

Automation Case Study

Inovance's H5U PLC forms 'brain' of advanced plastics machinery at Spanish OEM

The customer is a leading Spanish OEM manufacturer of plastics machinery.

They have a strong focus on building machines for manufacturing bags and wrappers for domestic and industrial use.

The Challenge

As part of their continuous efforts to improve their machinery, the customer was looking to make some upgrades to their line of bag and wrapper making machines. In particular, they needed a way to reduce cabinet and motor size without losing machine performance, and to make machine commissioning easier. They also wanted to make component replacement easier, so that it did not require a specialist engineer. A final goal was to improve the production information available to machine operators, so that production efficiency could be continuously improved while machines are in use on the factory production lines.

The Solution

After a thorough examination of the market, the customer chose a package of automation products from Inovance, supplied via Inovance's Spanish distributor TEM. The product suite chosen by the customer included the MD310 compact vector AC drive, the SV660N high dynamic performance EtherCAT servo drive coupled with the MS1 servo motor, the H5U – a high performance, compact, EtherCAT enabled PLC – and the IT7000 HMI.





The benefits

Inovance's next-generation EtherCAT-enabled H5U PLC forms the 'brain' of the machines it is installed in. The ability to program all control algorithms and machine management solutions using FB and motion instructions means that application development and software maintenance is easier than ever before. Meanwhile, the IT7000 HMI provides machine operators with a constant flow of information, including production parameters and also diagnostics on all machine components (including third-party components). This enables the machine to be operated with maximum possible efficiency.

Meanwhile, the combination of the medium/high inertia Inovance MS1 servo motor with the high peak torque, ultra-fast current loop, EtherCAT-enabled SV660N servo drive, delivers high dynamic performance that allows the machines to achieve speeds of four cycles per second, while also allowing machine designers to use smaller motors than previously, with no corresponding reduction in machine performance.

Finally, the MD310 compact vector AC drive delivers further space saving possibilities and has enabled the OEM to reduce machine cabinet size compared to previous generations of the same machine.

Ignasi Delgado, Business Leader - Drives & Motion Control at TEM, says: "The customer partly chose the Inovance/TEM solution for the advanced product features. But it was more than that. It was also about the combination of the products and the very strong engineering knowledge that sits behind the products, and which enabled us to help the OEM use everything in the most effective way possible."

Key benefits:

- Smaller machine cabinets
- Optimized motor size without losing machine performance
- Easy commissioning
- HMI enables machine component replacement by non-specialist staff
- Constant flow of information enables users to optimize production efficiency 'on-the-fly'
- Open architecture for integration with third-party products
- Integrated safety on servo drives



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