

Nuisance Tripping of 600V MCC Feeder Breaker

The feeder circuit breakers for the 600V Motor Control Center (MCC) section in the Driller's Cabin for B-Rigs and S-Rigs were originally designed with a 100 amp circuit breaker to supply the 600V section of the MCC.

Reports were received of nuisance tripping of this breaker and the circuit breaker size was increased to 125 amps.

The issue with nuisance trips continues with the 125 amp circuit breaker installed. If multiple loads are running with the HPU motor running simultaneously, the starting currents of the equipment combined with the larger motor running current is too close to the trip set-points and would cause the breaker to trip.

To prevent the unwanted trips, the breaker size can be increased while providing protection for the bus-work and allowing the equipment to operate correctly. The MCC structure has been evaluated for the installation of a 250 amp breaker.

This breaker provides adequate protection for the installed bus-work and sufficient interrupt capacity and will prevent the nuisance trips from occurring.



Only qualified personnel should perform any work in the MCC. Take proper precautions and follow correct lockout/tagout procedures when working in the MCC.

Recommendations

1. Have an electrician perform an inspection of the MCC in the Driller's Cabin on B-07 through B-28 and 887 through 893. Determine if the MCC feeder breaker (See Figure 1) is a 100 amp or 125 amp circuit breaker. If the circuit breaker is 250 amps, no further action is required.
2. If the installed feeder breaker is not a 250 amp breaker, order the replacement circuit breaker, E15850, from Canrig and replace the circuit breaker at the earliest convenience. Contact RigLine 24/7™ Support to order the kit.



Product: B-Rig & S-Rig PACE Driller's Cabin MCC Version: N/A	October 15, 2012
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CANRIG Part Number	Description	Qty
E15850	Circuit Breaker, 250 A, 600 VAC MCC, Eaton	1

Actions



Take proper precautions and follow correct lockout/
tagout procedures when working in the MCC.

1. Ensure repairs are coordinated with Rig Manager and Driller.
2. Before upgrading the MCC feeder breaker, obtain permission from Driller for operational consideration.
3. Open/verify open the 600 VAC MCC section feeder breaker.
4. Remove power to the MCC section and observe lockout/tagout procedures.
5. Remove the installed circuit breaker by following applicable procedures.
6. Install the new 250 amp breaker and ensure that breaker is connected correctly. The operating handle, bus stabs, and mounting hardware are included with the circuit breaker.
7. Verify proper operation of the feeder breaker by restoring power and shutting the breaker when rig operations will support. Monitor breaker operations and report any abnormal issues or occurrences to Canrig.
8. Return the 100/125 amp breaker bucket to Canrig for disposition. Contact Canrig and obtain an RMA number prior to returning the circuit breaker.



**MCC Feeder
Breaker for
600V section**

Figure 1: MCC Feeder Breaker for 600V section