YASKAWA

Extruder Line Retrofit

Control Concepts (CCI) is a Yaskawa Premium Distributor, Authorized Service Center, and Drive/PLC Integrator in Southern California. They have a field service team that resolves breakdown retrofit situations regularly. CCI offers technicians with application experience in control systems, as well as VFDs, and extensive Yaskawa inventory focused on getting the end user up and running as quickly as possible.

IT'S PERSONAL
YASKAWA

YASKAWA'S A1000 PROVIDES A SINGLE ROBUST SOLUTION FOR NEW INSTALLATIONS OR RETROFITS, REGARDLESS OF YOUR APPLICATION

Challenge

One of CCI's customers in Southern California had a PTi Trident 5000 Sheet Extrusion Line that had two Allen Bradley Powerflex 700S drives specially set up to run Reliance RPM Series AC induction motors. The drives were interfaced on an Allen Bradley Ethernet/IP network to a ControlLogix PLC System. The 300 HP Drive failed. A replacement VFD was quoted with a 5 week lead time at a cost that exceeded the total invoice of the project. The customer was down on a critical main line with their customers demanding delivery and could not wait 5 weeks for a replacement unit.

Solution

CCI has extensive experience using both the Yaskawa A1000 and V1000 drives on extruder systems as large as 1000 HP and felt confident they could make this system work and tie into the PLC System. They had a 300 HP Heavy Duty A1000 414A drive on their shelf locally and proposed to begin a retrofit immediately. A PO was issued and CCI began the removal and installation of the replacement drive the same day. CCI's electrical engineer verified the hardware interface, specifically compatibility to encoder feedback. The Yaskawa drive was set up in a closed loop vector mode and then auto tuned to the Allen Bradley/Reliance motor.

CCI's PLC engineer began working on mapping the data addresses in the OEM VFD to the new Yaskawa drive. The extruder control system also had a PanelView touch screen. In order to achieve seamless performance for the operator, the Panel View had to be programmed to work with the new Yaskawa drive exactly the same as the OEM VFD by mapping and scaling the speed/current feedbacks from the A1000 to the PLC, then out to the touch screen. Total retrofit time was two days, saving weeks of down time if the customer had waited for an OEM replacement drive.

Results

The customer was back up and running quickly and the total cost for the retrofit (including installation and complete commissioning of the Yaskawa drive and PLC programming) was less than the replacement cost of the OEM Drive without installation. They now have an option to use an off-the-shelf Yaskawa drive that can be quickly retrofitted to their OEM machinery. The customer appreciates this flexibility. With an extruder this large, cost of downtime far exceeds out of pocket costs for the retrofit.

Local off-the-shelf hardware availability, and availability of an experienced electrical engineer and PLC programmer, both well versed in extruders, resulted in a Yaskawa A1000 doing the job for this customer.