



Emerson Control Techniques Soft Starters

Emerson Control Techniques Soft Starters have been used for decades to provide precise and controlled starting and stopping AC motors. Emerson Control Techniques pioneered this motor control technology to limit the current to a motor on both acceleration and deceleration to provide a longer life to both motor and machinery.

What is a Soft Starter?

A soft starter is a device that is used in combination with AC motors to reduce the torque on the motor's power train during start up and shut down. If an AC motor is started without a soft starter, it can experience inrush currents up to seven times higher than the nominal current and starting torque up to three times higher than running torque. The high inrush current can also stress the power supply, leading to potential voltage drops. By reducing the torque, mechanical stress on the motor and shaft is also reduced, and electro-dynamic stresses on the power network are also reduced. Reduction in stress leads to longer life of all of the components involved and reduces production downtime.

In addition to increasing product life, a soft starter can help to reduce stresses on components that are attached to the motor, such as pumps or conveyor systems. A soft starter will help eliminate jerk and smoothly start conveyors, and prevent slipping in belt driven systems, so life of those components can be extended as well.

Emerson's Soft Starter Products

Emerson Control Techniques manufactures a complete range of low voltage AC motor soft starters. All of the models of soft starters feature a universal voltage input that can accommodate 200-600VAC, 200-400VAC and 380-690VAC 3-phase input supply. Modbus, Profibus, DeviceNet and RS485 options are available. The soft starter lines include:

The compact CSXi soft starter series has an extremely compact foot print and includes a built-in bypass contactor, which allows the use of smaller, non-ventilated enclosures, making it ideal for MCC applications. The CSXi line is available for 5 hp to 150 hp motors and 208-480 volt power.

The IS line is a set of full featured soft starters that includes adaptive acceleration technology for the ultimate in control. The IS line is available for 3 hp to 2,000 hp motors and 200-440VAC and 380-690VAC power supplies.

Emerson also offers pre-engineered soft starter packages that include everything needed to install and control your AC motor. One example is the pre-engineered crusher duty EMX3 soft starter package, which is suitable for both normal and heavy duty applications. The



EMX3 line is available for 3 hp to 1,600 hp motors and 200-440VAC and 380-690VAC power supplies.

For over 10 years, CIMTEC Automation has been a leading provider of Emerson/Control Techniques drive and motion products. CIMTEC combines top products from Emerson/Control Techniques and over 75 man-years of in-house drives and motion control engineering expertise to solve many of today's motion applications.