

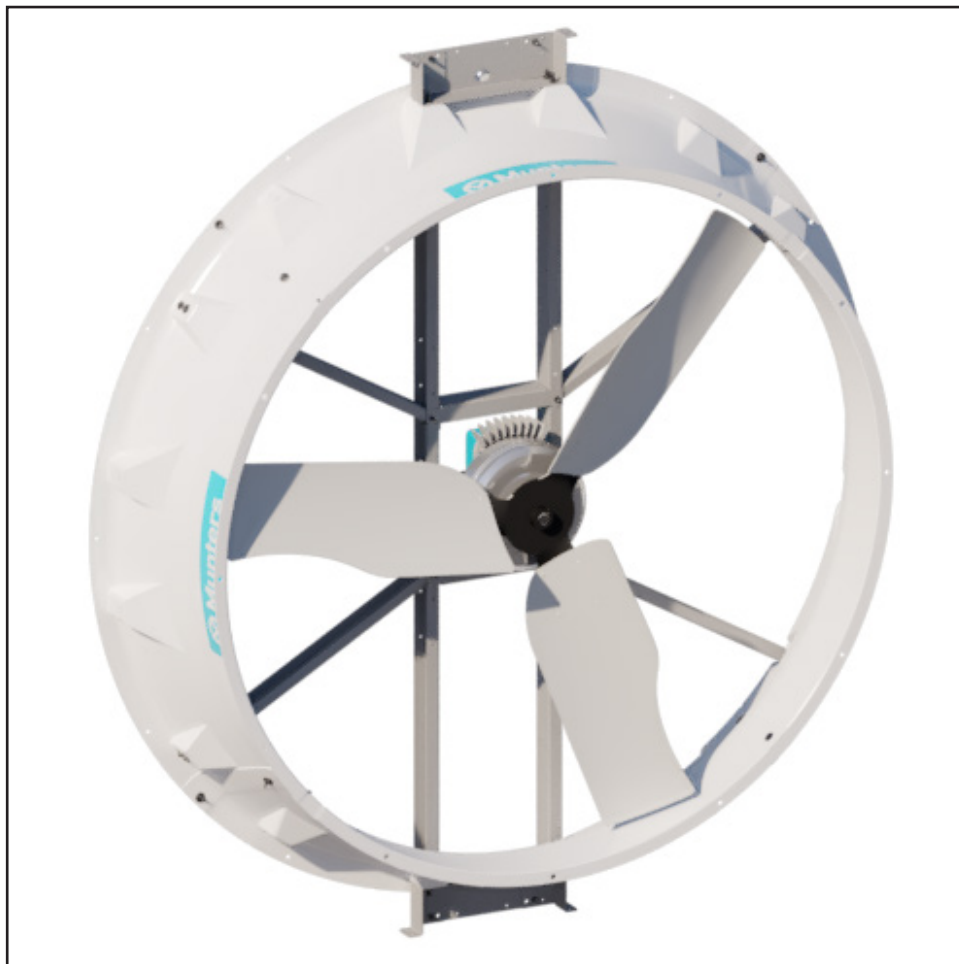


User Manual

Munters Aerotech CX74 Fan with Munters Drive*

Models: CX74D3F43-HO-1PK • CX74D3F43-HO-2PK • CX74D3F43-HO-3PK

*Protected by U.S. Patent No. US20230031171A1 and US11632932B2



CX74 Circulation Fan with Munters Drive

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Aerotech[®] CX74 Circulation Fan. GrainProteinTech Climate Control & Air Treatment equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

Please Note:

To achieve maximum performance and insure long life from your Aerotech[®] product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the [Grain & Protein Technologies office at 1-800-227-2376](#) or by [e-mail at info@climatecontrolairtreatment.com](mailto:info@climatecontrolairtreatment.com).

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Grain & Protein Technologies.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

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Unpacking the Equipment

1.

Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier.

1.1 Parts List

Each Fan includes:

1 - Munters Drive Fan

1.2 Fan Dimensions

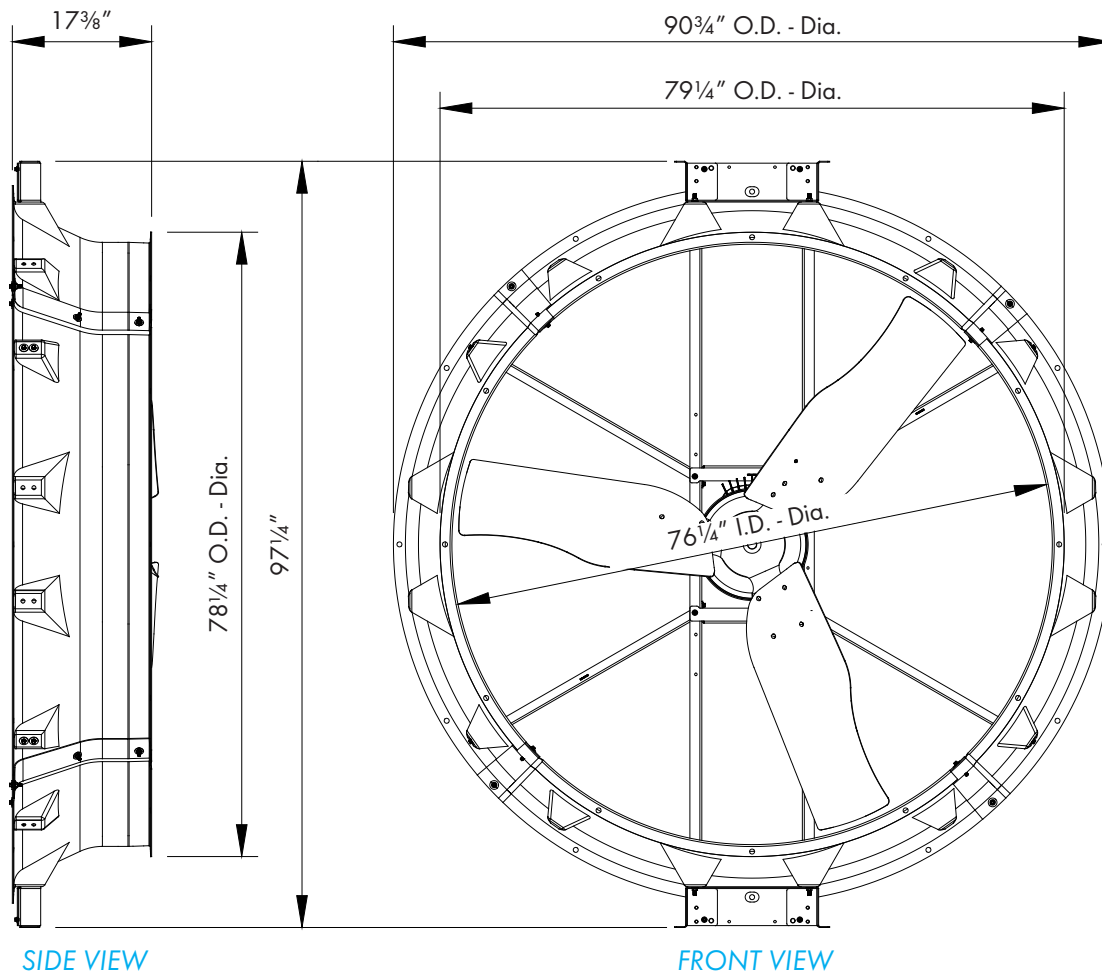
Fan Specifications:

Hertz: 60

Voltage: 460VAC

Phase: 3

Weight: 400 lbs. [182 Kg]



1.3 Fan Accessories

If any of the following accessories were purchased, refer to the corresponding manual for installation instructions:

74GK - Guard Kit - QM1239r1

FH1707 - Free Hanging Hanger Kit - QM1247r0

FH1709 - Pipe Hanging Kit - QM1249r0

Electrical Wiring

2.



All wiring should be installed in accordance with National, State, and Local electrical codes. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits, with a minimum of two circuits per room. For electrical connection requirements, refer to diagram on motor nameplate and to information enclosed with the Munters environmental control to be used. After wiring check for proper motor rotation.

Three Phase Fans: motor overload protection should be provided for each fan. A three-pole motor starter or slow blow motor fuses must be used. See Figure 13.

NOTE: A safety cut-off switch should be located adjacent to each fan.

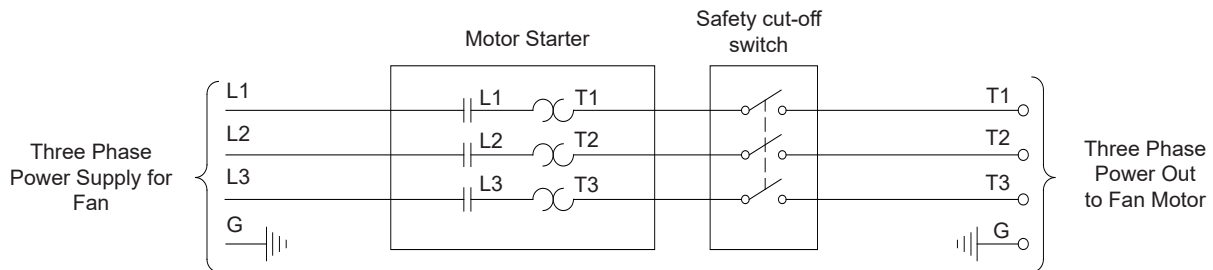


Figure 13

Three Phase - Motor Overload Protection with Disconnect

KEY:

- L1=Line 1
- L2=Line 2
- L3=Line 3
- G=Ground

2.1 Recommended Wire Routing:

As the power cable exits the Munters Drive Box form a drip loop and then run power cable up along strut and "Zip" tie the cable to strut to prevent cable from getting tangled in the propeller. See Figure 1. Then run the cable out of fan to circuit breaker or control panel. (Continued on next page).

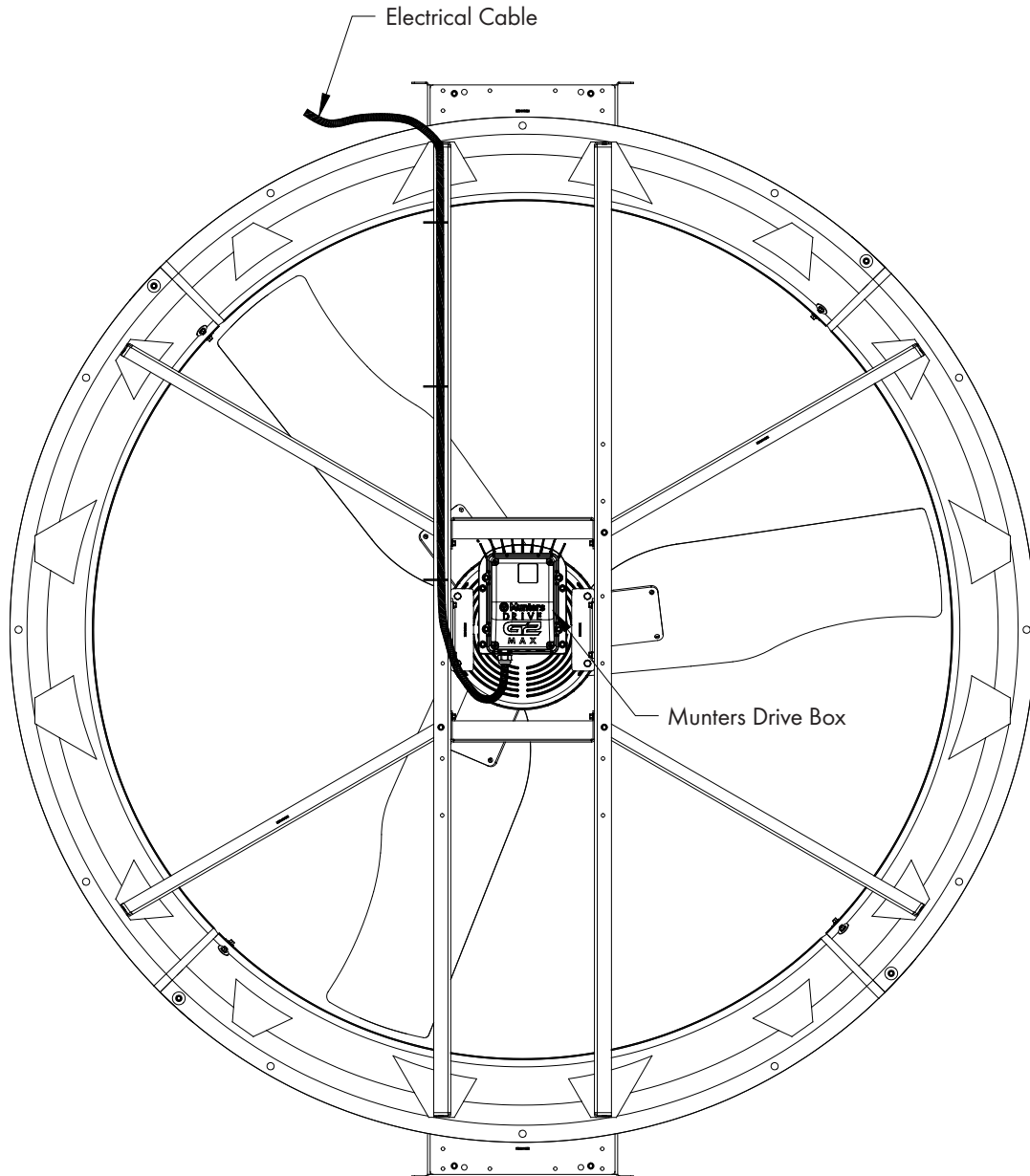
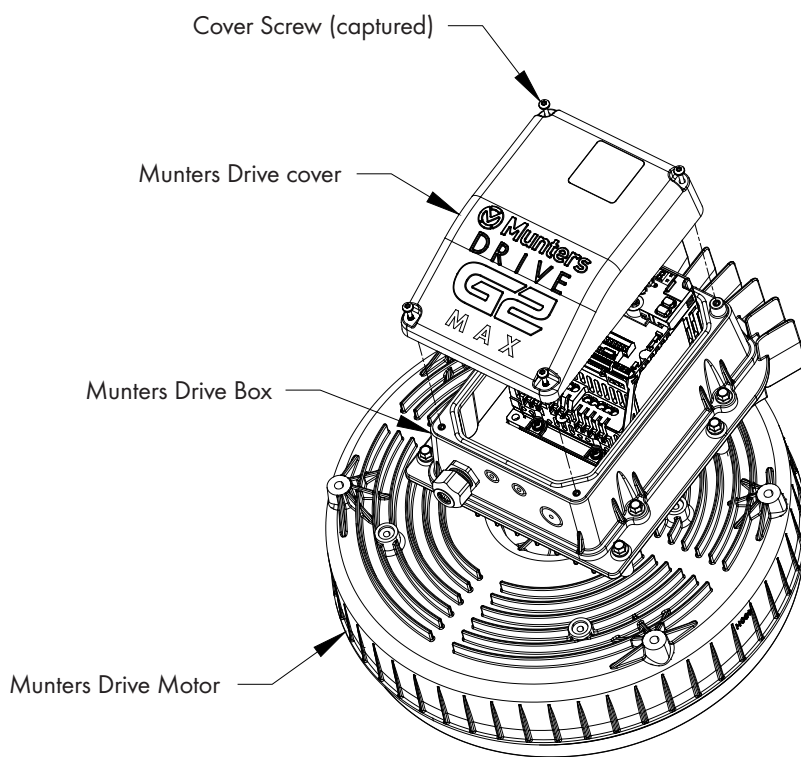


Figure 1

2.2 Determining Drive type for wiring

To access the Drive, loosen the (4) screws in the cover of the Munters Drive box to access the terminals inside to connect power and other cables. See Figure 2A. If your drive looks like Figure 2B, then proceed to the wiring section starting on Page 8. See Figure 2B. If your drive looks like Figure 2C, then proceed to the wiring section starting on Page 12. See Figure 2C. The Munters Drive is prewired to the Motor.



*****WARNING*****

Only the Cover of the Blue Box is designed to be removed. It has captured screws that remain in the cover. The Base of Blue Box and Heat Sink **must not** be removed from back of motor. Removing Base or Heat Sink from motor will void the warranty. Any water or other damage to the controller will not be covered if the either is removed.

Figure 2A



Figure 2B
V1000 Drive proceed to page 8



Figure 2C
GA500 Drive proceed to page 12

2.3 V1000 Drive Wiring

Three Phase Power connection:

Run the 3 phase power cable through watertight fitting into the Munters Drive box and connect to the terminals "R/L1, S/L2, T/L3" and Ground in the box. See Figure 3. The Munters Drive is prewired to the Motor.

******* NOTE *******

Power to the Drive must be within -4%, +8% of nominal voltage.

Munters Recommended;
 Absolute Minimum Voltage = 440V
 Absolute Maximum Voltage = 500V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

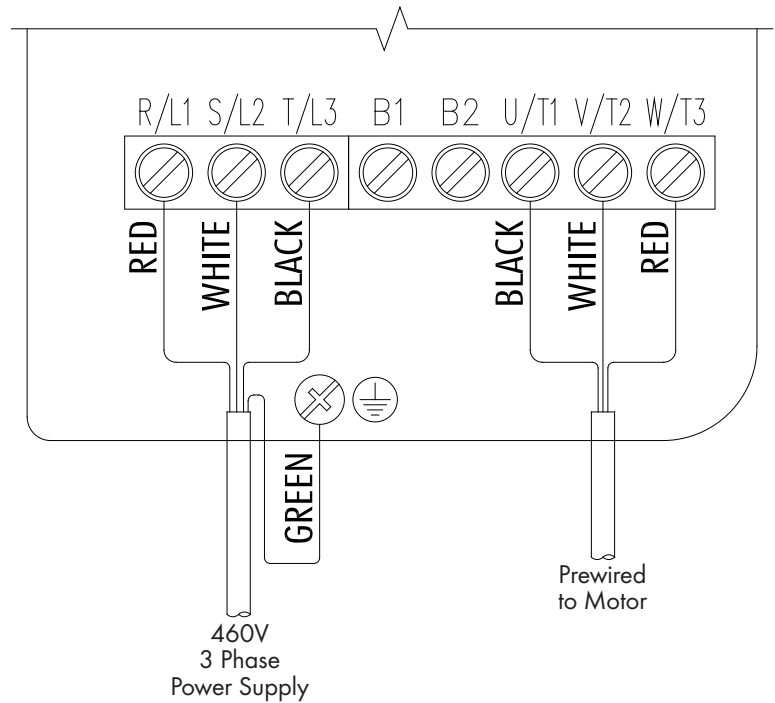


Figure 3

Fan Operation with No Control - V1000

To operate the fan continuously with no control, provide a Jumper wires between terminals 'S1' and 'SC'. See Figure 4. Do not remove the Factory Installed Jumper.

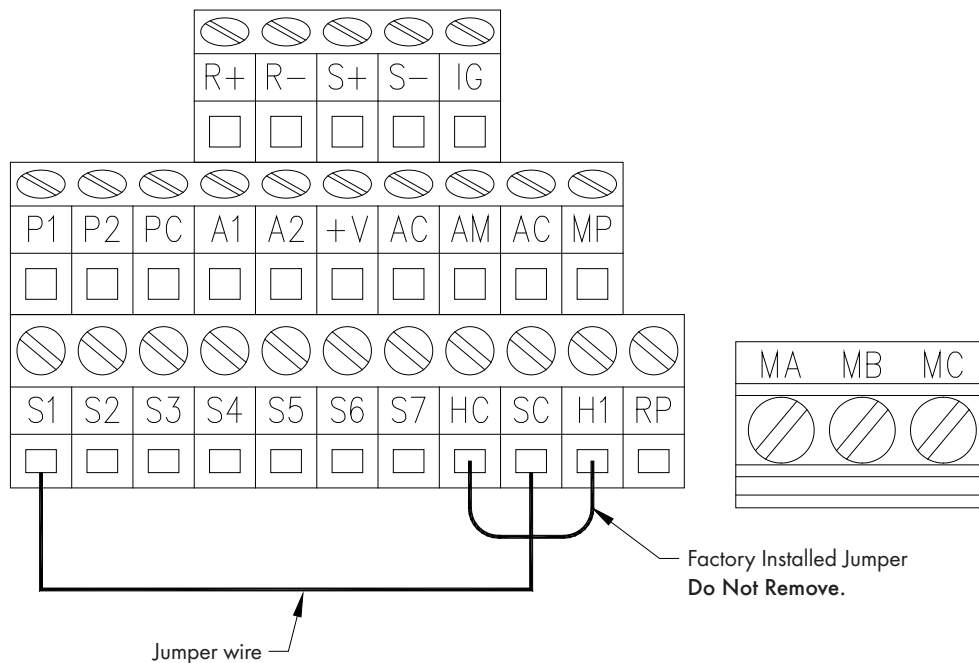


Figure 4

QM1243r3

Fan Operation On/Off with Control - V1000

To operate the fan On/Off with a control, wire an 'ON' command from the 'SC' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. See Figure 5. Do not remove the Factory Installed Jumper.

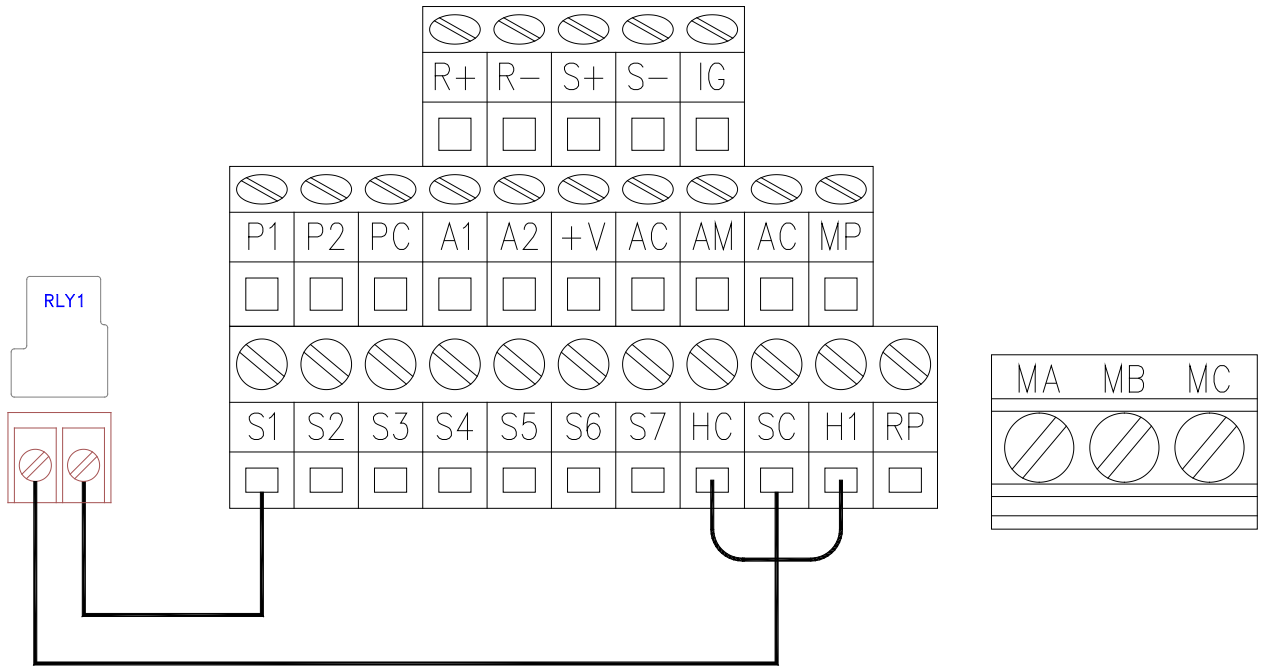


Figure 5

Fan Operation Off/Low/High - V1000

To operate the fan Off/Low/High with a control, connect a wire from 'SC' terminal to the input side of the 'ON' relay in the control, then install a jumper from the input side of the 'ON' relay to the input side of the 'LOW' relay in the control. Then connect a wire from 'S1' terminal to the output side of the 'ON' relay and then connect a wire from the 'S7' terminal to the output side of the 'LOW' relay. See Figure 6. Do not remove the Factory Installed Jumper.

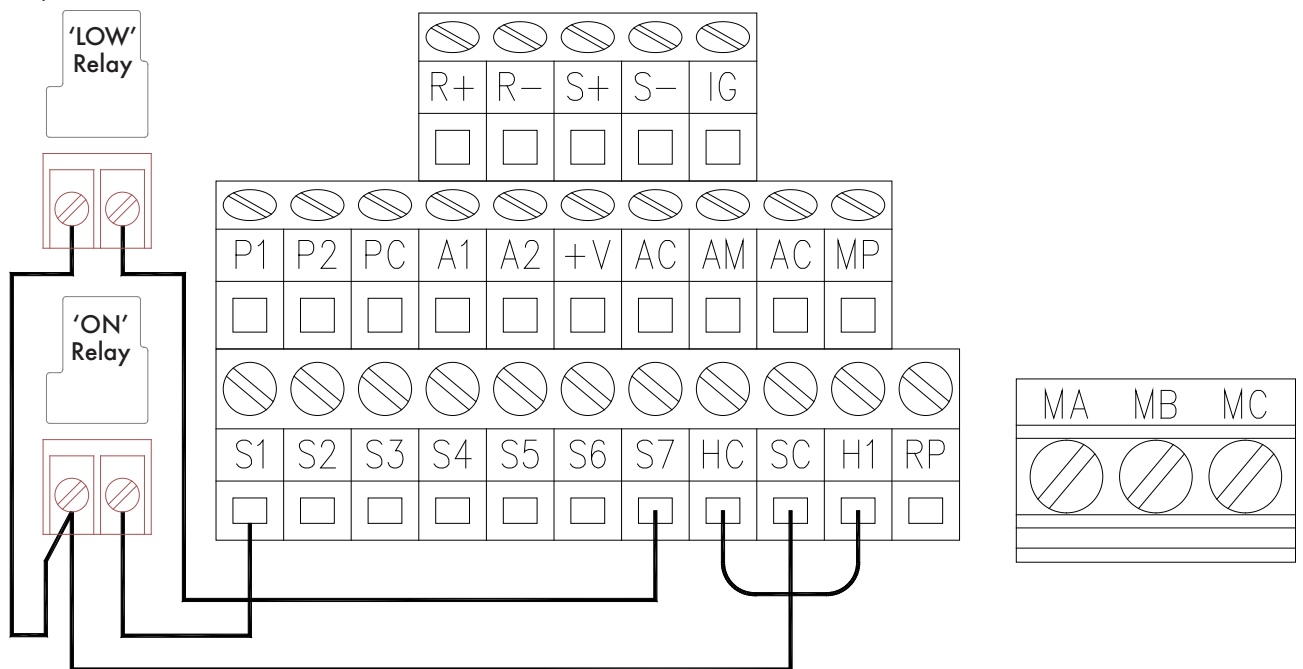


Figure 6

QM1243r3

Fan Operation Off/Variable with 10-0V Signal - V1000

To operate the fan Off/Variable with a 10-0V Signal, wire an 'ON' command from the 'SC' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the 10-0V output in the control to the 'A1' and 'AC' terminals in the Munters Drive Box. The '+' output in the control should go to 'A1' and the '-' output should go to 'AC'. See Figure 7. Do not remove the Factory Installed Jumpers.

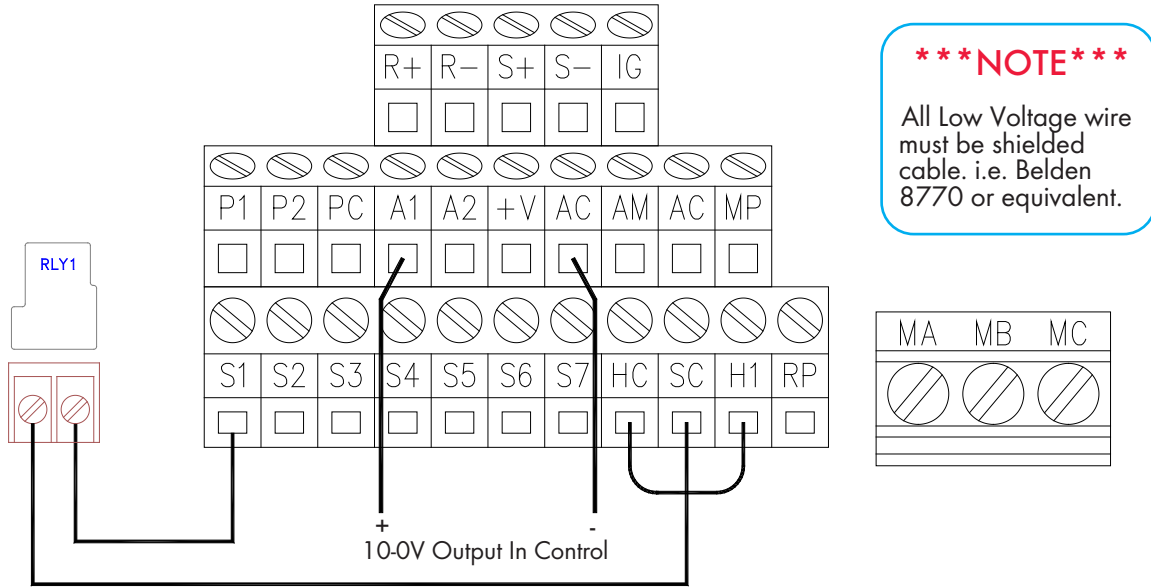


Figure 7

Fan Operation Off/Variable with Potentiometer - V1000

To operate the fan Off/Variable with a signal from a potentiometer, wire an 'ON' command from the 'SC' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the Potentiometer as follows, connect '-' to 'AC', connect 'L' to 'A1' and connect '+' to '+V'. See Figure 8. Do not remove the Factory Installed Jumpers.

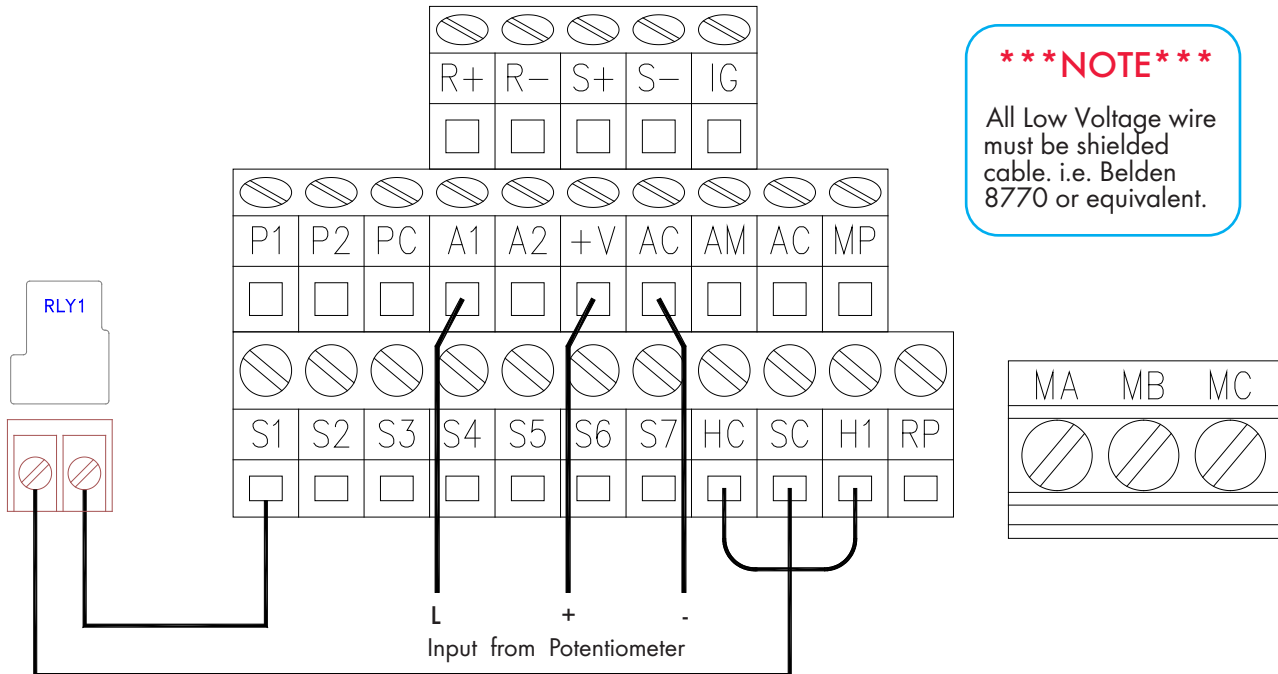


Figure 8

Alarm Connections - V1000

The Munters Drive uses a Normally Closed circuit for alarm connections. To connect a control to the Normally Closed output make appropriate connections from the control to 'MB' and 'MC' terminals. See Figure 9. Do not remove the Factory Installed Jumpers.

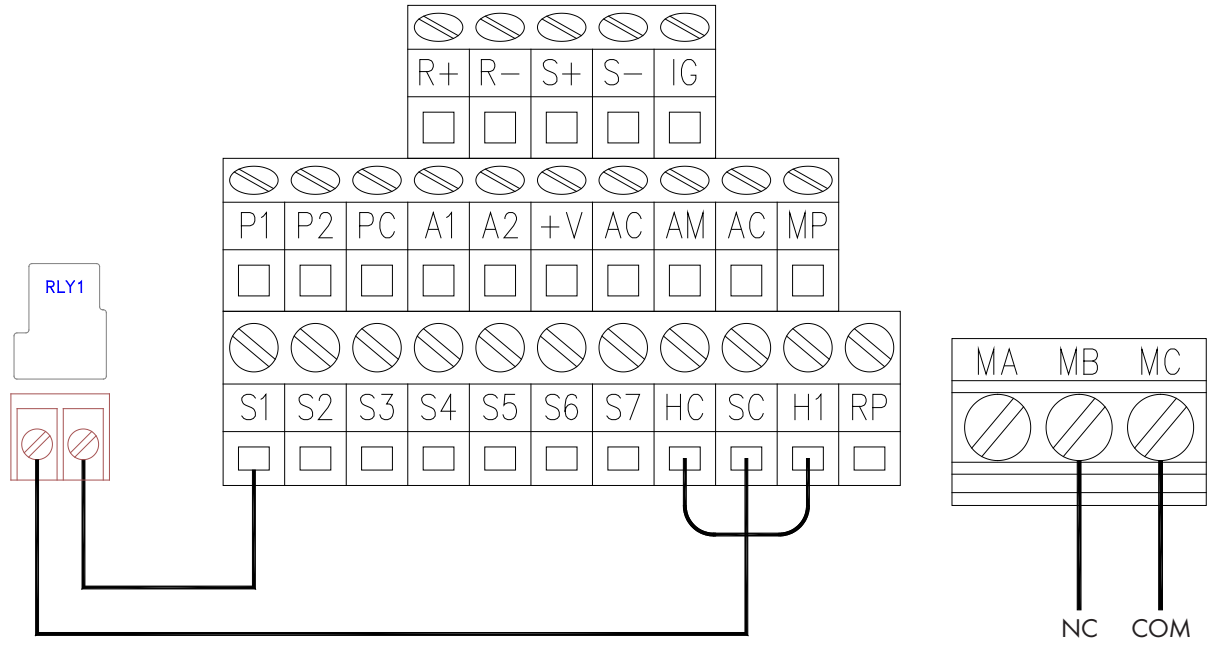


Figure 9

2.4 GA500 Drive Wiring

Three Phase Power connection:

Run the 3 phase power cable through watertight fitting into the Munters Drive box and connect to the terminals "R/L1, S/L2, T/L3" and Ground in the box. See Figure 10. The Munters Drive is prewired to the Motor.

******* NOTE *******

Power to the Drive must be within -4%, +8% of nominal voltage.

Munters Recommended;
 Absolute Minimum Voltage = 440V
 Absolute Maximum Voltage = 500V

Munters Recommends Line to Line Voltage Unbalance to be 1% or less per NEMA MG-1-1998. Absolute maximum unbalance is 1.5%.

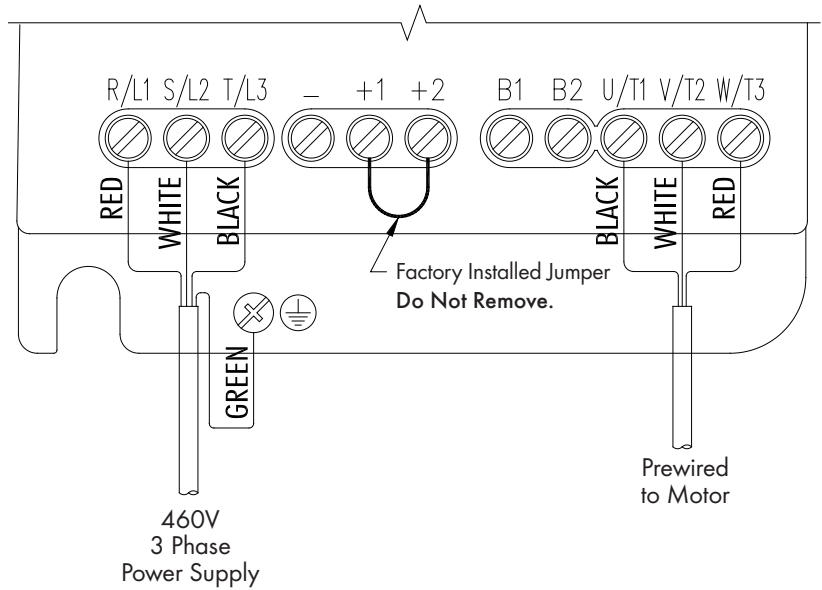


Figure 10

Fan Operation with No Control - GA500

To operate the fan continuously with no control, provide a Jumper wires between terminals 'S1' and 'SN'. See Figure 11. Do not remove the Factory Installed Jumpers.

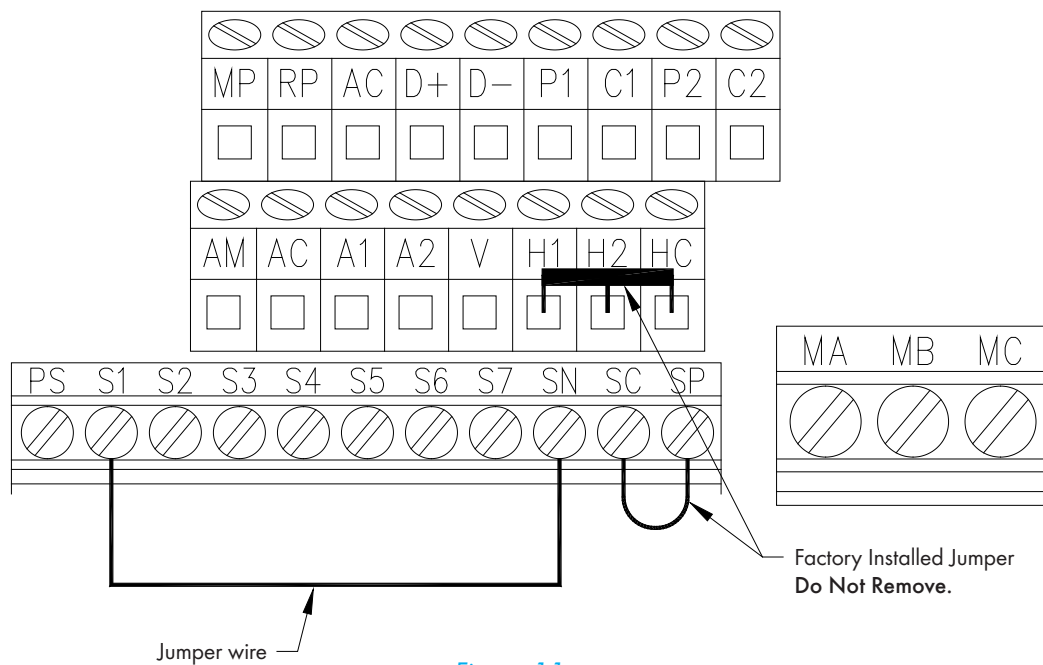


Figure 11

Fan Operation On/Off with Control - GA500

To operate the fan On/Off with a control, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. See Figure 12. Do not remove the Factory Installed Jumpers.

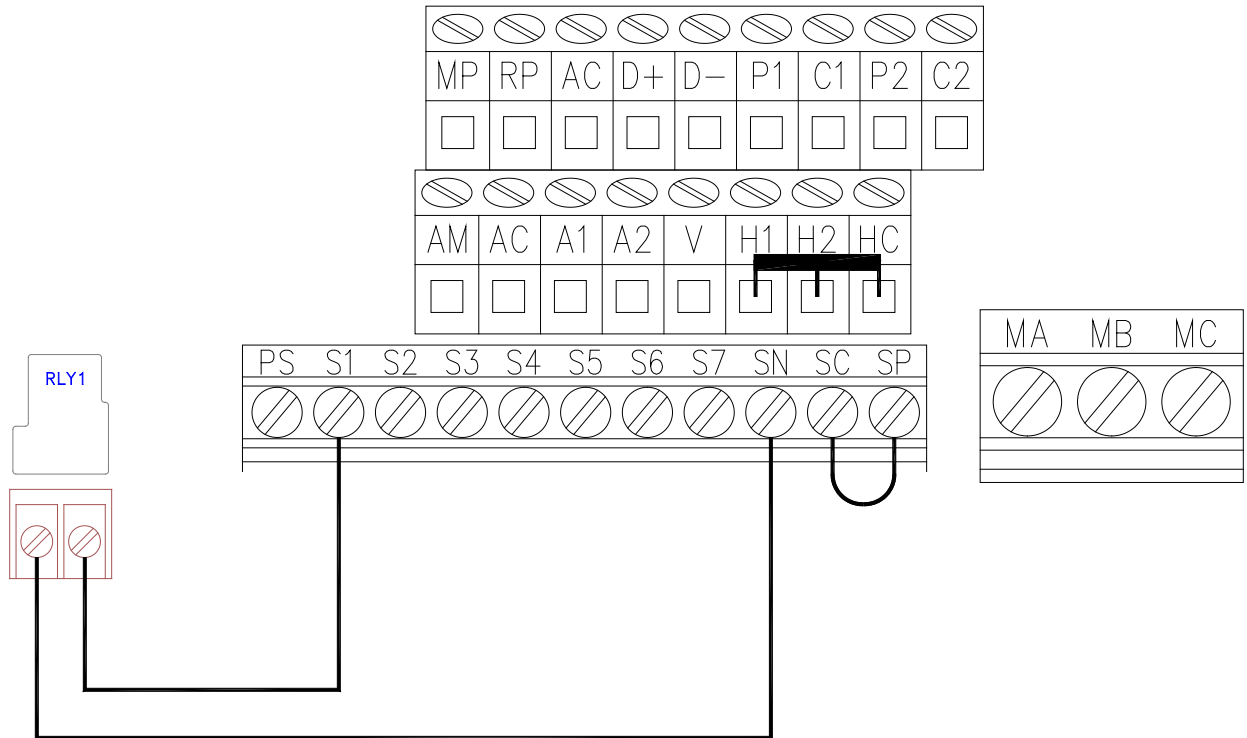


Figure 12

Fan Operation Off/Low/High - GA500

To operate the fan Off/Low/High with a control, connect a wire from 'SN' terminal to the input side of the 'ON' relay in the control, then install a jumper from the input side of the 'ON' relay to the input side of the 'LOW' relay in the control. Then connect a wire from 'S1' terminal to the output side of the 'ON' relay and then connect a wire from the 'S7' terminal to the output side of the 'LOW' relay. See Figure 13. Do not remove the Factory Installed Jumper.

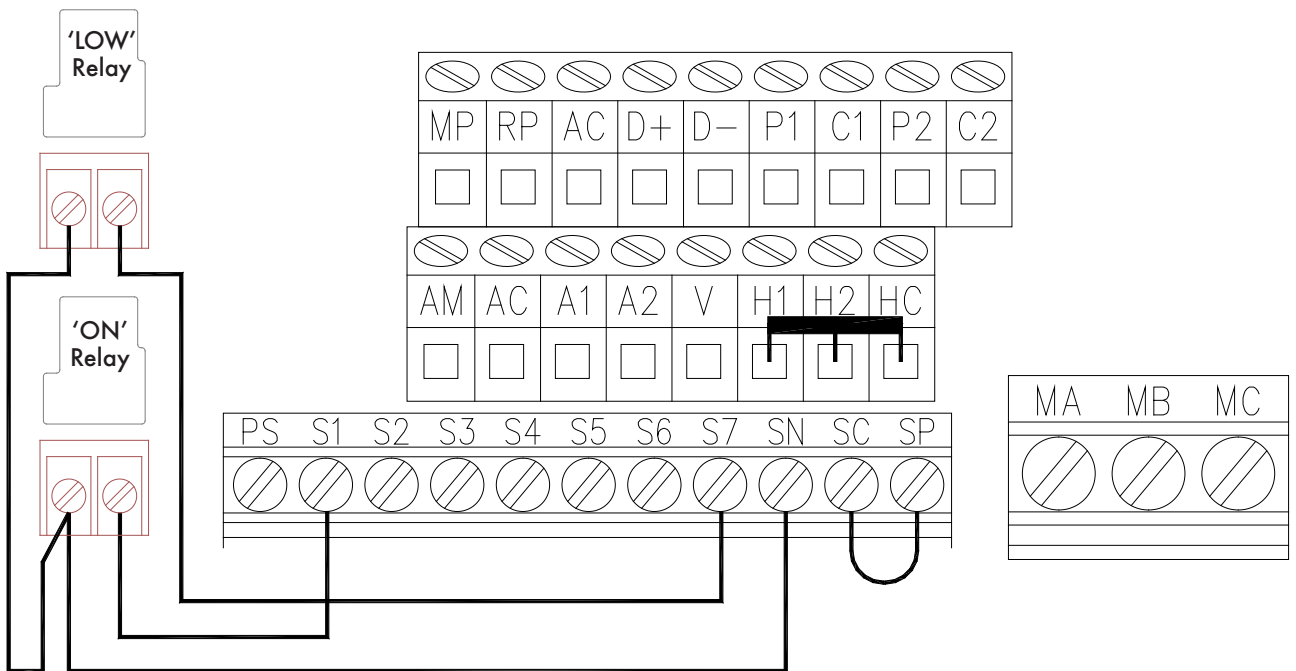
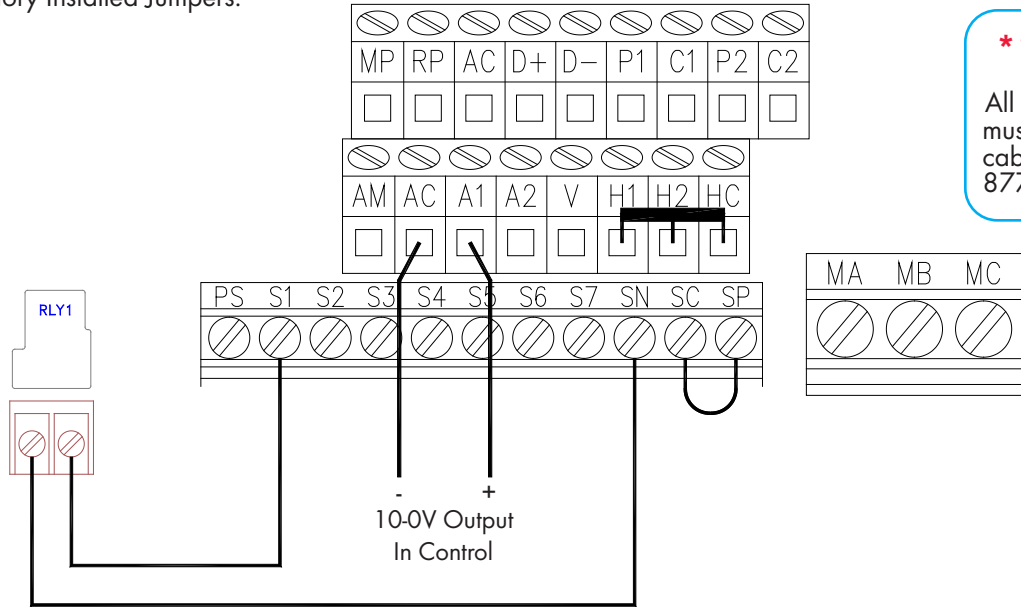


Figure 13

QM1243r3

Fan Operation Off/Variable with 10-0V Signal - GA500

To operate the fan Off/Variable with a 10-0V Signal, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the 10-0V output in the control to the 'A1' and 'AC' terminals in the Munters Drive Box. The '+' output in the control should go to 'A1' and the '-' output should go to 'AC'. See Figure 14. Do not remove the Factory Installed Jumpers.

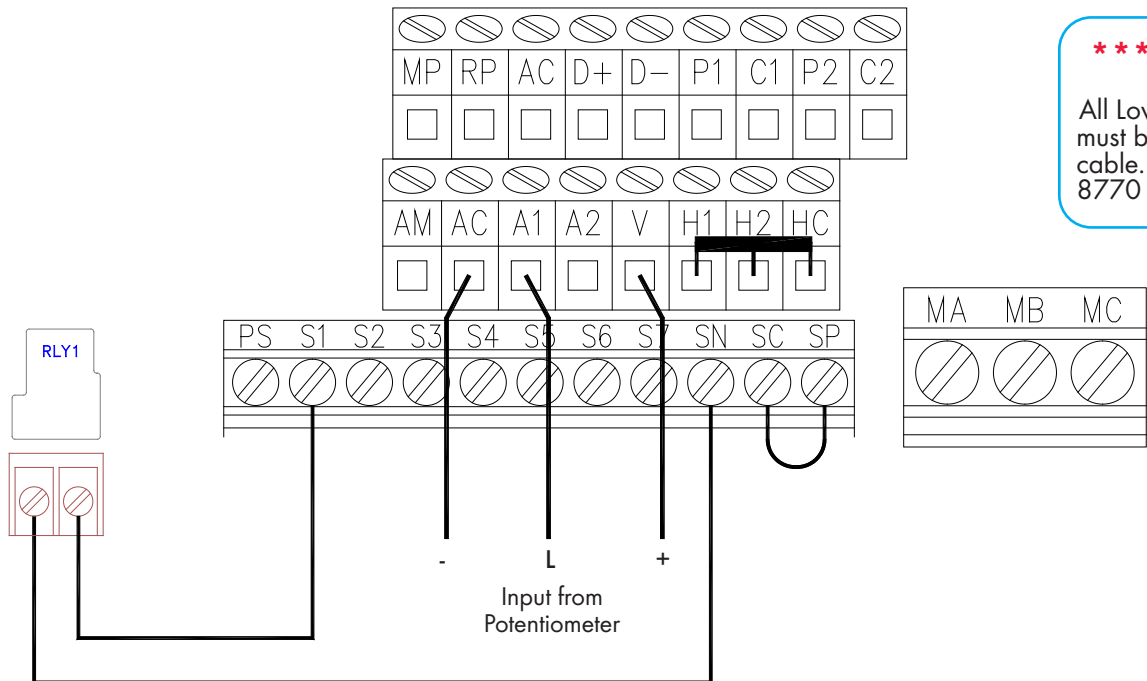


*****NOTE*****
All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

Figure 14

Fan Operation Off/Variable with Potentiometer - GA500

To operate the fan Off/Variable with a signal from a potentiometer, wire an 'ON' command from the 'SN' terminal to the input relay in the control and from the output of the control relay to the 'S1' terminal. Then connect wires from the Potentiometer as follows, connect '-' to 'AC', connect 'L' to 'A1' and connect '+' to 'V'. See Figure 15. Do not remove the Factory Installed Jumpers.



*****NOTE*****
All Low Voltage wire must be shielded cable. i.e. Belden 8770 or equivalent.

Figure 15

Alarm Connections - GA500

The Munters Drive uses a Normally Closed circuit for alarm connections. To connect a control to the Normally Closed output make appropriate connections from the control to 'MB' and 'MC' terminals. See Figure 16. Do not remove the Factory Installed Jumpers.

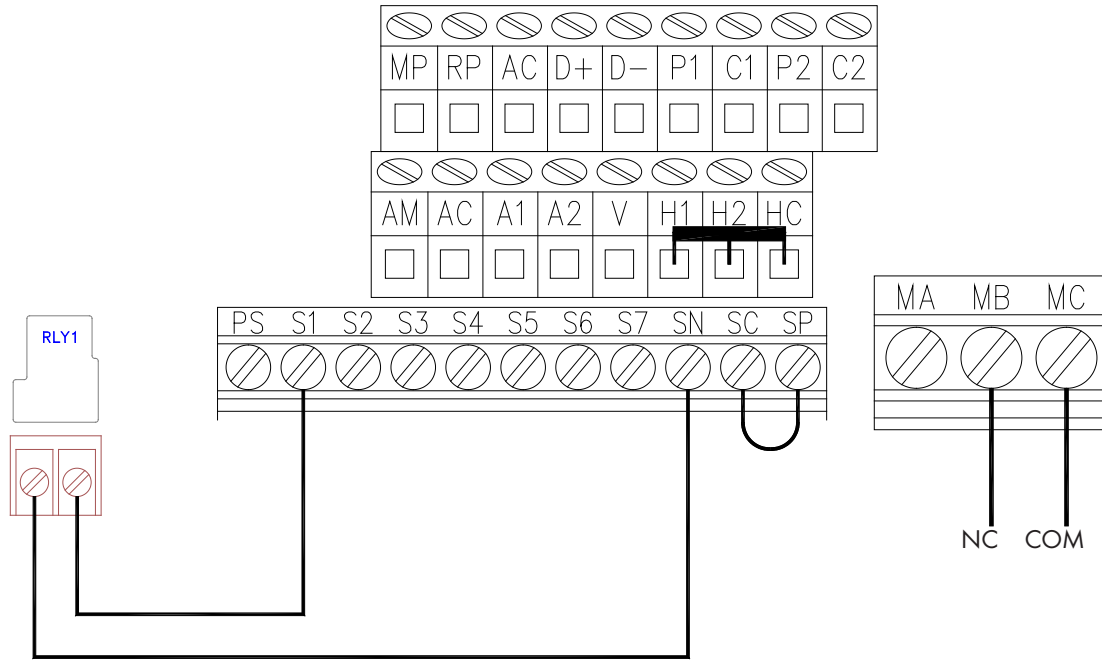


Figure 16

Operation and Maintenance

3.

3.1 Operation

INITIAL START-UP: With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.

TEMPERATURE ADJUSTMENTS: Set the fan control to the temperature shown on your ventilations system drawing, or to a value which will provide the desired environmental conditions.



3.2 Maintenance

The following inspection and cleaning procedures should be performed monthly:

- 1) **INSPECT PROPELLER:** Check that propeller is secure on prop shaft or motor shaft and that there are no signs of damage. The blades are of a self-cleaning design and should not require maintenance.
- 2) **CLEAN** regularly for best results:
 - **FAN MOTOR:** Remove any dust accumulation from motor using a brush or cloth. (DO NOT use a pressure washer). A clean motor will run cooler and last longer. At the same time, verify that the motor is secure in its mount.
 - **GUARD:** Clean any dust or feathers from fan guards using a brush. Dirty guards can reduce airflow.
- 3) **CHECK FASTENERS:** For safety, all fasteners should be inspected 1 month after initial operation and yearly thereafter. Tighten any loose connections.
- 4) **INSPECT FAN CONTROL:** With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth.



NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!

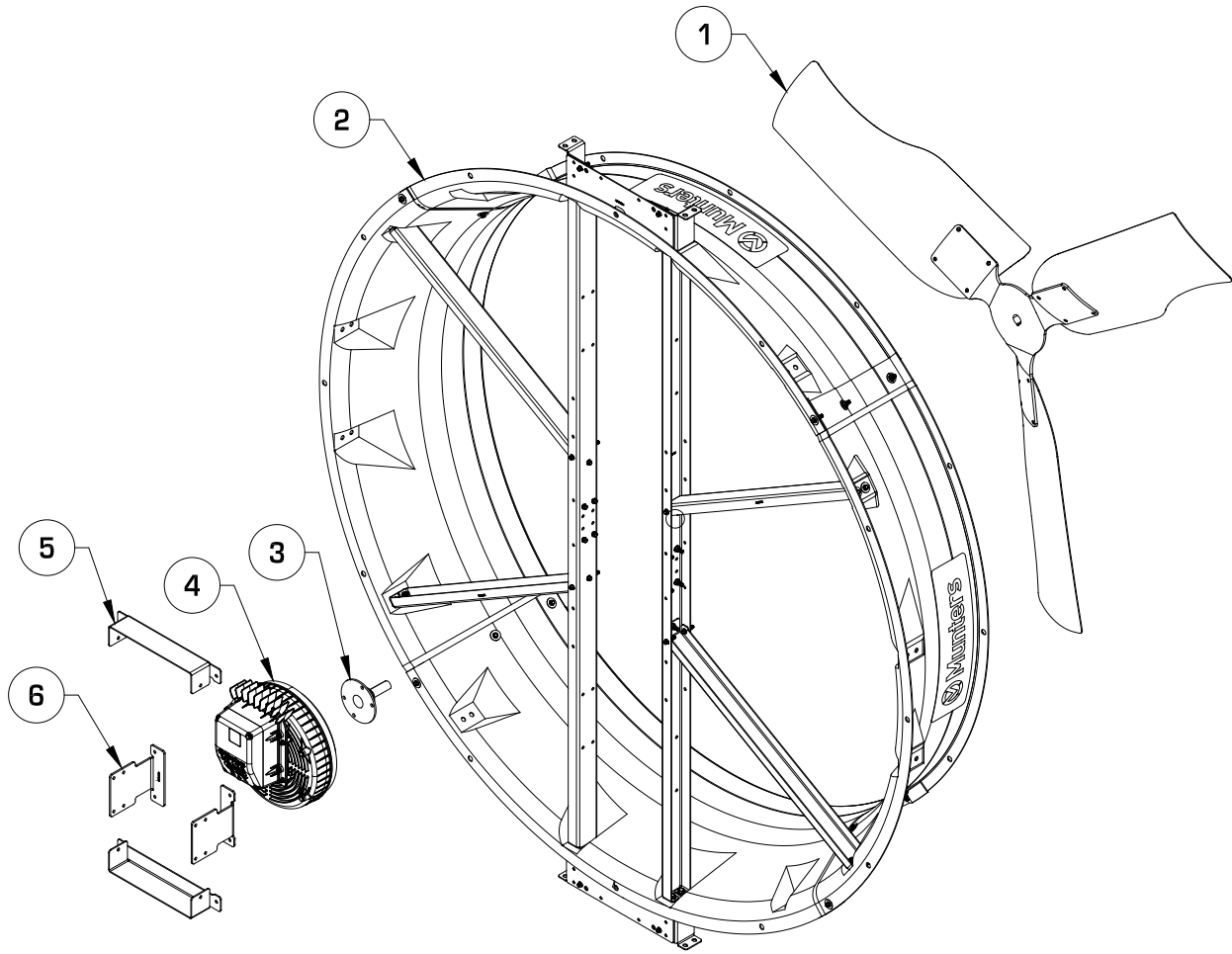
4.1 Troubleshooting



| SYMPTOM | POSSIBLE CAUSES | CORRECTIVE ACTION |
|--|---|--|
| <ul style="list-style-type: none"> Fan Not Operating | <ul style="list-style-type: none"> Fan control set above room temperature Blown Fuse or open circuit breaker Propeller blade contacting fan housing Fan control defective (i.e. Farm Premium, etc.) | <ul style="list-style-type: none"> Set to a lower temperature Replace fuse or reset breaker Realign motor in fan housing Repair or replace control |
| <ul style="list-style-type: none"> Fan Does Not Start Caution: There is a 10 second delay for the fan to start when an 'On' command is present. | <ul style="list-style-type: none"> Munters Drive motor/controller issue | <ol style="list-style-type: none"> Verify AC voltage is present at fan. Turn AC power off to fan for 1 minute Verify Prop turns freely <ol style="list-style-type: none"> If not contact Munters Product Support If it turns freely go to next step Turn AC power back on to fan <ol style="list-style-type: none"> If starts up and runs, fan OK <ul style="list-style-type: none"> Periodically observe fan to verify it is still running If it continues to run, fan is OK If fan stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan tries to start but stops, look through clear window in drive cover to check what drive display reads. Contact Munters Product Support If fan doesn't try to start, verify 'On' command signal is present at circuit board. Also, slide the switch on the circuit board to the 'On' position. |
| <ul style="list-style-type: none"> Fan Operating - Insufficient Airflow | <ul style="list-style-type: none"> Shutter or Damper door jammed Guard dirty/clogged 10-0V signal set incorrectly | <ul style="list-style-type: none"> Clean shutter or damper door Clean guard Check and adjust 10-0V signal |
| <ul style="list-style-type: none"> Excessive Noise | <ul style="list-style-type: none"> Propeller blade contacting fan housing | <ul style="list-style-type: none"> Sand fan housing to remove high spot |
| <ul style="list-style-type: none"> Excessive Vibration | <ul style="list-style-type: none"> Motor loose on mount Propeller damaged | <ul style="list-style-type: none"> Tighten fasteners Replace propeller |

Exploded View

5.



| Item | Catalog No. | Description | Qty. |
|------|---------------|--|------|
| 1 | FP1874 | Propeller, BD, 3-blade, 1.1875" Bore, Keyed, GZ | 1 |
| 2 | FH2375 | Assembly, Orifice Panel with Struts, FG/GZ | 1 |
| 3 | FP2066 | Hub, Prop Adapter, 1.188"D. x 2.875"L., w/ Keyway, ZP | 1 |
| 4 | FM1466-CX74HO | Assembly, Motor and Drive, Prgmd, CX74, 460V | 1 |
| 5 | FH2574 | Bracket, Spacer, MD G2 Max, CX74 Fan, GZ | 2 |
| 6 | FH2573 | Bracket, Mounting, MD G2 Max, CX74 Fan, CTD-STEEL, BLK | 2 |

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Munters Aerotech CX74 Circulation Fan with Munters Drive is developed and produced by GrainProteinTech Climate Control Air Treatment US, LLC.

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