ACME CONTROLS

Boiler and Burner Components and Service

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3 Phase Variable Frequency Drive (VFD) Troubleshooting Guide

DC BUS CAPACITORS MAY STILL HOLD A DEADLY CHARGE. PLEASE MAKE SURE THAT CAPACITORS ARE FULLY DISCHARGED BEFORE ANY TROUBLESHOOTING IS PERFORMED.

Troubleshooting Steps	Outcome	Corrective Action
Safety first. Make sure that incoming power is turned off. More than one safety disconnect may be required in order to de-energize power supply.	⚠	⚠
Set DMM to Diode Check setting. Locate DC Bus terminals. Place the (-) negative lead on the (+) positive Bus terminal. With your (+) Positive DMM lead, probe the incoming phases. Incoming phases should be wired to L1, L2, and L3 of the VFD.	A diode drop reading should be obtained.	VFD is defective if an open reading is obtained.
Set DMM to Diode Check setting. Place (+) Positive lead on the (-) Negative Bus terminal, with your (-) negative DMM lead, probe the incoming phases. Incoming phases should be wired to L1, L2, and L3 of the VFD.	A diode drop reading should be obtained.	VFD is defective if an open reading is obtained.
Set DMM to resistance setting. Probe DC Bus terminals.	A capacitor charging reading should be obtained.	VFD is defective if a short or open is obtained.
Set DMM to Diode Check setting. Place the (+) Positive lead on the (-) Negative Bus terminal. With your (-) Negative DMM lead probe the outputs. Output terminals are most of the time labeled U, V, and Z or T1, T2, and T3.	A diode drop reading should be obtained.	VFD is defective if a reading indicating a short is obtained.
Set DMM to Diode Check setting. Place the (-) Negative lead on the (+) Positive Bus terminal. With your (+) Positive DMM lead probe the outputs. Output terminals are most of the time labeled U, V, and Z or T1, T2, and T3.	A diode drop reading should be obtained.	VFD is defective if a reading indicating a short is obtained.

Recommended Preventative Maintenance

Keep away from moisture. Moisture causes corrosion and shortens the life span of the VFD.

Clean environment. Periodically clean and dust off in order to prolong the life span of your control.

Visually inspect mechanical parts. Any signs of bearing wear on the motor that is being controlled can ramp up the Amperage draw on your VFD.

For assistance contact Acme Controls Technical Support
800.621.6427 ext. 2 or info@acmecontrols.com