

HMI POWER SUPPLY
 Vin - 100-240VAC 50/60Hz
 Vout - 24VDC

120-240VAC N
 BLUE
 120-240VAC L
 BROWN

REDLION HMI
 (SCREEN APPEARANCE MAY DIFFER FROM ILLUSTRATION)

RJ45 8PIN PIGTAIL CABLE
 TO MSTP NETWORK
 (iFan 7.0 & 10.0 OPTIONAL)

COM
 B-
 A+

CBL109
 RJ45 8PIN PIGTAIL CABLE
 TO FANS

TO BACNET TCP/IP NETWORK
 (OPTIONAL ALL iFans)

RS 485 NETWORK

General Notes

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NOTES:

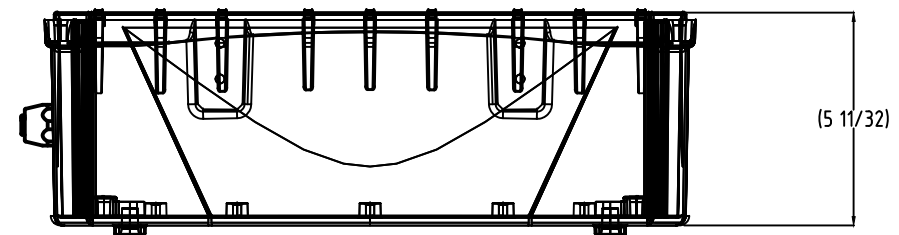
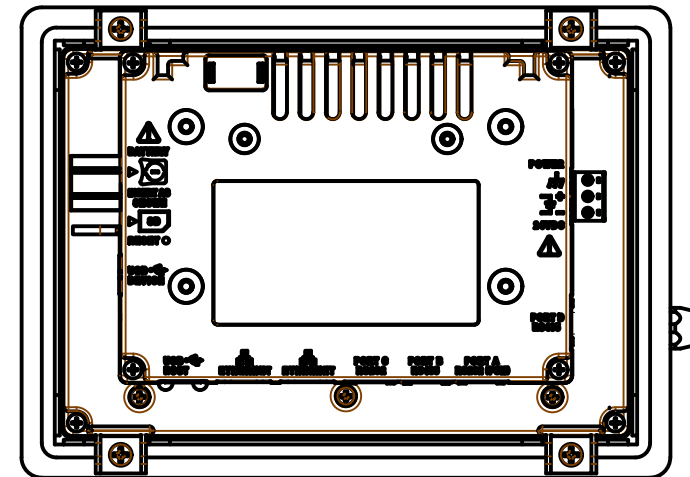
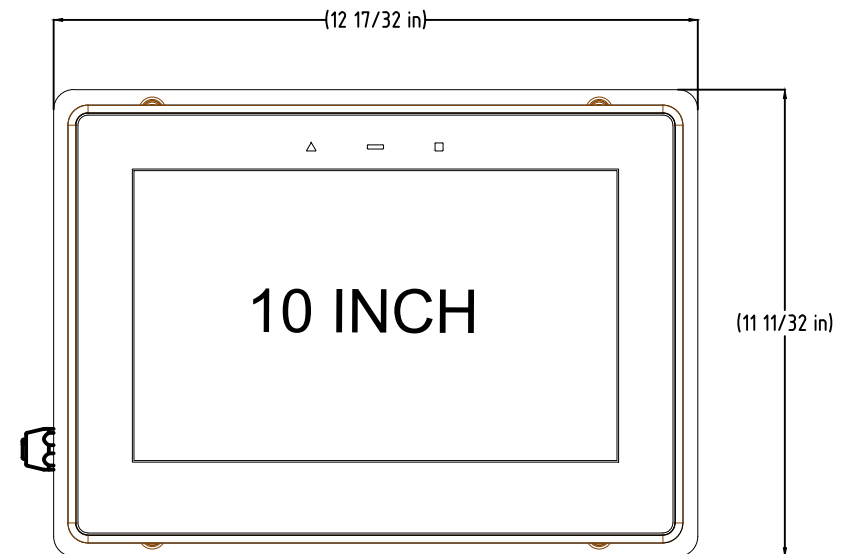
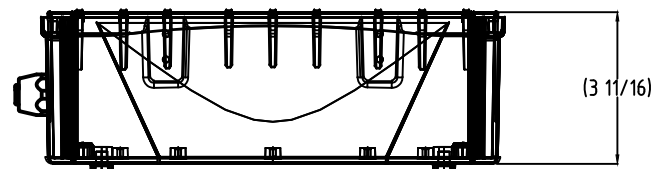
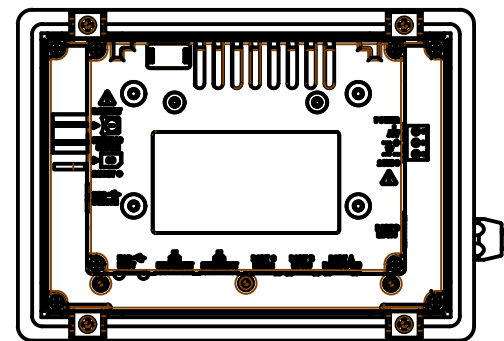
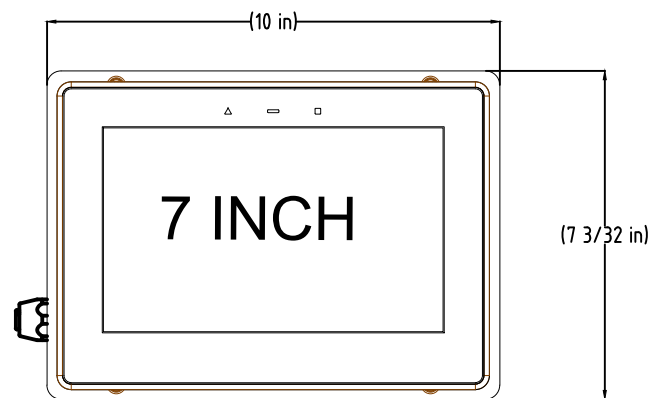
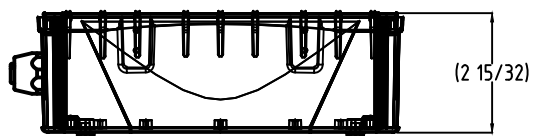
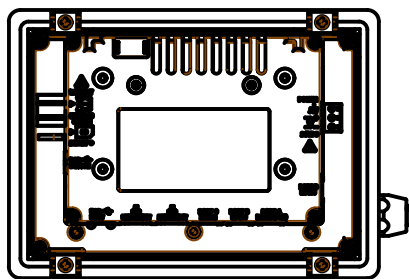
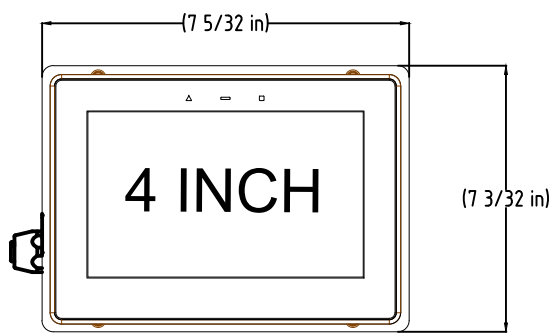
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- 4) STANDARD MOUNT ACCOMMODATES I-BEAM INSTALLATION. FOR GLULAMWOOD BEAM, Z-PURLIN OR TRUSS BRIDGES PLEASE NOTE ON ORDER.
- 5) THE VFD ENCLOSURE MUST BE INSTALLED OUTSIDE AND A SAFE DISTANCE FROM THE BLADE DIAMETER FOR SERVICE PURPOSES.
- 6) MULTI-FAN INSTALLATION INCLUDES ONE TOUCHSCREEN HMI KIT.
- 7) NOTE:
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 (A) THE HVLS FAN SHALL BE CENTERED APPROXIMATELY BETWEEN FOUR ADJACENT SPRINKLERS
 (B) THE VERTICAL CLEARANCE FROM THE HVLS FAN TO THE SPRINKLER DEFLECTOR SHALL BE A MINIMUM OF 3 FT (0.9M).
 (C) ALL HVLS FANS SHALL BE INTERLOCKED TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATERFLOW SIGNAL FROM THE ALARM SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72.

Firm Name and Address

1612 HUTTON DR CARROLLTON TX 75006
 972.466.0707 800.525.2010 FAX 972.323.2663

Revision	Date	Drawn By	Description	Revision	Date	Reference	Description
A	02/20/2025	CI	INITIAL RELEASE				

Drawn By:	Regional Sale Manager:
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REVIEW DRAWING
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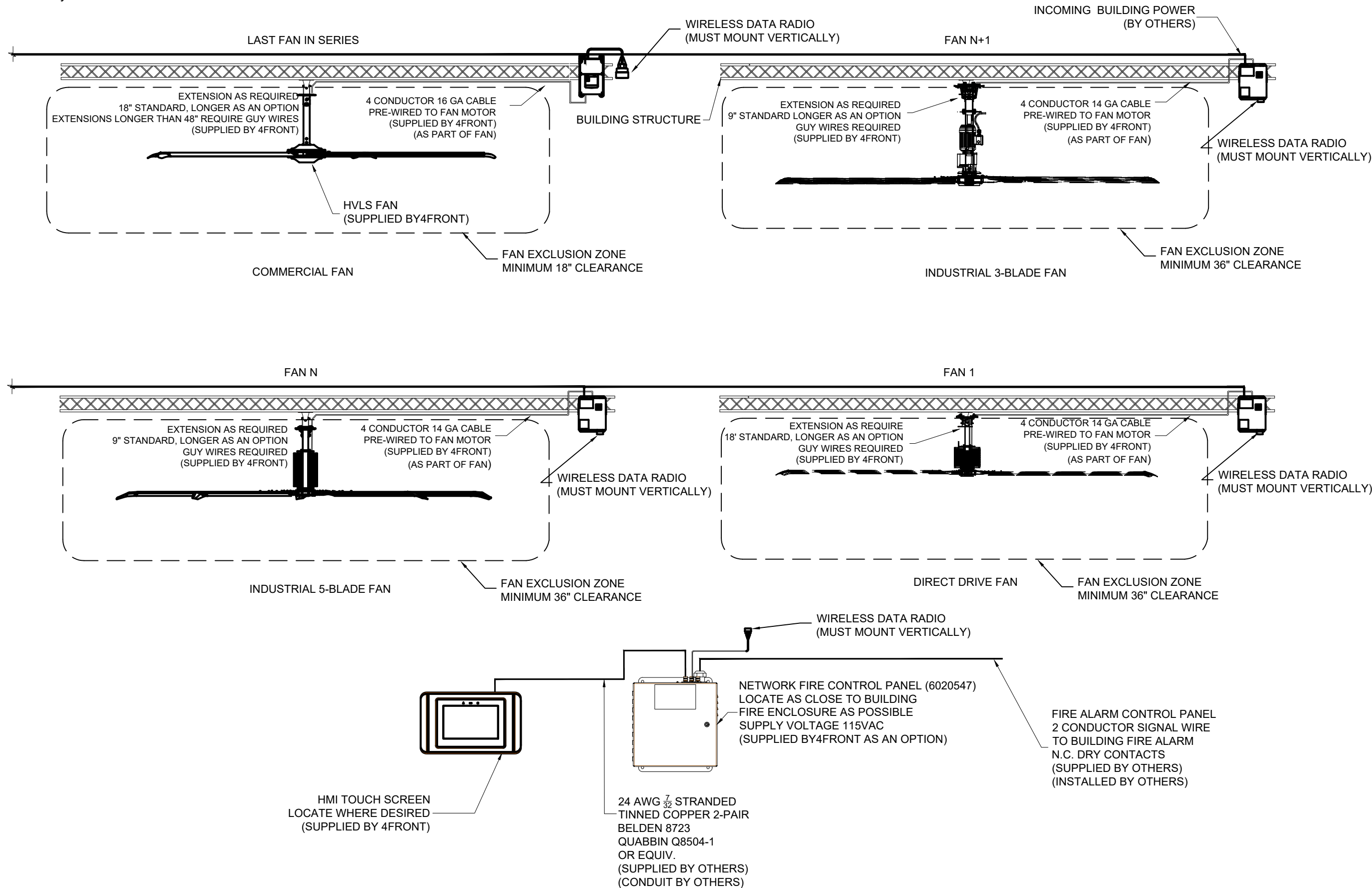


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HVLS Fan Layout



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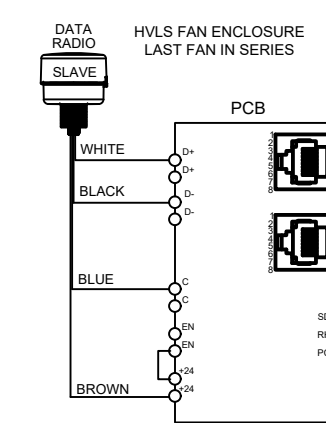
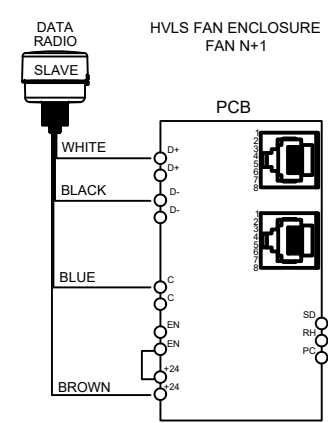
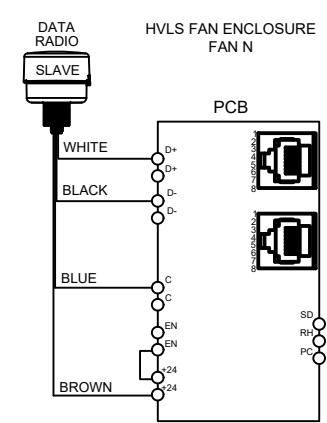
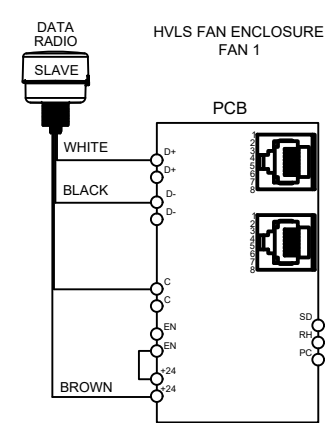
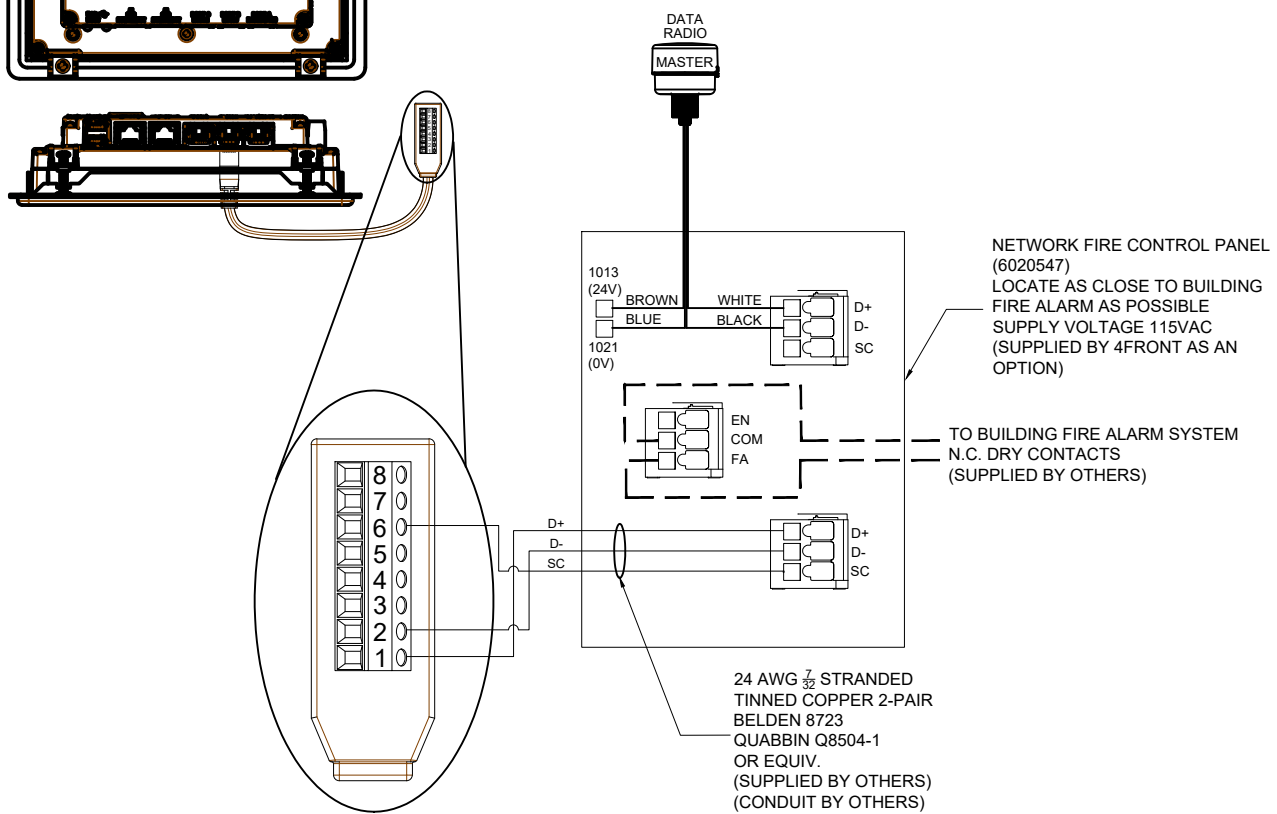
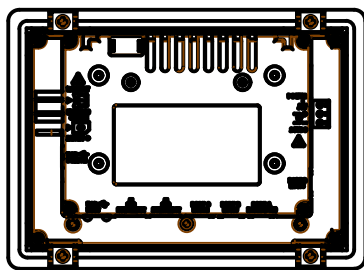
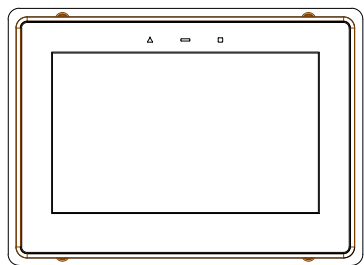
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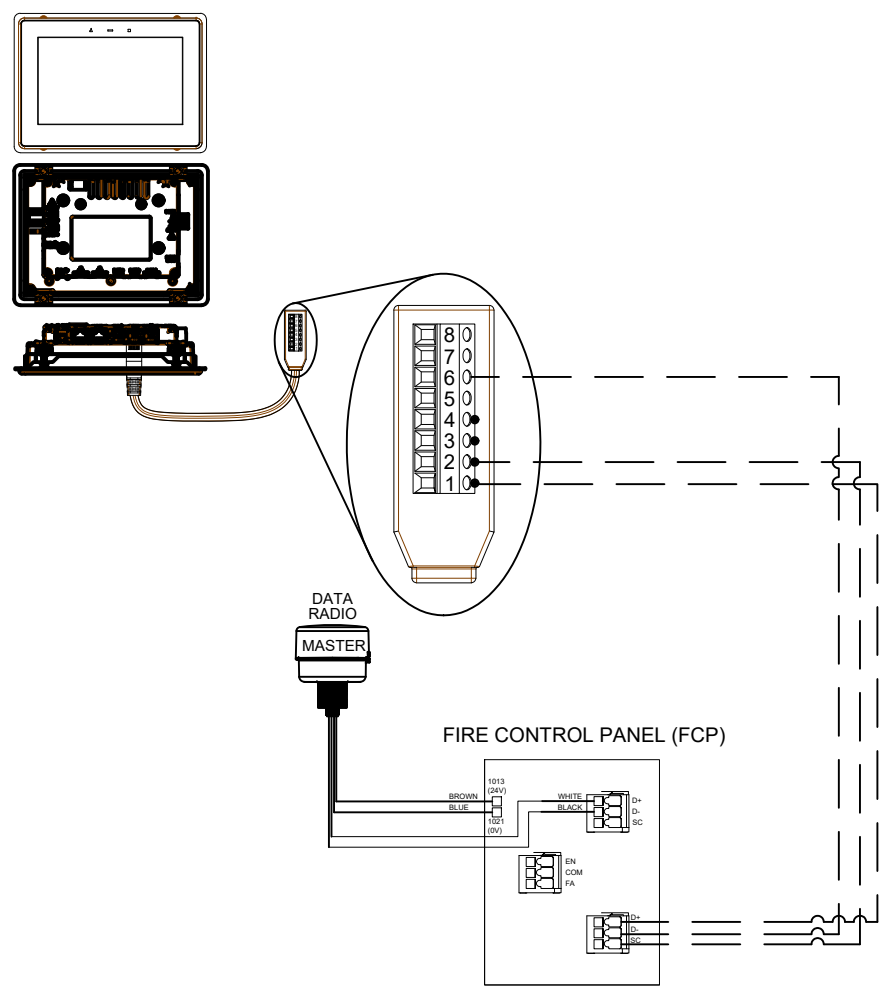
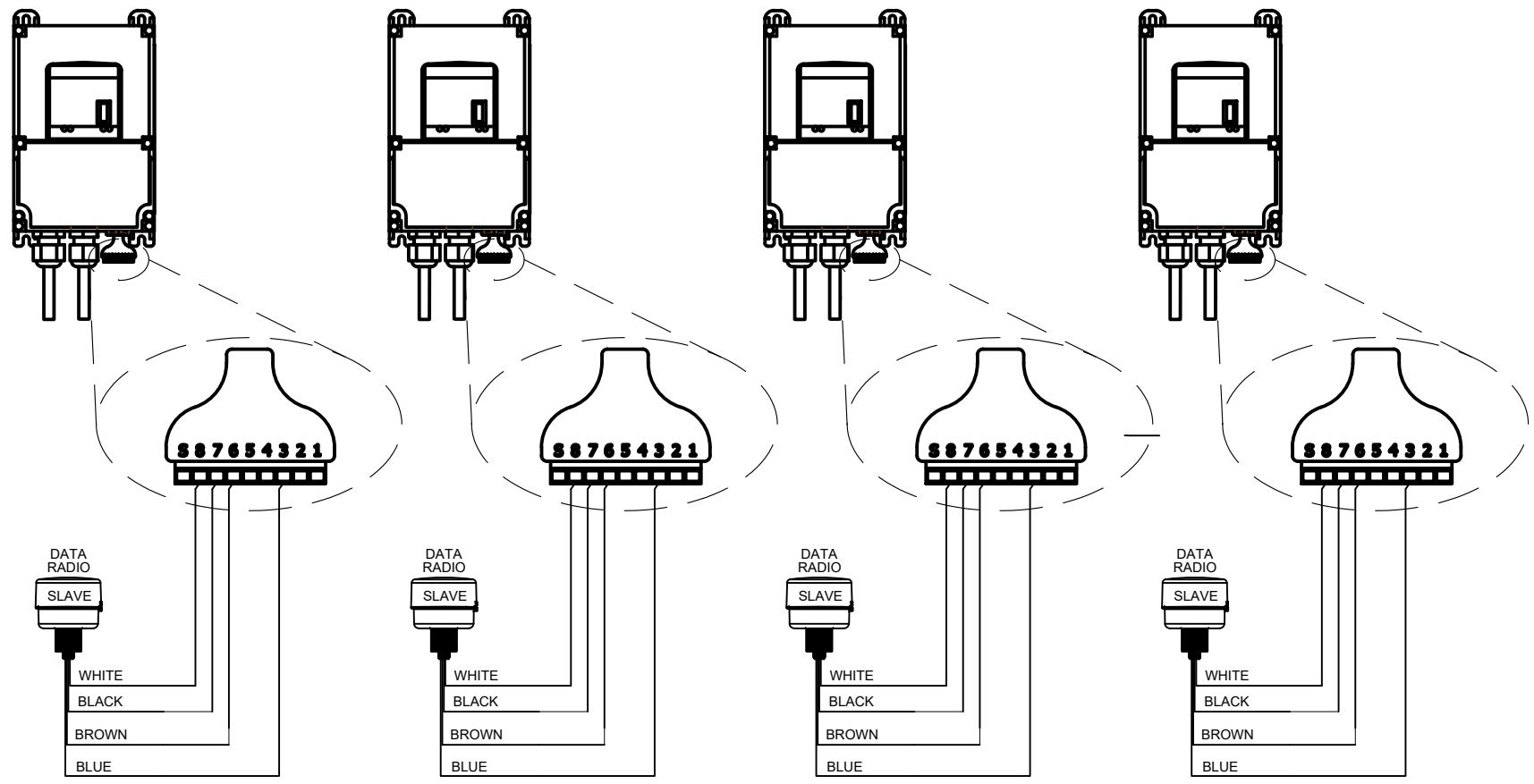
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Commercial Fan Field Wiring



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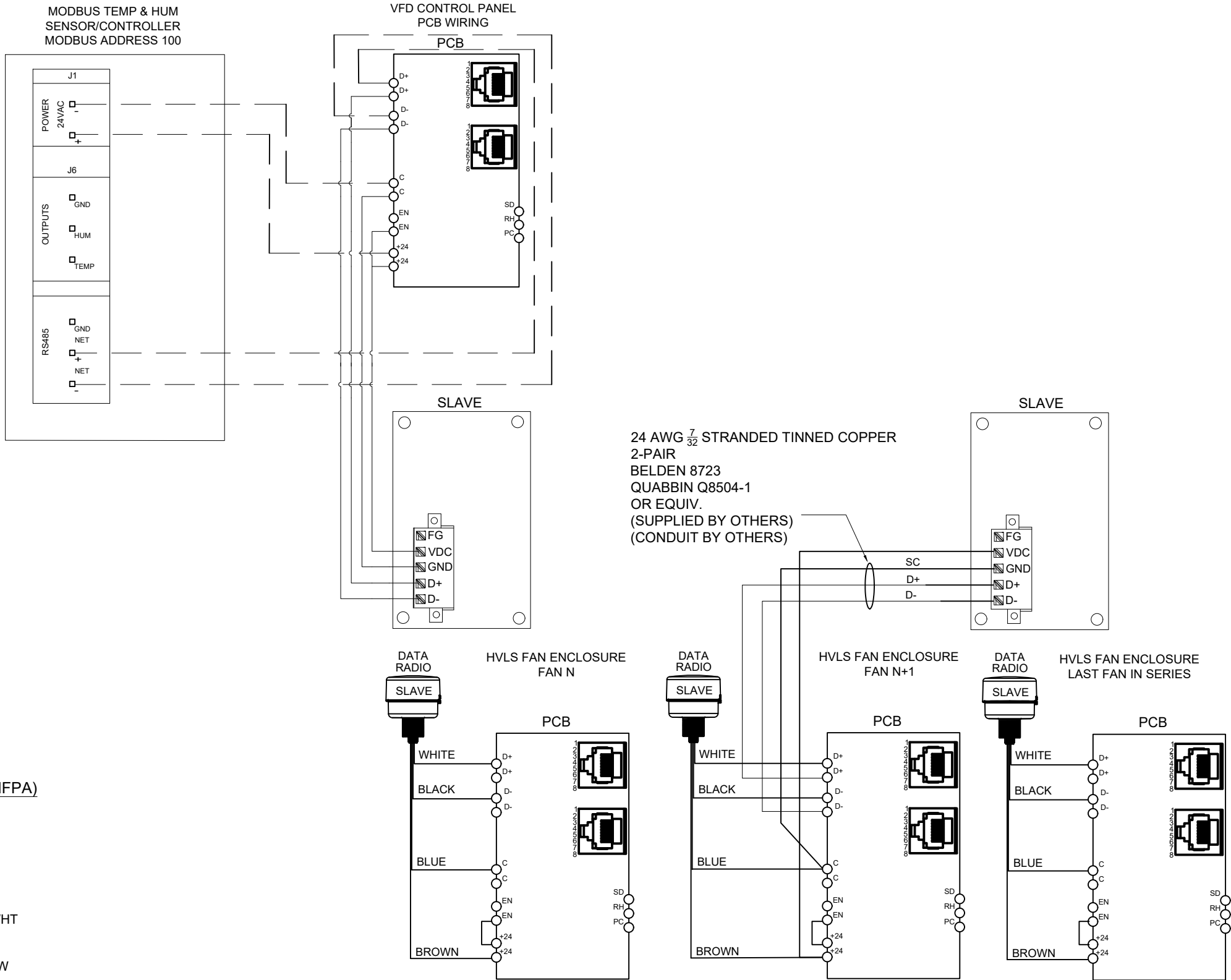
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- 3) ALL CONDUIT BY OTHERS



LEGEND
 ——— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS)
 ····· PC BOARD TRACES

WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED/BLK
 NEUTRAL: #16, WHT
 GROUND: GRN
 24VDC: #12, BLU
 24V COM (0VDC): #12, BLU/WHT
 12VAC/VDC, #12, VIO
 12V COM: #12, VIO/WHT
 DRY (UNPOWERED): #18, YLW

NOTE:
 TERMINALS WILL ACCEPT
 STRANDED WIRE ONLY

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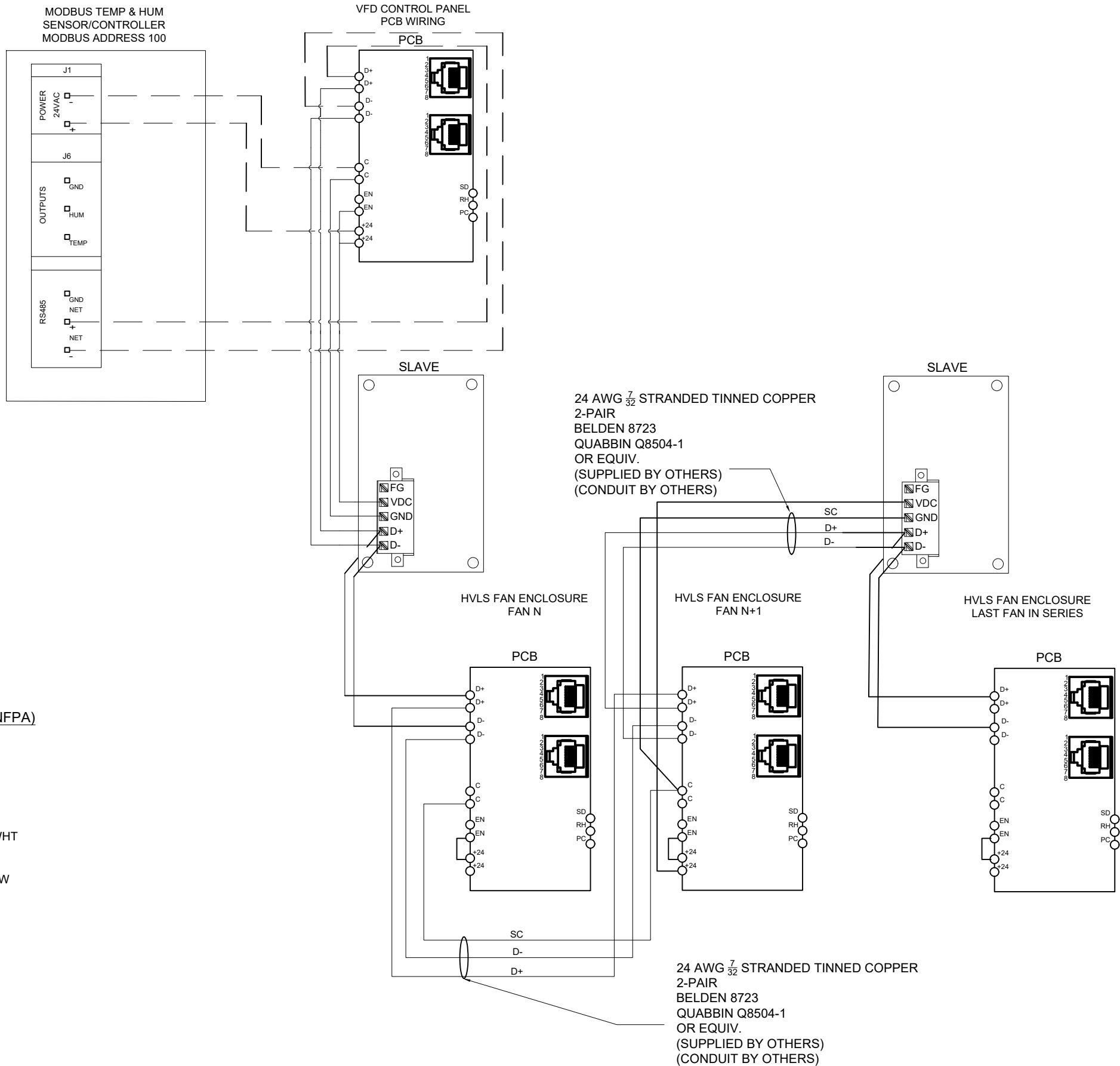
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Industrial, Direct Drive & 3-Blade Fan Optional Hardware Field Wiring



LEGEND
 ——— PANEL WIRING
 ——— FIELD WIRING (BY OTHERS)
 ····· PC BOARD TRACES

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 12VAC/VDC, #12, VIO
 12V COM: #12, VIO/WHT
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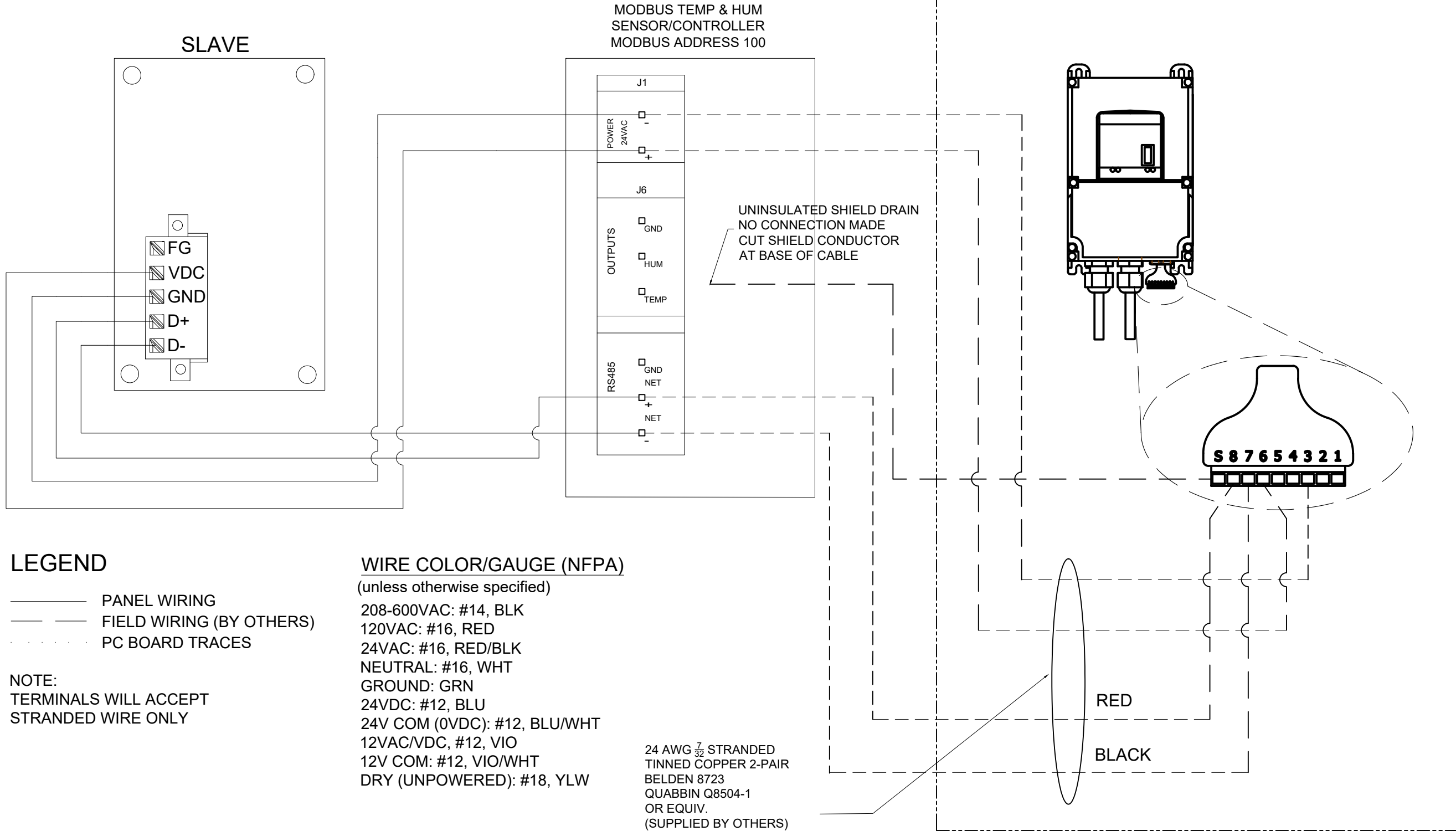
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FAN ENCLOSURE



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- - - FIELD WIRING (BY OTHERS)
- PC BOARD TRACES

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 - 12VAC/VDC, #12, VIO
 - 12V COM: #12, VIO/WHT
 - DRY (UNPOWERED): #18, YLW

24 AWG ⁷/₃₂ STRANDED
TINNED COPPER 2-PAIR
BELDEN 8723
QUABBIN Q8504-1
OR EQUIV.
(SUPPLIED BY OTHERS)
(CONDUIT BY OTHERS)

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BACnet Mapping

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes	
Fan 1	AO0001	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
	AO0002	Direction	-1	Reverse		
	AO0003	Speed set	1-10	Speed		
	AO0004	Ran Reset	> 0	Fault Reset	Only reset in the case of a fault condition	
	AI0001	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
BIT - 6			1	FU (Frequency Detection)		
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0002			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0003			Motor Current	0-5	VFD Output Current	
AI0004	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0097	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
AI0098	Fan LOC	1	No Fire Alarm	1 = True		
		0	Good communication	0 = False		

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes	
Fan 5	AO0017	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
	AO0018	Direction	-1	Reverse		
	AO0019	Speed set	1-10	Speed		
	AO0020	Ran Reset	> 0	Fault Reset	Only reset in the case of a fault condition	
	AI0017	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
BIT - 6			1	FU (Frequency Detection)		
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0018			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0019			Motor Current	0-5	VFD Output Current	
AI0020	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0105	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
AI0106	Fan LOC	1	No Fire Alarm	1 = True		
		0	Good communication	0 = False		

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes	
Fan 9	AO0033	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
	AO0034	Direction	-1	Reverse		
	AO0035	Speed set	1-10	Speed		
	AO0036	Ran Reset	> 0	Fault Reset	Only reset in the case of a fault condition	
	AI0033	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
BIT - 6			1	FU (Frequency Detection)		
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0034			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0035			Motor Current	0-5	VFD Output Current	
AI0036	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0113	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
AI0114	Fan LOC	1	No Fire Alarm	1 = True		
		0	Good communication	0 = False		

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1612 HUTTON DR CARROLLTON TX 75006
972.466.0707 800.525.2010 FAX 972.323.2663

Revision	Date	Drawn By	Description	Revision	Date	Reference	Description
A	02/20/2025	CI	INITIAL RELEASE				

Drawn By:	Regional Sale Manager:
CCI	TBD
Date:	Drawing Number:
02/20/2025	6027001S
Scale:	Sheet Number: Rev:
NTS	9 OF 12 A

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes	
Fan 25	AO0097	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0098	Direction	1	Forward		
			1-10	Speed		
	AO0099	Speed set	1-10	Speed		
	AO0100	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0145	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0146			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0147			Motor Current	0-5	VFD Output Current	
AI0148	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0149	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0150	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		
Fan 26	AO0101	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0102	Direction	1	Forward		
			1-10	Speed		
	AO0103	Speed set	1-10	Speed		
	AO0104	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0151	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0152			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0153			Motor Current	0-5	VFD Output Current	
AI0154	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0155	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0156	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		
Fan 27	AO0105	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0106	Direction	1	Forward		
			1-10	Speed		
	AO0107	Speed set	1-10	Speed		
	AO0108	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0157	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0158			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0159			Motor Current	0-5	VFD Output Current	
AI0160	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0161	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0162	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		
Fan 28	AO0109	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0110	Direction	1	Forward		
			1-10	Speed		
	AO0111	Speed set	1-10	Speed		
	AO0112	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0163	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0164			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0165			Motor Current	0-5	VFD Output Current	
AI0166	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0167	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0168	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes	
Fan 29	AO0113	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0114	Direction	1	Forward		
			1-10	Speed		
	AO0115	Speed set	1-10	Speed		
	AO0116	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0169	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0170			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0171			Motor Current	0-5	VFD Output Current	
AI0172	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0173	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0174	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		
Fan 30	AO0117	Fan Mode	0	Stop		
			1	Start		
			2	Temp Run Mode	Option, have to have temp sensor option	
			3	Humidity Run Mode	Option, have to have humidity sensor option	
			-1	Reverse		
	AO0118	Direction	1	Forward		
			1-10	Speed		
	AO0119	Speed set	1-10	Speed		
	AO0120	Ran Reset	>0	Fault Reset	Only reset in the case of a fault condition	
	AI0175	Fan Status	BIT - 0	1	Drive Running	
			BIT - 1	1	Forward	
			BIT - 2	1	Reverse	
			BIT - 3	1	SU (Up-to-Frequency)	
			BIT - 4	1	OL (Overload)	
			BIT - 6	1	FU (Frequency Detection)	
BIT - 7			1	ABC (Fault)		
BIT - 15			1	Fault Occurrence		
AI0176			Motor speed	0-200	VFD output freq/RPM	Max Hz or RPM can vary based on size/type of fan
AI0177			Motor Current	0-5	VFD Output Current	
AI0178	Fault Code	*	See Manual	Fault Codes listed in Fault code table		
AI0179	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False		
		1	No Fire Alarm	1 = True		
AI0180	Fan LOC	0	Good communication	0 = False		
		1	No communication	1 = True		

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Date:	Drawing Number:
02/20/2025	6027001S
Scale:	Sheet Number: Rev:
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Revision	Date	Drawn By	Description
A	02/20/2025	CI	INITIAL RELEASE

Revision	Date	Reference	Description

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes
Temp1	AO1001	Forward Start SP	> 0	Temperature SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1002	Reverse Start SP	> 0	Temperature SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1003	Forward increment SP	> 0	Temperature FWD Inc	Scaled by 10, so write 300 to get a value of 30
	AO1004	Reverse increment SP	> 0	Temperature REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1001	Scaled Temperature	##	Temperature FB	
Temp2	AI1011	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
	AO1005	Forward Start SP	> 0	Temperature SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1006	Reverse Start SP	> 0	Temperature SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1007	Forward increment SP	> 0	Temperature FWD Inc	Scaled by 10, so write 300 to get a value of 30
Temp3	AO1008	Reverse increment SP	> 0	Temperature REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1002	Scaled Temperature	##	Temperature FB	
	AI1012	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
	AO1009	Forward Start SP	> 0	Temperature SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
Temp4	AO1010	Reverse Start SP	> 0	Temperature SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1011	Forward increment SP	> 0	Temperature FWD Inc	Scaled by 10, so write 300 to get a value of 30
	AO1012	Reverse increment SP	> 0	Temperature REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1003	Scaled Temperature	##	Temperature FB	
	AI1013	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
		1	No communication	1 = True	
Humid1	AO1013	Forward Start SP	> 0	Temperature SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1014	Reverse Start SP	> 0	Temperature SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1015	Forward increment SP	> 0	Temperature FWD Inc	Scaled by 10, so write 300 to get a value of 30
	AO1016	Reverse increment SP	> 0	Temperature REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1004	Scaled Temperature	##	Temperature FB	
Humid2	AI1014	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
	AO1017	Forward Start SP	> 0	Humidity SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1018	Reverse Start SP	> 0	Humidity SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1019	Forward increment SP	> 0	Humidity FWD Inc	Scaled by 10, so write 300 to get a value of 30
Humid3	AO1020	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1005	Humidity	##	Humidity FB	
	AO1021	Forward Start SP	> 0	Humidity SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1022	Reverse Start SP	> 0	Humidity SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1023	Forward increment SP	> 0	Humidity FWD Inc	Scaled by 10, so write 300 to get a value of 30
Humid4	AO1024	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1006	Humidity	##	Humidity FB	
	AO1025	Forward Start SP	> 0	Humidity SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1026	Reverse Start SP	> 0	Humidity SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1027	Forward increment SP	> 0	Humidity FWD Inc	Scaled by 10, so write 300 to get a value of 30
Wind	AO1028	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1007	Humidity	##	Humidity FB	
	AO1029	Forward Start SP	> 0	Humidity SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	AO1030	Reverse Start SP	> 0	Humidity SP to Start in Reverse	Scaled by 10, so write 300 to get a value of 30
	AO1031	Forward increment SP	> 0	Humidity FWD Inc	Scaled by 10, so write 300 to get a value of 30
Fire Control Panel	AO1032	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1008	Humidity	##	Humidity FB	
	AO1033	Wind Set Point	5-15	Set Point to shut off fans	5-15 MPH
	AO1034	Time	1-20	Seconds before shut off	Time above set point before shutoff
	AO1035	Restart Time	>60	Seconds before restart	Time below set point before restart
Fire Control Panel	AI1009	Scaled Wind Speed	##	Wind Speed	Displayed in the selected units
	AI1010	Direction	##	Wind Direction	
	AI1015	Wind Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
	AI1016	Fire Alarm Contact	0	Fire Alarm Activated	0 = False
		1	No Fire Alarm	1 = True	
Fire Control Panel	AI1017	Fire Alarm Panel LOC	0	Good communication	0 = False
			1	No communication	1 = True

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Revision	Date	Drawn By	Description
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