

P/N 290626 Plus Controller Board

Automated Equipment, LLC

5140 Moundview Drive
Red Wing, Minnesota 55066
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Plus Controller Board P/N 290626 Replacement and adjustment.

Note: This Plus Controller Board is backward compatible with AFD-280, AFD-280U, AFD-280E, DF22, GDF22 and GDF28 dispensers when the correct software E-prom is used. When the correct software is not used and/or the jumpers are not correct, you will not have a display or the controller's display and LED's may flash, or the dispenser may not function properly.

Tools required:

Small flat blade screwdriver

Procedure:

Removal

- Turn the dispenser power off and unplug from the wall outlet.
- Remove the back panel.
- Disconnect the controller board connections: In 1, In 2, Out 1, Out 2, 24VDC, weight sensor connector and encoder connections (J1, J2 & J3).
- Remove the controller board.

Installation

- **Identify dispenser model number.**
- **Identify weighing system (Load Cell or NCWS).**
- **Identify applicable software.**
- **Install software E-prom onto the controller board.**

SOFTWARE E-PROM SELECTION

DISPENSER MODEL	SOFTWARE	SOFTWARE PART NUMBER
DF22	With Load Cell DF-22 1.0	203244
GDF22	With Load Cell GDF22 1.0	290280
GDF28	With Load Cell GDF28E 1.3	290788
	With NCWS GDF28E 2.5	290786
AFD-280	With Load Cell AFD-280/U 2.2	290063
AFD-280U	With Load Cell AFD-280/U 2.2	290063
AFD-280E	With Load Cell AFD-280E 1.3	290790
	With NCWS AFD-280E 2.5	290778

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- **Verify the jumpers are correct on the controller for your model of dispenser.** (See Diagram on page 3)

JUMPER SELECTION							
Dispenser model	H1	H3	H5	H6	H7	H8	H9
DF22/GDF22			X		X		
GDF28			X		X		X
AFD-280			X		X		
AFD-280U			X		X		
AFD-280E			X		X		X
X = jumper installed							

- Mount the replacement controller board.
- Reconnect the controller board connections: In 1, In 2, Out 1, Out 2, 24VDC, weight sensor connector and encoder connections (J1, J2 & J3).
- Plug the dispenser into the wall outlet and turn the power on.
- If the controller powers up with an Error Code 9. Push the start/reset button.
- Identify which calibration procedure you must use: Non-contact weighing system (NCWS) or Load Cell. See diagrams 1 & 2.
- Perform the Weighing System Calibration for your model dispenser as outlined at the end of this procedure.
- Verify proper dispenser operation.
- Install the back panel and place the dispenser back in service.

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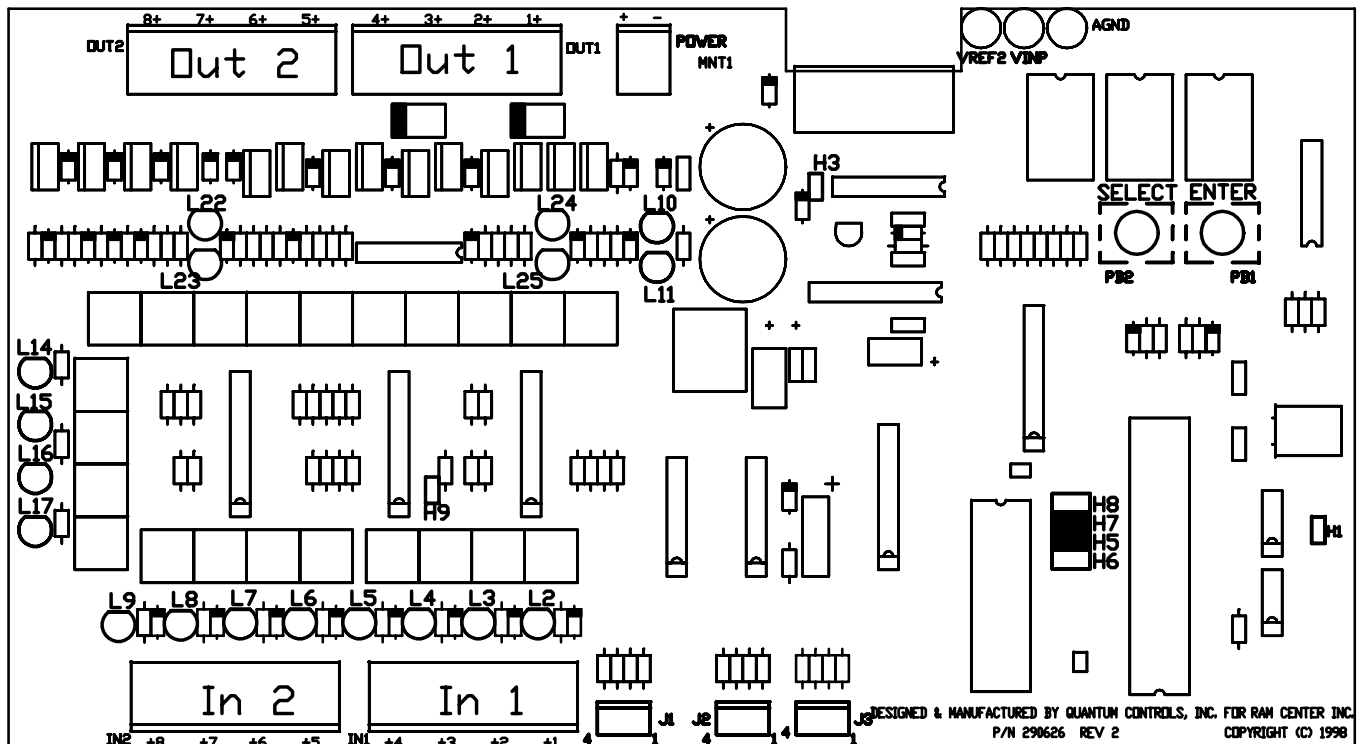
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Plus Controller Board Information

Component	AFD-280E & GDF28	AFD-280 & AFD-280U	DF22 & GDF22
L2	Lift Optical Sensor	Lift Optical Sensor	Remote Dispense Switch
L3	Guide Optical Sensor	Guide Optical Sensor	Accumulator Door Closed Switch
L4	Lift Encoder 2	Lift Up	Dispense Button Pressed
L5	Lift Encoder 1	Lift Down	Unused
L6	Stopgate Home Switch	Air Present	Large Loads Button Pressed
L7	Accumulator Home Switch	Selector Switch Position 3	Medium Loads Button Pressed
L8	Selector Switch Position 3	Selector Switch Position 2	Small Loads Button Pressed
L9	Restart Switch & Switch Position 2	Restart Switch	Calibration Button Pressed
L10	Rotate Drum	Rotate Drum	Rotate Drum
L11	Accumulator Door Drive	Start Light	Actuate Accumulator Motor
L14	Reverse	Unused	Large Loads Switch, Indicator Light
L15	Start Light	Raise lift	Medium Loads Switch, Indicator Light
L16	Load Switch Mpx.	Open Accumulator Doors	Small Loads Switch, Indicator Light
L17	Restart Switch Mpx.	Open Stopgate	Calibrate Switch, Indicator Light
L22	Close Stopgate	Unused	Unused
L23	Open Stop gate	Unused	Unused
L24	Lift Down	Unused	Unused
L25	Lift Up	Unused	Unused
J1	Lift Encoder Phase 1 Connection (blue)	Unused	Unused
J2	Stopgate Sensor Connection (yellow)	Unused	Unused
J3	Lift Encoder Phase 2 Connection (green)	Unused	Unused



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Load cell calibration

1. Remove the hopper from the dispenser.
2. Verify that the accumulator doors are empty and collars on shafts of doors are 1/8 inch away from cabinet wall.
3. Turn the power switch to the ON position.
4. AFD-280E dispensers only: Select Function 30 (lift up position) and press enter. Record the lift up position on the display.
5. Select Function 17 (to restore defaults) on the controller board and press the Enter Button.
6. *Note: For International units of measure: Select Function 25. "US" on display. Press Enter again to change to "IN".*
7. Select Function 4 (Tare Function) on the controller board and press the Enter Button.
8. Place a 1.0 pound (450 gm) weight on the accumulator doors (four 1/4 pound patties is fine).
9. Select Function 5 (Calibrate Function) on the controller board and press the Enter Button. "CAL" on display.
10. Wait 10 seconds for the load cell to stabilize and press the Enter Button again. This sets the calibration.
11. Remove weight.
12. AFD-280E dispensers only: 31 to increase lift height or select Function 30 to decrease lift height. Adjust as needed by pressing the enter button. When finished press the select button to save the change. Verify basket transition from upper guide to saddle and adjust lift up position counts if needed.
13. Turn the power switch to the OFF position.
14. Replace the back panel.
15. Reinstall the hopper and put the dispenser back into operation.

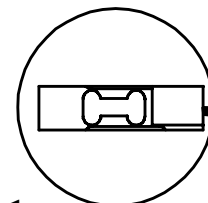
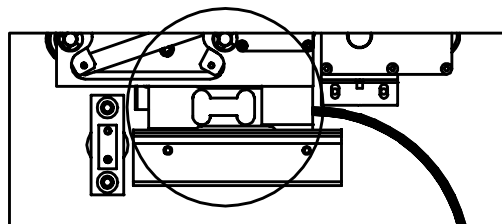


Diagram 1

Non-contact Weighing System (NCWS) calibration

1. Remove the hopper from the dispenser.
2. Turn the power switch to the ON position.
3. Select Function 30 (lift up position) and press enter. Record the lift up position on the display.
4. Select Function 17 (to restore defaults) on the controller board and press the Enter Button.
5. *Note: For International units of measure: Select Function 25. "US" on display. Press Enter again to change to "IN".*
6. Select Function 5 (Calibration Function) on the controller board and press the Enter Button. "CAL" on the display.
7. Verify that the accumulator doors are empty. Wait 10 seconds then press the Enter Button. "C1.0" on the display.
8. Place a 1.0 pound (450 gm) weight on the accumulator doors (four 1/4 pound patties is fine).
9. Wait 10 seconds then press the Enter Button. "C2.0" on the display.
10. Place 2.0 pounds (900 gm) total weight on the accumulator doors (eight 1/4 pound patties is fine)..
11. Wait 10 seconds then press the Enter Button. "---" will appear on the display.
12. Remove weights.
16. Select Function 31 to increase lift height or select Function 30 to decrease lift height. Adjust as needed by pressing the enter button. When finished press the select button to save the change. Verify basket transition from upper guide to saddle and adjust lift up position counts if needed.
13. Turn the power switch to the OFF position.
14. Replace the back panel.
15. Reinstall the hopper and put the dispenser back into operation.

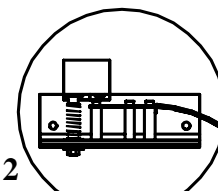
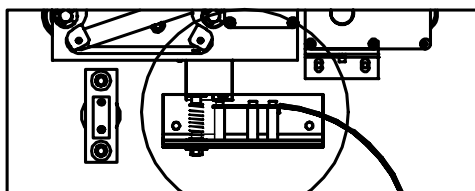


Diagram 2