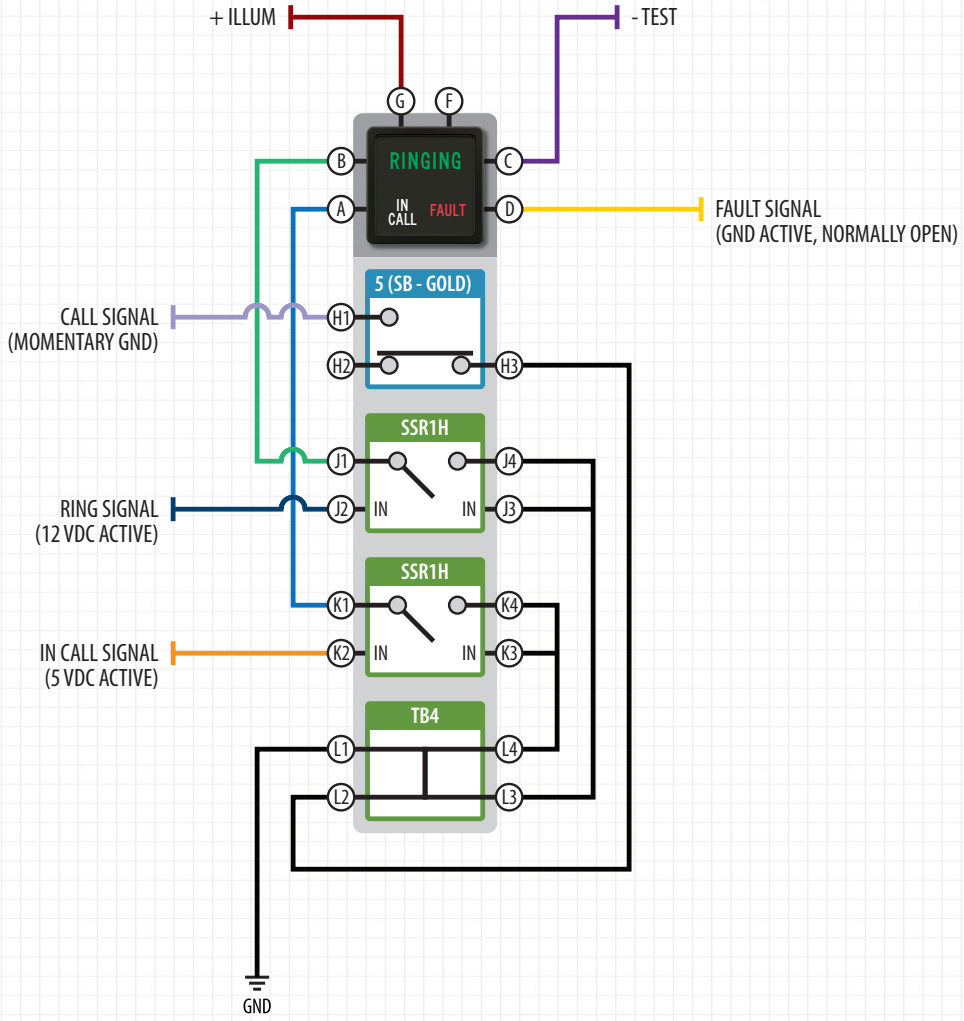
Cabin Call with Signal Invert

This application diagram depicts an aircraft internal communication system (ICS) cabin call switch that can initiate a call and indicate system state. The switch can take external input signals of different voltage levels and invert them to provide active system state indication.

The design uses a single switch that has a VIVISUN High Capacity Body which houses a momentary switch pole and NEXSYS Solid State Relay (SSR1L & SSR1M) and Terminal Block (TB4) components. The SSR1L inverts the 12 VDC RING signal, and the SSR1M inverts the 5 VDC IN CALL signal. The TB4 busses the ground connection to the SSR1L, SSR1M and momentary switch common.

In the default state, none of the indicators on the cap are illuminated. By pressing the momentary switch, a low (ground) signal is passed through the normally open (H1) contact of the switch to the ICS system which initiates a CALL. After initiating a call, the 12 VDC RING signal becomes active. This signal energizes the SSR1M (J2) and passes through a low (ground) (J1 & J4) and illuminates the RINGING (B) indicator. After the CALL has been connected, the RING signal becomes high-z (open) and the 5 VDC IN CALL signal becomes active. The SSR1M de-energizes and the RINGING (B) indicator is no longer illuminated. The IN CALL signal energizes the SSR1L (K2) and pass through a low (ground) (K1 & K4) and illuminates the IN CALL (A) indicator. Once the CALL has ended, the IN CALL signal becomes high-z (open) which de-energizes the SSR1L and causes the IN CALL (A) indicator to turn off. If the FAULT signal becomes active low (ground) at any time, the FAULT (D) indicator will illuminate.

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.



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