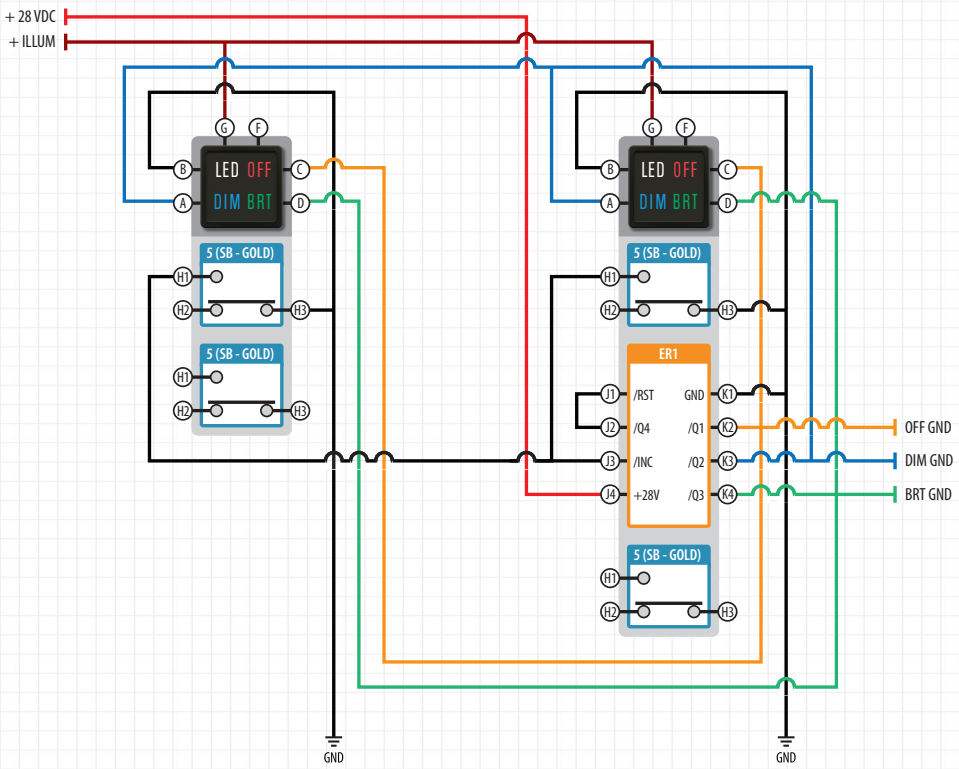
LED Annunciator OFF/DIM/BRT

This application diagram details a circuit that turns annunciators OFF/ON and also adjusts their brightness. The design provides dual user control and cycles through latched output states with the press of a momentary switch. The latched outputs can be used to control relays or toggle discrete dimming inputs to annunciators.

The design utilizes two switches, one with a VIVISUN Compact Body and the other with a VIVISUN High Capacity Body. The two bodies each house two momentary switch poles while the VIVISUN High Capacity Body also houses a NEXSYS Electronic Rotary (ER1) component. The ER1 controls individual annunciator states via latched outputs that are cycled through via successive switch presses.

The ER1 powers up with output /Q1 (K2) low (ground) and outputs /Q2 (K2), /Q3 (K4) and /Q4 (J2) high-z (open). The LED (B) indicator is always illuminated. The low (ground) from output /Q1 (K2) controls the OFF state of the annunciators and illuminates the OFF (C) indicator. A press of either momentary switch passes a low (ground) through the normally open (A1 or H1) contact of the switch to input /INC (J3) of the ER1. This causes the ER1 to increment to the next latched state, and now output /Q2 (K3) is low (ground) and outputs /Q1 (K2), /Q3 (K4) and /Q4 (J2) are high-z (open). The low (ground) from output /Q2 (K3) controls the DIM state of the annunciators and illuminates the DIM (A) indicator. The OFF (C) indicator is no longer illuminated. Another press of either momentary switch passes a low (ground) through the normally open (A1 or H1) contact of the switch to input /INC (J3) of the ER1. This increments the ER1 again to the next latched state, and now output /Q3 (K4) is low (ground) and outputs /Q1 (K2), /Q2 (K3) and /Q4 (J2) are high-z (open). The low (ground) from output /Q3 (K4) controls the BRIGHT state of the annunciators and illuminates the BRT (D) indicator. The DIM (A) indicator is no longer illuminated. Another press of either momentary switch passes a low (ground) through the normally open (A1 or H1) contact of the switch to input /INC (J3) of the ER1. This causes the ER1 to increment to the next latch state, and now output /Q4 (J2) is low (ground) and outputs /Q1 (K2), /Q2 (K3) and /Q3 (K4) are high-z (open). The low (ground) from /Q4 (J2) is tied to input /RST (J1) of the ER1 and causes the ER1 to reset to the initial OFF state. The BRT (D) indicator turns off and the OFF (C) indicator is illuminated again.



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