



# Replacement Printed Wiring Boards

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## Instruction Sheet for UDC2500 and UDC3200 Universal Digital Controllers

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### Kit Contents:

This kit contains one of the following replacement Printed Wiring Boards:

- UDC2500 MCU/Input Board – Part No. 51452801-503
- UDC2500 Limit Controller MCU/Input Board – Part No. 51452801-504
- UDC2500 Display/Keyboard – Part No. 51452758-501
- UDC3200 MCU/Input Board – Part No. 51452819-501
- UDC3200 Display/Keyboard – Part No. 51452845-501
- UDC3200 Optional Input Board – Part No. 51452825-501
- UDC2500/3200 Power 90-264Vac Board – Part No. 51452822-502
- UDC2500/3200 Power 24Vac/dc Board – Part No. 51452822-503
- UDC2500/3200 Aux Out/Dig Inp/RS-485 – Part No. 51452809-501
- UDC2500/3200 Aux Out/Dig Inp/RS-485 – Part No. 51452810-501
- UDC2500/3200 Aux Out/Dig Inp/Ethernet– Part No. 51452816-501
- UDC2500/3200 Current Output Board – Part No. 51452804-501
- UDC2500/3200 Dual Relay Board – Part No. 51452807-501
- UDC Controller Keypad Button Guide Kit – Part No. 50133058-501

### Equipment needed:

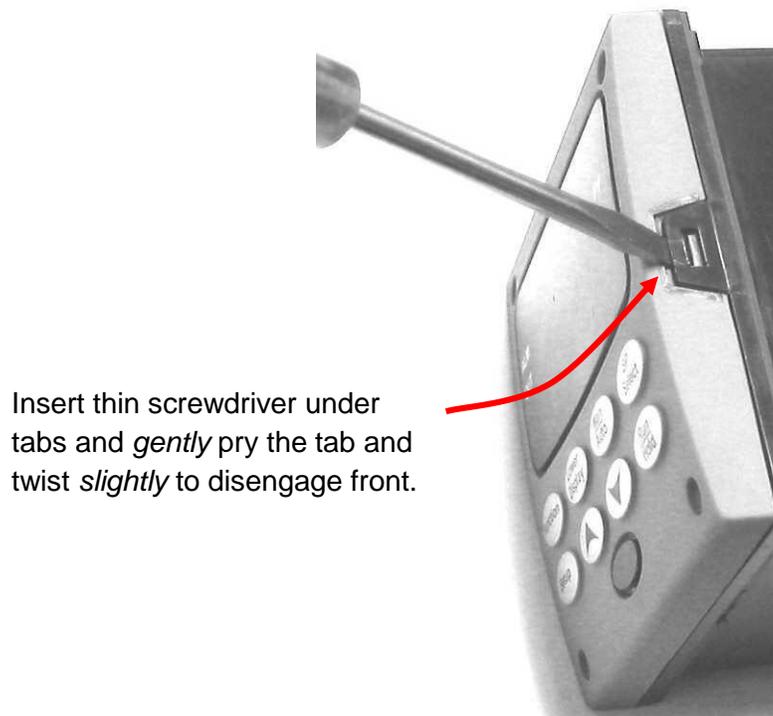
- Small flat-bladed screwdriver
- Small needle-nose pliers

## Procedures:

The procedure tables that follow list the steps required to replace the old Printed Wiring Board in your controller with the one supplied in this kit.

**Table 1: How to Remove the Chassis**

Step	Action
1	Remove any screws in the front face.
2	Insert a flat-bladed screwdriver into the tabs of the case as shown in Figure 1 and pry chassis forward slightly until the chassis connectors separate from the back of the case.
3	Grasp the bezel and pull the chassis out of the case.

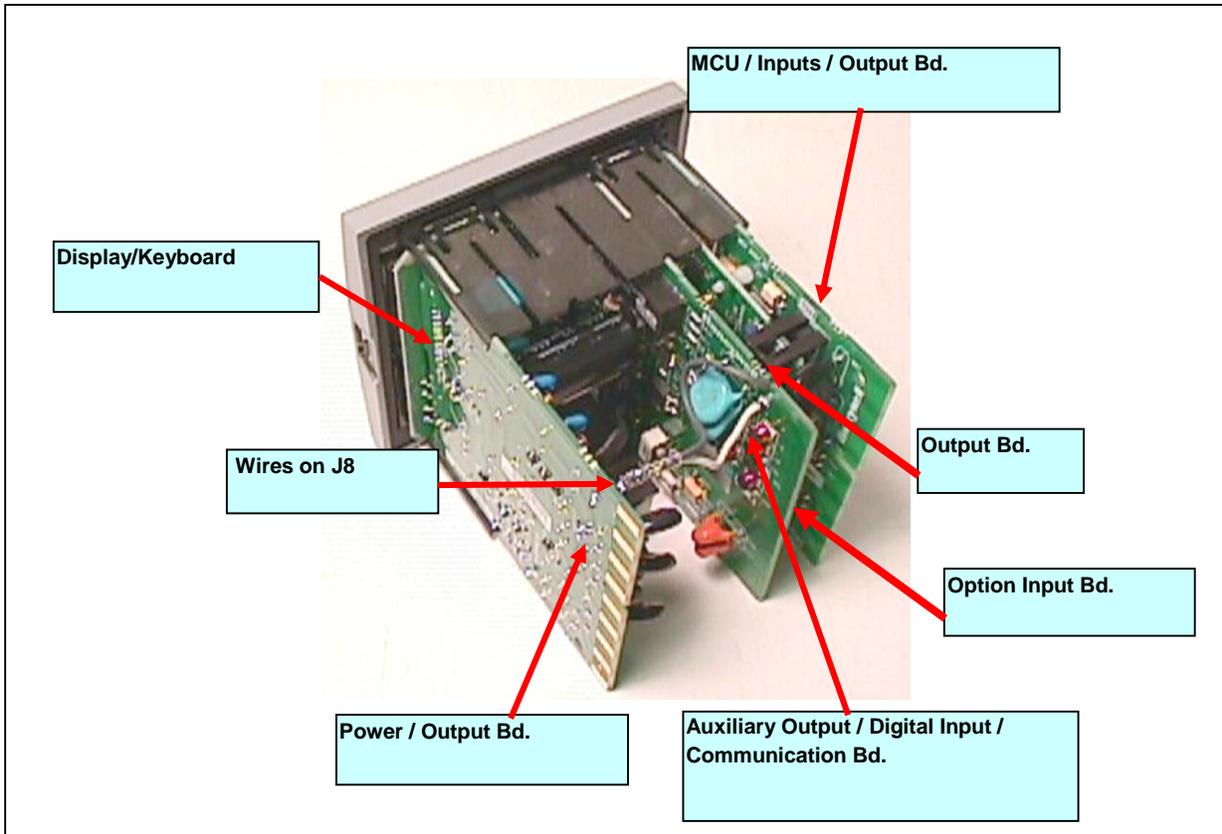


**Figure 1: Chassis Removal**

Using a thin screwdriver, **gently** pry the side tabs from the front face and twist the screwdriver **slightly** to disengage the front. **Pry just enough to release it, otherwise you'll bend or break the tab.** If you break or bend the tab and can't reattach the front securely, you'll need to reattach the front using the 4 NEMA4 screws provided.

**Table 2: Board Identification**

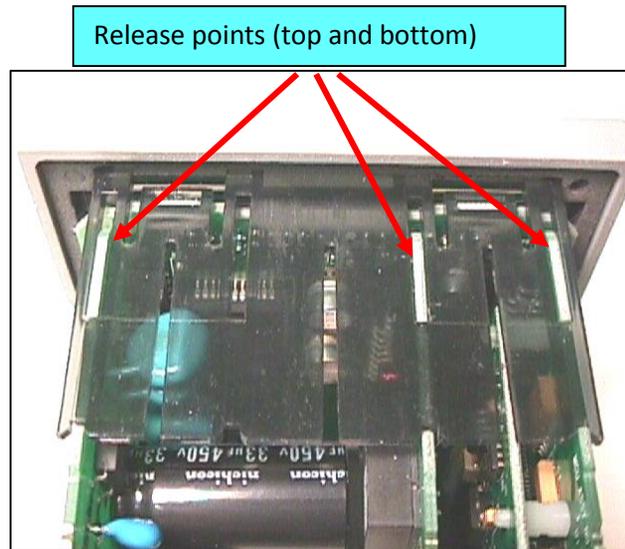
<b>Step</b>	<b>Action</b>
<b>1</b>	Note the location of the various boards inside the instrument.
<b>2</b>	Match up the replacement board in this kit with the one inside the instrument so that you become familiar with where it goes.



**Figure 2: Board Identification**

**Table 3: How to Remove the Printed Wiring Boards from the Chassis**

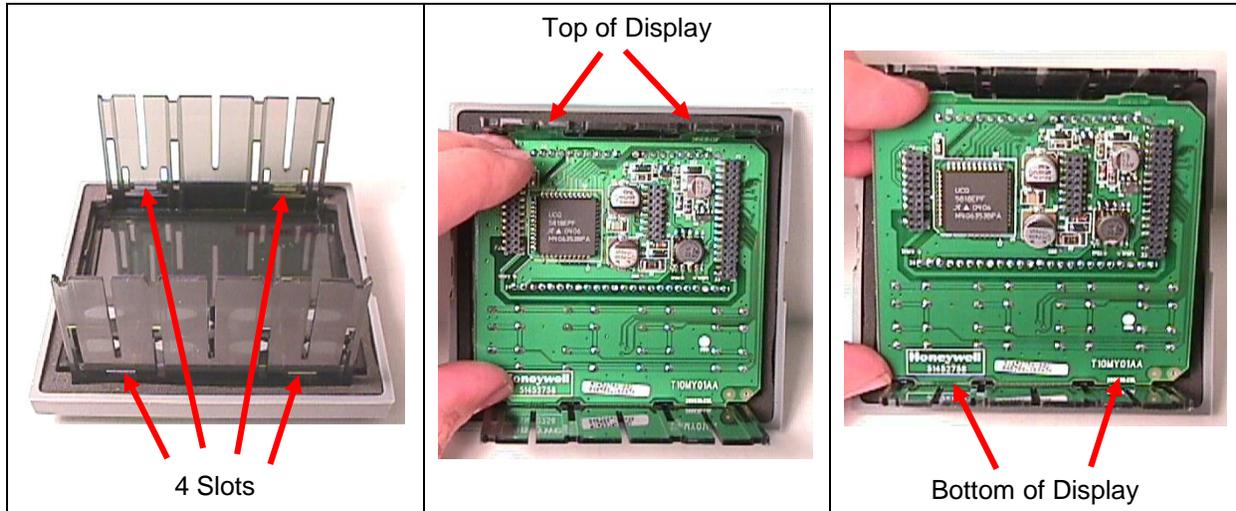
<b>Step</b>	<b>Action</b>
<b>1</b>	Remove the chassis from the case as shown in Figure 1.
<b>2</b>	Find J8 in Figure 2. Remove all wire connectors from J8 by sliding a small screwdriver under each connector and lift the release.
<b>3</b>	Separate the chassis frame at the release points shown in Figure 3 and ease each printed wiring board out of its socket on the display/keyboard assembly. Pull all boards out of the chassis.
<b>4</b>	Lay the boards flat on a static-free surface. If the Display/Keyboard is to be replaced, go to Table 4. If the Display/Keyboard is not being replaced, go to Table 5.



**Figure 3: Removing Printed Circuit Boards**

**Table 4: How to Remove the Display/Keyboard from the Chassis**

Step	Action
1	Remove the chassis from the case as shown in Figure 1.
2	Remove the Boards from the chassis as shown in Figure 3.
3	The Display/Keyboard is held in place by four slots in the Chassis as shown in Figure 4. Using a small flat-blade screwdriver, lift up the two top slots one at a time while pulling on the Display/Keyboard until it comes out of the slots. Rotate the Display/Keyboard downwards until it can be pulled out of the bottom two slots.



**Figure 4: Removing Display/Keyboard**

**Table 5: Board Replacement Procedure**

Step	Action
1	Remove the chassis from the case. (Figure 1)
2	Remove the printed wiring boards from the chassis. (Figure 3 and Figure 4)
3	Lay the boards flat and identify the board you are replacing. (Figure 2)
4	If present, the Output option board and the Option Input Board are held onto the MCU/Input board with three posts. Locate these posts under the MCU/Input board.
5	Use small pliers and squeeze the ends of each post together and push it up through the board.
6	Replace the board with the one from this kit. If the white ground lead on the old board has a ferrite sleeve on it, remove the sleeve and place it onto the ground lead on the new board.
7	Reinstall the Output Option and Option Input boards.

<b>8</b>	Reinstall the Aux.Out/DI/Communications board, if present, onto the MCU/Input board and install these as a unit into the Chassis. Make sure the connections to the Display/Keyboard assembly are made and that the release points on the chassis snap into place on the printed wiring boards. If the boards are not properly inserted, then the Chassis will not slide into the Case properly.
<b>9</b>	Reinstall the wires onto the J8 connectors.
<b>10</b>	Slide the printed wiring boards back into the chassis. Make sure the connections to the display/keyboard assembly are made and that the release points on the chassis snap into place on the printed wiring boards.
<b>11</b>	Reinstall the chassis into the case. Push in hard until the case tabs lock onto the chassis, then replace the screws, if present.

**Table 6: Display / Keyboard Replacement Procedure**

<b>Step</b>	<b>Action</b>
<b>1</b>	Remove the chassis from the case. (Figure 1)
<b>2</b>	Remove the printed wiring boards from the chassis. (Figure 3 and Figure 4)
<b>3</b>	Refer to Figure 4, Removing The Display/Keyboard. Insert the bottom of the Display/Keyboard into the bottom two slots of the Chassis. Now, push the top of the Display/Keyboard until it snaps into the upper two slots. Make certain that the tabs on the Display/Keyboard are fully inserted into the slots on the chassis.
<b>4</b>	Reassemble the other boards as described in Table 4.

**Table 7: Ethernet MAC and IP Address Information**

<b>Step</b>	<b>Action</b>
<b>1</b>	The MAC Address is printed on a label attached to the spare board. This is a unique value for each board.
<b>2</b>	The IP address for all spare boards is set to 10.0.0.2 as shipped from the Factory.

## Installation of the 50133058-501, UDC Controller Keypad Button Guide Kit



Step	Action
1	Remove the chassis from the case.
2	Remove the printed wiring boards from the chassis.
3	Remove the Display/Keyboard.
4	Insert the button guide over the protruding bezel rubber keypads, aligning with the six bezel tabs as shown in above Figure.
5	Reassemble the Display/Keyboard and the other printed wiring boards.
6	Reinstall the chassis into the case. Push in hard until the case tabs lock onto the chassis, then replace the screws if present.

## Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

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