

Upgrade of pneumatic linear actuator on Dane Encapsulator to Servo driven alternative

Summary

An upgrade to the Dane encapsulators was carried out to reduce the cycle time by 3.5 seconds per cycle.This would improve the overall time to produce product,improving efficiency while reducing cost to produce the product. The upgrade involved replacing the current linear actuator with a servo driven alternative.

This upgrade consisted of PLC modification, HMI program, Drive software and drive and motor installation

Background research was carried out to determine the best method to carry out the upgrade

software used would include:

- Logix 500
- Panelbuilder 32
- Mexe02



Method

Modification to the current logix 500 program was carried out and tested to ensure that the upgrade would run efficiently and safely

Importing the PLC program into panelbuilder 32 would allow me to create screens on the Hmi that would allow full functionality of the linear actuator



Parts to carry out the installation were obtsained from oriental motor,A single phase motor with a 5a breaker to protect the circuit would control the actuator



The AZD-CD drive unit would offer full control over the system, fully programmable using the Mexe02 software



Conclusion

The successful upgrade succeeded in significantly reducing the cycle time.

Less failed product is now being produced due to the accuracy and repeatability of the servo driven actuator.

Full control from the drive system allows a large amount of data retrieval such as error reporting, motor temperature, speed, acceleration and deceleration.

The project would improve the speed, precision and repeatability of the process while ensuring that the overall project was kept under budget

