![MacroAir — engineers of air™]

Operation Manual

MacroAir AirLynk
Modbus/BACnet

Table of Contents

Introduction

Caution and Safety

⚠ **ATTENTION: Safety.** READ THE ENTIRE MANUAL BEFORE OPERATING THE FAN. Ensure that all safety practices and instructions are followed during the installation, operation and servicing of the fan. Failure to apply these safety practices could result in death or serious injury. If you do not understand the instructions, please call our Technical Department for guidance.

⚠ **ATTENTION: Qualified Technicians.** All fan controls and incoming power should only be installed by qualified technicians familiar with the requirements of the National Electrical Code (NEC) and local codes. Refer to appropriate portions of this manual for other important requirements. Failure to follow these guidelines will void the manufacturer's warranty.

⚠ **ATTENTION: Code Compliance.** Installation is to be in accordance with the NEC, ANDSI/NFPA 70-1999 and local codes.

Hazard of Electrical Shock, Explosion or Arc Flash:

⚠ **ATTENTION: Read.** Read and understand this manual before installing or operating a fan unit. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.

⚠ **ATTENTION: Code Compliance.** The user is responsible for compliance with all international and National Electrical Code requirements with respect to grounding of all equipment.

⚠ **WARNING: Do Not Touch.** Many of the parts of this unit operate at line voltage. DO NOT TOUCH.

⚠ **WARNING: Covers.** Install all covers before applying power or starting and stopping the unit.

Installation and Service

⚠ **WARNING: Damage.** Do not operate or install any fans or fan accessories that appear to be damaged.

⚠ **WARNING: Death and Injury.** Failure to follow this instruction can result in death, serious injury, or equipment damage.

⚠ **WARNING: Disconnect Power.** If the fan does not operate properly using the procedures in this manual. BE CERTAIN TO REMOVE ALL POWER TO THE UNIT and contact our technical department for further assistance.

⚠ **CAUTION: Moving Parts.** Keep all body parts clear of moving parts at all times.

⚠ **ATTENTION: Qualified Technicians.** All electrical troubleshooting and repair must be done by a qualified technician and meet all applicable codes.

REFER TO FAN INSTALLATION MANUAL(S) FOR FURTHER MAINTENANCE INFORMATION.

Introduction

Fan Network Ordering

It is important to purchase fans that are setup for a network. MacroAir customizes fans to operate in a network by:

- Addressing the fans.

Note: If you did not order your fans for a network, please contact Technical Support for assistance with networking your fans. Also, when installing new fans in an existing mixed network, contact Technical Support.

If you did not order your fans for a network by default, they will all have a default Node Address, and you will be missing necessary materials. Contact technical support to modify your fans when installing for networking.

Modbus/BACnet Nomenclature

⚠ **ATTENTION: For purposes of this manual the following shall be true:**

- It shall be recognized that where this manual indicates "BACnet" it shall be recognized as "Modbus/BACnet".

- It shall be recognized that where this manual indicates "BACnet IP" it shall also be recognized as "Modbus TCP/IP".

- It shall be recognized that where this manual indicates "BACnet MSTP" it shall also be recognized as "Modbus RTU".

Introduction

AirLynk Enclosure

Dimensions

Components

To Fan

BacNet IP

BacNet MSTP

Fire Disconnect

Power In

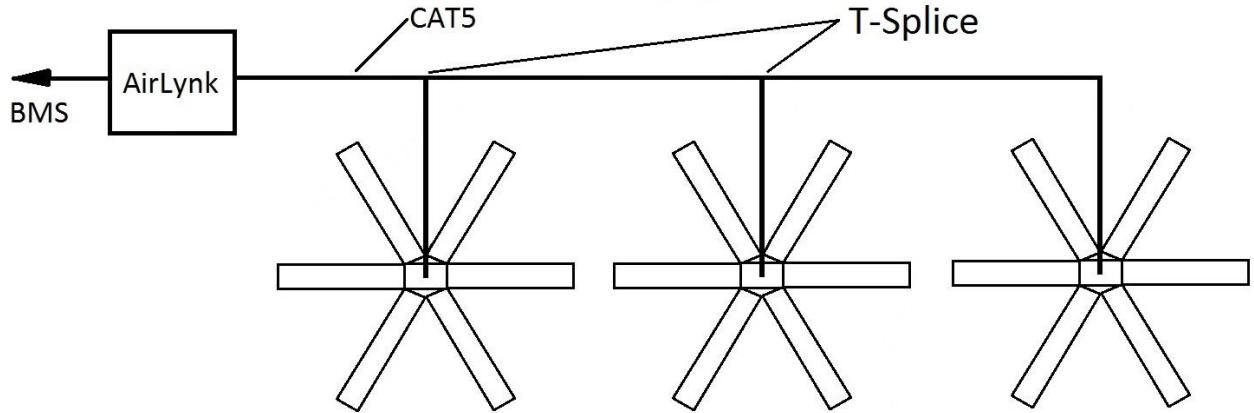To Fan

BacNet IP

BacNet MSTP
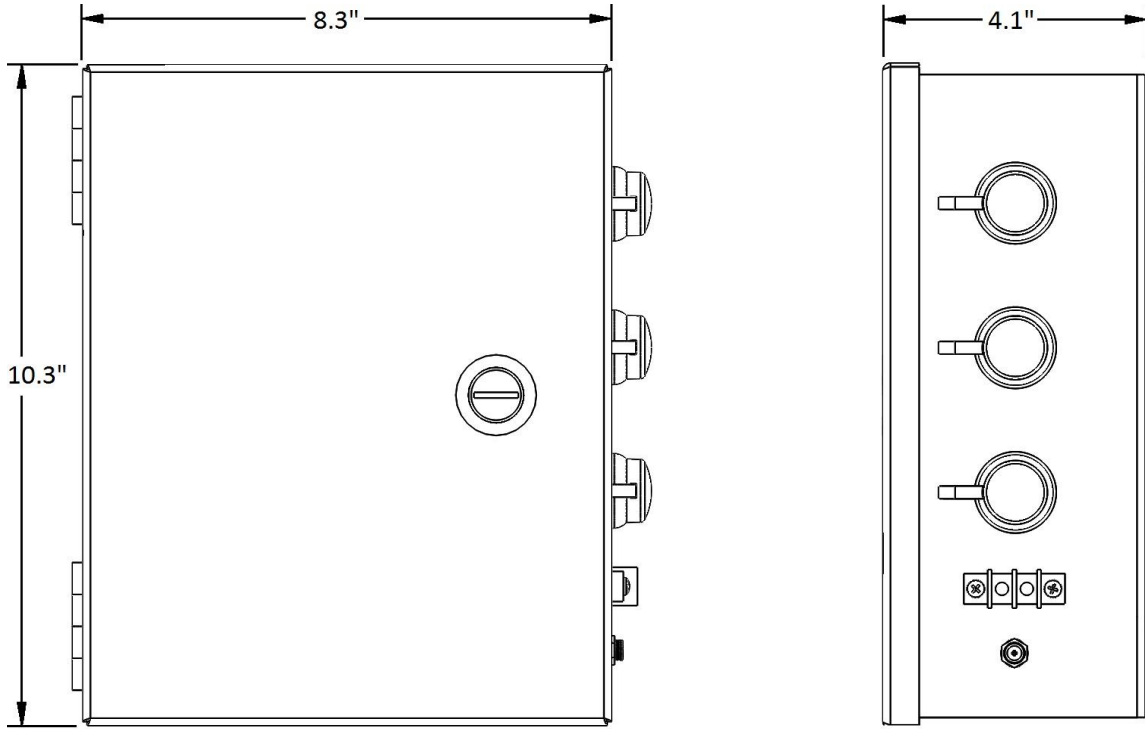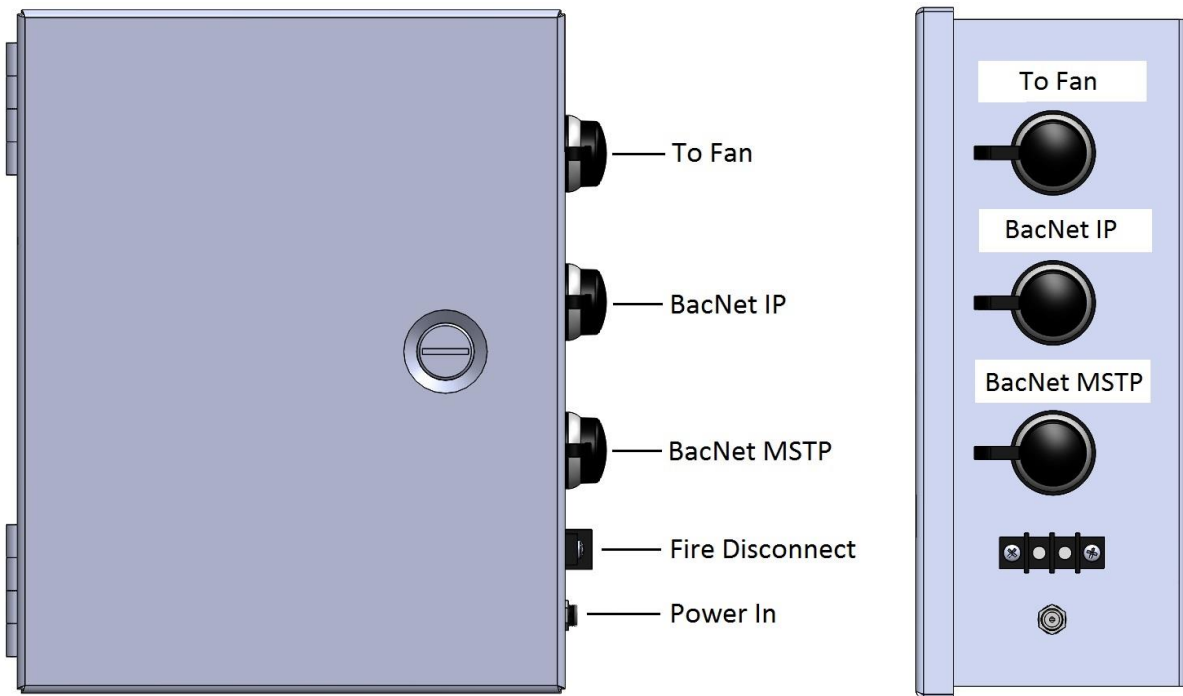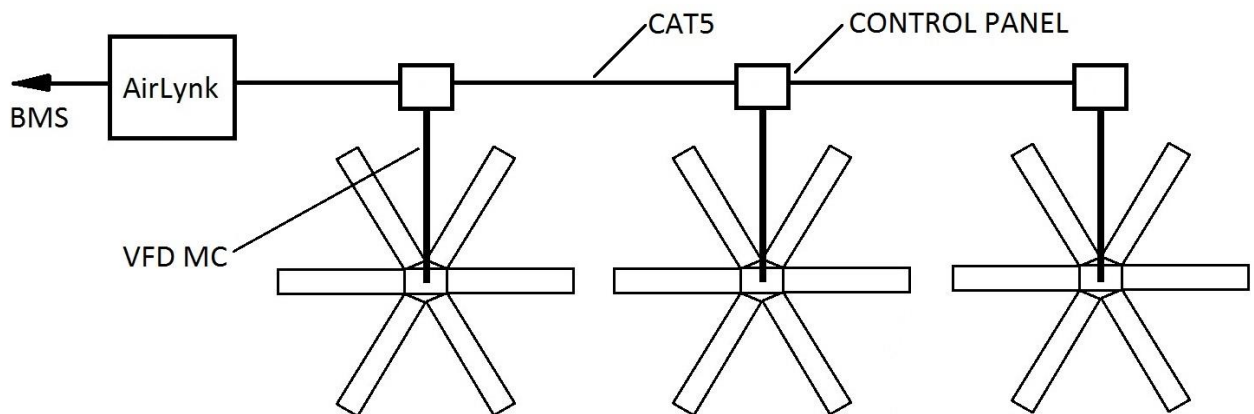
Network Installation

Network Wiring Instructions

Refer to the appropriate fan installation manual for specific networking instructions.

Legacy Fan AVD 370L

All other fans referenced in this manual

Network Installation

Network Wiring Requirements

- **Use Stranded Twisted Pair, CAT5e (or higher grade) shielded cable**
- Minimum 24 AWG (0.5mm) cross section
- Route wires as far away as possible from high voltage AC cables, fluorescent lights, arc welders, and other equipment that transmits EMI (electromagnetic interference).

For Legacy AVD 370L Fans:
- Ground the shielding and drain wire at only one point of the cable run

Daisy Chain

Networked MacroAir fans must be connected in one single line, referred to in this document as a **"daisy chain".** The characteristics of a proper daisy chain are: **one beginning** (AirLynk) and **one end** (last fan).

If the fans are not connected in one line/chain, there will be a de-graduation of the communication signal and the network may not function as intended (fans in the network may not operate).
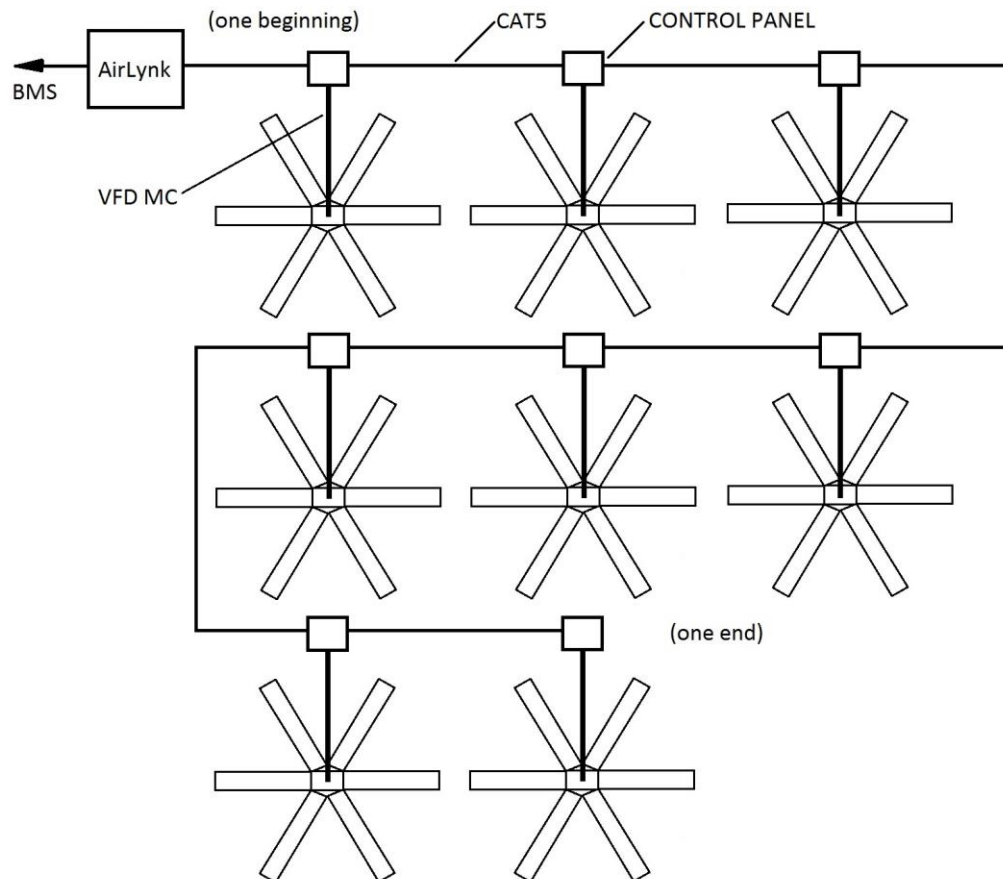
☐ - Control Panel

VFD MC - Motor Control Cable (supplied with Fan by MacroAir)

Network Installation

Improper Wiring Configuration

End of Line x3   End of Line x8

Proper Wiring Configuration

ONE End of Line
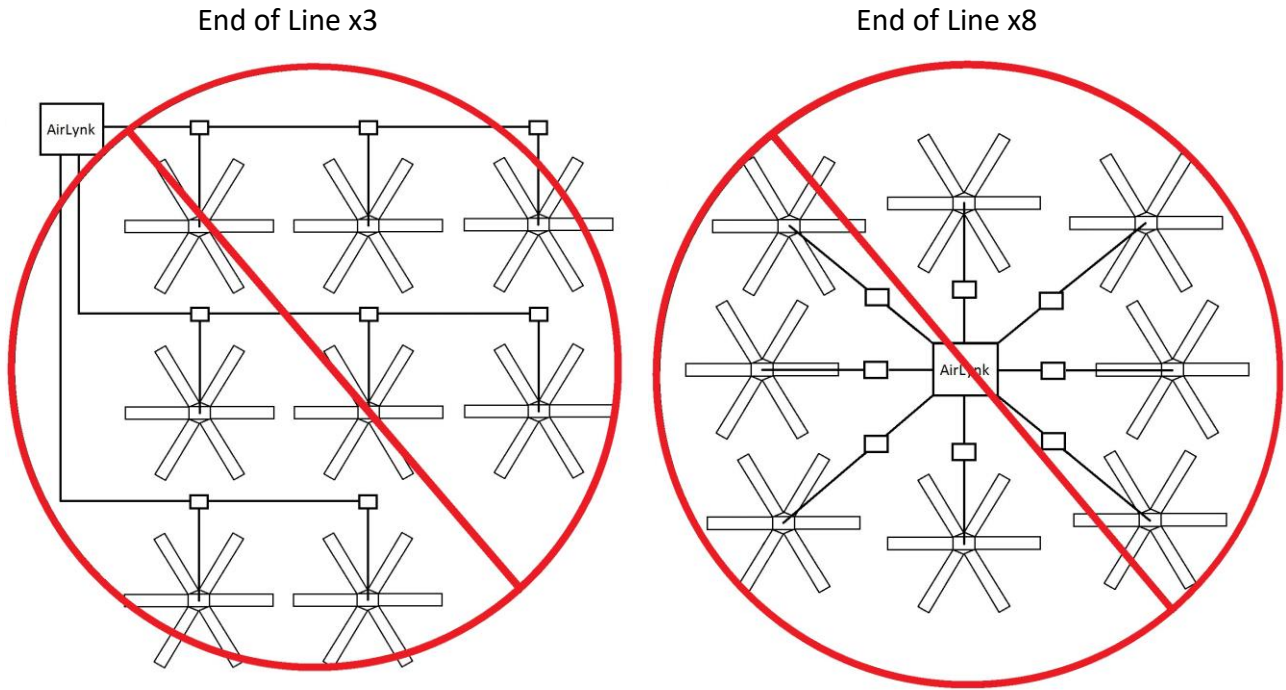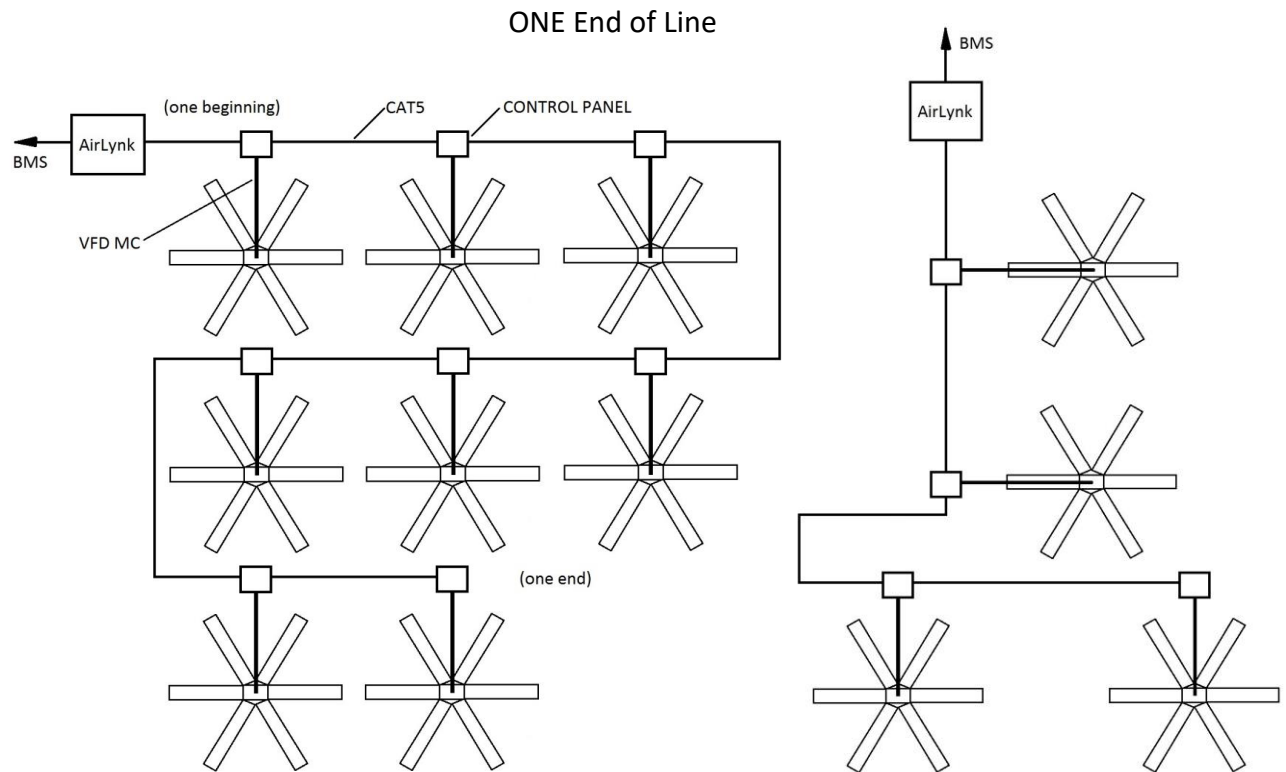
Network Installation

Excess Cable at Connection Point

With noise being emitted throughout a typical industrial/commercial environment, **extra cable should not be coiled up** as the coil itself will create noise/interference in the communication signal. There should be no more than two feet of excess cable at each connection point.

If more than two feet of cable is needed for future relocation of the fan, run the cable up toward the ceiling and back down in a horseshoe shape.

ALWAYS AVOID SHARP BENDS OF THE CABLE.
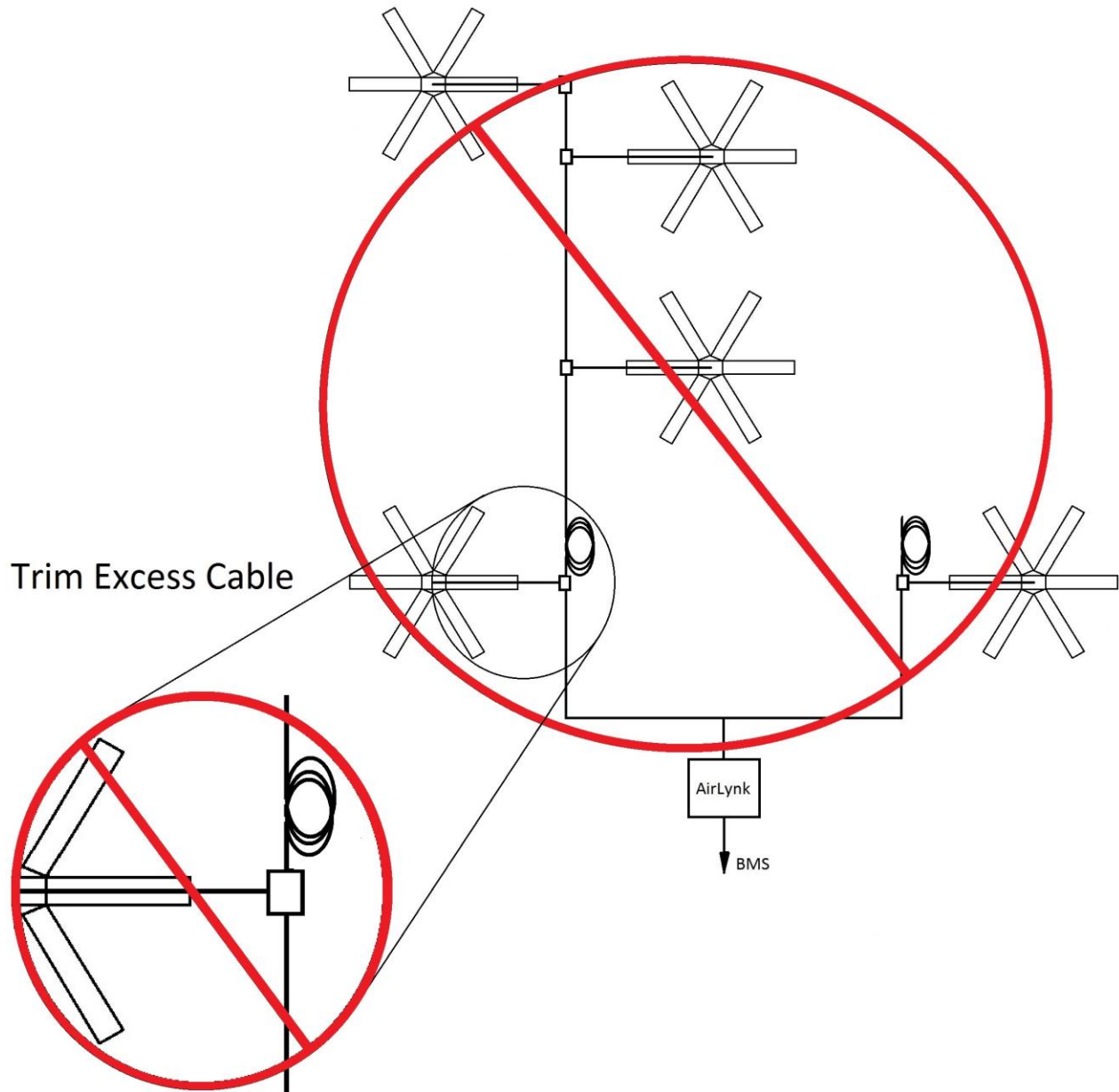
Wiring Diagrams
Wiring: CAT5E Pin-Out

CAT5E-B to MacroAir Equipment Pin-Out

CAT5E pinout

PIN #		Color Code	Assignment
RJ-45	1	White/Orange	Fire Alarm -
	2	Orange	Fire Alarm +
	3	White/Green	Extra
	4	Blue	Data +
	5	White/Blue	Data -
	6	Green	Extra
	7	White/Brown	+ volt D.C.
	8	Brown	Ground

Note: For Fire Alarm assignment, networks with AVDX Series fans and mixed fan networks which have one or more AVDX Series Fans, use the blue & white/blue pair.

Wiring Diagrams

Wiring: Airlynk

CN20
(ETHERNET)

CN10
(POWER IN)

+ -

OK

CN19
(RS485-1)

+ - GS

BLUE
BLUE/WHITE
BROWN

CN1
(RS485-2)

+ - GS

BLUE
BLUE/WHITE
BROWN

BLACK
RED

ORANGE
ORANGE/WHITE

TO FAN

BACNET IP

BACNET MS/TP

ALL CONNECTIONS
ARE CAT5E-B

TO PC FOR WEB
CONFIGURATION

TERM BLOCK

JUMPER

FIRE DISCONNECT
N.C. RELAY

+
-

POWER IN

12-24 VAC
-OR-
9-30 VDC

Power
Supply

ENCLOSURE
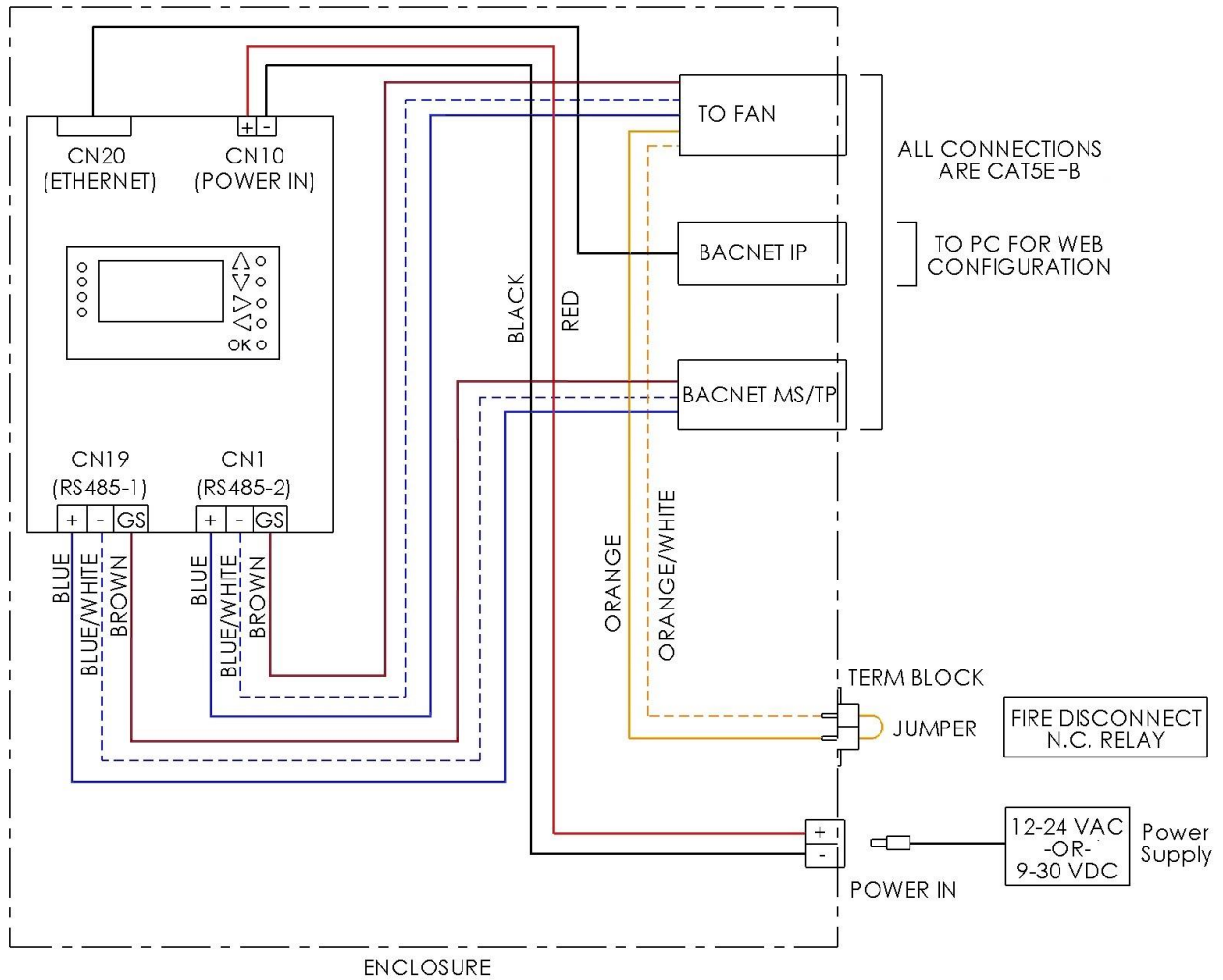
A Quick Start Guide

PLC STARTUP

Basic navigation around the PLC display

1. Use the up $\wedge$, down $\vee$, left $\triangleleft$, and right $\triangleright$ arrows to navigate through the options on the screen.

2. Press OK to select the currently highlighted option (takes you to another screen or allows you to edit the selected value).

3. If the option is editable, you will then be able to edit it using the up and down arrows. To get to the next digit press the left or right arrows. When you are done editing, press OK to set the value.

NOTE: The fans will be auto discovered each time the PLC is powered on. Setting the fans through the web browser will ensure that the PLC knows there is a fan at that address.

Main Page 1 and 2

```
0.0  Main Page 1    >

    Fan Network Setup

    Fan Blade Settings

    Run All Fans
```

```
<      Main Page 2

        IP Setup

        MSTP Setup
Curr
  IP    0   0   0    0
```
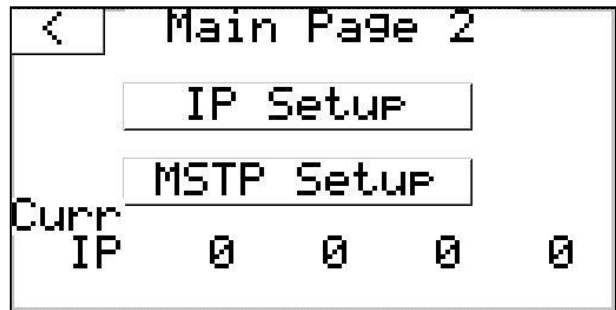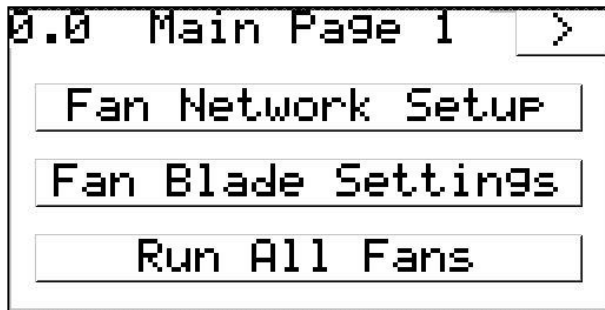
A Quick Start Guide, cont.

Fan Setup (Optional)

1. Select "Fan Network Setup".

2. Check each fan that is on the network (See Fig. 1 Fan Values Table) to ensure that the PLC found all the fans.

#	Fan Type
0	No Fan
1	AVD-3 L
2	AVD 550
3	AVD 780
4	AVD 370 L
5	Y Series
6	AVD S
7	X Series
8	AVD 370
9	AVD 3
10	AVD 6
30	Local Override

Older Model Legacy Fans (1–4)

AVD 550, AVD 780, AVD-3L Retrofitted w/Schneider Drive (6)
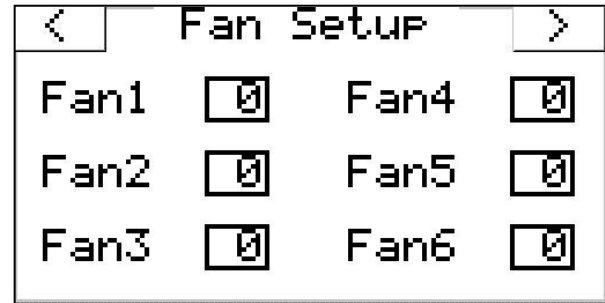
Fig. 1: Fan Values Table

3. Return to "Main Page 1" and select Fan Blade Settings.
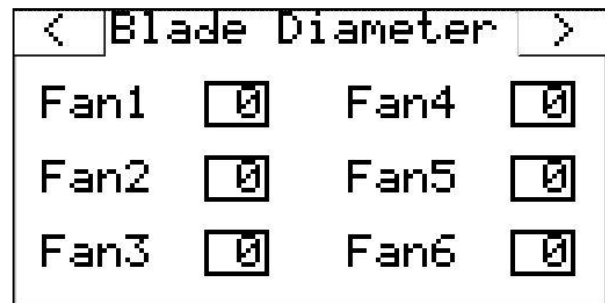
4. Optional: Set blade sizes (diameter) for each fan on the network (can be done through BACnet).

5. Run all fans to ensure fan functionality
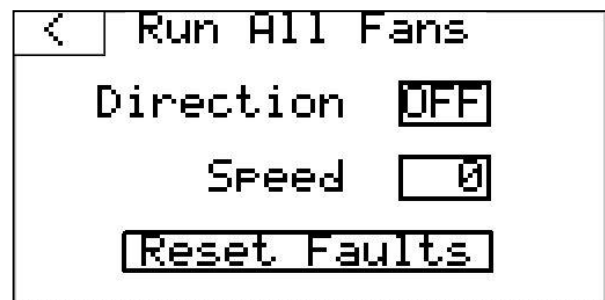
Configuration and Operation
A Quick Start Guide, cont.

BACnet MSTP setup

1. Use the up and down arrows on the right to navigate to "Main Page 2"
   from "Main Page 1" by selecting [>]

2. Select "MSTP Setup" on "Main Page 2"

3. From "MSTP Settings" you can set the various settings needed to operate the fans
   through BACnet MSTP

   Proto - Protocol (BACn for BACnet MSTP)
   Modb – Modbus RTU
   Baud - Baudrate of the protocol
   Addr - Address of the PLC
   Data - Data bit number
   Pari - Parity (Nul-None, Odd, Eve-Even)
   Stop - Stop bit

   ```
   <  | MSTP Settings |  >

   Proto UNET Data [   0 ]

   Baud [   9.6 ] Pari Nul

   Addr [   0 ]    Stop [   0 ]
   ```

   Dev ID - ID that is displayed on BACnet end
   Subnet - Subnet that the device is on

   ```
   <  |   MSTP Settings

   Dev ID      [   0 ]

   Subnet      [   0 ]
   ```
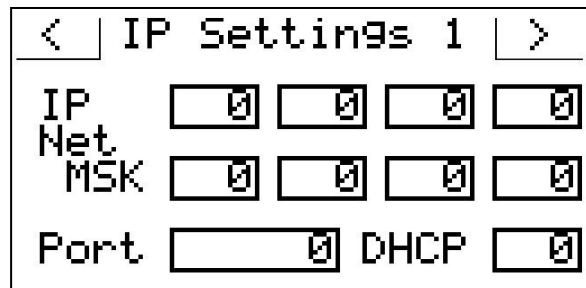
Configuration and Operation
A Quick Start Guide, cont.

BACnet IP setup

Note: If MSTP is set to BACn, BACnet IP will not work.

1. Use the up and down arrows on the right to navigate to "Main Page 2" from "Main Page 1" by selecting ⟩

2. Select "IP Setup" on "Main Page 2"

3. From "IP Settings" you can set the various settings needed to operate the fans through BACnet IP

IP - IP address
Net MSK - Net Mask
Port - BACnet/IP port (0= port 47808)
DHCP - Enabled/Disable DHCP
    (1) Enabled, (0) Disable
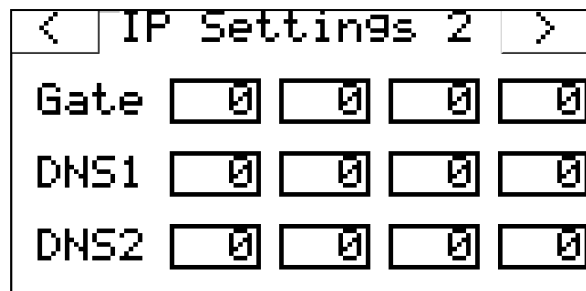
Gate - Default Gateway
DNS1/2 - DNS server
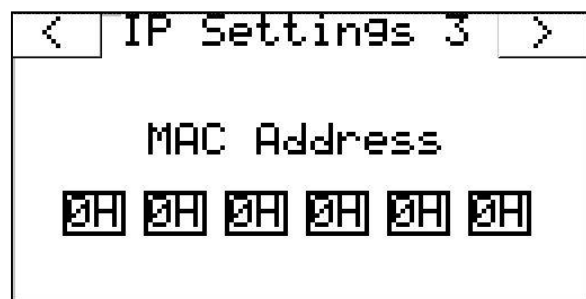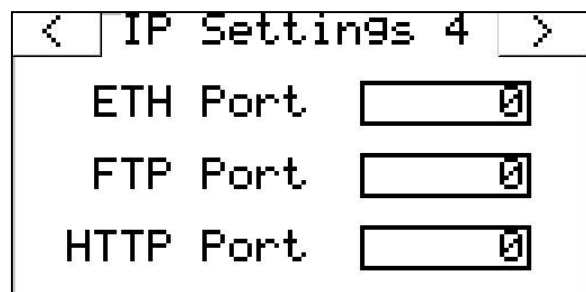
MAC address of device

ETH - TCP/IP Port number
FTP - FTP Port number (0=port 21)
HTTP - HTTP port number (0=port 80)

Configuration and Operation

Certifications

BTL Mark – BACNET TESTING LABORATORY

    The BTL Mark on PLC is a symbol that indicates that a product has passed a series of rigorous tests conducted by an independent laboratory which verifies that the product correctly implements the BACnet features claimed in the listing. The mark is a symbol of a high-quality BACnet product. Go to **http://www.BACnetInternational.net/blt/** for more information about the BACnet Testing Laboratory. Click here for BACnet PIC Statement.

Configuration and Operation

Introduction

1. **PLC Gateway**

   Auto-Discovery (Every Power-up): Supported RS-485 devices can be automatically detected and identified for addition to the PLC's configuration.

   Web Configurator (Retains through Power Cycle): For RS-485 devices that are not supported by Auto-Discovery, use the embedded tool, which is accessed with a browser, referred to in this manual as the Web Configurator. Select the device(s) from a drop-down list of known profiles and assign at the stated Modbus address.

Manual Calibration

2. **Blade Sizes and Motor Calibration**

Blade sizes on fans must be done manually. This includes the Legacy AVD 550, AVD 780 and AVD-3L installed with a "Trust" drive, and the AVD S Retrofitted Legacy Fans. Only the Legacy AVD 550 and AVD-3L installed with an "ETM" drive do not need to set blade size.
Note: You may perform an "Auto Discover" on your "web" browser or on the Airlynk to determine your fan drive type.

Motor calibration must be done on AVDX and the AVD S Retrofitted Legacy Fans.
Note: Motor Calibration is NOT required for new model AVD370, AVD3, AVD6 fans and Legacy AVD-3L, AVD 550, AVD 780 fans.

Blade Size: Use the fan control points AV 121-150 (pg. 25) to set the blade size.
- 8-24 for 6-Blade fans.
- 308-324 for 3-Blade fans.

Motor Calibration: Use the control point AV 154 to select the fan number you want to calibrate and set control point AV 158 to a '1' to perform a motor calibration of the selected fan.

BACnet Setup

3. **Configuring Device Communications**

   Set Modbus RTU Node-ID for each of the devices attached to the PLC.
   - Set Modbus Node-ID for each of the devices attached to PLC. The Modbus Node-ID's need to be uniquely assigned between 1 and 30.

   - The Modbus Node-ID that is assigned for each device needs to be documented.
   - The Modbus Node-ID's assigned are used for designating the Device Instance for BACnet/IP and BACnet MS/TP

   - The Modbus TCP/IP Node-ID will be set to the same value as the Node-ID of the Modbus RTU device.

Interfacing PLC To Devices

4. **Fan Connections to PLC (CN1)**

Device Pins	PLC Pin #	Pin Assignment CN1
Pin RS-485 +	Pin1	RS-485-2 +
Pin RS-485 -	Pin 2	RS-485-2 -
Pin GND	Pin 3	RS-485-2 GS

Figure 3: Power and RS-485 Connections (ref pg. 10)
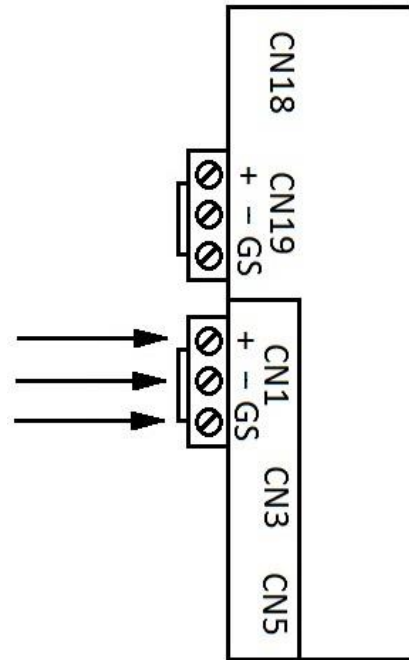
5. **Wiring Field Port to a BACnet MSTP BMS (CN19)**

BMS RS-485 Wiring	PLC Pin #	Pin Assignment CN19
RS-485 +	Pin 1	RS-485-1 +
RS-485 -	Pin 2	RS-485-1 -
-	Pin 3	RS-485-1 GS

Figure 4: Connection from PLC to RS-485 Field Network (ref pg. 10)

6.   Ethernet Control (CN20)
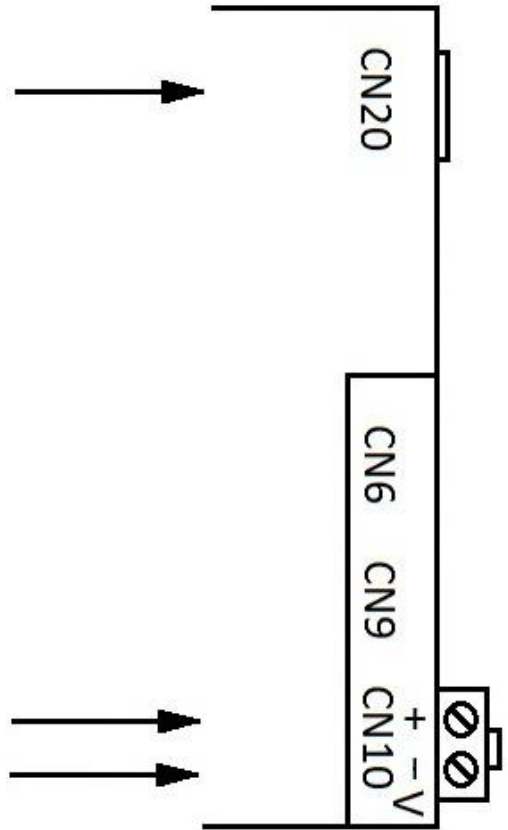
7.   Power-up PLC (CN10)

Power to PLC	PLC Pin #	Pin Assignment CN10
Power In (+)	Pin 4	V +
Power In (-)	Pin 5	V -

Figure 6: Power Connections (ref pg. 10)

Configuration and Operation
PLC's Web Configurator

To Select Device Profiles

1. **Connect the PC via the Ethernet Port**

   - Connect a CAT5 Ethernet cable (Straight through or Cross-over) from PC to BACnet on AirLynk panel.

     The Default IP Address of PLC is 192.168.1.100, Subnet mask is 255.255.255.0. If the PC and PLC are on different IP Networks, assign a static IP Address to the PC on the 192.168.1.xxx network.

   - For instructions on how to navigate your operating system to set up an IP address, and subnet mask contact your system administrator.

2. **Connecting to Web Configurator**

   - After Setting your PC to be on the same subnet as the PLC (Instruction 1. Connect to PC), open a web browser on your PC and enter the IP address of the PLC; the default address is 192.168.1.100

   - If the IP address of the PLC has been changed by a previous configuration, you will need to get the assigned IP address from display (Page 11, Main Page 2 Curr IP).

3. **Selecting Profiles for Devices Connected to PLC**

Appendices

Appendix A. Modbus + BACnet Control Points

Modbus	AV	Name	Description	Values
10100	0	AllFanReset	Reset the faults on every fan	1 to reset
8960	1	FanSpeed1	Sets the speed of fan 1	0-100%
8961	2	FanSpeed2	Sets the speed of fan 2	0-100%
8962	3	FanSpeed3	Sets the speed of fan 3	0-100%
8963	4	FanSpeed4	Sets the speed of fan 4	0-100%
8964	5	FanSpeed5	Sets the speed of fan 5	0-100%
8965	6	FanSpeed6	Sets the speed of fan 6	0-100%
8966	7	FanSpeed7	Sets the speed of fan 7	0-100%
8967	8	FanSpeed8	Sets the speed of fan 8	0-100%
8968	9	FanSpeed9	Sets the speed of fan 9	0-100%
8969	10	FanSpeed10	Sets the speed of fan 10	0-100%
8970	11	FanSpeed11	Sets the speed of fan 11	0-100%
8971	12	FanSpeed12	Sets the speed of fan 12	0-100%
8972	13	FanSpeed13	Sets the speed of fan 13	0-100%
8973	14	FanSpeed14	Sets the speed of fan 14	0-100%
8974	15	FanSpeed15	Sets the speed of fan 15	0-100%
8975	16	FanSpeed16	Sets the speed of fan 16	0-100%
8976	17	FanSpeed17	Sets the speed of fan 17	0-100%
8977	18	FanSpeed18	Sets the speed of fan 18	0-100%
8978	19	FanSpeed19	Sets the speed of fan 19	0-100%
8979	20	FanSpeed20	Sets the speed of fan 20	0-100%
8980	21	FanSpeed21	Sets the speed of fan 21	0-100%
8981	22	FanSpeed22	Sets the speed of fan 22	0-100%
8982	23	FanSpeed23	Sets the speed of fan 23	0-100%
8983	24	FanSpeed24	Sets the speed of fan 24	0-100%
8984	25	FanSpeed25	Sets the speed of fan 25	0-100%
8985	26	FanSpeed26	Sets the speed of fan 26	0-100%
8986	27	FanSpeed27	Sets the speed of fan 27	0-100%
8987	28	FanSpeed28	Sets the speed of fan 28	0-100%
8988	29	FanSpeed29	Sets the speed of fan 29	0-100%
8989	30	FanSpeed30	Sets the speed of fan 30	0-100%

Appendices

Appendix A. Modbus + BACnet Control Points, cont.

Modbus	AV	Name	Description	Values
9050	31	FanDir1	Sets the direction of fan 1	0-Off 1-Forward 2-Reverse
9051	32	FanDir2	Sets the direction of fan 2	0-Off 1-Forward 2-Reverse
9052	33	FanDir3	Sets the direction of fan 3	0-Off 1-Forward 2-Reverse
9053	34	FanDir4	Sets the direction of fan 4	0-Off 1-Forward 2-Reverse
9054	35	FanDir5	Sets the direction of fan 5	0-Off 1-Forward 2-Reverse
9055	36	FanDir6	Sets the direction of fan 6	0-Off 1-Forward 2-Reverse
9056	37	FanDir7	Sets the direction of fan 7	0-Off 1-Forward 2-Reverse
9057	38	FanDir8	Sets the direction of fan 8	0-Off 1-Forward 2-Reverse
9058	39	FanDir9	Sets the direction of fan 9	0-Off 1-Forward 2-Reverse
9059	40	FanDir10	Sets the direction of fan 10	0-Off 1-Forward 2-Reverse
9060	41	FanDir11	Sets the direction of fan 11	0-Off 1-Forward 2-Reverse
9061	42	FanDir12	Sets the direction of fan 12	0-Off 1-Forward 2-Reverse
9062	43	FanDir13	Sets the direction of fan 13	0-Off 1-Forward 2-Reverse
9063	44	FanDir14	Sets the direction of fan 14	0-Off 1-Forward 2-Reverse
9064	45	FanDir15	Sets the direction of fan 15	0-Off 1-Forward 2-Reverse
9065	46	FanDir16	Sets the direction of fan 16	0-Off 1-Forward 2-Reverse
9066	47	FanDir17	Sets the direction of fan 17	0-Off 1-Forward 2-Reverse
9067	48	FanDir18	Sets the direction of fan 18	0-Off 1-Forward 2-Reverse
9068	49	FanDir19	Sets the direction of fan 19	0-Off 1-Forward 2-Reverse
9069	50	FanDir20	Sets the direction of fan 20	0-Off 1-Forward 2-Reverse
9070	51	FanDir21	Sets the direction of fan 21	0-Off 1-Forward 2-Reverse
9071	52	FanDir22	Sets the direction of fan 22	0-Off 1-Forward 2-Reverse
9072	53	FanDir23	Sets the direction of fan 23	0-Off 1-Forward 2-Reverse
9073	54	FanDir24	Sets the direction of fan 24	0-Off 1-Forward 2-Reverse
9074	55	FanDir25	Sets the direction of fan 25	0-Off 1-Forward 2-Reverse
9075	56	FanDir26	Sets the direction of fan 26	0-Off 1-Forward 2-Reverse
9076	57	FanDir27	Sets the direction of fan 27	0-Off 1-Forward 2-Reverse
9077	58	FanDir28	Sets the direction of fan 28	0-Off 1-Forward 2-Reverse
9078	59	FanDir29	Sets the direction of fan 29	0-Off 1-Forward 2-Reverse
9079	60	FanDir30	Sets the direction of fan 30	0-Off 1-Forward 2-Reverse

Appendices

Appendix A. Modbus + BACnet Control Points, cont.

Modbus	AV	Name	Description	Values
9355	61	FanRPM1	Shows the RPM/output current of fan 1	0.1 RPM (AVD)/0.1A (VFD)
9356	62	FanRPM2	Shows the RPM/output current of fan 2	0.1 RPM (AVD)/0.1A (VFD)
9357	63	FanRPM3	Shows the RPM/output current of fan 3	0.1 RPM (AVD)/0.1A (VFD)
9358	64	FanRPM4	Shows the RPM/output current of fan 4	0.1 RPM (AVD)/0.1A (VFD)
9359	65	FanRPM5	Shows the RPM/output current of fan 5	0.1 RPM (AVD)/0.1A (VFD)
9360	66	FanRPM6	Shows the RPM/output current of fan 6	0.1 RPM (AVD)/0.1A (VFD)
9361	67	FanRPM7	Shows the RPM/output current of fan 7	0.1 RPM (AVD)/0.1A (VFD)
9362	68	FanRPM8	Shows the RPM/output current of fan 8	0.1 RPM (AVD)/0.1A (VFD)
9363	69	FanRPM9	Shows the RPM/output current of fan 9	0.1 RPM (AVD)/0.1A (VFD)
9364	70	FanRPM10	Shows the RPM/output current of fan 10	0.1 RPM (AVD)/0.1A (VFD)
9365	71	FanRPM11	Shows the RPM/output current of fan 11	0.1 RPM (AVD)/0.1A (VFD)
9366	72	FanRPM12	Shows the RPM/output current of fan 12	0.1 RPM (AVD)/0.1A (VFD)
9367	73	FanRPM13	Shows the RPM/output current of fan 13	0.1 RPM (AVD)/0.1A (VFD)
9368	74	FanRPM14	Shows the RPM/output current of fan 14	0.1 RPM (AVD)/0.1A (VFD)
9369	75	FanRPM15	Shows the RPM/output current of fan 15	0.1 RPM (AVD)/0.1A (VFD)
9370	76	FanRPM16	Shows the RPM/output current of fan 16	0.1 RPM (AVD)/0.1A (VFD)
9371	77	FanRPM17	Shows the RPM/output current of fan 17	0.1 RPM (AVD)/0.1A (VFD)
9372	78	FanRPM18	Shows the RPM/output current of fan 18	0.1 RPM (AVD)/0.1A (VFD)
9373	79	FanRPM19	Shows the RPM/output current of fan 19	0.1 RPM (AVD)/0.1A (VFD)
9374	80	FanRPM20	Shows the RPM/output current of fan 20	0.1 RPM (AVD)/0.1A (VFD)
9375	81	FanRPM21	Shows the RPM/output current of fan 21	0.1 RPM (AVD)/0.1A (VFD)
9376	82	FanRPM22	Shows the RPM/output current of fan 22	0.1 RPM (AVD)/0.1A (VFD)
9377	83	FanRPM23	Shows the RPM/output current of fan 23	0.1 RPM (AVD)/0.1A (VFD)
9378	84	FanRPM24	Shows the RPM/output current of fan 24	0.1 RPM (AVD)/0.1A (VFD)
9379	85	FanRPM25	Shows the RPM/output current of fan 25	0.1 RPM (AVD)/0.1A (VFD)
9380	86	FanRPM26	Shows the RPM/output current of fan 26	0.1 RPM (AVD)/0.1A (VFD)
9381	87	FanRPM27	Shows the RPM/output current of fan 27	0.1 RPM (AVD)/0.1A (VFD)
9382	88	FanRPM28	Shows the RPM/output current of fan 28	0.1 RPM (AVD)/0.1A (VFD)
9383	89	FanRPM29	Shows the RPM/output current of fan 29	0.1 RPM (AVD)/0.1A (VFD)
9384	90	FanRPM30	Shows the RPM/output current of fan 30	0.1 RPM (AVD)/0.1A (VFD)

Appendices

Appendix A. Modbus + BACnet Control Points, cont.

Modbus	AV	Name	Description	Values
8990	91	FanFault1	Displays the fault of fan 1	
8991	92	FanFault2	Displays the fault of fan 2	
8992	93	FanFault3	Displays the fault of fan 3	
8993	94	FanFault4	Displays the fault of fan 4	
8994	95	FanFault5	Displays the fault of fan 5	
8995	96	FanFault6	Displays the fault of fan 6	
8996	97	FanFault7	Displays the fault of fan 7	
8997	98	FanFault8	Displays the fault of fan 8	
8998	99	FanFault9	Displays the fault of fan 9	
8999	100	FanFault10	Displays the fault of fan 10	
9000	101	FanFault11	Displays the fault of fan 11	
9001	102	FanFault12	Displays the fault of fan 12	
9002	103	FanFault13	Displays the fault of fan 13	
9003	104	FanFault14	Displays the fault of fan 14	
9004	105	FanFault15	Displays the fault of fan 15	
9005	106	FanFault16	Displays the fault of fan 16	
9006	107	FanFault17	Displays the fault of fan 17	
9007	108	FanFault18	Displays the fault of fan 18	
9008	109	FanFault19	Displays the fault of fan 19	
9009	110	FanFault20	Displays the fault of fan 20	
9010	111	FanFault21	Displays the fault of fan 21	
9011	112	FanFault22	Displays the fault of fan 22	
9012	113	FanFault23	Displays the fault of fan 23	
9013	114	FanFault24	Displays the fault of fan 24	
9014	115	FanFault25	Displays the fault of fan 25	
9015	116	FanFault26	Displays the fault of fan 26	
9016	117	FanFault27	Displays the fault of fan 27	
9017	118	FanFault28	Displays the fault of fan 28	
9018	119	FanFault29	Displays the fault of fan 29	
9019	120	FanFault30	Displays the fault of fan 30	

Appendices

Appendix A. Modbus + BACnet Control Points, cont.

Modbus	AV	Name	Description	Values
9170	121	FanSize1	Sets the diameter of fan 1	8-24ft (For 3 blade add 300)
9171	122	FanSize2	Sets the diameter of fan 2	8-24ft (For 3 blade add 300)
9172	123	FanSize3	Sets the diameter of fan 3	8-24ft (For 3 blade add 300)
9173	124	FanSize4	Sets the diameter of fan 4	8-24ft (For 3 blade add 300)
9174	125	FanSize5	Sets the diameter of fan 5	8-24ft (For 3 blade add 300)
9175	126	FanSize6	Sets the diameter of fan 6	8-24ft (For 3 blade add 300)
9176	127	FanSize7	Sets the diameter of fan 7	8-24ft (For 3 blade add 300)
9177	128	FanSize8	Sets the diameter of fan 8	8-24ft (For 3 blade add 300)
9178	129	FanSize9	Sets the diameter of fan 9	8-24ft (For 3 blade add 300)
9179	130	FanSize10	Sets the diameter of fan 10	8-24ft (For 3 blade add 300)
9180	131	FanSize11	Sets the diameter of fan 11	8-24ft (For 3 blade add 300)
9181	132	FanSize12	Sets the diameter of fan 12	8-24ft (For 3 blade add 300)
9182	133	FanSize13	Sets the diameter of fan 13	8-24ft (For 3 blade add 300)
9183	134	FanSize14	Sets the diameter of fan 14	8-24ft (For 3 blade add 300)
9184	135	FanSize15	Sets the diameter of fan 15	8-24ft (For 3 blade add 300)
9185	136	FanSize16	Sets the diameter of fan 16	8-24ft (For 3 blade add 300)
9186	137	FanSize17	Sets the diameter of fan 17	8-24ft (For 3 blade add 300)
9187	138	FanSize18	Sets the diameter of fan 18	8-24ft (For 3 blade add 300)
9188	139	FanSize19	Sets the diameter of fan 19	8-24ft (For 3 blade add 300)
9189	140	FanSize20	Sets the diameter of fan 20	8-24ft (For 3 blade add 300)
9190	141	FanSize21	Sets the diameter of fan 21	8-24ft (For 3 blade add 300)
9191	142	FanSize22	Sets the diameter of fan 22	8-24ft (For 3 blade add 300)
9192	143	FanSize23	Sets the diameter of fan 23	8-24ft (For 3 blade add 300)
9193	144	FanSize24	Sets the diameter of fan 24	8-24ft (For 3 blade add 300)
9194	145	FanSize25	Sets the diameter of fan 25	8-24ft (For 3 blade add 300)
9195	146	FanSize26	Sets the diameter of fan 26	8-24ft (For 3 blade add 300)
9196	147	FanSize27	Sets the diameter of fan 27	8-24ft (For 3 blade add 300)
9197	148	FanSize28	Sets the diameter of fan 28	8-24ft (For 3 blade add 300)
9198	149	FanSize29	Sets the diameter of fan 29	8-24ft (For 3 blade add 300)
9199	150	FanSize30	Sets the diameter of fan 30	8-24ft (For 3 blade add 300)

Appendices

Appendix A. Modbus + BACnet Control Points, cont.

Modbus	AV	Name	Description	Values
10130	151	AllFanDir	Sets the direction of all the fans	0-Off 1-Forward 2-Reverse
10131	152	AllFanSpeed	Sets the speed of all the fans	0-100%
10132	153	AllFanSend	Sends the all fan speed and direction	1 to send
9204	154	FanOn	Select individual fan to set	Fan 1-30
9202	155	FanDir	Set the direction of the selected fan	0-Off 1-Forward 2-Reverse
9203	156	FanSpeed	Set the speed of the selected fan	0-100%
9201	157	FanSend	Send the speed and direction of the selected fan	1 to send
9215	158	MotorCal	Run motor calibration on selected fan	1 to send
10134	159	FanScanning	AirLynk is looking for fans	1 scan in progress, 0 scan complete

Appendix B. Warranty

MacroAir warrants the Products listed in the table below will be free from defects in materials and workmanship under normal use and maintenance for the applicable Warranty Period. Other than the Warranty set forth in this document, no other written or oral warranties apply, and no employee, agent, dealer, or other person is authorized to give any other warranties on behalf of MacroAir.

START DATE OF WARRANTY COVERAGE

Warranty Period begins fifteen (15) days following shipment of the Product, or on the date the Product is installed (not to exceed sixty (60) days Customer receives the Product), whichever date is later. Customer should retain necessary documentation to verify the date of receipt and installation of the Product. Customer will be required to produce this documentation in order to obtain Warranty services from MacroAir. The Warranty specified herein applies only to Products purchased on or after April 15, 2021.

PRODUCTS AND SYSTEMS COVERED BY THIS WARRANTY AND APPLICABLE WARRANTY PERIODS:

Fan Type	Mechanical: Blades, Hub & Frame	Standard Electrical[1]: Motor, Electrical Controls, Remote	Labor
AVDX	15 Years	10 Years	1 Year
AirVolution	15 Years	7 Years	1 Year
AirLegacy	15 Years	5 Years	1 Year
AVD3	10 Years	7 Years	1 Year
AVD 370	10 Years	5 Years	1 Year

WARRANTY COVERAGE:

Subject to the exclusions herein, the MacroAir Warranty covers any defects in workmanship or materials of the covered Products under normal operation and prescribed maintenance when those defects adversely affect the ability of the Product to operate properly.[2] The Warranty only covers Products which have been installed in compliance with MacroAir's written installation instructions by a state-qualified or licensed electrical contractor and operated and maintained by the Customer in conformity with MacroAir's written instructions, and when the Product is purchased directly from MacroAir or a MacroAir Authorized Dealer.

This Warranty is subject to all provisions, conditions, limitations, and exclusions explained in this Warranty document.

*Scan QR code or visit macroairfans.com/warranty for full warranty information.

---

1 "Standard Electrical" means any common electrical component that is utilized across more than one fan line will assume the higher warranty period.
2 "Operate properly" applies only to mechanical, electrical, and structural systems of the Product

Technical Support

Thank you for purchasing the AirLynk for MacroAir Fans.
Please call MacroAir Fans for Technical Support of the AirLynk product.

Support Contact Information:
MacroAir Fans
794 S. Allen Street
San Bernardino, CA. 92408

MacroAir Fans Service:
866-668-3247 option 2
Website: www.macroairfans.com/support

For Installation assistance, application questions, technical support, and any other inquiries, please contact our Technical Support team at (866) 668-3247.

794 South Allen Street
San Bernardino, CA 92408
(866) 668-3247
Macroairfans.com

MacroAir AirLynk Modbus/BACnet
is UL Listed