

MaxPAK PLUS

ACCESSORY

INSTRUCTION MANUAL D-3823-3

FAN LOSS DETECTOR KIT

Model Number 23C80
 Assembly Drawing 705395

The equipment described below should be installed only by qualified electrical maintenance personnel familiar with the construction and operation of the equipment and the hazards involved.

DESCRIPTION

The fan loss detector kit provides a normally closed contact which opens due to a power unit fan failure. It is designed for installation into those MaxPak Plus controllers rated 25 hp and greater at 230 volt a-c input, 50 hp and greater at 460 volt a-c input and 40 hp and greater at 550 volt a-c input which use a power unit cooling fan (See Table 1.) **This kit will not fit into MaxPak Plus controllers of lower hp than listed above.** Thermostat contacts, wired into the drive stop circuit, cause the drive to stop upon fan loss, thereby protecting power unit components from damage due to operation under load without the required forced air cooling.

The kit consists of a fan loss sensor mounted on a bracket designed to replace the fan finger guard supplied with the MaxPak Plus controller. Screw terminals on the face of the fan loss assembly are provided for detector wiring.

temperature of the air surrounding the thermostat rises due to the action of the heater, the thermostat contact opens, and fan loss is thus detected. **The detector is ineffective in sensing reductions in air flow due to dirty filters, blocked inlet and/or outlet openings, etc. Nor is it effective in sensing overtemperature operation due to excessive ambient temperatures or drive overload. It senses fan loss only.**

Detector connections are shown in the schematic diagram of Figure 1

TABLE 1
 MAXPAK PLUS CONTROLLER RATINGS
 USING FORCED AIR COOLING AND
 COMPATIBLE WITH THE FAN LOSS DETECTOR

Armature Voltage	Non-Regenerative Controller Horsepower	Regenerative Controller Horsepower
240 VDC	20, 30 thru 150 HP	20, 30 thru 125 HP
500 VDC	40, 60 thru 300 HP	40, 60 thru 150 HP
600 VDC	60 thru 300 HP	60 thru 180 HP

THEORY OF OPERATION

In operation, a bimetallic thermostat with normally closed contacts and a 115 volt a-c powered heater are mounted in close proximity to one another and contained within a thin-walled, cylindrical metal can 25 milliamperes of heater power is delivered to the heater from the MaxPak Plus control circuit transformers. With forced airflow from the power unit fan passing over the detector canister, the temperature of the air surrounding the thermostat remains below its trip point, the thermostat contact remains closed and the presence of fan output is, therefore, confirmed. Upon a fan failure, the

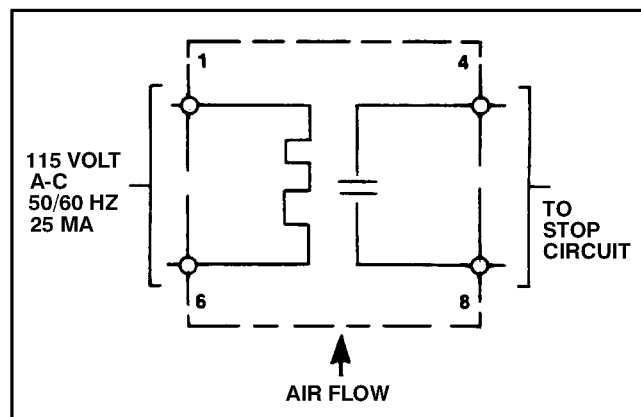
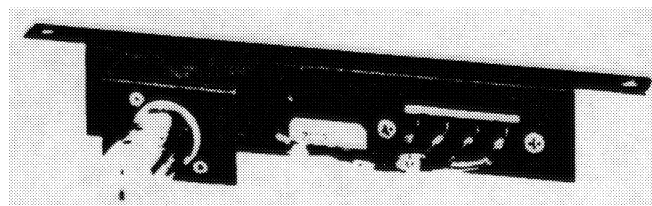


FIGURE 1
 FAN DETECTOR SCHEMATIC

SPECIFICATIONS

Input Power: 115 volts a-c, 50/60 Hz, at 25 ma
 Output Contacts: 115 volts, 2 ampere maximum, noninductive load
 Air Flow Setting: 500 feet/minute (150 meters/minute).



INSTALLATION

WARNING

BEFORE ATTEMPTING TO INSTALL THIS MAX-PAK PLUS MODIFICATION KIT, DISCONNECT AND LOCK OUT ALL SOURCES OF INCOMING POWER TO THE CONTROLLER CABINET.

1. Remove the two nuts which secure the fan finger guard to the bottom side of the power module enclosure. See Figure 2.
2. Remove the finger guard and discard it.
3. Install the fan loss detector in place of the original finger guard with the terminal board facing you and secure into place with the two nuts removed in step 1.

4. Connect 115 volt a-c power from the drive control circuit supply (188 – 189) to the heater (detector terminals 1 and 6).
5. Wire the thermostat (detector terminals 4 and 8) in series with controller terminals 33 and 44. If other protective interlocking devices are already installed and wired into this line, the detector thermostat should be wired in series with them.

REPAIR PARTS

A complete parts list is provided on assembly drawing 705395 packed with this kit.

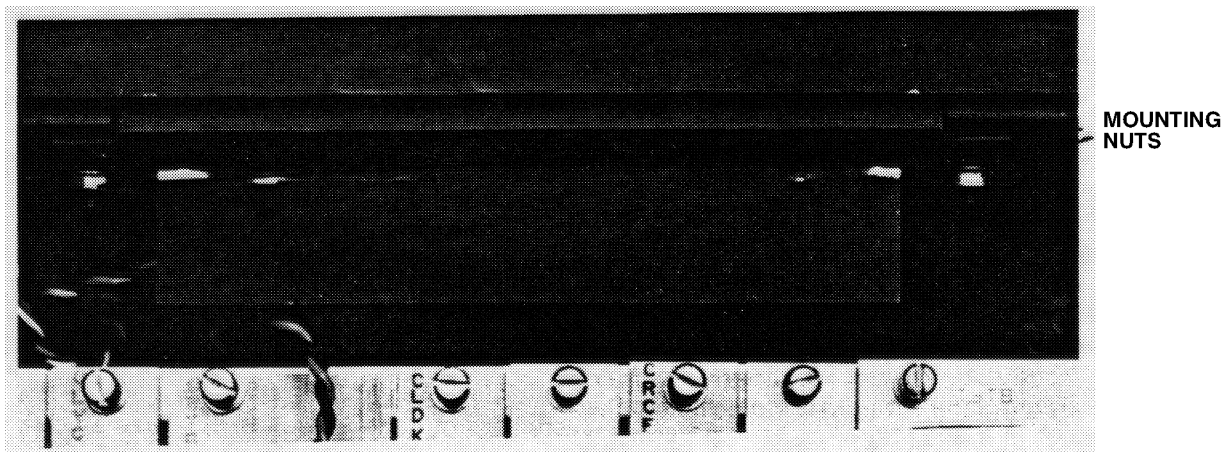


FIGURE 2

**RELIANCE
ELECTRIC**

General Offices, 24701 Euclid Avenue, Cleveland, Ohio 44117

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