# Dropout Relay Function

In this example, NEXSYS Component Technology is used to perform the function of a traditional dropout relay. The components transition from normally closed (NC) to open (high impedance) and uses the change of state to illuminate a separate indicator message.

This simple application utilizes a VIVISUN Compact Body as a host for the NEXSYS (NC) Solid State Relay (SSR2H) Component. The Pushbutton cap also features the external Press-to-Test option that illuminates the complete legend through the test pin (C).

In Option 1, the SSR2H (NC) inputs (A2 and A3) energize the relay when +28VDC and GND signals are present. When these signals are applied, the SSR2H is "energized" (functioning as a standard NC relay coil), the outputs (A1 and A4) are open (High Impedance) and the indicator remains off. If either +28VDC or GND is removed the SSR2H returns to the NC state and provides a GND path to energize the illuminated status.

Option 2 is identical in operation to Option 1 except it is energized using an SSR2L when +5 VDC is across the (A2 and A3) inputs.

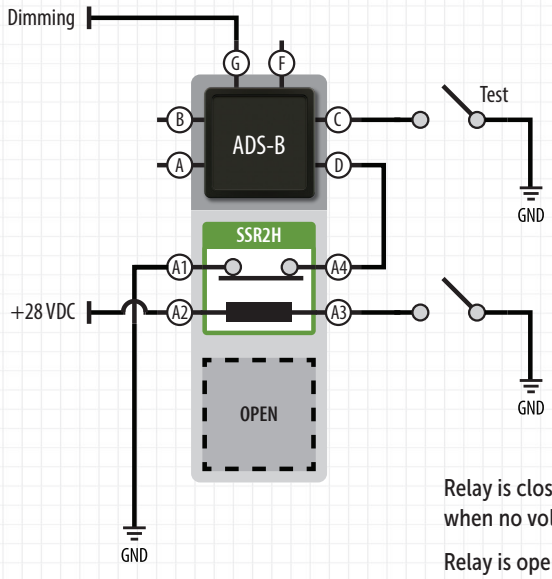
As described, this application of the SSR eliminates the need for an external dropout relay. In relay applications of this nature, the coil is continually energized during its normal operation cycle which reduces the operational life. However, the failure-prone external relay can be completely eliminated by simply specifying a single, highly reliable, SSR component. The schematic depicts the VIVISUN LED configured as an indicator but momentary or alternate action switch contacts may be specified to provide switching operation if necessary.

The VIVISUN LED indicator is energized when +28VDC is applied to the cap circuit common (Pin G) and GND is applied to the interconnected LED contacts (Pins A, B or D). The schematic also depicts the new externally activated Press-to-Test option which provides a single input for the Test function, allowing the entire pushbutton cap legend to energize while in "Test Mode." When the Press-to-Test option is specified the interconnected LED contacts (Pins A, B or D) are diode isolated which prevents the signal from passing through the LED contacts.

Additional NEXSYS components may be included in order to increase the functionality of the switch body, such as including a blink during the fault/failure mode or a Press-to-Reset. This event can alert the operator of a fault/failure or provide an indication that a system has been turned off.

To speak with our Technical Support team on how NEXSYS Component Technology can be used to add avionics system capabilities or solve your system integration challenges call us at 1-888-848-4786.

Option 1: +28 VDC Input

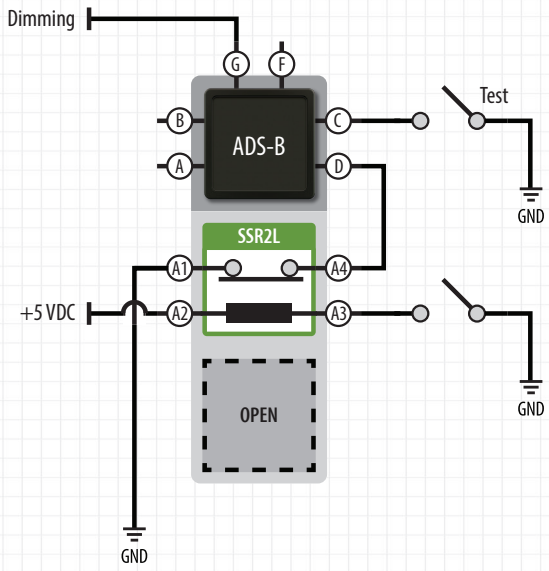



Relay is closed (conducting) when no voltage across input

Relay is open (high impedance) when voltage across input

Option 2: +5 VDC Input

If the input is +5 VDC an SSR2L could be used to perform the same function.

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