A close-up photograph of a Siemens SIRIUS 3RM1 Motor Starter. The device is a grey, modular unit with a series of blue and red cables plugged into the top. A person's hands are visible, adjusting a dial on the front panel. The dial is labeled 'I<sub>set</sub> (A)' and has a scale from 0.6 to 1.8. The front panel also features a yellow LED indicator, a 'TEST/RESET' button, and a QR code. The Siemens logo is visible on the top of the unit.

**SIEMENS**

# Start-up with a small footprint – the SIRIUS 3RM1 Motor Starter

The SIRIUS 3RM1 Motor Starter –  
multifunctional with a width of just 22.5 mm

[siemens.com/motorstarter/3RM1](http://siemens.com/motorstarter/3RM1)



product  
design award

2013

Answers for industry.

# Getting started – even when things get tight SIRIUS 3RM1 Motor Starters

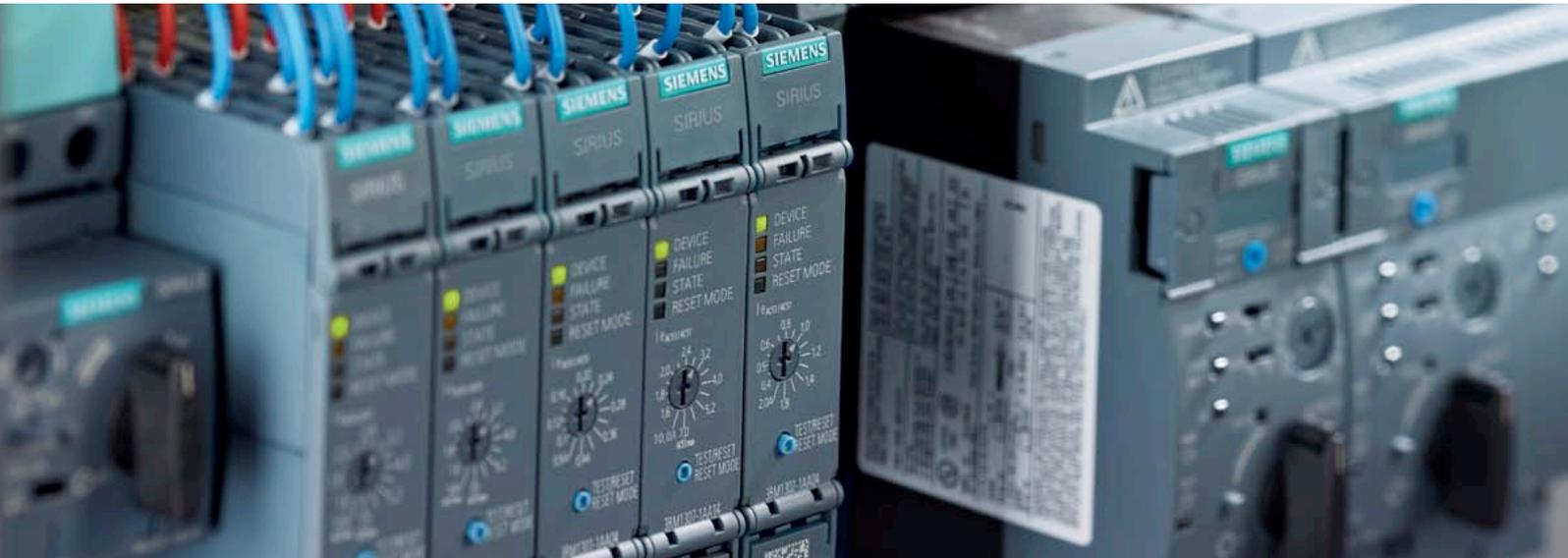
Space-saving systems stand for maximum efficiency and pose a challenge for system engineers. Although systems and machinery are becoming increasingly compact and are expected to have smaller footprints, at the same time they need more auxiliary drives. Every millimeter counts in a control cabinet. SIRIUS 3RM1 Motor Starters are precisely tailored to meet these requirements and represent the solution for the development of cutting-edge and future-oriented systems. Their innovative housing concept even received the internationally renowned iF product design award 2013.

It's easy to get started: The new motor starters are so narrow that they fit into almost any gap.

**In brief: SIRIUS 3RM1 Motor Starters – multifunctional with a width of just 22.5 mm.**



Whether direct or reversing starters – with SIRIUS 3RM1 Motor Starters, you can implement compact control cabinet solutions for small motors up to 3 kW.



### Compact

- › **Narrow width**
- › **Multifunctionality**
  - Direct and reversing starters
  - Overload protection

### Economical

- › **Durable and energy-efficient hybrid switching technology**
- › **Low device variance through wide adjustment range**

### Simple

- › **Less wiring**
  - in control circuit thanks to device connectors
  - in main circuit with the infeed system
- › **Fast diagnostics**

The new SIRIUS 3RM1 Motor Starters are designed for installation in control cabinets and require minimal space: They combine the functionality of contactors and overload relays in a width of just 22.5 mm. In addition, thanks to their use of hybrid switching technology, they have all the benefits of relay and semiconductor technology in a single device, which increases their cost-effectiveness.

The motor starters make your work easier, offering easy adjustment of motor current, minimal wiring costs, and fast troubleshooting. With these motor starters, you can build more compact control cabinets and increase the efficiency of your systems while saving time and money in the installation.

# Functionality that adapts

The new motor starters optimally round out the SIRIUS portfolio of industrial switching technology: They combine several functions – such as direct or reversing start and overload protection – into a uniformly compact and extremely narrow housing.

## Narrow width

The motor starters are distinguished by their narrow width of just 22.5 mm. That saves room in the control cabinet and provides the ideal conditions for systems and machines with many small motors up to 3 kW.

Even subsequent expansions are easier to plan and implement: If more motors are needed in the system, thanks to their narrow width it's easy to add additional SIRIUS 3RM1 Motor Starters to the ones already installed in the control cabinet.

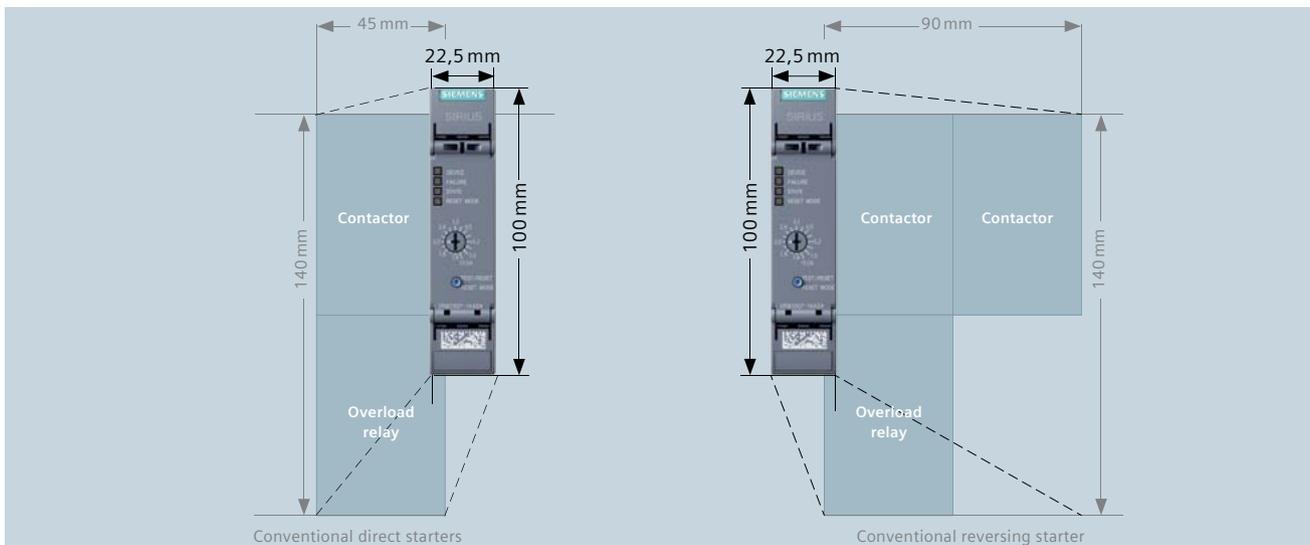
## Multifunctional

### Direct and reversing starters

Motor starters are available as direct starters or with a reversing starter function, all in a uniform housing design. The operation, configuration, and the width for both device types are identical.

### Overload protection

Every motor starter is equipped with integrated electronic overload protection. In other words, you no longer need a separate overload relay when you use these motor starters. What that means for you: lower wiring costs, shorter installation time, and more room on the mounting rail.



The compact SIRIUS 3RM1 Motor Starter replaces combinations of multiple power contactors and overload relays, thereby minimizing the required space in the switching cabinet.

# Efficiency that drives

Increase the efficiency in the control cabinet with energy-efficient and durable technology and benefit from a clear spectrum of devices.



Scan and experience the benefits of hybrid switching technology!

## Durable and energy efficient

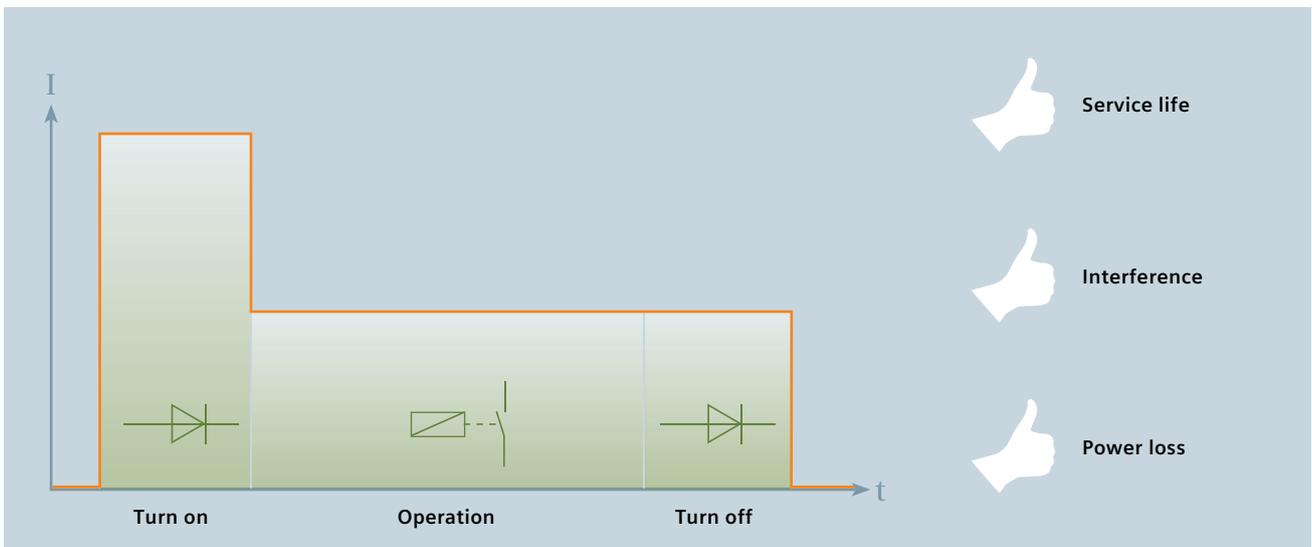
Hybrid switching technology uses low-wear semiconductor technology for turning the motor on and off; during operation, it uses energy-efficient relay technology. That provides durability, particularly in cases of high shifting frequency. This technology significantly reduces maintenance costs and extends the service life of the motor starters. In addition, thanks to the hybrid switching technology, the motor starters have a lower level of electromagnetic interference, which increases the availability of your systems.

Integrated electronic overload protection provides for additional energy savings. This results in a lower level of internal power loss compared to motor branch circuits with thermal overload protection. As a result, you benefit from reduced heat generation and hence lower cooling costs. That saves energy.

## Flexible use

SIRIUS 3RM1 Motor Starters give you greater latitude when it comes to project planning as well as motor replacements: You can use a rotary encoder switch to easily set the motor starters in their specific adjustment range to the current of the connected motor.

On one hand, that reduces the number of device models, saving you warehouse space and processing costs. On the other hand, you remain flexible longer when it comes to the planning and design of motors and control cabinets. In addition, if a motor in the system is replaced by a more powerful or a weaker model at a later point, in most cases you can simply reset the existing motor starter – eliminating the need to replace it.



The hybrid switching technology of the motor starters combines the benefits of relay technology with those of semiconductor technology, making it particularly energy efficient as well as offering low wear and low interference.

# Simplicity that pays off

## Reduced wiring

### Control circuit

Using a device connector, you can supply 24V to all motor starters in one assembly without individual wiring.

### Main circuit

A special infeed system can be used to quickly, easily, and safely supply multiple motor starters in the main circuit: The motor starters are interconnected via three-phase busbars and supplied via a three-phase feeder terminal. The busbar's special design even makes it possible for individual devices to be quickly and easily removed from the feeder network.

## Simple connection

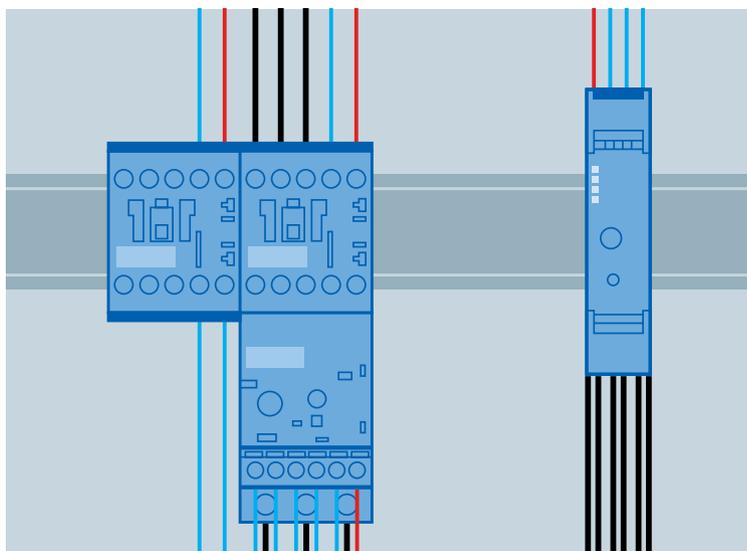
You benefit from convenient connection technology when it comes to wiring the devices. The screw connections for the control circuit have an optimized angle to provide access to tools and cables from the same direction. Alternatively, no tools whatsoever are needed for wiring spring-loaded connections: Simply insert the cables manually, and you're done.

If necessary, you can individually swap out the removable connection terminals on the unit.

Simple wiring during installation and an easy-to-read status indicator during operation save you time. Whether project planning, assembly, or maintenance – the new motor starters will make everything easier for you.

## Easy-to-read status indicator

Thanks to the LED status indicator on the housing of the SIRIUS 3RM1 Motor Starters, you can see at a glance whether all the functions are in operation or whether there are any problems. This makes it possible to quickly detect and correct any faults.



Reduced wiring and significant space savings compared to a conventional design



The infeed system supplies group configurations up to a total current of 25 A.

# Innovative housing concept

## Labeled hinged covers

Simple orientation thanks to laser labeling for the individual connections in the cover



## Device connector

Easy, wireless connection and 24V supply of multiple motor starters



## Connection terminals

Easily replaceable connection terminals, available with screw-type or spring-loaded technology



Screw-type connection

## Sealable cover

Simple protection against unauthorized access



Spring-loaded connection

## Width

Economical, space-saving width of just 22.5 mm



## LED status indicator

Fast, selective start-up, and clear LED error display

## Rotary encoder switch

Easy setting of the motor current to be monitored

## Test/reset button

Acknowledgement if a malfunction occurs

1. Reset in case of overload
2. Implement the test function
3. Switch from manual to automatic reset

## 2D matrix code

Fast and easy scanning of order and serial numbers; corresponding Siemens app available at [www.siemens.com/sirius/support-app](http://www.siemens.com/sirius/support-app)

# Controlling smaller motors

SIRIUS 3RM1 Motor Starters can be used with a wide range of motors up to 3 kW. They are particularly well suited for use in machine tool and production machine construction – whether as an individual device, or as components in a group design.

## Diverse range of applications

SIRIUS 3RM1 Motor Starters can be used in many industrial areas to control auxiliary motors, such as for pumps, fans, and hoisting equipment, in machine tool and production machines, as well as in conveyor technology. The devices are optimally suited for group configurations in which multiple motor starters can be protected by only one circuit breaker.

## Ideal addition to the SIRIUS switching technology portfolio

The SIRIUS portfolio is ideally positioned for higher switching currents. The new motor starters perfectly round out the existing SIRIUS industrial switching technology portfolio in the field of smaller motors. With a width of just 22.5 mm, the new SIRIUS 3RM1 Motor Starters are perfect for control cabinets where space is at a premium.

## Group design for a conveyor system

With SIRIUS 3RM1 Motor Starters, you can quickly and easily implement group configurations with integrated overload protection for a wide range of applications, for example for conveyor systems with numerous electric motors. In the main circuit, the three-phase feeder terminal and three-phase busbar supply the motor starters, eliminating the need for complex wiring for the infeed. In a group design, a single circuit breaker can provide short circuit protection up to 55 kA.

Provisions are in place for the expansion of the conveyor system: The infeed system can be flexibly expanded to allow additional motor starters to be integrated into an existing group design with minimal effort. Project planning is simplified through the new motor starter configurator.



The new motor starters are very versatile and optimally round out the existing SIRIUS switching technology portfolio.

# The right type for you

## Step 1:

To find the right motor starter, you first need to decide whether you need a direct or a reversing starter.

## Step 2:

Decide between the three motor current ranges 0.1 ... 0.5 A; 0.4 ... 2.0 A; and 1.6 ... 7.0 A (even for resistive loads of up to 10 A). You can subsequently set the level of the motor current to be monitored via the rotary encoder switch on the motor starter – and if the application changes, you can make adjustments within the specific wide setting range.

## Step 3:

For additional product specification, choose between the two control voltages 24 V DC and 110 – 230 V AC, 110 V DC.

## Step 4:

Finally, you need to decide which connection technology you prefer: spring-loaded connections or screw-type connections.

All the product data you need for planning your control cabinet is available free of charge via CAx Download Manager: Available data includes 3D models, dimension drawings, manuals, and .edz macros for EPLAN Electric P8. For more information, visit [www.siemens.com/planning-efficiency](http://www.siemens.com/planning-efficiency).

Our transparent product portfolio and the online configurator make it a snap to choose the motor starter you need – in just four steps.

## Order number overview

SIRIUS 3RM1 Motor Starter					Three-phase standard motor <sup>1)</sup>	Adjustment range
Order no.					Standard power rating P	Electronic overload release
3RM1	□ 01	□ AA	□ 4		0 ... 0.12 kW	0.1 ... 0.5 A
3RM1	□ 02	□ AA	□ 4		0.09 ... 0.75 kW	0.4 ... 2.0 A
3RM1	□ 07	□ AA	□ 4		0.55 ... 3 kW	1.6 ... 7.0 A, (10 A) <sup>2)</sup>
			0		24 V DC	Rated control supply voltage V <sub>s</sub>
			1		110 ... 230 V AC; 110 V DC	
		1			Screw-type connection	Connection technology
		2			Spring-loaded connection	
	0				Direct starter	Function
	2				Reversing starter	

<sup>1)</sup> Base 4-pin with 400 V AC; the concrete start-up and rated data of the motor should be taken into consideration for the selection

<sup>2)</sup> Operation of ohmic loads with a maximum of 10 A

SIRIUS 3RM1  
MotorStarters –  
scan and view



## Additional information

To learn more about SIRIUS MOTOR STARTERS:  
[www.siemens.com/motorstarter/3RM1](http://www.siemens.com/motorstarter/3RM1)

To learn more about SIRIUS:  
[www.siemens.com/sirius](http://www.siemens.com/sirius)

Planning Efficiency for SIRIUS:  
[www.siemens.com/planning-efficiency](http://www.siemens.com/planning-efficiency)

Siemens AG  
Industry Sector  
Industry Automation Division  
Control Components and  
Systems Engineering  
Postfach 23 55  
90713 FÜRTH  
GERMANY

[www.siemens.com/sirius](http://www.siemens.com/sirius)

Subject to change without prior notice  
Order No.: E20001-A1100-P305-V2-7600  
Dispo 27601  
GB121039 MI.CE.SG.MSXX.52.3.02  
WS 01133.0  
Printed in Germany  
© Siemens AG 2013

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.