

## **The Most Advanced Reduced Voltage Soft Starters**

Ranging from 12-850 amps and with 13 models in 4 frame sizes from 65-290mm, the new IT Soft Starters provide advanced functionality along with unsurpassed configuration flexibility for open, enclosed or motor control center applications. IT Soft Starters are the most compact on the market today. IT Soft Starters are 30-90% smaller than competing soft starters.

Cutler-Hammer's approach to the Intelligent Technologies product lines was based on extensive customer input. This included numerous interviews and a survey involving over 700 companies worldwide. The data compiled from this survey concludes that customers want a soft starter that combines low unit price, labor savings, reduced operating costs, and advanced functionality. The result? The Intelligent Technologies Soft Starter by Cutler-Hammer.

### **IT- Intelligent Technologies.**

A compact design definitely matters. Existing soft starter technology uses separate semiconductors, bypass contactors, and overload relays to control and protect the motor. This costs you installation time and money. With the IT line, Cutler-Hammer places the soft starter, run bypass contactor and overload into a single easy-to-use package. This allows you to design a smaller, less costly, installation. For example, a 135 amp device can be easily configured in a 18-inch MCC bucket. In fact, IT Soft Starters are so small that they are 55-91% smaller than the leading soft start competitor of the same rating. The IT Soft Starter's compactness allows you to reduce the size of your designs or easily retrofit an IT Soft Starter in place of the full-voltage starter you are using today. Taking advantage of the reduced electrical and mechanical stress that a soft start offers.

### **24VDC Control — Cost Efficiency, Safety, Global Acceptance**

The IT Soft Starters begins with a control package that features a 24VDC control running a Digital Signal Processor, or DSP, and utilizing a low impedance run circuit, all of which contribute to the IT Soft Starter's safety, advanced functionality, and compact size.

Control via 24VDC is reliable, cost efficient, globally accepted, and offers huge safety advantages over traditional AC control. Many products ranging from sensors to PLCs to valve manifolds have already changed to 24VDC power. Cutler-Hammer is taking the next step with motor control. The use of 24VDC control reduces PLC output card costs, increases output card reliability and simplifies a customers compliance with CE marking requirements and safety standards.

### **Y-DELTA Versus IT — Smaller, Lower Cost, Easier on Equipment**

With most Y-Delta starters many of the advanced features of IT are functions that must be added at

the expense of cost and space. The IT Soft Starter, for example has built-in overload protection (overloads must be added to Y-Delta starters) so IT Soft Starters are more compact, easier to wire, and less costly than their Y-Delta counterparts. IT Soft Starters do a better job of controlling motor torque which leads to longer gearbox and bearing life, reduced belt wear, and elimination of the hammer effect — all of which increase your productivity and reduce costs. The IT Soft Starter is a single, easy-to-wire, high performance unit. In contrast, a Y-Delta starter requires 3-4 contactors, a timer, a separate overload, a mechanical interlock, 2-3 electrical interlocks, and all the wiring needed to connect these devices. The result is higher cost for Y-Delta technology in terms of components, installation, and maintenance.

### **IT Versus Full Voltage – Lower Cost**

The IT Soft Starter costs you less in terms of power consumption. An IT Soft Starter also reduces line brown-outs and decreases overall energy usage. For example, an IT Soft Starter controls peak power demand while a full-voltage starter can apply 600 - 800% FLA on start up. System cost savings are significant with an IT Soft Starter versus a full voltage starter. With an IT Soft Starter, mechanical components can have longer life or be reduced in size because of lower starting torque values (250 - 500% FLA current with SSRV). Because an IT Soft Starter reduces stress on a system by eliminating the jolts and violent speed variations that full-voltage starters introduce to a process, fewer mechanical breakdowns occur, improving the quality of the product and process.

### **Industry Configurable Package**

Packaged IT Soft Starters allow for multiple environmental applications - NEMA 1, 12, 3R and 4X. Configurable protection and operation parameters allow application to multiple motor types and loads in the same package size. Most existing Cutler-Hammer MCC's can be retrofit or upgraded with replacement units, and many enclosure mounted electromechanical starters can be retrofit with equivalent HP size IT Soft Starters. IT Packaged Soft Starters offer the lowest cost system solutions in any application.

### **Most Competitive Package**

IT Packaged Soft Starter enclosures are 22% - 78% smaller, and MCC units are 30% - 63% smaller than competitive offerings. These generate less heat and are more reliable than other reduced voltage starting methods. Software tools are available to configure enclosure requirements for any application. IT Packaged Soft Starters offer the most competitive solution in the market.

### **Reduced Power Draw**

Power control features like Ramp Start, Current Limit Start & Jog Forward provide maximum flexibility in selecting start profiles minimizing both mechanical and electrical stress while maximizing motor performance.

## **Improved Safety**

IT Soft Starters offer fingerproof deadfront construction reducing the chance of electrical shock. With the use of 24VDC control power, pilot devices and relays can be operated more safely.

## **System Cost Savings**

With improved reliability, longer life of system equipment, reduced power draw, space savings and improved safety, you enjoy the benefit of a significant improvement in system uptime and a reduction in system downtime resulting in overall system cost saving.

## **Time Savings**

Time savings in using Intelligent Technologies Soft Starters are achieved through a quick and easy set-up procedure, user friendly operational design, the longer life of system equipment and improved safety.

## **Productivity**

Overall, Intelligent Technologies Soft Starters significantly improve your productivity by saving you time and money. This is demonstrated by longer product life, longer runs between breakdowns and the ease of installation and operation.