

SIEMENS



# SIRIUS Modular System

Highly flexible system-based switching, protecting and starting

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Answers for industry.

# Overview of the Numerous Advantages Offered by the SIRIUS Modular System.

With its manifold components, the SIRIUS modular system covers various functions for control cabinet applications and offers numerous advantages in terms of assembly and handling, application monitoring, connection to the control as well as planning and configuration.

## Assembly and handling:

Reduced wiring expenditures and fault avoidance – with maximum flexibility

- **Load feeders:** Easy realization with standard devices up to 250 kW / 400 V
- **Modular system:** All components are matched and can be combined
- **Versions and sizes:** Efficiency and flexibility with 7 compact sizes
- **Accessories:** Minimum variance with integrated accessories
- **Assembly:** Fast commissioning, short setup times, easy wiring
- **Mounting:** Permanently safe mounting with screw-type or easy plug-in connection system
- **Spring-loaded connection system:** Fast and safe connection, vibration-proof and with zero maintenance
- **Reduced wiring:** Considerably reduced number of line connections thanks to plug-in connection system and IO-Link or AS-Interface

## Application control:

Improved operational reliability and system availability

- **Maintenance:** Extremely long service life, low maintenance and reliability
- **Application monitoring:** Flexibly integrated in the feeder thanks to current monitoring relay

## Connection to the control:

Optimum integration in the automation environment

- **Communication:** Standardized connection to AS-Interface, IO-Link and PROFIBUS DP possible

## Planning and configuration:

Eased system planning and documentation

- **Configuration:** Easy and fast thanks to comprehensive CAx data provision
- **Service:** Short delivery periods also for spare parts thanks to worldwide logistics network
- **Environment:** Environmentally compatible production and materials, recyclability
- **Design:** Clear and ergonomic, awarded with the iF Product Design Award
- **Configurator:** For easy product selection, incl. accessories
- **Global applicability:** Thanks to comprehensive approvals



# Switching. Protecting. Starting.

## The components of the SIRIUS Modular System.



### Far more than ON/OFF: SIRIUS 3RV circuit breakers

SIRIUS 3RV circuit breakers (MSP) are compact, current-limiting circuit breakers. They guarantee safe reliable shutdown when short circuits occur and protect loads and plants against overload. Furthermore, they are suitable for operationally switching load feeders with a low operating frequency and safely disconnecting the plant or system from the line supply when service is being carried out or changes are being made. SENTRON 3VL circuit breakers are suitable for applications above 100 A. As infeed and load feeder breaker, they protect plants and motors against short circuit and overload.



### Rugged and reliable: SIRIUS 3RT contactors

Due to their extremely high ruggedness and optimum contact reliability, our contactors switch with supreme confidence. Furthermore, compact electrical cabinets can be configured with high packing densities. The reason for this is that the auxiliary switch blocks and solenoid protective circuitry are located within the envelope contours of the contactors. This makes it easier to expand the system and saves considerable space in the electrical cabinet. With size S00 and S0 contactors, the auxiliary switches are already integrated in the enclosure.



### Tripping when things get tough: SIRIUS 3RU and 3RB overload relays

The overload relays of the SIRIUS family, available as either thermal or solid-state versions, protect loads connected to the main circuit, as a function of the current, and also protect other switching and protective devices in the particular load feeder. The solid-state SIRIUS 3RB2 overload relays guarantee seamless motor and plant protection from 0.1 A to 630 A. Due to the wide setting ranges, the current range is covered with a minimum number of versions.



### Easy application monitoring: SIRIUS 3RR2 current monitoring relays

The SIRIUS current monitoring relays not only monitor the motor, but the entire system or driven process for overcurrent and undercurrent, cable breakage and phase failure. For example, load shedding or overload of an application is promptly detected and signaled at an early stage. Sizes S00 and S0 of the 3RR2 current monitoring relay are directly integrated in the load feeder. They simply have to be plugged onto the contactor: Click 'n' go.



### Gentle starting: SIRIUS 3RW soft starters

SIRIUS 3RW soft starters offer a seamless range that covers all standard and high-feature motor starting applications. They can be used in the widest range of applications to exploit the advantages of soft starting for the easy and efficient realization of optimum machine concepts. The compact two-phase-controlled 3RW30 facilitates efficient and space-saving soft starting up to 55 kW (with 400 V). The 3RW40 additionally offers soft stopping as well as integrated intrinsic device and motor protection functions, thanks to which an additional overload relay is unnecessary. Device versions up to a rating of 55 kW (with 400 V) are available: Thermistor motor protection evaluation, 400–600 V.

# Switching. Protecting. Starting.

## The components of the SIRIUS Modular System.



### Competent control of high switching frequencies: SIRIUS 3RF solid-state contactors

SIRIUS solid-state contactors (size S0) for motor switching offer an almost unlimited service life – even under harsh conditions and with high switching frequencies. The three-phase solid-state contactors switch motors up to 7.5 kW in an absolutely noise-free manner. A special reversing contactor version facilitates direction of rotation changes of motors up to 3 kW. The compact devices in 45 or 90 mm width can be combined with our circuit breakers, current monitoring relays or solid-state overload relays. This supports the fast and easy assembly of fuse-less and fused motor feeders.



### Compact switching and protection with comprehensive additional functions: 3RA6 compact starters

Equipped with the functions of a circuit breaker, a contactor and a solid-state overload relay, the compact starter offers maximum reliability and minimum variance as direct-on-line or reversing starter up to 32 A. Safe disconnection upon the starter's end of service life offers an additional advantage in terms of system availability. Reduced wiring in the main circuit thanks to the brilliantly simple infeed system, incl. PE connection, and in the control circuit thanks to optional AS-Interface connection or integrated IO-Link interface supports the rapid assembly of complete feeder groups. The devices' incorporation in the Totally Integrated Automation concept and pre-defined icon blocks for visualization facilitate the output of significant device diagnostics without the normally required configuration expenditures.



SIRIUS contactor  
screw connection



SIRIUS contactor  
spring-loaded connection



SIRIUS contactor  
ring cable lug connection

### Fast, reliable and user-friendly: spring-loaded technology

For the first time, the entire S00/S0 range is available with spring-loaded connection system both in the main and control circuit. This accelerates device connection and offers maximum operational reliability. The outstanding ease of wiring ensures rapid mounting. The gas-tight clamp connection's vibration resistance represents a further advantage. In addition, this connection system offers maximum contact reliability – even under the harshest of conditions. The frequently required re-tightening of connection terminals is thus done away with.

A special bonus: Also the connecting modules for direct-on-line, reversing and star-delta starters are available with spring-loaded connection system to support the mounting of complete feeders without tools.

### Maximum connection flexibility

Of course, all components of the SIRIUS modular system are also available with the screw-type connection system – largely even with ring cable lug – for special requirements, e.g. mechanical engineering applications in the semiconductor industry.



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## The components of the SIRIUS Modular System.



Straight ahead:  
The 3RA11 direct starter



Phases interchanged:  
The 3RA12 reversing starter



Two stages – one start:  
The 3RA14 star-delta  
combination

### Ready for immediate use: Pre-wired SIRIUS load feeders

Load feeders start loads using a combination of protective and switching functions. Generally, a multiple number of components is required to implement every type of starter. In order to reduce time and costs – and especially to minimize downtimes – we offer you a wide range of pre-wired starter solutions:

- Direct starters up to 22 kW – the optimum starter combination for all motors. For high switching frequencies with solid-state contactors up to 7.5 kW.
- Reversing starters up to 11 kW – the matching combination for reversing motors. Solid-state reversing contactors can be used for applications with high switching frequencies up to 3 kW.
- Wye-delta\* combinations up to 75 kW – the solution for running-up motors in stages.
- Soft starters – when soft starting and stopping is required (soft ramp-down as of 3RW40).

An almost unlimited number of further tested combinations can be easily assembled from the individual components. The SIRIUS Configuration manual offers selection support: Available under order number 3ZX1012-ORA21-1AC0 or for download via [www.siemens.com/industrial-controls/support](http://www.siemens.com/industrial-controls/support)