

# Simulation of Operator Switches in HiL Applications

## Abstract

This application note demonstrates how the WF 3132 Multiplexer module can be used to simulate operator switches in Hardware in the Loop, HiL, applications.

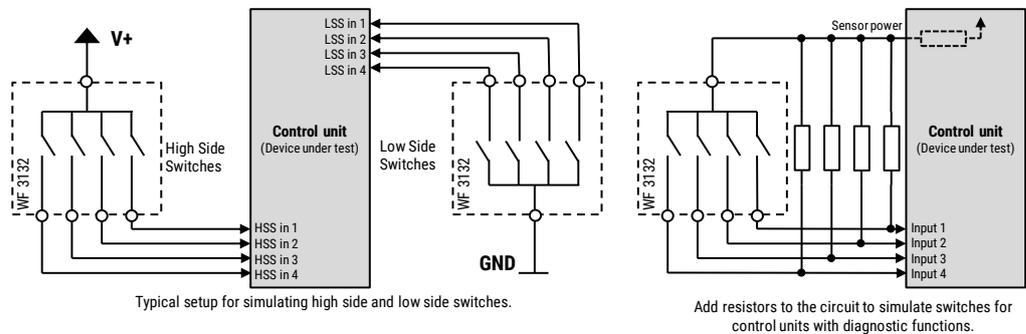


## Problem

To simulate an operator that uses switches to control the system under test in an HiL application.

## Solution

The relays in the WF 3132 C-Series Multiplexer module can be used to simulate operator switches. One WF 3132 module can simulate up to 32 switches. A RIO chassis with eight modules is capable to simulate up to 256 switches, which makes the WF 3132 a very compact and cost-effective solution. The relays are grouped into banks where each bank has a common connection, making it easy to wire the switches in either high side or low side configurations. Additionally, it is also possible to mix simulation of both high side and low side switches within one module.



Besides simulating switches the Multiplexer module can also be used for several other purposes in HiL applications; signal or bus multiplexing, electrical fault injection, switching between real and simulated sensors etc.

The modules are to be installed in a RIO chassis from National Instruments together with other types of I/O modules for complete machine/plant simulation. The modules are shipped with software drivers for LabVIEW graphical programming environment.

