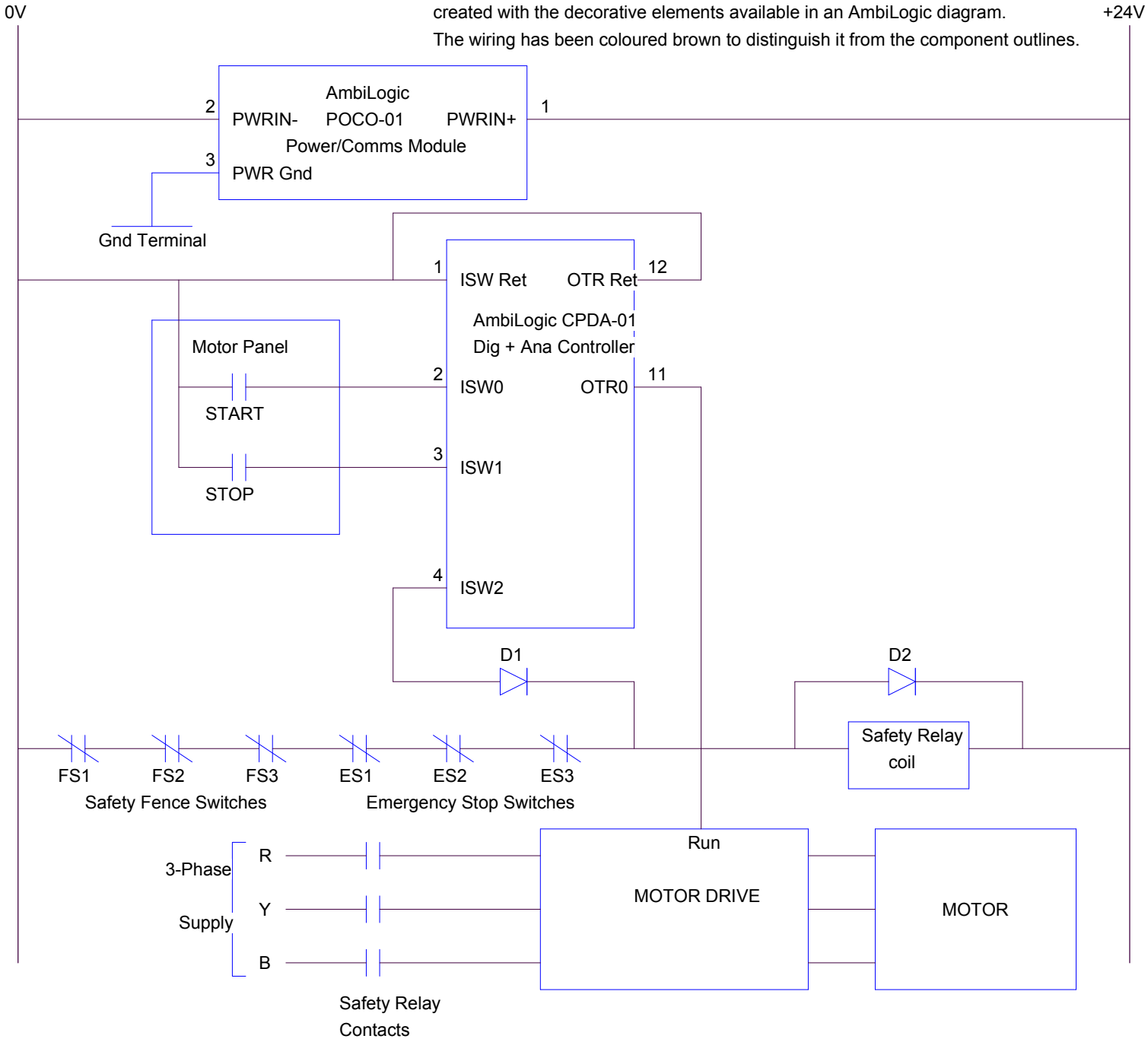


Even though there are no active elements on this sheet, it still needs to be wire-checked before the entire diagram can be compiled.

This shows how to connect an AmbiLogic PLC into a safety circuit where there is a requirement that the safety circuits must be duplicated, and at least one safety path must be independent of any software-based device.

WARNING: Before implementing high-powered motorised systems in accordance with this example,
IT IS ESSENTIAL to CHECK THE PROPOSED DESIGN WITH YOUR HEALTH AND SAFETY AUTHORITY.
AMBILOGIC PTY LTD OFFERS NO GUARANTEE THAT THIS EXAMPLE WILL MEET ALL REQUIREMENTS OF EVERY AUTHORITY.

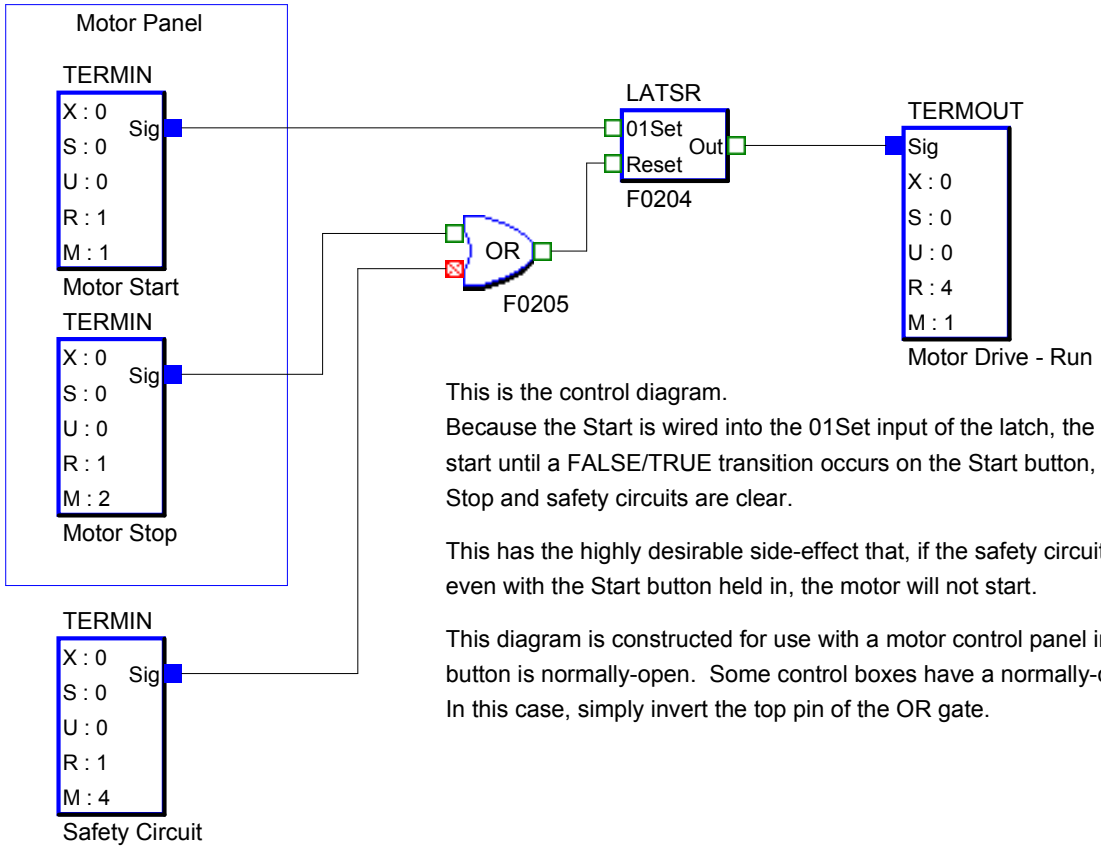
The independent circuit is wired so that any fence or ES switch will release the safety relay and cause the power supply to the motor drive to be cut off.

D1 ensures that if there is a ground fault on the input terminal ISW2 this will not lock in the safety relay.

D2 catches the flyback transient on the relay coil when it is switched off.

The next sheet shows the AmbiLogic diagram which carries out the Start/Stop interlocking and the auxiliary emergency stop function.

MOTOR CONTROL



This is the control diagram.
Because the Start is wired into the 01Set input of the latch, the motor will not start until a FALSE/TRUE transition occurs on the Start button, when the Stop and safety circuits are clear.

This has the highly desirable side-effect that, if the safety circuit is restored, even with the Start button held in, the motor will not start.

This diagram is constructed for use with a motor control panel in which the Stop button is normally-open. Some control boxes have a normally-closed Stop switch. In this case, simply invert the top pin of the OR gate.

MOTOR CONTROL