

Industry: Manufacturing

Products Used: Modular PLCs /// HMIs /// Networks /// Drives

Corking good way to keep the feathers flying

A remarkable machine for grading badminton shuttlecock weights which was built within 12 weeks, relies on a number of Mitsubishi Electric control equipment products, and is an early application of the Mitsubishi Melsec I/O Link system of remote I/O.



Barr & Paatz, a company which manufactures a broad line of bespoke industrial automation systems, has just completed for Dunlop Slazenger a machine for weighing and sorting the weights for badminton shuttlecocks. It sorts the corks into up to 8 weight ranges. This is important because an additional 0.1 gramme weight in the cork will make a shuttlecock fly another 18 inches. The machine is fitted with a Mitsubishi Electric A1SJ PLC, Melsec I/O Link modules, MAC50 man-machine interfaces and U120 inverters.

"We were most impressed with the Mitsubishi I/O Link system", says Company Director Stirling Paatz. "Even though it was our first experience of a serially linked I/O system, we wouldn't have done the twelve week delivery if it hadn't been for the I/O Link. It dramatically reduced the wiring time, reducing the machine wiring to a couple of days and made it a lot neater because there was no need to provide protective trunking for a large number of multicores."

Application story first released August 1998 by Mitsubishi Electric UK

All the pneumatic systems are controlled by Melsec I/O Link modules, which are positioned remotely on the machine. Each of the eight ejectors on the machine requires one output and two inputs. The Melsec I/O Link system enables up to 128 I/O points to be controlled by a single master via eight I/O point combination modules on a plug-and-play network. The system offers a major cable-saving benefit, as it uses a twisted pair bus network up to 200m.

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The machine's MAC50 operator interface allows its parameters to be adjusted. This is important because those three weight ranges actually vary from nation to nation. Every country has its own particular preference for shuttlecock speeds!