

SIRIUS 3RM1  
Motor  
Starters – scan  
and view



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# 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)

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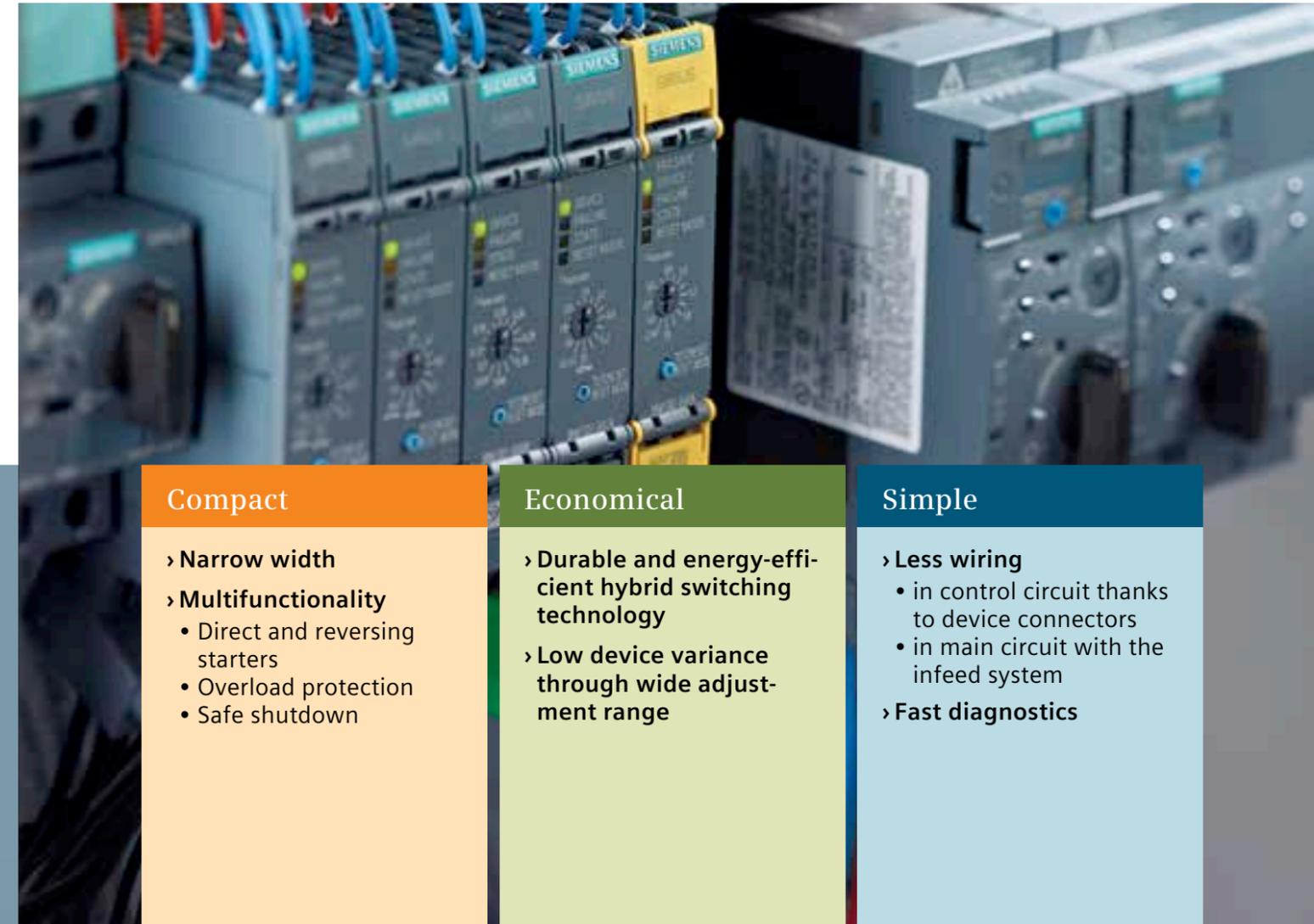
# Getting started – even when things get tight SIRIUS 3RM1 Motor Starters

Space-saving systems require maximum efficiency and can pose significant challenges for system engineers. Systems and machinery are becoming increasingly compact and are expected to have smaller footprints, but at the same time they typically require more auxiliary drives. Because every inch 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 the smallest space.

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



## Compact

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

## 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**



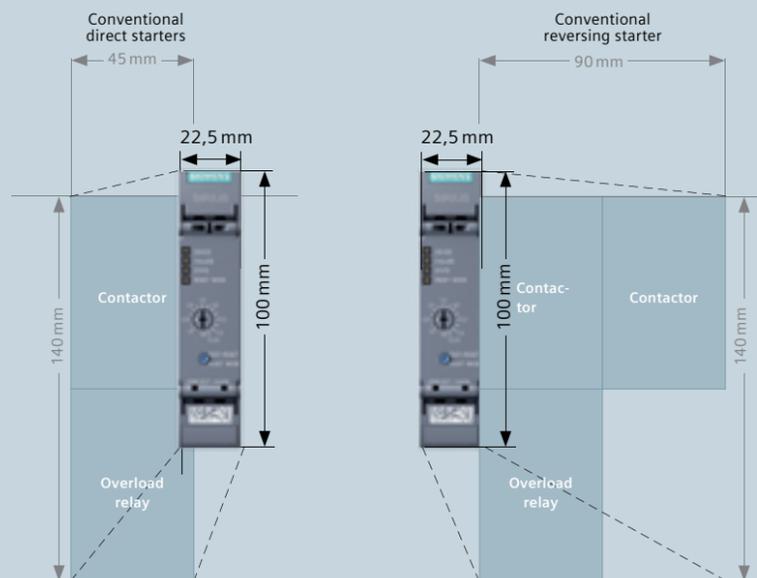
Direct or reversing starting – with SIRIUS 3RM1 Motor Starters, you can implement compact control cabinet solutions for small motors up to 3 kW.

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 the relay and semiconductor technology in a single device, which increases their cost-effectiveness.

The motor starters make your work easier by 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.

# In a width of just 22.5 mm...

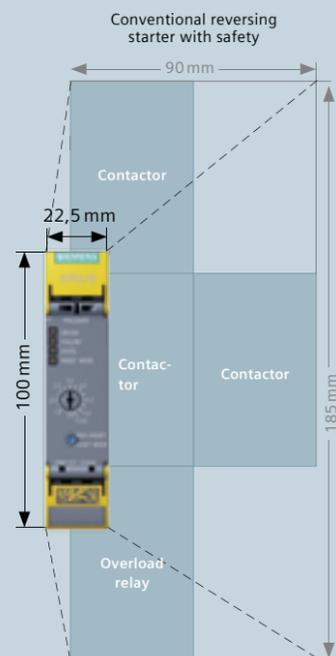
## SIRIUS 3RM1 Motor Starters – the compact solution



### 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.



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

# ... there is now room for so many functions

### 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. The result is lower wiring costs, shorter installation time and more room on the DIN rail.

#### Safe shutdown

To meet the requirements for safe shutdowns, SIRIUS 3RM1 Motor Starters are also available in a safety version. They can be used in combination with the modular safety relays to easily implement locally limited safety applications.

The motor starters for safe shutdowns are available as direct and reversing starters. They are certified in accordance with SIL 3/PL e Cat. 4.



Scan and learn more about space savings in control cabinets!



The motor overload protection of the safety version is ATEX certified, which means that it can also be used for motors in explosion-proof areas with flammable dust and gases.

# 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

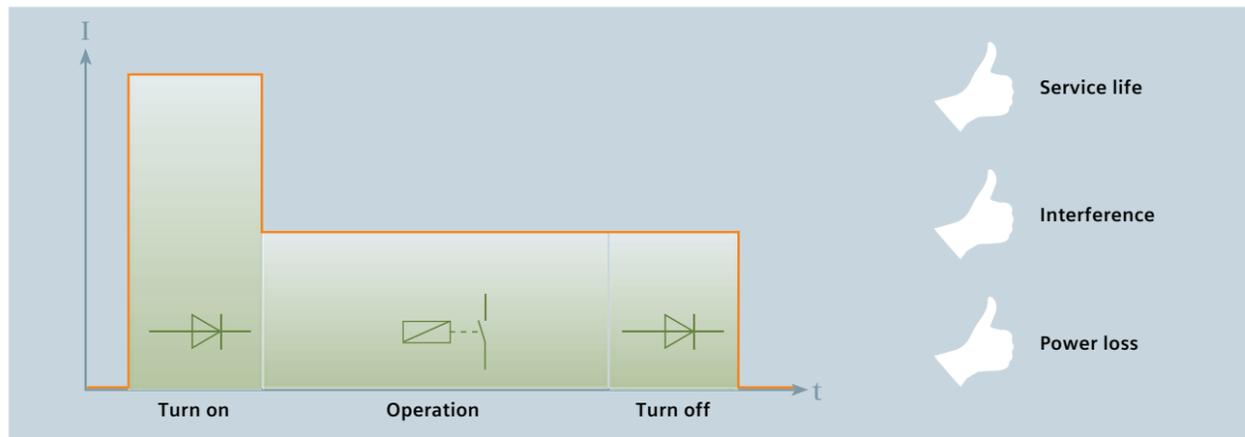
Hybrid switching technology uses low-wear semiconductor technology for turning the motor on and off; during operation, it uses energy-efficient relay technology. That provides durability, particularly in cases of high switching frequency. This technology significantly reduces maintenance costs and extends 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.

Reducing the number of device models will save you warehouse space and processing costs. All while maintaining 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 while offering low wear and low interference.

# Simplicity that pays off

### Reduced wiring

**Control circuit**  
To provide for the simultaneous and safe shutdown of several motor starters via a SIRIUS 3SK1 Safety Relay, you can simply interconnect the devices without additional wiring using a device connector. Signals are exchanged between the devices, and cyclical monitoring and the shutdown are carried out wirelessly. In addition, the device connector supplies voltage to all the devices.

**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 starter group.

### Simple connection

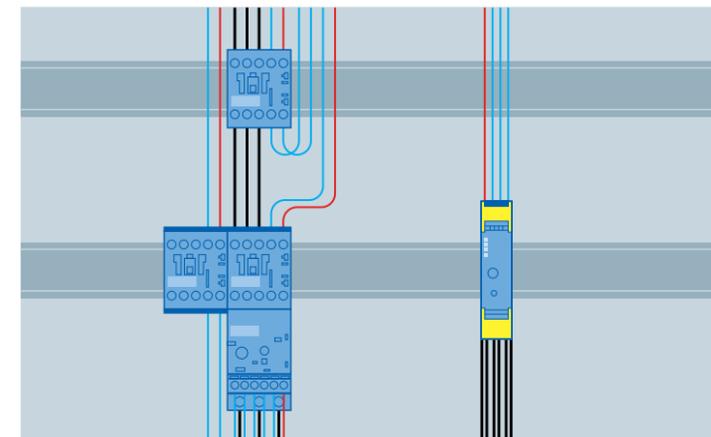
You benefit from convenient connection technology when it comes to wiring the devices. The screw connections for the control circuit have an optimized angle to provide access to tools and cables from the same direction. Alternatively, no tools whatsoever are needed for wiring spring-loaded connections: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

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

### 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 if there are any problems. This makes it possible to quickly detect and correct any faults.

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.



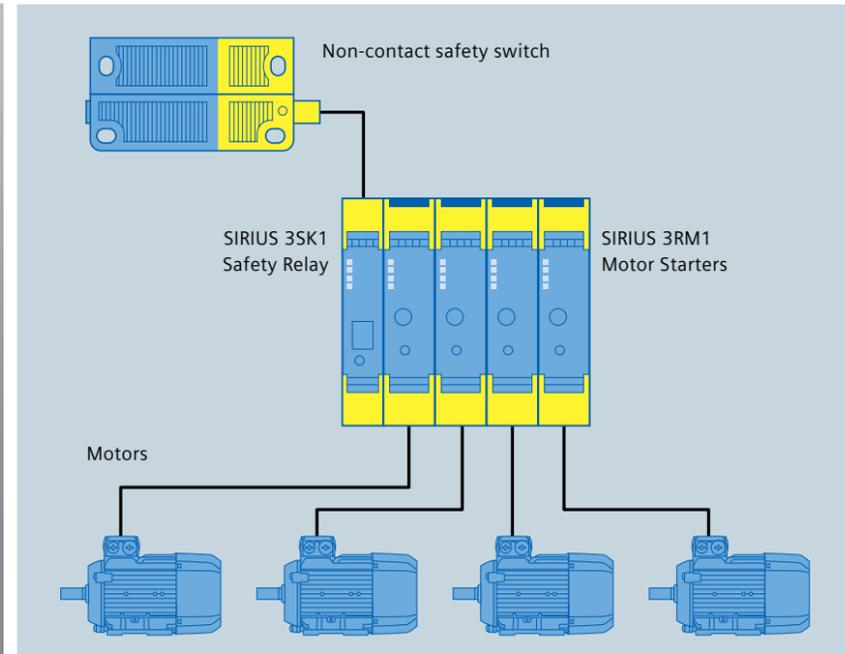
Reduced wiring and significant space savings compared to a conventional design



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



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



Combination of one SIRIUS 3SK1 safety relay and four motor starters for a safe group shutdown.



## Controlling smaller motors

### Diverse range of applications

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 for applications with or without safe shutdown requirements.

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.

The motor starters for safe shutdown can be flexibly combined with a wide variety of safety relays and failsafe controls.

### 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 installations with integrated overload protection for a wide range of applications - one example would be 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.

Significant provisions are in place for the expansion of the conveyor system - the infeed system has the flexibility to be expanded, allowing additional motor starters to be integrated into an existing group design with minimal effort. Project planning is simplified through the new motor starter configurator.

### Safe shutdown in a filling system

The combination of failsafe SIRIUS 3RM1 Motor Starters with SIRIUS 3SK1 Safety Relays makes it easy to implement locally limited safety applications. One example can be found in the protective door monitoring of a bottle filling system, which makes it possible to safely enter the filling station.

To accomplish this, the motors of the conveyor belts are connected to the new motor starters. On the control current side, the motor starters are connected to a SIRIUS 3SK1 Safety Relay via the device connector. If the monitored door is opened, the safety relay receives a signal from a connected non-contact safety switch, evaluates it, and sends the information to all the motor starters in the group via the device connector. The failsafe motor starters react by safely shutting down all connected motors. This makes it possible to safely enter the filling station.



Scan und experience the safe shutdown of a system for yourself!

# Innovative housing concept

**Labeled hinged covers**  
Simple orientation thanks to laser labeling for the individual connections in the cover

**Device connector**  
Easy, wireless connection of multiple motor starters for connecting to SIRIUS 3SK1 Safety Relays for safe shutdown

**Width**  
Economical, space-saving width of just 22.5mm

**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

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

**Sealable cover**  
Simple protection against unauthorized access

**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)

**Screw-type connection**

**Spring-loaded connection**

# The right type for you

## Step 1:

To find the right motor starter, you first need to decide whether you need a device with or without the integrated safety function as well as whether you want 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 24V 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 ... 0.12 kW                            | 0.1 ... 0.5 A                               |
| 3RM1                      | 02 | AA | 4 | 1 | 0.09 ... 0.75 kW                         | 0.4 ... 2.0 A                               |
| 3RM1                      | 07 | AA | 4 | 0 | 0.55 ... 3 kW                            | 1.6 ... 7.0 A, (10 A) <sup>2)</sup>         |
|                           |    |    |   | 0 | DC 24 V                                  | Rated control supply voltage V <sub>s</sub> |
|                           |    |    |   | 1 | AC 110 ... 230 V; DC 110 V               |   |
|                           |    |    |   | 1 | Screw-type connection                    | Connection technology                       |
|                           |    |    |   | 2 | Spring-loaded connection                 |   |
|                           |    |    |   | 3 | Mixed connection technology              |   |
|                           |    |    |   | 0 | Direct starter                           | Function                                    |
|                           |    |    |   | 1 | Failsafe direct starter                  |   |
|                           |    |    |   | 2 | Reversing starter                        |   |
|                           |    |    |   | 3 | Failsafe reversing starter               |   |

<sup>1)</sup> Base 4-pin with AC 400 V; 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

<sup>3)</sup> Mixed connection technology: control circuit implemented as a push-in spring-loaded connection and main circuit as a screw-type connection