

## **PRODUCT DESCRIPTION**

### **ELECTROGLAS 4090 LABVIEW DRIVER**

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FemtoTek's LabVIEW Driver for the Electroglas 4090 Prober is a software package that enables automated control of the EG4090 and EG4090 $\mu$  wafer prober. The driver software communicates with the prober through the computer's GPIB interface or a serial port connection.

FemtoTek's driver package includes:

- Electroglas command VIs
- Checkout panel
- Sample program

The driver library offers a choice of more than ninety commands (see table below). The command groups, e.g. MOVE, are also combined into polymorphic VIs, one for each group. You can drop the polymorphic VIs onto the diagram of a program and then select the required command from the polymorphic list. The driver library supports both message-based and SRQ-based handshaking with the Electroglas prober.

The checkout panel allows you to send a selection of commands to the prober one at a time to verify the prober and GPIB interface.

The sample program demonstrates how to combine the prober driver with DUT test routines. For a typical application, shown in the sample program, the operator intervenes only to load the cassette and initial wafer. The rest of the cassette can be measured automatically using computer control.

Typically the list of x-y positions to probe is generated at the computer and the prober is moved to each position by the measurement program. However the driver library also supports automatic probe list generation by the prober, in which case each die is measured in response to a command from the prober.

Using the MOVE commands, you can position the probes at any chip position on the wafer. If the chip contains multiple devices, you can position the probes for each device with the MOVE MICRO command.

### **Commands implemented in the driver library**

#### **Move:**

- |                         |                       |
|-------------------------|-----------------------|
| • Move absolute die     | • Move to first die   |
| • Move absolute m       | • Z down              |
| • Move micro            | • Z up                |
| • Move probe tip center | • Move Z absolute     |
| • Move relative die     | • Move Z relative     |
| • Move relative m       | • Move theta relative |

<b>Action:</b>	
<ul style="list-style-type: none"> <li>• Abort probing</li> <li>• Auto align wafer</li> <li>• Begin autoprobe</li> <li>• Clean probe tips</li> <li>• Clear buzzer and message</li> <li>• Clear CRT message</li> <li>• Continuity test</li> <li>• Display message</li> <li>• Display CRT message</li> <li>• Handle wafer</li> </ul>	<ul style="list-style-type: none"> <li>• Illuminators</li> <li>• Ink chip</li> <li>• Load wafer</li> <li>• Probe wafer</li> <li>• Profile wafer</li> <li>• Retry prealignment</li> <li>• Switch chuck vacuum</li> <li>• Test complete and bin</li> <li>• Unload wafer</li> </ul>
<b>Setting:</b>	
<ul style="list-style-type: none"> <li>• Set mm die size</li> <li>• Set 6 digit mm die size</li> <li>• Set wafer diameter</li> <li>• Set coordinate quadrant</li> <li>• Set count pulse width</li> <li>• Set current cassette</li> <li>• Set date and time</li> <li>• Set first die</li> <li>• Set flat orientation</li> <li>• Set hot chuck temperature</li> <li>• Set inker pulse width</li> <li>• Set inker count limit</li> <li>• Set inker1 counter</li> <li>• Set inker2 counter</li> <li>• Set inker3 counter</li> <li>• Set inker4 counter</li> <li>• Set probe clean count</li> </ul>	<ul style="list-style-type: none"> <li>• Set probe quadrant</li> <li>• Set profiler retry count</li> <li>• Set reference die coordinate</li> <li>• Set reprobe count</li> <li>• Set starting wafer number</li> <li>• Set touchdown counter</li> <li>• Set units</li> <li>• Set yield to pass wafer</li> <li>• Set z autoalign height</li> <li>• Set z clearance</li> <li>• Set z up limit</li> <li>• Set z down limit</li> <li>• Set z overtravel</li> <li>• Set z undertravel</li> <li>• Set z profile height</li> <li>• Wafer X expansion coefficient</li> <li>• Wafer Y expansion coefficient</li> </ul>
<b>Configuration:</b>	
<ul style="list-style-type: none"> <li>• Auto align threshold</li> <li>• Camera center position</li> <li>• Continuity test position</li> <li>• Early hot chuck recovery</li> <li>• Enable ignore vacuum</li> <li>• Enable auto diameter measurement</li> <li>• Enable notch select</li> <li>• Enable profile find center</li> <li>• Enable response messages</li> </ul>	<ul style="list-style-type: none"> <li>• Hot chuck model type</li> <li>• Illuminators</li> <li>• Pipelining wafers</li> <li>• Probe tip clean position</li> <li>• Reset inker timer limit</li> <li>• Screen lamp saver</li> <li>• Select z travel mode</li> <li>• Send XY with test start</li> <li>• Ugly die reporting</li> </ul>

<b>Status Query:</b> <ul style="list-style-type: none"><li>• Check for prober commands</li><li>• Get hot chuck data</li><li>• Get operator ID</li><li>• Get options</li><li>• Get position</li><li>• Get status</li><li>• Get theta</li><li>• Get wafer ID</li><li>• Get z height</li><li>• Read error code</li></ul>	<b>General:</b> <ul style="list-style-type: none"><li>• Initialize</li><li>• Close</li></ul>
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