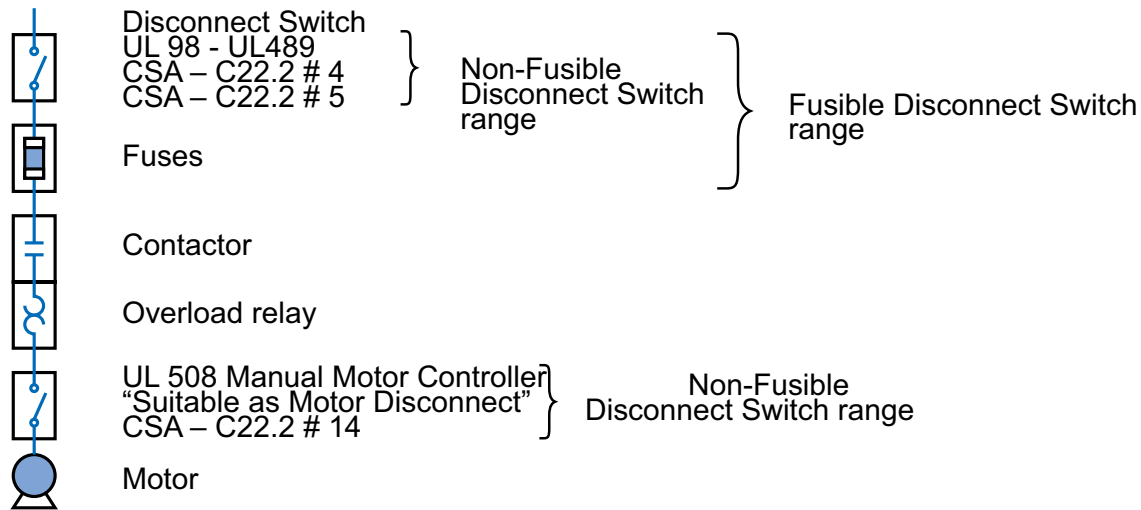


TYPICAL CONSTRUCTION OF A MOTOR STARTER



ESSENTIAL PARTS OF A MOTOR BRANCH CIRCUIT REQUIRED BY THE NATIONAL ELECTRICAL CODE:

- Disconnect means
- Branch-circuit short-circuit protective device
- Motor-controller
- Motor overload protective devices

DISCONNECT MEANS

The Disconnect means can be a Manual Disconnect Switch according to UL 98.

A manual Motor Controller (according to UL 508) additionally marked "Suitable as Motor Disconnect" is only permitted as a disconnecting means where installed between the final branch-circuit short-circuit and ground-fault protective device and the motor (NEC 2008 Article 430.109).

BRANCH-CIRCUIT SHORT-CIRCUIT PROTECTIVE DEVICE

The short-circuit protective device can be either a Fuse or an Inverse-time Circuit-breaker.

MOTOR-CONTROLLER

Any switch or device that is normally used to start and stop a motor according to the National Electrical Code article 430.82.

MOTOR OVERLOAD PROTECTIVE DEVICES

The National Electrical Code permits fuses to be used as the sole means of overload protection for motor branch circuits. This approach is often practical only with small single phase motors. Most integral horsepower 3 phase motors are controlled by a motor starter which includes an overload relay. Since the overload relay provides overload protection for the motor branch circuit, the fuses may be sized for short-circuit protection.