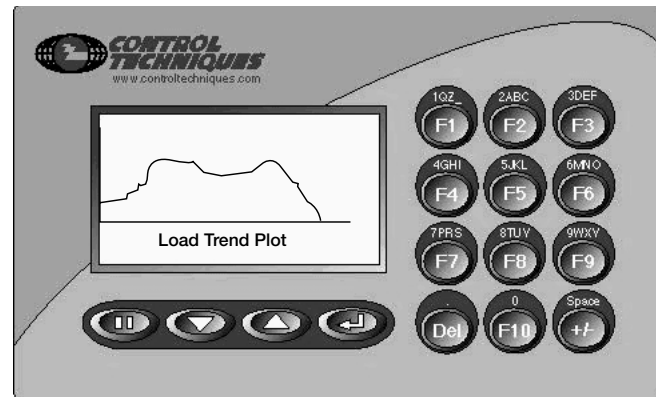
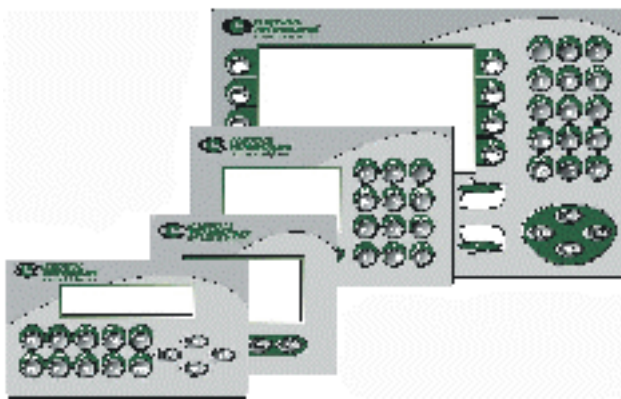


## 12.1 CTIU OPERATOR INTERFACE UNITS

The Control Techniques Interface Units offer a wide range of capabilities depending on the complexity of the application and system. CTIU's were designed for general use with our Mentor II, Quantum III, Unidrive and Commander SE drive series. The display panels use a high-resolution bit-mapped LCD display offering excellent readability due to adjustable back-lighting. The units support 300 display pages. Each page can consist of a mix of Drive Menu items, Drive Status points, alarms and fault conditions. These quantities can be displayed as numeric or alphanumeric (text), dynamic bar graphs, live graphs or trends plots. Higher end models offer multiple font sizes and graphical animations. Embedded fields can be designated modifiable, permitting operators to change machine values remotely and send them back to the drive for execution. The CTIU's employ easy to wire screw terminals for the RS-485 multi-drop interdrive field wiring. It also provides a convenient RS-232 nine pin D plug-in connector for easy connection to a PC for configuration. Each Comm port has LED indication of transmit and receive signals for fast field troubleshooting. The CTIU configuration software is a Windows™ based program that supports approximately 100 PLC manufacturers.



**Figure 12-1**  
**Control Techniques Interface Unit**

### Features

- Selectable Flashing Text
- Scalable Bar Graphs
- Downloadable Drive Recipes
- Wide Supply range 8-32vdc
- Internal Self Test Mode
- Page Password Protection
- Function Key for Drive Control

### Programming

- WYSIWYG for display editing, formatting
- Script Language offering
- Math Operations, Timer intervention
- Conditional Branching
- Scheduling Support
- Page Design Wizard
- Function Key Mapping

For more information on the CTIU Operator Interface visit our website at:

**[www.ctdrives.com/downloads](http://www.ctdrives.com/downloads)** under Marketing Literature.  
CTIU then CTIU Brochure.

## 12 Options

### 12.2 FIELD CONTROL CARD MDA3

The MDA3 Card is standard in models 9500-8X02 through -8X06 (5 HP through 100 HP at 480 VAC) and enables a Quantum III drive to operate a motor with the motor field under variable current control. Parameters in Menu 06 (Field Control) are provided as standard for use in conjunction with the optional controller.

The MDA3 Card is suitable for motors with field current up to 8 amps, and is installed internally to the drive unit. It can be changed out on site if required.

The MDA3 comprises the card, an input rectifier, and a heat-transfer plate and requires no additional components.

The MDA3 Card, Figure 12-2, is accessible at the bottom right side of the Quantum III and fits between the power board of the drive and the heat sink. Refer to Figure 12-3.

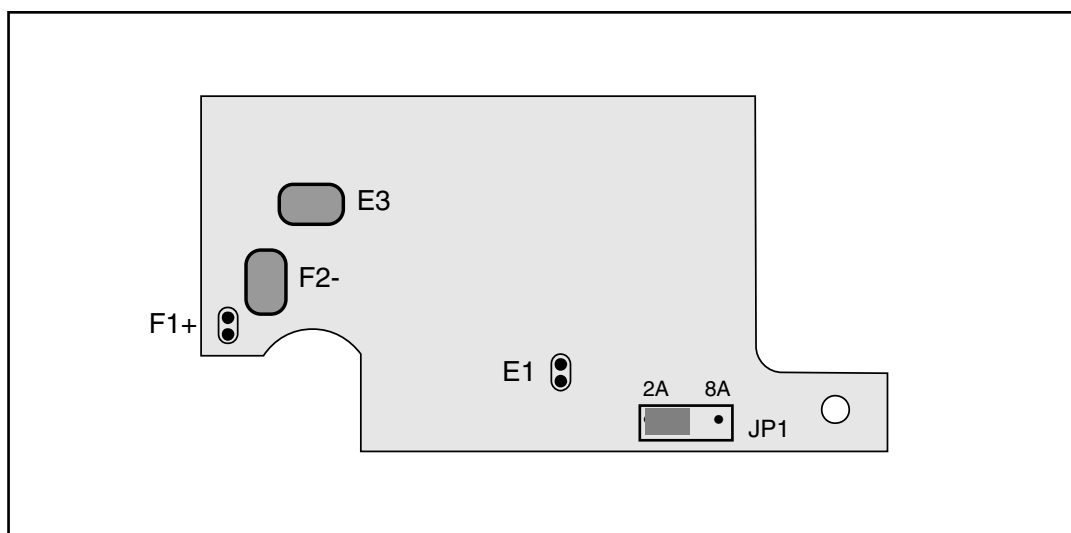
As shown in Fig. 12-2, the rectifier is attached to the heat sink through the access hole provided in the power board. It is attached by a single, central screw (supplied). The heat transfer plate (supplied) **MUST** be mounted between the rectifier and the heat sink.

The MDA3 card sits partly over the rectifier and is attached to the heat sink by the pillars and screws provided.

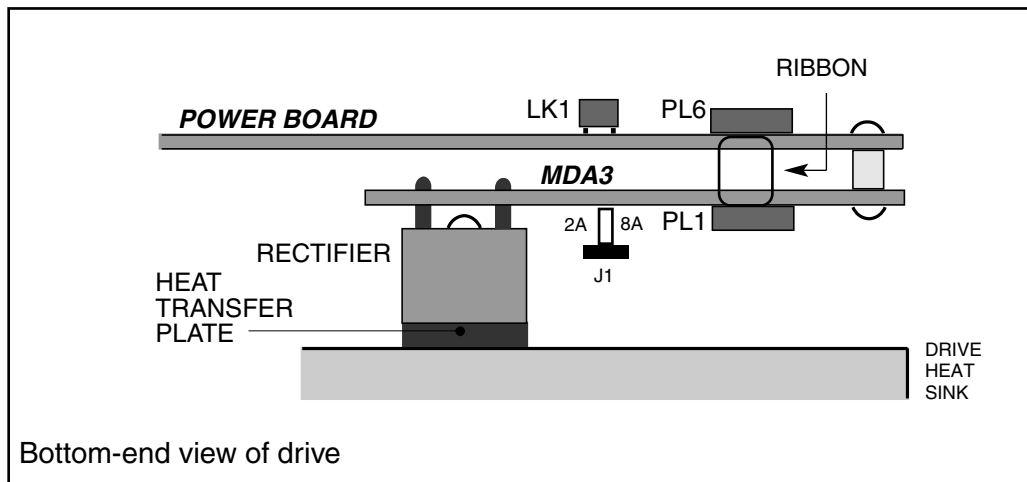
#### Removing the MDA3 Field Control Board

1. Remove the 10-pin ribbon cable connector on PL6.
2. Remove the four (4) leads attached to E3, L11, F+, and F2 on the MDA3 card.
3. Remove the M4 screw, nylon spacer, and hardware that attaches the MDA3 to the power board.
4. Remove the M5 screw that attaches the rectifier through the heat transfer plate to the heat sink. Be careful not to lose the washer and lockwasher.
5. The unit can now be removed by sliding it out the bottom of the Quantum III.

The MDA3 card has a fixed burden resistor. The user can scale the current feedback for different maximum currents by setting J1 for 2 amps or 8 amps maximum range and by setting parameter 06.11 as described in paragraph 10.7.6.



**Figure 12-2.**  
**MDA3 Card and Connections**



**Figure 12-3.**  
**MDA3 Card Attached to the Heat Sink Behind the Power Board**

## 12.3 FIELD CONTROL UNIT FXM5

The FXM5 Unit enables all Quantum III drive models to operate a motor with the motor field under variable current control. It can be operated as a stand alone analog control or it can be controlled digitally by the parameters in Menu 06 (Field Control). Parameters in Menu 06 are provided as standard for use in conjunction with the optional controller. Refer to paragraph 10.7.6.

The FXM5 Unit is suitable for motors with field current up to 20 amps, and is installed externally to the drive unit. It is suitable for installation by the user on site if desired. The FXM5 is provided standard for use on fields to 9 amps maximum. A high current modification is available for fields with current of 10 amps to 20 amps.

## Installation

The FXM5 unit must be firmly attached to a vertical surface by the two (2) mounting brackets, Figure 12-5. The unit must be located with the heat sink fins vertically aligned. This permits free circulation of cooling air. Access for cooling air to and from the heat sink must not be obstructed.

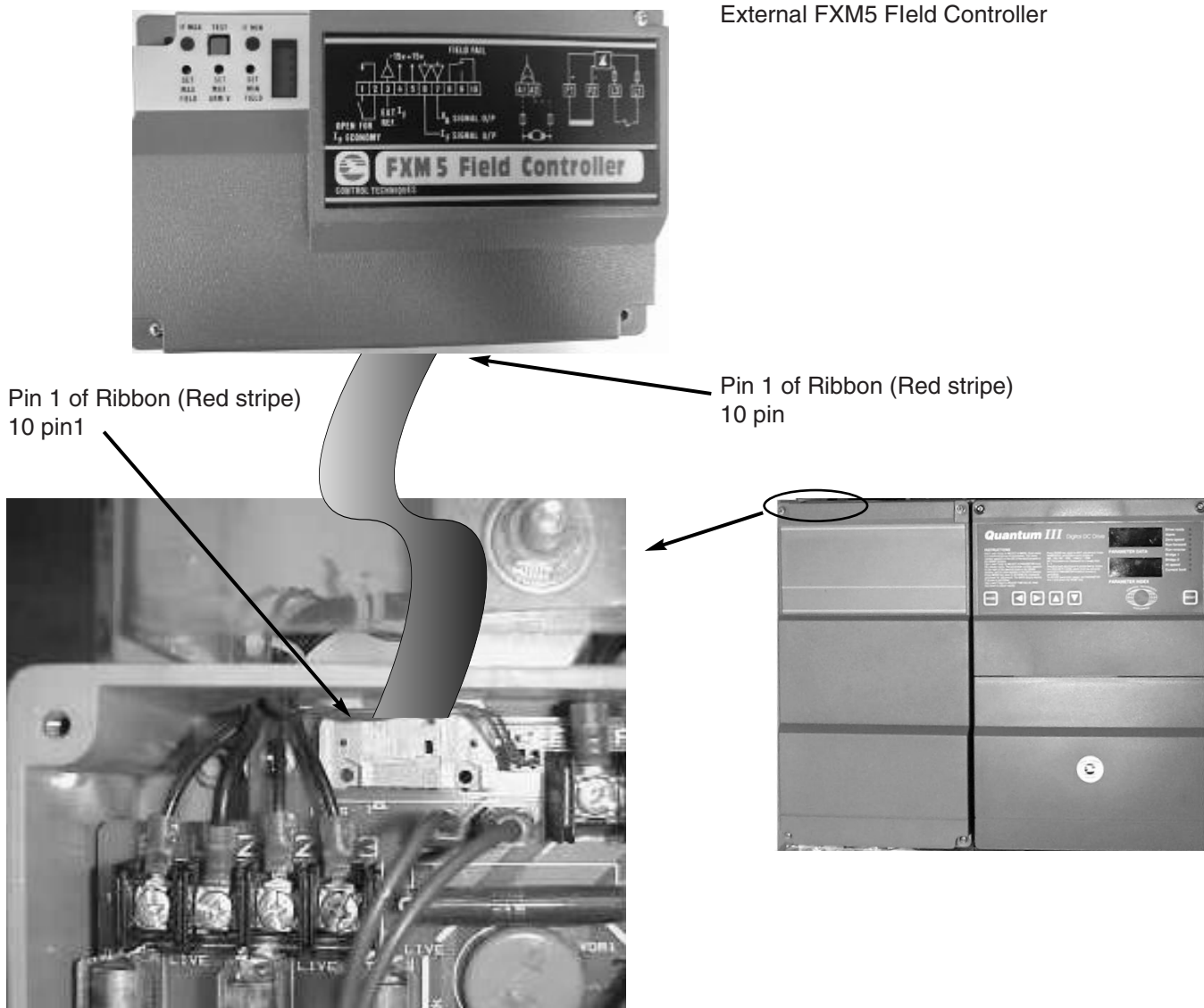
As supplied, the FXM5 has an integral cover retained by four (4) screws.

## FXM5 Startup Data

Refer to the Instruction Manual (ES10-027) provided with the FXM5.

# 12 Options

## FXM5 Ribbon Connector Location on Size 2 and Size 3 Quantums 9500-8X07 thru 9500-8X20



**Figure 12-4.**  
**FXM5 Ribbon Connector Location on**  
**Size 2 and Size 3 Quantums**  
**9500-8X07 thru 9500-8X20**

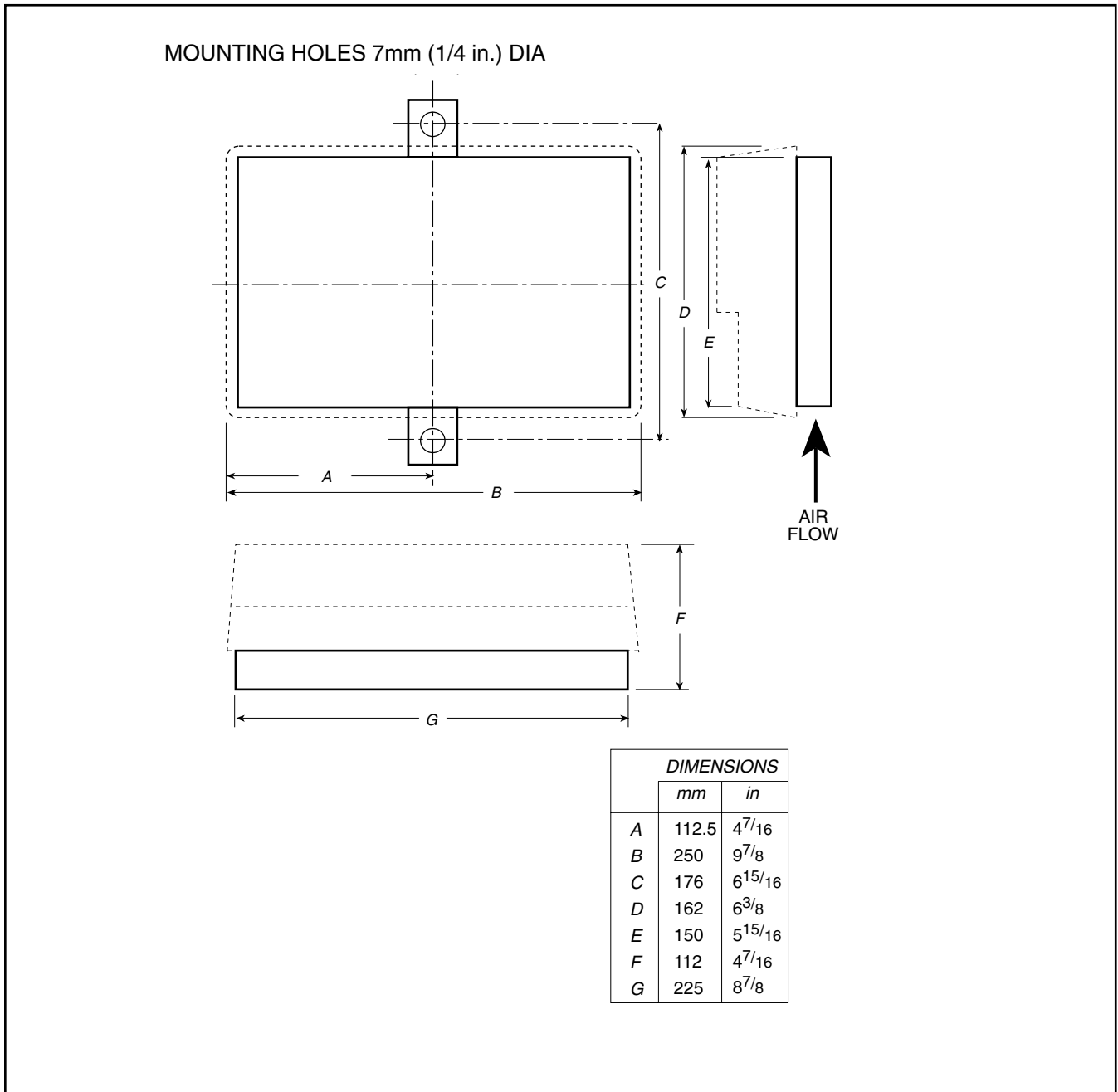


Figure 12-5.  
FXM5 Overall and Mounting Dimensions

