

eP DIGITAL CONTROLLER

Troubleshooting Guide



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For a Total Solution to all of your Materials Testing Needs

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5.0 TROUBLESHOOTING

Data Acquisition/Analysis Problems		
Problem Description	Possible Cause	Action
Analysis Result is 0 or NA.	User specified analysis data range is not consistent with the data being collected during the test. Many analyses have user selectable parameters such as displacement or Samplebreak %, which is the percentage load drop from maximum load. These settings need to be consistent with the data being logged	<p>Ensure that the parameters selected for any analysis are appropriate to the logged data, ie will data be logged in the region defined by the specified parameters.</p> <p>Ensure that all Sample Break Percentages set in the analysis section are a lesser value than the Sample Break % that defines the end of test in the Data Acq menu. Note that the sample break setting is the percent drop from maximum load so if the analysis sample break setting exceeds the value of the setting used to define the end of the test then the data required for the analysis will not be logged.</p> <p>Ensure that any displacement range specified in the analysis section is included in the actual test data logged.</p>
Test Ending Early	Sample Break % and/or Data Logging Threshold (Data Acq menu) not set to values appropriate to your test	<p>Ensure that the data logging Threshold and Sample Break % are set to values appropriate for your test. Threshold is where data logging begins. Once the threshold is crossed the software is looking for the load to drop from the maximum load as specified in Sample Break%. An insignificant drop in load at the beginning of a test can trigger the end of the test if the threshold is set to low.</p> <p>Similarly an extremely low setting for Sample Break Percentage can trigger a premature end of test.</p>
	Local Overload (Data Acq menu) set to low	Ensure that the Local Overload (Data Acq menu) value set to an appropriate amount. The purpose of the local overload is for product testing where you want to limit the load for a test to a value that is less than load capacity of the machine in order to protect the test specimen. If you are testing samples to failure than the local overload should be set to the full-scale capacity of the load cell.
	Log Rate (Data Acq menu) not set to appropriate value	Set the Log Rate (Data Acq menu) to a value appropriate to your test. The maximum data logging rate is 1023.54 Hz, which gives you 16 seconds of test buffer. Ensure that the length of your test is less than maximum time allowed at your specified logging rate. The maximum time for each logging rate is displayed in the menu selection.

Testing Machine Movement Problems		
Problem Description	Possible Cause	Action
Machine not moving at requested rate.	Tuning Gains (Control menu) not set properly	<p>Ensure that the PID tuning gains are properly set.</p> <p>The testing machine can be programmed to move at either a specified load rate or a specified position rate. The tuning gains for position control have been set at the factory. The tuning gains for load control need to be set by the customer as these are dependent on the sample being tested.</p>
	<p>Incorrect Test Method is active.</p> <p>NOTE: tuning gains which control machine movement are test method specific.</p>	<p>Ensure that the appropriate Test Method with the correct setup is selected. The Test Method contains all of the information for the test including the programmed control channels and the control rates as well as the PID tuning gains.</p>
Machine is not moving	Tuning Gains (Control menu) not set properly.	<p>Ensure that the PID tuning gains are properly set.</p> <p>The testing machine can be programmed to move at either a specified load rate or a specified position rate. The tuning gains for position control have been set at the factory. The tuning gains for load control need to be set by the customer as these are dependent on the sample being tested.</p>
	<p>Incorrect Test Method is active.</p> <p>NOTE: tuning gains which control machine movement are test method specific.</p>	<p>Ensure that the appropriate Test Method with the correct setup is selected. The Test Method contains all of the information for the test including the programmed control channels and the control rates as well as the PID tuning gains.</p>
	Position Calibration value is incorrect.	<p>Ensure that the position calibration value is appropriate for the test frame. (Utils menu -> Calibration -> Position).</p> <p>Contact ADMET for the correct position calibration value for your test frame.</p>
Machine moves in wrong direction during testing	Direction of movement specified incorrectly. Control menu -> Dir	Ensure that the direction of movement setting (Control menu -> Dir) is set to the desired direction: Tension or Compression
Machine moves in wrong direction during homing	Home Location is not set properly.	<p>Ensure that Home Location in the Control menu is set to an amount appropriate to your test.</p> <p>For most testing applications Home Location is set to the default of 0.0000 such that the machine returns to zero position when homing. However in some applications, such as compression testing it is required to have the home location offset from the zero position.</p>