V★S DRIVES

INSTRUCTION SHEET D2-3174
RPM A-C Blower Motor Protection Kit
Model 1BM4000
For use with 1–50 HP 230 and 460 VAC GP2000 A-C V★S® Drives

DANGER

ONLY QUALIFIED ELECTRICAL PERSONNEL FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THIS EQUIPMENT AND THE HAZARDS INVOLVED SHOULD INSTALL, ADJUST, OPERATE, AND/OR SERVICE THIS EQUIPMENT. READ AND UNDERSTAND THIS MANUAL IN ITS ENTIRETY BEFORE PROCEEDING. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

The RPM Blower Motor Protection Kit is a set of fuses designed to provide overload protection for the ventilating fan motor used on Reliance RPM™ A-C motors. This kit can be used with a stand-alone controller (GP2000) or a controller mounted in an Expanded Cabinet (GP2000).

Upon receiving, check the contents of the kit received with the contents listed in Table 1. Store this equipment in a clean and dry area until ready to use. The ambient temperature of the storage area must not exceed 65°C (149°F) or go below –40°C (–40°F) within a relative humidity range of 5 to 95% without condensation.

DESCRIPTION

The products described in this instruction sheet are manufactured and/or distributed by Reliance® Electric Industrial Company.

Table 1. Complete Parts List.

Description	Quantity	Part Number
Fuse Block (3 position)	1	49454-19C
M4 x 10 TTS	2	419062-100PGG
Fuse (0.5 A)	3	64676-72B
Fuse (0.25 A)	3	64676-72A
Fuse (0.8 A)	3	64676-72C
Nameplate (FU. REPL. 0.5 A)	1	417114-77B
Nameplate (FU. REPL. 0.25 A)	1	417-114-77S
Nameplate (FU. REPL. 0.8 A)	1	417144-77D
Wire Harness	1	803432-76R
Ty-rap	4	69306-3D

Table 2. RPM Blower Fuse Selection for GP2000 or Expanded Cabinet.

RPM A-C Motor		
Horsepower	Voltage	Fuse Rating (Amperes)
1–10	230	0.5
1–20	460	0.25
30–50	460	0.8

Note: The following is recommended as a replacement fuse: Littel Fuse type KLMR, 1/2" x 13/32" cartridge. This is a time-delay, 600-volt, rejection type fuse, Class CC, designed specifically for blower motor protection.

INSTALLATION: STAND-ALONE CONTROLLER

DANGER

DO NOT INSTALL MODIFICATION KITS WITH POWER APPLIED TO THE UNIT. DISCONNECT AND LOCK OUT INCOMING POWER BEFORE ATTEMPTING SUCH INSTALLATION. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

1. Disconnect all power to the controller before installing this kit.

DANGER

THE USER IS RESPONSIBLE FOR CONFORMING TO THE NATIONAL ELECTRICAL CODE AND ALL OTHER APPLICABLE LOCAL CODES. WIRING PRACTICES, ENCLOSURES, GROUNDING, DISCONNECTS, AND OVERCURRENT PROTECTION ARE OF PARTICULAR IMPORTANCE. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

2. Mount the fuse block in a selected location. Refer to Figure 1 for mounting hole detail.

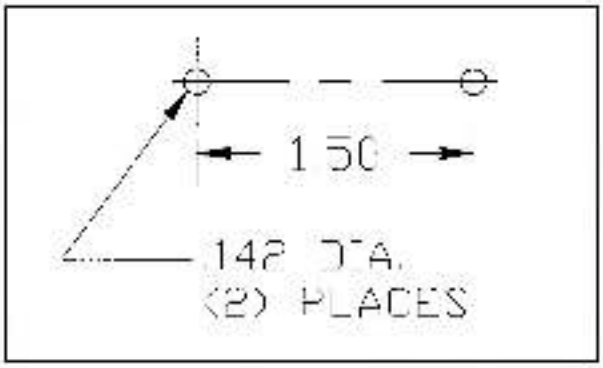

Figure 1.
Fuse Block Mounting Hole Dimensions.

3. Remove the controller cover and set aside for reassembly.
4. Follow the wiring diagrams and instructions in the Controller Instruction Manual D2-3166 (GP2000, 1–20 HP) and/or any other appropriate kit instruction manuals (if other kits are installed) for all wires except those wires detailed in this instruction sheet.

   Note: The wire harness provided in this kit is designed for use with an Expanded Cabinet Kit and may not be usable with the stand-alone controller.
5. Using wire harness 803432-76R or wire selected in accordance with all applicable codes, connect the terminals on one end of the fuse block to input terminals R, S, and T on the controller. Refer to Figure 2 for wiring detail.

DANGER

WHEN WIRING THE THERMAL PROTECTION DEVICES AND OTHER INTERLOCK DEVICES, MAKE CERTAIN THAT ALL CONNECTIONS ARE IN SERIES. NO DEVICE CONNECTIONS CAN BE IN PARALLEL WITH EACH OTHER. ALL WIRE JUMPERS THAT ARE IN PARALLEL WITH SAFETY INTERLOCK DEVICES MUST BE REMOVED. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN BODILY INJURY OR LOSS OF LIFE.

6. Using wire selected in accordance with all applicable codes, connect the power leads on the RPM blower motor to the terminals on the other end of the fuse block. Also connect the thermal protection leads to the controller. Refer to RPM A-C Motor Instruction Manual D2-3202 or connection diagram 422909-1 for wiring detail.
7. Select the appropriate set of three fuses based on RPM motor horsepower and voltage as detailed in Table 2.
8. Select the appropriate nameplate based on fuse amperage selected from Table 2 and mount the nameplate beside the fuse block.
9. Replace the controller cover.
10. Turn power ON.

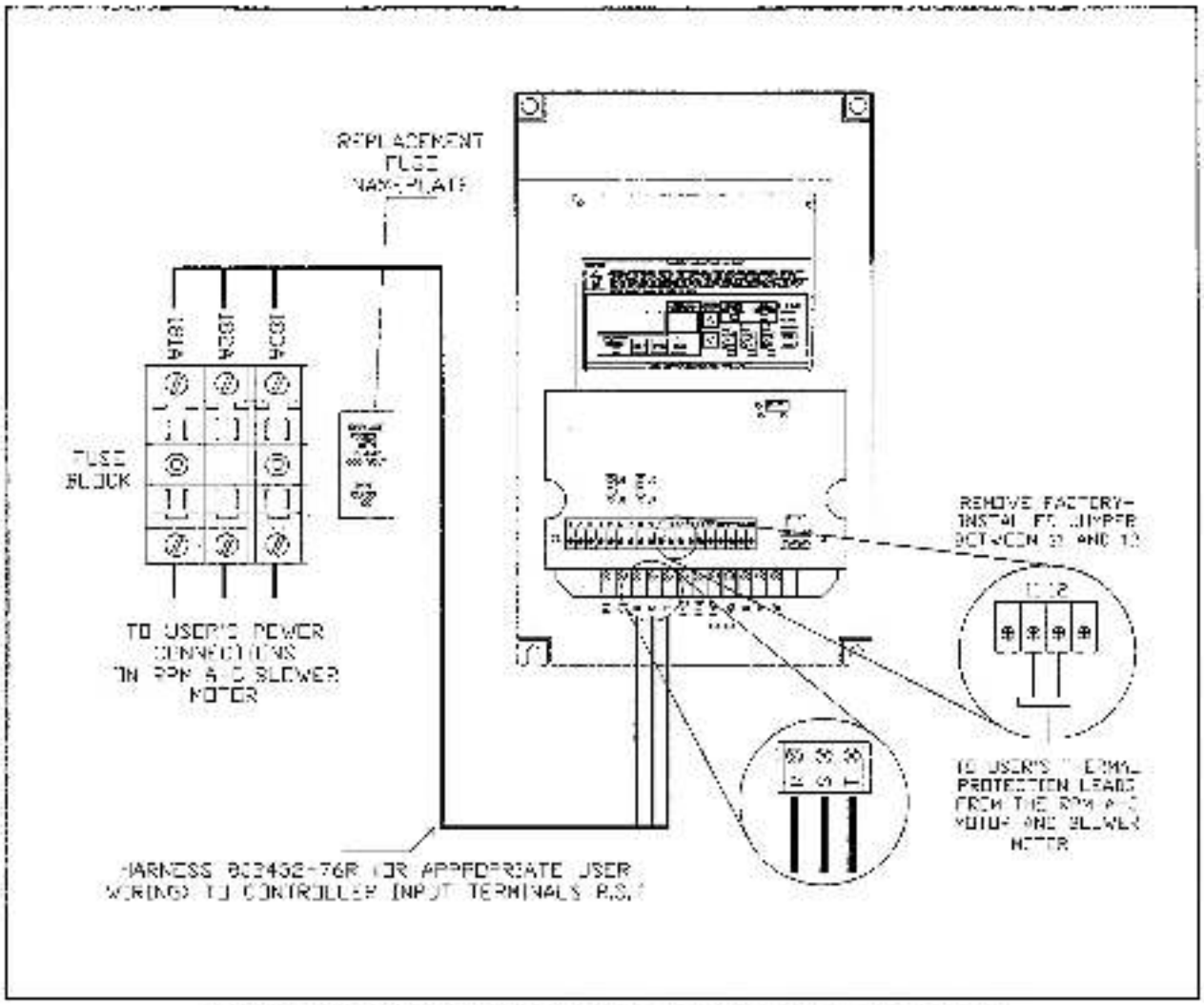

Figure 2. Fuse Block Connection Diagram (Stand-alone Controller).

INSTALLATION: EXPANDED CABINET-MOUNTED CONTROLLER

DANGER

DO NOT INSTALL MODIFICATION KITS WITH POWER APPLIED TO THE UNIT. DISCONNECT AND LOCK OUT INCOMING POWER BEFORE ATTEMPTING SUCH INSTALLATION. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

1. Disconnect all power to the controller before installing this kit.
2. Remove the controller cover and set aside for reassembly.
3. Mount the fuse block in the Expanded Cabinet. Refer to Figure 3 for mounting location. Use M4 x 10 TTS screws to mount the fuse block.

   Note: Mounting the RPM A-C Motor Protection Kit may be mutually exclusive with other kits within the Expanded Cabinet. Contact your Reliance Electric Sales Office for assistance.

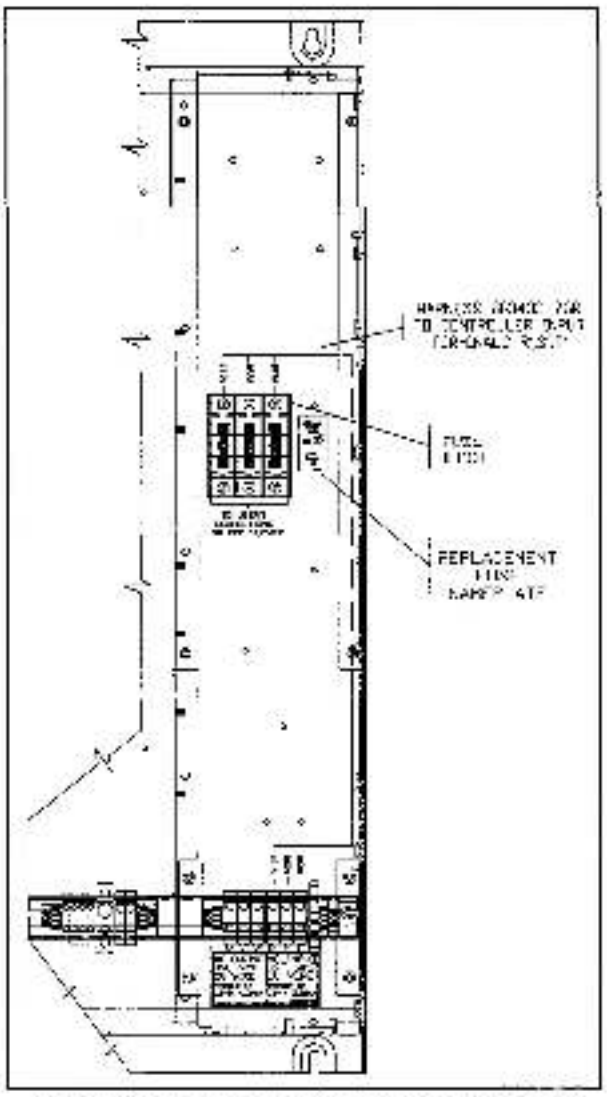

Figure 3. Fuse Block Mounting Location and Connection Diagram (Expanded Cabinet).

DANGER

THE USER IS RESPONSIBLE FOR CONFORMING TO THE NATIONAL ELECTRICAL CODE AND ALL OTHER APPLICABLE LOCAL CODES. WIRING PRACTICES, ENCLOSURES, GROUNDING, DISCONNECTS, AND OVERCURRENT PROTECTION ARE OF PARTICULAR IMPORTANCE. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

4. Follow the wiring diagrams and instructions in the Controller Instruction Manual D2-3166 (GP2000, 1-20 HP), D2-3182 (GP2000, 25-40 HP), D2-3202 (RPM A-C Motor Instruction Manual) and D2-3171 (Expanded Cabinet Kit) for all wires except those wires detailed in this instruction sheet.
5. Using wire harness 803432-76R (181A, 182A, and 183A), connect the terminals on the top of the fuse block to input terminals R', S', and T' on the terminal board. Refer to Figure 3 for wiring detail.
6. Using wire selected in accordance with all applicable codes, connect the leads on the RPM blower motor to the terminals on the bottom end of the fuse block. Route the motor lead wiring through an appropriate conduit hole on the top or bottom of the Expanded Cabinet. Refer to Figure 3 for wiring detail.
7. Select the appropriate set of three fuses based on RPM motor horsepower and voltage as detailed in Table 2.
8. Select the appropriate nameplate based on fuse amperage selected from Table 2 and mount the nameplate beside the fuse block.
9. Replace the controller cover.
10. Turn power ON.