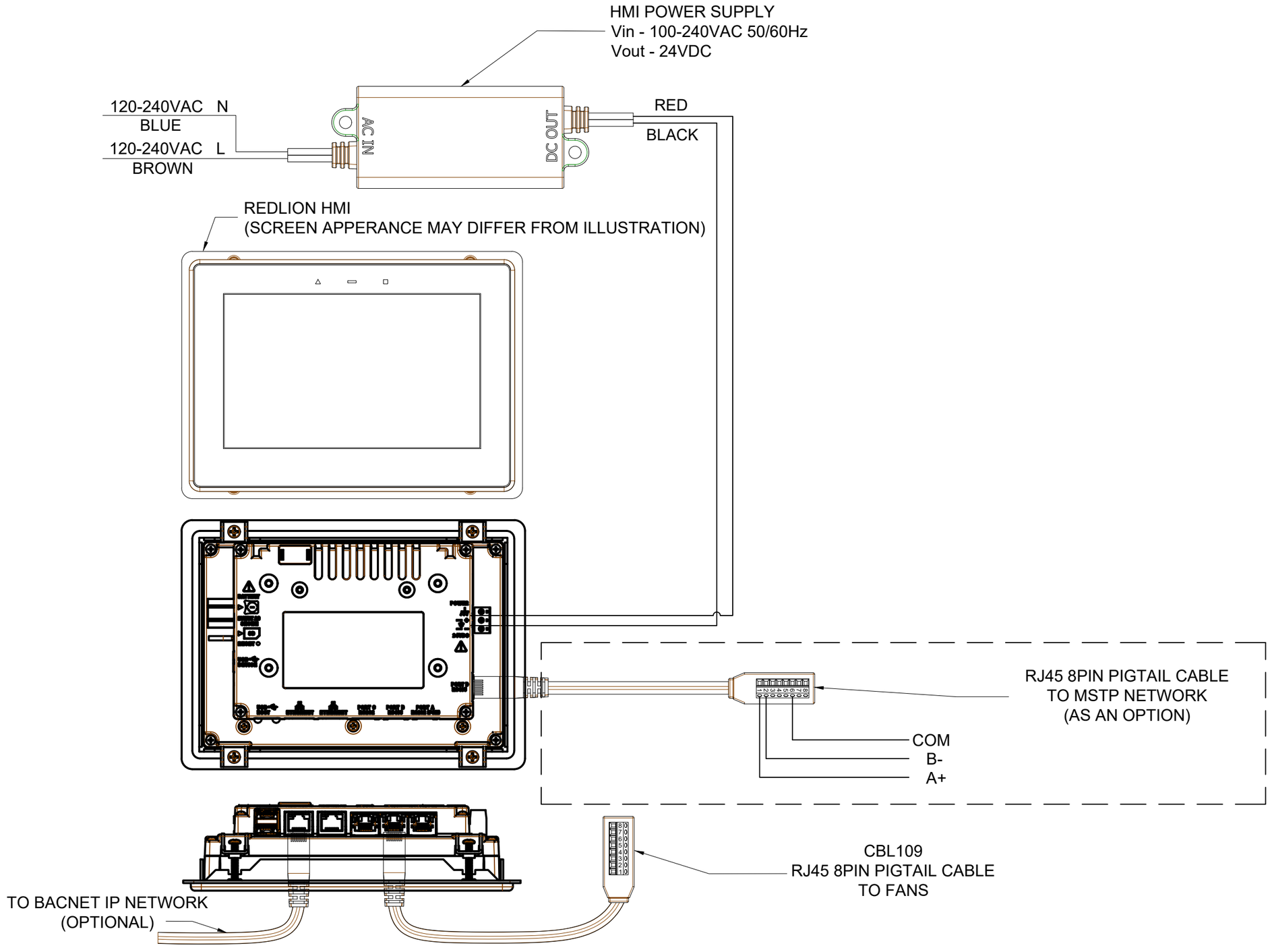
Panel Schematic



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Firm Name and Address

4FRONT ENGINEERED SOLUTIONS

1612 Hutton Drive, Suite 140
Carrollton, TX 75006

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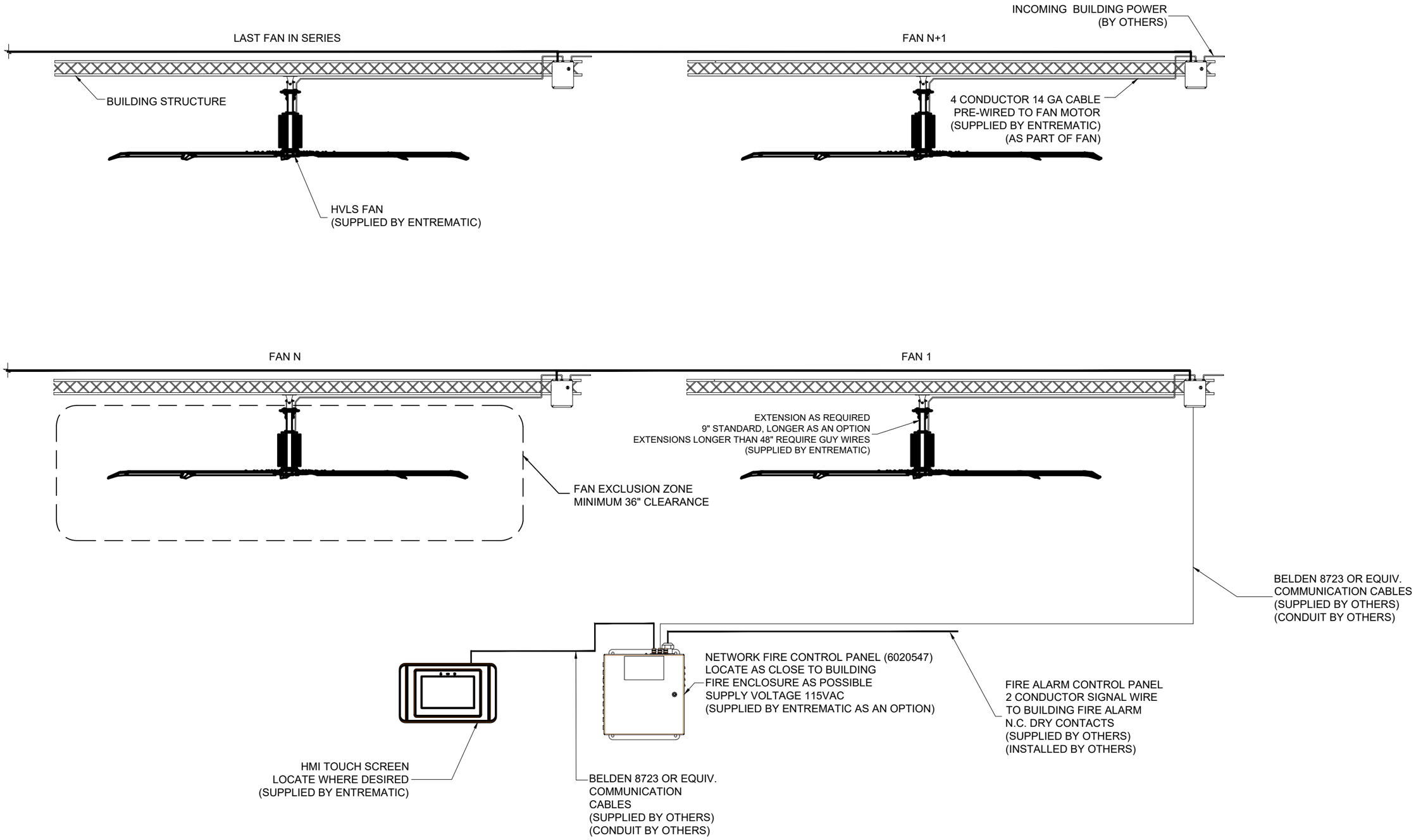
Drawn By: CRE	Regional Sale Manager: TBD
Date: 08/03/2022	Drawing Number: 6021616S
Scale: NTS	Sheet Number: 1 OF 11 / Rev: H

P/N 6021616S - iFan WITH OPTIONAL NETWORK FCP, TEMPERATURE SENSOR, AND ANEMOMETER

Industrial Fan Layout



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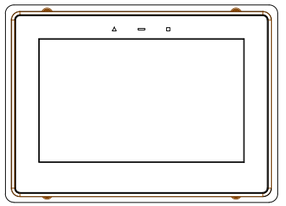
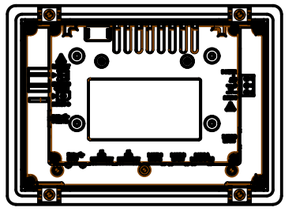
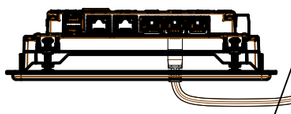
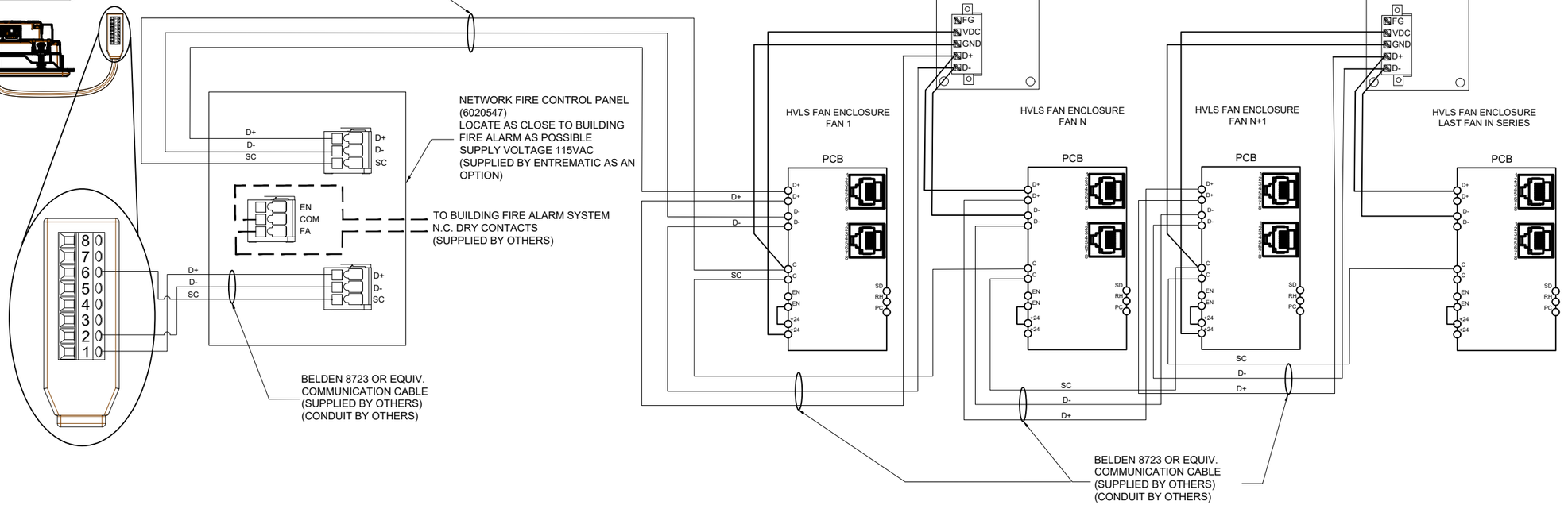
Industrial Fan Field Wiring









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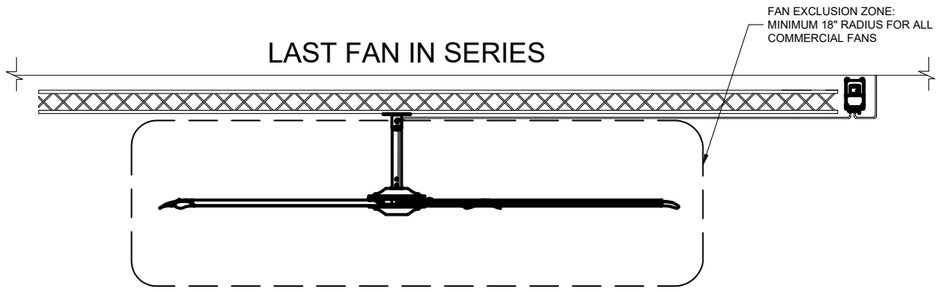
P/N 6021616S - iFan WITH OPTIONAL NETWORK FCP, TEMPERATURE SENSOR, AND ANEMOMETER

Commercial Fan Layout

LAST FAN IN SERIES



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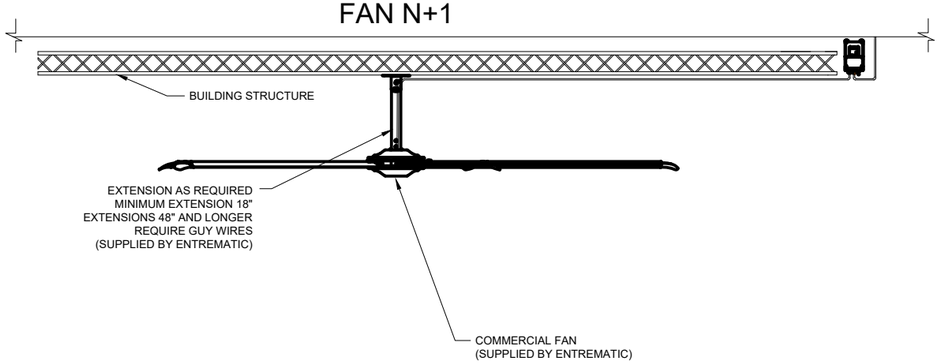
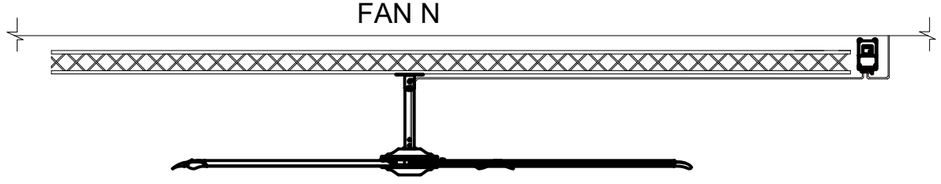
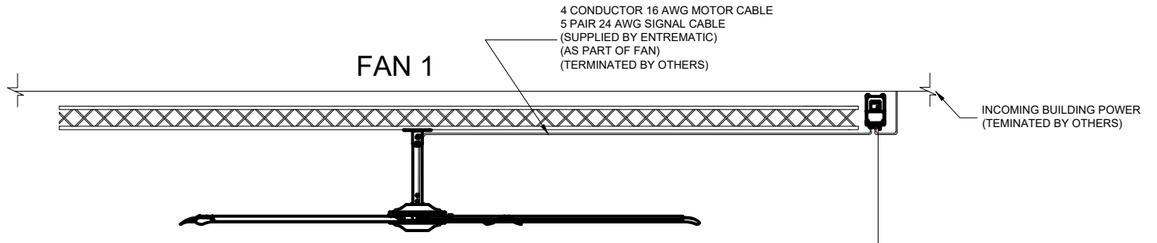
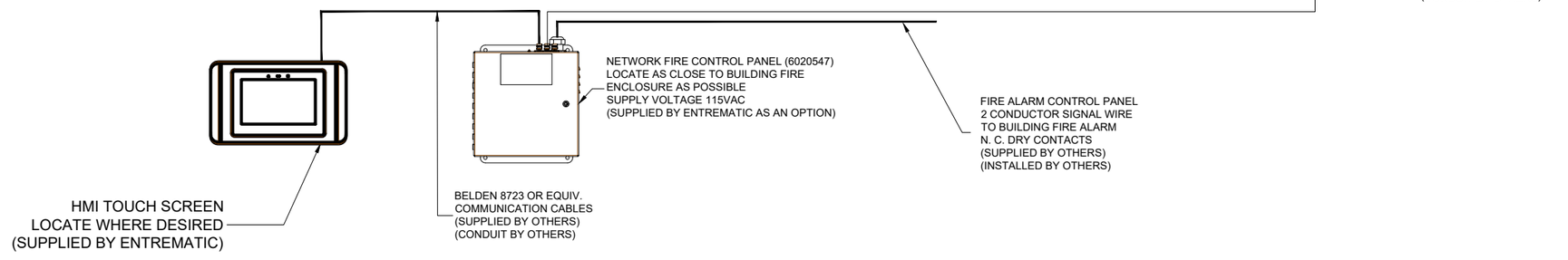


FAN N



FAN 1





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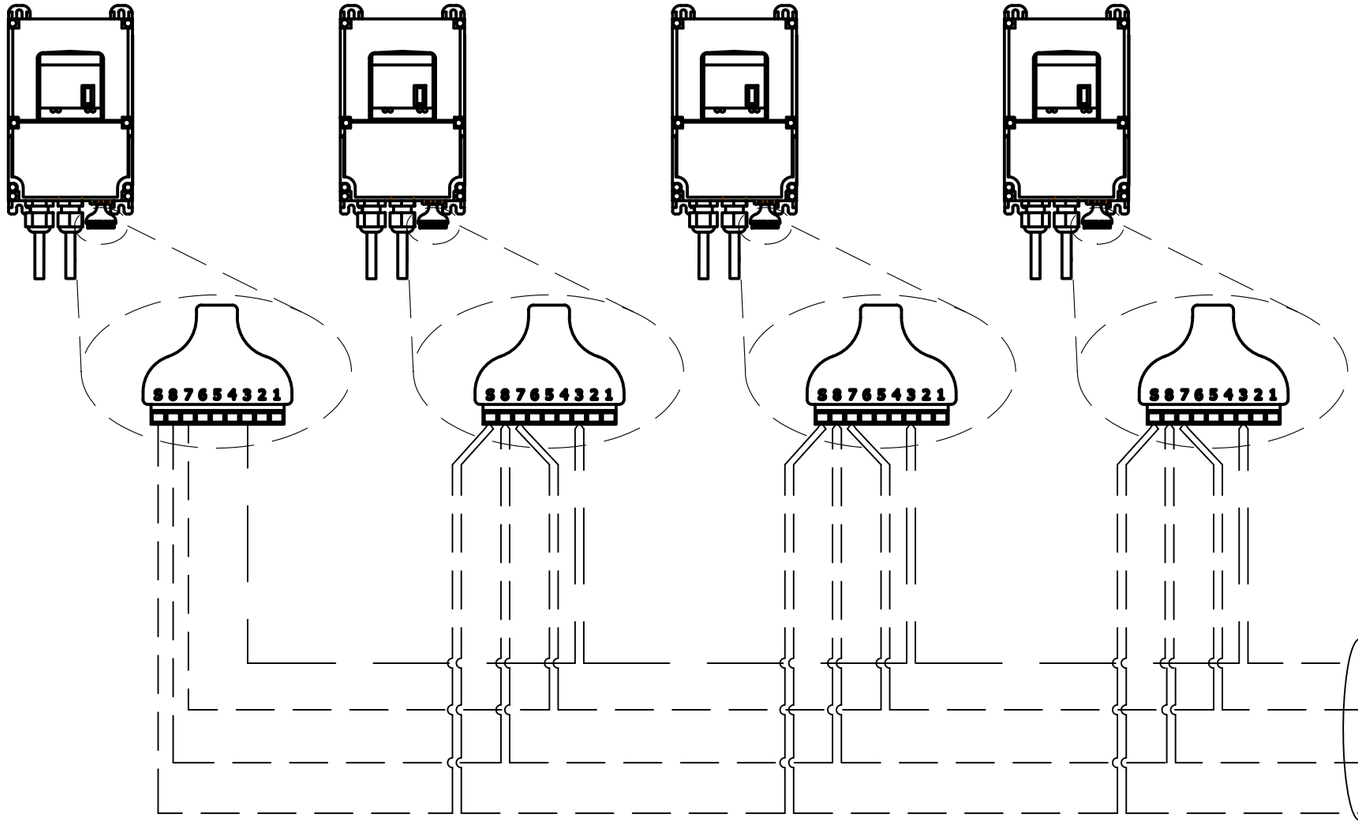
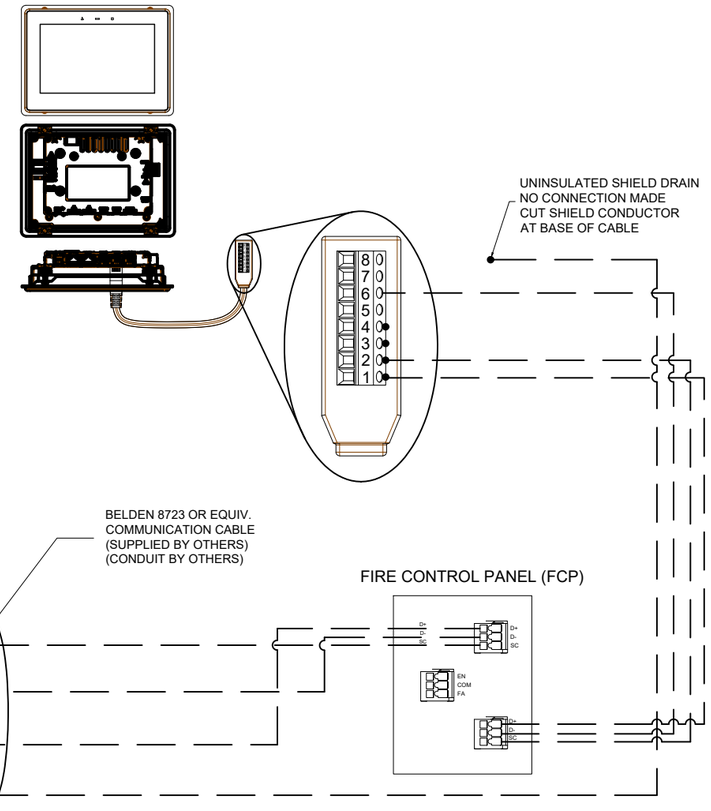
Commercial Fan Field Wiring





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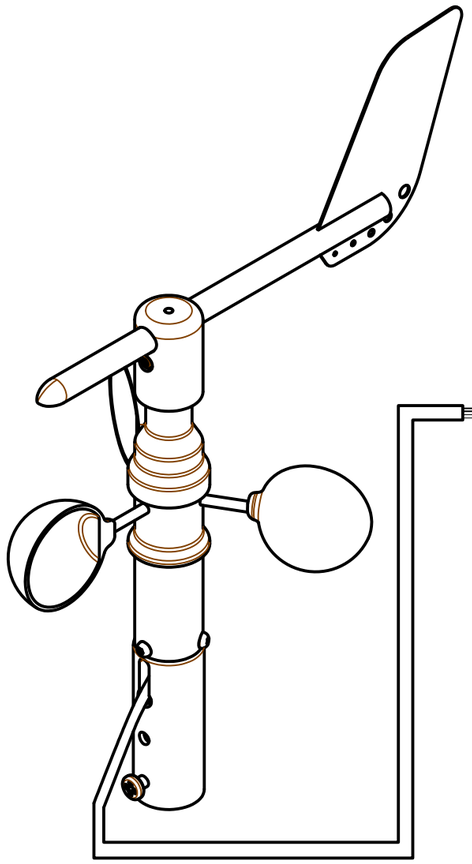
Industrial Fan Optional Hardware Field Wiring



BLACK

RED

ORANGE

BROWN

MODBUS TEMP & HUM
SENSOR/CONTROLLER
MODBUS ADDRESS 100

J1

POWER 24VAC
-
+

J6

OUTPUTS
GND
HUM
TEMP

RS485
GND
NET
+
NET
-

VFD CONTROL PANEL
PCB WIRING

PCB

D+
D+
D-
D-
C
C
EN
EN
+24
+24

1 2 3 4 5 6 7 8

SD
RH
PC

LEGEND

PANEL WIRING
FIELD WIRING (BY OTHERS)
PC BOARD TRACES

NOTE:
TERMINALS WILL ACCEPT
STRANDED WIRE ONLY

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

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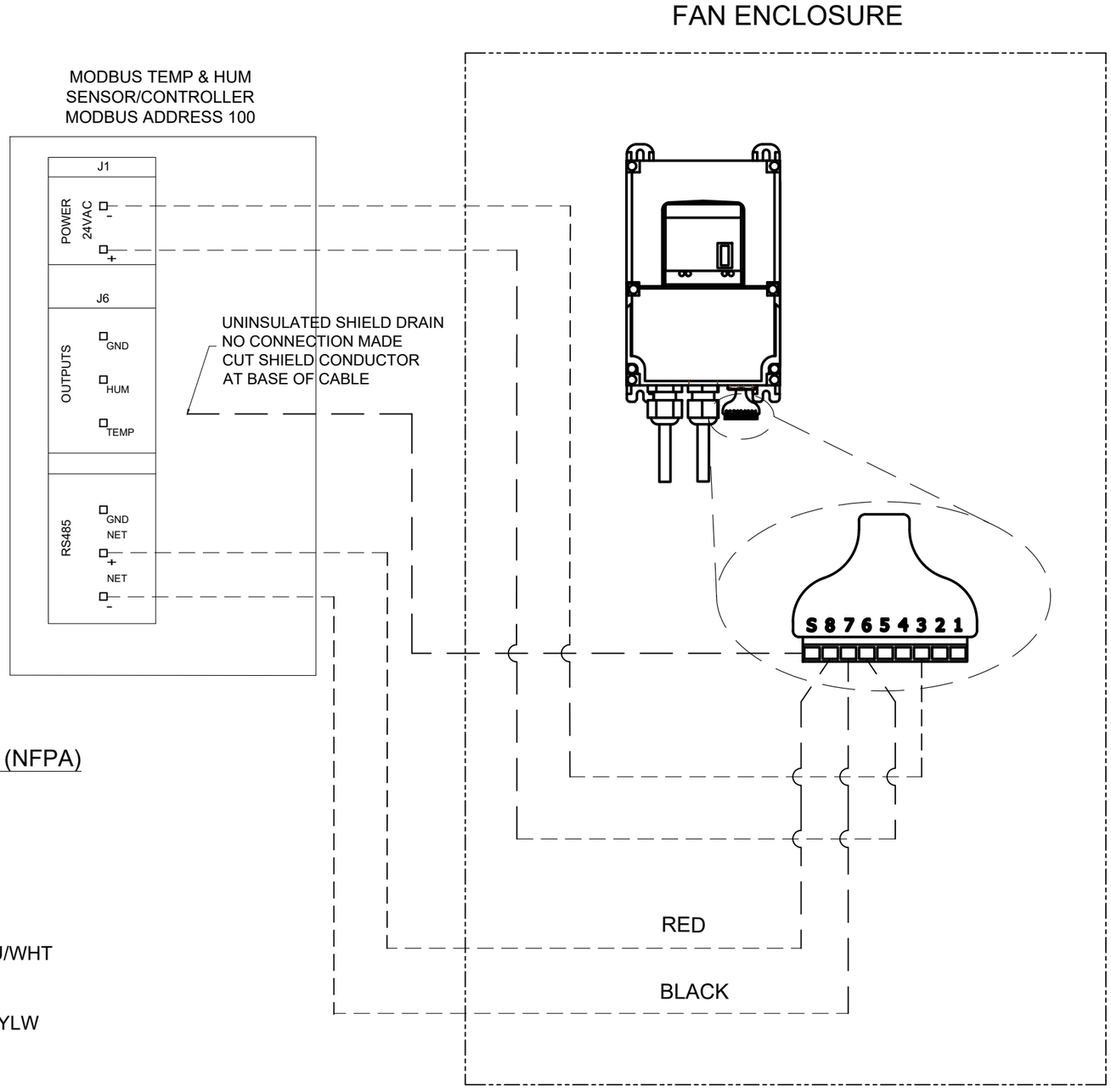
Commercial Fan Optional Hardware Field Wiring



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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	
			1	Forward	
	AO0003	Speed set	1-10	Speed	
	AO0004	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0001	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0002	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0003	Motor Current	0-5	VFD Output Current	
	AI0004	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0097	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0098	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 2	AO0005	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
	AO0006	Direction	-1	Reverse	
			1	Forward	
	AO0007	Speed set	1-10	Speed	
	AO0008	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0005	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0006	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0007	Motor Current	0-5	VFD Output Current	
	AI0008	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0099	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI00100	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 3	AO0009	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
	AO0010	Direction	-1	Reverse	
			1	Forward	
	AO0011	Speed set	1-10	Speed	
	AO0012	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0009	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0010	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0011	Motor Current	0-5	VFD Output Current	
	AI0012	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0101	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0102	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 4	AO0013	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
	AO0014	Direction	-1	Reverse	
			1	Forward	
	AO0015	Speed set	1-10	Speed	
	AO0016	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0013	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0014	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0015	Motor Current	0-5	VFD Output Current	
	AI0016	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0103	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0104	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

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	
			1	Forward	
	AO0019	Speed set	1-10	Speed	
	AO0020	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0017	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0018	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0019	Motor Current	0-5	VFD Output Current	
	AI0020	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0105	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0106	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 6	AO0021	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
	AO0022	Direction	-1	Reverse	
			1	Forward	
	AO0023	Speed set	1-10	Speed	
	AO0024	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0021	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0022	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0023	Motor Current	0-5	VFD Output Current	
	AI0024	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0107	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0108	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 7	AO0025	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
	AO0026	Direction	-1	Reverse	
			1	Forward	
	AO0027	Speed set	1-10	Speed	
	AO0008	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0025	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0026	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0027	Motor Current	0-5	VFD Output Current	
	AI0028	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0109	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0110	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 8	AO0029	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
	AO0030	Direction	-1	Reverse	
			1	Forward	
	AO0031	Speed set	1-10	Speed	
	AO0032	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0029	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0030	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0031	Motor Current	0-5	VFD Output Current	
	AI0032	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0111	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0112	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

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	
			1	Forward	
	AO0035	Speed set	1-10	Speed	
	AO0036	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0033	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0034	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0035	Motor Current	0-5	VFD Output Current	
	AI0036	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0113	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0114	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 10	AO0037	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
	AO0038	Direction	-1	Reverse	
			1	Forward	
	AO0039	Speed set	1-10	Speed	
	AO0040	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0037	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0038	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0039	Motor Current	0-5	VFD Output Current	
	AI0040	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0115	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0116	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 11	AO0041	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
	AO0042	Direction	-1	Reverse	
			1	Forward	
	AO0043	Speed set	1-10	Speed	
	AO0044	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0041	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0042	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0043	Motor Current	0-5	VFD Output Current	
	AI0044	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0117	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0118	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 12	AO0045	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
	AO0046	Direction	-1	Reverse	
			1	Forward	
	AO0047	Speed set	1-10	Speed	
	AO0048	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0045	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0046	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0047	Motor Current	0-5	VFD Output Current	
	AI0048	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0119	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0120	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

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Firm Name and Address

4FRONT ENGINEERED SOLUTIONS

1612 Hutton Drive, Suite 140
Carrollton, TX 75006

Revision	Date	Drawn By	Description
A	01/22/2019	CRE	INITIAL DRAWING
B	06/06/2019	CRE	ADDED BACNET CONNECTION
C	04/06/2020	CRE	Updated BACNET address tables
D	05/20/2021	CRE	UPDATED TO NEW iFan DISPLAY, EXPANDED BACNET TABLE
E	01/26/2022	GC	NEW HUMIDITY AND TEMPERATURE SENSOR
F	08/03/2022	GC	NEW HUMIDITY AND TEMPERATURE SENSOR
G	10/21/2022	GC	CORRECTED HUM AND TEMP SENSOR WIRING FOR COMMERCIAL FANS
H	11/03/2023	GC	ADD SLAVE

Revision	Date	Reference	Description
E	01/26/2022	LRF	CORRECTED iFAN WIRING FOR COMMERCIAL FANS
F	08/03/2022	GC	NEW HUMIDITY AND TEMPERATURE SENSOR

Drawn By: CRE	Regional Sale Manager: TBD
Date: 08/03/2022	Drawing Number: 6021616S
Scale: NTS	Sheet Number: 8 OF 11
	Rev: H

P/N 6021616S - iFan WITH OPTIONAL NETWORK FCP, TEMPERATURE SENSOR, AND ANEMOMETER

BACnet Mapping Cont.

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes
Fan 13	AO0049	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
	AO0050	Direction	-1	Reverse	
			1	Forward	
	AO0051	Speed set	1-10	Speed	
	AO0052	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0049	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0050	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0051	Motor Current	0-5	VFD Output Current	
	AI0052	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0121	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0122	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 14	AO0053	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
	AO0054	Direction	-1	Reverse	
			1	Forward	
	AO0055	Speed set	1-10	Speed	
	AO0056	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0053	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0054	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0055	Motor Current	0-5	VFD Output Current	
	AI0056	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0123	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0124	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 15	AO0057	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
	AO0058	Direction	-1	Reverse	
			1	Forward	
	AO0059	Speed set	1-10	Speed	
	AO0060	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0057	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0058	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0059	Motor Current	0-5	VFD Output Current	
	AI0060	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0125	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0126	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 16	AO0061	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
	AO0062	Direction	-1	Reverse	
			1	Forward	
	AO0063	Speed set	1-10	Speed	
	AO0064	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0061	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0062	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0063	Motor Current	0-5	VFD Output Current	
	AI0064	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0127	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0128	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes
Fan 17	AO0065	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
	AO0066	Direction	-1	Reverse	
			1	Forward	
	AO0067	Speed set	1-10	Speed	
	AO0068	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0065	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0066	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0067	Motor Current	0-5	VFD Output Current	
	AI0068	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0129	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0130	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 18	AO0069	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
	AO0070	Direction	-1	Reverse	
			1	Forward	
	AO0071	Speed set	1-10	Speed	
	AO0072	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0069	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0070	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0071	Motor Current	0-5	VFD Output Current	
	AI0072	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0131	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0132	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 19	AO0073	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
	AO0074	Direction	-1	Reverse	
			1	Forward	
	AO0075	Speed set	1-10	Speed	
	AO0076	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0073	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0074	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0075	Motor Current	0-5	VFD Output Current	
	AI0076	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0133	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0134	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 20	AO0077	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
	AO0078	Direction	-1	Reverse	
			1	Forward	
	AO0079	Speed set	1-10	Speed	
	AO0080	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0077	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0078	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0079	Motor Current	0-5	VFD Output Current	
	AI0080	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0135	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0136	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

Fan	BACnet Address	Register Description	Expected Data	Result/Status	Notes
Fan 21	AO0081	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
	AO0082	Direction	-1	Reverse	
			1	Forward	
	AO0083	Speed set	1-10	Speed	
	AO0084	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0081	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0082	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0083	Motor Current	0-5	VFD Output Current	
	AI0084	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0137	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0138	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 22	AO0085	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
	AO0086	Direction	-1	Reverse	
			1	Forward	
	AO0087	Speed set	1-10	Speed	
	AO0088	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0085	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0086	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0087	Motor Current	0-5	VFD Output Current	
	AI0088	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0139	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0140	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 23	AO0089	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
	AO0090	Direction	-1	Reverse	
			1	Forward	
	AO0091	Speed set	1-10	Speed	
	AO0092	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0089	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0090	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0091	Motor Current	0-5	VFD Output Current	
	AI0092	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0141	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0142	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True
Fan 24	AO0093	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
	AO0094	Direction	-1	Reverse	
			1	Forward	
	AO0095	Speed set	1-10	Speed	
	AO0096	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0093	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0094	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0095	Motor Current	0-5	VFD Output Current	
	AI0096	Fault Code	*	See Table	Fault Codes listed in Fault code table
	AI0143	Input Jumper/Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI0144	Fan LOC	0	Good communication	0 = False
			1	No communication	1 = True

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A	01/22/2019	CRE	INITIAL DRAWING
B	06/06/2019	CRE	ADDED BACNET CONNECTION
C	04/06/2020	CRE	Updated BACNET address tables
D	05/20/2021	CRE	UPDATED TO NEW iFan DISPLAY, EXPANDED BACNET TABLE

Revision	Date	Reference	Description
E	01/26/2022	LRF	CORRECTED iFAN WIRING FOR COMMERCIAL FANS
F	08/03/2022	GC	NEW HUMIDITY AND TEMPERATURE SENSOR
G	10/21/2022	GC	CORRECTED HUM AND TEMP SENSOR WIRING FOR COMMERCIAL FANS
H	11/03/2023	GC	ADD SLAVE

Drawn By: CRE	Regional Sale Manager: TBD
Date: 08/03/2022	Drawing Number: 6021616S
Scale: NTS	Sheet Number: 9 OF 11 — Rev: H

P/N 6021616S - iFan WITH OPTIONAL NETWORK FCP, TEMPERATURE SENSOR, AND ANEMOMETER

BACnet Mapping Cont.

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
	AO0098	Direction	-1	Reverse	
			1	Forward	
	AO0099	Speed set	1-10	Speed	
	AO0100	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0145	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0146	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0147	Motor Current	0-5	VFD Output Current	
	AI0148	Fault Code	*	See Table	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
	AO0102	Direction	-1	Reverse	
			1	Forward	
	AO0103	Speed set	1-10	Speed	
	AO0104	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0151	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0152	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0153	Motor Current	0-5	VFD Output Current	
	AI0154	Fault Code	*	See Table	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
	AO0106	Direction	-1	Reverse	
			1	Forward	
	AO0107	Speed set	1-10	Speed	
	AO0108	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0157	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0158	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0159	Motor Current	0-5	VFD Output Current	
	AI0160	Fault Code	*	See Table	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
Fan28	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
	AO0110	Direction	-1	Reverse	
			1	Forward	
	AO0111	Speed set	1-10	Speed	
	AO0112	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0163	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0164	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0165	Motor Current	0-5	VFD Output Current	
	AI0166	Fault Code	*	See Table	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
	AO0114	Direction	-1	Reverse	
			1	Forward	
	AO0115	Speed set	1-10	Speed	
	AO0116	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0169	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0170	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0171	Motor Current	0-5	VFD Output Current	
	AI0172	Fault Code	*	See Table	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
	AO0118	Direction	-1	Reverse	
			1	Forward	
	AO0119	Speed set	1-10	Speed	
	AO0120	Fam Reset	> 0	Fault Reset	Only reset in the case of a fault condition
	AI0175	Fan Status	1	Drive Running	
			2	Forward	
			4	Reverse	
	AI0176	Motor speed	0-200	VFD outpt frequency/RPM	Max frequency can vary based on size of fan
	AI0177	Motor Current	0-5	VFD Output Current	
	AI0178	Fault Code	*	See Table	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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3) ALL CONDUIT BY OTHERS

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Firm Name and Address

4FRONT ENGINEERED SOLUTIONS

1612 Hutton Drive, Suite 140
Carrollton, TX 75006

Revision	Date	Drawn By	Description
A	01/22/2019	CRE	INITIAL DRAWING
B	06/06/2019	CRE	ADDED BACNET CONNECTION
C	04/06/2020	CRE	Updated BACNET address tables
D	05/20/2021	CRE	UPDATED TO NEW iFan DISPLAY, EXPANDED BACNET TABLE

Revision	Date	Reference	Description
E	01/26/2022	LRF	CORRECTED iFAN WIRING FOR COMMERCIAL FANS
F	08/03/2022	GC	NEW HUMIDITY AND TEMPERATURE SENSOR
G	10/21/2022	GC	CORRECTED HUM AND TEMP SENSOR WIRING FOR COMMERCIAL FANS
H	11/03/2023	GC	ADD SLAVE

Drawn By: CRE	Regional Sale Manager: TBD
Date: 08/03/2022	Drawing Number: 6021616S
Scale: NTS	Sheet Number: 10 OF 11 / Rev: H

P/N 6021616S - iFan WITH OPTIONAL NETWORK FCP, TEMPERATURE SENSOR, AND ANEMOMETER

BACnet Mapping Cont.

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	
	AI1011	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
Temp2	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
	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
Temp3	AO1009	Forward Start SP	> 0	Temperature SP to Start in Forward	Scaled by 10, so write 800 to get a value of 80
	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
Temp4	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	
	AI1014	Temperature/Humidity Sensor LOC	0	Good communication	0 = False
			1	No communication	1 = True
Humid1	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
	AO1020	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1005	Humidity	##	Humidity FB	
Humid2	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
	AO1024	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1006	Humidity	##	Humidity FB	
Humid3	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
	AO1028	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1007	Humidity	##	Humidity FB	
Humid4	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
	AO1032	Reverse increment SP	> 0	Humidity REV Inc	Scaled by 10, so write 300 to get a value of 30
	AI1008	Humidity	##	Humidity FB	
Wind	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
	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
Fire Control Panel	AI1016	Fire Alarm Contact	0	Fire Alarm Activated	0 = False
			1	No Fire Alarm	1 = True
	AI1017	Fire Alarm Panel LOC	0	Good communication	0 = False
			1	No communication	1 = True

DATA	DECIMAL VALUE	PANEL INDICATION	DESCRIPTION
H10	16	E.OC1	OVERCURRENT TRIP DURING ACCELERATION
H11	17	E.OC2	OVERCURRENT TRIP DURING CONSTANT SPEED
H12	18	E.OC3	OVERCURRENT TRIP DURING DECELERATION OR STOP
H20	32	E.OV1	REGENERATIVE OVERVOLTAGE TRIP DURING ACCELERATION
H21	33	E.OV2	REGENERATIVE OVERVOLTAGE TRIP DURING CONSTANT SPEED
H22	34	E.OV3	REGENERATIVE OVERVOLTAGE TRIP DURING DECELERATION OR STOP
H30	48	E.THT	INVERTER OVERLOAD TRIP (ELECTRONIC THERMAL RELAY FUNCTION)
H31	49	E.THM	MOTOR OVERLOAD TRIP (ELECTRONIC THERMAL RELAY FUNCTION)
H40	64	E.FIN	FIN OVERHEAT
H52	82	E.ILF	INPUT PHASE LOSS
H60	96	E.OLT	STALL PREVENTION

DATA	DESCRIPTION
0	NO ALARM/FAN OK
1	SHORT CIRCUIT
2	CURRENT LIMIT
3	CURRENT LIMIT TRIP
4	UNDER VOLTAGE TRIP
6	OVER VOLTAGE TRIP
8	STOP MODE
9	FLASH ERROR
13	WATCHDOG ERROR
22	COMMUNICATION WATCHDOG ERROR

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