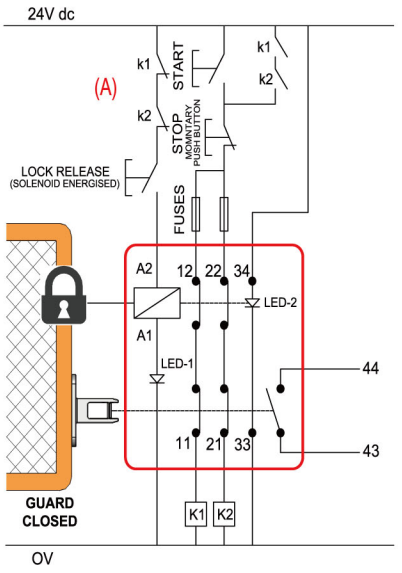
Application Examples - Tongue Switches

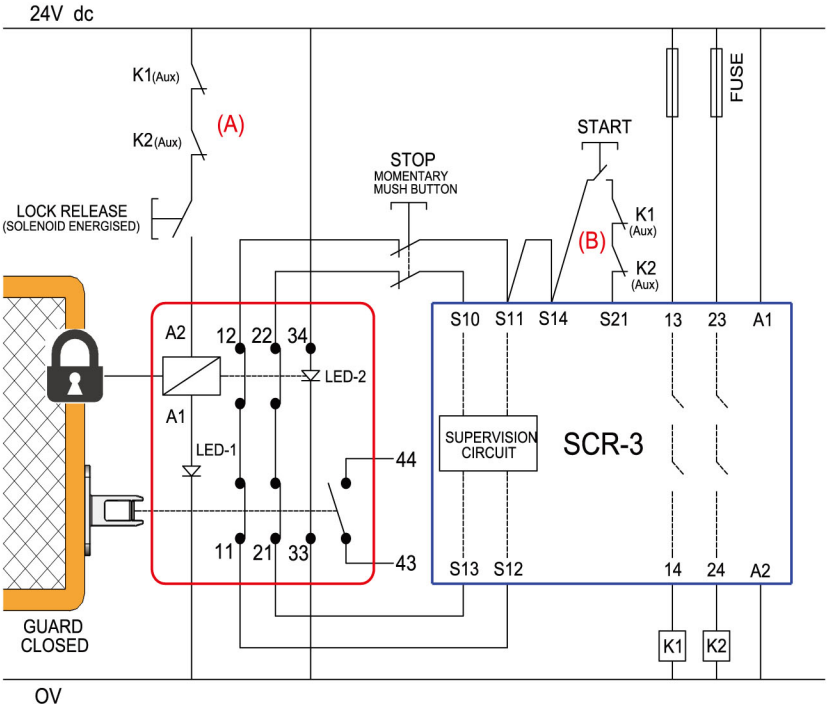


Solenoid Locking Guard Switch - Dual Channel Non Monitored.

The guard is locked closed until the solenoid is energized. The solenoid can only be energized when the auxiliary contacts (A) of contactors K1 and K2 are closed.
When the lock release button is pushed the locking mechanism is released and the switch contacts 11-12 and 21-22 are opened. These contacts are in series with contactor coils of K1 and K2 and will prevent re-start whilst the guard is open.
If after pressing the Stop button either contactor K1 or K2 stays closed the motor will stop but the solenoid cannot be energized or the guard opened.

LED 1 provides visual indication of solenoid power applied.
LED 2 provides visual indication of guard locked and machine able to start.

System is shown with machine stopped, guard closed and locked, and the solenoid able to be energised.



Solenoid Locking Guard Switch - Dual Channel Monitored.

A high safety category can be achieved by connecting the solenoid switch circuits 11-12 and 21-22 to an SCR-3 Safety Relay to monitor for wiring short circuits. This provides Dual Channel monitoring and a check of the contactor feedback circuits through the auxiliary contacts (A) & (B) of K1 and K2. The SCR-3 monitors the switch and the contactors K1 and K2 and provides it's own self-monitoring via force guided internal relays.

Pressing the Lock Release button will energise the solenoid, open the solenoid switch contacts and cause the safety relay output contacts at 13-14 and 23-24 to open. (The guard can be opened whilst the solenoid is energised).

Pressing the Stop button will cause the safety relay output contacts at 13-14 and 23-24 to open. (The guard remains closed and locked).

Re-start can only be achieved if the guard is closed and the contactors K1 and K2 have both opened and the Start button is pressed.

System is shown with machine stopped, guard closed and locked, and the solenoid able to be energised.