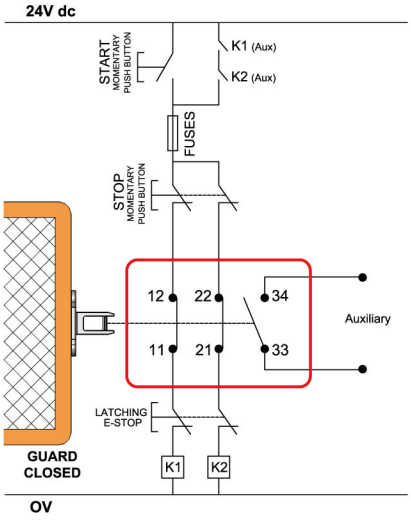
Application Examples - Tongue Switches



Guard Door Mechanical Interlock and E Stop – Dual Channel Non Monitored.

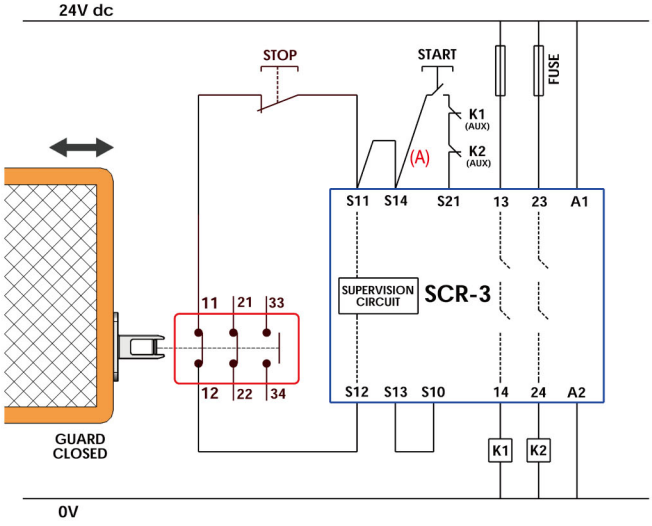
System shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

Opening the Interlock switch or depressing the E Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed and the E Stop is reset.

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

Contacts 33-34 provide an auxiliary circuit for signalling guard open or closed.



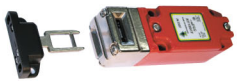
One Guard Door Mechanical Interlock – Single Channel Monitored.

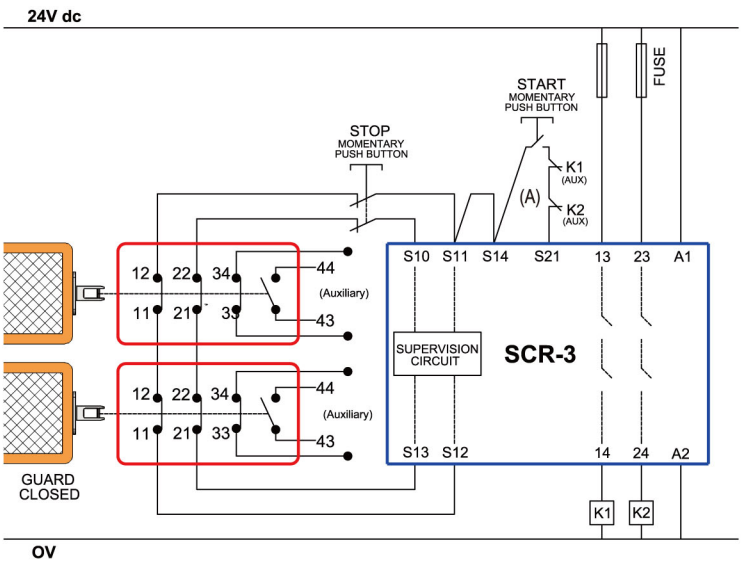
The positively operated interlock contacts from circuit 11-12 is connected single channel input to S11-S12 on the SCR-3 Safety Relay.

This provides a positively operated single channel monitored circuit but provides a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2. The SCR-3 monitors the switch circuit and the contactors K1and K2 and provides it's own self-monitoring via force guided internal relays.

Opening the guard or pressing the Stop button will cause the machine to stop. 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, guards closed and the contactors able to be energised.





Two Guard Door Mechanical Interlocks in series. Dual Channel Monitored.

The safety category can be enhanced by connecting two switch circuits 11-12 and 21-22 from mechanical interlocks 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) of K1 and K2.
The SCR-3 monitors the switch circuits and the contactors K1 and K2 and provides it's own self-monitoring via force guided internal relays.

System is shown with machine stopped, guards closed and the contactors able to be energised.