

# Mitsubishi variable speed drive integration delivers a 27% reduction in energy costs for Stephenson College



## Background

Stephenson College offers a wide range of full and part time, further and higher education courses and apprenticeships ranging from child care to motor vehicle maintenance from their Coalville and Nottingham sites.

Over the period 2010/11 - 2012/13 overall UK funding for education reduced by 17.2% causing each and every school, college or university to be more commercial and cost conscious to survive and thrive in what is now a very competitive marketplace. To compound the plight of those effected, the UK's average annual non-home energy costs increased by 26% over the same 3 year period.

Stephenson College's Coalville campus is their largest. The main building on that campus was built in 2005 and spread over two floors with an additional extension being added in 2007.

## Challenge

Prompted by a real need to counter the spiralling cost of energy and the fiscal pressure it puts onto the college they decided to invite industrial automation specialists to tender innovative solutions with the end goal of reducing their energy consumption.

Following a meeting between one of Mitsubishi's drives specialists and the Onsite Facilities Manager at the college, CDL were approached to recommend and work alongside a reputable System Integrator that would be able to perform an onsite assessment and offer their recommendations for the integration of a modern industrial automation solution that would best achieve their objective.

## Solution

As we work closely with a number of machine builders across the midlands we welcomed the opportunity to introduce and recommend Digicon Solutions who design and manufacture bespoke control systems to meet individual requirements from their Hinckley, Leicestershire head office.

In response to the site assessment and research, our engineers were able to recommend the integration of the very latest energy efficient Mitsubishi A746 (IP54) variable speed drives into the buildings' air handling system where old industrial automation technology was being used. The expectation that they would generate a significant reduction in the air handling system energy usage by benefitting from the drives built in 'Optimum Excitation Control' feature which in essence allows the user to decrease the speed of the motors in the system effectively whilst maintaining the required airflow throughout. The theory behind the solution applies the rules of cubed law which states that a 10% reduction in motor speed can show a 27% reduction in energy consumption.

## Results so far

Digicon Solutions carried out the installation and commissioning of the Mitsubishi A746 Variable Speed Drives ensuring that the recommendations and calculations that were proffered from the start were implemented and performed exactly as they intended enabling us to deliver the energy savings promised.

## Project

Identify ways to reduce Stephenson College's energy costs with the integration of a modern industrial automation solution

## Featured Product

Mitsubishi A746 (IP54) Variable Speed Drive

## Installation Location

Stephenson College, Coalville, Leicestershire, UK

## Solution Providers

Digicon Solutions (System Integrator)  
Controls & Drives (Technical Distributor)  
Mitsubishi Automation (Technology Provider)

## Our Role

Recommend a competent system integrator for this project and provide them with technical support and advice to ensure that the automation hardware selected was suitable for the application

## Testimonial

*"We very much appreciated Controls and Drives putting us forward for this system integration project. We've worked with CDL on a number of occasions and cannot fault their post and pre-sales advice and support which is first class. The Mitsubishi variable speed drive they helped us select will help the college benefit from reduced energy consumption for years to come."*

Karl Jones, Managing Director  
Digicon Solutions

## About Control & Drives Ltd

Controls and Drives are Mitsubishi Automation's largest Technology Partner in the UK and we house our very own Centre of Technical Excellence in Leicester consisting of engineers who actively offer advice, support, consultancy and service both post and pre sale to their customers.

They continue to work closely with Mitsubishi and together provide an unrivalled force in the field of industrial automation.



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