

Case Study: Troubleshooting Masterdrive System: DC Bus Voltage Dropping



Newspaper Printing
Company Experiencing
Faults When Running at
Line Speed

Objective

- Troubleshoot faulting Masterdrive system.

Solutions

- Swap existing PPC board with customer's spare.
- Removed capacitor bank for repair at our lab.
- Removed SCRs for testing and possible replacement.
- Discussed upgrade options for customer's equipment nearing 25 years old.
- Reviewed preventive maintenance schedules for drive cabinets.

Results/Benefits

- Identified the source of equipment faults and began repairs.
- Uncovered the need for upgrades for unsupported equipment so the customer can pursue upgrades before a catastrophic failure.
- Helped the customer understand how to get a longer working life from their equipment through regular preventive maintenance.

Background

The Quad Plus team was called out to our customer in the newspaper printing industry to troubleshoot faults occurring on their Masterdrive system. At low speeds, the DC bus voltage dropped to about 520v. When trying to operate at line speed, the drive faulted.

Quad Plus Solution

The first step in solving the customer's problem was to swap out their PCC board with a spare they kept on hand. The drive would then run, but the opposite issue began occurring: DC bus overvoltage when dynamic braking was engaged.

We removed the capacitor bank for repair in our lab and the SCRs for testing and possible replacement. Once repairs are complete, we'll return to reinstall the parts and ensure proper operation at full line speeds.

We also discussed ways to extend the working life of the customer's equipment with a regular preventive maintenance schedule. As this section of the drive is more than 24 years old, the manufacturer no longer supports the products, and it's time for the customer to consider upgrade options. Our last stop for the day was to collect copies of files and schematics to assist the customer in the future.



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