BI632640
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Operation and Maintenance Manual

CM210 Continuous Miner Electrical

GEA00816

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Power Circuit

All machine motors operate on 950VAC power which is supplied to the machine via the trailing cable. The trailing cable is energized when connected to the power center and the four power center trip contactors are closed.

The machine is protected by a 800 amp main circuit breaker, CB1, set to instantaneously trip at 1250 amps. Once CB1 is closed, the machine is energized. Power is active in the lighting and control circuits, as well as the cutter motor circuit.

The conveyor, scrubber and pump circuits are protected by a 800 amp circuit breaker, CB2, set to instantaneously trip at 800 amps. The pump motor is further protected by an overload.

The tram circuit is protected by a 400 amp circuit breaker, CBT, instantaneously set to trip at 250 amps.

Each motor has a contactor that opens and closes in response to an ON/OFF command. No motor can be started until the pump motor is started (contactor F is closed).

WARNING **The schematics in this manual are specific for GEA00816. Do not use these schematics to troubleshoot or perform maintenance on the machine. Always refer to the schematic in the parts book of your machine for the most up to date print.**

Fig. 9: Pump Control Circuit

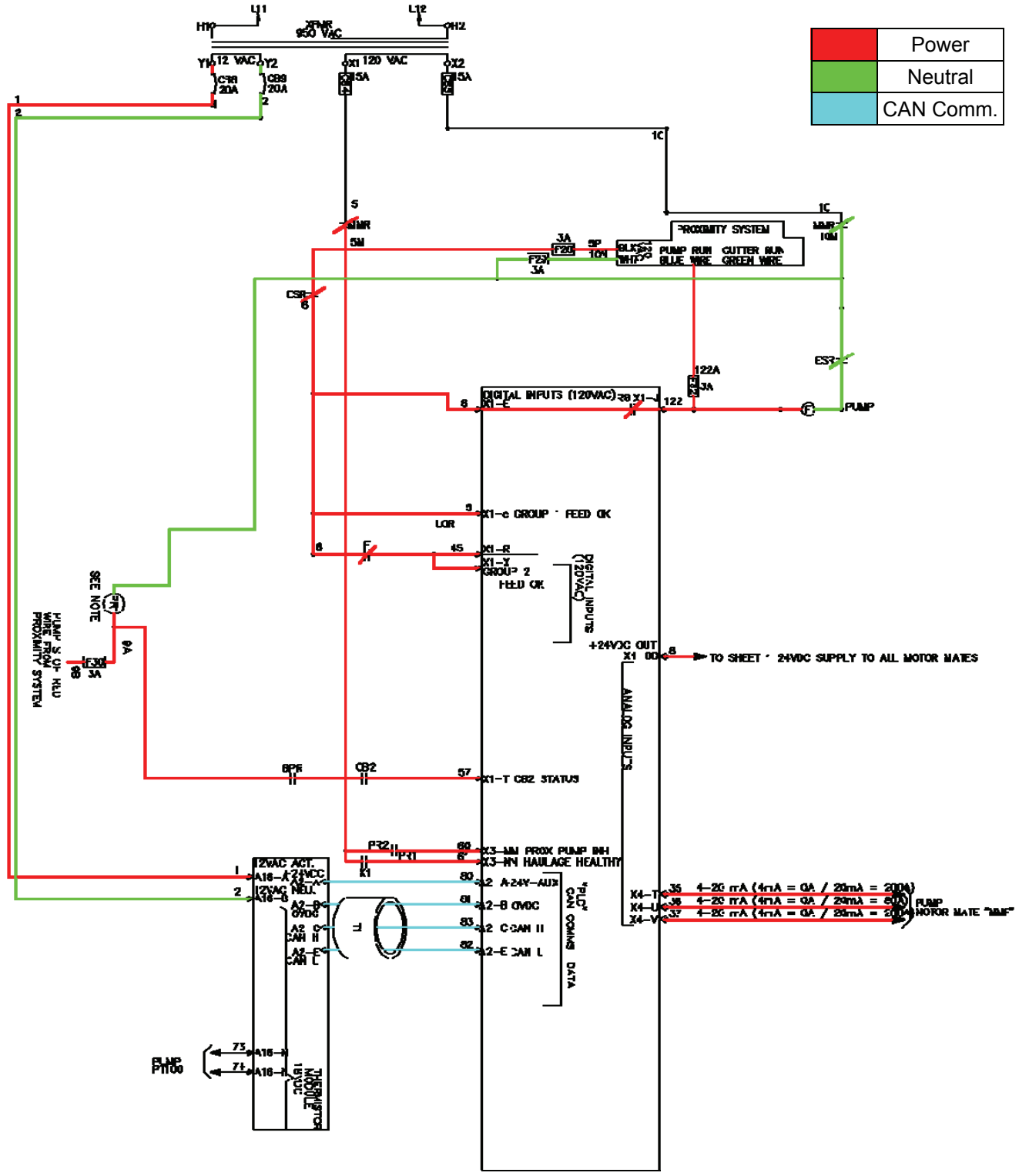
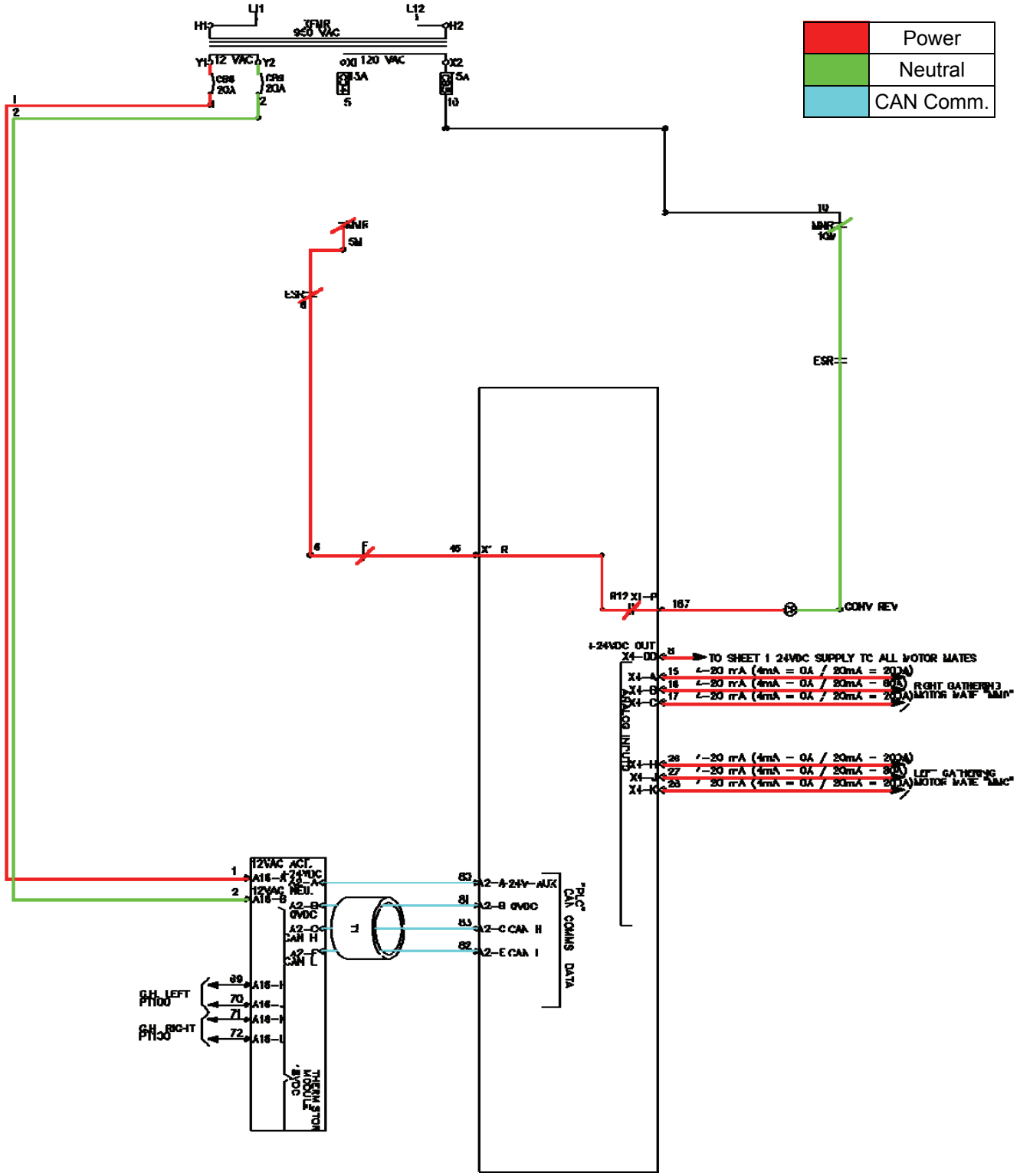


Fig. 15: Conveyor Reverse Control Circuit



Ground Fault Relays GFR1 thru GFR3

Each Ground Fault Relay (GFR) utilizes a corresponding Ground Fault Current Transducer (GFCT) to monitor for phase imbalance. If a phase imbalance is detected on GFR1 then CB1 shunt will be de-energized and trip CB1 breaker. If a phase imbalance is detected on GFR2 and GFR3 then CBT shunt will be de-energized and trip CBT breaker.

Fig. 24: GFR Control & Power Circuit