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March 2017

## Manual motor controllers used as a disconnecting means

### Background

A worker was electrocuted while performing maintenance on a pump motor. A Manual Motor Controller (MMC) was involved in the fatality. MMC's marked "suitable as a motor disconnect" serve two functions, one being a motor starter/controller and two a motor disconnect. If not marked "suitable as a motor disconnect" it is only to be used as a motor starter/controller.

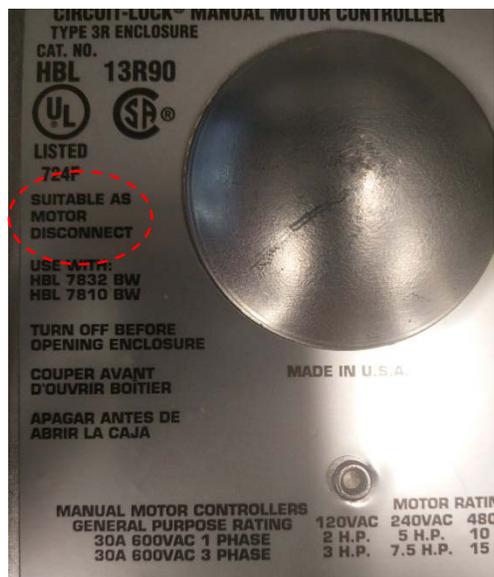
### Using an MMC as a motor disconnecting means

Only MMC's certified and marked "Suitable as Motor Disconnect" are currently permitted to be used for such an application. These devices are tested under short circuit applications and the welding or disintegration of the contacts is not expected with motor switching. MMC's not marked "Suitable as Motor Disconnect" shall not be used as the disconnecting means, as per Ontario Electrical Safety Code (OESC) Rule 28-602(3). Note that an MMC can physically look similar externally to a disconnect switch. Safely confirm the identity of the switch intended for disconnection, and use it accordingly.

MMC's which are not marked "Suitable as Motor Disconnect" do not meet the requirements of a disconnecting means. One of the following actions needs to be taken:

- When replacement is required, replace with an MMC marked "Suitable as Motor Disconnect", as per Photo F1.
- Replace with a disconnect switch if the device is not intended to control/ start the motor, or
- Install a separate motor disconnect upstream of the installed motor controller to disconnect the equipment/ motor for maintenance purposes and marked as the disconnecting means for the motor. It is recommended that the MMC be marked to indicate it is for "Motor Control Only".

**Photo F1 – Manual Motor Controller marked as "Suitable as Motor Disconnect"**



Care should be taken to ensure that when the marking is on the enclosure, the device inside actually meets those requirements.

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Some manual motor controller switches have also been found installed backwards, causing power to be ON when the switch enclosure indicates OFF. Care must be taken to ensure that when the switch with the MMC is installed, it is in the orientation so the switch position corresponds to the marking on the switch enclosure.

Comprehensive, electrically safe work practices include the consideration of unanticipated events, such as equipment failure (i.e. the welding of contacts within a manual motor controller). When working on MMC's, or any other electrical equipment or installation, always confirm the absence of energy by correctly testing with an approved device, rated for the purpose, prior to contacting any exposed parts. Remember to consider all electrical equipment and installations as energized until they are proven otherwise.

For more information about MMC's please refer to:  
**Ontario Electrical Safety Code Bulletin 28-1-\***