

GALMAY

Case Study

Sector: Manufacturing

AES simplify machine controls, documentation and improve reliability and functional safety



SERVICE: Machine Control Panel Upgrade

AES improve production efficiency by simplifying critical machine controls and producing detailed documentation. This means that now engineers can fault find much quicker which significantly minimises production downtime.

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Each breakdown was costing a fortune, as without documentation it took the engineer longer to understand the control and power circuits, which meant a bigger bill for his services and the machine being out of commission for longer, with a knock-on effect on production.

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CHALLENGES

We all know that old machinery is likely to be inefficient and liable to break down. To make matters worse, it often doesn't have any documentation, so when everything grinds to a halt, you really are up the proverbial creek without a paddle.

This was the situation we found at Galmay. One of the most important machines on the process line was limping along but had become unreliable in its old age. To compound the issue, there was no documentation. The role of the DET machine is to cut laminated MDF boards to an adjustable pre-determined width, using two circular saw cutting blades. When the machine is halted, 2no.DC Braking units stop the blades quickly, for safety reasons and to meet PUWER regulations. Before Galmay purchased the DET machine, it was part of an old but bespoke automated production line. As the automated plant had been split, the control panel contained several redundant mechanisms, such as options to run motors at different speeds and various other features, including motor braking units.

To design and build a bespoke control panel for the DET Machine. In order to save the client costs, we reused the existing braking units, as they were relatively new and in good working order.

SOLUTION

To improve the functional safety of the machine, we designed a safety circuit with the braking units that ensured the safe standstill of the blades. This circuit included a safety relay, a safety 'delay off' timer and monitoring of components for common causes of failure. Good quality components were used and installed to be easily accessible. They were accompanied by clear documentation so that any future faults could be quickly rectified, reducing delays to production. AES also installed a programmable relay, so that modifications to the process could be easily implemented, with room for expansion. This allowed for any future sensors required, which could give the machine an automatic function and save energy. We also rewired the field wiring of the machine, as it was old and in poor shape. To ensure minimum disruption to the company's production schedule, the panel changeover was carried out at a time to suit Galmay. Upon completion, we provided detailed electrical schematic diagrams, testing and certification, giving the customer peace of mind and helping to future proof the system.

ABOUT

Galmay (Board Services Ltd) are a Leeds company that manufactures MDF laminated boards for a variety of industries.



Empowering Performance

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