VABP-bldg 22&24

9362-0079

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10	MISC SYSTEMS
11	NAE INSTRUCTIONS
12	N2 TRUNK REPEATER
13	FL1 ROOM SCHEDULE
14	FL2 ROOM SCHEDULE
15	FL3 ROOM SCHEDULE
16	FL4 ROOM SCHEDULE

VA-BLDG 22 PANEL POWER LOCATIONS

MECH RM	ELECTRIC PANEL LOCATION	PNL/BRKR
FL1-SOUTH RM 108	NORTH ELECT RM EMERG PNL	EL1N/CIRC 11
FL1-NORTH RM 131	NORTH ELECT RM EMERG PNL	EL1N/CIRC 5
FL2-SOUTH RM 207	NORTH ELECT RM EMERG PNL	EL2N/CIRC 2
FL2-NORTH RM 253	NORTH ELECT RM EMERG PNL	EL2N/CIRC 1
FL3-SOUTH RM 307	NORTH ELECT RM EMERG PNL	EL3N/CIRC 6
FL3-NORTH RM 346	NORTH ELECT RM EMERG PNL	EL3N/CIRC 5
FL4-SOUTH RM 407	NORTH ELECT RM EMERG PNL	EL4N/CIRC 2
FL4-NORTH RM 435	NORTH ELECT RM EMERG PNL	EL4N/CIRC 4

AIR DRIERS ON THIS CIRCUIT ALSO!!!!!

AS-BUILT 4-23-2010

Johnson Controls

Creating a better climate for business.

- ☐ Environmental Control System
- ■ Facility Management System
- ☐ Air and Water System Balancing
- ☐ Fire Management System
- ☐ Security System
- ☐ Lighting Services
- ☐ Instrumentation System Installation
- ☐ Building Operations Management
- ☐ Energy Conservation Control
- ☐ Training Programs
- ☐ Performance Contracting
- ☐ Planned Service Agreements

Air Conditioning
Heating
Diagnostic Services
Coil Cleaning
Refrigeration
Automatic Temperature Controls
Facility Management Systems
Fire Management
Security Management
Building Operations and Management
Water Treatment
Electrical Equipment
Emergency Generator / Lighting Equipment
Industrial Controls / Recording / Indication Equipment

PROJECT TITLE
VABP-bldg 22&24

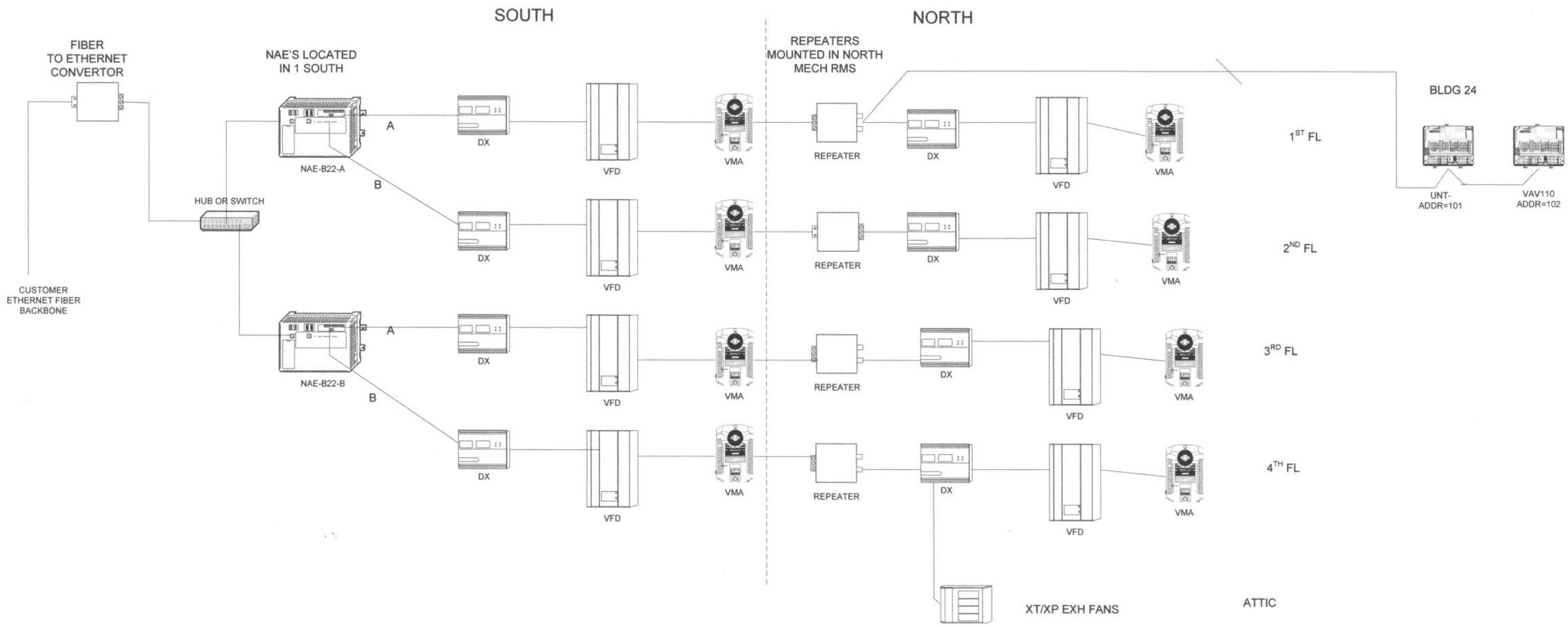
ARCHITECT	ENGINEER
, Phone:	, Phone:
MECHANICAL CONTRACTOR	ELECTRICAL CONTRACTOR
, Phone:	, Phone:

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

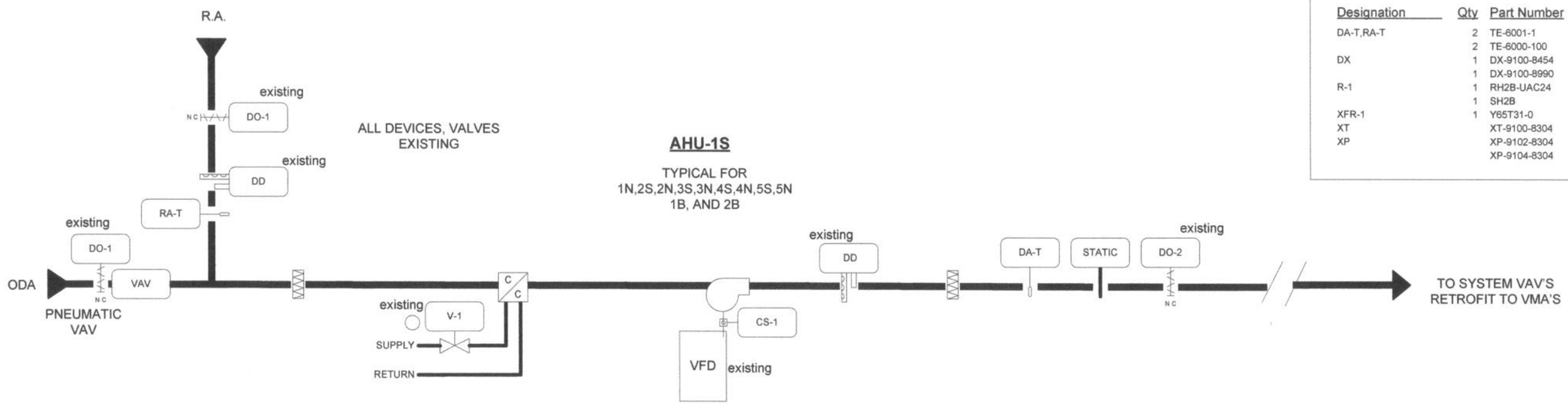
Branch Information

Johnson Controls

SALES ENGINEER	PROJECT MANAGER	APPLICATION ENGINEER	DATE	CONTRACT NUMBER
				9362-0079



Drawing Title						
Riser Drawing						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title: **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER: **9362-0079**	DRAWING NUMBER		



BILL OF MATERIALS

Designation	Qty	Part Number	Description
DA-T,RA-T	2	TE-6001-1	DUCT TEMP. HOLDER
	2	TE-6000-100	TEMP ELEMENT 0.1% -50-250
DX	1	DX-9100-8454	DIGITAL CONTROLLER
	1	DX-9100-8990	MOUNTING BASE
R-1	1	RH2B-UAC24	24VAC RELAY
	1	SH2B	BASE
XFR-1	1	Y65T31-0	120-208-240/24 VAC TRANSFORMER
XT		XT-9100-8304	SEE SCHEDULE FOR LOCATION & QTY
XP		XP-9102-8304	EXPANSION MOD. SEE SCHEDULE
		XP-9104-8304	SEE SCHEDULE

SEQUENCE OF OPERATION

AHU-1S typ AHU-1N,2S,2N,3S,3N,4S,5N
AHU-1S IS A, SINGLE PATH,VARIABLE AIR VOLUME SYSTEM CONSISTING OF A VAV OUTSIDE AIR DAMPER (PNEUMATIC), PREFILTER, FINAL FILTER, CHILL WATER COIL, VARIABLE SPEED FAN. EXISTING PNEUMATIC VAV BOXES WITH REHEATS, AND SPACE SENSORS.
Air handler will be started and stopped through the OWS. When commanded to on, will open the SMOKE dampers, and the fan will start. When the AHU is indexed to off, the dampers will close, fan will stop, valves will close.

Static pressure control
When fan run status is proven (CS-1) DX controller will modulate the fan speed to maintain static pressure setpoint (adj).

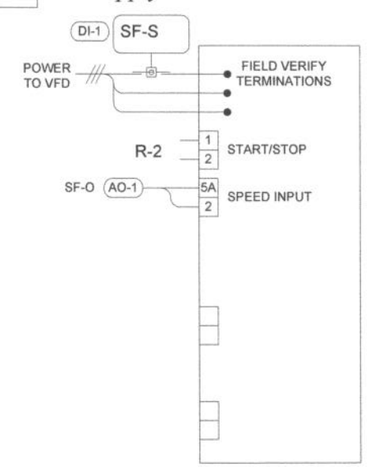
Discharge air temp. control
Discharge air temperature is monitored in the duct. The cooling valve will modulate to maintain discharge air temperature setpoint (adj).

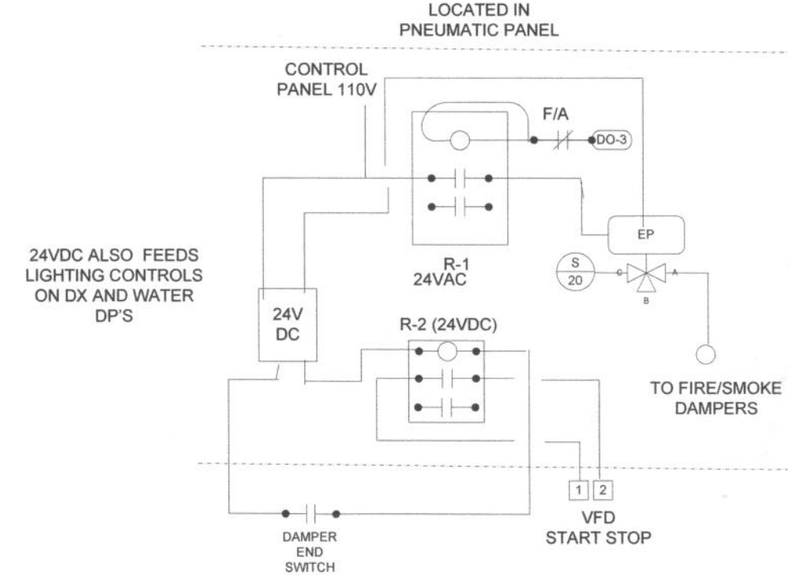
Monitor points include:
Return air temperature
UNIT FIRE ALARM- Simplex fire alarm provides all fire functions
Existing smoke detectors will shut down system on alarm. In this event fan shuts off smoke dampers closes, valves close.

SEE POINT SCHEDULE PER UNIT FOR OTHER POINTS, SEE INDIVIDUAL SYSTEMS, FOR SEQUENCES ASSOCIATED TO THAT UNIT ie: EXHAUST FANS, PUMPS ETC.

LITES, AND IRRIGATION VALVES ARE SCHEDULED AT THE OWS.

DETAIL S13 OA Supply Fan VFD



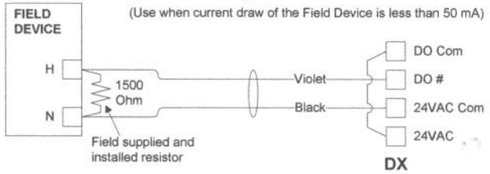


Drawing Title						
B22-TYP-AHU.vsd					1/1/1999	
					1/1/1999	
					1/1/1999	
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer		DRAWN BY / DATE 0	APPROVED BY / DATE 0		
Project Title: VABP-bldg 22&24	JOHNSON CONTROLS Systems & Services Division		Branch Information	CONTRACT NUMBER 9362-0079		
				DRAWING NUMBER 1		

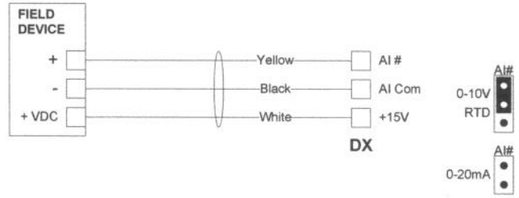
Electrician/Fitter	Point Information				Controller Information							Panel Information					Intermediate Device					Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-1N			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-1N			DX 9100	N2	1	1	DO-3			EN-1	Mech Room	0	M12	1001-03											
	DO-4	AHU-1N	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4.COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13.14)	IDEC Relay	COM, NO (9.5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-1N	LC1-C	FL1 CORR LITES	DX 9100	N2	1	1	DO-5		DO5.COM	EN-1	Mech Room	0	M12	1001-05	2/22	COIL (13.14)	IDEC Relay	COM, NO (9.5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-6	AHU-1N			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-1N			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-1N			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-1N	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1.DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-1N	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2.DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-1N			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-1N			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-1N			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-1N			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-1N			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-1N			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-1N	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1.AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-1N	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2.AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-1N	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3.AICom.+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT,COM,EXC	DPT		D102	
	AI-4	AHU-1N	CAIR-P	CONTROL AIR PRESS	DX 9100	N2	1	1	AI-4		AI4.AICom.+15V	EN-1	Mech Room	0	M12	1001-04						3/22	OUT,COM,PWR	Transducer Volt		D102	
	AI-5	AHU-1N			DX 9100	N2	1	1	AI-5		AI5.AICom.+15V	EN-1	Mech Room	0	M12	1001-05						3/22	OUT,COM,PWR				
	AI-6	AHU-1N			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-1N			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-1N			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-1N	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1.AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-1N	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2.AOCom.24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-1N			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-1N			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-1N			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-1N			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-1N			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-1N			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

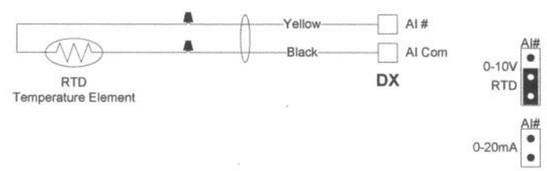
(Use when current draw of the Field Device is less than 50 mA)



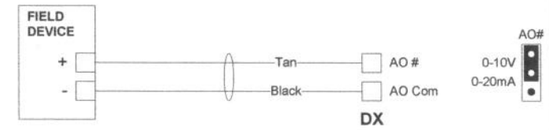
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

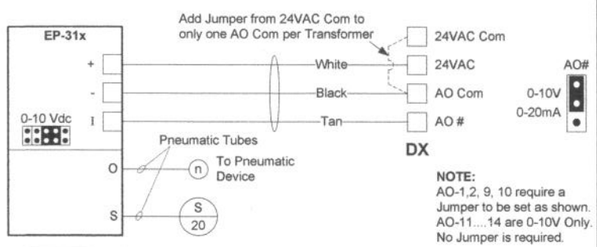


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



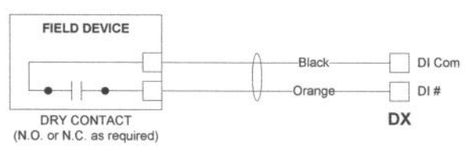
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



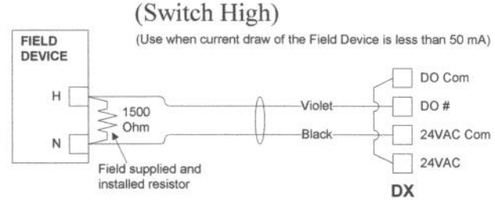
NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)



DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

(Use when current draw of the Field Device is less than 50 mA)

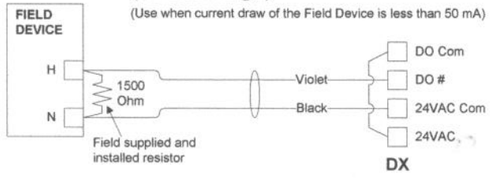


Drawing Title **AHU-1N POINT SCHEDULE**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER **9362-0079**			
			DRAWING NUMBER **2**			

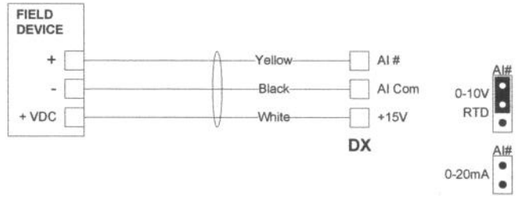
Electrician/Fitter	Point Information				Controller Information							Panel Information					Intermediate Device					Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-1S			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-1S			DX 9100	N2	1	1	DO-3			EN-1	Mech Room	0	M12	1001-03											
	DO-4	AHU-1S	SF-C	SUPPLY FAN Command	DX 9100	N2	1	1	DO-4		DO4.COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-1S	ODA-LTG	OUTSIDE LIGHTS	DX 9100	N2	1	1	DO-5		DO5.COM	EN-1	Mech Room	0	M12	1001-05	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-6	AHU-1S	BSMT-EF1	EF1 BASEMENT EXHAUST	DX 9100	N2	1	1	DO-6		DO6.COM	EN-1	Mech Room	0	M12	1001-06	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-7	AHU-1S			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-1S			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-1S	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1.DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-1S	VFD-F	VFD-FAULT	DX 9100	N2	1	1	DI-2		DI2.DICom	EN-1	Mech Room	0	M12	1001-02	2/22	OUT, COM	Current Relay	Motor Lead		2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-1S	BSM-EF-S	BSMT EF STATUS	DX 9100	N2	1	1	DI-3		DI3.DICom	EN-1	Mech Room	0	M12	1001-03	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-4	AHU-1S			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-1S			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-1S			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-1S			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-1S			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-1S	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1.AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-1S	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2.AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-1S	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3.AICom,+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT.COM.EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-1S	ODA-H	ODA HUMIDITY	DX 9100	N2	1	1	AI-4		AI4.AICom,+15V	EN-1	Mech Room	0	M12	1001-04						3/22	OUT.GND.PWR	HE-6700(Duct Mnt) - HE		D153	
	AI-5	AHU-1S	ODA-T	ODA TEMP	DX 9100	N2	1	1	AI-5		AI5.AICom	EN-1	Mech Room	0	M12	1001-05						2/22	TEMP, TEMP	HE-6700(Duct Mnt) - TE		D153	
	AI-6	AHU-1S			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-1S			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-1S			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-1S	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1.AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-1S	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2.AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-1S			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-1S			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-1S			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-1S			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-1S			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-1S			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

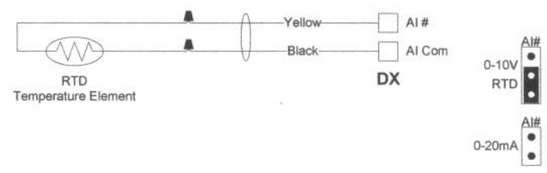
(Use when current draw of the Field Device is less than 50 mA)



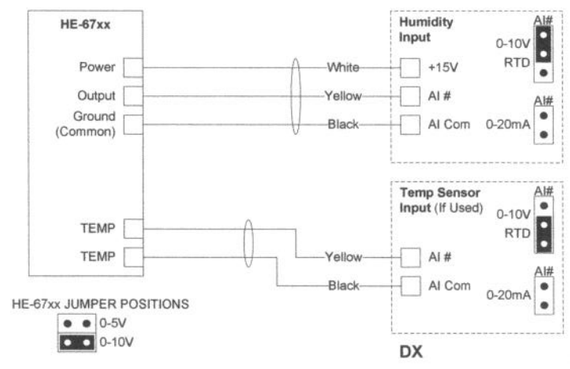
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



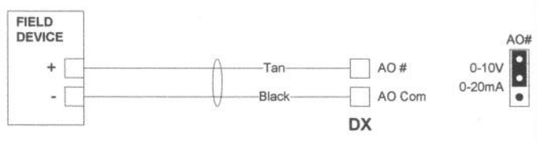
DETAIL D131 — TEMPERATURE SENSOR INPUT



DETAIL D153 — HE-6700 SERIES DUCT HUMIDITY SENSOR

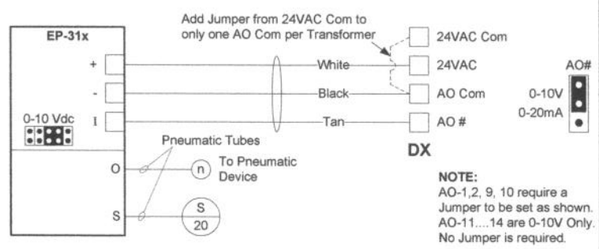


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



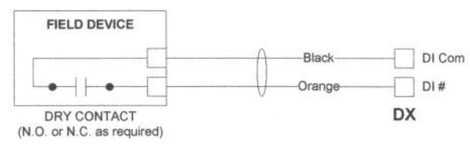
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



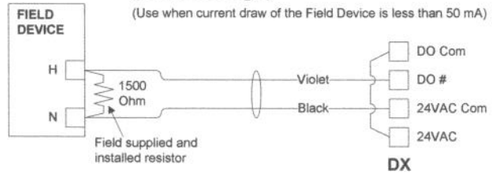
NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)



DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

(Use when current draw of the Field Device is less than 50 mA)

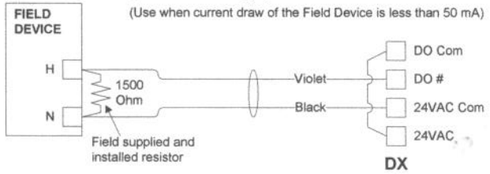


Drawing Title: AHU-1S POINT SCHEDULE	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title: VABP-bldg 22&24	Johnson Controls	Branch Information	CONTRACT NUMBER: 9362-0079	DRAWING NUMBER: 3		

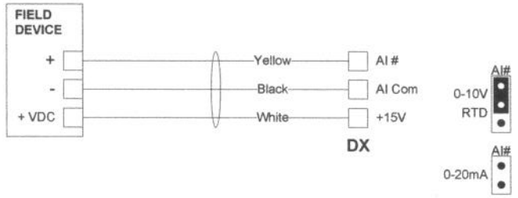
Electrician/Fitter	Point Information				Controller Information							Panel Information					Intermediate Device					Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-2N			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-2N	LC12N-C	CORR LITES	DX 9100	N2	1	1	DO-3		DO3,COM	EN-1	Mech Room	0	M12	1001-03	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-4	AHU-2N	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4,COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-2N			DX 9100	N2	1	1	DO-5			EN-1	Mech Room	0	M12	1001-05											
	DO-6	AHU-2N			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-2N			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-2N			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-2N	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1,DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-2N	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2,DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-2N			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-2N			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-2N			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-2N			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-2N			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-2N			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-2N	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1,AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-2N	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2,AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-2N	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3,AICom,+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-2N			DX 9100	N2	1	1	AI-4			EN-1	Mech Room	0	M12	1001-04											
	AI-5	AHU-2N			DX 9100	N2	1	1	AI-5			EN-1	Mech Room	0	M12	1001-05											
	AI-6	AHU-2N			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-2N			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-2N			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-2N	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1,AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-2N	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2,AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-2N			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-2N			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-2N			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-2N			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-2N			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-2N			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

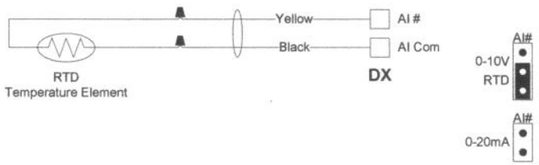
(Use when current draw of the Field Device is less than 50 mA)



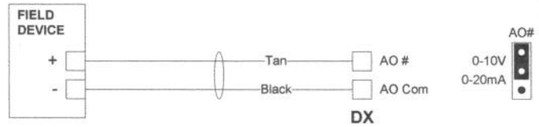
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

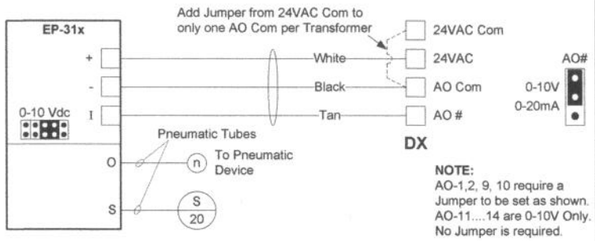


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



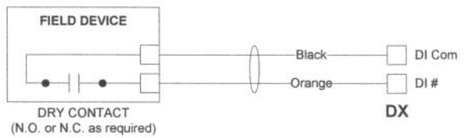
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



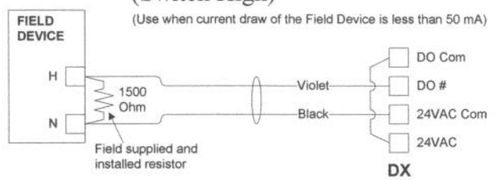
NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)



DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

(Use when current draw of the Field Device is less than 50 mA)

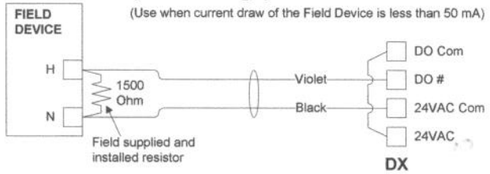


Drawing Title **AHU-2N POINT SCHEDULE**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER **9362-0079**			
			DRAWING NUMBER **4**			

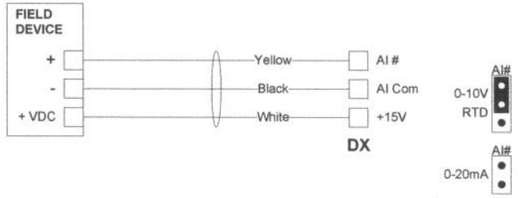
Electrician/Fitter Point Information					Controller Information							Panel Information					Intermediate Device					Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-2S			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-2S			DX 9100	N2	1	1	DO-3			EN-1	Mech Room	0	M12	1001-03											
	DO-4	AHU-2S	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4.COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13.14)	IDEC Relay	COM. NO (9.5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-2S			DX 9100	N2	1	1	DO-5			EN-1	Mech Room	0	M12	1001-05											
	DO-6	AHU-2S			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-2S			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-2S			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-2S	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1.DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT. COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-2S	VFD-F	VFD-FAULT	DX 9100	N2	1	1	DI-2		DI2.DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-2S			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-2S			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-2S			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-2S			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-2S			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-2S			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-2S	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1.AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-2S	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2.AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-2S	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3.AICom.+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT.COM.EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-2S			DX 9100	N2	1	1	AI-4			EN-1	Mech Room	0	M12	1001-04											
	AI-5	AHU-2S			DX 9100	N2	1	1	AI-5			EN-1	Mech Room	0	M12	1001-05											
	AI-6	AHU-2S			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-2S			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-2S			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-2S	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1.AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-2S	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2.AOCom.24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I . -. +	EP-31x (Vdc)	S. O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-2S			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-2S			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-2S			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-2S			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-2S			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-2S			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

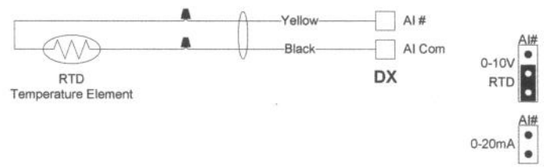
(Use when current draw of the Field Device is less than 50 mA)



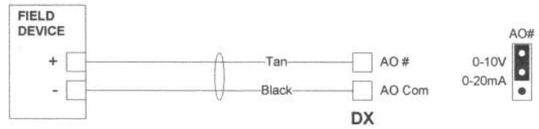
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

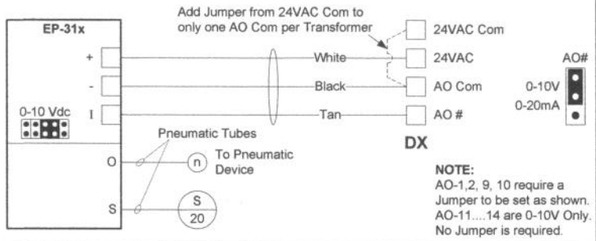


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



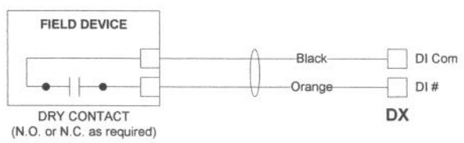
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)

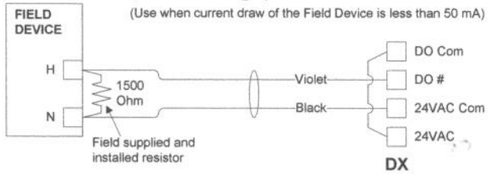


Drawing Title **AHU-2S POINT SCHEDULE**							
	REFERENCE DRAWING	NO	REVISION-LOCATION		ECN	DATE	BY
	Sales Engineer	Project Manager	Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE		
Project Title **VABP-bldg 22&24**	Johnson Controls		Branch Information		CONTRACT NUMBER **9362-0079**		
					DRAWING NUMBER **5**		

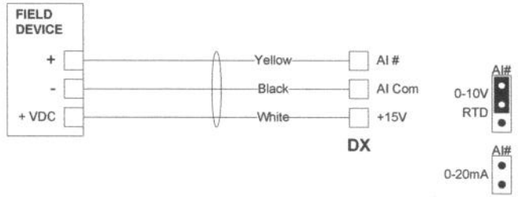
Electrician/Fitter	Point Information			Controller Information							Panel Information						Intermediate Device				Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-3N			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-3N	LC13N-C	FL 3 CORR LITES	DX 9100	N2	1	1	DO-3		DO3.COM	EN-1	Mech Room	0	M12	1001-03	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-4	AHU-3N	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4.COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-3N			DX 9100	N2	1	1	DO-5		DO5.COM	EN-1	Mech Room	0	M12	1001-05	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail				
	DO-6	AHU-3N			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-3N			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-3N			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-3N	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1.DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-3N	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2.DICom	EN-1	Mech Room	0	M12	1001-02	2/22	OUT, COM	Current Relay	Motor Lead		2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-3N			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-3N			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-3N			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-3N			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-3N			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-3N			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-3N	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1.AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-3N	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2.AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-3N	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3.AICom,+15V	EN-1	Mech Room	0	M12	1001-03	2/22	+, -	Current Sensor	Motor Lead		3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-3N			DX 9100	N2	1	1	AI-4			EN-1	Mech Room	0	M12	1001-04											
	AI-5	AHU-3N			DX 9100	N2	1	1	AI-5			EN-1	Mech Room	0	M12	1001-05											
	AI-6	AHU-3N			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-3N			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-3N			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-3N	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1.AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-3N	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2.AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I , -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-3N			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-3N			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-3N			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-3N			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-3N			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-3N			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

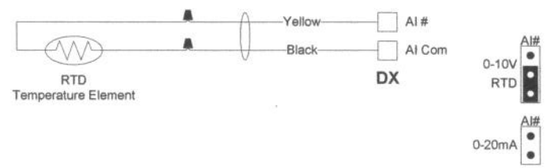
(Use when current draw of the Field Device is less than 50 mA)



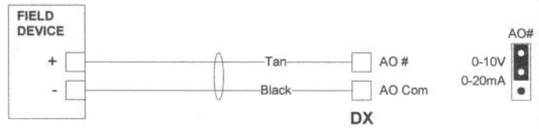
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

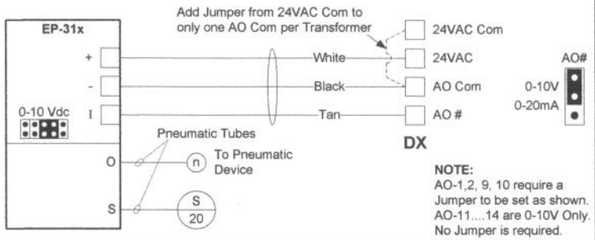


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



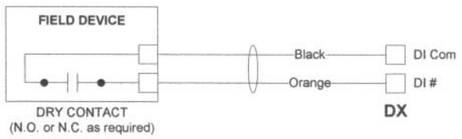
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)

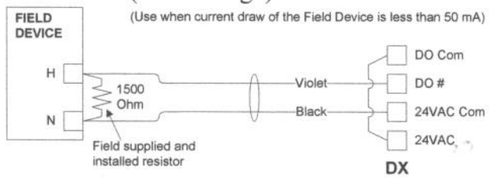


Drawing Title **AHU-3N POINT SCHEDULE**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER **9362-0079**			
			DRAWING NUMBER **6**			

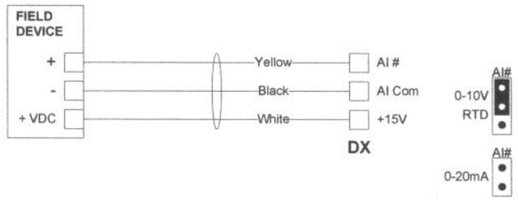
Electrician/Fitter Point Information					Controller Information							Panel Information					Intermediate Device					Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-3S			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-3S			DX 9100	N2	1	1	DO-3			EN-1	Mech Room	0	M12	1001-03											
	DO-4	AHU-3S	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4,COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-3S			DX 9100	N2	1	1	DO-5			EN-1	Mech Room	0	M12	1001-05											
	DO-6	AHU-3S			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-3S			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-3S			DX 9100	N2	1	1	DO-8			EN-1	Mech Room	0	M12	1001-08											
	DI-1	AHU-3S	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1,DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-3S	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2,DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-3S			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-3S			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-3S			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-3S			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-3S			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-3S			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-3S	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1,AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-3S	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2,AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-3S	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3,AICom,+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-3S			DX 9100	N2	1	1	AI-4			EN-1	Mech Room	0	M12	1001-04											
	AI-5	AHU-3S			DX 9100	N2	1	1	AI-5			EN-1	Mech Room	0	M12	1001-05											
	AI-6	AHU-3S			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-3S			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-3S			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-3S	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1,AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-3S	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2,AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-3S			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-3S			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-3S			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-3S			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-3S			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-3S			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

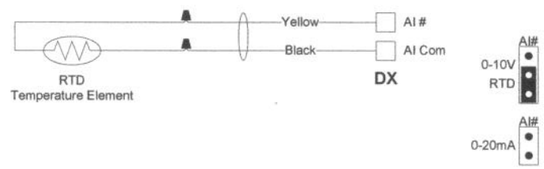
(Use when current draw of the Field Device is less than 50 mA)



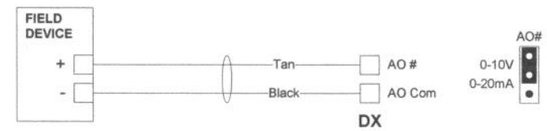
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

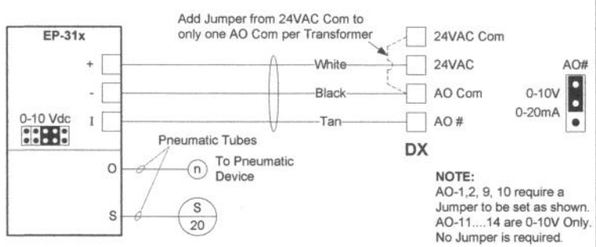


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



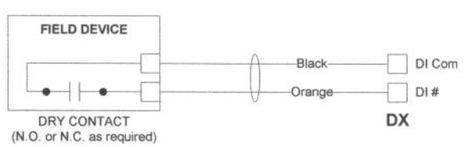
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)

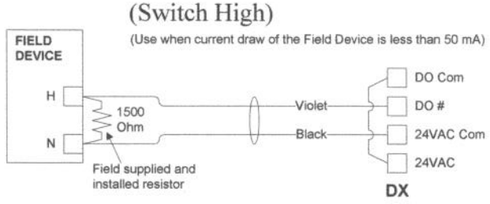


Drawing Title **AHU-3S POINT SCHEDULE**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER **9362-0079**			
			DRAWING NUMBER **7**			

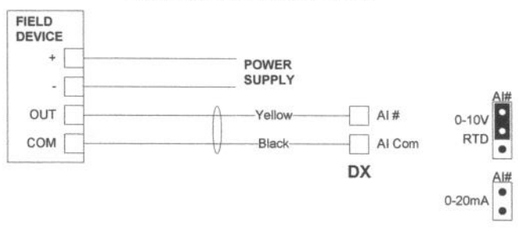
Electrician/Fitter	Point Information				Controller Information							Panel Information						Intermediate Device				Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-4n			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-4n	LC14N-C	4TH FL CORRIDOR LITES	DX 9100	N2	1	1	DO-3		DO3,COM	EN-1	Mech Room	0	M12	1001-03	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-4	AHU-4n	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4,COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-4n			DX 9100	N2	1	1	DO-5			EN-1	Mech Room	0	M12	1001-05											
	DO-6	AHU-4n			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-4n			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-4n	EF7-DMPR	EF7 DAMPER COMMAND	DX 9100	N2	1	1	DO-8		DO8,COM	EN-1	Mech Room	0	M12	1001-08	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DI-1	AHU-4n	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1,DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-4n	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2,DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-4n			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-4n			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-4n			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-4n			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-4n			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-4n			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-4n	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1,AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-4n	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2,AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-4n	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3,AICom,+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-4n	CHW-DP	CHILL WTR DP NORTH	DX 9100	N2	1	1	AI-4		AI4,AICom,+15V	EN-1	Mech Room	0	M12	1001-04						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-5	AHU-4n	CHW-DP	HTG WTR DP NORTH	DX 9100	N2	1	1	AI-5		AI5,AICom,+15V	EN-1	Mech Room	0	M12	1001-05						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-6	AHU-4n			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-4n			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-4n			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-4n	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1,AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-4n	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2,AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-4n			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-4n			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-4n			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-4n			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-4n			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-4n			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											
		AHU-4n			XT (Expansior	N2	1	2				EN-1	Mech Room	0	M12												N2 Trunk
	XT1DI1	AHU-4n	EF1-S	EXHAUST FAN 1 STATUS	XP 9104 (4DI,	N2	1	2	DI-1		DI1,DI COM	EN-1	Mech Room	0	M12	1002-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT1DI2	AHU-4n	EF2-S	EXHAUST FAN 2 STATUS	XP 9104 (4DI,	N2	1	2	DI-2		DI2,DI COM	EN-1	Mech Room	0	M12	1002-02	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT1DI3	AHU-4n	EF3-S	EXHAUST FAN 3 STATUS	XP 9104 (4DI,	N2	1	2	DI-3		DI3,DI COM	EN-1	Mech Room	0	M12	1002-03	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT1DI4	AHU-4n	EF4-S	EXHAUST FAN 4 STATUS	XP 9104 (4DI,	N2	1	2	DI-4		DI4,DI COM	EN-1	Mech Room	0	M12	1002-04	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT1DO5	AHU-4n	EF1-C	EXHAUST FAN 1 COMMAND	XP 9104 (4DI,	N2	1	2	DO-5		DO5,24V COM	EN-1	Mech Room	0	M12	1002-05	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT1DO6	AHU-4n	EF2-C	EXHAUST FAN 2 COMMAND	XP 9104 (4DI,	N2	1	2	DO-6		DO6,24V COM	EN-1	Mech Room	0	M12	1002-06	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT1DO7	AHU-4n	EF3-C	EXHAUST FAN 3 COMMAND	XP 9104 (4DI,	N2	1	2	DO-7		DO7,24V COM	EN-1	Mech Room	0	M12	1002-07	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT1DO8	AHU-4n	EF4-C	EXHAUST FAN 4 COMMAND	XP 9104 (4DI,	N2	1	2	DO-8		DO8,24V COM	EN-1	Mech Room	0	M12	1002-08	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT2DI1	AHU-4n	EF6-S	EXHAUST FAN 6 STATUS	XP 9104 (4DI,	N2	1	2	DI-1		DI1,DI COM	EN-1	Mech Room	0	M12	1002-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT2DI2	AHU-4n	EF7-S	EXHAUST FAN 7 STATUS	XP 9104 (4DI,	N2	1	2	DI-2		DI2,DI COM	EN-1	Mech Room	0	M12	1002-02	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT2DI3	AHU-4n	SF1-S	SUPPLY FAN 1 STATUS	XP 9104 (4DI,	N2	1	2	DI-3		DI3,DI COM	EN-1	Mech Room	0	M12	1002-03	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT2DI4	AHU-4n	SF2-S	SUPPLY FAN 2 STATUS	XP 9104 (4DI,	N2	1	2	DI-4		DI4,DI COM	EN-1	Mech Room	0	M12	1002-04	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		XP301	
	XT2DO5	AHU-4n	SF1-C	SUPPLY FAN 1 COMMAND	XP 9104 (4DI,	N2	1	2	DO-5		DO5,24V COM	EN-1	Mech Room	0	M12	1002-05	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT2DO6	AHU-4n	SF2-C	SUPPLY FAN 2 COMMAND	XP 9104 (4DI,	N2	1	2	DO-6		DO6,24V COM	EN-1	Mech Room	0	M12	1002-06	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		XP502	
	XT2DO7	AHU-4n			XP 9104 (4DI,	N2	1	2	DO-7			EN-1	Mech Room	0	M12	1002-07											
	XT2DO8	AHU-4n			XP 9104 (4DI,	N2	1	2	DO-8			EN-1	Mech Room	0	M12	1002-08											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

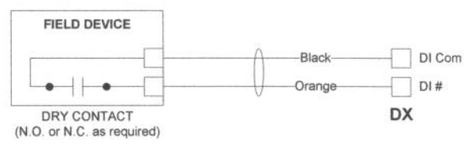
(Use when current draw of the Field Device is less than 50 mA)



DETAIL D101 — VOLTAGE INPUT - EXTERNAL SOURCE

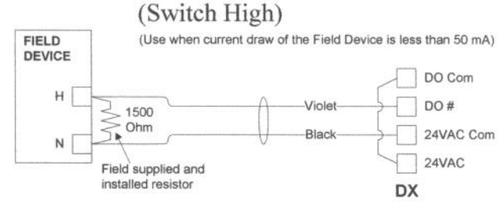


DETAIL D301 — BINARY INPUT (DRY CONTACT)

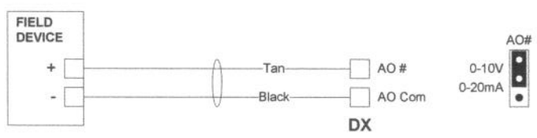


DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

(Use when current draw of the Field Device is less than 50 mA)

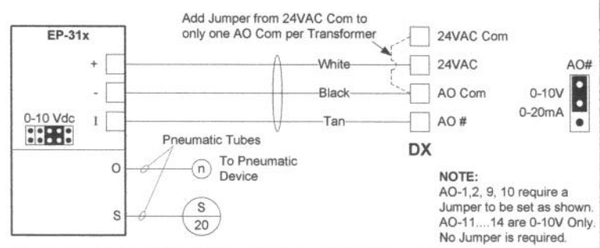


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



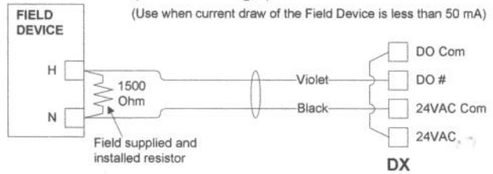
NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

Drawing Title						
AHU-4N POINT SCHEDULE						
	REFERENCE DRAWING	NO	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager	Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE		
Project Title: VABP-bldg 22&24	Johnson Controls		Branch Information	CONTRACT NUMBER: 9362-0079		
				DRAWING NUMBER: 8		

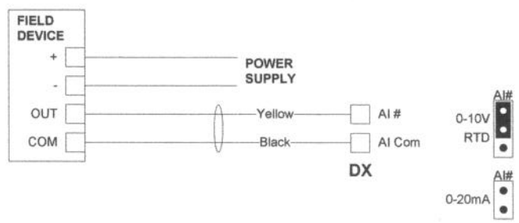
Electrician/Fitter	Point Information				Controller Information							Panel Information						Intermediate Device				Field Device					
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Module Type	Termination Out	Panel	Panel Location	Slot Number	Reference Drawing	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Location	Wiring /Tubing	Termination In	Device	Location	Ref Detail Shape	Comment
		AHU-4s			DX 9100	N2	1	1				EN-1	Mech Room	0	M12												N2 Trunk
	DO-3	AHU-4s			DX 9100	N2	1	1	DO-3			EN-1	Mech Room	0	M12	1001-03											
	DO-4	AHU-4s	SF-C	SUPPLY FAN SST	DX 9100	N2	1	1	DO-4		DO4,COM	EN-1	Mech Room	0	M12	1001-04	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DO-5	AHU-4s			DX 9100	N2	1	1	DO-5			EN-1	Mech Room	0	M12	1001-05											
	DO-6	AHU-4s			DX 9100	N2	1	1	DO-6			EN-1	Mech Room	0	M12	1001-06											
	DO-7	AHU-4s			DX 9100	N2	1	1	DO-7			EN-1	Mech Room	0	M12	1001-07											
	DO-8	AHU-4s	EF6-DMPR	EF6 DAMPER COMMAND	DX 9100	N2	1	1	DO-8		DO8,COM	EN-1	Mech Room	0	M12	1001-08	2/22	COIL (13,14)	IDEC Relay	COM, NO (9,5)		2/14	See wiring detail	Control Panel (NO) (Sw Hi)		D502	
	DI-1	AHU-4s	SF-S	FAN STATUS	DX 9100	N2	1	1	DI-1		DI1,DICom	EN-1	Mech Room	0	M12	1001-01	2/22	OUT, COM	Current Relay	Motor Lead		Motor Lead	See wiring detail	Motor Status		D301	
	DI-2	AHU-4s	VFD-F	VFD FAULT	DX 9100	N2	1	1	DI-2		DI2,DICom	EN-1	Mech Room	0	M12	1001-02						2/22	See wiring detail	Dry Contact		D301	
	DI-3	AHU-4s			DX 9100	N2	1	1	DI-3			EN-1	Mech Room	0	M12	1001-03											
	DI-4	AHU-4s			DX 9100	N2	1	1	DI-4			EN-1	Mech Room	0	M12	1001-04											
	DI-5	AHU-4s			DX 9100	N2	1	1	DI-5			EN-1	Mech Room	0	M12	1001-05											
	DI-6	AHU-4s			DX 9100	N2	1	1	DI-6			EN-1	Mech Room	0	M12	1001-06											
	DI-7	AHU-4s			DX 9100	N2	1	1	DI-7			EN-1	Mech Room	0	M12	1001-07											
	DI-8	AHU-4s			DX 9100	N2	1	1	DI-8			EN-1	Mech Room	0	M12	1001-08											
	AI-1	AHU-4s	DA-T	DISCHARGE AIR TEMP	DX 9100	N2	1	1	AI-1		AI1,AICom	EN-1	Mech Room	0	M12	1001-01						2/22	2-Wire	TE		D131	
	AI-2	AHU-4s	RA-T	RETURN AIR TEMP	DX 9100	N2	1	1	AI-2		AI2,AICom	EN-1	Mech Room	0	M12	1001-02						2/22	2-Wire	TE		D131	
	AI-3	AHU-4s	STATIC	STATIC PRESSURE	DX 9100	N2	1	1	AI-3		AI3,AICom,+15V	EN-1	Mech Room	0	M12	1001-03						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-4	AHU-4s	CHW-DP	CHILL WTR DP SOUTH	DX 9100	N2	1	1	AI-4		AI4,AICom,+15V	EN-1	Mech Room	0	M12	1001-04						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-5	AHU-4s	HW-DP	HTG WTR DP SOUTH	DX 9100	N2	1	1	AI-5		AI5,AICom,+15V	EN-1	Mech Room	0	M12	1001-05						3/22	OUT,COM,EXC	DPT2xxx (VDC)		D102	
	AI-6	AHU-4s			DX 9100	N2	1	1	AI-6			EN-1	Mech Room	0	M12	1001-06											
	AI-7	AHU-4s			DX 9100	N2	1	1	AI-7			EN-1	Mech Room	0	M12	1001-07											
	AI-8	AHU-4s			DX 9100	N2	1	1	AI-8			EN-1	Mech Room	0	M12	1001-08											
	AO-1	AHU-4s	VFD-O	SPD DRIVE OUTP	DX 9100	N2	1	1	AO-1		AO1,AOCom	EN-1	Mech Room	0	M12	1001-01						2/22	See wiring detail	Output (Voltage)		D201	
	AO-2	AHU-4s	CHWV-O	CHILL WTR VALVE OUTP	DX 9100	N2	1	1	AO-2		AO2,AOCom,24VAC	EN-1	Mech Room	0	M12	1001-02	3/22	I, -, +	EP-31x (Vdc)	S, O		1/4"	Barb Fitting	Pneu. Actuator		D223	
	AO-9	AHU-4s			DX 9100	N2	1	1	AO-9			EN-1	Mech Room	0	M12	1001-09											
	AO-10	AHU-4s			DX 9100	N2	1	1	AO-10			EN-1	Mech Room	0	M12	1001-10											
	AO-11	AHU-4s			DX 9100	N2	1	1	AO-11			EN-1	Mech Room	0	M12	1001-11											
	AO-12	AHU-4s			DX 9100	N2	1	1	AO-12			EN-1	Mech Room	0	M12	1001-12											
	AO-13	AHU-4s			DX 9100	N2	1	1	AO-13			EN-1	Mech Room	0	M12	1001-13											
	AO-14	AHU-4s			DX 9100	N2	1	1	AO-14			EN-1	Mech Room	0	M12	1001-14											

DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

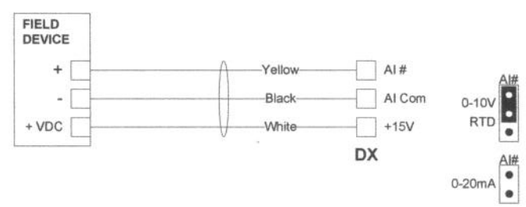
(Use when current draw of the Field Device is less than 50 mA)



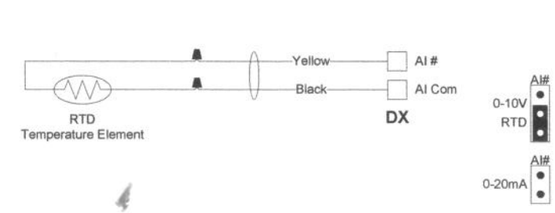
DETAIL D101 — VOLTAGE INPUT - EXTERNAL SOURCE



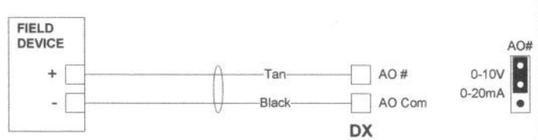
DETAIL D102 — VOLTAGE INPUT - INTERNAL SOURCE



DETAIL D131 — TEMPERATURE SENSOR INPUT

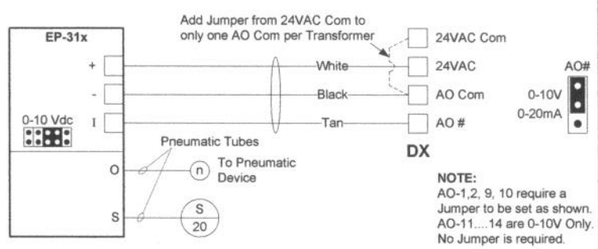


DETAIL D201 — ANALOG OUTPUT (VOLTAGE)



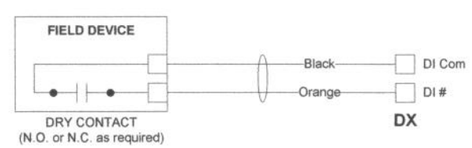
NOTE:
AO-1, 2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only. No Jumper is required.

DETAIL D223 — 0-10VDC OUTPUT to EP-31x



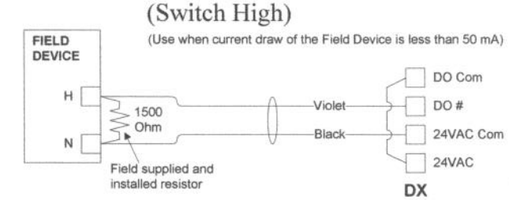
NOTE:
AO-1,2, 9, 10 require a Jumper to be set as shown.
AO-11....14 are 0-10V Only.
No Jumper is required.

DETAIL D301 — BINARY INPUT (DRY CONTACT)



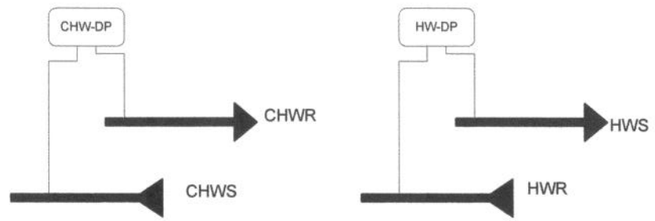
DETAIL D502 — 24 VAC BINARY OUTPUT to LOW CURRENT DRAW DEVICE (Switch High)

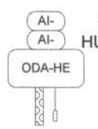
(Use when current draw of the Field Device is less than 50 mA)



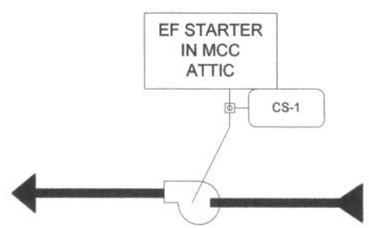
Drawing Title **AHU-4S POINT SCHEDULE**					
	REFERENCE DRAWING	NO	REVISION-LOCATION	ECN	DATE / BY
	Sales Engineer / Project Manager	Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE	
Project Title **VABP-bldg 22&24**	Johnson Controls		Branch Information	CONTRACT NUMBER **9362-0079**	
				DRAWING NUMBER **9**	

LOOP DP METERS
4NORTH AND 4 SOUTH

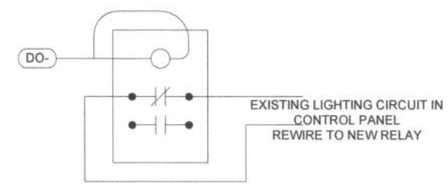




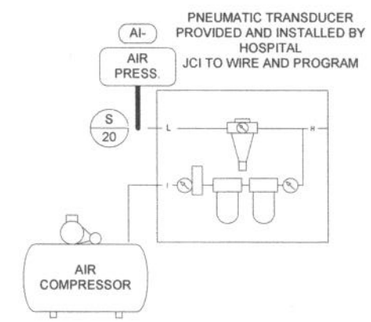
MOUNTED AND WIRED
TO AHU-1S ODA ONLY



TYPICAL EXHAUST FAN

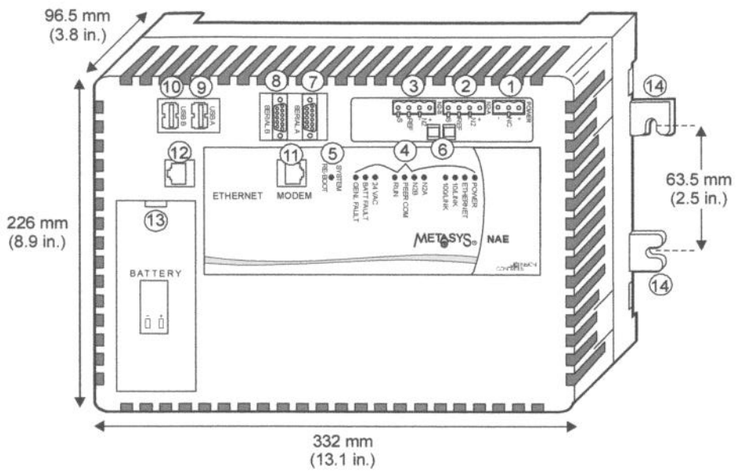


TYP-FOR LIGHTING
CIRCUIT
SEE POINT SCHEDULES



AHU-1N ONLY

Drawing Title **MISC-SYSTEMS**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager	Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE		
Project Title **VABP-bldg 22&24**	Johnson Controls		Branch Information	CONTRACT NUMBER **9362-0079**		
				DRAWING NUMBER **10**		



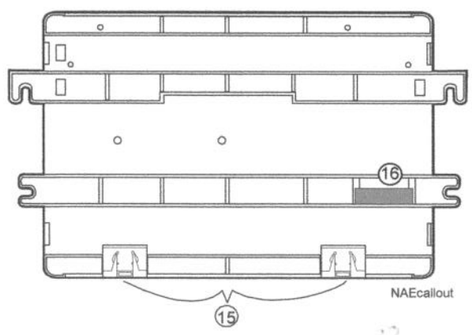
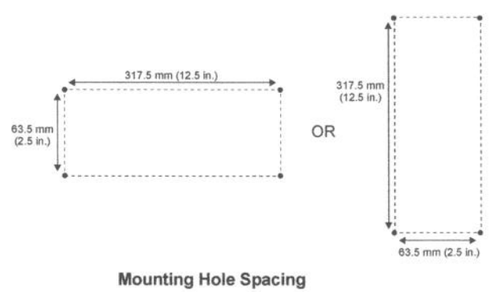
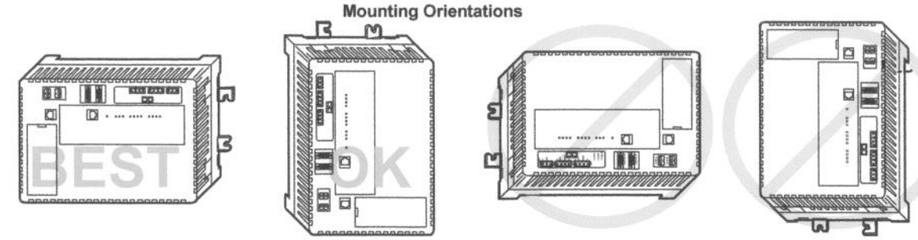


Table 1: NAE/NIE Callouts			
Callout	Description	Callout	Description
1	Power Termination	9	USB A connector
2	N2 A Bus termination	10	USB B connector
3	N2 B Bus termination	11	Modem RJ-11 connector
4	Light-Emitting Diodes (LEDs)	12	Ethernet RJ-45 connector
5	System Re-boot switch	13	Battery hatch
6	N2 End-of-Line (EOL) switches	14	Mounting feet (2 of 4)
7	Serial A RS-232 connector	15	DIN rail clips (2 of 2)
8	Serial B RS-232 connector	16	Battery Strap

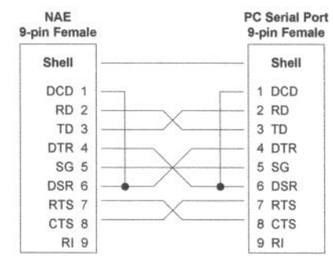


Mounting Hole Spacing

Mounting Orientations



PC Serial Ports (SER A, SER B)



USB Ports (USB A and USB B)

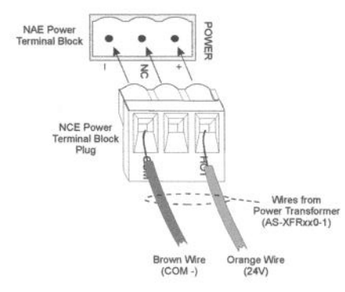
NAE USB Pinouts

+5 VDC	1
Data -	2
Data +	3
Ground	4

Ethernet Port

NAE Ethernet Pinouts

TD +	1
TD -	2
RD +	3
No Connection	4
No Connection	5
RD -	6
No Connection	7
No Connection	8



24VAC Power Connection

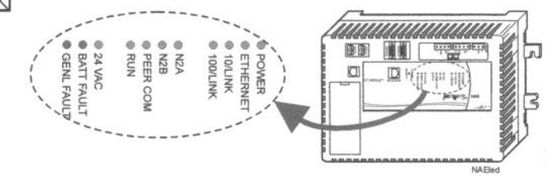
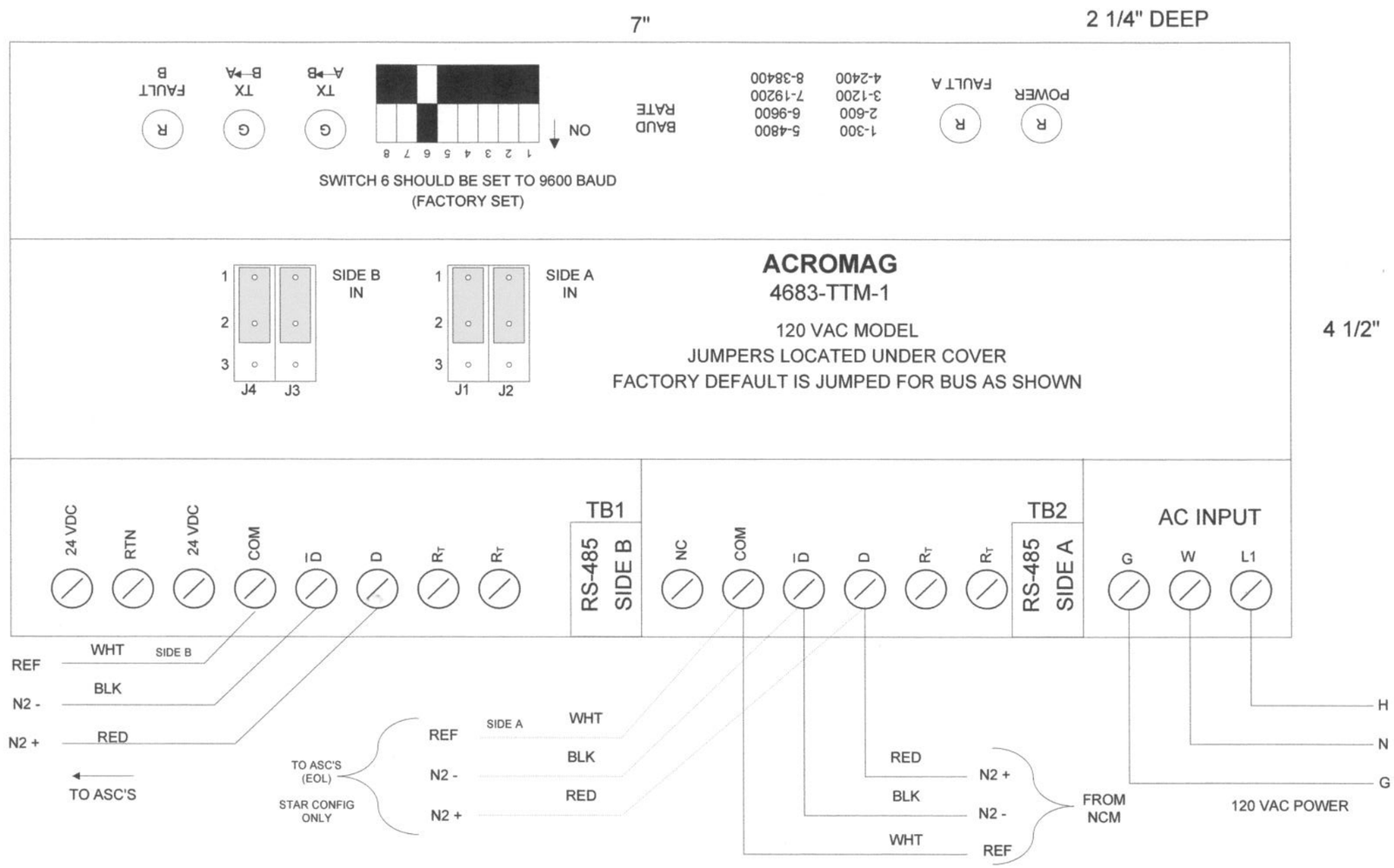


Table 4: NAE / NIE LEDs		
LED	Normal	Descriptions / Other Conditions
POWER (GREEN)	On Steady	On Steady = Unit is getting power from either the battery or 24 VAC power. Also see the 24 VAC LED. Off Steady = Unit is shut down.
ETHERNET (GREEN)	Flicker	Flicker = Data is transferring on the Ethernet connection. Ethernet traffic is general traffic (may not be for the NAE / NIE). Off Steady = No Ethernet traffic, probably indicates a dead Ethernet network or bad Ethernet connection.
10/LINK (GREEN)	On Steady	On Steady = Ethernet connection is established at 10 Mb/sec.
100/LINK (GREEN)	On Steady	On Steady = Ethernet connection is established at 100 Mb/sec.
N2 A (GREEN) (NAE Only)	Flicker	Flicker = N2 A port is transmitting or receiving data. Flickers are generally in synch with data transmission, but should not be used to indicate specific transmission times. Off Steady = No traffic.
N2 B (GREEN) (NAE Only)	Flicker	Flicker = N2 B port is transmitting or receiving data. Flickers are generally in synch with data transmission, but should not be used to indicate specific transmission times. Off Steady = No traffic.
PEER COMM (GREEN)	Varies (see next column)	Flicker = Data traffic between NAE / NIE devices. For an NAE / NIE that is not a Site Director, this LED indicates regular heartbeat communications with the Site Director. For a Site Director NAE / NIE, flashes are more frequent and indicate heartbeat communications from all other NAE / NIE devices on the site.
Run	On Steady	On Steady = NAE / NIE software is running On 1 second, Off 1 second = NAE / NIE software is in startup mode. On 4 seconds, Off 1 second = NAE / NIE is in diagnostics mode. On 0.5 seconds, Off 0.5 seconds = NAE / NIE software is shutting down. Off Steady = Operating system is shutting down or software is not running.
24 VAC (GREEN)	On Steady	On Steady = 24 VAC power present. Off Steady = Loss of 24 VAC power. In the Off Steady condition, the NAE / NIE can be running on battery power. Also se the POWER LED.
BATT FAULT (RED)	Off Steady	On Steady = Battery fault. Replace the battery.
GENL FAULT (RED)	Off Steady	On Steady = General Fault. Fault conditions include excessive Central Processing Unit (CPU) flash, or memory use, or excessive CPU or Printed Wire Board (PWB) temperature. In normal operation, the GENL FAULT LED stays on steady for the first half of the startup sequence.

REVISION INFORMATION	Drawing Title Visio NAE Reference Drawing						
NUMBER		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
DATE 04/29/10		Sales Engineer / Project Manager	Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE		
TIME 01:17 PM	Project Title VABP-bldg 22&24	Johnson Controls		Branch Information	CONTRACT NUMBER 9362-0079		
FILE Visio NAE Reference Drawing001.vsd					DRAWING NUMBER 11		

N2 BUS REPEATER WIRING
BUS CONFIGURATION



NOTE: FOR A STAR CONFIGURATION CHANGE SIDE A JUMPERS TO "OUT" (J1 & J2 PINS 2 & 3) AND LAND THE ADDITIONAL TRUNK ON SIDE A AS SHOWN BY DASHED LINES.

Drawing Title **Panel Detail REPEATER**						
	REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	Sales Engineer / Project Manager / Application Engineer	DRAWN BY / DATE	APPROVED BY / DATE			
Project Title **VABP-bldg 22&24**	Johnson Controls	Branch Information	CONTRACT NUMBER **9362-0079**			
			DRAWING NUMBER **12**			

Contract Name
Contract Number

Room Schedule

Box Location								Controller Information						Box Information										
	Room								Controller		Required					Box Config						Required (N2)		
Bldg./Flr.	No.	Name	System Name	Mech. Dwg.	System Serving this Box	Box Mfgr.	Mfgr Box Type	JCI Ctrl Dwg No.	Controller Part No.	NC/ NAE Addr	Trunk ID	Device Addr	CSModel or Template	Box Heat	Supplemental Heat	Config File Name	Inlet Size (Inches)	Inlet Area (Sq. Ft.)	K Factor	Clg Min Flow	Clg Max Flow	VMA Box Config	Comments	Generate Flag
B22-1S	101,103	22-1-1	B22-1S-VAV		AHU-1S	ENVIROTECH	SSD		AP-VMA1420-0			3		Yes			6	0.196	1.628	190	470			
B22-1S	104,6,7	22-1-3	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			4		Yes			8	0.3491	1.625	210	530			
B22-1S	111	22-1-5	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			7	HOSP	Yes			8	0.3491	2.515					
B22-1S	111,112A	22-1-6	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			8	HOSP	Yes			6	0.196	1.628					
B22-1S	113,114,115	22-1-7	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			9	HOSP	Yes			6	0.196	1.628					
B22-1S	116	22-1-8	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			24		Yes			8	0.3491	1.625	310	770			
B22-1S	116A	22-1-4B OFFICE	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			22	HOSP	Yes										
B22-1S	116B	22-1-9	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			13		Yes			5	0.3491	1.625	140	250			
B22-1S	116G	22-1-116G	B22-1S-VAV		AHU-1S	NO NAME			AP-VMA1420-0			10		Yes			6	0.196	2.6	100	300			
B22-1S	116E,116F	22-1-116E-F	B22-1S-VAV		AHU-1S	NO NAME			AP-VMA1420-0			11		Yes			6	0.196	2.6	100	300			
B22-1S	116C,116D	22-1-116CD	B22-1S-VAV		AHU-1S	NO NAME			AP-VMA1420-0			12		Yes			6	0.196	2.6	100	300			
B22-1S	117119,117A	22-1-12	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			14		Yes			10	0.515	1.7	310	770			
B22-1S	REST RMS	22-1-14	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			15		Yes			8	0.3491	1.6	180	380			
B22-1S	B1-CORR	22-1-14A	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			21		Yes			8	0.3491	1.6	180	380			
B22-1S	111SB	22-1-SOUND BTH	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			23	HOSP	Yes										
B22-1S	ODA	CAV-1 ODA	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			17	NO ACCESS TO CHG	No			10	0.516	1.600	930	930			
B22-1S	AHU-EXH	CAV-2 EXH	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			18		No			10	0.516	1.600	680	680			
B22-1S	IT RM	CAV-3 RM 110	B22-1S-VAV		AHU-1S	ENVIROTECH			AP-VMA1420-0			19		No			4	0.0873	1.625	160	160			
B22-1N	C1-2-ELEV	22-1-15	B22-1N-VAV		AHU-1N	ENVIROTECH	SSD		AP-VMA1420-0			61		Yes			6	0.196	1.657	250	250			
B22-1N	123,123A	22-1-17	B22-1N-VAV		AHU-1N	NAILOR			AP-VMA1420-0			52		Yes			8	0.338	1.760	340	840			
B22-1N	125	22-1-9	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			53		Yes			8	0.349	1.760	180	630			
B22-1N	126	22-1-20	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			54		Yes			6	0.196	1.7	130	330			
B22-1N	126A	22-1-20A	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			55		Yes			6	0.196	1.7	130	330			
B22-1N	127	22-1-21A	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			56		Yes			5	0.136	1.657	280	420			
B22-1N	128,A-D	22-1-22	B22-1N-VAV		AHU-1N	NAILOR			AP-VMA1420-0			63		Yes			10	0.532	2.240	380	940			
B22-1N	HALL-N ENT	22-1-21A	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			58		Yes			8	0.349	1.600	380	940			
B22-1N	132	22-1-23	B22-1N-VAV		AHU-1N	TEMPMASTER			AP-VMA1420-0			59	COPY RM\TEMPMSTF	No	No		7	0.209	1.900	0	120		CLOCKWISE	
B22-1N	134,134A,134B	22-1-24	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			60		Yes			8	0.349	2.515	250	630			
B22-1N	101B	22-1-26	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			62		Yes			8	0.349	1.700	240	590			
B22-1N	101A	22-1-26A	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			57	HOSP	Yes			8	0.349	1.600					
B22-1N	ODA	CAV-1	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			67		No			8	0.349	1.600	640	640			
B22-1N	AHU-EXH	CAV-2	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			69		No			10	0.516	2.408	970	970			
B22-1N	ELECT RM	CAV-3	B22-1N-VAV		AHU-1N	ENVIROTECH			AP-VMA1420-0			68		No			4	0.087	1.628	110	110			

Contract Name
Contract Number

Room Schedule

Box Location								Controller Information							Box Information										
	Room								Controller		Required						Box Config						Required (N2)		
Bldg./Flr.	No.	Name	System Name	Mech. Dwg.	System Serving this Box	Box Mfgr.	Mfgr Box Type	JCI Ctrl Dwg No.	Controller Part No.	NC/ NAE Addr	Trunk ID	Device Addr	CSModel or Template	Box Heat	Supplemental Heat	Config File Name	Inlet Size (Inches)	Inlet Area (Sq. Ft.)	K Factor	Clg Min Flow	Clg Max Flow	VMA Box Config	Comments	Generate Flag
B22-2S	C2-4 ELEV	22-2-1	B22-2S-VAV		AHU-2S	ENVIROTECH	SSD		AP-VMA1420-0		2	3		Yes			5	0.1364	1.657	100	300			
B22-2S	202B,203	22-2-2	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	4		Yes			6	0.1963	1.7	160	390			
B22-2S	204,205	22-2-4	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	5		Yes			5	0.1364	1.657	110	280			
B22-2S	202A	22-2-202A	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	9	HOSP											
B22-2S	210/211	22-2-6	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	21	HOSP	Yes			5	0.1364	1.657	110	270			
B22-2S	212	22-2-7A	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	20	HOSP	Yes			5	0.1364	1.657	110	270			
B22-2S	213	22-2-7	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	19	HOSP	Yes			6	0.1963	1.657	180	440			
B22-2S	214,216	22-2-8	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	18	HOSP	Yes			6	0.1963	1.657	160	400			
B22-2S	HALL TO B1	22-2-17A	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	29	HOSP	Yes			6	0.1963	1.657	160	400			
B22-2S	S. CORR	C2-1 HALL SO.	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	28		Yes			6	0.1963	1.657	220	400			
B22-2S	217	22-2-10	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	22	HOSP	Yes			6	0.1963	1.657	160	410			
B22-2S	218	22-2-9	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	23	HOSP	Yes			6	0.1963	1.657	160	410			
B22-2S	219	22-2-11	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	24	HOSP	Yes			6	0.1963	1.657	180	450			
B22-2S	220	22-2-11A	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	25	HOSP	Yes			6	0.1963	1.657	180	450			
B22-2S	222	22-2-12	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	27	HOSP	Yes			6	0.1963	1.657	180	450			
B22-2S	221	2-22-12A	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	26	HOSP	Yes			6	0.1963	1.657	180	450			
B22-2S	224,5,6	22-2-14	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	15		Yes			6	0.1963	1.657	190	470			
B22-2S	227,228	22-2-16	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	16		Yes			6	0.1963	1.657	130	330			
B22-2S	REST RMS	22-2-17	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	14		Yes			6	0.1963	1.600	210	380			
B22-2S	ODA	CAV-1	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	6		No			6	0.1963	1.650	770	770			
B22-2S	AHU-EXH	CAV-2	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	7		No			8	0.3491	1.600	440	440			
B22-2S	RM 208EXH	CAV-3	B22-2S-VAV		AHU-2S	ENVIROTECH			AP-VMA1420-0		2	8		No			5	0.1364	1.650	210	210			
B22-2N	232,233	22-2-18	B22-2N-VAV		AHU-2N	ENVIROTECH	SSD		AP-VMA1420-0		2	56		Yes			6	0.1963	2.896	130	320			
B22-2N	234-237	22-2-20	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	57		Yes			8	0.3491	1.700	260	660			
B22-2N	239-241	22-2-22	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	59		Yes			6	0.1963	1.600	180	440			
B22-2N	242,243	22-2-23	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	60		Yes			6	0.1963	1.800	130	330			
B22-2N	244,245	22-2-24	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	61		Yes			6	0.1963	1.657	150	370			
B22-2N	C2-5-CORR	22-2-25	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	58		No			5	0.1364	1.657	100	300			
B22-2N	246-249	22-2-26	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	62		Yes			8	0.3491	1.600	190	470			
B22-2N	250	22-2-27	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	63		Yes			8	0.3491	1.600	310	780			
B22-2N	254	22-2-29	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	53		Yes			6	0.1963	1.600	150	350			
B22-2N	255-CONF	22-2-30	B22-2N-VAV		AHU-2N	NAILOR			AP-VMA1420-0		2	54	HOSP	Yes			8	0.3491	1.600	90	260	HOSP		
B22-2N	201,200	22-2-31	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	55		Yes			8	0.3491	1.600	290	730			
B22-2N	ODA	CAV-1	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	66		No			10	0.516	2.406	670	670			
B22-2N	AHU-EXH	CAV-2	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	65		No			10	0.516	2.406	1000	1000			
B22-2N	ELECT RM	CAV-3	B22-2N-VAV		AHU-2N	ENVIROTECH			AP-VMA1420-0		2	64		No			4	0.087	1.628	110	110			

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Contract Name
Contract Number

Room Schedule

Box Location								Controller Information						Box Information										
	Room								Controller		Required					Box Config			Required			Required (N2)		
Bldg./Flr.	No.	Name	System Name	Mech. Dwg.	System Serving this Box	Box Mfgr.	Mfgr Box Type	JCI Ctrl Dwg No.	Controller Part No.	NC/ NAE Addr	Trunk ID	Device Addr	CSModel or Template	Box Heat	Supplemental Heat	Config File Name	Inlet Size (Inches)	Inlet Area (Sq. Ft.)	K Factor	Clg Min Flow	Clg Max Flow	VMA Box Config	Comments	Generate Flag
B22-3S	302	22-3-1	B22-3S-VAV		AHU-3S		SSD		AP-VMA1420-0			3		Yes		HOSP	5	0.126	1.657	120	290			
B22-3S	303	22-3-2	B22-3S-VAV		AHU-3S				AP-VMA1420-0			4		Yes		HOSP	8	0.3491	2.515	210	520			
B22-3S	304,305	22-3-3	B22-3S-VAV		AHU-3S				AP-VMA1420-0			5		Yes		HOSP	6	0.184	2.896	180	440			
B22-3S	311,312	22-3-5	B22-3S-VAV		AHU-3S				AP-VMA1420-0			6		Yes			5	0.136	1.600	130	330			
B22-3S	313	22-3-6	B22-3S-VAV		AHU-3S				AP-VMA1420-0			7		Yes			8	0.3491	1.600	220	670			
B22-3S	315,316	22-3-7	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			8		Yes			8	0.3491	1.600	210	520			
B22-3S	317	22-3-8	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			9		Yes			5	0.136	1.657	80	200			
B22-3S	319	22-3-9	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			10		Yes			6	0.196	1.600	140	360			
B22-3S	C3-3	22-3-10	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			11		Yes			5	0.126	1.657	300	300			
B22-3S	320	22-3-10A	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			12		Yes		HOSP	6	0.126	1.657	300	300			
B22-3S	321	22-3-11	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			13		Yes			6	0.196	1.657	180	460			
B22-3S	322,323	22-3-12	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			14		Yes			6	0.196	1.657	190	480			
B22-3S	325	22-3-13	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			15		Yes		HOSP	8	0.3491	1.657	250	630			
B22-3S	326S	22-3-14	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			16		Yes		HOSP	6	0.196	1.657	180	440			
B22-3S	326N	22-3-16	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			17		Yes		HOSP	5	0.136	1.657	110	270			
B22-3S	329-REST RM	22-3-17	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			18		Yes			6	0.196	1.700	150	380			
B22-3S		CAV-1	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			21		No			10	0.516	1.600	640	640			
B22-3S		CAV-2	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			22		No			8	0.3491	1.600	440	440			
B22-3S		CAV-3	B22-3S-VAV		AHU-3S	envirotech			AP-VMA1420-0			23		No			4	0.0873	1.625	110	110			
B22-3N	330-330A	22-3-18	B22-3N-VAV		AHU-3N	envirotech	SSD		AP-VMA1420-0			52		Yes			6	0.196	1.600	180	440			
B22-3N	333-334	22-3-20	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			53		Yes			6	0.196	1.600	200	490			
B22-3N	336	22-3-22	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			55		Yes			5	0.136	1.657	100	260			
B22-3N	335	22-3-22A	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			54		Yes		HOSP	??5	0.136	1.657	100	260			
B22-3N	338	22-3-23	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			57		Yes			6	0.196	1.600	180	440			
B22-3N	337	22-3-23A	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			56		Yes		HOSP	??6	0.196	1.600	180	440			
B22-3N	C3-5N-HALL	22-3-24	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			58		Yes			5	0.126	1.657	300	300			
B22-3N	340-340A	22-3-25	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			59		Yes			8	0.3491	1.600	250	620			
B22-3N	342	22-3-26	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			60		Yes			8	0.3491	1.600	210	530			
B22-3N	342A	22-3-27-FILE RM	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			61		Yes			4	0.087	1.630	60	150			
B22-3N	347,348-350	22-3-29	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			63		Yes			6	0.184	2.896	180	460			
B22-3N	300A-B	22-3-31	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			64		Yes		HOSP	10	0.516	1.657	310	780			
B22-3N	300C-D	22-3-31A	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			65		Yes		HOSP	??10	0.516	1.657	310	780			
B22-3N	C3-3-ELEV	22-3-32	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			66		Yes			5	0.136	1.657	100	250			
B22-3N	ODA	CAV-1	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			67		Yes			10	0.516	1.657	695	695			
B22-3N	EXH	CAV-2	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			68		Yes			10	0.516	1.657	1025	1025			
B22-3N	ELECT RM	CAV-3	B22-3N-VAV		AHU-3N	envirotech			AP-VMA1420-0			69		Yes			4	0.087	1.630	110	110			

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Contract Name
Contract Number

Room Schedule

Box Location								Controller Information						Box Information										
	Room								Controller		Required					Box Config						Required (N2)		
Bldg./Flr.	No.	Name	System Name	Mech. Dwg.	System Serving this Box	Box Mfgr.	Mfgr Box Type	JCI Ctrl Dwg No.	Controller Part No.	NC/ NAE Addr	Trunk ID	Device Addr	CSModel or Template	Box Heat	Supplemental Heat	Config File Name	Inlet Size (Inches)	Inlet Area (Sq. Ft.)	K Factor	Clg Min Flow	Clg Max Flow	VMA Box Config	Comments	Generate Flag
B22-4S	408B	22-4-1	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0	B22-B	B	4		Yes						220	550			
B22-4S	408C	22-4-2	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	5		Yes						210	520			
B22-4S	408D	22-4-3	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	6		Yes						220	560			
B22-4S	408	22-4-4	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	7		Yes						320	800			
B22-4S	408E	22-4-5	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	8		Yes						250	620			
B22-4S	408*	22-4-6	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	9		Yes						190	480			
B22-4S	408F	22-4-7	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	10		Yes						280	690			
B22-4S	408G	22-4-8	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	11		Yes						260	660			
B22-4S	419	22-4-9	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	12		Yes						290	730			
B22-4S	420	22-4-10	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	13		Yes						260	660			
B22-4S	421	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	14		Yes						200	200			
B22-4S	422	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	15		Yes						400	400			
B22-4S	402	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	16		Yes						400	400			
B22-4S	401	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	17		Yes						400	400			
B22-4S	C4-1	22-4-11	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	18		Yes			6.000	0.196	1.625	100	200			
B22-4S	423/425	REST RMS	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	19		Yes			6.000	0.196	1.625	400	400			
B22-4S	403	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	20		Yes						400	400			
B22-4S	404	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	21		Yes						400	400			
B22-4S	405	22-4-	B22-4S-VAV		AHU-4S	nailor		hosp	AP-VMA1420-0		B	22		Yes						400	400			
B22-4S	ODA	CAV-1	B22-4S-VAV		AHU-4S	envirotech			AP-VMA1420-0		B	23		No			8.000	0.349	2.515	440	440			
B22-4S	EXH	CAV-2	B22-4S-VAV		AHU-4S	envirotech			AP-VMA1420-0		B	24		No			10.000	0.516	2.408	880	880			
B22-4S	ELECT	CAV-3	B22-4S-VAV		AHU-4S	envirotech			AP-VMA1420-0		B	25		No			4.000	0.087	1.625	110	110			
B22-4N	C4-1	22-4-13	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	53		Yes			5.000	0.126	1.657	250	250			
B22-4N	426	22-4-14	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	54		Yes			5.000	0.126	1.657	100	240			
B22-4N	427	22-4-16	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	55		Yes			8.000	0.349	1.600	300	750			
B22-4N	429A	22-4-18	B22-4N-VAV		AHU-4N	TEMPMSTR	CCW TO CLS		AP-VMA1420-0		B	56		Yes			6.000	0.189	1.940	270	680			
B22-4N	429	22-4-18A	B22-4N-VAV		AHU-4N	TEMPMSTR	CCW TO CLS		AP-VMA1420-0		B	57		Yes			6.000	0.189	1.940	150	400			
B22-4N	429B	22-4-20	B22-4N-VAV		AHU-4N	TEMPMSTR	CCW TO CLS		AP-VMA1420-0		B	58		Yes			6.000	0.189	1.940	100	300			
B22-4N	430	22-4-19	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	59		Yes			5.000	0.136	1.600	120	300			
B22-4N	430A	22-4-20	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	60		Yes			5.000	0.136	1.657	100	210			
B22-4N	433	22-4-20A	B22-4N-VAV		AHU-4N	TEMPMSTR	CCW TO CLS		AP-VMA1420-0		B	61		Yes			6.000	0.189	1.940	100	210			
B22-4N	434	22-4-20B	B22-4N-VAV		AHU-4N	TEMPMSTR	CCW TO CLS		AP-VMA1420-0		B	62		Yes			6.000	0.189	1.940	100	200			
B22-4N	433A	22-4-21	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	63		Yes			8.000	0.349	1.600	300	740			
B22-4N	433B	22-4-22	B22-4N-VAV		AHU-4N	envirotech	3-WAY VLV		AP-VMA1420-0		B	64		Yes			8.000	0.349	1.700	300	740			
B22-4N	438	22-4-24	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	65		Yes			6.000	0.196	1.628	180	460			
B22-4N	400	22-4-26 CONF	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	66		Yes			8.000	0.349	1.700	280	700			
B22-4N	ODA	CAV-1	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	70		No			8.000	0.349	1.700	750	750			
B22-4N	EXH	CAV-2	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	71		No			12.000	0.689	1.657	1080	1080			
B22-4N	ELECT	CAV-3	B22-4N-VAV		AHU-4N	envirotech			AP-VMA1420-0		B	72		No			4.000	0.087	1.625	110	110			

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