



## BACnet- MS/TP COMMUNICATION V1.00.08.17



### 11.1 Introduction

The VFD can be controlled and monitored through the BACnet MS/TP protocol over an RS-485 connection. The VFD operates as an MS/TP master device, which the protocol can support addressing for up to 128 master devices in a single MS/TP network.

BACnet conveys control and monitoring data as a collection of BACnet objects. The VFD supports Analog Input, Analog Value, Positive Integer Value, Binary Input, Multi-State Value, and Character String object types. The Read Property and Write Property services can be used to interface to these objects. If the drive is configured to accept commands via remote communications, it can be commanded to start, stop, run at a specified output frequency, target a setpoint in PID control, and reset faults.

### 11.2 Parameter Code Lists

Analog Input Object:

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
0	R	PID Feedback Value	PID Feedback	0.1 [Unit]	0.0 to 6000.0
1	R	2nd Input Value (Units)		[Unit]	0.0 to 3000.0/ 0.00 to 3000.00
2	R	Inverter temperature	IGBT Temp	[°C]/ %	0 to 160 /0-100
3	R	PCB temperature	Ambient Temp	[°C]	0 to 160
4	R	1A mA Input		mA * 100	N/A (Read only)
5	R	1A V Input	1A Input	x	0.00 to 24.00
6	R	2A V Input	2A Input	x	0.00 to 10.00
7	R	2A mA Output		x	.00 to 20.00
8	R	2A V Output		x	0.00 to 10.00
9	R	Power	Average Power	[kW]	varies depending on VFD size
10	R	3A mA Input	3A Input	mA * 100	N/A - Read only

Analog Value Object:

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
0	R/W	Rated Motor Voltage	Motor Voltage	[V]	200/400V model: 200 to 480V; def 230V 400V model: 380 to 480V; def 460V
1	R/W	Rated Motor HP/kW	Motor Horsepower	[HP/kW]	1 to 600HP/ 0.75 to 450kW
2	R/W	Rated Motor Current	Motor Current	0.1 [A]	1.0 to VFD Rating
3	R/W	Maximum Frequency	Max Frequency	0.01 [Hz]	30.00 to 240.00
4	R/W	Base Frequency	Base Frequency	0.01 [Hz]	30.00 to VFD Max Hz
5	R/W	High Frequency Limit	High Frequency Limit	0.01 [Hz]	VFD Low Hz Limit to VFD Max Hz
6	R/W	Low Frequency Limit	Low Frequency Limit	0.01 [Hz]	0.50 to VFD High Hz Limit
7	R/W	Carrier Frequency	Carrier Frequency	0.1 [kHz]	2.0 to 10.0
8	R/W	Keypad Frequency	Keypad Frequency	0.01 [Hz]	VFD Low Hz to VFD High Hz Limit
9	R/W	Power-On Run Delay	Power-On Run Delay	1[Sec]	0 to 9999
10	R/W	Acceleration Time	Acceleration Time	0.1 [sec]	1.0 to 6000.0
11	R/W	Deceleration Time	Deceleration Time	0.1 [sec]	1.0 to 6000.0
12	R/W	Ref. Loss Delay**	Anlg Ref Loss	1[Sec]	0 to 20
13	R/W	PID Feedback Max*	Feedback Max	0.01 [Unit]	0.0 to 6000.0
14	R/W	PID Keypad Setpoint*	Keypad Setpoint	0.01 [Unit]	0.0 to 95% of [PID F/B Max]
15	R/W	PID P-Gain*	P Gain	1 [%]	0 to 999
16	R/W	PID I-Gain*	I Gain	0.1 [sec]	0.1 to 32.0
17	R/W	PID Out Ramp Time*	PID Ramp Time	0.1 [sec]	0.0 to 10.0
18	R/W	PID High Frequency Limit *	PID High Freq Limit	0.01 [Hz]	[Prime-59] to [Prime-07]
19	R/W	PID Low Frequency Limit *	PID Low Freq Limit	0.01 [Hz]	0.00 to [Prime-58]
20	R/W	Skip Frequency 1 Low*	Skip Freq 1 Low	0.01 [Hz]	0.50 to [Skip-1 High Hz]
21	R/W	Skip Frequency 1 High*	Skip Freq 1 High	0.01 [Hz]	[Skip-1 Low Hz] to [VFD Max Hz]

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
22	R/W	Skip Frequency 2 Low*	Skip Freq 2 Low	0.01 [Hz]	0.50 to [Skip-2 High Hz]
23	R/W	Skip Frequency 2 High*	Skip Freq 2 High	0.01 [Hz]	[Skip-2 Low Hz] to [VFD Max Hz]
24	R/W	Skip Frequency 3 Low*	Skip Freq 3 Low	0.01 [Hz]	0.50 to [Skip-3 High Hz]
25	R/W	Skip Frequency 3 High*	Skip Freq 3 High	0.01 [Hz]	[Skip-3 Low Hz] to [VFD Max Hz]
26	R/W	Preset Frequency-A	Speed A	0.01 [Hz]	VFD Low Hz Limit to VFD Max Hz
27	R/W	Preset Frequency-B	Speed B	0.01 [Hz]	VFD Low Hz Limit to VFD Max Hz
28	R/W	Preset Frequency-AB	Speed AB	0.01 [Hz]	VFD Low Hz Limit to VFD Max Hz
29	R/W	Preset Setpoint-A	Setpoint A	0.1/0.01 [Unit]	0.00 to F/B Max Value*0.95
30	R/W	Preset Setpoint-B	Setpoint B	0.1/0.01 [Unit]	0.00 to F/B Max Value*0.95
31	R/W	Preset Setpoint-AB	Setpoint AB	0.1/0.01 [Unit]	0.00 to F/B Max Value*0.95
32	R/W	1A mA Min Value	1A Input Min mA	0.01 [mA]	0.00 to 20.00
33	R/W	1A Min Hz	1A Min Hz	0.01 [Hz]	0.00 to [Prime-07]
34	R/W	1A mA Max Value	1A Input Max mA	0.01 [mA]	0.00 to 20.00
35	R/W	1A Max Hz	1A Max Hz	0.01 [Hz]	0.00 to [Prime-07]
36	R/W	1A V Min Value	1A Input Min V	0.01 [V]	0.00 to 10.00
37	R/W	1A V Max Value	1A Input Max V	0.01 [V]	0.00 to 10.00
38	R/W	2A V Input Min Value	2A Input Filter	0.01 [V]	0.00 to 10.00
39	R/W	2A V Input Min Hz	2A Min Hz	0.01 [Hz]	0.00 to [Prime-07]
40	R/W	2A V Input Max Value	2A Input Max V	0.01 [V]	0.00 to 10.00
41	R/W	2A V Input Max Hz	2A Max Hz	0.01 [Hz]	0.00 to [Prime-07]
42	R	VFD Output Frequency	Output Frequency	0.01 [Hz]	0.00 to 240.00

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
43	R	Average Output Current	Average Current	0.1 [A]	0.0 to 6xVFD FLA
44	R	Line U Current	Line U Current	0.1 [A]	0.0 to 6xVFD FLA
45	R	Line V Current	Line V Current	0.1 [A]	0.0 to 6xVFD FLA
46	R	Line W Current	Line W Current	0.1 [A]	0.0 to 6xVFD FLA
47	R	DC Bus Voltage	DC Bus Voltage	0.1 [V]	0 to 1000
48	R	Output Voltage	Output Voltage	0.1 [V]	0 to 600
49	R/W	Timeout	Com Loss Delay	0.1 [sec]	0.1 to 120.0
50	R/W	Comms. Command Frequency			Min Freq Limit to High Freq Limit
51	R/W	PID Setpoint			0.0 to 95% of [PID Feedback Max]
70	R	Target Frequency	Target Frequency	Hz	Min Freq Limit to High Freq Limit
71	R/W	Torque Boost Level	Torque Boost Level	0.01 [%]	0.00 to 15.00
72	R/W	Motor OC Delay	Overcurrent Delay	0.1 [sec]	0.1 to 5.0
73	R/W	3A mA Min Value	3A Input Min mA	0.01 [mA]	0.00 to 20.00
74	R/W	3A Min Hz	3A Min Hz	0.01 [Hz]	0.00 to [Prime-07]
75	R/W	3A mA Max Value	3A Input Max mA	0.01 [mA]	0.00 to 20.00
76	R/W	3A Max Hz	3A Max Hz	0.01 [Hz]	0.00 to [Prime-07]

Binary Input Object:

<b>BACnet Object Instance</b>	<b>Read/Write</b>	<b>Full Parameter Name (manual)</b>	<b>OLED Display Name</b>	<b>Units</b>	<b>Parameter Setting Range</b>
0	R	D1-SG Status	D1-SG Input	x	0 - Open 1 - Closed
1	R	D2-SG Status	D2-SG Input	x	0 - Open 1 - Closed
2	R	V1-V2 Status	V1-V2 Input	x	0 - Deenergized 1 - Energized
3	R	V3-V4 Status	V3-V4 Input	x	0 - Deenergized 1 - Energized
4	R	D3-SG Status	D3-SG Input	x	0 - Open 1 - Closed
5	R	D4-SG Status	D4-SG Input	x	0 - Open 1 - Closed
6	R	O1-O2 Status	O1-O2 Output	x	0 - Open 1 - Closed
7	R	O3-O4 Status	O3-O4 Output	x	0 - Open 1 - Closed
8	R	O4-O5 Status	O4-O5 Output	x	0 - Open 1 - Closed

Character String Object:

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
0	R	Product Package SW Version		x	Software versions use the format xx.xx.xxy, where xx is a number from 0-99 and y is a letter representing the release variant.
1	R	Power CPU SW Version	Power Board	x	See Product SW Version
2	R	Power CPU Bootloader SW Version	Power Bootloader	x	See Product SW Version
3	R	Control CPU SW Version		x	See Product SW Version
4	R	Control CPU Bootloader SW Version	Control Bootloader	x	See Product SW Version
5	R	Bypass CPU SW Version	Bypass Board	x	See Product SW Version
6	R	Bypass CPU Bootloader SW Version		x	See Product SW Version
7	R	Bluetooth CPU SW Version	Bluetooth Module	x	See Product SW Version

Multi-State Objects:

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
0	R/W	Application	Application	x	0- Basic 1- Supply Fan 2- Exhaust Fan 3- Cooling Twr 4- Surface/Booster Pump
1	R/W	Power Line Frequency	Line Frequency	x	0- 50 [Hz] 1- 60 [Hz]
2	R/W	Power-On Run	Power-On Run	x	0 - Disable 1 - Enable
3	R/W	Run after Fault Reset	Fault Reset & Run	x	0 - Disable 1 - Enable
4	R/W	Start Mode	Start Mode	x	0 - Accelerate 1 - DC Start 2 - Flying Start
5	R/W	DC Start Level *	DC Start Level	x	0 - Low 1 - Medium 2 - High
6	R/W	HOA Type	HOA Type	x	0- Keypad HOA 1- Auto Only 2- Keypad Off/Auto 3- External HOA
7	R	HOA Status	HOA Mode	x	0 - Off 1 - Hand 2 - Auto 3 - Bluetooth
8	R/W	Run Command in Hand	Hand Run Cmd	x	0- HOA in Hand 1- Terminal 2- 3-Wire 3- Comms
9	R/W	Speed Reference in Hand	Hand Speed Ref	x	0- Keypad 1- 1A Analog Input 2- 2A Analog Input 3- Communications 4 - 3A Analog Input
10	R/W	Stop Mode	Stop Mode	x	0 - Decel 1 - Coast 2 - DC Brake
11	R/W	V/F Control Mode	V/F Control	x	0 - Linear 1 - Squared
12	R/W	Run Command in Auto	Auto Run Cmd	x	0 - HOA in Auto 1 - Terminal 2 - 3-Wire 3 - Comms

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
13	R/W	Speed Reference in Auto	Auto Speed Ref	x	0 - Keypad 1 - 1A Analog Input 2 - 2A Analog Input 3- Comms 4 - PID*
14	R/W	Reference Loss Condition	Anlg Ref Loss	x	0 - Disabled 1 - Below 1/2 of Min** 2 - Below Min**
15	R/W	Ref. Loss Action**	Anlg Ref Loss Act	x	0 – Fault 1 – Stop (uses selected stop mode) 2 – Hold Speed
16	R/W	PID Mode Select*	PID Mode	x	0 - Direct 1 - Inverse
17	R/W	PID Setpoint Source*	Setpoint Source	x	0 - Keypad 1 - 1A Analog Input 2 - 2A Analog Input 3 - Comms
18	R/W	PID Feedback Source*	Feedback Source	x	0 - 1A Input 1 - 2A Input
19	R/W	PID Feedback Unit*	Feedback Units	x	0 - PSI 1 - GPM 2 - inWC 3 - CFM 4 - inHg 5 - Feet 6 - °F 7 - mBar 8 - Pa 9 - kPa 10 - Meters 11 - °C 12 - Custom 13 - %
20	R/W	Feedback Signal Loss *	Fdbk Loss	x	0 - Disabled 1 - Below 1/2 of Min 2 - Below Min
21	R/W	Feedback Loss Action *	Fdbk Loss Action	x	0 – Fault 1 – Stop (uses selected stop mode) 2 – Hold Speed
22	R/W	Auto Bypass Selection	Auto Bypass	x	0 - Disabled 1 - On VFD Fault 2 - Bypass Comms Loss 3 - VFD Fault & Bypass Comms Loss
24	R/W	Damper	Damper Control	x	0 - Disabled 1 - Damper*



BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
25	R/W	Skip Frequency 1 Selection	Skip Freq 1 Enable	x	0 - Disabled 1 - Enabled*
26	R/W	Skip Frequency 2 Selection	Skip Freq 2 Enable	x	0 - Disabled 1 - Enabled*
27	R/W	Skip Frequency 3 Selection	Skip Freq 3 Enable	x	0 - Disabled 1 - Enabled*
28	R/W	VFD Motor Overload (MOL) Class	VFD MOL	x	0 - Class 5 1 - Class 6 2 - Class 10 3 - Class 20
29	R/W	Bypass Motor Overload (MOL) Class	Bypass MOL	x	0 - Class 5 1 - Class 6 2 - Class 10 3 - Class 20
30	R/W	Dry Input 1 Function	D1-SG Function	x	0 - None 1 - Enable 2 - Fireman's Override 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW 9 - External Trip 10 - Run Forward 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass
31	R/W	Dry Input 1 Contact	D1-SG Input		0 - Normally Open 1 - Normally Closed

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
32	R/W	Dry Input 2 Function	D2-SG Function	x	0 - None 1 - Enable 2 - Fireman's Override 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW 9 - External Trip 10 - Run Forward 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass
33	R/W	Dry Input 2 Contact	D2-SG Input		0 - Normally Open 1 - Normally Closed
34	R/W	Wet Input 1 Function	V1-V2 Function	x	0 - None 1 - Enable 2 - Fireman's Override 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW 9 - External Trip 10 - Run Forward 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass
35	R/W	Wet Input 1 Type	V1-V2 Input		0 - Active High 1 - Active Low

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
36	R/W	Wet Input 2 Function	V3-V4 Function	x	0 - None 1 - Enable 2 - Fireman's Override 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW 9 - External Trip 10 - Run Forward 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass
37	R/W	Wet Input 2 Type	V3-V4 Input		0 - Active High 1 - Active Low
38	R/W	Relay Output Select	O1-O2 Function	x	0 - Fault 1 - Run 2 - Proof of Run
39	R/W	Relay Contact	O1-O2 Output	x	0 - Normally Open 1 - Normally Closed
40	R/W	1A Input Filtering Level	1A Input Filter	x	0 - Low 1 - Medium 2 - High
41	R/W	2A V Input Filtering Level	2A Input Filter	x	0 - Low 1 - Medium 2 - High
42	R/W	2A Output Selection	2A Function	x	0 - Output Frequency 1 - Output Current 2 - DC Bus Voltage
43	R/W	Pre-Heat Mode	Preheat Mode	x	0 - Disabled 1 - Low Heat 2 - Medium Heat 3 - High Heat
44	R/W	No Motor Trip Selection	No Motor Fault	x	0 - Disable 1 - Enable
45	R/W	Stall Prevention	Stall Prevention	x	0 - Disable 1 - Enable
46	R/W	Protocol	Protocol	x	0 - Modbus RTU 2 - BACnet MS/TP
47	R/W	Write Access	Write Access	x	0 - Disabled 1 - Enabled

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
48	R/W	Comms Loss Action	Com Loss Action	x	0 – Fault 1 – Stop (uses selected stop mode) 2 – Hold Speed
49	R/W	Parity/Stop Bits	Modbus RTU	x	0 - None, 2 Stop 1 - Even, 1 Stop 2 - Odd, 1 Stop 3 - None, 1 Stop
50	R/W	Bluetooth Enable	Bluetooth	x	0 - Disable 1 - Enable
51	R	Output Status	Output Status		0 - VFD Off 1 - Accelerate 2 - Decelerate 3 - Steady 4 - Speed search 5 - Flying start 6 - DC Output 7 - Preheat 8 - DC trip prevention 9 - Stall prevention 10 - Bypass off 11 - Bypass run
52	R	System Status	System Status	x	0 - VFD stop 1 - VFD run 2 - VFD disabled 3 - VFD fault 4 - VFD shutdown 5 - VFD fireman's override 6 - VFD auto reset 8 - Power-on delay 12 - Signal loss 14 - PID run 15 - Open damper 18 - Bypass stop 19 - Bypass manual 20 - Bypass override 22 - Bypass auto on fault 23 - Bypass disabled 24 - Bypass fault 25 - Bypass shutdown 27 - Bypass auto on comms loss
56	R/W	Run/Stop			0 - Stop 1 - Run
57	R/W	Reset Fault			0 - None 1 - Reset
58	W	Reset User Settings		x	0 - No 1 - Factory Defaults
60	R/W	Reset Motor Run Time	Motor Run Time	x	0 - No 1 - Yes

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
61	R/W	Reset Wattmeter	Wattmeter	x	0 - No 1 - Yes
62	R	Fault		x	0 - None 1 - Motor Overload (C) 2 - Motor Over Current (C) 3 - VFD Over Current (C) 4 - VFD Over Heat (C) 5 - VFD Short Circuit (C) 6 - Over Voltage (L) 7 - Under Voltage (L) 8 - Input Phase Open (L) 9 - Output Phase Open (L) 10 - No Motor (L) 11 - Incorrect Output Wiring 12 - Power Board Uncalibrated 13 - Ground Fault (L) 21 - Bypass Motor Overload 22 - Bypass Phase Unbalance 23 - Bypass Phase Loss 24 - Bypass Board Error 25 - Bypass Stall 26 - Bypass Max Time 27 - Bypass Ground Fault 28 - Bypass Communications Error 29 - Bypass Contactor 30 - Bypass Current At Power On 31 - Bypass No Motor Current 32 - Bypass Locked Rotor 33 - Bypass Unexpected Current 34 - Bypass No Motor Current 41 - Limit Switch (H) 42 - Damper Overload (L) 43 - Control Reserved 44 - No Flow (L) 45 - External Trip (M) 46 - Power Board Error (M) 47 - Control Board Error (M) 48 - VFD Cooling Fan (L) 50 - Overpressure (A) (P) 51 - BMS Communications Loss (A) 52 - Analog Signal Loss 53 - Transducer Signal Loss (A) 54 - EEPROM Error 55 - Calibration CRC Failed 56 - Bluetooth Key CRC Failed 57 - Invalid Firmware 58 - Option board error

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
69	R/W	Bypass Commanded		x	0 - No 1 - Yes
75	R	Run Command Source	Run Command	x	0 - None 1 - Run 2 -Terminals 3 - 3 Wire 4 - Communication 5 - Mobile
76	R	Speed Reference Source	Speed Reference	x	0 - None 1 - Keypad 2 - Analog 1A 3 - Analog 2A 4 - Communication 5 - Mobile 6 - PID
77	R	1A Type		x	0 - 0-10 V Input 1 - 4-20mA Input
78	R	2A Type		x	0 - 0-10 V Input 1 - 0-10 V Output 2 - 4-20mA Output
80	R/W	DC Trip Prevention	DC Trip Prevent	x	0 - Disabled 1 - Enabled
81	R/W	Torque Boost	Torque Boost	x	0 - Disable 1 - Enable
82	R	Product Type	Product Type	x	0 - VFD 1 - VFD-Bypass
83	R	VFD Model	VFD Model		0 - QLNK-003-DV 1 -QLNK-005-DV 2 -QLNK-009-DV 3 -QLNK-012-DV 4 -QLNK-017-DV 5 -QLNK-024-DV 6 -QLNK-028-DV
84	R	Contactormodel		x	0 - NONE 1 - MRC - 9 2 - MRC - 12 3 - MRC - 18 4 - MRC - 22 5 - MRC - 32
85	R/W	Option Board Enable	Option Board	x	0 - Disabled 1 - Enabled
86	R	Option Board Model		x	0 - None 1 - I/O Expansion

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
87	R/W	Dry Input 3 Function	D3-SG Function	x	0 - None 1 - Enable 2 - Fireman's Override (H) 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW (H) 8 - Flow Switch 9 - External Trip 10 - Run Forward 11 - Run Reverse 12 - 2nd Acc/Dec Time 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass 20- Switch 1A to 3A
88	R/W	Dry Input 3 Contact	D3-SG Input	x	0 - Normally Open 1 - Normally Closed
89	R/W	Dry Input 4 Function	D4-SG Function	x	0 - None 1 - Enable 2 - Fireman's Override (H) 3 - Speed- A 4 - Speed- B 5 - Setpoint-A 6 - Setpoint-B 7 - Damper LSW (H) 8 - Flow Switch 9 - External Trip 10 - Run Forward 11 - Run Reverse 12 - 2nd Acc/Dec Time 13 - 3-Wire Start 14 - 3-Wire Stop 15 - HOA Auto 16 - HOA Hand 17 - Shutdown 18- Fault Reset 19- Bypass 20- Switch 1A to 3A
90	R/W	Dry Input 4 Contact	D4-SG Input	x	0 - Normally Open 1 - Normally Closed
91	R/W	Relay 3 Output Select	O3-O4-O5 Function	x	0 - Fault 1 - Run 2 - Proof of Run

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
93	R	Bluetooth Error	Bluetooth Error	x	0 - None 1 - HW Comms Fail 2 - No "Adv Off" Rsp 3 - No "Cfg" Response 4 - No "Cfg Val" Rsp 5 - No "Write" Rsp 6 - No "Adv On" Rsp 7 - No "LNAME" Rsp 8 - No "SNAME" Rsp 9 - No "Disconnect" Rsp 10 - No "Satus Ok" Rsp 11 - No "Version" Rsp 12 - No "Transparent" Rsp 13 - No "Tx Comp" Rsp 14 - Unexpected Reset 15 - Unexpected Element 16 - Invalid Firmware 17 - No "Exit Trans" Rsp 18 - Procedure Overrun 19 - Not In Trans Mode 20 - No "LBD" Response 21 - No "DCN" Response 22 - FW Upgrade Failure



Positive Integer Objects:

BACnet Object Instance	Read/Write	Full Parameter Name	OLED Display Name	Units	Parameter Setting Range
0	R/W	Rated Motor RPM	Motor RPM	1[RPM]	500 to 3600
1	R/W	Damper/Lube/ScreenClean Delay*	Damper Delay	[sec]	0 to 6000
2	R/W	Feedback Loss Delay *	Fdbk Loss Delay	1[Sec]	0 to 10
3	R/W	Motor Overload (MOL) Level Continuous	VFD MOL Continuous	[%]	50 to 135
4	R/W	2A Output Scaling	2A Output Scaling	1[%]	10 to 200
5	R/W	Stall Level	Stall Level	[%]	30 to 200%
6	R/W	Motor Overcurrent Level	Overcurrent Level	[%]	70 to 200
8	R/W	Critical Faults Number of Auto Retries	Crit Fault Retries	x	0 to 10
9	R/W	Critical Faults Retry Delay	Crit Fault Retry Delay	[Min]	1 to 360
11	R/W	Light Faults Number of Auto Retries	Light Fault Retries	x	0 to 10
12	R/W	Light Faults Retry Delay	Light Fault Retry Delay	[Min]	1 to 360
13	R	Motor Speed	Motor Speed	[RPM]	0 to 3600
14	R	Wattmeter	Wattmeter	[kWh]	0 to 4,294,967,295
15	R	Power-On Time	Power-On Time	Format	0 to 4,294,967,295
16	R	Run time	Motor Run Time	[sec]	0 to 4,294,967,295
19	R/W	BACnet Device Instance	BACnet Device	x	0-4194303
20	R/W	BACnet MAC/ID	BACnet MS/TP MAC Address	x	0 to 127
21	R/W	BACnet Max Master	BACnet MS/TP Max Master	x	0 to 127
40	R	Date/Time	Date		Date and time is formatted using the epoch time. This is the total number of seconds elapsed since 12:00 AM, January 1st, 1970.
41	W	Set Date/Time			
42	R	Serial Number	Serial Number		0 - 99,999,999

