELD PANEL NODE NAME	<div>1</div> <div>KV AHU_2 CONTROL SYSTEM</div> <div>100</div>
25		SE-KV-048-PNL-25	SE-KV-048-PNL-25	
REVISION HISTORY				<div>440P-410840</div> <div>100</div> <div>100</div>
SIEMENS				
2400 NELSON MILLER PKWY SUITE 130 LOUISVILLE, KY 40223,US  PHONE: (502) 287-1571 FAX: (502) 287-0316				
SIEMENS INDUSTRY, INC. SMART INFRASTRUCTURE				
IUSE KNOBVIEW AHU REPLACEMENT NEW ALBANY,				<div>ENGINEER</div> <div>DC</div> <div>DC</div> <div>CHECKED BY</div> <div>MM</div> <div>MM</div> <div>INITIAL RELEASE</div> <div>01/19/26</div> <div>01/19/26</div> <div>LAST EDIT DATE</div>
KV AHU 2 CONTROL SYSTEM				

REF #	FIELD PANEL NAME	FIELD PANEL NODE NAME
25	SE-KV-048-PNL-25	SE-KV-048-PNL-25

### REVISION HISTORY

<b>SIEMENS</b>	<b>2400 NELSON MILLER</b> BKWVSI IITE 130	<b>USE KNOBVIEW AHU REPLACEMENT</b> NEW 11.2.2007
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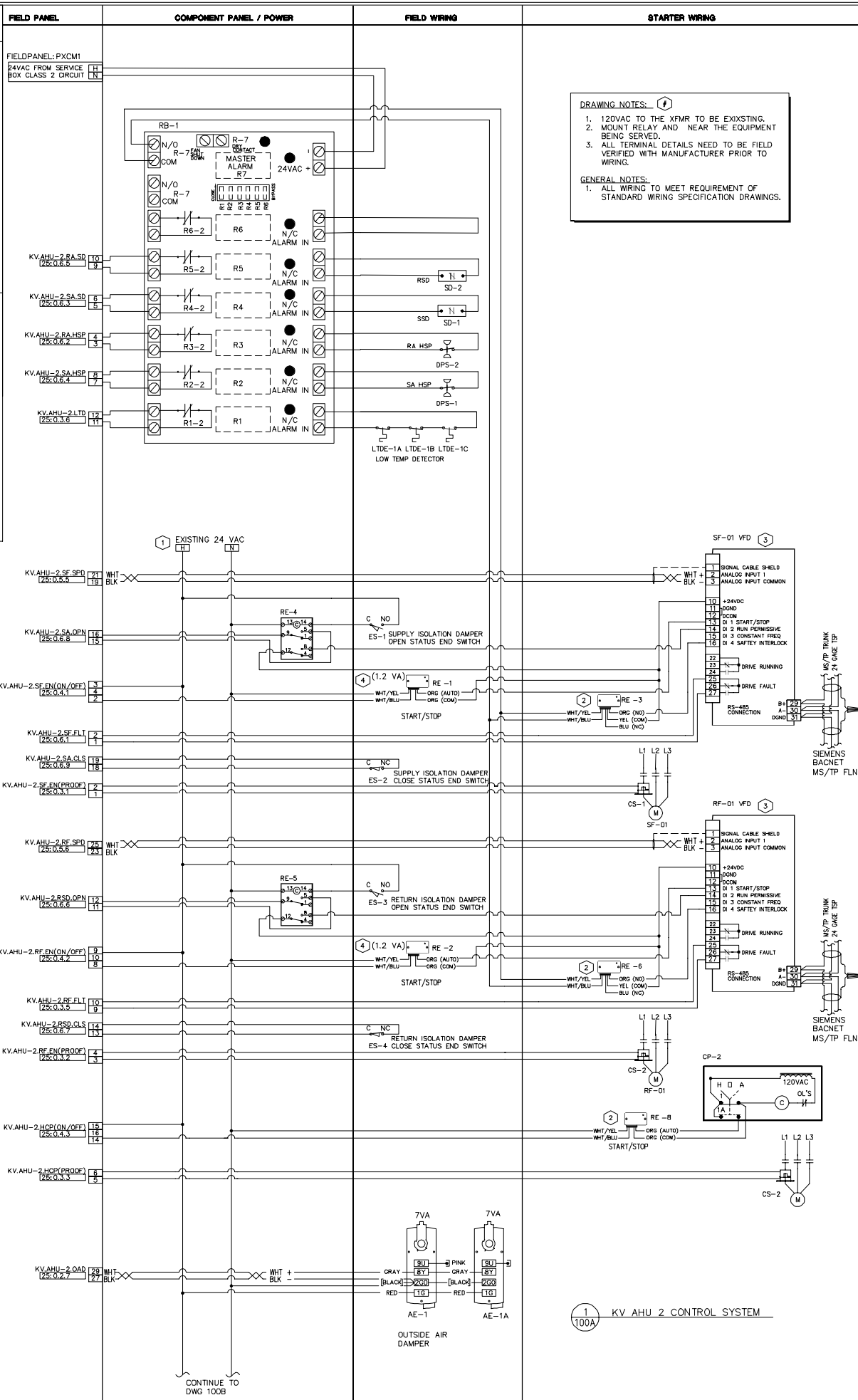
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## REVISION HISTORY

**SIEMENS**

## USE KNOBVIEW AHU REPLACEMENT

440P-410840





# REVISION HISTORY

REF #	FIELD PANEL NAME	FIELD PANEL NODE NAME
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# SIEMENS

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

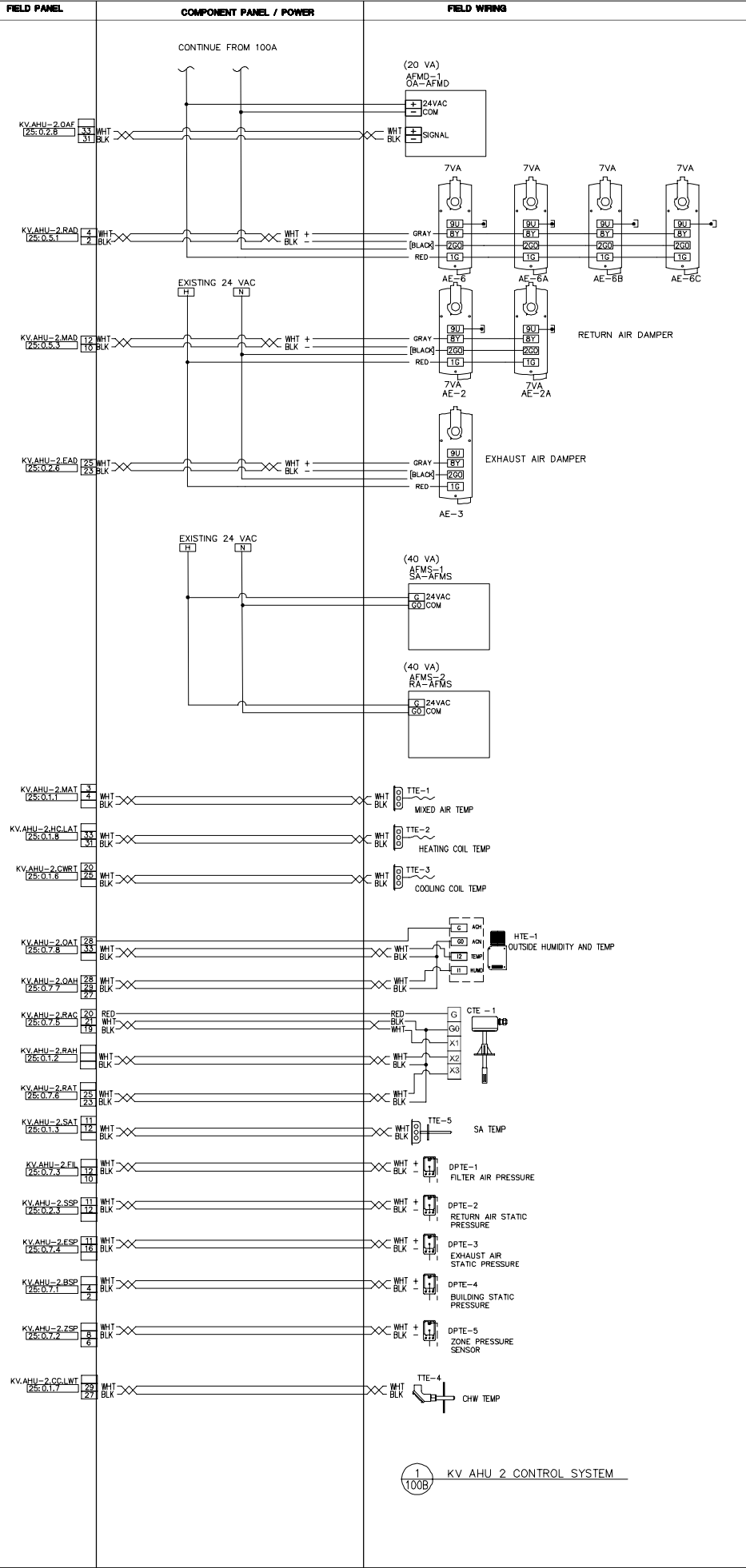
2400 NELSON MILLER  
PKWYSUITE 190  
LOUISVILLE, KY40228US

PHONE: (502) 267-1571  
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IUSE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

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01/19/26  
LAST EDIT DATE  
01/19/26

440P-410840  
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1 KV AHU 2 CONTROL SYSTEM

Control Device	Qty	Product Number	Manufacturer	Document Number	Description
Field Mounted Devices					
A 1	1	AQF3100	SIEMENS	N/A	WEATHER SHIELD FOR QFA31XX
AE 1-3	5	GCA1611P	SIEMENS	154001	MOD(V) SR,24V, MED. PLNM
AE 6	4	GCA1611P	SIEMENS	154001	MOD(V) SR,24V, MED. PLNM
CL 1	1	M-648-K-100PK	KELE INC	N/A	CAPILLARY MOUNTING CLIP-100 PAK-COPPER
CS 1-2	2	C-2350VFD	SENAVA INC	C(VFD)	Current Sw,Split,AutoSet VFD,3.5-135A
CS 3	1	C-2320	SENAVA	N/A	CURRENT SW,SPLIT,PRESET,AOL0.45-100A
CTE 1	1	QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V
D					SEE DAMPER SUBMITTAL
DPS 1-2	2	141-0575	SIEMENS	155 052	AIR FLOW SWITCH,05/12 MAN REST
DPT E 1	1	S55720-S525	SIEMENS	N/A	QBM3230U30 Pressure Sensor
DPT E 2-3	2	S55720-S526	SIEMENS	N/A	QBM3230U50 Pressure Sensor
DPT E 4-5	2	MRISA	SETRA SYST	N/A	MRISA Multi range,DP Trans, 0.1-1", 1%
HTE 1	1	QFA3171	SIEMENS	149992	ROOM RH & TEMP SENSOR, 4-20mA, 2%
LTD E 1	3	134-1510	SIEMENS	155 115	LOW TEMP DET STATATO RESET
RB 1	1	RIBMNLB-6	FUNCTIONAL	RIBMNLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INP/UT
RE 3	1	RIBUC	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
RE 6	1	RIBUC	FUNCTIONAL DEVICES	1208cu1013	OBS/BY RIBUC FD 120VAC 24VAC/DC SPDT
SPP 1-7	7	269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE
SPP 8	1	189-142	SIEMENS	155 061	STAT PRES ACC. SENSOR KIT
SPP 9	1	A-306	DWYER	1011cu1060	STATIC PRESSURE SENSOR OUTDOOR
SPP 11	1	189-142	SIEMENS	155 061	STAT PRES ACC. SENSOR KIT
TTE 1-3	3	A/YK-2W-A-80"-PB	ACI	N/A	RTD,COPPER AVERAGING,80"
TTE 4	1	QAE2012.005	SIEMENS	149919	IMMERSION TMP SNCR, PT 1K OHM(385) 2.5"
TTE 5	1	QAM2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" RIGID
V					SEE VALVE SUBMITTAL
Panel Mounted Devices					
RE 1-2	2	RIBU1S	FUNCTIONAL DEVICES	1208cu1015	RIB 120VAC 24VAC/DC HOA SPST

REVISION HISTORY		SIEMENS		2400 NELSON MILLER PKWYSJUTE 130 LOUISVILLE, KY40223JUS		IUSE KNOBVIEW AHU REPLACEMENT NEW ALBANY, DC DC MM		440P410840 100	
		SIEMENS INDUSTRY, INC. SMART INFRASTRUCTURE		PHONE: (502) 287-1671 FAX: (502) 287-0316		ENGINEER DC DC		100C	
						DRAWER DC DC		KV AHU 2 SYSTEM BOM/SEQ	
								LAST EDIT DATE 01/19/26	

TRIPPED, SAFETY DEVICES SHALL CONSIST OF LOW TEMPERATURE DETECTION THERMOSTATS, HIGH DUCT STATIC PRESSURE SWITCH AND SMOKE DETECTORS.

ALL SAFETY DEVICES SHALL BE HARDWIRED. ALARMS:

1. SUPPLY AIR TEMPERATURE – SUPPLY AIR TEMPERATURE ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
2. SUPPLY FAN FAILURE
3. RETURN FAN FAILURE
4. SUPPLY FAN VFD FAULT
5. RETURN FAN VFD FAULT
6. RETURN AIR HUMIDITY – RETURN AIR HUMIDITY ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
7. COIL PUMP – ALARM IF PUMP STATUS DOES NOT MATCH COMMANDED PUMP STATE
8. RETURN STATIC PRESSURE BELOW USER DEFINED AMOUNT
9. SUPPLY STATIC PRESSURE ABOVE USER DEFINED AMOUNT (PRESSURE UPSTREAM OF SMOKE ISOLATION DAMPER)

REVISION HISTORY

SIEMENS

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

2400 NELSON MILLER  
PKWYSUITE 130  
LOUISVILLE, KY 40223,US

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IUSE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

ENGINEER DRAFTER CHECKED BY INITIAL RELEASE LAST EDIT DATE

DC DC MM

KV AHU 2 CONTROL SYSTEM

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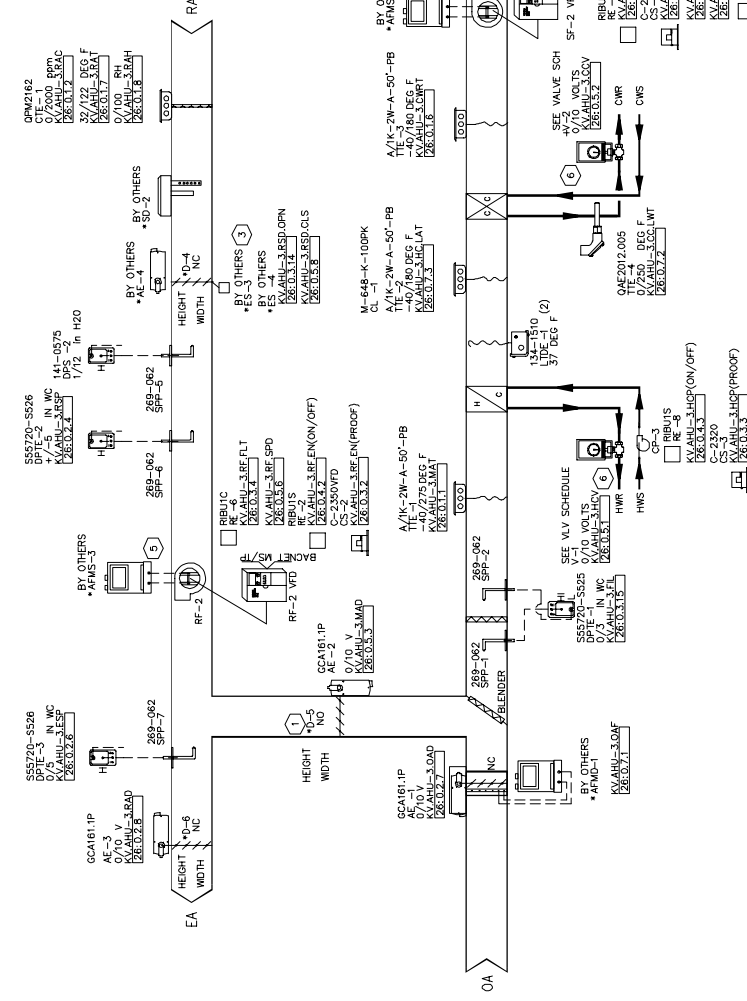
- DRAWING NOTES:
1. DAMPERS PROVIDED BY OTHERS AND ACTUATORS PROVIDED AND WRED BY SIEMENS.
  2. RELAYS MOUNTED IN EXISTING CONTROL PANEL.
  3. SMOKE ISOLATION DAMPERS/END SWITCHES AND ITS ACTUATORS ARE PROVIDED BY OTHERS.
  4. SMOKE DETECTOR PROVIDED BY OTHERS/INTERLOCK WRING BY SIEMENS.
  5. SUPPLY FAN, RETURN FAN AND THEIR ASSOCIATED ARMS ARE PROVIDED BY OTHERS.
  6. FOR VALVE DETAILS,REFER TO VALVE SCHEDULE.
- GENERAL NOTES:
1. "\*" DENOTES PROVIDED BY OTHER.
  2. "+" DENOTES TO BE EXISTING.

CONTROL PANEL:

2	KVAHU-3RA.SD	26.0.3.10
	KVAHU-3SA.SD	26.0.3.11
	KVAHU-3RA.HSP	26.0.3.16
	KVAHU-3SA.HSP	26.0.3.17
	KVAHU-3LID	26.0.3.6
	KVAHU-3LID	26.0.3.6

2

	RBWNLB-6	
	SAFETY RELAY	
	RV2B-UL-AC24KIT	
	RE-4	
	RV2B-UL-AC24KIT	
	RE-5	

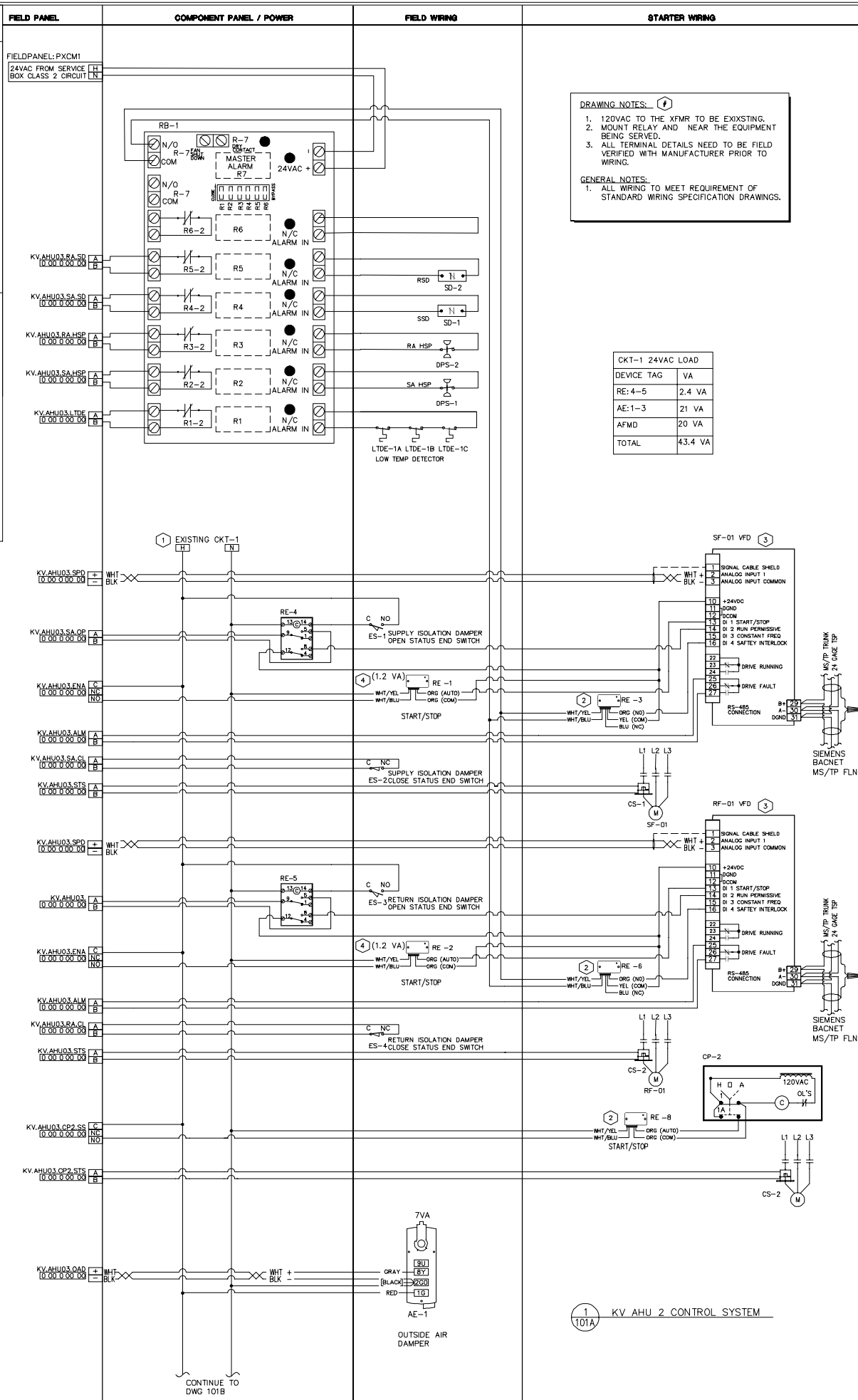


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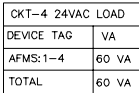
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## REVISION HISTORY

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE  
LOUISVILLE, KY 40223, US  
PHONE: (502) 267-1571  
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ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
DC	DC	MM	01/19/26	01/19/26

101B

CKT-3 24VAC LOAD	
DEVICE TAG	VA
AFMS:1-2	80 VA
TOTAL	80 VA

Control Device	Qty	Product Number	Manufacturer	Document Number	Description
Field Mounted Devices					
AE 1-3	3	GCA1611P	SIEMENS	154001	MOD(V) SR,24V, MED. PLUM
CS 1-2	2	C-2350VFD	SENAVA INC	C(VFD)	Current Sw.Split,AutoSet VFD,3.5-135A
CS 3	1	C-2320	SENAVA	N/A	CURRENT SW.SPLIT,PRESET,ADJ,0.45-100A
CTE 1	1	QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V
DP5 1-2	2	141-0575	SIEMENS	155 052	AIR FLOW SWITCH,05/12 MAN REST
DPTE 1	1	S55720-S525	SIEMENS	N/A	QBM3230U3D Pressure Sensor
DPTE 2-3	2	S55720-S526	SIEMENS	N/A	QBM3230U5D Pressure Sensor
HTTE 1	1	QFM2100	SIEMENS	149991	DUCT RH SENSOR, 0-10V, 5%
LIDE 1	2	134-1510	SIEMENS	155 115	LOW TEMP DET STATAUTO RESET
RB 1	1	REMNLB-6	FUNCTIONAL	RBWNLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INPUT
RE 1-2	2	REBU1S	FUNCTIONAL DEVICES	1208cut015	RIB 120VAC 24VAC/DC HOA SPST
RE 3	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
RE 4-5	2	RH2B-UI-AC24Vkit	IDEC	1202cut016	RELAY&SOC,GP DPDT AC24V W/LED
RE 6	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
RE 8	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
SPP 1-7	7	269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE
ITE 1-3	3	A/1K-2W-A-50-PB	ACI	N/A	RTD,COPPER AVERAGING,50"
TTE 4	1	QAE2012.005	SIEMENS	149919	IMMERSON TMP SNSR, PT 1K OHM(385) 2.5"
TTE 5	1	QAM2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" RIGID
V					SEE VALVE SUBMITAL

VAV AIR HANDLING UNIT AHU-3 SEQUENCE OF OPERATION

THIS UNIT INCLUDES A SINGLE PATH AIR HANDLING UNIT WITH VAV SUPPLY FAN, VAV RETURN FAN, OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, RETURN AIR DAMPER, HOT WATER PREHEAT COIL AND CHILLED WATER COOLING COIL. THIS UNIT SHALL BE CONTROLLED BY A DEDICATED DIGITAL CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE FACILITY

MANAGEMENT SYSTEM (FMS) CONTROL NETWORK TO ALLOW COMMUNICATION BETWEEN CONTROLLERS. THE CONTROLLER SHALL BE EXPANDABLE FOR THE ADDITION OF FUTURE INPUTS AND OUTPUTS.

THIS UNIT SHALL OPERATE IN OCCUPIED OR UNOCCUPIED MODE BASED ON THE OCCUPANCY SCHEDULE. THE OCCUPANCY SCHEDULE SHALL BE ADJUSTABLE AT THE OPERATOR INTERFACE.

DURING UNOCCUPIED MODE, THE SUPPLY FAN AND RETURN FAN SHALL BE OFF, THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL BE CLOSED, THE RETURN DAMPER SHALL BE OPEN, THE HOT WATER VALVE SHALL REMAIN UNDER CONTROL, THE CHILLED WATER VALVE SHALL BE CLOSED, ON A CALL FOR HEATING OR COOLING FROM AN AIR TERMINAL UNIT CONTROLLER, UNIT OPERATION SHALL BE AS DESCRIBED IN OCCUPIED MODE. MINIMUM OUTDOOR AIR POSITION SHALL BE ZERO.

DURING OCCUPIED MODE, THE SUPPLY FAN SPEED SHALL MODULATE TO MAINTAIN DUCT STATIC PRESSURE. THE RETURN FAN SPEED SHALL MODULATE TO MAINTAIN AN AIRFLOW DIFFERENTIAL BETWEEN THE SUPPLY AIRFLOW AND RETURN AIRFLOW. THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, AND THE RETURN AIR DAMPER TO MAINTAIN MINIMUM OUTDOOR AIRFLOW BASED ON OUTDOOR AIRFLOW MEASURING STATION. THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN A 55 DEG. F (ADJ) UNIT DISCHARGE AIR TEMPERATURE. IF THE OUTDOOR AIR TEMPERATURE IS BELOW 55 DEGREES, THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE BETWEEN MINIMUM POSITIONS AND MAXIMUM POSITION (100% O.A., 0% R.A.) IN UNISON TO MAINTAIN ECONOMIZER COOLING SEQUENCE. RETURN AIR DAMPER SHALL BE REVERSE ACTING TO OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER. IF ECONOMIZER COOLING IS UNABLE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT, THE CONTROLLER SHALL MODULATE THE COOLING COIL CONTROL VALVE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF SUPPLY AIR TEMPERATURE FALLS BELOW 55°F, THE CONTROLLER SHALL MODULATE THE PREHEAT COIL CONTROL VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.

THE CONTROLLER SHALL MONITOR OUTDOOR AIR FLOW. IF OUTDOOR AIR FLOW FALLS BELOW OUTDOOR AIR DESIGN SETPOINT, THE CONTROLLER SHALL ALARM AT THE OPERATOR INTERFACE. PRE-HEAT COIL PUMP SHALL OPERATE AT ANY TIME OAT IS BELOW 40°F (ADJ).

THE CONTROLLER SHALL RESET THE SUPPLY DUCT STATIC PRESSURE SETPOINT BASED ON AIR TERMINAL DAMPER POSITION. CRITICAL ZONE RESET SEQUENCE.

THE MECHANICAL ROOM 048 RELIEF AIR DAMPER SHALL BE ENABLED DURING OCCUPIED OPERATION OF AHU-2, AHU-3, AND AHU-4 LOCATED IN MECHANICAL ROOM 048. THE CONTROLLER SHALL MODULATE THE MECHANICAL ROOM 048 RELIEF AIR DAMPER TO MAINTAIN 0.03" WC. CONTROLLER SHALL ALARM IF ZONE PRESSURE IS ABOVE OR BELOW SETPOINT BY USER DEFINED AMOUNT.

THIS UNIT SHALL BE STOPPED AND AN ALARM GENERATED AT THE OPERATOR INTERFACE WHENEVER A SAFETY DEVICE IS TRIPPED. SAFETY DEVICES SHALL CONSIST OF LOW TEMPERATURE DETECTION THERMOSTATS, HIGH DUCT STATIC PRESSURE SWITCH AND SMOKE DETECTORS.

ALL SAFETY DEVICES SHALL BE HARDWIRED. ALARMS:

1. SUPPLY AIR TEMPERATURE – SUPPLY AIR TEMPERATURE ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
2. SUPPLY FAN FAILURE
3. RETURN FAN FAILURE
4. SUPPLY FAN VFD FAULT
5. RETURN FAN VFD FAULT
6. RETURN AIR HUMIDITY – RETURN AIR HUMIDITY ABOVE MAXIMUM BY A USER DEFINED AMOUNT (ADJ).
7. COIL PUMP – ALARM IF PUMP STATUS DOES NOT MATCH COMMANDED PUMP STATE
8. RETURN STATIC PRESSURE BELOW USER DEFINED AMOUNT
9. SUPPLY STATIC PRESSURE ABOVE USER DEFINED AMOUNT (PRESSURE UPSTREAM OF SMOKE ISOLATION DAMPER)

REVISION HISTORY

SIEMENS

SEIMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

2400 NELSON MILLER  
PKWYSJITE 130  
LOUISVILLE, KY 40223.US

PHONE: (502) 287-1671  
FAX: (502) 287-0316

USE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
DC	DC	MM	01/19/26	01/19/26

KV AHU 3 SYSTEM BOM/SEQ

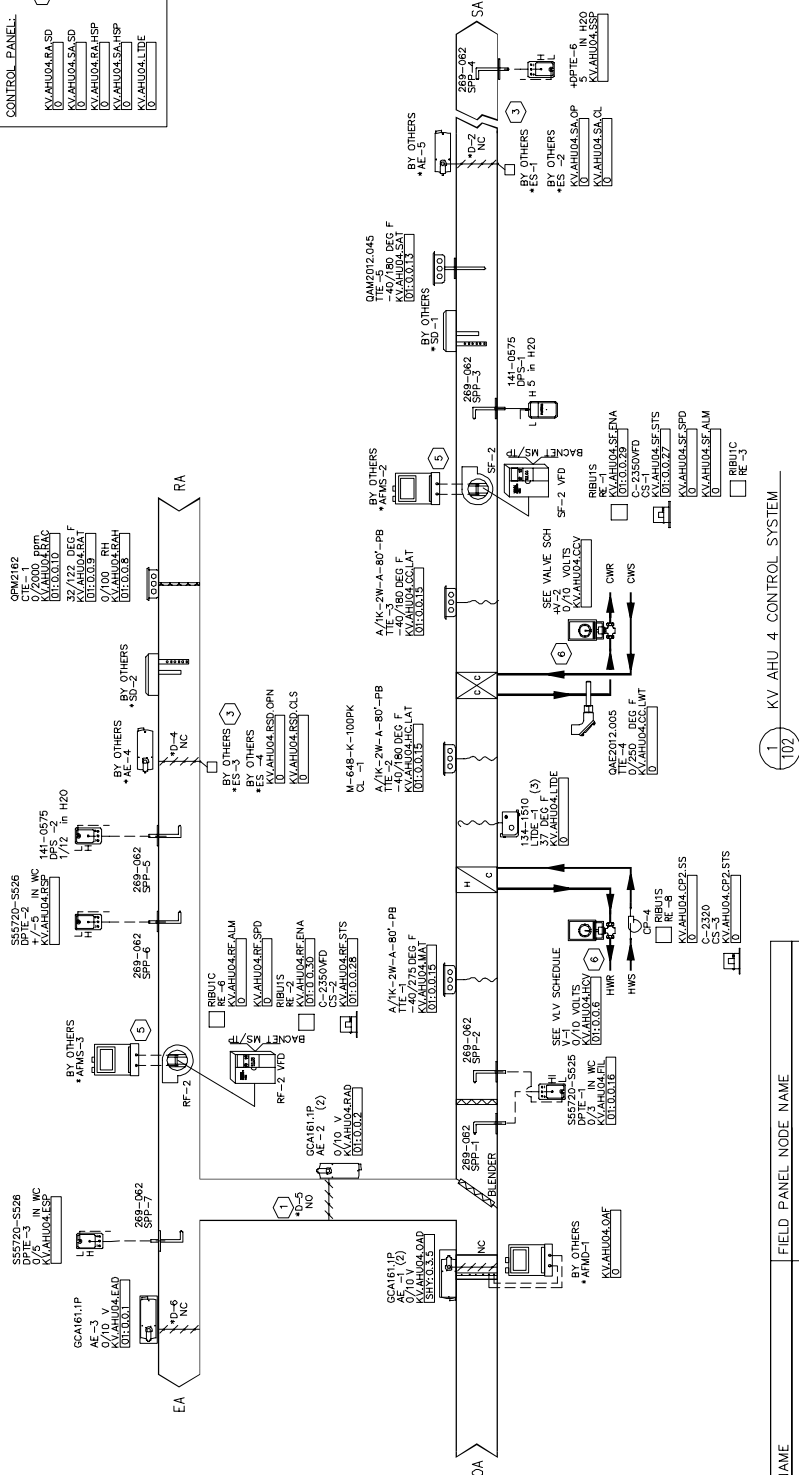
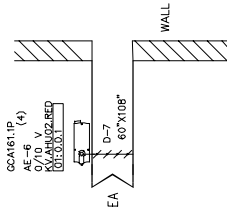
440P-410840  
101

101C

- DRAWING NOTES: (6)
- DAMPERS PROVIDED BY OTHERS AND ACTUATORS PROVIDED AND WRED BY SIEMENS.
  - RELAYS MOUNTED IN EXISTING CONTROL PANEL.
  - SMOKE ISOLATION DAMPERS/END SWITCHES AND ITS ACTUATORS ARE PROVIDED BY OTHERS.
  - SMOKE DETECTOR PROVIDED BY OTHERS/INTERLOCK WRING BY SIEMENS.
  - SUPPLY FAN, RETURN FAN AND THEIR ASSOCIATED APMS ARE PROVIDED BY OTHERS.
  - FOR VALVE DETAILS REFER TO VALVE SCHEDULE.
- GENERAL NOTES:
- "\*\*" DENOTES PROVIDED BY OTHER.
  - "\*-" DENOTES TO BE EXISTING.

CONTROL PANEL:

<input type="checkbox"/> KVAHU04.EA.SD	<input type="checkbox"/> REMNIB-6
<input type="checkbox"/> KVAHU04.SA.SD	<input type="checkbox"/> SAFETY RELAY
<input type="checkbox"/> KVAHU04.EA.HSP	<input type="checkbox"/> RH2B-UL-AC24WIT
<input type="checkbox"/> KVAHU04.SA.HSP	<input type="checkbox"/> RH2B-UL-AC24WIT
<input type="checkbox"/> KVAHU04.LIDE	<input type="checkbox"/> RE-5



1 KV AHU 4 CONTROL SYSTEM

REF#	FIELD PANEL NAME	FIELD PANEL NODE NAME
01	CSA.SAC1.PXC36	CSASAC1PXC36

## REVISION HISTORY

SIEMENS

2400 NELSON MILLER  
PKWYS/JUTE 130  
LOUISVILLE, KY 40223,US

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FAX: (502) 267-0316

USE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

ENGINEER: DC  
DRAFTER: MM  
CHECKED BY: MM  
INITIAL RELEASE: 01/19/26  
LAST EDIT DATE: 01/19/26

440P-410840  
102

# 102

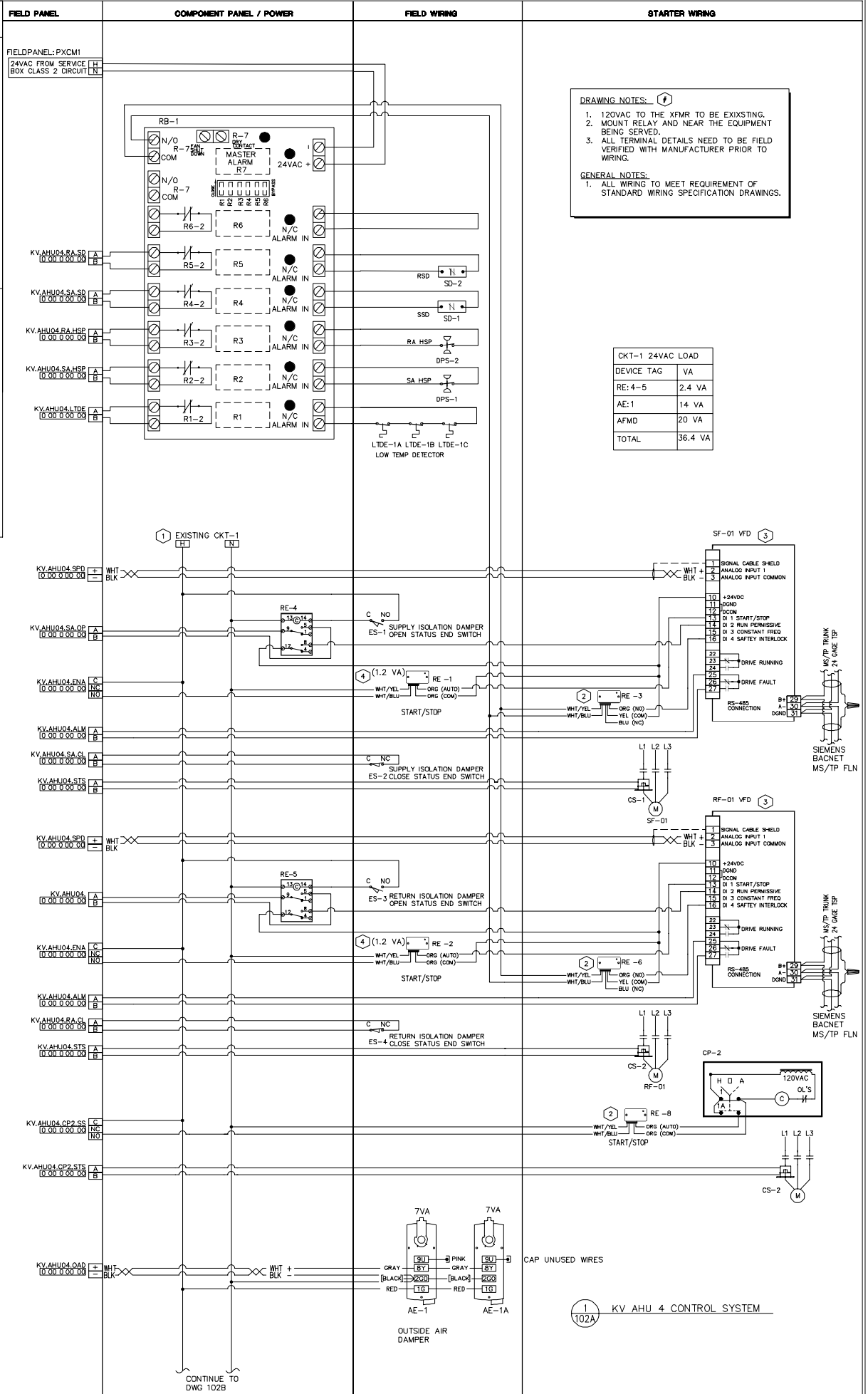
## KV AHU 4 CONTROL SYSTEM



## REVISION HISTORY

REF #	FIELD PANEL NAME	FIELD PANEL NODE NAME
N01	MMCH-PXCM1	PXCM1

## SIEMENS

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE2400 NELSON MILLER  
PKWYSITE 180  
LOUISVILLE, KY 40223 US  
PHONE: (502) 267-1571  
FAX: (502) 267-0316IUSE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,ENGINEER  
DC  
DC  
MM  
01/19/26  
01/19/26440P-410840  
102A  
102A

# REVISION HISTORY

REF #	FIELD PANEL NAME	FIELD PANEL NODE NAME
18	PUHNODE18	PUHNODE18

# SIEMENS

SIEMENS INDUSTRY, INC.  
SMART INFRASTRUCTURE

2400 NELSON MILLER  
PKWYSITE 190  
LOUISVILLE, KY 40228 US

PHONE: (502) 267-1571  
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IUSE KNOBVIEW AHU REPLACEMENT  
NEW ALBANY,

KV AHU 4 CONTROL SYSTEM

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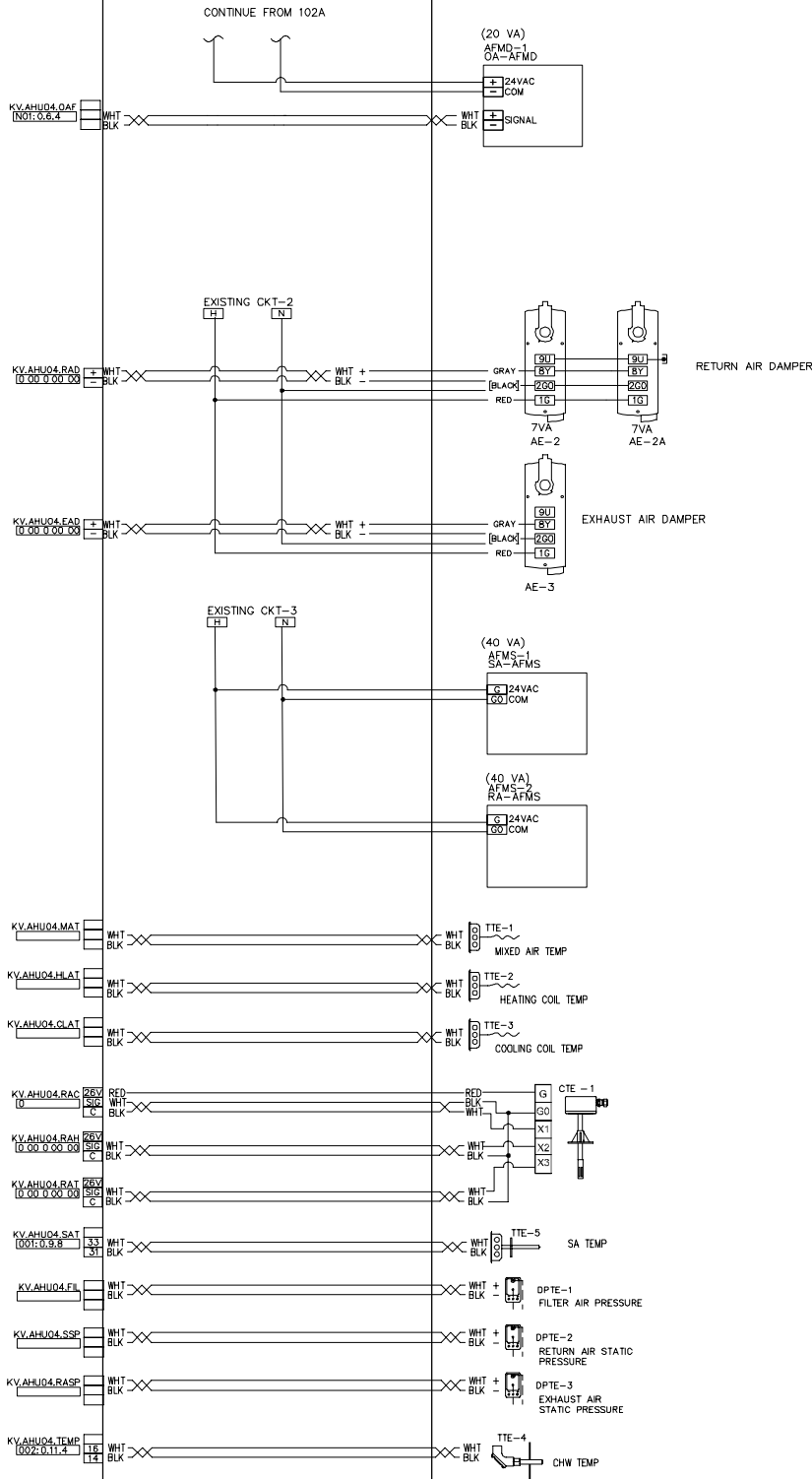
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102B

## FIELD PANEL

## COMPONENT PANEL / POWER

## FIELD WIRING

## STARTER WIRING



CKT-2 24VAC LOAD	
DEVICE TAG	VA
AFMD:1	20 VA
AE:1-2	21 VA
TOTAL	41 VA

CKT-3 24VAC LOAD	
DEVICE TAG	VA
AFMS:1-2	80 VA
TOTAL	80 VA

Control Device	Qty	Product Number	Manufacturer	Document Number	Description
Field Mounted Devices					
AE 1-3	5	GCA1611P	SIEMENS	154001	MOD(V) SR,24V, MED. PLUM
CS 1-2	2	C-2350VFD	SENAVA INC	C(VFD)	Current Sw.Split,AutoSet VFD,3.5-135A
CS 3	1	C-2320	SENAVA	N/A	CURRENT SW.SPLIT,PRESET,ADJ,0.45-100A
CTE 1	1	QPM2162	SIEMENS	149909	DUCT CO2 + TEMP + RH SENSOR, 0-10V
DP5 1-2	2	141-0575	SIEMENS	155 052	AIR FLOW SWITCH,05/12 MAN REST
DPTE 1	1	S55720-S525	SIEMENS	N/A	QBM3230U3D Pressure Sensor
DPTE 2-3	2	S55720-S526	SIEMENS	N/A	QBM3230U5D Pressure Sensor
HTTE 1	1	QFM2100	SIEMENS	149991	DUCT RH SENSOR, 0-10V, 5%
LIDE 1	3	134-1510	SIEMENS	155 115	LOW TEMP DET STATAUTO RESET
RB 1	1	RBWNLB-6	FUNCTIONAL	RBWNLB-6	AHU FAN SAFETY ALARM CIRCUIT 6-INPUT
RE 1-2	2	REBU1S	FUNCTIONAL DEVICES	1208cut015	RIB 120VAC 24VAC/DC HOA SPST
RE 3	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
RE 4-5	2	RH2B-UI-AC24Vkit	IDEC	1202cut016	RELAY&SOC,GP DPDT AC24V W/LED
RE 6	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
RE 8	1	REBU1C	FUNCTIONAL DEVICES	1208cut013	OBS/BY RIBU1C FD 120VAC 24VAC/DC SPDT
SPP 1-7	7	269-062	SIEMENS	N/A	PR269 ACCESSORY, SENSING TUBE
ITE 1-3	3	A/1K-2W-A-80-PB	ACI	N/A	RTD,COPPER AVERAGING,80"
TTE 4	1	QAE2012.005	SIEMENS	149919	IMMERSON TMP SNSR, PT 1K OHM(385) 2.5"
TTE 5	1	QAM2012.045	SIEMENS	149915	DUCT PNT TEMP, PT 1K OHM(385), 18" RIGID
V					SEE VALVE SUBMITAL

VAV AIR HANDLING UNIT AHU-2, AHU-3, AND AHU-4 SEQUENCE OF OPERATION

THIS UNIT INCLUDES A SINGLE PATH AIR HANDLING UNIT WITH VAV SUPPLY FAN, VAV RETURN FAN, OUTSIDE AIR DAMPER, RELIEF AIR DAMPER, RETURN AIR DAMPER, HOT WATER PREHEAT COIL AND CHILLED WATER COOLING COIL. THIS UNIT SHALL BE CONTROLLED BY A DEDICATED DIGITAL CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE FACILITY

MANAGEMENT SYSTEM (FMS) CONTROL NETWORK TO ALLOW COMMUNICATION BETWEEN CONTROLLERS. THE CONTROLLER SHALL BE EXPANDABLE FOR THE ADDITION OF FUTURE INPUTS AND OUTPUTS.

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SMART INFRASTRUCTURE

USE KNOBVIEW AHU REPLACEMENT  
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KV AHU 4 SYSTEM BOM/SEQ

102C