



**CAUTION!** There are live circuits inside the controller even when the power switch is in the OFF position! Servicing and troubleshooting the controller must be performed by Qualified Service personnel.

## W400 – Power Supply Check

### Possible Symptoms:

**Display is dark, LEDs don't light up, No Beeps when pressing keypad buttons**

### Check voltage across Fuse F1

1. Power up the controller
2. Measure voltage, VAC, from Fuse F1 to neutral (from each end of the fuse).
  - a. A multimeter can be used to check for an open fuse. The measurement is taken between **each end of the fuse and the neutral side** of the line. If voltage is present on **both** sides of the fuse (from voltage source and to the load), the fuse is good (not open). See both photos below.
    - i. If the fuse F1 is faulty, replace the fuse F1 5 x 20mm, 1.0A, 250V, Walchem p/n 103163.

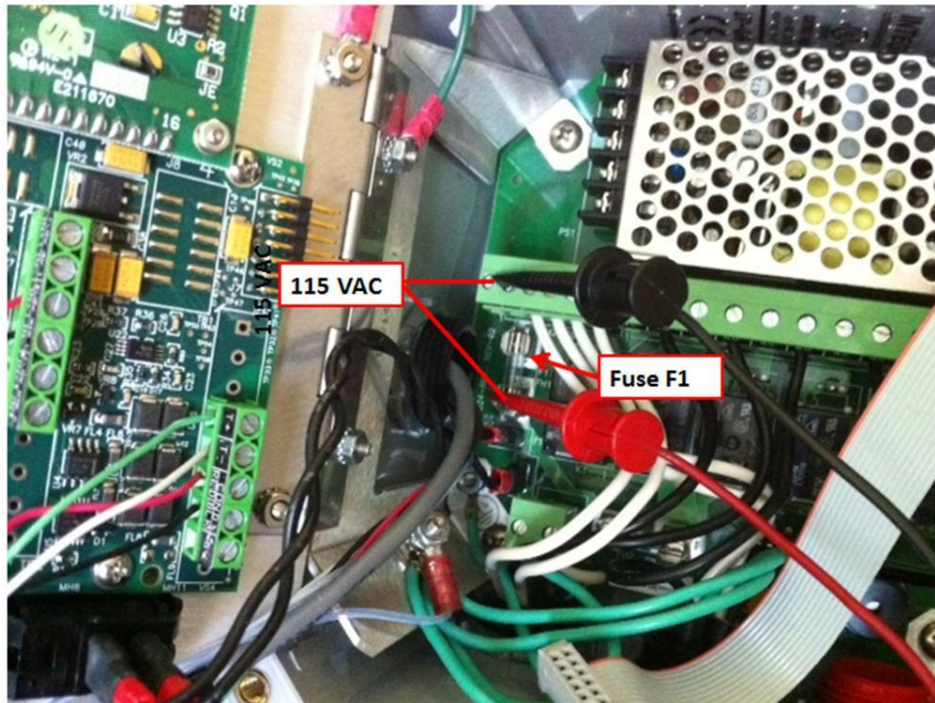


Figure 1



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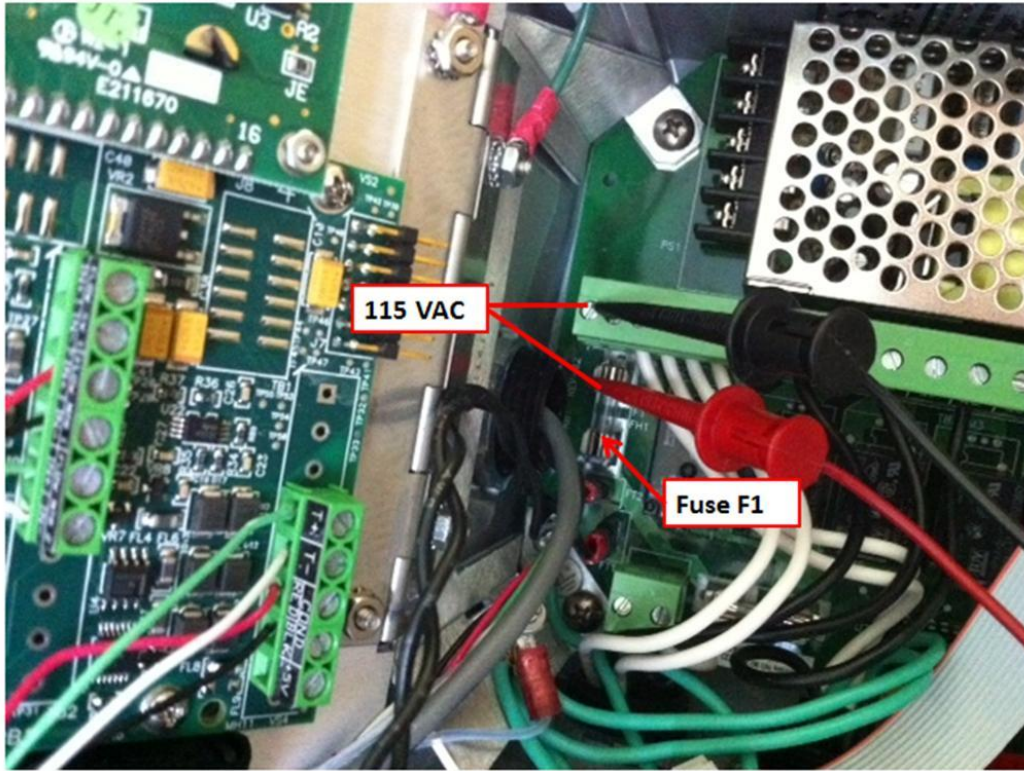


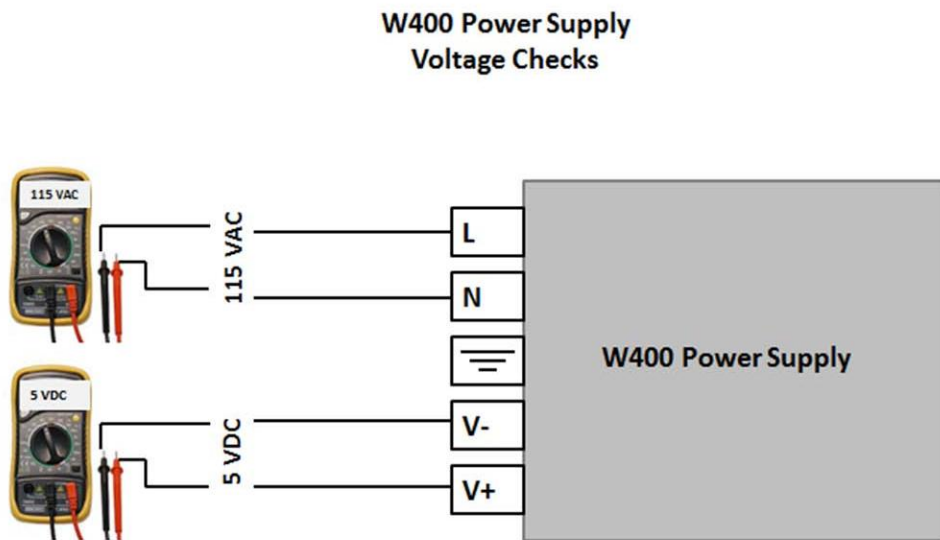
Figure 2



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### Power Supply VAC and VDC Checks

1. Power down the controller. Disconnect the gray ribbon cable (it has a red stripe on one side, see Figure 5) from the controller front door. This ribbon cable goes from the back of the controller front door to the relay board inside the controller main enclosure.
  - a. Measure the VAC and VDC on the power supply as shown below.



**Figure 3**

- b. If you do not measure 115 VAC or 5 VDC, then proceed to the next step.



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- c. Measure the incoming VAC as shown in Figure 4.



**Figure 4**

- d. If you do not measure 115 VAC on the incoming power, then you need to try an alternate power circuit from the customer. If you still do not measure 115 VAC incoming, and you know you have 115 VAC supply voltage, then please complete the on-line Return Material Authorization, RMA, request form to initiate the return of the controller for evaluation/repair.

<http://www.walchem.com/rmaform/rma.htm>

- e. If you measure 115 VAC, please proceed to the next step.

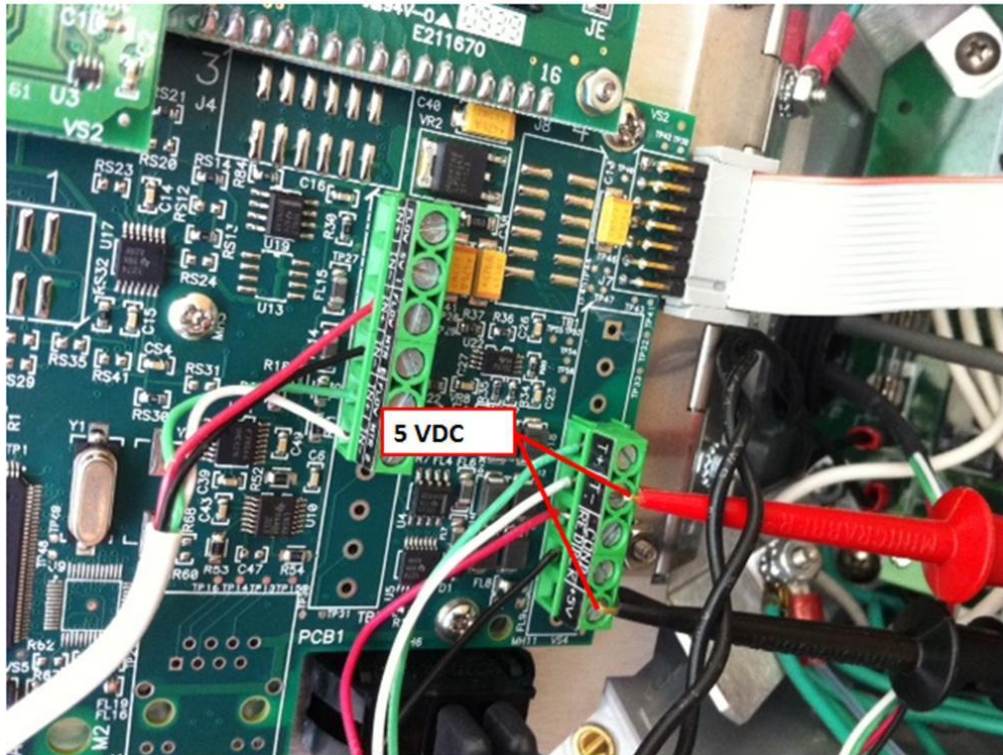




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## Check VDC to the Controller Front Door

1. Reconnect the ribbon cable as shown in Figure 5.
  - a. Measure VDC across terminals T- and +5V as shown below.



**Figure 5**

- b. If you measure 5VDC between +5 and T- as shown above in Figure 6, then the power supply and ribbon cable are good. If you do not measure 5VDC between +5 and T- as shown above in Figure 6, proceed to the next step.
    - c. Power down the controller, disconnect all inputs and outputs (I/O) connected to the controller. This means sensors, water meter signal wires, analog output(s), and relay devices. Then power up the controller.
      - i. If the controller now boots up, one of the I/O was pulling down the 5 VDC that was trying to power up the front door. Determine which I/O it is.
      - ii. If the controller still does not boot up, then a new Front Panel Assembly, FPA, is required. Please complete the on-line Return Material Authorization, RMA, request form to initiate the return of the controller for evaluation/repair.

<http://www.walchem.com/rmaform/rma.htm>