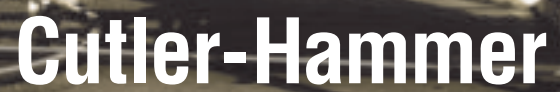


The Eaton logo, featuring the word "EATON" in a bold, white, sans-serif font with a small circle between the "A" and "T".

EATON

The Cutler-Hammer logo, featuring the words "Cutler-Hammer" in a white, serif font.

Cutler-Hammer

The text "Soft Starters" in a white, sans-serif font, with a red diagonal line through the letter "i".

Soft Starters

The text "Low Hp Reduced Voltage Applications" in a white, sans-serif font.

Low Hp Reduced Voltage Applications

The text "OEM Focus Torque Limiter" in a white, sans-serif font, followed by the model numbers "S701" and "S752" on separate lines.

OEM Focus
Torque Limiter
S701
S752



IT. Intelligent soft starting solutions.



Low horsepower doesn't have to mean low value!

Eaton offers soft starters that extend the life of your mechanical components, provide the safety and reliability of 24V DC control power, and retrofit into existing enclosures and MCC buckets. Not only that, but Eaton's Cutler-Hammer **IT.** Soft Starters' small size and ride-through capability will meet the most demanding design and system expectations.

With a direct focus on control system design and customer profitability, Eaton is proud to offer the Cutler-Hammer Intelligent Technologies (**IT.**) Soft Starters for low horsepower reduced voltage applications – a complete offering for the OEM customer.

Our TL Line of Starting Torque Limiters, S701 Soft Start Controllers and S752 Soft Starters provide controlled acceleration and deceleration of single and three-phase motors and offer a range of control and application flexibility to meet the needs of most OEM applications.

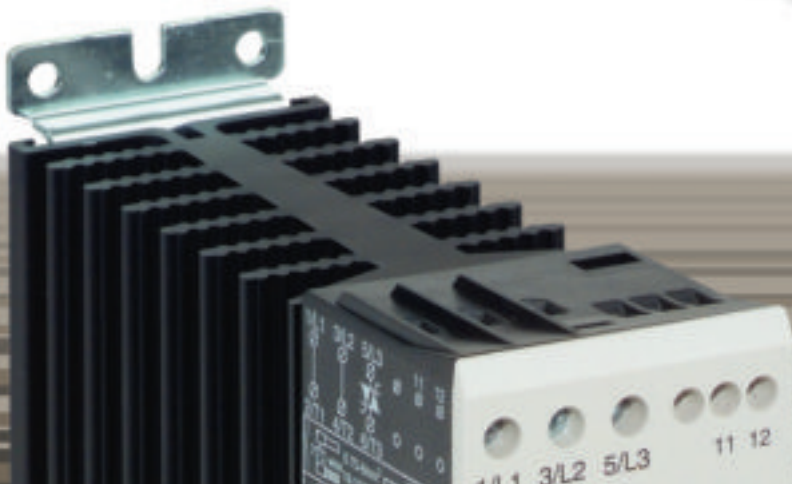
The low cost solutions to low horsepower applications, the **IT.** solid-state reduced voltage soft starters have all the features and options you value.

Eaton gives you the choice.

With an impressive line of soft starters designed with small motor OEM applications in mind, Eaton gives you choices. Whether it's the TL Line of Starting Torque Limiters, the S701 Line of Soft Start Controllers or the more advanced S752 Soft Starter, you are guaranteed to find an Eaton solution to fit your application needs.

Small size and easy configuration make these soft starters ideal for use in the most cost-sensitive applications. We have **IT.** for every application, a complete range of solid-state reduced voltage starters optimized to satisfy your application requirements. From simple soft starting to advanced starting and stopping control with protective

functions and communications, the **IT.** line of soft starters provides a unique combination of soft starting and electro-mechanical features along with the technological advances you've come to expect from Eaton's Cutler-Hammer products.





Target applications.

Conveyors

- Smooth starts and stops
- No sliding or tilting of goods
- No snapping of chains or belts
- Kick-Start to control high friction loads (S701 Only)
- Communications capabilities with **IT** SNAP Modules (S752 Only)

Compressors

- Reduces starting currents by 40-50% compared to across-the-line starters
- Provides fast start of the compressor

Fans & Pumps

- Reduces squirreling or snapping of belts, extending the life 2 to 6 times.
- Reduces inrush currents
- Unlimited starts and stops
- Soft Stop minimizes “water hammer”

Elevators

- Smooth starts and stops
- Reduced wear on belts, gears, chains, clutches, shafts and bearings – decreasing required maintenance and extending the life.
- Reduce inrush currents to minimize voltage disturbances

Why choose soft starting?

Eaton’s Cutler-Hammer **IT** Soft Starter uses Silicon Controlled Rectifiers (SCRs) to electronically reduce the voltage output to the motor, allowing for a ramp up to the line voltage.

Soft starting a motor will reduce mechanical component shock, minimizing coupling and shaft damage, preventing rotor and

winding failure, and stopping drive belt squeal and breakage. Soft starting can also prevent damage to the load by eliminating sudden system acceleration. The reduced inrush currents will also decrease stress on the electrical distribution system increasing the life of electrical components.

Other benefits include:

- Soft stopping of the load where a stop time that is greater than the coast to rest time is required (S701 and S752 only) – a feature that is beneficial in material handling and pumping applications.
- Reduce peak starting currents to eliminate voltage drop on the motor start. This can prevent nuisance breaker trips and reduce electrical distribution system disturbances and their associated costs.



What value do Eaton *IT*. Soft

Longer life.

Because soft starting minimizes shock to mechanical components, the life of your system is extended, increasing reliability and lowering costs. Less shock to products on conveyors and material handling equipment also

reduces the costs associated with damage to handled products. Lower inrush current causes less stress on electrical components and junctions further maximizing system life.

The use of an *IT*. Soft Starter reduces slippage, squealing and stretching – leading to an extended belt life of 2-6 times that of a traditional across-the-line starter. An extended life means reduced downtime and lower maintenance costs.

No need to worry when *IT*. is at work.

Cutler-Hammer *IT*. Soft Starters feature IP20 rated finger-safe terminals, and offer 24V DC control, emphasizing Eaton's commitment to keeping you safe. When your personnel and equipment are at risk, nothing but the safest, most reliable soft starter will do – *IT*. is the answer.

The hazards and potential for fatal results of human contact with AC current are well known; low voltage DC control power

eliminates hazards for personnel while working on control systems. This not only enhances worker safety, but also eliminates the costs for protective clothing and enclosures that are required when AC control power is used. Further, the use of 24V DC control simplifies compliance with NEC and OSHA regulations. Again, improving safety conditions and reducing system costs.

The S752's 24V DC pulse width modulated coil utilizes minimum power, only 5.0W steady state, reducing the risk of injury and damage from electrical shock and short circuit faults. The removable and lockable control terminal block eliminates control wiring errors when replacing a device, providing yet another level of safety.



Starters offer your business?

The perfect fit.

The small size of **IT** Soft Starters make them the perfect option for existing soft starting or retrofitting applications.

The simple addition of a Manual Motor Protector or Full Voltage Starter to the TL Torque Limiter or S701 Controller provide controller functionality and overload protection, while limited control wiring makes installation quick and easy.

The S752 combines the overload and bypass contactor into one device for fast and easy installation. Functions

traditionally provided by multiple devices are now offered in one compact package. With its small size, it can easily fit in place of existing soft starters, wye-delta starters or across-the-line NEMA and IEC starters. This feature allows easy upgrades to existing systems. Now you can get the benefits of soft starting without having to change enclosure sizes or add additional assemblies – saving you time and money.

Maintaining your integrity.

What better way to protect your system's integrity than by improving the ride-through capability of your control products?

The S752 utilizes a pulse width modulated (PWM) coil to minimize DC current, reducing energy to the

contact block and allowing for the small size of the starter. The PWM coils in combination with an efficient **IT** Power Supply, work to reduce or eliminate the negative effects of electrical system disturbances, brownouts and protect against power loss.

Nothing is more costly than system downtime – why not choose an **IT Soft Starter and be confident in the integrity of your control system?**



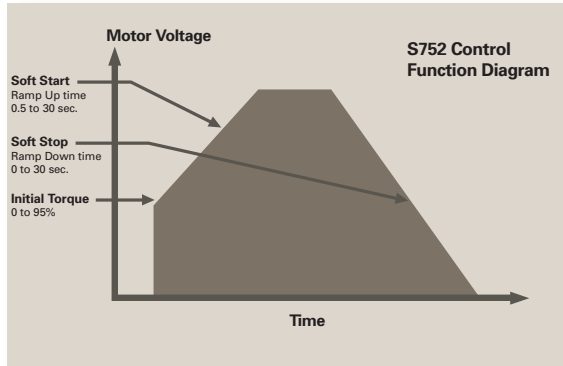
Integral run bypass and overload protection. A small but complete package.

IT. S752 Soft Starter

The **IT. S752** is very compact, multi-functional, easy to install and easy to program. The device is available in configurations to be applied either in the line of the motor, or in the delta windings of the motor. The in-line device is available for current ranges from 0.25 to 50 amps. The inside-the-delta device is available for current ranges from 0.44 to 86 amps.

With its integral solid-state overload protection and run bypass contactor, the **IT. S752** eliminates the need to purchase additional devices - reducing component, wiring, panel and enclosure costs. The **S752** is available as a component for panel mounting, in Motor Control Centers or in Enclosed Control (NEMA 1, 3R, 4, 4X, 7/9 and 12).

Initial Torque Control, Soft Start and Soft Stop



Key Features

- Advanced selectable protective features safeguard the motor and system against a variety of system faults.
- Run bypass mode greatly reduces internal heating created by the power dissipation across the SCRs. The bypass contactor directly connects the motor to the line and improves system efficiency by reducing internal power losses. Less heat minimizes enclosure size and cooling requirements and maximizes the life of all devices in the enclosure.
- Internal run bypass contactor and overload protection eliminate the need for additional devices, thereby reducing enclosure sizes, minimizing installation and wiring time and reducing overall assembly size and cost
- Wide range of overload FLA settings (31 – 100% of rated current) and selectable trip class (10, 20, 30) offers users the flexibility to fine tune the starter to match specific application requirements.
- 24V DC control module enhances personnel and equipment safety
- Communications enabled with the addition of a SNAP (Starter Network Adapter Product)

IT. S752

Control Functions

Initial Torque Control	0-95%
Soft Start	0.5-30 seconds
Soft Stop	0-30 seconds

Electrical Ratings (Standard Duty Ratings)

Operating Voltage (Ue)	200-600 V AC	
In-Line Current Capacity	50A	
Inside-the-Delta Current Capacity	78A	
Control Steady State Current	200mA	
Inrush Current (During Bypass)	3.6A @ 50mS	
Max In-Line Power	@ 575V AC	40HP
	@ 440V	30kW
Max Inside-the-Delta Power	@ 575V AC	75HP
	@ 440V	45kW
Operating Frequency	47-63 Hz	

Environmental Ratings

Operating Temperature	-35 to 40° C	
Storage Temperature	-40 to 80° C	
Altitude	2000m	
Humidity	95% Non-Condensing	
Vibration	IEC 68-2-6 3g 10-150Hz	

Standards and Certifications

UL Listed (NMFT)	IEC 60947-4-2	CSA Certified (321106)
CE Marked	EN 60947-4-2	CSA Elevator Duty (241103)

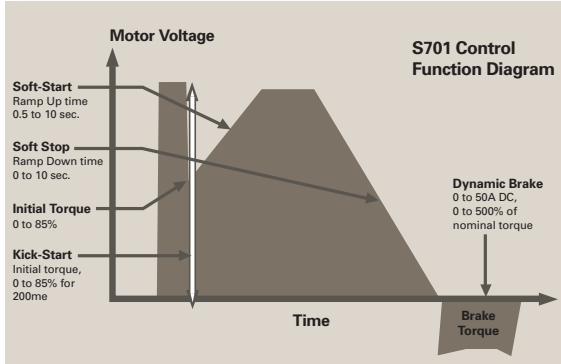
Application-specific options.

IT. S701 Soft Start Controller

The S701 offers advanced motor control in a small and inexpensive package. With Soft Start, Soft Stop, Kick-Start and Initial Torque Control, the

IT. S701 is the option for low horsepower applications that require slightly more advanced soft starting and stopping capabilities.

Initial Torque Control, Soft Start, Soft Stop, and Kick-Start



Key Features

- Unlimited Number of START/STOP operations per hour
- Kick-Start helps reduce mechanical stress on the system
- The DC braking option is used to enhance safety of dangerous machinery by eliminating mechanical system components and for the quick stopping of high inertia loads
- Bypass auxiliary option is designed to actuate an external bypass contactor, remove heat from the enclosure in RUN mode maximizing operating current, increase the unit amperage to 30A and can be used for up-to-speed indication
- Panel / DIN rail mount

IT. S701

Control Functions

Kick-Start	200m seconds, 0-85%
Initial Torque Control	0-85%
Soft Start	0.5-10 seconds
Soft Stop	0-10 seconds

Electrical Ratings

Operating Voltage (Ue)	200-600V AC
Max. Operating Current (Ie)	25A
Max. Power @480V AC	5HP
@400V AC	11KW
Operating Frequency	50/60 Hz

Environmental Ratings

Operating Temperature	-30 to 40°C (-22 to 104°F)
Storage Temperature	-30 to 80°C (-22 to 176°F)
Altitude	2000m
Vibration	IEC 68 2-6 5g 10 to 150Hz

Standards and Certifications

UL 508 Listed	IEC 60947-4-2	CSA Certified C22.2 No. 14
CE Marked	EN 60947-4-2	



The complete *IT* soft starting line.



Eaton's electrical business is a global leader in electrical control, power distribution, and industrial automation products and services. Through advanced product development, world-class manufacturing methods, and global engineering services and support, Eaton's electrical business provides customer-driven solutions under brand names such as Cutler-Hammer®, Powerware®, Durant®, Heinemann®, Holec® and MEM®, which globally serve the changing needs of the industrial, utility, light commercial, residential, and OEM markets. For more information, visit www.EatonElectrical.com.

Eaton Corporation is a diversified industrial manufacturer with 2003 sales of \$8.1 billion. Eaton is a global leader in fluid power systems and services for industrial, mobile and aircraft equipment; electrical systems and components for power quality, distribution and control; automotive engine air management systems and powertrain controls for fuel economy; and intelligent drivetrain systems for fuel economy and safety in trucks. Eaton has 55,000 employees and sells products to customers in more than 100 countries. For more information, visit www.eaton.com.

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Printed in USA
Form No. BR03902004E
January 2005