



### Analog Bus (ABUS) Relay Lock Command Hints

**CAUTION:** This is an undocumented and unsupported command. The user assumes full responsibility for any damage caused to the 34980A mainframe and/or associated modules. This information is being provided at the customer's request.

This undocumented command is not fully tested and could cause the module to hang requiring cycling power in some cases. It only works with the 34923A, 34924A, and 34925A reed relay and FET multiplexer modules. Also, it was only partially tested for a *'multiplexer scanning only'* application.

This special diagnostic command forces the analog bus relays to stay locked open or closed, for the three types of multiplexer modules mentioned above. It requires a **\*RST** command or power cycle to restore ABUS relays to normal operation. The user should note that attempts to read the status of the relays will return incorrect data and that any attempt to control the ABUS relays normally on this module will be ignored. Once locked, you **MUST** use **\*RST** command to clear them. Here is the syntax and an example:

To lock the ABUS relays of a module in a 34980A slot:

**DIAG:XACT? <slot>,1,0,19,14,0,0**

#### EXAMPLE

Here is the command and query syntax to lock the ABUS relays closed for 34925A FET multiplexer in slot 1 of a 34980A mainframe for 4-wire scanning mode:

<b>ROUT:OPEN:ALL</b>	! Verify all relays open.
<b>ROUT:CLOSE (@1911, 1922)</b>	! Close ABUS relays for 4-wire scan. (ABUS1: DMM source, ABUS2: DMM sense)
<b>DIAG:XACT? 1,1,0,19,14,0,0</b>	! Lock ABUS relays state on slot 1.
<b>&lt;response: 24&gt;</b>	! Bank 1 and 2 Safety Interlocks in place. Note: bit0 DONE not asserted
<b>DIAG:XACT? 1,1,0,1,0,0,0</b>	! (Optional) status query to verify that slot becomes "done"
<b>&lt;response: 25&gt;</b>	! Now Done (bit0 of status asserted).

Now scanning can start with appropriate ABUS relays closed on slot 1. Remember not to issue a **\*RST** command or the lock will be lost. To revert to 2-wire scan mode in example above, substitute this command to close two additional ABUS relays on module in slot 1:

**ROUT:CLOSE (@1911, 1912, 1921, 1922)** ! Close ABUS relays for 2-wire scan.