Testing of National Instruments’ Current Output Module NI-9265

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Purpose of Test

• Test stand developed to monitor and test National Instruments’ compactRIO (cRIO) modules used in experimental halls
• Current output analog module NI-9265 one of 18 module types
• LabVIEW code used for testing
Test Setup

Equipment used:
• Keithley 2002 multimeter
• Krohn-Hite model 523 DC source
• cRIO system with NI-9265 module

Wiring:
• Channel 0 to Keithley
• Connection to Krohn-Hite
Tests Written

• Mean
• Accuracy
• Standard deviation
• Differential nonlinearity
• Dynamic range
• Gain error %
• Integral nonlinearity
• Offset error
Issue

• For previous modules, all channels could be wired at once.
• For NI-9265, only one channel can be wired at a time.
• To alert user when to rewire module for next channel, a pop-up with sound was added to the code.

Pop-up message added to code.
Conclusion

• This NI-9265 passed all tests, i.e met specifications for the hardware interlock system.

• For tests that specifications were provided by National Instruments (gain error and offset error), results were better than specification.