Basic Focus 1 Checks

This document pertains to all Focus 1 drives

Purpose:

This Troubleshooting Guide provides the technician with basic checks to insure the Run relay is ok. It also provides the technician with basic ohmic check information to determine if the Focus 1 power elements are ok or not.

Drive Fails to Run:

RED LED will light up but does not stay lit

Run LED to the right of the relay.

This LED should remain lit when the Start/Stop switch is in the center position.

Turn off the power to the drive and make sure the ON/OFF switch is in the ‘OFF’ position.
Before performing any ohmic checks insure that the incoming power is turned off and Locked out using standard Lock Out/Tag Out procedures.

**Run Relay Check Without power**

With a digital multi-meter in ohms mode, measure from TB-2, pin 5 to TB-1, pin “X”. A good reading will be about 2kΩ.

One lead to TB2, terminal 5

The other lead to terminal “X”
2400-8001 Focus 1 chassis assembly shown

**+24VDC Supply Check**

Refer to the image above for part locations. TB-2, terminal 3 is the +24V DC supply. Apply power to the drive and measure from terminal “X”, on TB-1, to TB-2, terminal 3. A measurement of about 24V should be read.

**+24V Relay Check For Enclosure Models**

For the 2400-8000 enclosure model put the Start/Stop switch in the Start position and measure from TB-1, terminal “X”, to TB-2, terminal 4 where +24V should be measured. By allowing the switch to return to the center position the +24V should remain at terminal 4. If the voltage is not present then the relay is defective.
The same procedure applies to the 2400-8001 chassis mount model, but jumper wires can be substituted for the switch. Have a wire connected from TB-2, terminal 4, to TB-2, terminal 5. Next connect a wire from TB-2, terminal 3, and touch the loose end to TB-2, terminal 5, then remove that wire from terminal 5. Not only should the red light stay on, but there should also be +24V by measuring from TB-1, terminal “X”, to TB-2, terminal 4. If the voltage is not present then the relay is defective.

If the Run Relay is determined to be defective then the board will have to be replaced.

Call 1-800-367-8067 for Parts – ask for 2400-4000 PCB

**Fuses Blow:**

Usually fuses will blow immediately if there is a faulty Power Block.

**How do I know if my power block (PN: 3720-004) is defective?**
Before performing any ohmic checks insure that the incoming power is turned off and Locked out using standard Lock Out/Tag Out procedures.

Turn off the power to the drive and make sure the ON/OFF switch is in the ‘OFF' position.

With pliers remove the wires to all of the fast-on tabs by pulling on the lug insulation and not the wire. Verify where the wire goes to by labeling the wires. Below are some measurements taken with a digital multi-meter in diode mode … results may vary slightly.

<table>
<thead>
<tr>
<th>Measuring from:</th>
<th>With RED lead on terminal - to:</th>
<th>With black lead on terminal + to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1 = 0.432 (900kΩ)</td>
<td>AC1 = open</td>
<td></td>
</tr>
<tr>
<td>AC2 = 0.432 (900kΩ)</td>
<td>AC2 = open</td>
<td></td>
</tr>
<tr>
<td>G1 = 0.428 (900kΩ)</td>
<td>G1 = 0.026 (45Ω)</td>
<td></td>
</tr>
<tr>
<td>G2 = 0.428 (900kΩ)</td>
<td>G2 = 0.026 (45Ω)</td>
<td></td>
</tr>
<tr>
<td>terminal + = .436 (900kΩ)</td>
<td>terminal - to: 0.436 (900kΩ)</td>
<td></td>
</tr>
<tr>
<td>G1-G2 = 0.048 (100Ω)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nothing should have a shorted measurement

If the block does read a short anywhere then the block will have to be replaced. Call 1-800-367-8067 for Parts

For questions call Control Techniques Technical Support-USA at 716-774-1193
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