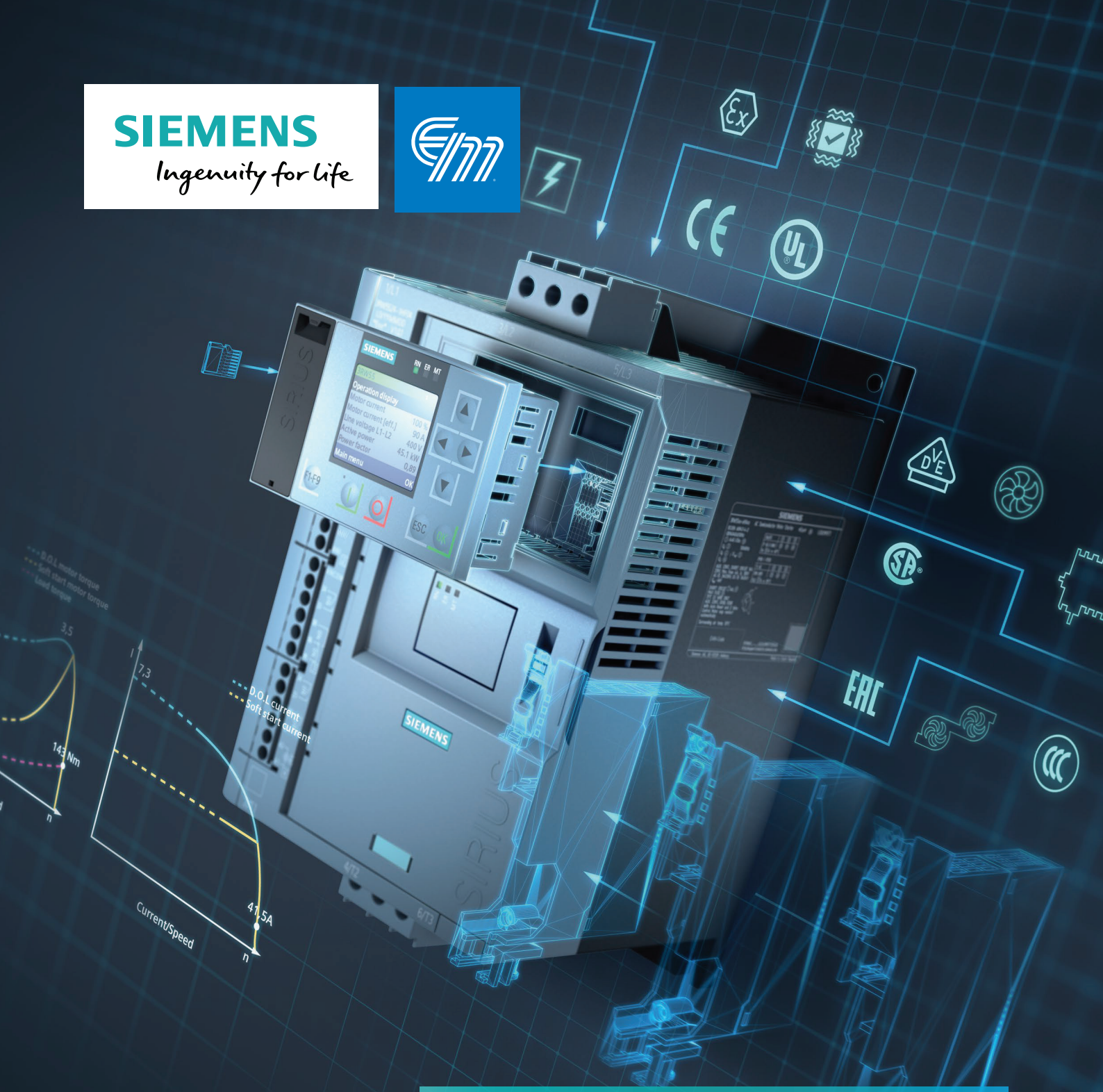
SIEMENS
Ingenuity for life



As versatile as your application

SIRIUS soft starters

SIRIUS Hybrid

ELECTRO-MATIC
a SunSource Company

Soft starters can help make your processes more reliable now and in the future.

Electric motors are significant in most industries; without them, your applications wouldn't work, and since motors are the leading unit in your facility, they should be durable and reliable with no chances of failure. SIRIUS soft starters can help you achieve this success.

SIRIUS soft starters help limit the starting current and torque to best fit your application. The 3RW5 family of soft starters provide market leading technology for every soft starting application. They can provide the user one of the broadest packages available on the market!

Top benefits of the 3RW5 soft starter are:

- Compact size – Less than 8" deep up to 400HP, less than 10" deep up to 1000 HP. This allows the starters to fit into MCCs, shallow cabinets and retrofits.
- Flexible HMI choices – Install the high feature, standard, or omit the display based on the application requirements.
- Five available communication protocols: PB, PN, MB-TCP, EIP , MB-RTU
- Three phases controlled for application flexibility
- Wide range of control voltages: 24 V AC/DC and 110 - 250 V AC
- Selectable analog or thermistor input for optimal protection of motor

Strong portfolio

Comprehensive soft starter portfolio, along with flexible accessories, provides solutions to applications from simple to demanding. The 3RW family comes in basic, general, high performance ranges.

Efficient switching

Energy-efficient switching and mechanical protection of the motor and connected load due to soft starting with hybrid technology.

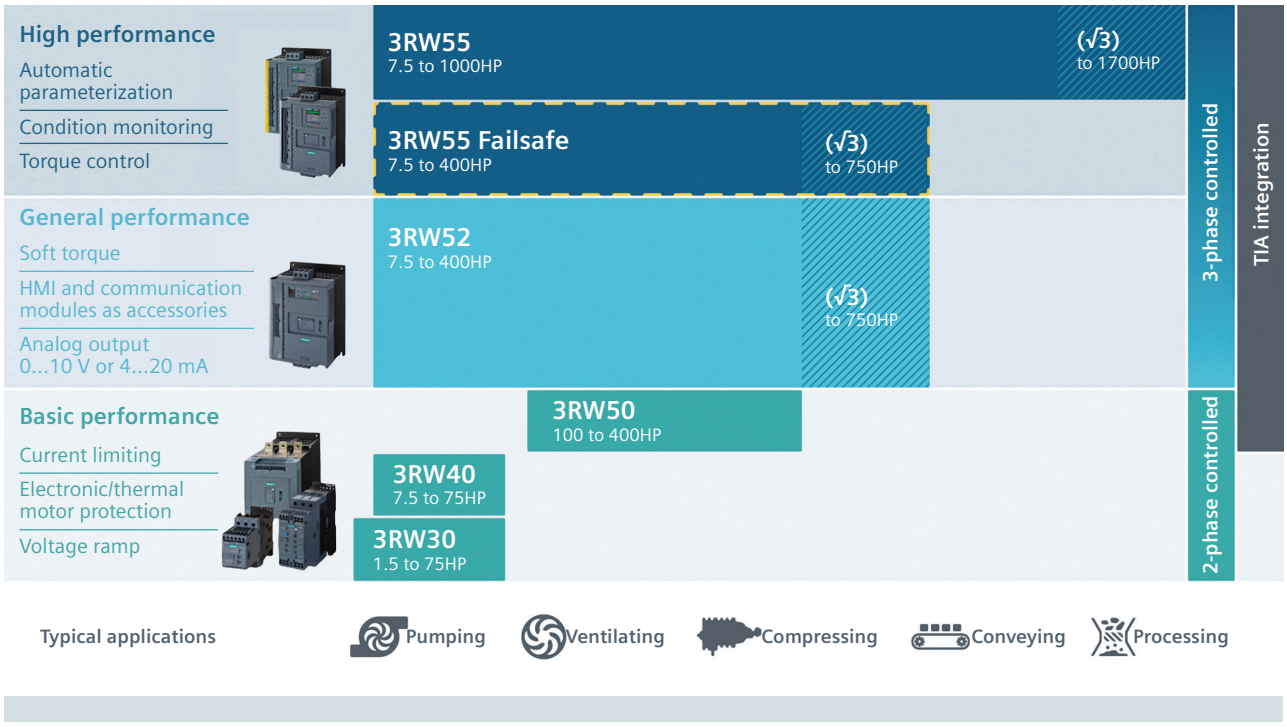
Intelligent operation

Application-specific functionality due to intelligent features such as automatic parameterization, pump cleaning and condition monitoring.

Ready for a digital future

Support of digital engineering processes with tools and data. In addition, provides data provisions for local visualization or cloud-based analysis.

SIRIUS soft starters – A strong, versatile portfolio with many application opportunities



Basic Performance

SIRIUS 3RW 30/40/50 soft starters are one of the world's most compact two-phase controlled soft starters in the power range from 1.5 hp to 400 hp at 480 VAC due to their innovative control principle. Their compact design helps you save space in the control panel configurations. SIRIUS 3RW 30/40/50 soft starters provide a universal solution to simple applications.

General Performance

SIRIUS 3RW52 soft starters are optimal for standard applications. The 3-phase motor control covers a power range from 7.5 hp to 400 hp at 480VAC in standard circuits or up to 750 hp at 480VAC in inside-delta circuits. Maximum flexibility is offered through optional HMI modules, communications options (PROFINET, PROFIBUS, Modbus TCP) and the choice between an analog output or thermistor motor protection.

High Performance

SIRIUS 3RW55 soft starters offer comprehensive functionality. It efficiently conducts complex starting and stopping tasks. Due to its innovative torque control, it can be used to drive up to 1000 hp at 480VAC for inline circuits or 1700 hp at 480VAC for inside-delta circuits. The optional communication module for PROFINET High Feature with 2 ports, facilitates media redundancy in a ring topology. This makes it easier on the user and ensures maximum operating convenience.

The innovative 3RW55 Failsafe soft starter features an integrated fail-safe digital input for directly connecting the EMERGENCY STOP, and thus covers SIL 1 STO applications. With their modern hybrid switching technology, the 3RW55 Failsafe soft starters offer efficient switching for long-term, energy-saving use.

reddot design award

Design Awards 2018

The SIRIUS 3RW5 soft starter received both the RedDot Design and the iF Design awards in 2018. Among other things, the iF design institute recognized the slim, coordinated, uniform design across all sizes: "Despite their size and materials, the devices look harmonious due to the consistent design throughout the entire family. The most important elements for the user, such as LEDs and safety locking, have been placed on the first level in a user-oriented manner."

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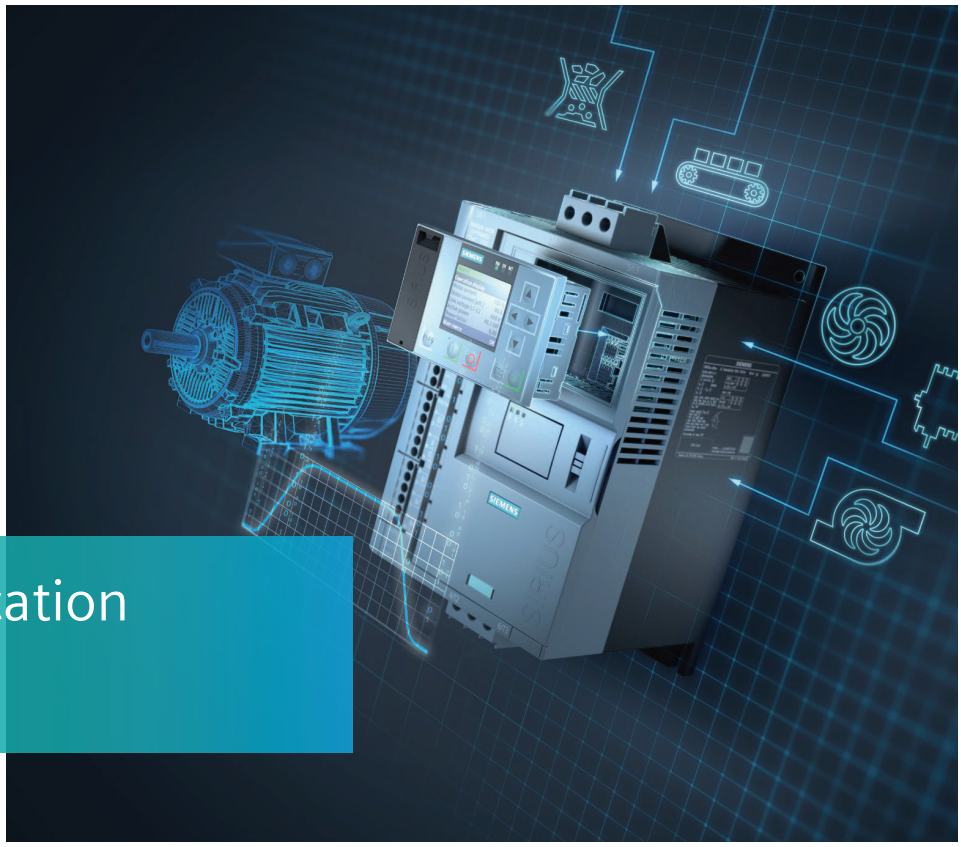


Your application in mind

Pump cleaning and pump stopping mode

The pump cleaning function prevents pumps from getting blocked. This increases your productivity and system availability. The pump stopping mode avoids mechanical loading in the piping system and extends life-cycle of the equipment.

Flexible control voltage

Due to the wide control voltage range from 110–250 V AC, soft starters have a high degree of electrical ruggedness. This guarantees reliable operation in the event of voltage drops.

Condition monitoring

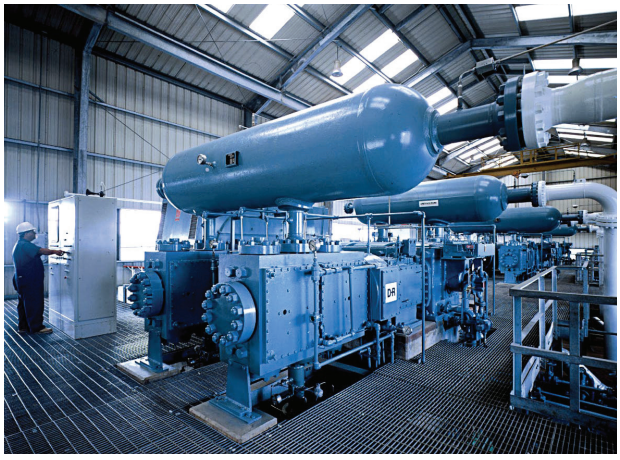
The condition monitoring function supports optimal planning of maintenance work on bearings or seals, therefore maximizing availability.

Automatic parameterization

Automatic parameterization simplifies the commissioning and operation of critical applications, even in the case of highly dynamic load characteristics.

Integrated braking functions

Intelligent functions such as soft starter braking ensure a fast and reliable stop without engineering and configuration work.



Condition Monitoring – Example: Compressors

The evaluation of the current data and effective motor power of our soft starters SIRIUS 3RW55 enables condition monitoring, which leads to a new level of transparency regarding the status of equipment. Based on the measured data, it is possible, for example, to determine whether a pump is running dry, whether the oil or lubricating film on an impeller or compressor is being lost or whether a ball bearing is showing signs of imminent damage.

Automatic parameterization – Example: Conveyor belts

Soft starting conveyor belts require constant adjustments to different starting load conditions. SIRIUS 3RW55 soft starters simplify this task with their automatic parameterization function. By analyzing start-up operations, the soft starter is able to recognize the load conditions and set the corresponding values for an optimal belt start.

Integrated brake function – Example: Sawmills

The heavy, slow-moving blades in industrial sawing systems require a soft start function to protect the electrical and mechanical systems. Saw blades must be able to brake quickly to save time when switching. The 3RW55 soft starters support, for example, DC braking or reverse braking. The soft starter handles both of these independently, including activation of additional components needed, such as brake or reversing contactors. This gives the user braking functionality with no engineering or planning work.

Pump cleaning and pump stopping – Example: Wastewater

Pumps used in wastewater applications attract dirt and particles that can cause deposits to build up on the impellers of the pump and reduce flow rates and productivity. This can be avoided with the pump cleaning function of the 3RW55 soft starters. The 3RW55 offers integrated measuring systems that detect contamination and through active monitoring activate alarms and can change the direction of the rotation of the pump as soon as specified.

Additionally, pumping stations also have challenges stopping pumps with these large amounts of water. The 3RW5 eliminates water hammer on pipes, couplings, valves and seals with the pump stopping mode to avoid damage by controlling the amount of energy while stopping the system.

Flexible control voltage – Example: Fans

Fans for air conditioning systems, buildings, tunnels or car-parks are substantially enormous with several minutes startup time. These factors result in temporary drops of the supply voltage. The soft starters themselves require a control supply voltage of 230 V and a main voltage of 400 V. The SIRIUS soft starters have a wide range of voltage versions; e.g. 110 to 250 V AC for the SIRIUS 3RW52/55 soft starters. Even in the case of a voltage drop, the soft starter is fully operational. This means that the motor and the application are fully functional as well. The level of electrical ruggedness that our soft starters provides imply that operation is assured in power supply networks with sporadic voltage drops.

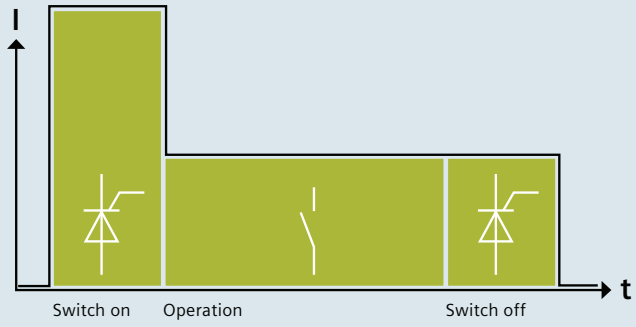
The best of both worlds with hybrid switching technology

Hybrid switching technology combines the advantages of electronic control with power semiconductors and the low conducting losses of switching contacts. The strengths of each technology are exploited during the appropriate operating phase. As the motor starts, the soft starter is operated via the power semiconductors, which enable precise and targeted control of the starting current. After the motor has been softly started using semiconductors, the low-loss switching contacts take over the current until the motor is switched off.

The hybrid switching technology ensures a longer service life for switchgear due to the reduced wear when switching on. Conventional industrial controls result in wear to the switching contacts every time a system is switched on or off, albeit in very small increments. The result, however, is a limited electrical life. This typical hybrid switching process reduces the starting current of the semiconductor components, thus minimizing the load on the switching contacts to such an extent that the mechanical components in the hybrid switchgear can achieve a significantly longer switching life.

Benefits of hybrid switching technology

- Lower power losses in the operating phase
- Lower energy costs and heat rise in the control cabinet
- Avoidance of current peaks
- No network voltage dips
- Less flicker
- Particularly economical for increased switching cycle counts
- Low-wear switching thanks to hybrid switching technology



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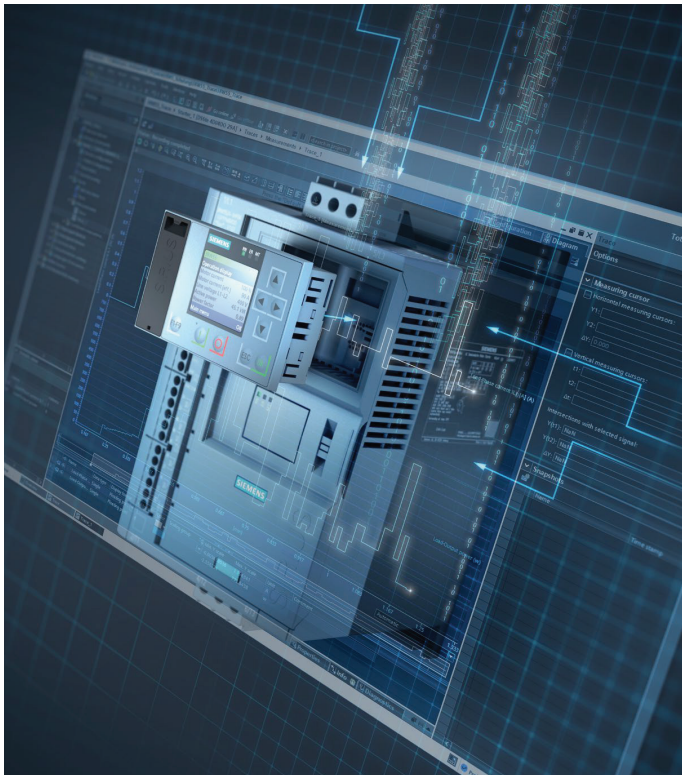

Tomorrow's control products, today

The 3RW5 provides data whenever and wherever it is needed.

The digital transformation of industry is in full swing and our latest generation of soft starters supports companies in fully embracing the potential of digitization. This is particularly beneficial when it comes to economic efficiency, making it faster and easier to achieve optimum results, with permanently high availability thanks to shorter downtimes.

Digitalization requires far simpler processes and time savings in the planning and configuration phases. The wide digital availability of product data considerably simplifies the process of putting together the required devices; and parameterization can be completed a lot quicker. This also shortens on-site commissioning times.

Machine and plant data is readily available at all times, delivering greater transparency. This means you can avoid plant downtimes and increase cost-effectiveness. The soft starters can transfer data to the cloud, enabling flexible use both directly at the switchgear as well as at the management level. Analyses and benchmarking allow you to determine the energy consumption of your equipment and use the findings to optimize your processes.

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GET IT ON Google Play

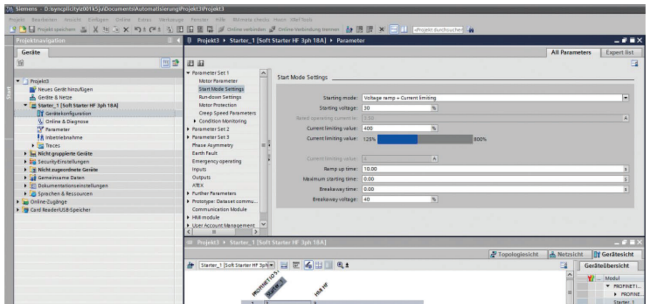
Planning and engineering

All product data is available digitally and can be integrated into common engineering tools. You can gather the products you need for your project by using the **TIA Selection Tool** as the configurator, either on a Windows PC or on mobile devices with the browser-based cloud variant.
The **Simulation Tool for Soft Starters (STS)** lets you chose the right soft starter for your specific application. The soft starter application can also be simulated based on information such as ambient conditions, motor, or load. STS is available as a desktop application or optimized for your mobile device. You can automatically transfer your selection via a link to the Siemens Industry Mall, where you can place your order.

STS tool: Easy input of motor and load data

Commissioning

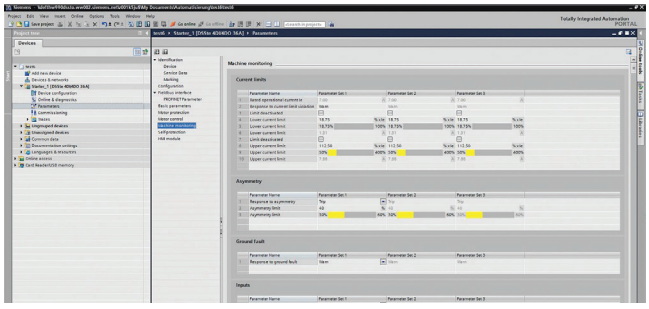
The **SIRIUS Soft Starter ES** software in the Totally Integrated Automation Portal (TIA Portal) enables you to quickly and easily perform parameterization (3RW55) and monitoring as well as diagnostics in the event of servicing SIRIUS General and High Performance soft starters. The SIRIUS 3RW55 device parameters can be set directly on the PC and transferred to the soft starter via an Ethernet cable or a PROFIBUS/PROFINET connection.



SIRIUS Soft Starter ES (TIA Portal)

Operation and service

The soft starters can be easily and securely connected to cloud-based solutions, such as the cloud-based, open IoT operating system, MindSphere. This gives you access to the operating data across all systems and allows you to analyze it. The results are protected against manipulation and can be used for predictive maintenance, energy data management and resource optimization.



Parameterization in the TIA Portal

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