

# FRONTLINE® DC Starters from EC&M



## Peace of Mind — Your Best Defense Against Lube Pump Failure

DC motor starters are frequently used in utilities or other industries where power is generated. Here, turbine generators require constant lubrication. This lubrication is mandatory even during power loss because the multi-million dollar generating turbines can coast for as long as 30 minutes before coming to rest after loss of power. A typical lubrication system has a normal AC lube pump, an AC backup lube pump and a DC emergency backup lube pump. The DC backup pump serves as the last line of defense for turbine lubrication after all AC power is lost. This is a widespread application, since every municipality generating power can use these DC starters.

This application is so critical that it is better to allow the pump or its DC starter to fail, rather than lose a multi-million dollar turbine. For this reason, DC motor starters for this application are custom-designed by EC&M with the overloads set to activate an alarm rather than shut down the motor. This design requires that a control relay (see relay OLX in elementary diagram) and terminal points for customer connection to alarm contacts be added to our standard DC starter control circuit.

EC&M backs these DC starters with over 100 years of DC control experience. These starters use the same mill-duty contactor found on EC&M crane control panels, a contactor designed to operate in the most severe applications, and environments.

## EC&M's FRONTLINE DC Starters

### Features:

EC&M DC starters provide a reliable method of accelerating DC motors up to speed in a definite time, independent of load.

- Designed to meet NEMA standards
- Rugged mill duty components
- Class 7004 Line-Arc® DC mill duty clapper style contactors
- Time limit acceleration
- Acceleration resistors mounted and wired as an integral part of the starter
- Three-wire control and thermal overload protection
- Complete front mounting and wiring
- Panel space available for power and control modifications

### Available in the following configurations:

- Class 7135 — Constant speed, non-reversing
- Class 7136 — Adjustable speed, non-reversing
- Class 7145 — Constant speed, reversing
- Class 7146 — Adjustable speed, reversing

### Starter sizes available (consult factory for larger sizes):

- NEMA sizes 1 through 5
- Up to 40 HP at 115 VDC
- Up to 75 HP at 230 VDC

### Enclosure styles available:

- NEMA 1G
- NEMA 12
- NEMA 3R
- Open Panel

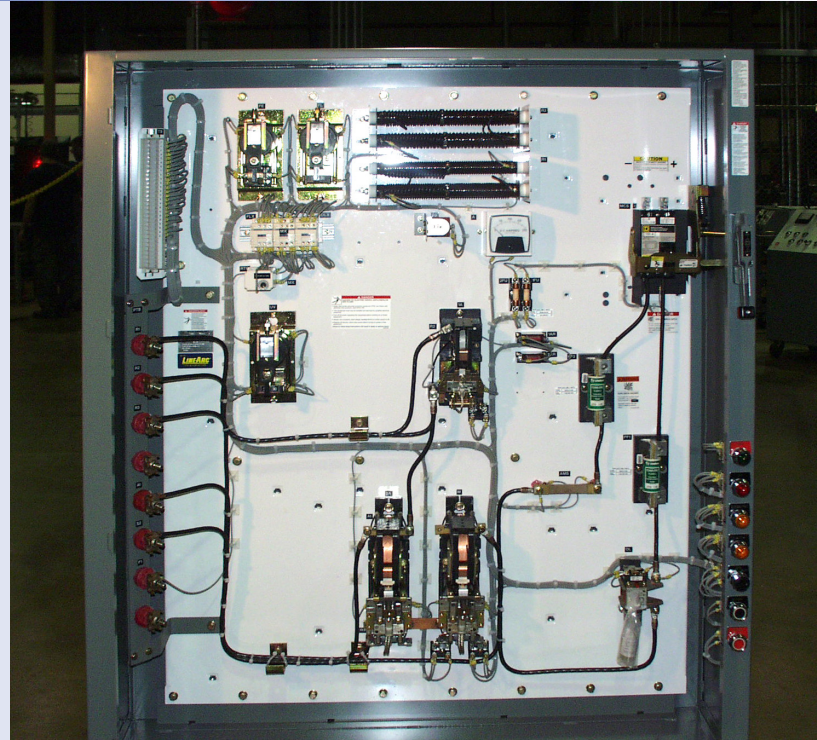
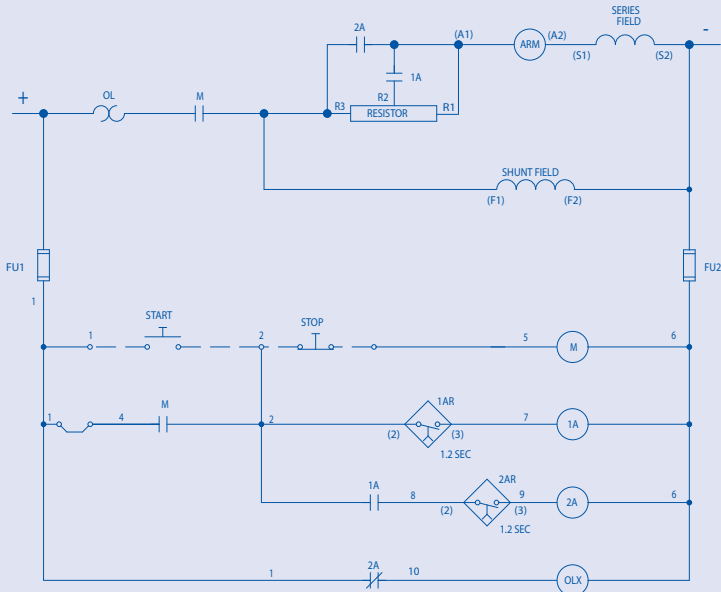


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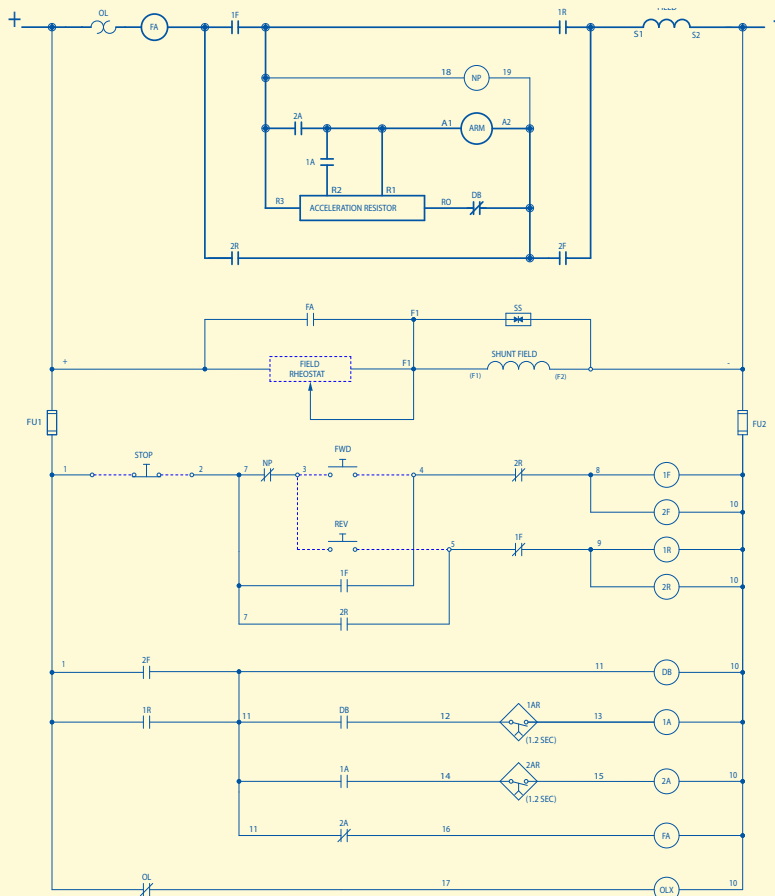
800.240.1230 [www.ecandm.net](http://www.ecandm.net)

# FRONTLINE®: Your Last Line of Defense

## Class 7135, Non-Reversing, Constant Speed Starter

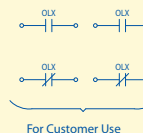


## Class 7146, Reversing, Adjustable Speed Starter



## EC&M — For All Your DC Starter and Crane Control Needs

We know efficiency and production are the keys to your business. That's why we use our experience and expertise to look for innovative ways to keep you up and running. From AC and DC solid state drive control, and magnet control systems, to traditional AC and DC electromechanical contactor control, we offer the most complete line of DC starters and crane control products available.



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