

# SyncroSpeed faq's

## frequently asked questions

**here are the answers to the most common questions from our customers**

**need to know more? contact us, we are ready to help with any detail**



How much downtime of the machine is needed to complete the SyncroSpeed installation?

For a single motor machine, allow about 8 hours. If there are more motors in the system then depending on their size and location allow another 2-4 hours for each additional motor. With some simple planning and communication, we can normally ensure that machines are available for production through the night shift, while we complete the work during the day.

What can go wrong with a SyncroSpeed installation?

Our installation and commissioning procedures are developed to ensure that the finished job leaves your machine in a fully-functioning condition. On the way we may encounter some difficulties that are related to the machine and its 'as found' condition.

If the specification of the machine is different from the information supplied, we will discuss with you what that means to the installation programme, review the options, and revise the plan accordingly.

If we find any loose or bad connections, we'll make them good, or tell you about them.

When setting up the control system, we sometimes identify pumps that are not producing 100%, or valves that are not responding correctly. Often these maintenance issues are not exposed or identified when the pumps are constantly operating at full speed and at full delivery. We'll point out these issues and get you to fix them, or just work with them in the best way we can.

What if the SyncroSpeed system fails, what can be done to get our machines back in production?

Any form of failure or mal-function of the SyncroSpeed system can be bypassed within an hour or less ... that's the entire risk to any lost time of production.

At the touch of a button, our control software can be bypassed at either of two levels. First, force the motor to go at full speed for a specific phase of the moulding cycle. Second, force the motor to run at full speed all the time. Either method is your way of eliminating the motor speed control as being a source of any moulding difficulty.

Level3 bypass is for hardware failure of the SyncroSpeed controller. Your technician will take a few minutes to reconfigure the inverter (VFD) to run the motor at full speed without command from the SyncroSpeed controller.

Level4 bypass takes your electrician about 1 hour, to remake power supply connections from the motor starter (which is always kept in circuit) to the motor. We arrange cable terminations in such a way that this is a straightforward procedure to bypass the inverter, reverting your machine back to a condition before SyncroSpeed hardware was installed.

Isn't it yet another thing that my machine setters will have to worry about?

Not an issue - our system is completely transparent in operation. Once configured when we install SyncroSpeed, there is no need to touch it further. The setters set-up the machine exactly as they have always done, doing nothing more, nothing less, and nothing different. SyncroSpeed monitors what the setter has demanded of the machine and reacts to that.

What maintenance is required?

Regular clean or replacement of the air intake filter, and periodically you should check that cable connections are secure, look for any damage or loose assembly - just as you would on any item of electrical equipment. That's it.

Won't the motor overheat if it runs at a low speed?

Leading motor manufacturers claim that the cooling by the fixed fan on the motor is adequate for motor full load down to about 50% of speed. With SyncroSpeed, lower speeds are associated with reduced power consumption by the motor, meaning lower loads ... so the circulating currents and their heating effects are much reduced. The cooling requirement is correspondingly much reduced. Our trials have shown temperature shifts of motor casings up to 5°C, but either way, sometimes warmer, sometimes cooler. It's the difference between reduced cooling effect and reduced heating effect, and in most cases is not significant.

What about interference from the inverter?

The adoption of good installation practices, such as the use of quality RFI filters, earthed screening on motor cables, ground plane bonding etc. overcomes such potential problems. We are fully aware of them and alert in looking out for their effects.

Might there be problems operating the pumps at lower speeds?

Most pump manufacturers will say that the minimum operating speed is around 600rpm. One reason is because below that speed the pump may not develop pressure at start up. Once oil is flowing the fluid pressure will maintain vane seal, as well as providing the required lubrication. SyncroSpeed manage these issues. Our control system has strategies to avoid high-pressure/very low speed operating points of the pumps. We cannot make worn-out pumps new again, but we do avoid early damage and accelerated wear.

What about mains harmonics?

SyncroSpeed specification includes an increased reactance to the mains supply in order to reduce low order harmonics. Harmonics is a site-wide issue, arising from any non-linear load such as a variable speed drive. Other more common sources are Personal Computers and modern electronic fluorescent lighting. We can assist with site evaluation of mains harmonics should the issue be of concern.

# introducing CCS Technology



CCS Technology design bespoke Industrial control systems and provide replacement PLC and drive systems for aging production machinery. The industrial control systems we produce are based around PLC, DCS, PC or CNC controllers including high availability and fail safe systems to SIL2 and SIL3.

Established in Coventry, England in 1988, the company continues to strive to establish a team of professional electrical and software Engineers with backgrounds in electrical and electronic engineering with specific emphasis on Industrial control systems and motion control. Our offices and workshops are located within an 19<sup>th</sup> century school house, in the village of Wolston just on the outskirts of Coventry. Centrally located in the midlands and connected by excellent transport routes, we are within 3 hours drive from anywhere in England and Wales.

Over recent years we have expanded into new industries and market sectors which use the same control system principles and technologies found in our traditional automotive and manufacturing machinery backgrounds. We remain focused on delivering purpose built control system engineering solutions, whilst expanding our range of standard products which include the following:

**VistaVision** - Wireless condition and plant monitoring systems

**SmartStart** – Mains power/Generator automatic power changeover and management systems

**SyncoSpeed** - Energy Saving systems for Injection moulding machines

CCS Technology support many markets, these are a few of our current and recent clients and their respective markets:

## **Automotive**

BMW Manufacturing (UK) Limited  
Dunlop Nigeria PLC  
Ford Motor Co.

## **Nuclear**

British Energy Group  
Alstec (Nuclear Division)

## **Oil, Gas and Mining**

Zeitina Oil Company  
Qualter Hall & TTK Gelik  
Kuwait Oil Company

## **Food & Beverage**

Cadburys Trebor Bassett  
Coca Cola  
Manor Bakeries

## **Machinery**

Gudel Lineartech  
Schmid Machine GMBH  
Modular Automation

## **Chemical & Pharmaceutical**

Dow Chemicals  
The Automation Partnership

