

Load feeders and motor starters for use in the control cabinet



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Load feeders and motor starters for use in the control cabinet

Introduction

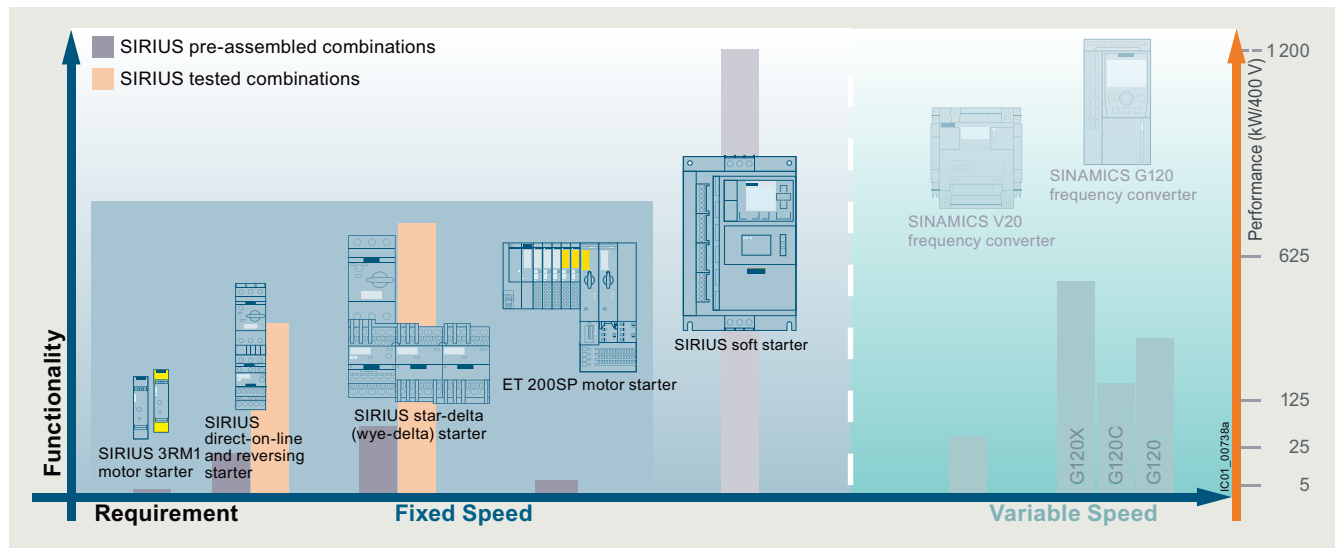
Overview

Central and compact starter solutions

Our range offers you many different possibilities for simple and practical starter solutions in the control cabinet. Features common to all our load feeders, compact starters and motor starters: Like all SIRIUS devices they are optimally coordinated

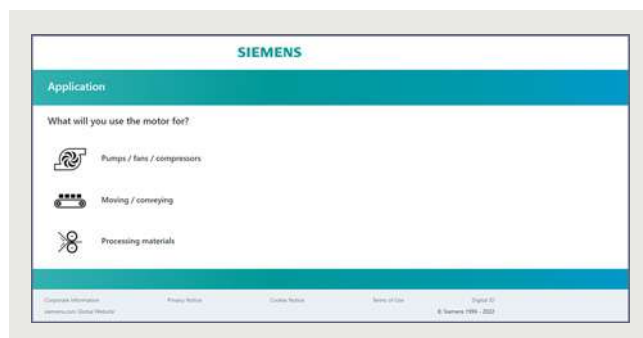
with each other, have a very compact design and are particularly easy and quick to install and wire up.

In addition there is a seamless range of SIRIUS 3RW soft starters available for soft starting in the control cabinet ([see page 6/2](#)).



Central and compact starter solutions

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently



Decision support tool for motor start

This tool guides you to the optimum individual drive solution via a short query about the application.

Based on this solution approach, you will then be directed to the right product configurator for selecting the appropriate products, [see www.siemens.com/motorstart-guide](#).

Load feeders and motor starters for use in the control cabinet

Introduction



		Type	Page
SIRIUS 3RA2 load feeders			
	- The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 contactor. - The motor starter protector and contactor are prewired and mechanically and electrically connected in prefabricated assembly kits (link modules, wiring kits and DIN-rail or busbar adapters) 4 sizes (S00, S0, S2, S3) - Can be supplied for direct-on-line starting or reversing operation as - a complete unit or - single devices for self-assembly - Can be supplied with screw or spring-loaded terminals		
3RA21 direct-on-line starters for DIN-rail mounting or screw fixing	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/22
3RA21 direct-on-line starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/30
3RA22 reversing starters for DIN-rail mounting or screw fixing	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/34
3RA22 reversing starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/40
Accessories for 3RA2 direct-on-line and reversing starters			8/45
Infeed system	The infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with screw or spring-loaded terminals up to size S0.	3RV29	7/67, 8/56
SIRIUS 3RA6 compact starters			
	- Integrated functionality of a motor starter protector, contactor and electronic overload relay and various functions of optional mountable accessories - Can be used for direct starting of standard three-phase motors up to 32 A		
3RA61 direct-on-line starters	Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA61	8/65
3RA62 reversing starters	Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA62	8/66
3RA64 direct-on-line starters for IO-Link	Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA64	8/67
3RA65 reversing starters for IO-Link	Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA65	8/68
Accessories for 3RA6 direct-on-line and reversing starters		3RA69	8/69
Add-on modules for AS-Interface		3RA69	8/74
Infeed system for 3RA6	Modular expandability, up to 100 A, terminals up to 70 mm²	3RA68	8/76
	3-phase infeeds and expansion modules		8/79
	Expansion modules		8/80
	Accessories for infeed systems for 3RA6		8/81

Load feeders and motor starters for use in the control cabinet

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	Type	Page
SIRIUS 3RM1 motor starters		
	- For switching three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V under normal operating conditions - Space-saving design (width 22.5 mm)	
3RM10 direct-on-line starters	• Direct-on-line starting with electronic overload protection	3RM10 8/90
3RM12 reversing starters	• Reversing functionality with electronic overload protection	3RM12 8/90
3RM11 Failsafe direct-on-line starters	• As 3RM10 plus safety-related shutdown	3RM11 8/90
3RM13 Failsafe reversing starters	• As 3RM12 plus safety-related shutdown	3RM13 8/90
Accessories for 3RM1 motor starters	• 3RM19 3-phase infeed system for the main circuit	3RM19 8/91
	• Fuse modules for the use of 3RM1 motor starters on 8US busbar systems and mounting rails	3RM19 8/88
	• Adapters	8US1 8/91
	• Cover profiles	8US1922 8/92
	• Device connectors for the control circuit	3ZY1212 8/92
	• Spare terminals for main and control circuits	3ZY11 8/93
	• Push-in lugs for wall mounting, integrated sealable cover, coding pins	3ZY1 8/93
ET 200SP motor starters		
	- In hybrid technology in the SIMATIC ET 200SP I/O system - For the switching and protection of three-phase asynchronous motors, 1-phase AC motors and 1-phase asynchronous motors up to 5.5 kW (at 400 V)	
3RK1308 direct-on-line starters	• Direct-on-line starting with electronic overload protection	3RK1308-0A.0 8/100
3RK1308 reversing starters	• Reversing functionality with electronic overload protection	3RK1308-0B.0 8/100
3RK1308 fail-safe direct-on-line starters	• Direct-on-line starting with electronic overload protection	3RK1308-0C.0 8/100
3RK1308 fail-safe reversing starters	• Reversing functionality with electronic overload protection	3RK1308-0D.0 8/100
BaseUnits	• Mounting components for infeed and for integration into the ET 200SP I/O system	3RK1908-0AP00 8/101
3DI/LC control module	• Module with three digital inputs for the use of additional functions such as "Quick stop", and for manual-local operation	3RK1908-1AA00 8/101
Accessories	• Cover for BaseUnit and infeed bus, additional mechanical mounting unit, fan	3RK19, 3RW49 8/102

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Overview

3RA2 load feeders



3RA22 reversing starters for DIN-rail mounting or screw fixing with screw terminals

The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 electromechanical contactor. The devices are electrically and mechanically connected using prefabricated assembly kits (link modules, wiring kits and DIN-rail or busbar adapters).

Around 500 preassembled 3RA2 combinations can be ordered for direct-on-line and reversing starting of standard three-phase motors up to 65 A (approx. 37 kW/400 V). Prefabricated assembly kits are available as accessories for the power spectrum up to 45 kW. The desired fuseless load feeder can thus be assembled quickly and economically by the customer. A time saving is also achieved in connection with switchgear acceptances, as – unlike with conventional wiring systems – there is no need to rectify possible wiring errors.

In the 3RA2 load feeder, the 3RV2 motor starter protector is responsible for overload and short-circuit protection. Back-up protective devices, such as melting fuses or limiters, are superfluous here, as the motor starter protector is short-circuit proof up to 150 kA at 400 V.

The 3RT2 contactor is particularly suitable for extremely complex switching tasks requiring the greatest endurance.

The 3RA2 load feeders are available with setting ranges from 0.14 to 65 A in sizes S00, S0 and S2. Load feeders in size S3 up to 100 A are available for customer assembly.

Size	Width Direct-on-line starters/ reversing starters mm	Max. rated current $I_{n \max}$ A	For three- phase motors up to kW
S00	45/90	16	7.5
S0	45/90	32	15
S2	55/120	65	37
S3	70/150	100	45

The size of the 3RA2 load feeders is based on the size of the contactor:

Size 3RA2	S00	S0	S2	S3
Size of 3RV2 motor starter protector	S00	S00 ¹⁾ , S0	S2	S3
Size of 3RT2 contactor	S00	S0	S2	S3

¹⁾ The combination of an S00 motor starter protector with an S0 contactor is possible only for screw terminal versions.

More information

Homepage, see www.siemens.com/sirius-control

Industry Mall, see www.siemens.com/product?3RA2

Online configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=LoadFeeder

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Operating conditions

3RA2 load feeders are climate-proof. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

Behavior in the event of short circuit

EN 60947-4-1 (VDE 0660 Part 102) and IEC 60947-4-1 make a distinction between two different types of coordination, which are referred to as type of coordination "1" and type of coordination "2". Any short circuits that occur are cleared safely by both types of coordination. The only differences concern the extent of the damage caused to the device by a short circuit.

ToC 1

Type of coordination "1"

The load feeder may be non-operational after a short circuit has been cleared. Damage to the contactor or to the overload release is permissible.

ToC 2

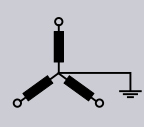
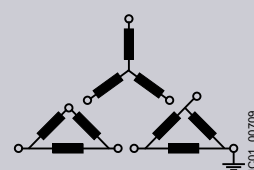
Type of coordination "2"

There must be no damage to the overload release or to any other components after a short circuit has been cleared. The load feeder can resume operation without needing to be renewed. At most, welding of the contactor contacts is permissible if they can be disconnected easily without any significant deformation.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Voltage specifications

The specifications for 3-phase systems according to IEC 60947-4-1 apply for the following line system configurations:

Voltage U_e	Line system configurations	
	Three-phase four-wire systems	Three-phase three-wire systems
		
V	V	V
230	--	230
400	230/400	400
440	260/440	440
500	--	500
690	400/690	690 (only from size S3)
--	Not specified	

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Tripping times

All 3RA2 load feeders described here are designed for normal starting, in other words for overload tripping times of less than 10 s (CLASS 10). At rated-load operating temperature the tripping times are shorter, depending on the particular equipment and the setting range. The exact values can be derived from the tripping characteristics of the motor starter protectors.

Connection methods

For all 3RA2 feeders up to 32 A, spring-loaded terminals are available as well as screw terminals. To connect two devices with spring-loaded terminals, there are plug-in link module for sizes S00 and S0 which enable very quick mounting of the feeders and a vibration-resistant assembly.

To connect a motor starter protector with screw terminals to a contactor with spring-loaded terminals there are special hybrid link modules for the sizes S00 and S0.



Screw terminals



Spring-loaded terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use of load feeders in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS 3RA2 load feeders in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, [see Application Manual](#).

For more information, [see page 1/8](#).

3RA2 complete units

The 3RA2 fuseless load feeders can be ordered as preassembled complete units for direct-on-line starting (3RA21) or for reversing operation (3RA22) with screw or spring-loaded terminals. From size S2, complete units for direct-on-line starting (3RA21) are only available with screw terminals.

There are control supply voltages available of 50 Hz 230 V AC and 24 V DC.

A distinction is also drawn between whether the feeder is mounted on a 35 mm DIN rail, on a flat surface using screws, or on a 60 mm busbar system.

3RA21 load feeders in the S0 size must be configured on DIN-rail adapters if high vibration and shock loads (railways, Kraftwerk Union, etc.) are involved.

A vibration and shock kit is available for mounting on busbar adapters.

Accessories

As the 3RA2 fuseless load feeders are constructed from 3RV2 motor starter protectors and 3RT2 contactors, the same accessories – such as auxiliary switches, undervoltage releases or door-coupling rotary operating mechanisms – can be used for the 3RA2 fuseless load feeders as for these motor starter protectors and contactors.

In particular, certain accessories have been optimized for the fuseless load feeders. These include the top-connected, transverse auxiliary switch on the motor starter protector, which is available in a range of different versions. Special auxiliary switches that can be snapped on from below are available for the contactor. These two accessories enable the fuseless load feeders to be wired simply without having to route cables through the device.

Incoming power supply

In total, four different energy supply options are available ([see "3RV29 infeed system for load feeders" on page 8/56](#)).

Customer assembly of fuseless load feeders

Whereas preassembled 3RA2s can be ordered up to 65 A, combinations in size S3 up to 100 A (approx. 45 kW/400 V) are also possible for customer assembly.

The standard devices can be combined optimally – in terms of both technical specifications and dimensions, thanks to the modular system of the SIRIUS series.

The fuseless load feeders can thus be assembled easily by the customer. It is simply necessary to assemble the standard 3RV2 motor starter protector, the 3RT2 contactor and the appropriate assembly kit.

For single devices and assembly kits, [see the "Selection and ordering data" for 3RA21 direct-on-line starters and 3RA22 reversing starters, page 8/22 or 8/34 onwards](#).

For assembly kits for direct-on-line starting or reversing operation for mounting onto DIN rails or busbars, [see page 8/50](#).

For size S3 direct-on-line starters and sizes S0, S2 and S3 reversing starters, it is imperative that a DIN-rail adapter is used to ensure the necessary mechanical strength. If a busbar adapter is used (not possible for size S3) then a DIN-rail adapter is not necessary.

SENTRON 3VA circuit breakers and SIRIUS 3RT contactors are available for rated currents >100 A.

Single devices for customer assembly can be ordered if other rated control supply voltages are required. Assembly kits can be used to facilitate assembly.

Customers can also assemble tested combinations of motor starter protectors with electronic controls (soft starters, solid-state contactors) and load feeders with additional monitoring and control devices (3RR monitoring relays, SIMOCODE 3UF).

For the electrical and mechanical connection of protection equipment and controls, there are prefabricated assembly kits (link modules, wiring kits and DIN-rail or busbar adapters).

The following types of configuration are possible:

- Direct-on-line/reversing starting
- Star-delta (wye-delta) starting
- Solid-state/soft starting

For more information and assignment tables for combinations of the 3RA2 generation for self-assembly, [see](#)

- [Configuration Manual for load feeders](https://support.industry.siemens.com/cs/ww/en/view/39714188), <https://support.industry.siemens.com/cs/ww/en/view/39714188>
- [Equipment Manual](https://support.industry.siemens.com/cs/ww/en/view/60284351), <https://support.industry.siemens.com/cs/ww/en/view/60284351>

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Customer assembly of fused load feeders

The flexible, modular system of SIRIUS also enables the configuration of fused load feeders up to 100 A (approx. 45 kW/400 V). Up to 32 A is also available for 45 mm installation widths.

Compact 3NW7...-1 cylindrical fuse holders for IEC fuses size 10 x 38 mm, or 3NW7...-1HG holders for Class CC UL fuses, can be used for this purpose.

For more information about fuse systems, [see Catalog LV 10](#).

Communication link through IO-Link

Load feeders can also be assembled with IO-Link for connection to the higher-level control system. For each feeder, this requires a contactor with a voltage tap onto which a 3RA2711 function module is plugged (various versions for direct-on-line, reversing and star-delta (wye-delta) starters). The design of the SIRIUS load feeders permits a group of up to four SIRIUS controls to be conveniently connected through the standardized open system IO-Link to a control system, thus reducing wiring considerably compared to the conventional parallel wiring method. The electrical connection is made using only three standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and star-delta (wye-delta) starters) and the timing relay function (star-delta (wye-delta) reversing time).

Communication information and control supply voltages are passed on through ribbon cables so that the complete control current wiring on the feeder is no longer needed.

The monitoring and maintenance of a plant is made considerably easier by transmitting diverse diagnostics data from the function modules (e.g. missing main and auxiliary voltage, local disconnection...) through IO-Link to the higher-level control system. Also, feeders equipped for IO-Link can be conveniently controlled from the control cabinet door using the optional operator panel.

More information:

- IO-Link, [see page 2/88 onwards](#)
- 3RA27 function modules, [see pages 3/73, 3/80 and 3/101](#)

Communication link through AS-Interface

Connection of the load feeders to the higher-level control system is possible not only through IO-Link but also through AS-Interface. The AS-Interface connection is recommended wherever load feeders are used in distributed applications. In this case, too, a contactor with a voltage tap is required with a corresponding 3RA2712 function module (various versions for direct-on-line, reversing and star-delta (wye-delta) starters). The devices are implemented in A/B technology, making it easy to connect up to 62 feeders to an AS-i master (regardless of whether they are direct-on-line, reversing or star-delta (wye-delta) starters). This results in a significant reduction of wiring compared to the conventional parallel wiring method. The electrical connection is made using standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and star-delta (wye-delta) starters) and the timing relay function (star-delta (wye-delta) reversing time).

Communication information and control supply voltages are passed on through ribbon cables so that the complete control current wiring on the starter is no longer needed.

More information:

- AS-Interface [see page 2/19 onwards](#)
- 3RA27 function modules, [see pages 3/73, 3/80 and 3/101](#)

Contactors with voltage tap

For configuring load feeders with communication links (AS-i/IO-Link), contactors with voltage taps are required. These contactors are not included as standard in the preassembled 3RA2 load feeders. A load feeder with communication link must be assembled therefore from single devices.

Complete integration in the automation landscape

As the result of the communication link through IO-Link or AS-i, the SIRIUS load feeders are fully integrated in the automation landscape and can draw on all the advantages of TIA (e.g. integration in the TIA Maintenance Station).

Mounting

3RA2 fuseless load feeders can be supplied:

- For mounting onto TH 35 DIN rails according to IEC 60715 (depth 15 mm)
- For mounting onto busbar adapters (busbar center-to-center clearance 60 mm, busbar thickness 5 to 10 mm with beveled edges)

The fuseless load feeders are also suitable for screw fixing using two 3RV2928-0B push-in lugs.

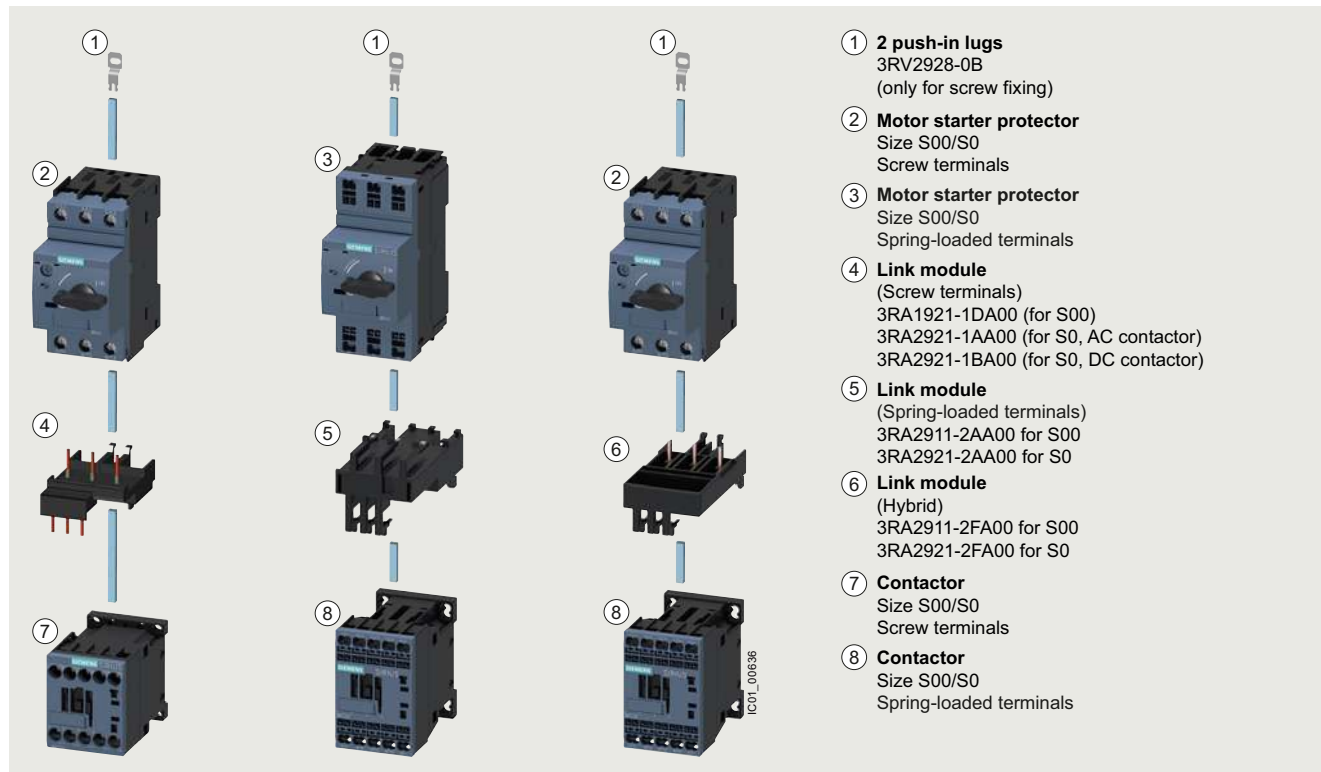
3RA2 fuseless load feeders can also be installed using the 3RV29 infeed system (S0 and S00 only, [see page 7/67](#)).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

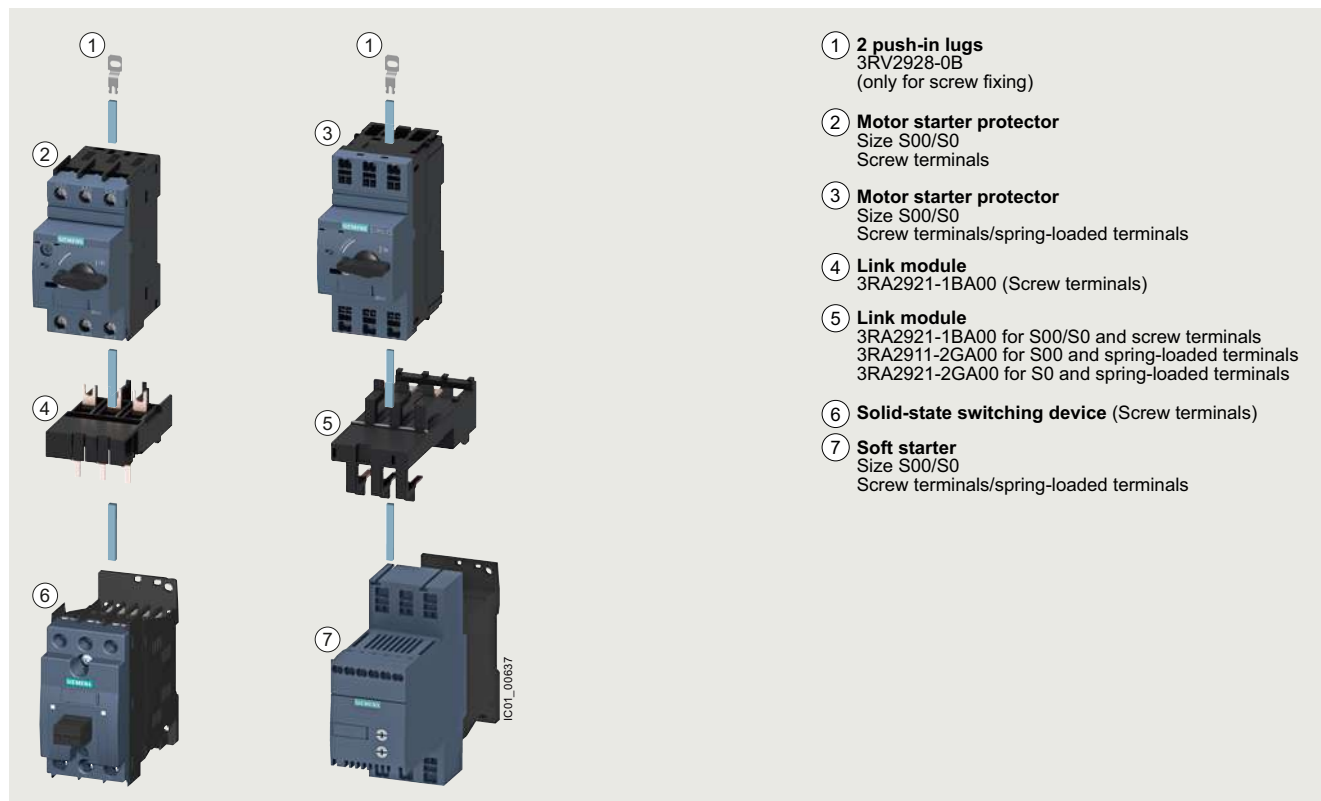
Direct-on-line starting • For DIN-rail mounting or screw fixing • Sizes S00 and S0



Left: 3RA21 load feeder with screw terminals

Center: 3RA21 load feeder with spring-loaded terminals

Right: Combination of motor starter protector with screw terminals and contactor with spring-loaded terminals



Left: Combination of motor starter protector and solid-state switching device with screw terminals

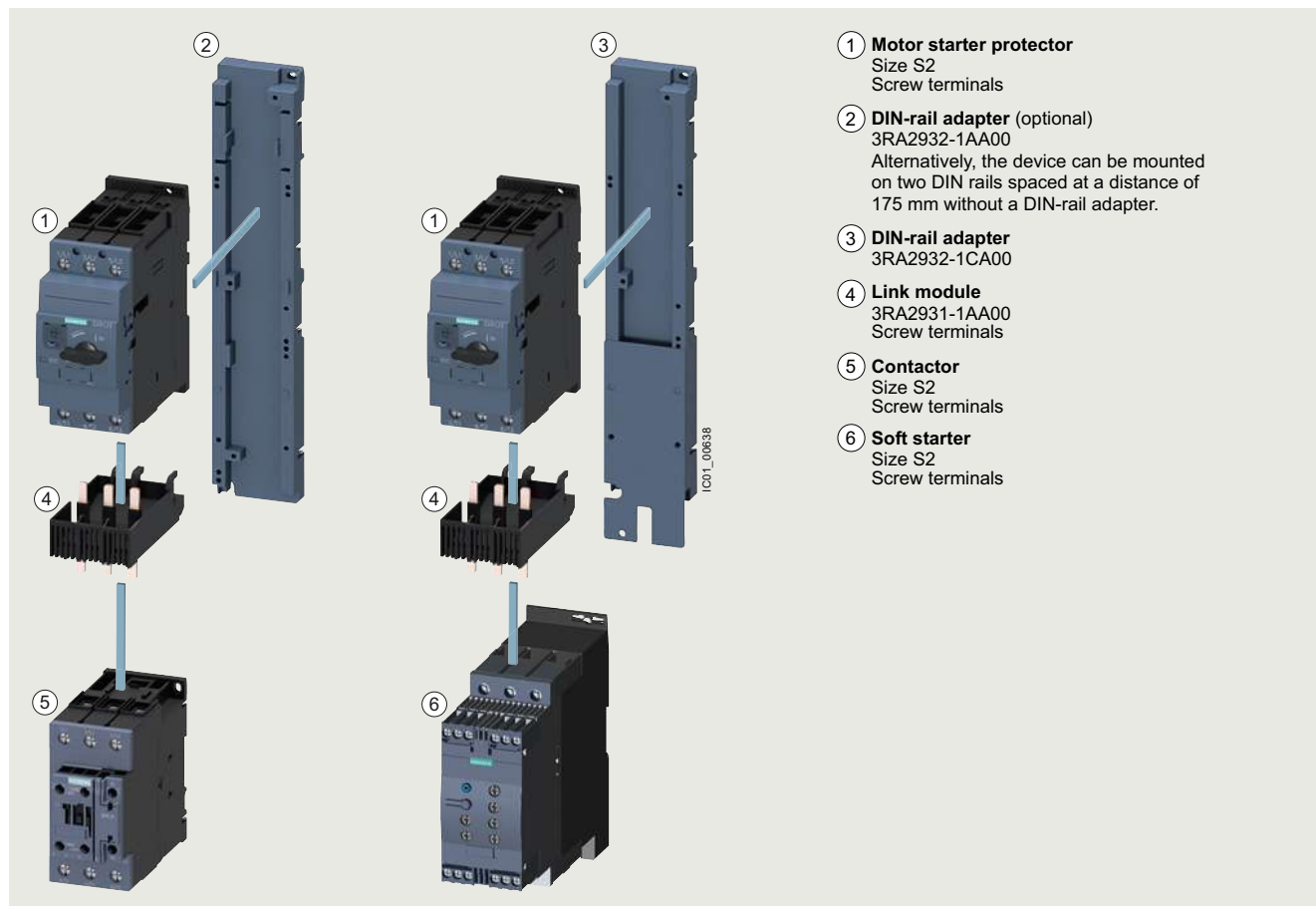
Right: Combination of motor starter protector and soft starter with spring-loaded terminals

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Direct-on-line starting • For DIN-rail mounting • Size S2



Left: 3RA21 load feeder with screw terminals

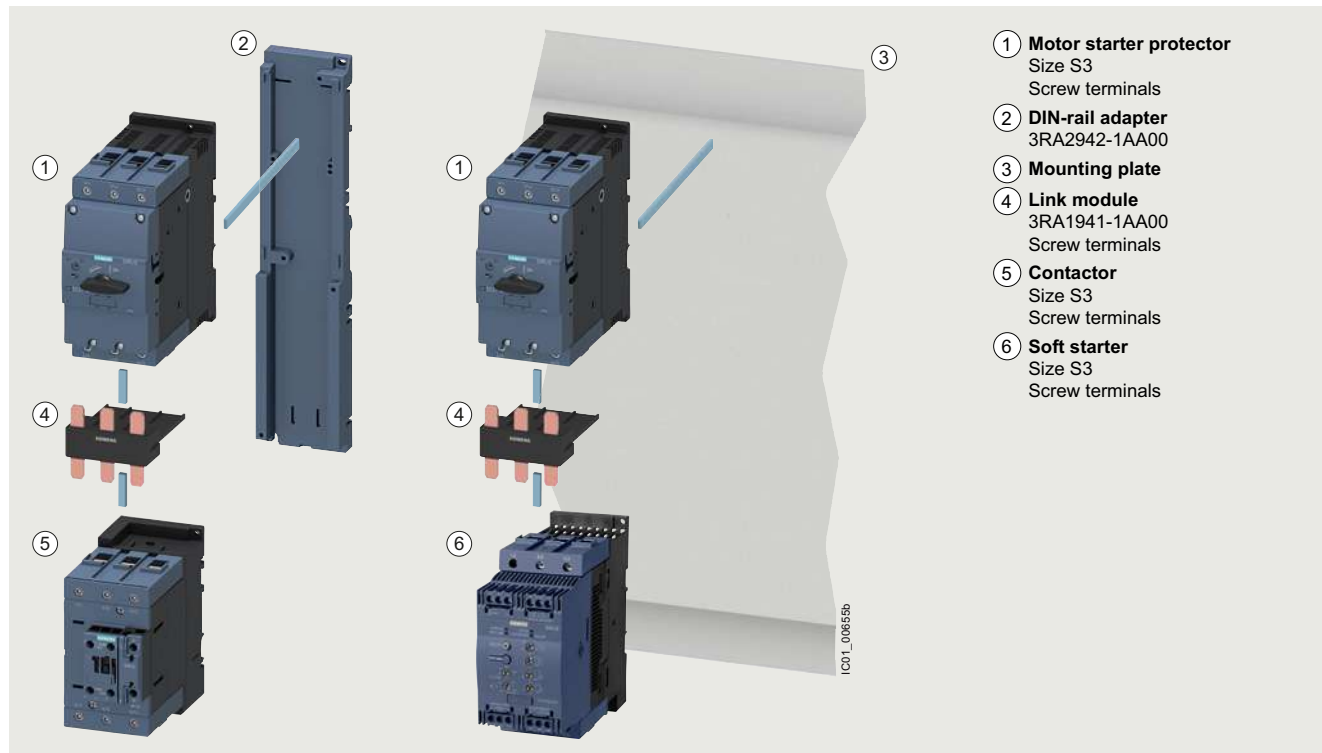
Right: Combination of motor starter protector and soft starter with screw terminals

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

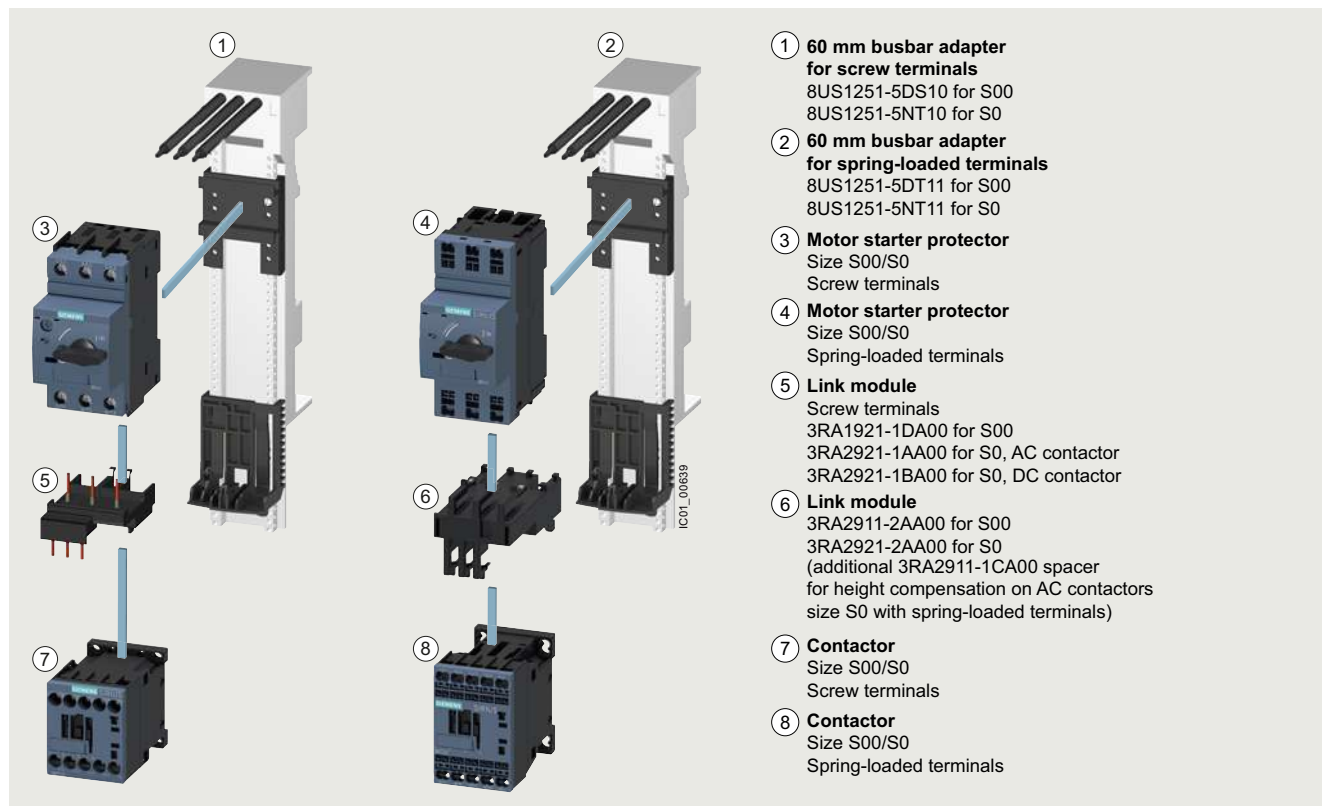
General data

Direct-on-line starting • For DIN-rail mounting • Size S3



3RA21 load feeder for direct-on-line starting and DIN-rail mounting in size S3
(the version with screw terminals is shown in the picture)

Direct-on-line starting • For 60 mm busbar systems • Sizes S00 and S0



Left: 3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals

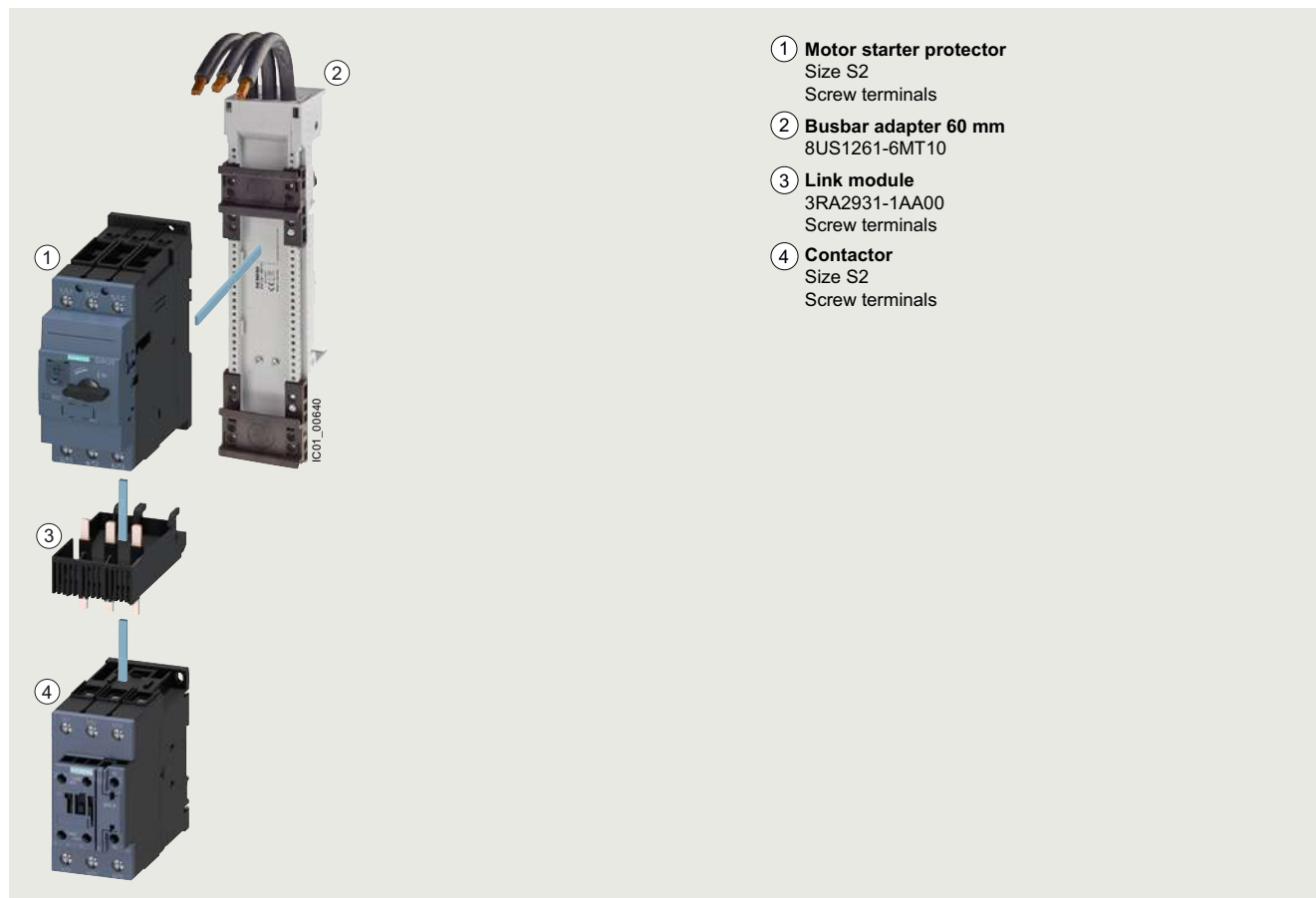
Right: 3RA21 load feeder for direct-on-line starting with busbar adapter with spring-loaded terminals

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Direct-on-line starting • For 60 mm busbar systems • Size S2



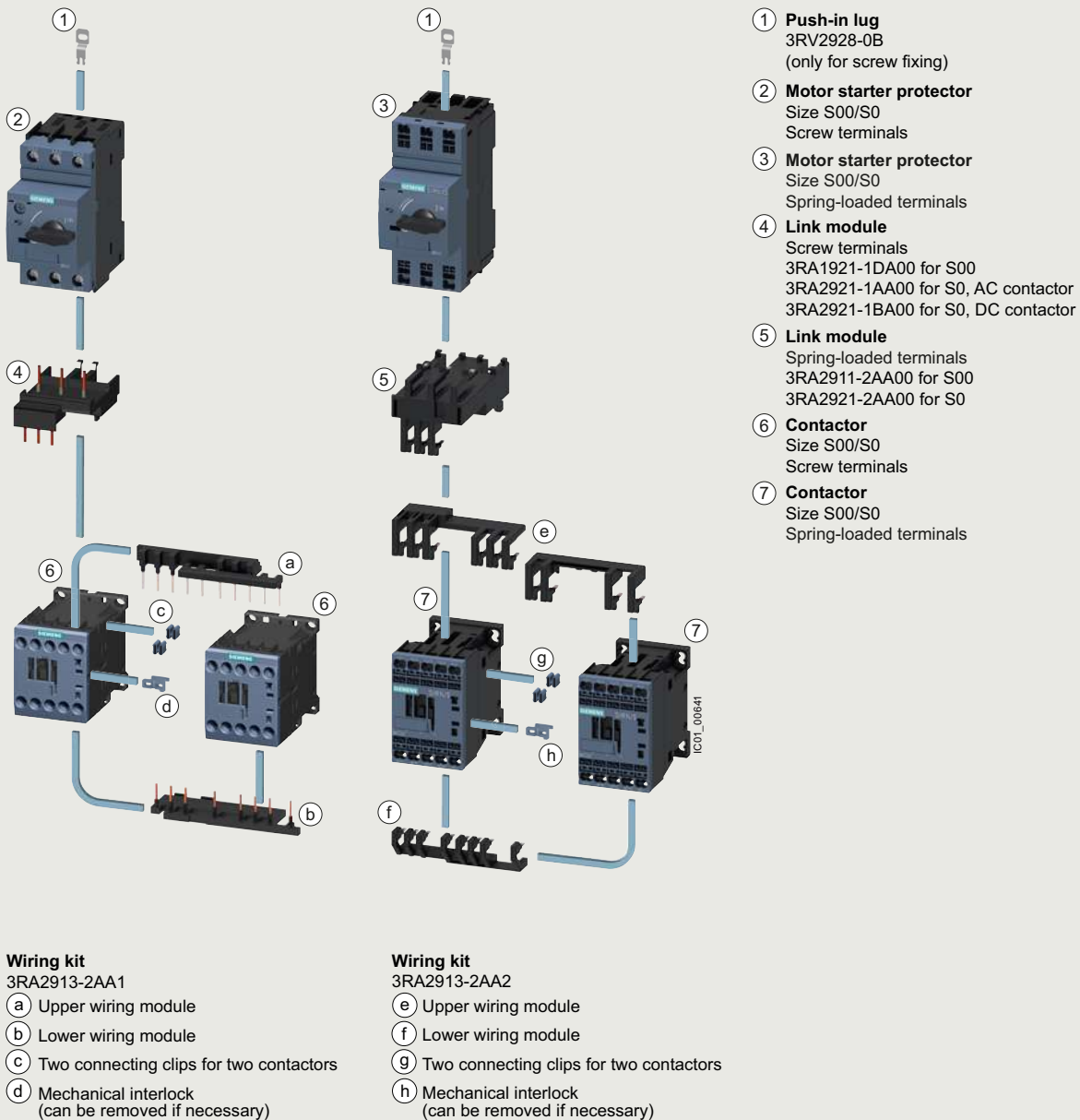
3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For DIN-rail mounting or screw fixing • Size S00



Left: 3RA22 load feeder with screw terminals with push-in lugs with two contactors for reversing operation and wiring kit 3RA2913-2AA1 for connecting the contactors (including mechanical interlocking and connecting clips)

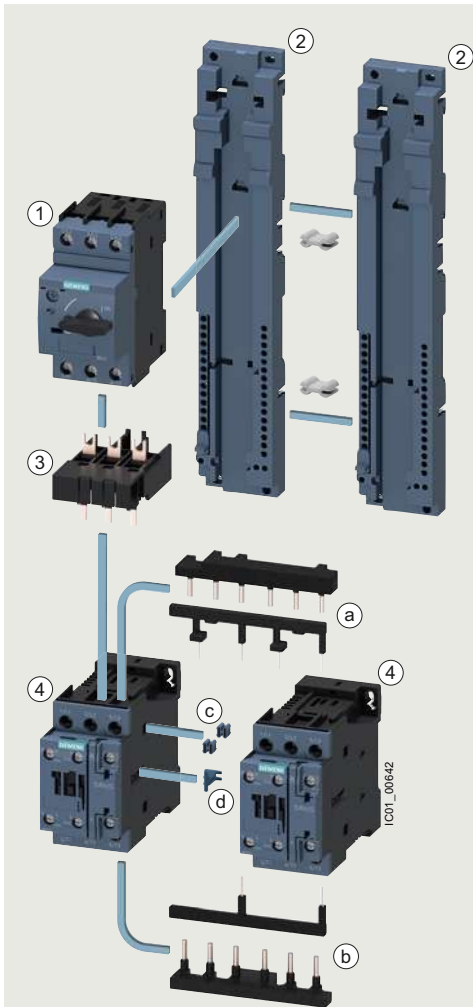
Right: 3RA22 load feeder with spring-loaded terminals with push-in lugs with two contactors for reversing operation and wiring kit 3RA2913-2AA2 (including mechanical interlocking and connecting clips)

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For DIN-rail mounting • Size S0



RH assembly kit for reversing operation and DIN-rail mounting in size S0

Screw terminals

3RA2923-1BB1

Spring-loaded terminals

3RA2923-1BB2¹⁾

Consisting of:

- Wiring kit for the main and auxiliary circuits
- Two DIN-rail adapters
- Two connecting wedges
- Mechanical interlock
- Two connecting clips
- Fixing accessories

① Motor starter protector

Size S0

Screw terminals/spring-loaded terminals

② DIN-rail adapters

3RA2922-1AA00

with two connecting wedges
8US1998-1AA00

③ Link module

Screw terminals

3RA2921-1AA00 for S0, AC contactor

3RA2921-1BA00 for S0, DC contactor

Spring-loaded terminals

3RA2921-2AA00²⁾

④ Contactor

Size S0

Screw terminals/spring-loaded terminals

Wiring kit

Screw terminals

3RA2923-2AA1

Spring-loaded terminals

3RA2923-2AA2

(a) Upper wiring module

(b) Lower wiring module

(c) Two connecting clips for two contactors

(d) Mechanical interlock
(can be removed if necessary)

¹⁾ Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

²⁾ Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

3RA22 load feeder for reversing operation and DIN-rail mounting in size S0 (the version with screw terminals is shown in the picture)

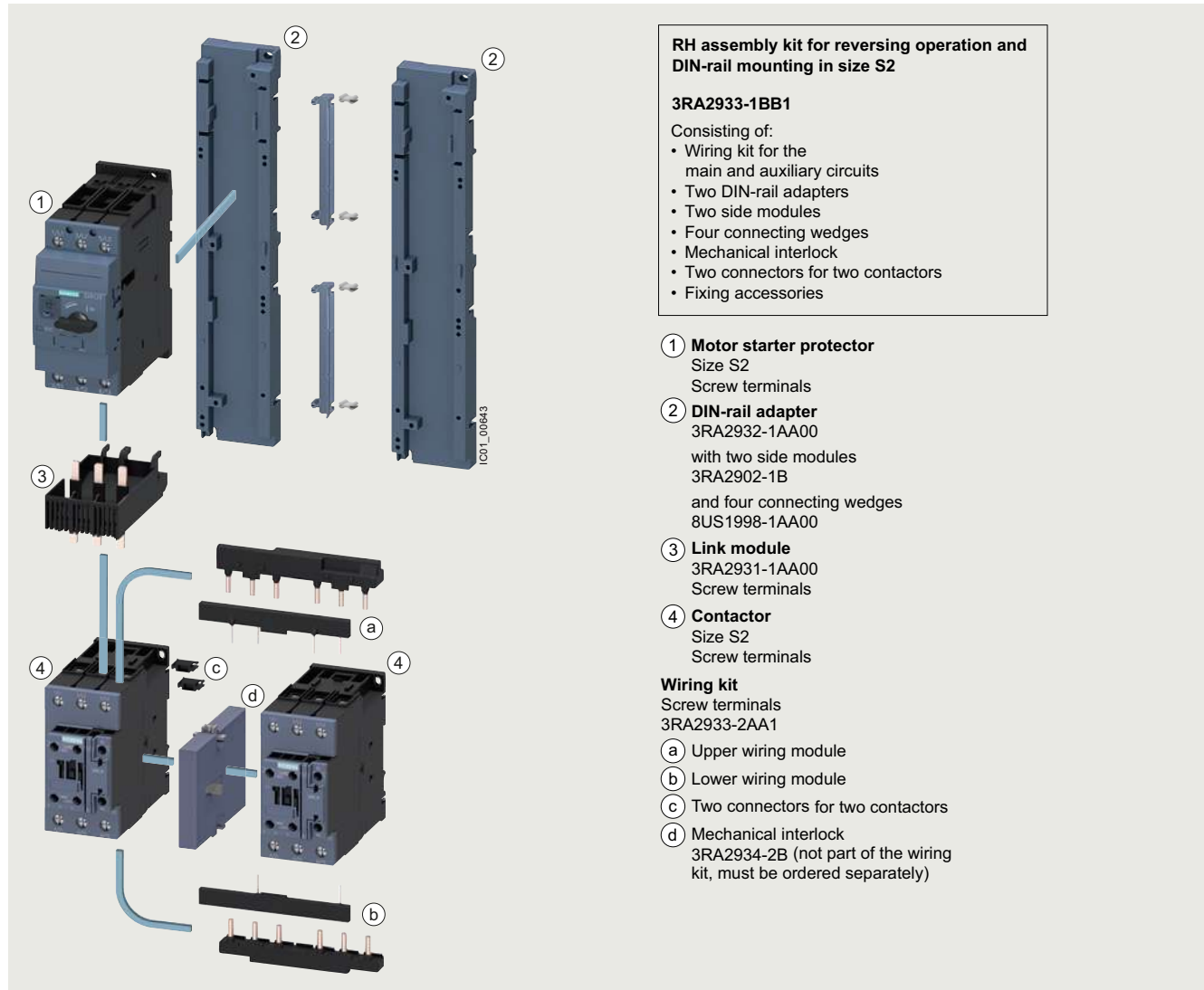
RH mounting kits for reversing operation and DIN-rail mounting in size S0, [see page 8/52](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For DIN-rail mounting • Size S2



3RA22 load feeder for reversing operation and DIN-rail mounting in size S2 (the version with screw terminals is shown in the picture)

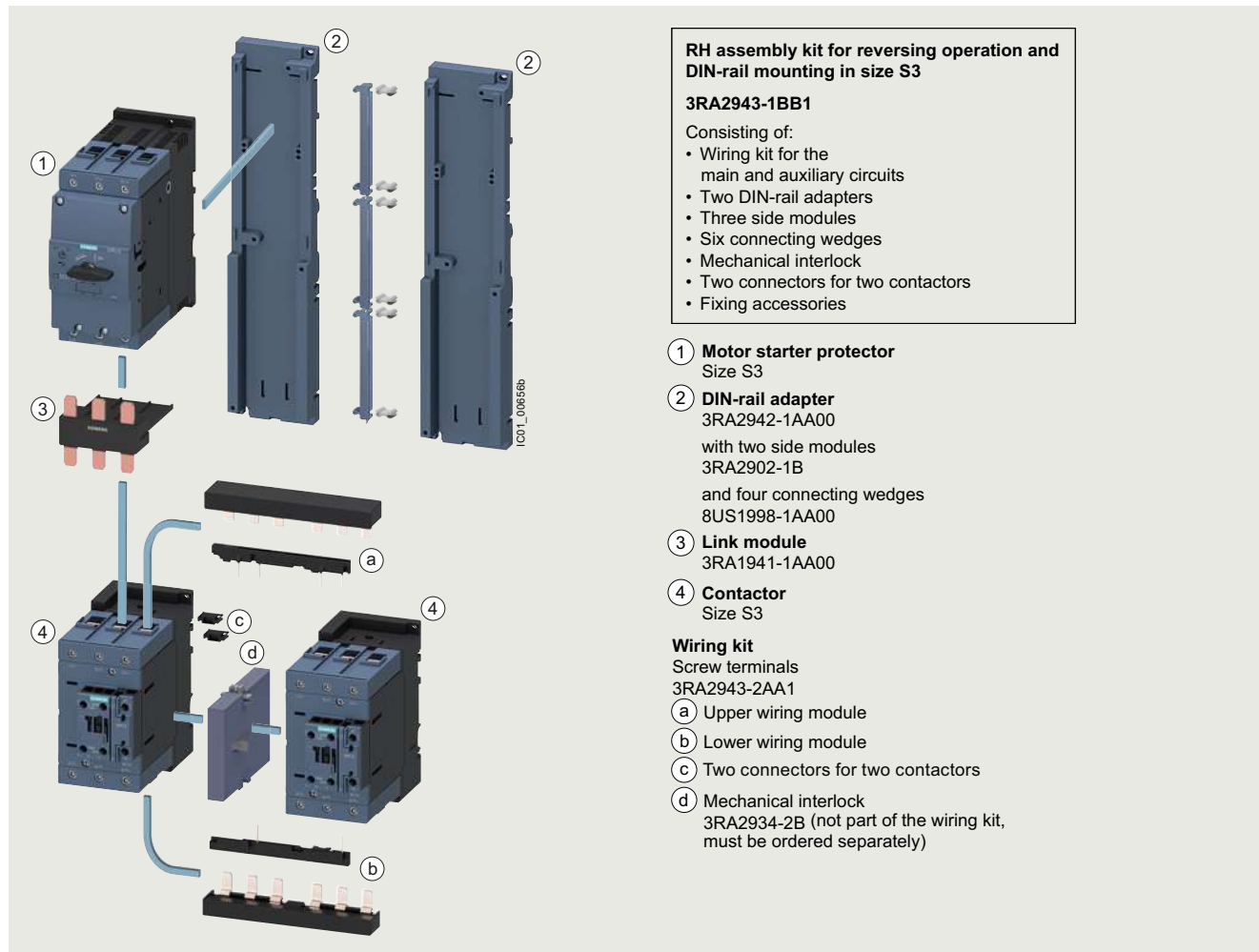
RH mounting kits for reversing operation and DIN-rail mounting in size S2, [see page 8/52](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For DIN-rail mounting • Size S3



3RA22 load feeder for reversing operation and DIN-rail mounting in size S3
(the version with screw terminals is shown in the picture)

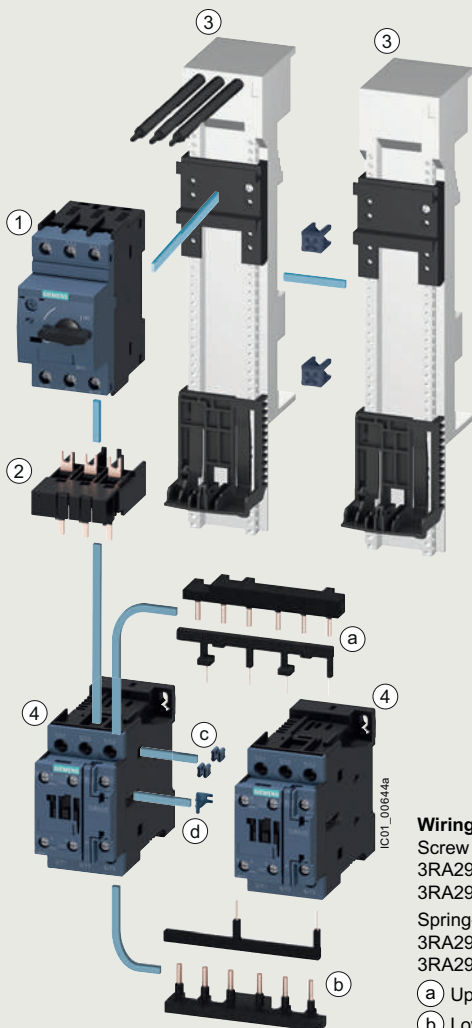
RH mounting kits for reversing operation and DIN-rail mounting
in size S3, [see page 8/52](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For 60 mm busbar systems • Sizes S00 and S0



Wiring kit

Screw terminals
3RA2913-2AA1 for S00
3RA2923-2AA1 for S0
Spring-loaded terminals
3RA2913-2AA2 for S00
3RA2923-2AA2 for S0

- (a) Upper wiring module
- (b) Lower wiring module
- (c) Two connecting clips for two contactors
- (d) Mechanical interlock
(can be removed if necessary)

RS assembly kit for reversing operation and busbar mounting in size S00/S0

Screw terminals
3RA2913-1DB1 for S00
3RA2923-1DB1 for S0
Spring-loaded terminals
3RA2913-1DB2 for S00
3RA2923-1DB2 for S0¹⁾

Consisting of:

- Wiring kit for the main and auxiliary circuits
- Busbar adapter
- Device holder
- Two connecting wedges
- Mechanical interlock
- Two connecting clips for two contactors
- Fixing accessories

- (1) **Motor starter protector**
Size S00/S0
Screw terminals/spring-loaded terminals
- (2) **Link module**
Screw terminals
3RA1921-1DA00 for S00
3RA2921-1AA00 for S0, AC contactor
3RA2921-1BA00 for S0, DC contactor
Spring-loaded terminals
3RA2911-2AA00 for S00
3RA2921-2AA00 for S0²⁾
- (3) **60 mm busbar adapter**
Screw terminals
8US1251-5DS10 for S00/S0
8US1251-5NT10 for S0
Spring-loaded terminals
8US1251-5DT11 for S00/S0
8US1251-5NT11 for S0
With two connecting wedges
8US1998-1AA10
60 mm device holder
8US1250-5AS10 or
8US1250-5AT10
(according to length of left adapter)
- (4) **Contactor**
Size S00/S0
Screw terminals/spring-loaded terminals

¹⁾ Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

²⁾ Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

3RA22 load feeder for reversing operation and 60 mm busbar
(the version with screw terminals is shown in the picture)

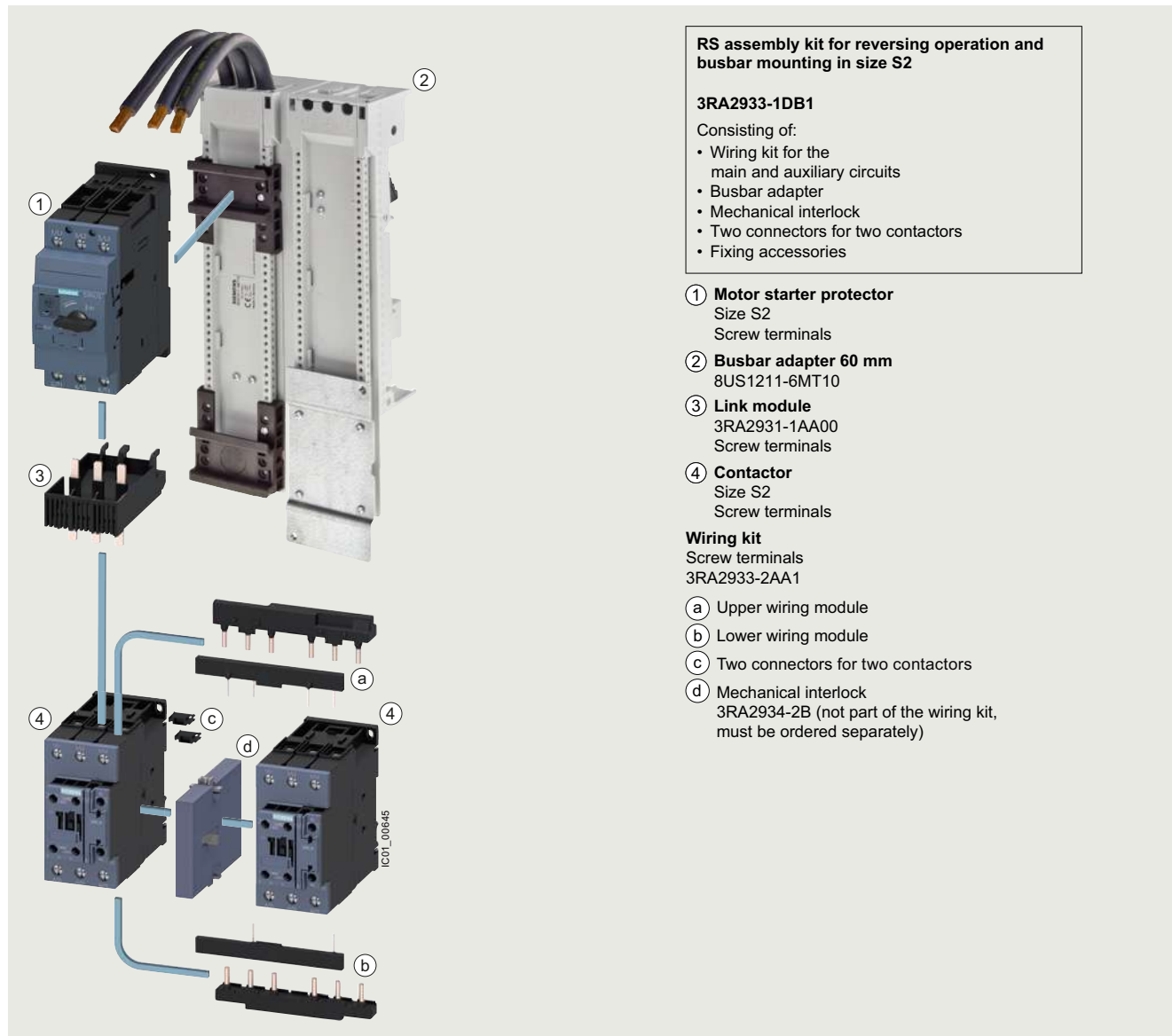
RS mounting kits for reversing operation and busbar mounting
in size S00/S0, [see page 8/54](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Reversing operation • For 60 mm busbar systems • Size S2



3RA22 load feeder for reversing operation and 60 mm busbar in size S2 (the version with screw terminals is shown in the picture)

RS mounting kits for reversing operation and busbar mounting in size S2, [see page 8/54](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Article number scheme

Product versions		Article number									
SIRIUS load feeders		3RA2	☐	☐	☐	0	-	☐	☐	☐	☐
Product function	Direct-on-line starter	1									For motor standard output 0.06 ... 45 kW
	Reversing starter	2									For motor standard output 0.06 ... 45 kW
Size	S00	1									
	S0	2									
	e.g. 3 = S2	☐									At $I_q = 100$ kA at 400 V
	e.g. 5 = S2	☐									At $I_q = 150$ kA at 400 V
Setting range of the overload release	e.g. 0B = 0.14 ... 0.2 A				☐	☐					
Assembly, assembly type, connection method	e.g. A = S00, S0, S2						☐				Direct mounting, screw terminals
Contactor size, rated power at 400 V AC	e.g. 15 = S00/3 kW						☐	☐			
Version Auxiliary switches on the contactor	e.g. 0 = S0, S2								☐		1 NO + 1 NC integrated in contactor
	e.g. 1 = S00								☐		1 NO integrated in contactor
	e.g. 2 = S00								☐		1 NC integrated in contactor
Operating range of solenoid coil (contactor)	e.g. A = S00, S0, S2								☐		AC $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$, standard coil without RC circuit
Rated control supply voltage (contactor)	230 V AC									P 0	50/60 Hz AC for S00, 50 Hz AC for S0 ... S3
	24 V DC									B 4	
Example		3RA2	1	1	0	-	0	B	A	1	5
										-	1
										A	P 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Minimum planning and assembly work and far less wiring with the preassembled complete units (only one article number 3RA2)
- Plug-in connectors from the motor starter protector to all types of SIRIUS controls, for quicker and error-free assembly of feeders with screw and spring-loaded terminals
- High planning reliability through consistent combination tests for fuseless and fused configuration in accordance with IEC and UL/CSA
- Comprehensive approvals for use world-wide on request, [see page 16/9 onwards](#).
- High operational reliability through short-circuit breaking capacity of 150 kA with type of coordination "1" and "2"
- Uniform accessories for sizes S00, S0, S2 and S3
- Spring-loaded terminals possible throughout: Enhanced operational reliability (vibration-resistant wiring) and less wiring work thanks to plug-in connections (S00 and S0 only)
- Power loss 5 to 10% smaller than for comparable devices, hence lower energy consumption
- Connection of feeders to the control system through standardized system connection (IO-Link and AS-i), for fast integration in TIA and less wiring work

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Technical specifications

More information

Industry Mall, see www.siemens.com/product?3RA2

Equipment Manual, see <https://support.industry.siemens.com/cs/ww/en/view/60284351>

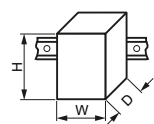
Configuration Manual, see <https://support.industry.siemens.com/cs/ww/en/view/39714188>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16289/faq>

Direct-on-line starters/ reversing starters	Size	Connection method	Mounting	Control voltage	Width W	Height H	Depth D
					mm	mm	mm

Mounting dimensions

Direct-on-line starters 3RA21. (Size S3 or larger is only available for self-assembly)	S00 3RA211.	Screw terminals	DIN rails	AC/DC	45	167	97
			Busbar adapters	AC/DC	45	200	155
		Spring-loaded terminals	DIN rails	AC/DC	45	198	97
			Busbar adapters	AC/DC	45	260	155
	S0 3RA212.	Screw terminals	DIN rails	AC	45	193	97
			Busbar adapters	DC	45	193	107
		Spring-loaded terminals	Busbar adapters	AC	45	260	155
			Busbar adapters	DC	45	260	165
	S2 3RA213./3RA215.	Screw terminals	DIN rails	AC/DC	55	274	150
			Busbar adapters	AC/DC	55	350	208
	S3 (self-assembly only)	Screw terminals	DIN-rail adapters	AC/DC	70	333	198
Reversing starters 3RA22. (Size S2 or larger is only available for self-assembly)	S00 3RA221.	Screw terminals	DIN rails	AC/DC	90	170	97
			Busbar adapters	AC/DC	90	200	155
		Spring-loaded terminals	DIN rails	AC/DC	90	204	97
			Busbar adapters	AC/DC	90	260	155
	S0 3RA222.	Screw terminals	DIN-rail adapters	AC	90	265	120.3
			Busbar adapters	DC	90	265	130
		Spring-loaded terminals	Busbar adapters	AC	90	260	155
			Busbar adapters	DC	90	260	165
	S2 (self-assembly only)	Screw terminals	DIN-rail adapters	AC/DC	90	270	131
			Busbar adapters	AC/DC	90	260	165
		Spring-loaded terminals	DIN rails	AC/DC	120	295	175
			Busbar adapters	AC/DC	120	361	208
	S3 (self-assembly only)	Screw terminals	DIN-rail adapters	AC/DC	150	333	198



Type	3RA2.1	3RA2.2	3RA213, 3RA215	For self-assembly
Size	S00	S0	S2	S3
Number of poles	3	3	3	3
Mechanics and environment				
Permissible ambient temperature				
• During operation	°C	-20 ... +60		
• During storage and transport	°C	-55 ... +80		
Weight	kg	0.6 ... 1.5	0.8 ... 2.3	2.2 ... 2.5
Permissible mounting position				
Important: According to DIN 43602 start command "I" at the right or top				
Shock resistance	IEC 60068-2-27	g/ms	6/11 (sine pulse)	On request
Degree of protection IP on the front	According to IEC 60529		IP20	
Touch protection on the front	According to IEC 60529		Finger-safe for vertical touching from the front	

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Type		3RA2.1	3RA2.2	3RA213, 3RA215	For self-assembly
Size		S00	S0	S2	S3
Number of poles		3	3	3	3
Electrical specifications					
Standards		• IEC 60947-1, EN 60947-1 (VDE 0660 Part 100) • IEC 60947-2; EN 60947-2 (VDE 0660 Part 101) • IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)			
Max. rated current I_n max (= max. rated operational current I_e)	A	16	32	65	100
Rated operational voltage U_e	V	690			
Rated frequency	Hz	50/60			
Rated insulation voltage U_i (pollution degree 3)	V	690			
Rated impulse withstand voltage U_{imp}	kV	6			
Trip class (CLASS)	According to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	10			
Rated short-circuit current I_q At 50/60 Hz 400 V AC	According to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	kA	150	3RA213: 100 3RA215: 150	With 3RV2041: 100 With 3RV2042: 150
Types of coordination	According to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	See "Selection and ordering data", page 8/22 onwards			
Power loss P_v of all main conducting paths Dependent on rated current I_n (upper setting range)	See technical specifications of the individual devices: • "Switching Devices - Contactors and Contactor Assemblies", page 3/25 onwards • "Protection Equipment" → "Motor starter protectors/circuit breakers", page 7/18 onwards				
Power consumption of the solenoid coils with contactors	See technical specifications of the contactor, page 3/26 onwards				
Solenoid coil operating range with contactors					
Endurance of the motor starter protector					
• Mechanical endurance	Operating cycles Operating cycles 1/h	100 000		Up to 52 A: 50 000	25 000
• Electrical endurance		100 000		From 59 A: 20 000	25 000
• Max. switching frequency per hour (motor starts)		15			
Endurance of contactor					
• Mechanical endurance	Operating cycles Operating cycles	30 million	10 million		
• Electrical endurance		See endurance characteristic curves of the contactors, page 3/26 onwards			
Phase failure sensitivity of the motor starter protector	According to IEC 60947-1, EN 60947-1 (VDE 0660 Part 102)	✓			
Isolating features of the motor starter protector	According to IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)	✓			
Main and EMERGENCY STOP switch characteristics of the motor starter protector and accessories	According to IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)	✓ (With overvoltage releases of category "1" under conditions of proper use)			
Protective separation between main and auxiliary circuits	According to EN 60947-1, Annex N	V	Up to 400		
Mirror contacts for contactors Integrated auxiliary switches	✓ According to IEC 60947-4-1, Annex F				

✓ Function available

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

General data

Conductor cross-sections of main circuit						
Type		3RA2.10	3RA2.20	3RA2130-4E..., 3RA2130-4P..., 3RA2130-4U..., 3RA2130-4V...	3RA2130-4W..., 3RA2130-4X..., 3RA2130-4J..., 3RA2130-4K..., 3RA2150	For self-assembly
Size		S00	S0	S2		S3
Connection type		 Screw terminals				 Screw terminals with box terminal
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		4 mm Allen screw
Operating devices		mm	Ø 5 ... 6	Ø 5 ... 6		Allen screw
Prescribed tightening torque		Nm	0.8 ... 1.2	2 ... 2.5	3.0 ... 4.5	4.5 ... 6
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
• Solid or stranded	mm ²	2 x (0.75 ... 2.5) ¹⁾ , 2 x (0.5 ... 1.5) ¹⁾ , for contactor only 2 x 4	2 x (1 ... 2.5) ¹⁾ , 2 x (2.5 ... 10) ¹⁾	2 x (1 ... 25) ¹⁾ , 1 x (1 ... 35) ¹⁾	2 x (1 ... 35) ¹⁾ , 1 x (1 ... 50) ¹⁾	2 x (2.5 ... 16) ¹⁾ , 2 x (10 ... 50) ¹⁾ , 1 x (10 ... 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5) ¹⁾ , 2 x (0.75 ... 2.5) ¹⁾	2 x (1 ... 2.5) ¹⁾ , 2 x (2.5 ... 6) ¹⁾ , 1 x 10	2 x (1 ... 16) ¹⁾ , 1 x (1 ... 25) ¹⁾	2 x (1 ... 25) ¹⁾ , 1 x (1 ... 35) ¹⁾	2 x (2.5 ... 35) ¹⁾ , 1 x (2.5 ... 50) ¹⁾
• AWG cables, solid or stranded	AWG	2 x (20 ... 16) ¹⁾ , for contactor only 2 x (18 ... 14) ¹⁾ , 2 x 12	2 x (16 ... 12) ¹⁾ , 2 x (14 ... 8) ¹⁾	2 x (18 ... 3) ¹⁾ , 1 x (18 ... 2) ¹⁾	2 x (18 ... 2) ¹⁾ , 1 x (18 ... 1) ¹⁾	2 x (10 ... 1/0) ¹⁾ , 1 x (10 ... 2/0) ¹⁾
• Ribbon cable conductors (Number x Width x Thickness)	mm	--				2 x (6 x 9 x 0.8)
Connection type		 Spring-loaded terminals				
Operating devices		mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected						
• Solid or stranded	mm ²	2 x (0.5 ... 4)	2 x (1 ... 10)	--		
• Finely stranded without end sleeve	mm ²	2 x (0.5 ... 2.5)	2 x (1 ... 6)	--		
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 2.5)	2 x (1 ... 6)	--		
• AWG cables, solid or stranded	AWG	2 x (20 ... 12)	2 x (18 ... 8)	--		
Max. external diameter of the conductor insulation		mm	3.6	3.6	--	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Conductor cross-sections for auxiliary and control circuits					
Type		3RA2110 3RA2210	3RA2120 3RA2220	3RA2130 3RA2150	For self-assembly
Size		S00	S0	S2	S3
Connection type		 Screw terminals			
Terminal screw		M3, Pozidriv size 2			
Operating devices	mm	Ø 5 ... 6			
Prescribed tightening torque	Nm	0.8 ... 1.2			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm ²	2 x (0.5 ... 1.5) ¹⁾ , 2 x (0.75 ... 2.5) ¹⁾			
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5) ¹⁾ , 2 x (0.75 ... 2.5) ¹⁾			
• AWG cables, solid or stranded	AWG	2 x (18 ... 14) ¹⁾ , 2 x (20 ... 16) ¹⁾ , 2 x 12 for contactor S00 only			
Connection type		 Spring-loaded terminals			
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm ²	2 x (0.5 ... 2.5)			
• Finely stranded without end sleeve	mm ²	2 x (0.5 ... 2.5)			
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)			
Max. external diameter of the conductor insulation	mm	3.6			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

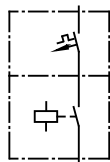
3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing

IE3/IE4 ready

AC-3e

Selection and ordering data

Direct-on-line starting

**Rated control supply voltage****50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0, S2 and S3****With screw terminals**

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor sizes S0, S2 and S3: 1 NO + 1 NC



Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
(also compatible with type of coordination "1")

				3RV20	3RT20	3RA	ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP01	1921-1DA00	3RA2110-0BA15-1AP0	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10			3RA2110-0CA15-1AP0	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2110-0DA15-1AP0	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2110-0EA15-1AP0	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2110-0FA15-1AP0	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2110-0GA15-1AP0	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2110-0HA15-1AP0	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2110-0JA15-1AP0	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2110-0KA15-1AP0	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2110-1AA15-1AP0	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2110-1BA15-1AP0	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2110-1CA15-1AP0	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2110-1DA15-1AP0	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2110-1EA15-1AP0	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	2921-1AA00	3RA2120-1FA24-0AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			3RA2120-1GA24-0AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2120-1HA24-0AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2120-1JA24-0AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2120-1KA24-0AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1AP00		3RA2120-4AA26-0AP0	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1AP00		3RA2120-4BA27-0AP0	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2120-4CA27-0AP0	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2120-4DA27-0AP0	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2120-4NA27-0AP0	1	1 unit	41D
	15	29 ⁴⁾	27 ... 32	21-4EA10			3RA2120-4EA27-0AP0	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1AP00	2931-1AA00	3RA2150-4EA35-0AP0	1	1 unit	41D
	18.5	35	28 ... 36	32-4PA10			3RA2150-4PA35-0AP0	1	1 unit	41D
	18.5	35	32 ... 40	32-4UA10			3RA2150-4UA35-0AP0	1	1 unit	41D
	22	41	35 ... 45	32-4VA10	36-1AP00		3RA2150-4VA36-0AP0	1	1 unit	41D
	22	41	42 ... 50	32-4WA10			3RA2150-4WA36-0AP0	1	1 unit	41D
	30	55	49 ... 59	32-4XA10	37-1AP00		3RA2150-4XA37-0AP0	1	1 unit	41D
	30	55	54 ... 65	32-4JA10			3RA2150-4JA37-0AP0	1	1 unit	41D
	37 ⁵⁾	66	62 ... 75	32-4KA10	38-1AP00		3RA2150-4KA38-0AP0	1	1 unit	41D

S3 Size S3 available on request

Size S3 is only available for self-assembly

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

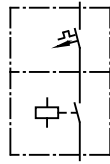
IE3/IE4 ready

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing



3RA2110

Direct-on-line starting



Rated control supply voltage

50/60 Hz 230 V AC for S00

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "1" at $I_q = 150 \text{ kA}$ at 400 V
(the motor starter protector is compatible with type of coordination "2")

3RV20 3RT20 3RA

S00	Load feeders for lower outputs, see table for type of coordination "2" on the previous page.					ToC 1				
1.5	3.6	3.5 ... 5	11-1FA10	15-1AP01	1921-1DA00	3RA2110-1FA15-1AP0	1	1 unit	41D	
2.2	4.9	4.5 ... 6.3	11-1GA10			3RA2110-1GA15-1AP0	1	1 unit	41D	
3	6.5	5.5 ... 8	11-1HA10			3RA2110-1HA15-1AP0	1	1 unit	41D	
4	8.5	7 ... 10	11-1JA10	16-1AP01		3RA2110-1JA16-1AP0	1	1 unit	41D	
5.5	11.5	9 ... 12.5	11-1KA10	17-1AP01		3RA2110-1KA17-1AP0	1	1 unit	41D	
7.5	15.5	10 ... 16	11-4AA10	18-1AP01		3RA2110-4AA18-1AP0	1	1 unit	41D	

¹⁾ Push-in lugs, see "Accessories", page 8/52.

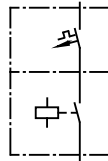
²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e

3RA2130
Direct-on-line starting

Rated control supply voltage
50 Hz 230 V AC for S2 and S3
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor sizes S2 and S3: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾		Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)		Motor starter protector	+ Contactor	+ Link module				
							Screw terminals			
							Article No.	Basic price per PU		
	kW	A	A							
Type of coordination "2" at $I_g = 100$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
				3RV20	3RT20	3RA				
S2	15	29	22 ... 32	31-4EA10	35-1AP00	2931-1AA00	3RA2130-4EA35-0AP0	1	1 unit	41D
	18.5	35	28 ... 36	31-4PA10			3RA2130-4PA35-0AP0	1	1 unit	41D
	18.5	35	32 ... 40	31-4UA10			3RA2130-4UA35-0AP0	1	1 unit	41D
	22	41	35 ... 45	31-4VA10	36-1AP00		3RA2130-4VA36-0AP0	1	1 unit	41D
	22	41	42 ... 50	31-4WA10			3RA2130-4WA36-0AP0	1	1 unit	41D
	30	55	49 ... 59	31-4XA10	37-1AP00		3RA2130-4XA37-0AP0	1	1 unit	41D
	30	55	54 ... 65	31-4JA10			3RA2130-4JA37-0AP0	1	1 unit	41D
	37 ⁴⁾	66	62 ... 73	31-4KA10	38-1AP00		3RA2130-4KA38-0AP0	1	1 unit	41D
S3	Size S3 available on request						Size S3 is only available for self-assembly			

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

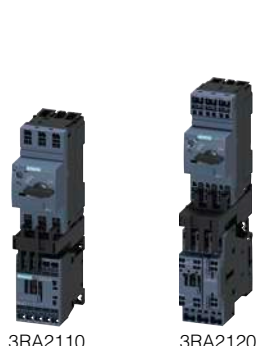
Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

IE3/IE4 ready

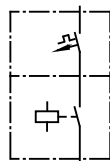
3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing



3RA2110

3RA2120

Direct-on-line starting

**Rated control supply voltage****50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0****With spring-loaded terminals**

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor size S0: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module	Spring-loaded terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
(also compatible with type of coordination "1")

				3RV20	3RT20	3RA29			
							ToC 2		
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP01	11-2AA00	3RA2110-0BE15-1AP0	1	1 unit 41D
	0.06	0.2	0.18 ... 0.25	11-0CA20			3RA2110-0CE15-1AP0	1	1 unit 41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2110-0DE15-1AP0	1	1 unit 41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2110-0EE15-1AP0	1	1 unit 41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2110-0FE15-1AP0	1	1 unit 41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2110-0GE15-1AP0	1	1 unit 41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2110-0HE15-1AP0	1	1 unit 41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2110-0JE15-1AP0	1	1 unit 41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2110-0KE15-1AP0	1	1 unit 41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2110-1AE15-1AP0	1	1 unit 41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2110-1BE15-1AP0	1	1 unit 41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2110-1CE15-1AP0	1	1 unit 41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2110-1DE15-1AP0	1	1 unit 41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2110-1EE15-1AP0	1	1 unit 41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00	3RA2120-1FE24-0AP0	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	21-1GA20			3RA2120-1GE24-0AP0	1	1 unit 41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2120-1HE24-0AP0	1	1 unit 41D
	4	8.5	7 ... 10	21-1JA20			3RA2120-1JE24-0AP0	1	1 unit 41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2120-1KE24-0AP0	1	1 unit 41D
	7.5	15.5	10 ... 16	21-4AA20	26-2AP00		3RA2120-4AE26-0AP0	1	1 unit 41D
	7.5	15.5	13 ... 20	21-4BA20	27-2AP00		3RA2120-4BE27-0AP0	1	1 unit 41D
	11	22	16 ... 22	21-4CA20			3RA2120-4CE27-0AP0	1	1 unit 41D
	11	22	18 ... 25	21-4DA20			3RA2120-4DE27-0AP0	1	1 unit 41D
	15	28	23 ... 28	21-4NA20			3RA2120-4NE27-0AP0	1	1 unit 41D
	15	29 ⁴⁾	27 ... 32	21-4EA20			3RA2120-4EE27-0AP0	1	1 unit 41D

Type of coordination "1" at $I_q = 150$ kA at 400 V
(the motor starter protector is compatible with type of coordination "2")

							ToC 1		
S00	For load feeders for lower outputs, see this table at type of coordination "2".								
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP01	11-2AA00	3RA2110-1FE15-1AP0	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	11-1GA20			3RA2110-1GE15-1AP0	1	1 unit 41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2110-1HE15-1AP0	1	1 unit 41D
	4	8.5	7 ... 10	11-1JA20	16-2AP01		3RA2110-1JE16-1AP0	1	1 unit 41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP01		3RA2110-1KE17-1AP0	1	1 unit 41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP01		3RA2110-4AE18-1AP0	1	1 unit 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

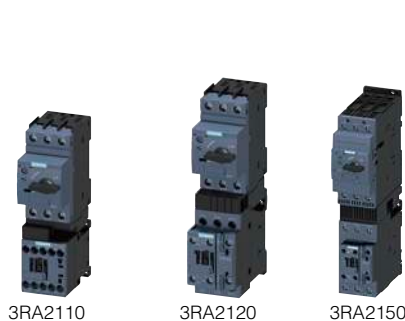
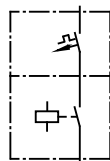
²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e

Direct-on-line starting

Rated control supply voltage 24 V DC
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor sizes S0, S2 and S3: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ Contactor	+ Link module	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA	ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1BB41	1921-1DA00	3RA2110-0BA15-1BB4	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10			3RA2110-0CA15-1BB4	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2110-0DA15-1BB4	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2110-0EA15-1BB4	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2110-0FA15-1BB4	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2110-0GA15-1BB4	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2110-0HA15-1BB4	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2110-0JA15-1BB4	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2110-0KA15-1BB4	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2110-1AA15-1BB4	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2110-1BA15-1BB4	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2110-1CA15-1BB4	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2110-1DA15-1BB4	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2110-1EA15-1BB4	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40	2921-1BA00	3RA2120-1FA24-0BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			3RA2120-1GA24-0BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2120-1HA24-0BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2120-1JA24-0BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2120-1KA24-0BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1BB40		3RA2120-4AA26-0BB4	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1BB40		3RA2120-4BA27-0BB4	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2120-4CA27-0BB4	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2120-4DA27-0BB4	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2120-4NA27-0BB4	1	1 unit	41D
	15	29 ⁴⁾	27 ... 32	21-4EA10			3RA2120-4EA27-0BB4	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1NB30	2931-1AA00	3RA2150-4EA35-0NB3	1	1 unit	41D
	18.5	35	28 ... 36	32-4PA10			3RA2150-4PA35-0NB3	1	1 unit	41D
	18.5	35	32 ... 40	32-4UA10			3RA2150-4UA35-0NB3	1	1 unit	41D
	22	41	35 ... 45	32-4VA10	36-1NB30		3RA2150-4VA36-0NB3	1	1 unit	41D
	22	41	42 ... 50	32-4WA10			3RA2150-4WA36-0NB3	1	1 unit	41D
	30	55	49 ... 59	32-4XA10	37-1NB30		3RA2150-4XA37-0NB3	1	1 unit	41D
	30	55	54 ... 65	32-4JA10			3RA2150-4JA37-0NB3	1	1 unit	41D
	37 ⁵⁾	66	62 ... 73	32-4KA10	38-1NB30		3RA2150-4KA38-0NB3	1	1 unit	41D
S3	Size S3 available on request						Size S3 is only available for self-assembly			

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

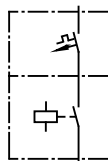
IE3/IE4 ready

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing



3RA2110

Direct-on-line starting



Rated control supply voltage 24 V DC
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
 Contactor size S00: 1 NO

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ Contactor	+ Link module	Screw terminals			
						Article No.	Basic price per PU		

Type of coordination "1" at $I_q = 150 \text{ kA}$ at 400 V
 (the motor starter protector is compatible with type of coordination "2")

3RV20 3RT20 3RA

ToC 1

S00	Load feeders for lower outputs, see table for type of coordination "2" on the previous page.									
	1.5	3.6	3.5 ... 5	11-1FA10	15-1BB41	1921-1DA00	3RA2110-1FA15-1BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			3RA2110-1GA15-1BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2110-1HA15-1BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10	16-1BB41		3RA2110-1JA16-1BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1BB41		3RA2110-1KA17-1BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1BB41		3RA2110-4AA18-1BB4	1	1 unit	41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

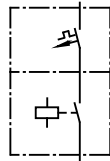
²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e

3RA2130
Direct-on-line starting

Rated control supply voltage 24 V DC
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor sizes S2 and S3: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾		Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)		Motor starter protector	+ Contactor	+ Link module				
							Screw terminals			
							Article No.	Basic price per PU		
	kW	A	A							
Type of coordination "2" at $I_q = 100$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
				3RV20	3RT20	3RA				
								ToC 2		
S2	15	29	22 ... 32	31-4EA10	35-1NB30	2931-1AA00	3RA2130-4EA35-0NB3	1	1 unit	41D
	18.5	35	28 ... 36	31-4PA10			3RA2130-4PA35-0NB3	1	1 unit	41D
	18.5	35	32 ... 40	31-4UA10			3RA2130-4UA35-0NB3	1	1 unit	41D
	22	41	35 ... 45	31-4VA10	36-1NB30		3RA2130-4VA36-0NB3	1	1 unit	41D
	22	41	42 ... 50	31-4WA10			3RA2130-4WA36-0NB3	1	1 unit	41D
	30	55	49 ... 59	31-4XA10	37-1NB30		3RA2130-4XA37-0NB3	1	1 unit	41D
	30	55	54 ... 65	31-4JA10			3RA2130-4JA37-0NB3	1	1 unit	41D
	37 ⁴⁾	66	62 ... 73	31-4KA10	38-1NB30		3RA2130-4KA38-0NB3	1	1 unit	41D
S3	Size S3 available on request						Size S3 is only available for self-assembly			

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

IE3/IE4 ready

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing

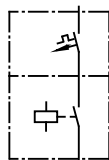


3RA2110



3RA2120

Direct-on-line starting


Rated control supply voltage 24 V DC
With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor size S0: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module	Spring-loaded terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_g = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29				
							ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2BB41	11-2AA00	3RA2110-0BE15-1BB4	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20			3RA2110-0CE15-1BB4	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2110-0DE15-1BB4	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2110-0EE15-1BB4	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2110-0FE15-1BB4	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2110-0GE15-1BB4	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2110-0HE15-1BB4	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2110-0JE15-1BB4	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2110-0KE15-1BB4	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2110-1AE15-1BB4	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2110-1BE15-1BB4	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2110-1CE15-1BB4	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2110-1DE15-1BB4	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2110-1EE15-1BB4	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	3RA2120-1FE24-0BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20			3RA2120-1GE24-0BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2120-1HE24-0BB4	1	1 unit	41D
	4	8.5	7 ... 10	21-1JA20			3RA2120-1JE24-0BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2120-1KE24-0BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA20	26-2BB40		3RA2120-4AE26-0BB4	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA20	27-2BB40		3RA2120-4BE27-0BB4	1	1 unit	41D
	11	22	16 ... 22	21-4CA20			3RA2120-4CE27-0BB4	1	1 unit	41D
	11	22	18 ... 25	21-4DA20			3RA2120-4DE27-0BB4	1	1 unit	41D
	15	28	23 ... 28	21-4NA20			3RA2120-4NE27-0BB4	1	1 unit	41D
	15	29 ⁴⁾	27 ... 32	21-4EA20			3RA2120-4EE27-0BB4	1	1 unit	41D

Type of coordination "1" at $I_g = 150$ kA at 400 V
 (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1			
	1.5	3.6	3.5 ... 5	11-1FA20	15-2BB41	11-2AA00	3RA2110-1FE15-1BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20			3RA2110-1GE15-1BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2110-1HE15-1BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA20	16-2BB41		3RA2110-1JE16-1BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2BB41		3RA2110-1KE17-1BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2BB40		3RA2110-4AE18-1BB4	1	1 unit	41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA21 direct-on-line starters > for 60 mm busbars

IE3/IE4 ready

AC-3e

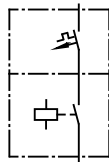
Selection and ordering data



3RA2110

3RA2120

Direct-on-line starting



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 and S2
With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor sizes S0 and S2: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
(also compatible with type of coordination "1")

				3RV20	3RT20	3RA				
							ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP01	1921-1DA00	3RA2110-0BD15-1AP0	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10		+ 8US1251-5DS10	3RA2110-0CD15-1AP0	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2110-0DD15-1AP0	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2110-0ED15-1AP0	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2110-0FD15-1AP0	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2110-0GD15-1AP0	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2110-0HD15-1AP0	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2110-0JD15-1AP0	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2110-0KD15-1AP0	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2110-1AD15-1AP0	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2110-1BD15-1AP0	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2110-1CD15-1AP0	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2110-1DD15-1AP0	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2110-1ED15-1AP0	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	1921-1AA00	3RA2120-1FD24-0AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 8US1251-5DT10	3RA2120-1GD24-0AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2120-1HD24-0AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2120-1JD24-0AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2120-1KD24-0AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1AP00	1921-1AA00	3RA2120-4AD26-0AP0	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1AP00	+ 8US1251-5NT10	3RA2120-4BD27-0AP0	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2120-4CD27-0AP0	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2120-4DD27-0AP0	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2120-4ND27-0AP0	1	1 unit	41D
	15	29 ³⁾	27 ... 32	21-4EA10			3RA2120-4ED27-0AP0	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1AP00	2931-1AA00	Size S2 is only available for self-assembly.			
	18.5	35	28 ... 36	32-4PA10		+ 8US1261-6MT10				
	18.5	35	32 ... 40	32-4UA10						
	22	41	35 ... 45	32-4VA10	36-1AP00					
	22	41	42 ... 50	32-4WA10						
	30	55	49 ... 59	32-4XA10	37-1AP00					
	30	55	54 ... 65	32-4JA10						
	37 ⁴⁾	66	62 ... 73	32-4KA10	38-1AP00					

Type of coordination "1" at $I_q = 150$ kA at 400 V
(the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1			
	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP01	1921-1DA00	3RA2110-1FD15-1AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 8US1251-5DS10	3RA2110-1GD15-1AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2110-1HD15-1AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10	16-1AP01		3RA2110-1JD16-1AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1AP01		3RA2110-1KD17-1AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1AP01		3RA2110-4AD18-1AP0	1	1 unit	41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

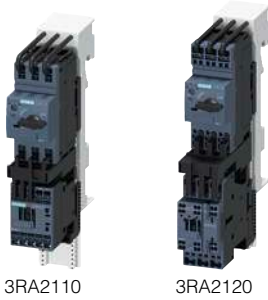
²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

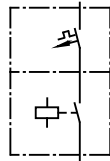
SIRIUS 3RA2 load feeders

AC-3e **IE3/IE4 ready** 3RA21 direct-on-line starters > for 60 mm busbars


3RA2110

3RA2120

Direct-on-line starting



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-loaded terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor size S0: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Spring-loaded terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_g = 150$ kA at 400 V (also compatible with type of coordination "1")

								ToC 2			
				3RV20	3RT20	3RA29					
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP01	11-2AA00 + 8US1251-5DT11	3RA2110-0BH15-1AP0		1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20			3RA2110-0CH15-1AP0		1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2110-0DH15-1AP0		1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2110-0EH15-1AP0		1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2110-0FH15-1AP0		1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2110-0GH15-1AP0		1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2110-0HH15-1AP0		1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2110-0JH15-1AP0		1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2110-0KH15-1AP0		1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2110-1AH15-1AP0		1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2110-1BH15-1AP0		1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2110-1CH15-1AP0		1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2110-1DH15-1AP0		1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2110-1EH15-1AP0		1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00 + 8US1251-5NT11 ³⁾	3RA2120-1FH24-0AP0		1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20			3RA2120-1GH24-0AP0		1	1 unit	41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2120-1HH24-0AP0		1	1 unit	41D
	4	8.5	7 ... 10	21-1JA20			3RA2120-1JH24-0AP0		1	1 unit	41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2120-1KH24-0AP0		1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA20	26-2AP00		3RA2120-4AH26-0AP0		1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA20	27-2AP00		3RA2120-4BH27-0AP0		1	1 unit	41D
	11	22	16 ... 22	21-4CA20		3RA2120-4CH27-0AP0		1	1 unit	41D	
	11	22	18 ... 25	21-4DA20		3RA2120-4DH27-0AP0		1	1 unit	41D	
	15	28	23 ... 28	21-4NA20		3RA2120-4NH27-0AP0		1	1 unit	41D	
	15	29 ⁴⁾	27 ... 32	21-4EA20		3RA2120-4EH27-0AP0		1	1 unit	41D	

Type of coordination "1" at $I_g = 150$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1			
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP01	11-2AA00	3RA2110-1FH15-1AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 8US1251-5DT11	3RA2110-1GH15-1AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2110-1HH15-1AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA20	16-2AP01		3RA2110-1JH16-1AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP01		3RA2110-1KH17-1AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP01		3RA2110-4AH18-1AP0	1	1 unit	41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ A 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals is included in the scope of supply.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA21 direct-on-line starters > for 60 mm busbars

IE3/IE4 ready

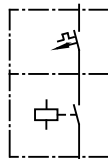
AC-3e



3RA2110

3RA2120

Direct-on-line starting



Rated control supply voltage 24 V DC
With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
 Contactor size S00: 1 NO,
 Contactor sizes S0 and S2: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Screw terminals			
							Article No.	Basic price per PU	

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA				
								ToC 2		
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1BB41	1921-1DA00	3RA2110-0BD15-1BB4	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10		+ 8US1251-5DS10	3RA2110-0CD15-1BB4	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2110-0DD15-1BB4	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2110-0ED15-1BB4	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2110-0FD15-1BB4	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2110-0GD15-1BB4	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2110-0HD15-1BB4	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2110-0JD15-1BB4	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2110-0KD15-1BB4	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2110-1AD15-1BB4	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2110-1BD15-1BB4	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2110-1CD15-1BB4	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2110-1DD15-1BB4	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2110-1ED15-1BB4	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40	1921-1BA00	3RA2120-1FD24-0BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 8US1251-5DT10	3RA2120-1GD24-0BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2120-1HD24-0BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2120-1JD24-0BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2120-1KD24-0BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1BB40	1921-1BA00	3RA2120-4AD26-0BB4	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1BB40	+ 8US1251-5NT10	3RA2120-4BD27-0BB4	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2120-4CD27-0BB4	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2120-4DD27-0BB4	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2120-4ND27-0BB4	1	1 unit	41D
	15	29 ³⁾	27 ... 32	21-4EA10			3RA2120-4ED27-0BB4	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1NB30	2931-1AA00	Size S2 is only available for self-assembly.			
	18.5	35	28 ... 36	32-4PA10		+ 8US1261-6MT10				
	18.5	35	32 ... 40	32-4UA10						
	22	41	35 ... 45	32-4VA10	36-1NB30					
	22	41	42 ... 50	32-4WA10						
	30	55	49 ... 59	32-4XA10	37-1NB30					
	30	55	54 ... 65	32-4JA10						
	37 ⁴⁾	66	62 ... 73	32-4KA10	38-1NB30					

Type of coordination "1" at $I_q = 150$ kA at 400 V
 (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".					ToC1				
	1.5	3.6	3.5 ... 5	11-1FA10	15-1BB41	1921-1DA00	3RA2110-1FD15-1BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 8US1251-5DS10	3RA2110-1GD15-1BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2110-1HD15-1BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10	16-1BB41		3RA2110-1JD16-1BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1BB41		3RA2110-1KD17-1BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1BB41		3RA2110-4AD18-1BB4	1	1 unit	41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

IE3/IE4 ready

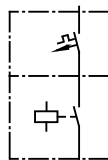
3RA21 direct-on-line starters > for 60 mm busbars



3RA2110

3RA2120

Direct-on-line starting


Rated control supply voltage 24 V DC
With spring-loaded terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- Integrated auxiliary switches:
Contactor size S00: 1 NO,
Contactor size S0: 1 NO + 1 NC

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Spring-loaded terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29			
							ToC 2		
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2BB41	11-2AA00	3RA2110-0BH15-1BB4	1	1 unit 41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 8US1251-5DT11	3RA2110-0CH15-1BB4	1	1 unit 41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2110-0DH15-1BB4	1	1 unit 41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2110-0EH15-1BB4	1	1 unit 41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2110-0FH15-1BB4	1	1 unit 41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2110-0GH15-1BB4	1	1 unit 41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2110-0HH15-1BB4	1	1 unit 41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2110-0JH15-1BB4	1	1 unit 41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2110-0KH15-1BB4	1	1 unit 41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2110-1AH15-1BB4	1	1 unit 41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2110-1BH15-1BB4	1	1 unit 41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2110-1CH15-1BB4	1	1 unit 41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2110-1DH15-1BB4	1	1 unit 41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2110-1EH15-1BB4	1	1 unit 41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	3RA2120-1FH24-0BB4	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 8US1251-5NT11	3RA2120-1GH24-0BB4	1	1 unit 41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2120-1HH24-0BB4	1	1 unit 41D
	4	8.5	7 ... 10	21-1JA20			3RA2120-1JH24-0BB4	1	1 unit 41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2120-1KH24-0BB4	1	1 unit 41D
	7.5	15.5	10 ... 16	21-4AA20	26-2BB40		3RA2120-4AH26-0BB4	1	1 unit 41D
	7.5	15.5	13 ... 20	21-4BA20	27-2BB40		3RA2120-4BH27-0BB4	1	1 unit 41D
	11	22	16 ... 22	21-4CA20			3RA2120-4CH27-0BB4	1	1 unit 41D
	11	22	18 ... 25	21-4DA20			3RA2120-4DH27-0BB4	1	1 unit 41D
	15	28	23 ... 28	21-4NA20			3RA2120-4NH27-0BB4	1	1 unit 41D
	15	29 ³⁾	27 ... 32	21-4EA20			3RA2120-4EH27-0BB4	1	1 unit 41D

Type of coordination "1" at $I_q = 150$ kA at 400 V
 (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1		
	1.5	3.6	3.5 ... 5	11-1FA20	15-2BB41	11-2AA00	3RA2110-1FH15-1BB4	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 8US1251-5DT11	3RA2110-1GH15-1BB4	1	1 unit 41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2110-1HH15-1BB4	1	1 unit 41D
	4	8.5	7 ... 10	11-1JA20	16-2BB41		3RA2110-1JH16-1BB4	1	1 unit 41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2BB41		3RA2110-1KH17-1BB4	1	1 unit 41D
	7.5	15.5	10 ... 16	11-4AA20	18-2BB40		3RA2110-4AH18-1BB4	1	1 unit 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

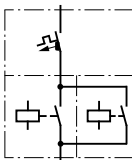
Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA22 reversing starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e

Selection and ordering data

Reversing operation



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S2 and S3

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With 2 DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0, S2 and S3, an integrated NO contact is still available for free use.



3RA2210

3RA2220

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

							ToC 2			
	3RV20			3RT20		3RA				
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP02	1921-1DA00 + 2913-2AA1	3RA2210-0BA15-2AP0	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10			3RA2210-0CA15-2AP0	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2210-0DA15-2AP0	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2210-0EA15-2AP0	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2210-0FA15-2AP0	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2210-0GA15-2AP0	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2210-0HA15-2AP0	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2210-0JA15-2AP0	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2210-0KA15-2AP0	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2210-1AA15-2AP0	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2210-1BA15-2AP0	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2210-1CA15-2AP0	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2210-1DA15-2AP0	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2210-1EA15-2AP0	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	2921-1AA00 + 2923-1BB1	3RA2220-1FB24-0AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			3RA2220-1GB24-0AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2220-1HB24-0AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2220-1JB24-0AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2220-1KB24-0AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1AP00		3RA2220-4AB26-0AP0	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10			3RA2220-4BB27-0AP0	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2220-4CB27-0AP0	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2220-4DB27-0AP0	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2220-4NB27-0AP0	1	1 unit	41D
	15	29 ⁵⁾	27 ... 32	21-4EA10			3RA2220-4EB27-0AP0	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1AP00	2931-1AA00 + 2933-1BB1	Size S2 is only available for self-assembly.			
	18.5	35	28 ... 36	32-4PA10						
	18.5	35	32 ... 40	32-4UA10	36-1AP00					
	22	41	35 ... 45	32-4VA10						
	22	41	42 ... 50	32-4WA10						
	30	55	49 ... 59	32-4XA10		37-1AP00				
	30	55	54 ... 65	32-4JA10						
	37 ⁶⁾	66	62 ... 73	32-4KA10	38-1AP00					

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁶⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

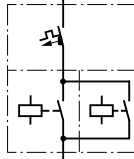
IE3/IE4 ready

3RA22 reversing starters > for DIN-rail mounting or screw fixing



3RA2210

Reversing operation



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Screw terminals			
						Article No.	Basic price per PU		

Type of coordination "1" at $I_q = 150 \text{ kA}$ at 400 V
(the motor starter protector is compatible with type of coordination "2")

				3RV20	3RT20	3RA			
							ToC 1		
S00	Load feeders for lower outputs, see table for type of coordination "2" on the previous page.								
	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP02	1921-1DA00	3RA2210-1FA15-2AP0	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2913-2AA1	3RA2210-1GA15-2AP0	1	1 unit 41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2210-1HA15-2AP0	1	1 unit 41D
	4	8.5	7 ... 10	11-1JA10	16-1AP02		3RA2210-1JA16-2AP0	1	1 unit 41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1AP02		3RA2210-1KA17-2AP0	1	1 unit 41D
	7.5	15.5	10 ... 16	11-4AA10	18-1AP02		3RA2210-4AA18-2AP0	1	1 unit 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

Load feeders and motor starters for use in the control cabinet

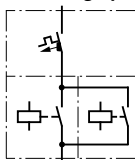
SIRIUS 3RA2 load feeders

3RA22 reversing starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e


3RA2210

3RA2220

Reversing operation



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Spring-loaded terminals			
						Article No.	Basic price per PU		
	kW	A	A						

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29			
							ToC 2		
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP02	11-2AA00	3RA2210-0BE15-2AP0	1	1 unit 41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 2913-2AA2	3RA2210-0CE15-2AP0	1	1 unit 41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2210-0DE15-2AP0	1	1 unit 41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2210-0EE15-2AP0	1	1 unit 41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2210-0FE15-2AP0	1	1 unit 41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2210-0GE15-2AP0	1	1 unit 41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2210-0HE15-2AP0	1	1 unit 41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2210-0JE15-2AP0	1	1 unit 41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2210-0KE15-2AP0	1	1 unit 41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2210-1AE15-2AP0	1	1 unit 41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2210-1BE15-2AP0	1	1 unit 41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2210-1CE15-2AP0	1	1 unit 41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2210-1DE15-2AP0	1	1 unit 41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2210-1EE15-2AP0	1	1 unit 41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00	3RA2220-1FF24-0AP0	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 2923-1BB2 ⁵⁾	3RA2220-1GF24-0AP0	1	1 unit 41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2220-1HF24-0AP0	1	1 unit 41D
	4	8.5	7 ... 10	21-1JA20			3RA2220-1JF24-0AP0	1	1 unit 41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2220-1KF24-0AP0	1	1 unit 41D
	7.5	15.5	10 ... 16	21-4AA20	26-2AP00		3RA2220-4AF26-0AP0	1	1 unit 41D
	7.5	15.5	13 ... 20	21-4BA20	27-2AP00		3RA2220-4BF27-0AP0	1	1 unit 41D
	11	22	16 ... 22	21-4CA20			3RA2220-4CF27-0AP0	1	1 unit 41D
	11	22	18 ... 25	21-4DA20			3RA2220-4DF27-0AP0	1	1 unit 41D
	15	28	23 ... 28	21-4NA20			3RA2220-4NF27-0AP0	1	1 unit 41D
	15	29 ⁶⁾	27 ... 32	21-4EA20			3RA2220-4EF27-0AP0	1	1 unit 41D

Type of coordination "1" at $I_q = 150$ kA at 400 V
 (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".					ToC1				
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP02	11-2AA00	3RA2210-1FE15-2AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 2913-2AA2	3RA2210-1GE15-2AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2210-1HE15-2AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA20	16-2AP02		3RA2210-1JE16-2AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP02		3RA2210-1KE17-2AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP02		3RA2210-4AE18-2AP0	1	1 unit	41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in size S0.

⁵⁾ The RH mounting kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals.

⁶⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

AC-3e

IE3/IE4 ready

3RA22 reversing starters > for DIN-rail mounting or screw fixing

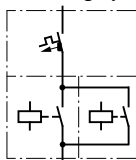


3BA2210



3BA2220

Reversing operation



Rated control supply voltage 24 V DC

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0, S2 and S3, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current / (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Screw terminals Article No.	Basic price per PU		
	kW	A	A						

Type of coordination "2" at $I_q = 150$ kA at 400 V
(also compatible with type of coordination "1")

				3RV20	3RT20	3RA	TotC 2							
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1BB42	1921-1DA00 + 2913-2AA1	3RA2210-0BA15-2BB4 3RA2210-0CA15-2BB4 3RA2210-0DA15-2BB4 3RA2210-0EA15-2BB4 3RA2210-0FA15-2BB4 3RA2210-0GA15-2BB4 3RA2210-0HA15-2BB4 3RA2210-0JA15-2BB4 3RA2210-0KA15-2BB4 3RA2210-1AA15-2BB4 3RA2210-1BA15-2BB4 3RA2210-1CA15-2BB4 3RA2210-1DA15-2BB4 3RA2210-1EA15-2BB4		1	1 unit	41D			
	0.06	0.2	0.18 ... 0.25	11-0CA10					1	1 unit	41D			
	0.09	0.3	0.22 ... 0.32	11-0DA10					1	1 unit	41D			
	0.09	0.3	0.28 ... 0.4	11-0EA10	1	1 unit			41D					
	0.12	0.4	0.35 ... 0.5	11-0FA10	1	1 unit			41D					
	0.18	0.6	0.45 ... 0.63	11-0GA10	1	1 unit			41D					
	0.18	0.6	0.55 ... 0.8	11-0HA10	1	1 unit			41D					
	0.25	0.85	0.7 ... 1	11-0JA10	1	1 unit			41D					
	0.37	1.1	0.9 ... 1.25	11-0KA10	1	1 unit			41D					
	0.55	1.5	1.1 ... 1.6	11-1AA10	1	1 unit			41D					
	0.75	1.9	1.4 ... 2	11-1BA10	1	1 unit			41D					
	0.75	1.9	1.8 ... 2.5	11-1CA10	1	1 unit			41D					
	1.1	2.7	2.2 ... 3.2	11-1DA10	1	1 unit			41D					
	1.5	3.6	2.8 ... 4	11-1EA10	1	1 unit			41D					
	S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40			2921-1BA00 + 2923-1BB1	3RA2220-1FB24-0BB4 3RA2220-1GB24-0BB4 3RA2220-1HB24-0BB4 3RA2220-1JB24-0BB4 3RA2220-1KB24-0BB4 3RA2220-4AB26-0BB4 3RA2220-4BB27-0BB4 3RA2220-4CB27-0BB4 3RA2220-4DB27-0BB4 3RA2220-4NB27-0BB4 3RA2220-4EB27-0BB4		1	1 unit	41D
		2.2	4.9	4.5 ... 6.3	11-1GA10							1	1 unit	41D
3		6.5	5.5 ... 8	11-1HA10	1		1 unit	41D						
4		8.5	7 ... 10	11-1JA10	1	1 unit	41D							
5.5		11.5	9 ... 12.5	11-1KA10	1	1 unit	41D							
7.5		15.5	10 ... 16	21-4AA10	26-1BB40	1	1 unit	41D						
7.5		15.5	13 ... 20	21-4BA10		1	1 unit	41D						
11		22	16 ... 22	21-4CA10		1	1 unit	41D						
11		22	18 ... 25	21-4DA10		1	1 unit	41D						
15		28	23 ... 28	21-4NA10		1	1 unit	41D						
15		29 ⁵⁾	27 ... 32	21-4EA10	1	1 unit	41D							
S2	15	29	22 ... 32	32-4EA10	35-1NB30	2931-1AA00 + 2933-1BB1	Size S2 is only available for self-assembly.							
	18.5	35	28 ... 36	32-4PA10										
	18.5	35	32 ... 40	32-4UA10	36-1NB30									
	22	41	35 ... 45	32-4VA10										
	22	41	42 ... 50	32-4WA10	37-1NB30									
	30	55	49 ... 59	32-4XA10										
	30	55	54 ... 65	32-4JA10										
	37 ⁶⁾	66	62 ... 73	32-4KA10							38-1NB30			
S3	Size S3 available on request					Size S3 is only available for self-assembly.								

¹⁾ Push-in lugs, see "Accessories", page 8/52.

2) Auxiliary switches, see "Accessories", page 8/45.

3) The actual starting and rated data of the motor to be protected must be considered when selecting the units.

4) RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

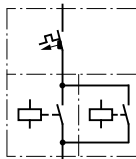
5) Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

6) Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA22 reversing starters > for DIN-rail mounting or screw fixing
IE3/IE4 ready
AC-3e

Reversing operation

Rated control supply voltage 24 V DC
With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.

3RA2210

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ 2 contactors	+ Link module + Wiring kit	Screw terminals			
						Article No.	Basic price per PU		

Type of coordination "1" at $I_q = 150$ kA at 400 V
 (the motor starter protector is compatible with type of coordination "2")

3RV20 3RT20 3RA

S00	Load feeders for lower outputs, see table for type of coordination "2" on the previous page.									
	1.5	3.6	3.5 ... 5	11-1FA10	15-1BB42	1921-1DA00	3RA2210-1FA15-2BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2913-2AA1	3RA2210-1GA15-2BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2210-1HA15-2BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10	16-1BB42		3RA2210-1JA16-2BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1BB42		3RA2210-1KA17-2BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1BB42		3RA2210-4AA18-2BB4	1	1 unit	41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

AC-3e

IE3/IE4 ready

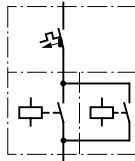
3RA22 reversing starters > for DIN-rail mounting or screw fixing



3RA2210

3RA2220

Reversing operation


Rated control supply voltage 24 V DC
With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches²⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ³⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Spring-loaded terminals			
						Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150 \text{ kA}$ at 400 V
(also compatible with type of coordination "1")

				3RV20	3RT20	3RA29				
							ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2BB42	11-2AA00	3RA2210-0BE15-2BB4	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 2913-2AA2	3RA2210-0CE15-2BB4	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2210-0DE15-2BB4	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2210-0EE15-2BB4	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2210-0FE15-2BB4	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2210-0GE15-2BB4	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2210-0HE15-2BB4	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2210-0JE15-2BB4	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2210-0KE15-2BB4	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2210-1AE15-2BB4	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2210-1BE15-2BB4	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2210-1CE15-2BB4	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2210-1DE15-2BB4	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2210-1EE15-2BB4	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	3RA2220-1FF24-0BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 2923-1BB2	3RA2220-1GF24-0BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2220-1HF24-0BB4	1	1 unit	41D
	4	8.5	7 ... 10	21-1JA20			3RA2220-1JF24-0BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2220-1KF24-0BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA20	26-2BB40		3RA2220-4AF26-0BB4	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA20	27-2BB40		3RA2220-4BF27-0BB4	1	1 unit	41D
	11	22	16 ... 22	21-4CA20			3RA2220-4CF27-0BB4	1	1 unit	41D
	11	22	18 ... 25	21-4DA20			3RA2220-4DF27-0BB4	1	1 unit	41D
	15	28	23 ... 28	21-4NA20			3RA2220-4NF27-0BB4	1	1 unit	41D
	15	29 ⁵⁾	27 ... 32	21-4EA20			3RA2220-4EF27-0BB4	1	1 unit	41D

Type of coordination "1" at $I_q = 150 \text{ kA}$ at 400 V
(the motor starter protector is compatible with type of coordination "2")

Size	For load feeders for lower outputs, see this table at type of coordination "2".									
							ToC 1			
S00	1.5	3.6	3.5 ... 5	11-1FA20	15-2BB42	11-2AA00	3RA2210-1FE15-2BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 2913-2AA2	3RA2210-1GE15-2BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2210-1HE15-2BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA20	16-2BB42		3RA2210-1JE16-2BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2BB42		3RA2210-1KE17-2BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2BB42		3RA2210-4AE18-2BB4	1	1 unit	41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in size S0.

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RA22 reversing starters > for 60 mm busbars **IE3/IE4 ready** **AC-3e**

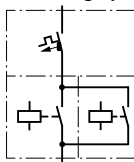
Selection and ordering data



3RA2210

3RA2220

Reversing operation



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 and S2
With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V
 (also compatible with type of coordination "1")

				3RV20	3RT20	3RA				
							ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP02	1921-1DA00	3RA2210-0BD15-2AP0	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10		+ 2913-1DB1	3RA2210-0CD15-2AP0	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2210-0DD15-2AP0	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2210-0ED15-2AP0	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2210-0FD15-2AP0	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2210-0GD15-2AP0	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2210-0HD15-2AP0	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2210-0JD15-2AP0	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2210-0KD15-2AP0	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2210-1AD15-2AP0	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2210-1BD15-2AP0	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2210-1CD15-2AP0	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2210-1DD15-2AP0	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2210-1ED15-2AP0	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	2921-1AA00	3RA2220-1FD24-0AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2923-1DB1	3RA2220-1GD24-0AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2220-1HD24-0AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2220-1JD24-0AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2220-1KD24-0AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1AP00		3RA2220-4AD26-0AP0	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1AP00		3RA2220-4BD27-0AP0	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2220-4CD27-0AP0	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2220-4DD27-0AP0	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2220-4ND27-0AP0	1	1 unit	41D
	15	29 ⁴⁾	27 ... 32	21-4EA10			3RA2220-4ED27-0AP0	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1AP00	2931-1AA00	Size S2 is only available for self-assembly.			
	18.5	35	28 ... 36	32-4PA10		+ 2933-1DB1				
	18.5	35	32 ... 40	32-4UA10						
	22	41	35 ... 45	32-4VA10	36-1AP00					
	22	41	42 ... 50	32-4WA10						
	30	55	49 ... 59	32-4XA10	37-1AP00					
	30	55	54 ... 65	32-4JA10						
	37 ⁵⁾	66	62 ... 73	32-4KA10	38-1AP00					

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

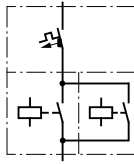
AC-3e

IE3/IE4 ready

3RA22 reversing starters > for 60 mm busbars



Reversing operation

**Rated control supply voltage****50/60 Hz 230 V AC for S00****With screw terminals**

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.

3RA2210

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾		Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)		Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Screw terminals 			
							Article No.	Basic price per PU		
	kW	A	A							
Type of coordination "1" at <i>I</i> _q = 150 kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
				3RV20	3RT20	3RA				
S00	Load feeders for lower outputs, see table for type of coordination "2" on the previous page.									
	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP02	1921-1DA00	3RA2210-1FD15-2AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2913-1DB1	3RA2210-1GD15-2AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2210-1HD15-2AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10	16-1AP02		3RA2210-1JD16-2AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1AP02		3RA2210-1KD17-2AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1AP02		3RA2210-4AD18-2AP0	1	1 unit	41D

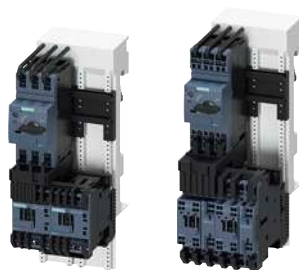
¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

Load feeders and motor starters for use in the control cabinet

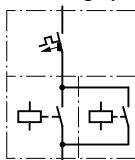
SIRIUS 3RA2 load feeders

3RA22 reversing starters > for 60 mm busbars **IE3/IE4 ready** **AC-3e**


3RA2210

3RA2220

Reversing operation



Rated control supply voltage

50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-loaded terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Spring-loaded terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29				
							ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP02	11-2AA00 + 13-1DB2	3RA2210-0BH15-2AP0	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20			3RA2210-0CH15-2AP0	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2210-0DH15-2AP0	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2210-0EH15-2AP0	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2210-0FH15-2AP0	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2210-0GH15-2AP0	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2210-0HH15-2AP0	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2210-0JH15-2AP0	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2210-0KH15-2AP0	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2210-1AH15-2AP0	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2210-1BH15-2AP0	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2210-1CH15-2AP0	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2210-1DH15-2AP0	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2210-1EH15-2AP0	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00 + 23-1DB2 ⁴⁾	3RA2220-1FH24-0AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20			3RA2220-1GH24-0AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	21-1HA20			3RA2220-1HH24-0AP0	1	1 unit	41D
	4	8.5	7 ... 10	21-1JA20			3RA2220-1JH24-0AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2220-1KH24-0AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA20	26-2AP00		3RA2220-4AH26-0AP0	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA20	27-2AP00		3RA2220-4BH27-0AP0	1	1 unit	41D
	11	22	16 ... 22	21-4CA20			3RA2220-4CH27-0AP0	1	1 unit	41D
	11	22	18 ... 25	21-4DA20			3RA2220-4DH27-0AP0	1	1 unit	41D
	15	28	23 ... 28	21-4NA20			3RA2220-4NH27-0AP0	1	1 unit	41D
	15	29 ⁵⁾	27 ... 32	21-4EA20			3RA2220-4EH27-0AP0	1	1 unit	41D

Type of coordination "1" at $I_q = 150$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1			
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP02	11-2AA00 + 13-1DB2	3RA2210-1FH15-2AP0	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20			3RA2210-1GH15-2AP0	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA20			3RA2210-1HH15-2AP0	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA20	16-2AP02		3RA2210-1JH16-2AP0	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP02		3RA2210-1KH17-2AP0	1	1 unit	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP02		3RA2210-4AH18-2AP0	1	1 unit	41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

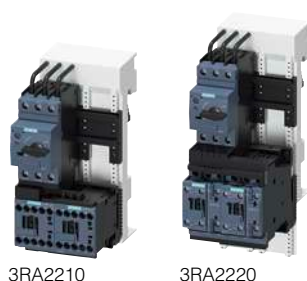
³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ The RS mounting kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals.

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

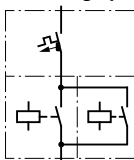
SIRIUS 3RA2 load feeders

AC-3e **IE3/IE4 ready** **3RA22 reversing starters > for 60 mm busbars**


3RA2210

3RA2220

Reversing operation



Rated control supply voltage 24 V DC With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Screw terminals			
						Article No.	Basic price per PU		

kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V (also compatible with type of coordination "1")

	3RV20			3RT20	3RA		ToC 2			
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1BB42	1921-1DA00	3RA2210-0BD15-2BB4	1	1 unit	41D
	0.06	0.2	0.18 ... 0.25	11-0CA10		+ 2913-1DB1	3RA2210-0CD15-2BB4	1	1 unit	41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			3RA2210-0DD15-2BB4	1	1 unit	41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			3RA2210-0ED15-2BB4	1	1 unit	41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			3RA2210-0FD15-2BB4	1	1 unit	41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			3RA2210-0GD15-2BB4	1	1 unit	41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			3RA2210-0HD15-2BB4	1	1 unit	41D
	0.25	0.85	0.7 ... 1	11-0JA10			3RA2210-0JD15-2BB4	1	1 unit	41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			3RA2210-0KD15-2BB4	1	1 unit	41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			3RA2210-1AD15-2BB4	1	1 unit	41D
	0.75	1.9	1.4 ... 2	11-1BA10			3RA2210-1BD15-2BB4	1	1 unit	41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			3RA2210-1CD15-2BB4	1	1 unit	41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			3RA2210-1DD15-2BB4	1	1 unit	41D
	1.5	3.6	2.8 ... 4	11-1EA10			3RA2210-1ED15-2BB4	1	1 unit	41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40	2921-1BA00	3RA2220-1FD24-0BB4	1	1 unit	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2923-1DB1	3RA2220-1GD24-0BB4	1	1 unit	41D
	3	6.5	5.5 ... 8	11-1HA10			3RA2220-1HD24-0BB4	1	1 unit	41D
	4	8.5	7 ... 10	11-1JA10			3RA2220-1JD24-0BB4	1	1 unit	41D
	5.5	11.5	9 ... 12.5	11-1KA10			3RA2220-1KD24-0BB4	1	1 unit	41D
	7.5	15.5	10 ... 16	21-4AA10	26-1BB40		3RA2220-4AD26-0BB4	1	1 unit	41D
	7.5	15.5	13 ... 20	21-4BA10	27-1BB40		3RA2220-4BD27-0BB4	1	1 unit	41D
	11	22	16 ... 22	21-4CA10			3RA2220-4CD27-0BB4	1	1 unit	41D
	11	22	18 ... 25	21-4DA10			3RA2220-4DD27-0BB4	1	1 unit	41D
	15	28	23 ... 28	21-4NA10			3RA2220-4ND27-0BB4	1	1 unit	41D
	15	29 ⁴⁾	27 ... 32	21-4EA10			3RA2220-4ED27-0BB4	1	1 unit	41D
S2	15	29	22 ... 32	32-4EA10	35-1NB30	2931-1AA00	Size S2 is only available for self-assembly.			
	18.5	35	28 ... 36	32-4PA10		+ 2933-1DB1				
	18.5	35	32 ... 40	32-4UA10						
	22	41	35 ... 45	32-4VA10	36-1NB30					
	22	41	42 ... 50	32-4WA10						
	30	55	49 ... 59	32-4XA10	37-1NB30					
	30	55	54 ... 65	32-4JA10						
	37 ⁵⁾	66	62 ... 73	32-4KA10	38-1NB30					

Type of coordination "1" at $I_q = 150$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".						ToC 1			
1.5	3.6	3.5 ... 5	11-1FA10	15-1BB42	1921-1DA00	3RA2210-1FD15-2BB4	1	1 unit	41D	
2.2	4.9	4.5 ... 6.3	11-1GA10		+ 2913-1DB1	3RA2210-1GD15-2BB4	1	1 unit	41D	
3	6.5	5.5 ... 8	11-1HA10			3RA2210-1HD15-2BB4	1	1 unit	41D	
4	8.5	7 ... 10	11-1JA10	16-1BB42		3RA2210-1JD16-2BB4	1	1 unit	41D	
5.5	11.5	9 ... 12.5	11-1KA10	17-1BB42		3RA2210-1KD17-2BB4	1	1 unit	41D	
7.5	15.5	10 ... 16	11-4AA10	18-1BB42		3RA2210-4AD18-2BB4	1	1 unit	41D	

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

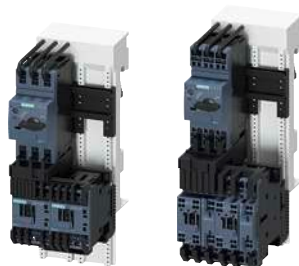
³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

Load feeders and motor starters for use in the control cabinet

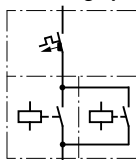
SIRIUS 3RA2 load feeders

3RA22 reversing starters > for 60 mm busbars **IE3/IE4 ready** **AC-3e**


3RA2210

3RA2220

Reversing operation



Rated control supply voltage 24 V DC With spring-loaded terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches¹⁾ on the motor starter protector and the contactor can be easily fitted thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-phase motor 4-pole at 400 V AC ²⁾	Adjustable current response value of the inverse-time delayed overload release	Comprising the following single devices			Fuseless load feeder	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Spring-loaded terminals			
						Article No.	Basic price per PU		



kW A A

Type of coordination "2" at $I_q = 150$ kA at 400 V (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29			
							ToC 2		
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2BB42	11-2AA00	3RA2210-0BH15-2BB4	1	1 unit 41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 13-1DB2	3RA2210-0CH15-2BB4	1	1 unit 41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			3RA2210-0DH15-2BB4	1	1 unit 41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			3RA2210-0EH15-2BB4	1	1 unit 41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			3RA2210-0FH15-2BB4	1	1 unit 41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			3RA2210-0GH15-2BB4	1	1 unit 41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			3RA2210-0HH15-2BB4	1	1 unit 41D
	0.25	0.85	0.7 ... 1	11-0JA20			3RA2210-0JH15-2BB4	1	1 unit 41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			3RA2210-0KH15-2BB4	1	1 unit 41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			3RA2210-1AH15-2BB4	1	1 unit 41D
	0.75	1.9	1.4 ... 2	11-1BA20			3RA2210-1BH15-2BB4	1	1 unit 41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			3RA2210-1CH15-2BB4	1	1 unit 41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			3RA2210-1DH15-2BB4	1	1 unit 41D
	1.5	3.6	2.8 ... 4	11-1EA20			3RA2210-1EH15-2BB4	1	1 unit 41D
	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	3RA2220-1FH24-0BB4	1	1 unit 41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 23-1DB2	3RA2220-1GH24-0BB4	1	1 unit 41D
S0	3	6.5	5.5 ... 8	21-1HA20			3RA2220-1HH24-0BB4	1	1 unit 41D
	4	8.5	7 ... 10	21-1JA20			3RA2220-1JH24-0BB4	1	1 unit 41D
	5.5	11.5	9 ... 12.5	21-1KA20			3RA2220-1KH24-0BB4	1	1 unit 41D
	7.5	15.5	10 ... 16	21-4AA20	26-2BB40		3RA2220-4AH26-0BB4	1	1 unit 41D
	7.5	15.5	13 ... 20	21-4BA20	27-2BB40		3RA2220-4BH27-0BB4	1	1 unit 41D
	11	22	16 ... 22	21-4CA20			3RA2220-4CH27-0BB4	1	1 unit 41D
	11	22	18 ... 25	21-4DA20			3RA2220-4DH27-0BB4	1	1 unit 41D
	15	28	23 ... 28	21-4NA20			3RA2220-4NH27-0BB4	1	1 unit 41D
	15	29 ⁴⁾	27 ... 32	21-4EA20			3RA2220-4EH27-0BB4	1	1 unit 41D

Type of coordination "1" at $I_q = 150$ kA at 400 V (the motor starter protector is compatible with type of coordination "2")

S00	For load feeders for lower outputs, see this table at type of coordination "2".								
							ToC 1		
1.5	3.6	3.5 ... 5	11-1FA20	15-2BB42	11-2AA00	3RA2210-1FH15-2BB4	1	1 unit	41D
2.2	4.9	4.5 ... 6.3	11-1GA20		+ 13-1DB2	3RA2210-1GH15-2BB4	1	1 unit	41D
3	6.5	5.5 ... 8	11-1HA20			3RA2210-1HH15-2BB4	1	1 unit	41D
4	8.5	7 ... 10	11-1JA20	16-2BB42		3RA2210-1JH16-2BB4	1	1 unit	41D
5.5	11.5	9 ... 12.5	11-1KA20	17-2BB42		3RA2210-1KH17-2BB4	1	1 unit	41D
7.5	15.5	10 ... 16	11-4AA20	18-2BB42		3RA2210-4AH18-2BB4	1	1 unit	41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

Overview

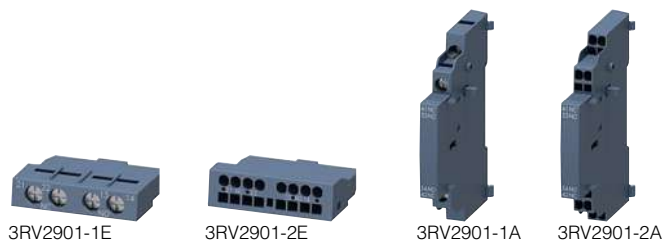
The accessories listed here are parts and add-ons for the 3RA2 direct-on-line and reversing starters as well as

components for the customer assembly of fuseless load feeders.

Selection and ordering data

Accessories for motor starter protectors

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E



Version	For motor starter protectors	Screw terminals	Spring-loaded terminals
Article No.	Price per PU	Article No.	Price per PU
Size			

Auxiliary switches¹⁾

Transverse auxiliary switches

For front mounting

1 CO	S00 ... S3
1 NO + 1 NC	
2 NO	

3RV2901-1D
3RV2901-1E
3RV2901-1F

--
3RV2901-2E
3RV2901-2F

Lateral auxiliary switches

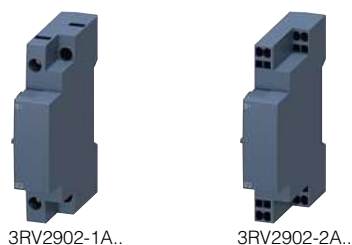
For mounting on the left

1 NO + 1 NC	S00 ... S3
-------------	------------

3RV2901-1A

3RV2901-2A

¹⁾ Each motor starter protector can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switch with 2 NO + 2 NC is used without a transverse auxiliary switch.



PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41E

Rated control supply voltage U_s				For motor starter protectors	Screw terminals	Spring-loaded terminals
AC 50 Hz	AC 60 Hz	AC 50/60 Hz 100% ON period ¹⁾	AC/DC 50/60 Hz, DC 5 s ON period ²⁾		Article No.	Price per PU
V	V	V	V	Size	Article No.	Price per PU

Auxiliary releases for motor starter protectors³⁾

Undervoltage releases

230	240	--	--	S00 ... S3
-----	-----	----	----	------------

3RV2902-1AP0

3RV2902-2AP0

Shunt releases

--	--	210 ... 240	190 ... 330	S00 ... S3
----	----	-------------	-------------	------------

3RV2902-1DP0

3RV2902-2DP0

- ¹⁾ The voltage range is valid for 100% (infinite) ON period. The response voltage lies at 0.9 of the lower limit of the voltage range.
- ²⁾ The voltage range is valid for 5 s ON period at 50/60 Hz AC and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.
- ³⁾ One auxiliary release can be mounted on the right per motor starter protector (does not apply to 3RV21 motor starter protectors with overload relay function).

For the complete range of accessories for the motor starter protectors, [see page 7/47 onwards](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

Accessories for contactors

For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size						
Auxiliary switches for snapping onto the front of contactors						
	Cable entry from below		Screw terminals 			
	S00 ... S3	1-pole - 1 NO - 1 NC	3RH2911-1BA10 3RH2911-1BA01	1 1	1 unit 1 unit	41B 41B
	S00 ... S3	2-pole - 1 NO + 1 NC - 2 NO	3RH2911-1MA11 3RH2911-1MA20	1 1	1 unit 1 unit	41B 41B
Auxiliary switches for contactors, for lateral mounting						
	S00	2 NC	Screw terminals 	1	1 unit	41B
	S00	1 NO + 1 NC	3RH2911-1DA11	1	1 unit	41B
	S00	2 NO	3RH2911-1DA20	1	1 unit	41B
	S0/S3	2 NC	3RH2921-1DA02	1	1 unit	41B
	S0/S3	1 NO + 1 NC	3RH2921-1DA11	1	1 unit	41B
	S0/S3	2 NO	3RH2921-1DA20	1	1 unit	41B
	S00	2 NC	Spring-loaded terminals 	1	1 unit	41B
	S00	1 NO + 1 NC	3RH2911-2DA11	1	1 unit	41B
	S00	2 NO	3RH2911-2DA20	1	1 unit	41B
	S0/S3	2 NC	3RH2921-2DA02	1	1 unit	41B
	S0/S3	1 NO + 1 NC	3RH2921-2DA11	1	1 unit	41B
	S0/S3	2 NO	3RH2921-2DA20	1	1 unit	41B
Connection module (adapter and plug) for contactors with screw terminals (can only be used for direct-on-line starters)						
	The connection module comprises an adapter and a motor feeder connector.		Screw terminals 			
	Adapters Ambient temperature $T_{U \max.} = 60^\circ\text{C}$					
	S00	Rated operational current I_e at AC-3 and AC-3e/400 V: 20 A	3RT1916-4RD01	1	1 unit	41B
	S0	Rated operational current I_e at AC-3 and AC-3e/400 V: 25 A	3RT1926-4RD01	1	1 unit	41B
Motor feeder connector						
S00, S0	--		3RT1900-4RE01	1	1 unit	41B

For the complete range of accessories for the 3RT contactors, see [page 3/69 onwards](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

For contactors	Version	Rated control supply voltage U_s ¹⁾		Article No. ²⁾	Price per PU	PU (UNIT, SET, M)	PS*	PG
		AC operation	DC operation					
Type		V AC	V DC					

Surge suppressors without LED for contactors (also for spring-loaded terminals)

Size S00

For plugging onto the front side of the contactors (with or without auxiliary switches)



3RT2916-1B.00

3RT2.1	Varistors	24 ... 48	24 ... 70	3RT2916-1BB00 3RT2916-1BD00		1	1 unit	41B
		127 ... 240	150 ... 250					
3RT2.1	RC element	24 ... 48	24 ... 70	3RT2916-1CB00 3RT2916-1CD00		1	1 unit	41B
		127 ... 240	150 ... 250					
3RT2.1	Interference suppression diode	--	12 ... 250	3RT2916-1DG00		1	1 unit	41B
3RT2.1	Diode assemblies (diode and Zener diode) For DC operation	--	12 ... 250	3RT2916-1EH00		1	1 unit	41B

Size S0

For plugging onto the front side of the contactors (before installing the auxiliary switch)



3RT2926-1E.00

3RT2.2	Varistors ²⁾	24 ... 48	24 ... 70	3RT2926-1BB00 3RT2926-1BD00		1	1 unit	41B
		127 ... 240	150 ... 250					
3RT2.2	RC element	24 ... 48	24 ... 70	3RT2926-1CB00 3RT2926-1CD00		1	1 unit	41B
		127 ... 240	150 ... 250					
3RT2.2	Diode assemblies For DC operation	--	24	3RT2926-1ER00 3RT2926-1ES00		1	1 unit	41B
		--	30 ... 250					

Size S2

For plugging onto the front side of the contactors (before installing the auxiliary switch)



3RT2936-1B.00

3RT2.3	Varistors ²⁾	24 ... 48	--	3RT2936-1BB00 3RT2936-1BD00		1	1 unit	41B
		127 ... 240	--					
3RT2.3	RC element	24 ... 48	24 ... 70	3RT2936-1CB00 3RT2936-1CD00		1	1 unit	41B
		127 ... 240	150 ... 250					
3RT2.3	Diode assemblies For DC operation	--	24	3RT2936-1ER00 3RT2936-1ES00		1	1 unit	41B
		--	30 ... 250					

Size S3

For plugging onto the front side of the contactors (before installing the auxiliary switch)



3RT2936-1B.00

3RT2.4	Varistors ²⁾	24 ... 48	--	3RT2936-1BB00 3RT2936-1BD00		1	1 unit	41B
		127 ... 240	--					
3RT2.4	Diode assemblies For DC operation	--	24	3RT2936-1ER00 3RT2936-1ES00		1	1 unit	41B
		--	30 ... 250					

For plugging into the two recesses on the left of the connection block for auxiliary switches and coils A1 and A2. The connecting cables are wired to A1 and A2, see also page 3/11.



3RT2946-1C.00

3RT2.4	RC element	24 ... 48	24 ... 70	3RT2946-1CB00 3RT2946-1CD00		1	1 unit	41B
		127 ... 240	150 ... 250					

¹⁾ Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

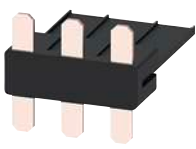
²⁾ The varistor is already integrated on the AC/DC contactors.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

Accessories for the customer assembly of fuseless load feeders

	For motor starter protectors	For contactors	Control circuit voltage contactors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size						
Link modules from motor starter protector to contactor ¹⁾								
 3RA2921-1AA00	Connection between motor starter protector and contactor with screw terminals			Screw terminals 				
	Single-unit packaging							
	S00/S0	S00	AC/DC	3RA1921-1DA00		1	1 unit	41B
	S00/S0	S0	AC	3RA2921-1AA00		1	1 unit	41B
	S00/S0	S0	DC, AC/DC	3RA2921-1BA00		1	1 unit	41B
 3RA2931-1AA00	S2	S2	AC, DC, AC/DC	3RA2931-1AA00		1	1 unit	41B
	S3	S3	AC, DC, AC/DC	3RA1941-1AA00		1	1 unit	41B
 3RA1941-1AA00	Multi-unit packaging							
	S00/S0	S00	AC/DC	3RA1921-1D		1	10 units	41B
	S00/S0	S0	AC	3RA2921-1A		1	10 units	41B
	S00/S0	S0	DC, AC/DC	3RA2921-1B		1	10 units	41B
	S2	S2	AC, DC, AC/DC	3RA2931-1A		1	5 units	41B
 3RA1941-1AA00	S3	S3	AC, DC, AC/DC	3RA1941-1A		1	5 units	41B
 3RA2911-2AA00	Connection between motor starter protector and contactor with spring-loaded terminals			Spring-loaded terminals 				
	Single-unit packaging							
	S00	S00	AC/DC	3RA2911-2AA00		1	1 unit	41B
	S0	S0	AC ²⁾ , DC, AC/DC	3RA2921-2AA00		1	1 unit	41B
	Multi-unit packaging							
 3RA2911-2AA00	S00	S00	AC/DC	3RA2911-2A		1	10 units	41B
	S0	S0	AC ²⁾ , DC, AC/DC	3RA2921-2A		1	10 units	41B
Hybrid link modules from motor starter protector to contactor ³⁾								
 3RA2911-2FA00	Connection between motor starter protector with screw terminals and contactor with spring-loaded terminals							
	Single-unit packaging							
	S00	S00	AC/DC	3RA2911-2FA00		1	1 unit	41B
 3RA2921-2FA00	S0	S0	AC ²⁾ , DC, AC/DC	3RA2921-2FA00		1	1 unit	41B
	Multi-unit packaging							
	S00	S00	AC/DC	3RA2911-2F		1	10 units	41B
 3RA2921-2FA00	S0	S0	AC ²⁾ , DC, AC/DC	3RA2921-2F		1	10 units	41B

¹⁾ The link modules from motor starter protector to contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

²⁾ A spacer for height compensation on AC contactors, size S0, is optionally available, [see page 8/54](#).

³⁾ The hybrid link modules for motor starter protector to contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are only suitable for assembling direct-on-line starters.

Note:

Link modules can be used in

- Size S00 up to max. 16 A
- Size S0 up to max. 32 A
- Size S2 up to max. 65 A

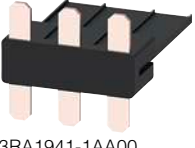
Hybrid link modules can be used in

- Size S00 up to max. 16 A
- Size S0 up to max. 32 A

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

For motor starter protectors	For 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Size					
Link modules for motor starter protector to soft starter¹⁾ and motor starter protector to solid-state contactor¹⁾						
 3RA2921-1BA00	Connection between motor starter protector and soft starter/solid-state contactor with screw terminals		Screw terminals 			
	Single-unit packaging					
	S00/S0	S00/S0	3RA2921-1BA00	1	1 unit	41B
	S2 ²⁾	S2	3RA2931-1AA00	1	1 unit	41B
 3RA2931-1AA00	S3 ³⁾	S3	3RA1941-1AA00	1	1 unit	41B
	Multi-unit packaging					
	S00/S0	S00/S0	3RA2921-1B	1	10 units	41B
	S2 ²⁾	S2 ²⁾	3RA2931-1A	1	5 units	41B
 3RA1941-1AA00	S3 ³⁾	S3 ³⁾	3RA1941-1A	1	5 units	41B
	Connection between motor starter protector and soft starter with spring-loaded terminals		Spring-loaded terminals 			
	Single-unit packaging					
	S00	S00	3RA2911-2GA00	1	1 unit	41B
 3RA2921-2GA00	S0	S0	3RA2921-2GA00	1	1 unit	41B

- ¹⁾ The link modules from motor starter protector to soft starter and motor starter protector to solid-state contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- ²⁾ To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 DIN-rail adapter must be used.
- ³⁾ It is only permitted to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.

Note:

Link modules can be used in

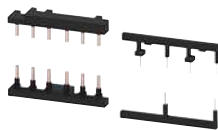
- Size S00 up to max. 16 A
- Size S0 up to max. 32 A
- Size S2 up to max. 65 A

Load feeders and motor starters for use in the control cabinet

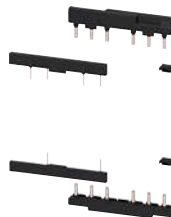
SIRIUS 3RA2 load feeders

Accessories

PU (UNIT, SET, M) = 1
 PS* = 1 unit (unless otherwise specified)
 PG = 41B



3RA2923-2AA1



3RA2933-2AA1



3RA2923-2AA2

For contactors	Size	Version	Screw terminals 		Spring-loaded terminals 	
Type			Article No.	Price per PU	Article No.	Price per PU
Assembly kits for reversing contactor assemblies for making 3-pole contactor assemblies						
3RT201	S00-S00	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom • For main, auxiliary and control circuits				
			3RA2913-2AA1		3RA2913-2AA2	
3RT202	S0-S0	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom • For main, auxiliary and control circuits ¹⁾ • Only for main circuit ²⁾				
			3RA2923-2AA1		--	
			--		3RA2923-2AA2	
3RT203	S2-S2	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/108) • For main and auxiliary circuits • Only for main circuit ³⁾				
			3RA2933-2AA1		--	
			--		3RA2933-2AA2	
3RT204	S3-S3	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/108) • For main and auxiliary circuits • Only for main circuit ³⁾				
			3RA2943-2AA1		--	
			--		3RA2943-2AA2	

¹⁾ Use of the 3RA2923-2AA1 assembly kit in conjunction with the 3RT202-.....-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch.

²⁾ Version in size S0 with spring-loaded terminals:
Only the wiring modules for the main circuit are included.
No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-loaded terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included.
A cable set is included for the auxiliary circuit.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size						

Safety main circuit connectors for two contactors



3RA2916-1A

For switching two contactors in series

Screw terminals



S00
S0
S2

3RA2916-1A	1	1 unit	41B
3RA2926-1A	1	1 unit	41B
3RA2936-1A	1	1 unit	41B

For motor starter protectors	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Mounting rails for mounting contactors for the customer assembly of 3RA21 load feeders with busbar adapters for 60 mm systems



8US1998-7CB45

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S0

For the discrete configuration of direct-on-line starters a further mounting rail is needed for the contactor in addition to the mounting rail for the motor starter protector existing on the busbar adapter.
For pushing onto the device adapter, including fixing screws

8US1998-7CB45	1	10 units	140
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DIN-rail adapters



3RA2922-1AA00

S00, S00 S00, S00
S00, S00 S00, S00
S00, S0 S00, S0
S00, S0 S00, S0
S2 S2
S2 S2
S3 S3
S3 S3

For mechanical fixing of motor starter protector and contactor; for snapping onto DIN rail or for screw fixing

Short, single-unit packaging
Short, multi-unit packaging
Single-unit packaging
Multi-unit packaging
Single-unit packaging
Multi-unit packaging
Single-unit packaging
Multi-unit packaging

3RA2922-1BA00	1	1 unit	41B
3RA2922-1B	1	5 units	41B
3RA2922-1AA00	1	1 unit	41B
3RA2922-1A	1	5 units	41B
3RA2932-1AA00	1	1 unit	41B
3RA2932-1A	1	5 units	41B
3RA2942-1AA00	1	1 unit	41B
3RA2942-1A	1	5 units	41B



3RA2932-1CA00

S2

S2

For mechanical fixing of motor starter protector and soft starter; for snapping onto DIN rail or for screw fixing

Single-unit packaging

3RA2932-1CA00	1	1 unit	41B
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Side modules for DIN-rail adapters



3RA2902-1B

S00 ... S3 S00 ... S3

For DIN-rail adapters 10 mm wide, 96 mm long; for widening DIN-rail adapters when using lateral auxiliary switches, 2 units required

3RA2902-1B	1	10 units	41B
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Connecting wedges



8US1998-1AA00

For mechanical linking of DIN-rail adapters (2 units required for mounting)

8US1998-1AA00	100	100 units	140
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Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

	For motor starter protectors	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RH mounting kits for reversing operation and DIN-rail mounting								
RH mounting kits for screw terminals				Screw terminals 				
 3RA2923-1BB1	S0	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Fixing accessories Link modules must be ordered separately.	3RA2923-1BB1		1	1 unit	41B
	S2	S2	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two side modules • Four connecting wedges • Mechanical interlocks • Two connectors for two contactors • Fixing accessories Link modules must be ordered separately.	3RA2933-1BB1		1	1 unit	41B
	S3	S3	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Three side modules • Six connecting wedges • Mechanical interlocks • Two connectors for two contactors • Fixing accessories Link modules must be ordered separately.	3RA2943-1BB1		1	1 unit	41B
RH mounting kits for spring-loaded terminals				Spring-loaded terminals 				
 3RA2923-1BB2	S0	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Two spacers • Fixing accessories Link modules must be ordered separately.	3RA2923-1BB2		1	1 unit	41B
Push-in lugs for screw fixing								
 3RV2928-0B	S00, S0	--	For screw fixing of motor starter protector (of the load feeder) on mounting plates; 2 units are required for each motor starter protector	3RV2928-0B		100	10 units	41E

For overview graphics for RH mounting kits, see page 8/13 onwards.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

Busbar adapters



8US1251-5DS10



8US1251-5DT11



8US1250-5AS10



8US1250-5AT10

For load feeders	Rated current	Connect- ing cable	Adapter length	Adapter width	Rated voltage	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	A	AWG	mm	mm	V					
Busbar adapters for 60 mm systems										
For copper busbars according to DIN 46433 Width: 12 mm and 30 mm Thickness: 5 mm and 10 mm and for T and double-T special profiles										
• For load feeders with screw terminals						Screw terminals 				
S00/S0	25	12	200	45	690	8US1251-5DS10		1	1 unit	14O
S00 (motor starter protector)/ S0 (contactor)	25	12	260	45	690	8US1251-5DT10		1	1 unit	14O
S0	32	10	200	45	690	8US1251-5NS10		1	1 unit	14O
S0	32	10	260	45	690	8US1251-5NT10		1	1 unit	14O
S2	80	4	260	55	690	8US1261-6MT10		1	1 unit	14O
S2 ¹⁾	80	4	260	118	690	8US1211-6MT10		1	1 unit	14O
• For load feeders with spring-loaded terminals						Spring-loaded terminals 				
S00	25	12	200	45	690	8US1251-5DS11		1	1 unit	14O
S00/S0	25	12	260	45	690	8US1251-5DT11		1	1 unit	14O
S0	32	10	200	45	690	8US1251-5NS11		1	1 unit	14O
S0	32	10	260	45	690	8US1251-5NT11		1	1 unit	14O
Accessories²⁾										
Device holders										
For lateral attachment to busbar adapters	--	--	200	45	--	8US1250-5AS10		1	1 unit	14O
	--	--	260	45	--	8US1250-5AT10		1	1 unit	14O
Side modules										
For widening busbar adapters	--	--	200	9	--	8US1998-2BJ10		1	10 units	14O
Vibration and shock kits										
For high vibration and shock loads	--	--	--	--	--					
S2	--	--	--	--	--	8US1998-1DA10		1	1 unit	14O

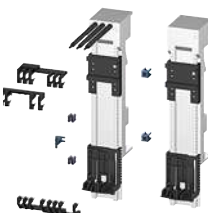
¹⁾ For the assembly of load feeders for reversing starters comprising a motor starter protector and two contactors.

²⁾ Additional mounting rails for busbar adapters, [see page 8/51](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

	For motor starter protectors Size	For contactors Size	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RS mounting kits for reversing operation and 60 mm busbar systems								
RS mounting kits for screw terminals				Screw terminals 				
	S00, S0	S00	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Device holders • Two connecting wedges • Mechanical interlocks • Two connecting clips for two contactors • Fixing accessories Link modules must be ordered separately.	3RA2913-1DB1		1	1 unit	41B
	S0	S0		3RA2923-1DB1		1	1 unit	41B
	S00	S0		3RA2923-1EB1		1	1 unit	41B
	S2	S2	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Mechanical interlocks • Two connectors for two contactors • Fixing accessories Link modules must be ordered separately.	3RA2933-1DB1		1	1 unit	41B
RS mounting kits for spring-loaded terminals				Spring-loaded terminals 				
	S00, S0	S00, S0	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Device holders • Two connecting wedges • Mechanical interlocks • Two connectors for two contactors • Two spacers (for size S0 only) • Fixing accessories Link modules must be ordered separately.	3RA2913-1DB2		1	1 unit	41B
				3RA2923-1DB2		1	1 unit	41B

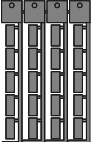
For overview graphics for RS mounting kits, see [page 8/16 onwards](#).

	For motor starter protectors Size	For contactors Size	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Connecting wedges								
			For mechanical linking of busbar adapters and device holders	8US1998-1AA10		1	50 units	14O
Spacers								
			For height compensation on AC contactors size S0 with spring-loaded terminals	Spring-loaded terminals 				
	S0	S0	Single-unit packaging	3RA2911-1CA00		1	1 unit	41B
	S0	S0	Multi-unit packaging	3RA2911-1C		1	5 units	41B

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spring-loaded terminals					
 3RA2908-1A	Screwdriver For all SIRIUS devices with spring-loaded terminals Length, approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Spring-loaded terminals 			
	3RA2908-1A		1	1 unit	41B
Blank labels					
 3RT2900-1SB20	Unit labeling plates¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	3RT2900-1SB20	100	340 units	41B
Manuals					
	Configuration Manual for load feeders see https://support.industry.siemens.com/cs/ww/en/view/39714188 .				

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA2 load feeders

3RV29 infeed system for load feeders

Overview

Types of infeed for 3RA2 fuseless load feeders

On the whole four different power infeed possibilities are available:

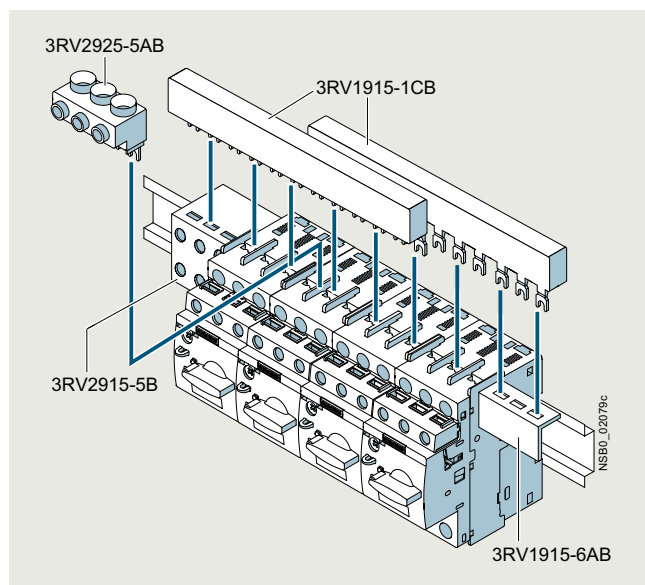
- Parallel wiring
- Use of 3-phase busbars (combination with SIRIUS motor starter protectors and contactors possible)
- 8US busbar adapters
- SIRIUS 3RV29 infeed systems

Insulated 3-phase busbar system

3-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RA2 load feeders with screw terminals. Different versions are available for sizes S00 and S0 and can also be used for the various different types of motor starter protectors.

The busbars are suitable for between two and five feeders. However, any kind of extension is possible by clamping the connection tags of an additional busbar (rotated 180°) underneath the terminals of the respective last motor starter protector.

A combination of feeders of different sizes is possible with sizes S00 and S0. Connecting pieces are available for this purpose. The motor starter protectors are supplied by appropriate infeed terminals.



SIRIUS 3-phase busbar system size S00/S0

The 3-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor starter protectors.

The 3-phase busbar systems can also be used to construct "Starters (Type E)" of size S0 or S2 according to UL/CSA. However, special infeed terminals must be used for this purpose, [see page 7/52](#).

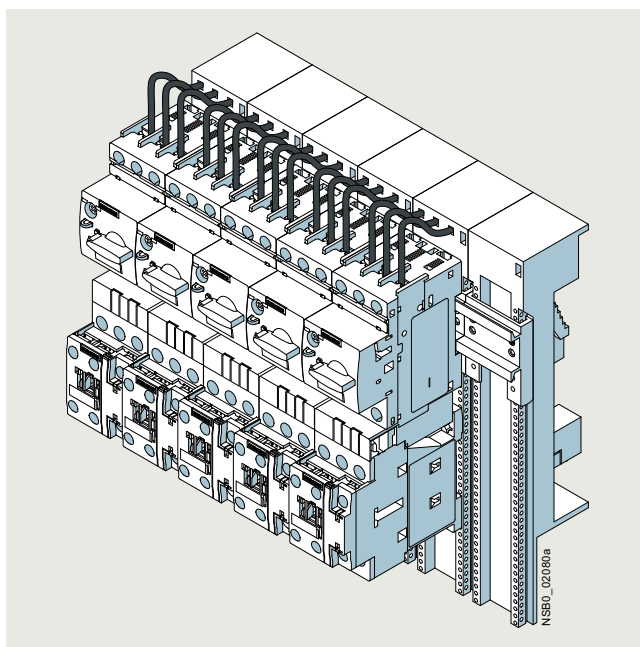
8US busbar adapters for 60 mm systems

The load feeders are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

The busbar adapters for busbar systems with 60 mm center-to-center clearance are suitable for copper busbars with a width of 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The feeders are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

"Selection and ordering data", [see page 8/53](#).



SIRIUS load feeders with busbar adapters snapped onto busbars

SIRIUS 3RV29 infeed system

The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with screw or spring-loaded terminals up to size S0.

The system is based on a basic module complete with a lateral incoming unit (3-phase busbar with infeed) which has two slots.

Expansion modules are available for extending the system (3-phase busbars for system expansion).

3RV29 infeed system, [see page 7/67](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Overview

3RA6 fuseless compact starters and infeed system for 3RA6



3RA62 reversing starter

Integrated functionality

The SIRIUS 3RA6 compact starters are a generation of special load feeders with the integrated functionality of a motor starter protector, contactor and electronic overload relay. In addition, various functions of optional mountable accessories (e.g. auxiliary switches, surge suppressors) are already integrated in the SIRIUS compact starter.



3RA6 compact starters with the integrated functionality of a motor starter protector, contactor and electronic overload relay

Applications

SIRIUS compact starters can be used wherever standard three-phase motors or resistive loads up to 32 A (approx. 15 kW/400 V) are directly started or switched.

The compact starters are not suitable for the protection of DC loads.

Approvals according to IEC, UL, CSA and CCC standards have been issued for the compact starters.

More information

Homepage, see www.siemens.com/sirius-compact-starters

Industry Mall, see www.siemens.com/product?3RA6

Online configurator, see www.siemens.com/sirius/configurators

Very high operational reliability

The high short-circuit breaking capacity and defined shutdown when the end of service life is reached mean that the SIRIUS compact starter achieves a very high level of operational reliability that would otherwise have only been possible with considerable additional outlay. This sets it apart from devices with similar functionality.

Safe disconnection

The auxiliary switches (NC contacts) of the 3RA6 compact starters are designed as mirror contacts. This enables their use for safe disconnection, e.g. EMERGENCY STOP up to SIL 1 (IEC 62061) or PL c (ISO 13849-1) or, if used in conjunction with an additional infeed contactor, up to SIL 3 (IEC 62061) or PL e (ISO 13849-1).

Communication link through AS-Interface

For communication link through AS-Interface there is an AS-i add-on module available in several versions for mounting instead of the control circuit terminals on the SIRIUS compact starter.

The design of the AS-i add-on module permits a group of up to 62 feeders with a total of four cables to be connected to the control system. This reduces wiring work considerably compared to the parallel wiring method.

Communication link through IO-Link

Up to four compact starters in IO-Link version (reversing and direct-on-line starters) can be connected together and conveniently linked to the IO-Link master through a standardized IO-Link connection.

The IO-Link connection enables a high density of information in the local range.

For details regarding the communication link using IO-Link, see [page 2/88 onwards](#).

The diagnostics data of the process collected by the 3RA6 compact starter, e.g. short circuit, end of service life, limit position, etc., are not only indicated on the compact starter itself but also transmitted to the higher-level control system through IO-Link.

Thanks to the optionally available operator panel, which can be installed in the control cabinet door, it is easy to control the 3RA6 compact starters with IO-Link from the control cabinet door.

Permanent wiring/easy replacement

Using the SIRIUS infeed system for 3RA6 (see [page 8/76](#)), it is possible to carry out the wiring in advance without a compact starter having to be connected.

A compact starter is very easily replaced simply by pulling it out of the device without disconnecting the wiring.

Even with screw fixing or mounting on a DIN rail there is no need to disconnect any wiring (on account of the removable main and control circuit terminals) in order to replace a compact starter.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Consistent solution from the infeed to the motor feeder

The SIRIUS feeder system for 3RA6 with integral PE bar is available as a user-friendly system for supplying summation current up to 100 A with a maximum conductor cross-section of 70 mm² and for direct connection of the motor cable without additional intermediate terminals.

Screw and spring-loaded terminals

The SIRIUS compact starters and the infeed system for 3RA6 are available with screw and spring-loaded terminals.



Screw terminals



Spring-loaded terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

System configurator for engineering

A free system configurator is available to reduce further the amount of engineering work for selecting the required compact starters and matching infeed.

Use of load feeders in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS 3RA6 compact starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, [see Application Manual](#).

For more information, [see page 1/8](#).

Types of infeed for the 3RA6 fuseless compact starters

On the whole four different infeed possibilities are available:

- Parallel wiring
- Use of 3-phase busbars (combination with SIRIUS motor starter protectors and SIRIUS contactors possible)
- 8US busbar adapters
- SIRIUS infeed system for 3RA6 ([see page 8/76](#))

To comply with the clearance and creepage distances required according to UL 508, there are the following infeed possibilities:

Type of infeed	Infeed terminal (according to UL 508, Type E)	Type
Parallel wiring	Terminal block for "Self-Protected Combination Motor Controller (Type E)"	3RV2928-1H
3-phase busbars	3-phase infeed terminal for constructing "Starters (Type E)", UL 508	3RV2925-5EB
Infeed system for 3RA6	Infeed on left, 50/70 mm ² , screw terminal with 3 sockets, outgoing terminal with screw/spring-loaded terminals incl. PE bar	3RA6813-8AB (screw terminals), 3RA6813-8AC (spring-loaded terminals)

SIRIUS 3RA6 compact starters

SIRIUS 3RA6 compact starters are universal motor feeders according to IEC 60947-6-2. As control and protective switching devices (CPS) they can connect, convey and disconnect the thermal, dynamic and electrical loads from short-circuit currents up to $I_{cs} = 53$ kA, i.e. they are practically weld-free. They combine the functions of a motor starter protector, a contactor and an electronic overload relay in one enclosure. The versions available are the 45-mm-wide direct-on-line starters and the 90-mm-wide reversing starters.

The reversing starter version comes with not only an internal electrical interlock but also with a mechanical interlock to prevent simultaneous actuation of both directions of rotation.

The compact starters have isolating features in accordance with IEC 60947-2 and can be used as disconnector units (main control switch according to EN 60204 or VDE 0113). Isolation is effected by moving the handle into the "OFF" position; disconnection by means of the control contacts is not enough.

3RA6 fuseless compact starters are available in five current setting ranges. The 3RA61 and 3RA62 have two control voltage ranges (AC/DC), and the 3RA64 and 3RA65 have one control voltage range (DC):

Current setting range	At 400 V AC for three-phase motors Standard output P	Rated control supply voltage for	
		3RA61, 3RA62 compact starters	3RA64, 3RA65 compact starters for IO-Link
A	kW	V AC/DC	V DC
0.1 ... 0.4	0.09	24	24
0.32 ... 1.25	0.37	110 ... 240	
1 ... 4	1.5		
3 ... 12	5.5		
8 ... 32	15		

Notes:

The 3RA2 load feeders can be used for fuseless load feeders > 32 A up to 65 A. Load feeders in size S3 up to 100 A are available for customer assembly ([see also page 8/5](#)).

The SENTRON 3VL circuit breakers and the SIRIUS 3RT contactors can be used for fuseless load feeders > 100 A.

Operating conditions

The SIRIUS 3RA6 compact starters are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

The permissible ambient temperature during operation is -20 to +60 °C. The rated short-circuit current I_{cs} according to IEC 60947-6-2 is 53 kA at 400 V.

Note:

The maximum permissible short-circuit currents of the device versions for the various line system configurations and voltages are available upon request from Technical Support: www.siemens.com/support-request

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Overload tripping times

The tripping time in the event of overload can be set on the device to normal starting conditions (CLASS 10) and to heavy starting conditions (CLASS 20). As the breaker mechanism still remains closed after an overload, resetting is possible by either local Manual RESET or Auto RESET¹⁾ after three minutes cooling time.

With Auto RESET, there is no need to open the control cabinet.

Diagnostics options

The compact starter provides the following diagnostics options:

- With LEDs
 - Connection to the control voltage
 - Position of the main contacts
- With mechanical display
 - Tripping due to overload
 - Tripping due to short circuit
 - Tripping due to malfunction (end of service life reached because of worn switching contacts or a worn switching mechanism or faults in the control electronics)

These states can also be evaluated in the higher-level control system:

- With parallel wiring using the integrated auxiliary and signaling switches of the compact starter
- With AS-Interface or IO-Link in even greater detail using the respective communications interface

Four complement versions for 3RA61 and 3RA62 compact starters

- For DIN-rail mounting or screw fixing: basic version including one pair of main circuit terminals and one pair of control circuit terminals
- For DIN-rail mounting or screw fixing when using the AS-i add-on module: without control circuit terminals because the AS-i add-on module is plugged on instead
- For use in the infeed system for 3RA6: without main circuit terminals because they are supplied with the infeed system and the expansion modules
- For use in the infeed system for 3RA6 and AS-i add-on module: without terminal complement (also for reordering when replacing the compact starter)

The control circuit terminals are always required by the compact starters for IO-Link; the main circuit terminals depend on the use of the infeed system.

¹⁾ The Auto RESET function is not available for versions 3RA6120-B/C with a rated current of 1.25 A and 3RA6250-B/C with a rated current of 4 A. The reset can be alternatively carried out by disconnecting the supply voltage A1/A2 via the NC contacts 95/96 (overload signaling contact). The Auto RESET function is provided with this circuitry.

More components of the 3RA6

Apart from the control supply voltage, "Overload" (1 CO) and "Short circuit/Function fault" (1 NO) signaling contacts are already integrated into the 3RA61/3RA62 – and lockable via two 6-pole removable control circuit terminals. The 3RA61 has two auxiliary contacts (1 NO + 1 NC) for displaying the position of the main contacts. Unlike the 3RA61 direct-on-line starter, the 3RA62 reversing starter has one auxiliary contact (1 NO) per direction of rotation per main contact.

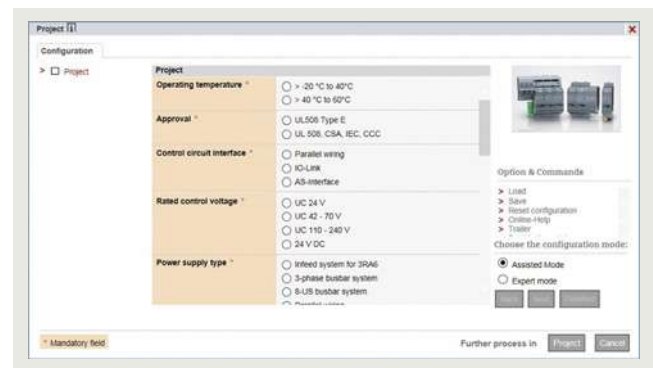
A slot for an optional auxiliary switch (either 2 NO, 2 NC or 1 NO + 1 NC) is available for the 3RA61 and 3RA64 direct-on-line starters. For the 3RA62 and 3RA65 reversing starters, two slots are available (auxiliary switches, see "Accessories", page 8/70).

Force-guided operation of the auxiliary contacts

Force-guided operation between individual auxiliary circuits exists for the compact starter in the version as a direct-on-line starter for parallel wiring (3RA61) between the auxiliary circuits of the NC contacts (NC 21-22) and the NO contacts (NO 13-14) in the basic unit.

In addition, the optional auxiliary switch offers force-guided contacts in the 3RA6913-1A version, each with one normally closed contact and one normally open contact.

Configurator



Configurator

Advantages:

- Simple usage – from individual compact starters or also with corresponding infeed system and AS-i connection
- In the final configuration, you will be presented with additional technical information such as CAD data and product data sheets as well as characteristic curves, operating instructions, manuals, etc.

See www.siemens.com/sirius/configurators

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Article number scheme

Product versions		Article number				
Compact starters		3RA6	☐	☐	☐	☐
Product function	Direct-on-line starter	1 2 0				For motor standard output 0.09 ... 15 kW ¹⁾
	Reversing starter	2 5 0				For motor standard output 0.09 ... 15 kW ¹⁾
	Direct-on-line starter for IO-Link	4 0 0				For motor standard output 0.09 ... 15 kW ¹⁾
	Reversing starter for IO-Link	5 0 0				For motor standard output 0.09 ... 15 kW ¹⁾
	Infeed system	8				
	Accessories	9				
	• Auxiliary switches	1	☐			
	• Terminals	2	☐			
	• IO-Link accessories	3	☐			
	• Fixing elements	4	☐			
	• Control kit	5	☐			
Connection methods	No terminals			0		
	Screw terminals			1		
	Spring-loaded terminals			2		
Setting range	0.1 ... 0.4 A			A		
	0.32 ... 1.25 A			B		
	1 ... 4 A			C		
	3 ... 12 A			D		
	8 ... 32 A			E		
Rated control supply voltage	24 V DC			B 4		For direct-on-line/reversing starters for IO-Link
	24 V AC/DC			B 3		For direct-on-line/reversing starters
	110 ... 240 V AC/DC			P 3		For direct-on-line/reversing starters
Terminal complement versions	None			0		Without main and control circuit terminals
	1/1			2		With 1 pair of main circuit and 1 pair of control circuit terminals
	0/1			3		Without main circuit terminals, with 1 pair of control circuit terminals
	1/0			4		With 1 pair of main circuit terminals, without control circuit terminals
Special versions						
Example		3RA6 1 2 0 - 0 A B 3 0				

¹⁾ Standard three-phase motor, basis 4-pole at 400 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

Product advantages

The SIRIUS 3RA6 compact starters offer a number of benefits:

- Compact design saves space in the control cabinet
- Little planning and assembly work and far less wiring thanks to a single complete unit with one article number
- Low variance and therefore low stock levels, with two wide voltage ranges and five wide setting ranges for the rated current
- High plant availability through integrated functionalities such as prevention of main contact welding and disconnection at end of service life
- Enhanced productivity through automatic device RESET¹⁾ in case of overload and differentiated detection of overload and short circuit
- Easy checking of the wiring and testing of the motor direction prior to startup thanks to optional control kits

¹⁾ The Auto RESET function is not available for versions 3RA6120-.B/.C with a rated current of 1.25 A and 3RA6250-.B/.C with a rated current of 4 A. The reset can be alternatively carried out by disconnecting the supply voltage A1/A2 via the NC contacts 95/96 (overload signaling contact). The Auto RESET function is provided with this circuitry.

- Quick replacement of devices thanks to removable terminals with spring-loaded and screw terminals in the main and control circuit
- Efficient power distribution through the related SIRIUS infeed system for 3RA6
- Direct connection of the motor feeder cable to the SIRIUS infeed system for 3RA6 thanks to integrated PE bar
- Connecting and looping through of incoming feeders up to a cross-section of 70 mm²
- When using the infeed system for 3RA6, possibility of directly connecting the motor cable without intermediate terminals
- Integration in Totally Integrated Automation thanks to the optional connection to AS-Interface or IO-Link

The SIRIUS 3RA6 compact starters create the basis for high-availability and future-proof machine concepts.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

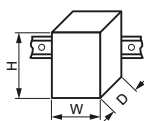
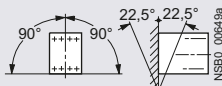
General data

Technical specifications

More information

Industry Mall, see www.siemens.com/product?3RA6
 System Manual, see <http://support.industry.siemens.com/cs/ww/en/view/27865747>.
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16301/faq>

Notes on security:
 In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.
 For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Type			3RA61	3RA62	3RA64	3RA65	
Mechanics and environment							
Mounting dimensions (W x H x D)							
• Screw terminals			mm	45 x 170 x 165	90 x 170 x 165	45 x 170 x 165	90 x 170 x 165
• Spring-loaded terminals			mm	45 x 191 x 165	90 x 191 x 165	45 x 191 x 165	90 x 191 x 165
Depth from DIN rail			mm	160			
Permissible ambient temperature							
• During operation (permissible operational current, see the following section "Electrical specifications")		°C	-20 ... +70, restriction as from 60 depending on design				
• During storage		°C	-55 ... +80				
• During transport		°C	-55 ... +80				
Permissible mounting position							
Shock resistance (sine-wave pulse)			a = 60 m/s² = 6 g with 10 ms; for every 3 shocks in all axes				
Vibratory load			f = 4 ... 5.8 Hz; d = 15 mm; f = 5.8 ... 500 Hz; a = 20 m/s²; 10 cycles				
Degree of protection IP on the front		According to IEC 60529	IP20				
Touch protection on the front		According to IEC 60529	Finger-safe for vertical touching from the front				
Installation altitude		m	Up to 2 000 above sea level without restriction				
Relative air humidity		%	10 ... 90				
Pollution degree			3				
Electrical specifications							
Device standard			IEC 60947-6-2				
Maximum rated operational voltage U _e		V	690				
		V	400 at 3RA6250-E... and 3RA6500-E... (Reversing starter 32 A versions)				
Rated frequency		Hz	50/60				
Rated insulation voltage U _i (pollution degree 3)		V	690				
Rated impulse withstand voltage U _{imp}		kV	6				
Rated current I _e ¹⁾		A	0.4				
and setting range for overload release		A	0.32 ... 1.25 A				
		A	1 ... 4 A				
		A	3 ... 12 A				
		A	8 ... 32 A				
Permissible operational current of the compact starter ²⁾							
When several compact starters are mounted side-by-side in the infeed system for 3RA6 (for more details on the various design versions, see System Manual)							
• For a control cabinet inside temperature of +40 °C		%	100				
• For a control cabinet inside temperature of +60 °C		%	80				
• For a control cabinet inside temperature of +70 °C		%	60				
Trip class (CLASS)		According to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	10/20				
Overload function		Ratio of lower to upper current mark	1:4				
Rated service short-circuit breaking capacity I _{CS} at 50/60 Hz, 400 V AC		kA	53				
Rated service short-circuit breaking capacity I _{CSIT} at 50/60 Hz 400/690 V AC in IT systems		kA	1.5				

¹⁾ For the use of 3RA6 compact starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

²⁾ Details about installation conditions and the use of the compact starters, and particularly about the derating of the rated current, can be found in the System Manual.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Type			3RA61	3RA62	3RA64	3RA65
Electrical specifications (continued)						
Power loss P_v max of all main conducting paths Dependent on rated current I_e (upper setting range)	0.4 A	mW	10			
	1.25 A	mW	100			
	4 A	W	1			
	12 A	W	1.8			
	32 A	W	5.4			
Max. switching frequency	AC-41	1/h	750			
	AC-43	1/h	250			
	AC-44	1/h	15			
No-load switching frequency		1/h	3 600		3 600, depending on the IO-Link communication time	
Isolating features of the compact starter	According to IEC 60947-3		✓ Isolation is assured only by moving the handle into the "OFF" position.			
Main and EMERGENCY OFF switch characteristics of the compact starter and accessories	According to IEC 60204		✓			
Protective separation	According to IEC 60947-2					
Control circuit to auxiliary circuit						
• Horizontal DIN rail		V	Up to 400			
• Other mounting position		V	Up to 250			
Auxiliary circuit to auxiliary circuit						
• Horizontal DIN rail		V	Up to 400			
• Other mounting position		V	Up to 250			
Main circuit to auxiliary circuit						
• Any mounting position		V	Up to 400			
EMC interference immunity	According to IEC 60947-1		Corresponds to degree of severity 3			
Conducted interference	BURST according to IEC 61000-4-4					
• In the main circuit		kV	4		4	
• In the auxiliary circuit		kV	3		2	
Conducted interference	SURGE according to IEC 61000-4-5					
• In the main circuit						
- Conductor - Ground		kV	4		2	
- Conductor - Conductor		kV	2		1	
• In the auxiliary circuit						
- Conductor - Ground		kV	2		0.5 ¹⁾	
- Conductor - Conductor		kV	1		0.5 ¹⁾	
Auxiliary switches						
• Integrated						
- Position of the main contacts			1 NO + 1 NC	2 NO	1 NO + 1 NC	2 NO
- Overload/short circuit and malfunction signal			1 CO/1 NO			
• Expandable						
- Position of the main contacts			2 NO, 2 NC, 1 NO, 1 NC			
Surge suppressors			Integrated (varistor)			
Electromagnetic operating mechanisms						
Control voltage		V	24 AC/DC		24 DC	
		V	110 ... 240 AC/DC		--	
Frequency	At AC	Hz	50/60 (± 5%)			
Operating range			0.7 ... 1.25 U_s		0.85 ... 1.2 U_s	
No-load switching frequency		1/h	3 600			
Line protection	At 10 kA	mm ²	2.5			
	At 50 kA	mm ²	4			
Shock resistance						
• Breaker mechanism OFF		g	25			
• Breaker mechanism ON		g	15			
Normal switching duty						
Making capacity			12 x I_n			
Breaking capacity			10 x I_n			
Switching capacity dependent on rated current	Up to 12 A	kW	5.5			
	Up to 32 A	kW	15			
Endurance in operating cycles						
• Electrical endurance	At $I_e = 0.9 \times I_n$ and 400 V		3 ... 10 000 000	2 x 3 ... 10 000 000	3 000 000	2 x 1 500 000

✓ Function available

¹⁾ To maintain maximum interference immunity in a harsh electromagnetic environment, additional overvoltage protection should be provided in the control circuit. The 5SD7432-4 plug-in surge arrester with remote signaling, for instance, is suitable, see [Catalog LV 10](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

General data

Type		3RA6120-□B3., 3RA6250-□B3. □ = A, B, C or D Rated operational current ≤ 12 A		3RA6120-EB3., 3RA6250-EB3. Rated operational current 32 A	
Rated control supply voltage	V	24 AC	24 DC	24 AC	24 DC
Inrush peak current	A	0.59	0.47	0.59	0.47
Hold current	A	0.13	0.12	0.17	0.14
Closed	W	2.8	2.9	3.5	3.1
Operating times, typical					
• On	ms	< 160	< 140	< 160	< 140
• Off	ms	< 35	< 35	< 30	< 30
Type		3RA6120-□P3., 3RA6250-□P3. □ = A, B, C or D Rated operational current ≤ 12 A		3RA6120-EP3., 3RA6250-EP3. Rated operational current 32 A	
Rated control supply voltage	V	110 AC	240 AC	110 DC	240 DC
Inrush peak current	A	0.24	0.40	0.17	0.29
Hold current	A	0.06	0.08	0.03	0.02
Closed	W	3.8	6	3.1	5.1
Operating times, typical					
• On	ms	< 160	< 140	< 150	< 140
• Off	ms	< 50	< 80	< 50	< 70
Rated control supply voltage	V	24 DC		24 DC	
Inrush peak current	A	0.39		0.53	
Hold current	A	0.13		0.15	
Closed	W	2.9		3.4	
Operating times, typical ¹⁾					
• On	ms	< 140		< 140	
• Off	ms	< 35		< 30	
Type		3RA6400-□B4., 3RA6500-□B4. □ = A, B, C or D Rated operational current ≤ 12 A		3RA6400-EB4., 3RA6500-EB4. Rated operational current 32 A	
Rated control supply voltage	V	24 DC		24 DC	
Inrush peak current	A	0.39		0.53	
Hold current	A	0.13		0.15	
Closed	W	2.9		3.4	
Operating times, typical ¹⁾					
• On	ms	< 140		< 140	
• Off	ms	< 35		< 30	

¹⁾ Plus IO-Link communication.

Type		3RA6
Control circuit		
Rated operational voltage		
• External auxiliary switch	V	400/690
• Internal auxiliary switch	V	400/690
• Short-circuit signaling switch	V	400
• Overload signaling switch	V	400
Switching capacity		
• External auxiliary switch		
	AC-15	
	• Up to $U_n = 230$ V	A 6
	• Up to $U_n = 400$ V	A 3
	• Up to $U_n = 289/500$ V	A 2
	• Up to $U_n = 400/690$ V	A 1
	DC-13	
	• Up to $U_n = 24$ V	A 6
	• Up to $U_n = 60$ V	A 0.9
	• Up to $U_n = 125$ V	A 0.55
	• Up to $U_n = 250$ V	A 0.27
• Internal auxiliary switch		
	AC-15	
	• Up to $U_n = 230$ V	A 6
	• Up to $U_n = 400$ V	A 3
	• Up to $U_n = 289/500$ V	A 2
	• Up to $U_n = 400/690$ V	A 1
	DC-13	
	• Up to $U_n = 24$ V	A 10
	• Up to $U_n = 60$ V	A 2
	• Up to $U_n = 125$ V	A 1
	• Up to $U_n = 250$ V	A 0.27
	• Up to $U_n = 480$ V	A 0.1
• Signaling switch		
	AC-15	
	• Up to $U_n = 230$ V	A 3
	• Up to $U_n = 400$ V	A 1
	DC-13	
	• Up to $U_n = 24$ V	A 2
	• Up to $U_n = 250$ V	A 0.11

Load feeders and motor starters for use in the control cabinet

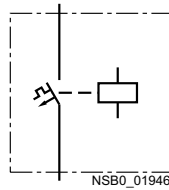
SIRIUS 3RA6 compact starters

General data

Type		3RA61, 3RA62	3RA64, 3RA65
External auxiliary switches, internal auxiliary switches			
Endurance in operating cycles			
- Mechanical endurance - Electrical endurance	AC-15, 230 V	10 000 000	3 000 000
	• Up to 6 A	200 000	
	• Up to 3 A	500 000	
	• Up to 1 A	2 000 000	
	• Up to 0.3 A	10 000 000	
	DC-13, 24 V		
	• Up to 6 A	30 000	
	• Up to 3 A	100 000	
	• Up to 0.5 A	2 000 000	
	• Up to 0.2 A	10 000 000	
	DC-13, 110 V		
	• Up to 1 A	40 000	
	• Up to 0.55 A	100 000	
	• Up to 0.3 A	300 000	
	• Up to 0.1 A	2 000 000	
	• Up to 0.04 A	10 000 000	
	DC-13, 220 V		
	• Up to 0.3 A	110 000	
	• Up to 0.1 A	650 000	
	• Up to 0.05 A	2 000 000	
	• Up to 0.018 A	10 000 000	
Contact reliability	At 17 V and 5 mA	Operating cycles	1 incorrect switching operation per 100 000 000
Short-circuit protection			
- Short-circuit current $I_K \leq 1.1$ kA - Short-circuit current $I_K < 400$ A	Fuse links, operational class gG - NEOZED type 5SE - DIAZED type 5SB - LV HRC type 3NA	A	10
	Miniature circuit breaker up to 230 V with C characteristic	A	10
Signaling switches			
Endurance in operating cycles			
- Mechanical endurance - Electrical endurance AC-15	At 230 V and 3 A		20 000 6 050
Contact reliability	At 17 V and 5 mA	Operating cycles	1 incorrect switching operation per 100 000 000
Short-circuit protection			
- Short-circuit current $I_K \leq 1.1$ kA - Short-circuit current $I_K < 400$ A	Fuse links, operational class gG - NEOZED type 5SE - DIAZED type 5SB - LV HRC type 3NA	A	6
	Miniature circuit breaker up to 230 V with C characteristic	A	6
Overload (short-circuit current $I_K \leq 1.1$ kA)	Fuse links, operational class gG - NEOZED type 5SE - DIAZED type 5SB - LV HRC type 3NA	A	4

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

IE3/IE4 ready**3RA61, 3RA62 compact starters > 3RA61 direct-on-line starters****Selection and ordering data****Direct-on-line starting**

Width 45 mm

Rated short-circuit current $I_{CS} = 53 \text{ kA}$ at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

PU (UNIT, SET, M) = 1
 PS* = 1 unit
 PG = 42F

3RA6120-1CB32

3RA6120-2EB32

Standard three-phase
 motor 4-pole at 400 V AC¹⁾
 Standard output P

Setting range
 for electronic
 overload release

Instantaneous
 electronic
 release

Article No.

Price
per PU

Article No.

Price
per PU

kW

A

A

**For use in the infeed system for 3RA6 and
 with AS-i add-on module or as a replacement device,
 without main and control circuit terminals**

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6120-0A□30
 3RA6120-0B□30
 3RA6120-0C□30
 3RA6120-0D□30
 3RA6120-0E□30

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Screw terminals**Spring-loaded
terminals**

**For DIN-rail mounting or screw fixing,
 with 1 pair of main circuit terminals and 1 pair of control circuit terminals**

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6120-1A□32
 3RA6120-1B□32
 3RA6120-1C□32
 3RA6120-1D□32
 3RA6120-1E□32

3RA6120-2A□32
 3RA6120-2B□32
 3RA6120-2C□32
 3RA6120-2D□32
 3RA6120-2E□32

**For use in the infeed system for 3RA6,
 without main circuit terminals, with 1 pair of control circuit terminals**

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6120-1A□33
 3RA6120-1B□33
 3RA6120-1C□33
 3RA6120-1D□33
 3RA6120-1E□33

3RA6120-2A□33
 3RA6120-2B□33
 3RA6120-2C□33
 3RA6120-2D□33
 3RA6120-2E□33

Article No. supplements for rated control supply voltage

- 24 V AC/DC
- 110 ... 240 V AC/DC

**For DIN-rail mounting or screw fixing,
 for use with AS-i add-on module
 with 1 pair of main circuit terminals, without control circuit terminals
 Rated control supply voltage 24 V AC/DC**

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6120-1AB34
 3RA6120-1BB34
 3RA6120-1CB34
 3RA6120-1DB34
 3RA6120-1EB34

3RA6120-2AB34
 3RA6120-2BB34
 3RA6120-2CB34
 3RA6120-2DB34
 3RA6120-2EB34

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

3RA61, 3RA62 compact starters > 3RA62 reversing starters

IE3/IE4 ready

Selection and ordering data

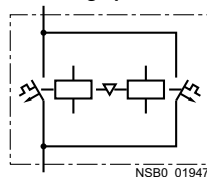


3RA6250-1CP32



3RA6250-2DP32

Reversing operation



Width 90 mm

Rated short-circuit current $I_{CS} = 53 \text{ kA}$ at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

PU (UNIT, SET, M) = 1
 PS* = 1 unit
 PG = 42F

Standard three-phase
 motor 4-pole at 400 V AC¹⁾
 Standard output P

Setting range for electronic
 overload release

Instantaneous
 electronic release

Article No.

Price
per PU

Article No.

Price
per PU

kW

A

A

For use in the infeed system for 3RA6,
 and with AS-i add-on module or as a replacement device,
 without main and control circuit terminals

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6250-0A□30
 3RA6250-0B□30
 3RA6250-0C□30
 3RA6250-0D□30
 3RA6250-0E□30

--
 --
 --
 --
 --

Screw terminals

Spring-loaded
terminals

For DIN-rail mounting or screw fixing,
 with 1 pair of main circuit terminals and 1 pair of control circuit terminals

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6250-1A□32
 3RA6250-1B□32
 3RA6250-1C□32
 3RA6250-1D□32
 3RA6250-1E□32

3RA6250-2A□32
 3RA6250-2B□32
 3RA6250-2C□32
 3RA6250-2D□32
 3RA6250-2E□32

For use in the infeed system for 3RA6,
 without main circuit terminals, with 1 pair of control circuit terminals

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6250-1A□33
 3RA6250-1B□33
 3RA6250-1C□33
 3RA6250-1D□33
 3RA6250-1E□33

3RA6250-2A□33
 3RA6250-2B□33
 3RA6250-2C□33
 3RA6250-2D□33
 3RA6250-2E□33

Article No. supplements for rated control supply voltage

- 24 V AC/DC
- 110 ... 240 V AC/DC

For DIN-rail mounting or screw fixing,
 for use with AS-i add-on module
 with 1 pair of main circuit terminals, without control circuit terminals
 Rated control supply voltage 24 V AC/DC

0.09	0.1 ... 0.4	56
0.37	0.32 ... 1.25	56
1.5	1 ... 4	56
5.5	3 ... 12	168
15	8 ... 32	448

3RA6250-1AB34
 3RA6250-1BB34
 3RA6250-1CB34
 3RA6250-1DB34
 3RA6250-1EB34

3RA6250-2AB34
 3RA6250-2BB34
 3RA6250-2CB34
 3RA6250-2DB34
 3RA6250-2EB34

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

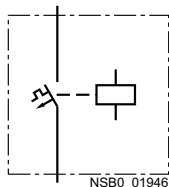
IE3/IE4 ready**3RA64, 3RA65 compact starters for IO-Link > 3RA64 direct-on-line starters**

Selection and ordering data



3RA64 with 3RA6911-1A
auxiliary switch

Direct-on-line starting



Rated control supply voltage 24 V DC

Width 45 mm

Rated short-circuit current $I_{CS} = 53 \text{ kA}$ at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 42F

Standard three-phase motor 4-pole at 400 V AC ¹⁾	Setting range for electronic overload release	Instantaneous electronic release	Article No.	Price per PU	Article No.	Price per PU
Standard output P						
			Screw terminals		Spring-loaded terminals	
kW	A	A				
For DIN-rail mounting or screw fixing, with 1 pair of main circuit terminals and 1 pair of control circuit terminals						
0.09	0.1 ... 0.4	56	3RA6400-1AB42		3RA6400-2AB42	
0.37	0.32 ... 1.25	56	3RA6400-1BB42		3RA6400-2BB42	
1.5	1 ... 4	56	3RA6400-1CB42		3RA6400-2CB42	
5.5	3 ... 12	168	3RA6400-1DB42		3RA6400-2DB42	
15	8 ... 32	448	3RA6400-1EB42		3RA6400-2EB42	
For use in the infeed system for 3RA6, without main circuit terminals, with 1 pair of control circuit terminals						
0.09	0.1 ... 0.4	56	3RA6400-1AB43		3RA6400-2AB43	
0.37	0.32 ... 1.25	56	3RA6400-1BB43		3RA6400-2BB43	
1.5	1 ... 4	56	3RA6400-1CB43		3RA6400-2CB43	
5.5	3 ... 12	168	3RA6400-1DB43		3RA6400-2DB43	
15	8 ... 32	448	3RA6400-1EB43		3RA6400-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

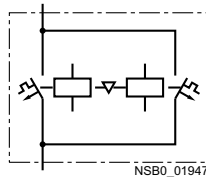
3RA64, 3RA65 compact starters for IO-Link > 3RA65 reversing starters **IE3/IE4 ready**

Selection and ordering data



3RA65 with 3RA6911-1A
auxiliary switch

Reversing operation



Rated control supply voltage 24 V DC

Width 90 mm

Rated short-circuit current $I_{CS} = 53 \text{ kA}$ at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 42F

Standard three-phase motor 4-pole at 400 V AC ¹⁾	Setting range for electronic overload release	Instantaneous electronic release	Article No.	Price per PU	Article No.	Price per PU
Standard output P			Screw terminals		Spring-loaded terminals	
kW	A	A				
For DIN-rail mounting or screw fixing, with 1 pair of main circuit terminals and 1 pair of control circuit terminals						
0.09	0.1 ... 0.4	56	3RA6500-1AB42		3RA6500-2AB42	
0.37	0.32 ... 1.25	56	3RA6500-1BB42		3RA6500-2BB42	
1.5	1 ... 4	56	3RA6500-1CB42		3RA6500-2CB42	
5.5	3 ... 12	168	3RA6500-1DB42		3RA6500-2DB42	
15	8 ... 32	448	3RA6500-1EB42		3RA6500-2EB42	
For use in the infeed system for 3RA6, without main circuit terminals, with 1 pair of control circuit terminals						
0.09	0.1 ... 0.4	56	3RA6500-1AB43		3RA6500-2AB43	
0.37	0.32 ... 1.25	56	3RA6500-1BB43		3RA6500-2BB43	
1.5	1 ... 4	56	3RA6500-1CB43		3RA6500-2CB43	
5.5	3 ... 12	168	3RA6500-1DB43		3RA6500-2DB43	
15	8 ... 32	448	3RA6500-1EB43		3RA6500-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Overview

Accessories for SIRIUS 3RA6 compact starters

The following accessories are available specially for the 3RA6 compact starters:

- Infeed system for 3RA6, [see page 8/76 onwards](#)
- For AS-i add-on modules, [see "Add-on modules for AS-Interface", page 8/74 onwards](#)
- External auxiliary switches: Snap-on auxiliary switch as versions 2 NO, 2 NC and 1 NO + 1 NC with screw or spring-loaded terminals; the contacts of the auxiliary switch open and close jointly with the main contacts of the compact starter. The NC contacts are designed as mirror contacts.
- Control kit: Aid for manually closing the main contacts in order to check the wiring and motor direction under conditions of short-circuit protection
- Adapter for screw fixing the compact starter, including push-in lugs
- Main circuit terminal: Available with screw and spring-loaded terminals
- Main circuit terminal mixed connection method:
With the main circuit terminal mixed connection method, it is also possible to switch from screw connection on the line side to spring-loaded terminals on the outgoing side in the main circuit.
This means for example that several compact starters can be mounted side by side and be cost-efficiently connected using the 3-phase busbars on the infeed side. The motors are then connected directly by the quick and reliably contacting spring-loaded terminals.

Accessories for UL applications

The terminal block for "Self-Protected Combination Motor Controller (Type E)" is available for complying with the clearance and creepage distances required according to UL 508.

Accessories for infeed using 3-phase busbar systems

The 3RV1915-1.B 3-phase busbars can be used as an easy, time-saving and clearly arranged means of feeding SIRIUS 3RA6 compact starters with screw terminals. Motor starter protector sizes S00 and S0 can also be integrated.

The busbars are suitable for between two and five devices. However, any kind of extension up to a maximum summation current of 63 A is possible by clamping the tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last circuit breaker.

Motor starter protectors S00 and S0 of the 3RV2 series can be combined in any way. The motor starter protectors are supplied by appropriate infeed terminals. Special infeed terminals are required for constructing "Starters (Type E)" according to UL/CSA.

The 3-phase busbar systems have touch protection but empty connection tags must be fitted with covers. They are designed for any short-circuit stress which can occur at the output side of connected SIRIUS 3RA6 compact starters or motor starter protectors.

Busbar adapters for 60 mm systems

The compact starters are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs. These feeders are suitable for copper busbars with a width from 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The 8US busbar system can be loaded with a maximum summation current of 630 A.

The "reversing starter" version requires a device holder alongside the busbar adapter for lateral mounting.

The compact starters are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For further accessories, such as incoming and outgoing terminals, flat copper profiles etc., [see Catalog LV 10](#).

Accessories for SIRIUS 3RA6 compact starters in IO-Link version

The following accessories are available specially for the 3RA64, 3RA65 compact starters:

- Additional connecting cables for side-by-side mounting of up to four compact starters
- Operator panel for on-site control and diagnostics of up to four compact starters coupled to each other

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories specially for 3RA6 compact starters					
 3RA6950-0A	Control kit For mechanical actuation of the compact starter	3RA6950-0A	1	1 unit	42F
 3RA6940-0A	Adapters for screw fixing the compact starter (set including push-in lugs) Direct-on-line starters require one set, reversing starters two sets.	3RA6940-0A	1	1 unit	42F
Auxiliary switches for compact starters					
 3RA6911-1A	• 2 NO • 2 NC • 1 NO + 1 NC (these auxiliary contacts are force-guided)	3RA6911-1A 3RA6912-1A 3RA6913-1A	1 1 1	1 unit 1 unit 1 unit	42F 42F 42F
 3RA6920-1A	Main circuit terminals (line side and outgoing side)	3RA6920-1A	1	1 unit	42F
 3RA6920-1B	Control circuit terminals (1 set comprising 2 terminals) • For 3RA61 • For 3RA62	3RA6920-1B 3RA6920-1C	1 1	1 unit 1 unit	42F 42F
Spring-loaded terminals					
 3RA6911-2A	• 2 NO • 2 NC • 1 NO + 1 NC (these auxiliary contacts are force-guided)	3RA6911-2A 3RA6912-2A 3RA6913-2A	1 1 1	1 unit 1 unit 1 unit	42F 42F 42F
 3RA6920-2A	Main circuit terminals (line side and outgoing side)	3RA6920-2A	1	1 unit	42F
 3RA6920-2B	Control circuit terminals (1 set comprising 2 terminals) • For 3RA61 • For 3RA62	3RA6920-2B 3RA6920-2C	1 1	1 unit 1 unit	42F 42F

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories specially for 3RA6 compact starters (continued)



3RA6920-3A

Main circuit terminals, mixed connection method

1 set comprises:

- 1 joint block on the line side with screw terminals
- 1 joint block on the outgoing side with spring-loaded terminals

3RA6920-3A

1

1 unit

42F

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
---------	-------------	--------------	-------------------	-----	----

Accessories specially for 3RA64, 3RA65 compact starters for IO-Link



3RA6931-0A

Additional connecting cables (flat) for side-by-side mounting of up to 4 compact starters

- 10-pole
 - 8 mm¹⁾
 - 200 mm¹⁾
- 14-pole
 - 8 mm²⁾
 - 200 mm

3RA6932-0A

1

5 units

42F

3RA6933-0B

1

5 units

42F

3RA6931-0A

1

5 units

42F

3RA6933-0C

1

5 units

42F



3RA6935-0A

Operator panels (set)

- 1 operator panel
- 1 enabling module
- 1 interface cover
- 1 fixing terminal

3RA6935-0A

1

1 unit

42F

Enabling modules (replacement)

3RA6936-0A

1

1 unit

42F

Interface covers (replacement)

3RA6936-0B

1

5 units

42F

Connecting cables (round)

3RA6933-0A

1

1 unit

42F

For connecting the operator panel
10-pole, 2 000 mm

¹⁾ 10-pole connecting cables are required for EMERGENCY OFF group concepts.

²⁾ Is included in the scope of supply of the SIRIUS 3RA6 compact starter in IO-Link version.

Matching IO-Link masters, [see page 2/98 onwards](#).

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
---------	-------------	--------------	-------------------	-----	----

Terminals for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508 for infeed through parallel wiring with compact starters



3RV2928-1H

Terminal blocks Type E

For extended clearance and creepage distances (1 and 2 inch)

Note:

UL 508 demands 1-inch clearance and 2-inch creepage distance at line side for "Combination motor controller (Type E)". Terminal blocks are not required for use according to CSA. These terminal blocks cannot be used in combination with 3RV19.5 3-phase busbars.

3RV2928-1H

1

1 unit

41E

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Number of compact starters and motor starter protectors Without lateral accessories	Modular spacing	Rated current I_n at 690 V	For motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm	A	Size					

3-phase busbars for infeed with 3RA6



3RV1915-1AB



3RV1915-1BB



3RV1915-1CB



3RV1915-1DB

For feeding several compact starters and/or motor starter protectors with screw terminals, mounted side-by-side on DIN rails, insulated, with touch protection.

2	45	63	S00, S0 ¹⁾
3	45	63	S00, S0 ¹⁾
4	45	63	S00, S0 ¹⁾
5	45	63	S00, S0 ¹⁾

3RV1915-1AB
3RV1915-1BB
3RV1915-1CB
3RV1915-1DB

1 1 unit 41E
1 1 unit 41E
1 1 unit 41E
1 1 unit 41E

¹⁾ Not suitable for 3RV21 motor starter protectors for motor protection with overload relay function and for 3RV27 and 3RV28 circuit breakers according to UL 489/CSA C22.2 No. 5.

Version	Modular spacing	For motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm	Size					

Covers for connection tags of the 3-phase busbars



3RV1915-6AB

Touch protection for empty positions

-- S00, S0

3RV1915-6AB

1 10 units 41E

Conductor cross-section			Tightening torque	For compact starters and motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded							
mm ²	mm ²	AWG	Nm	Size					

3-phase infeed terminals for 3-phase busbars according to IEC and for constructing "Starters (Type E)" according to UL 508



3RV2925-5EB

Connection from top

2.5 ... 25 2.5 ... 16 10 ... 4 3 ... 4 S00, S0

3RV2925-5EB

1 1 unit 41E

3-phase infeed terminals for 3-phase busbars



3RV2915-5B

Connection from below¹⁾

2.5 ... 25 2.5 ... 16 10 ... 4 Input: 4; Output: 2 ... 2.5 S00, S0

3RV2915-5B

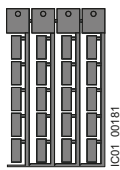
1 1 unit 41E

¹⁾ This terminal is connected in place of a compact starter, please take the space requirement (45 mm) into account.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Busbar adapters for 60 mm systems					
 8US1211-1NS10 For copper busbars according to DIN 46433 Width: 12 ... 30 mm Thickness: 4 ... 5 mm or 10 mm	8US1211-1NS10		1	1 unit	140
Device holders for lateral mounting alongside the busbar adapter for 60 mm systems					
 8US1250-1AA10 Required in addition to the busbar adapter for mounting a reversing starter	8US1250-1AA10		1	1 unit	140
Tools for opening spring-loaded terminals					
 3RA2908-1A Screwdriver For all SIRIUS devices with spring-loaded terminals Length, approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Spring-loaded terminals  3RA2908-1A		1	1 unit	41B
Blank labels					
 3RT2900-1SB20 Unit labeling plates¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
Manuals					
	System Manual for 3RA6 compact starter and infeed system for the 3RA6, see https://support.industry.siemens.com/cs/ww/en/view/27865747				

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Add-on modules for AS-Interface

Overview

Various AS-i add-on modules are available for communication of the 3RA6 compact starter with the control system using AS-Interface:

- Standard version
- With two local inputs
- With two free external inputs
- With one free external input and one free external output
- With two free external outputs
- For local control

The AS-i add-on modules can be combined only in connection with compact starters with a rated control supply voltage of 24 V AC/DC.

AS-i add-on module for local control

With this new module it is also possible for the connected compact starter to be operated directly using simple switches, i.e. without recourse to AS-i communication, if required.

"Automatic" mode

NC contacts can be connected to the inputs Y2 and Y4 through the local terminals on the AS-i add-on module. If the "+" connections are connected simultaneously to both local inputs, the AS-i add-on module will be in "Automatic" mode, i.e. it will communicate with the control system through AS-Interface.

Local control

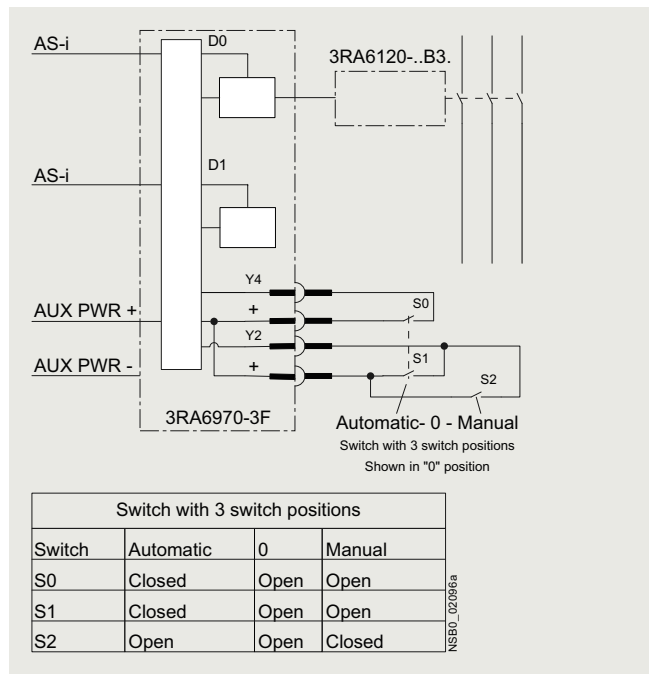
Opening the two inputs Y2 and Y4 will result in the direct disconnection of the compact starter. Operation through AS-i communication is finished and the compact starter can now be switched on and off directly using NO contacts (one NO contact per direction of rotation on the reversing starter).

"LED AUX Power" must light up green, the 24 V DC supply must be ensured and the AS-i control supply voltage must no longer be applied.

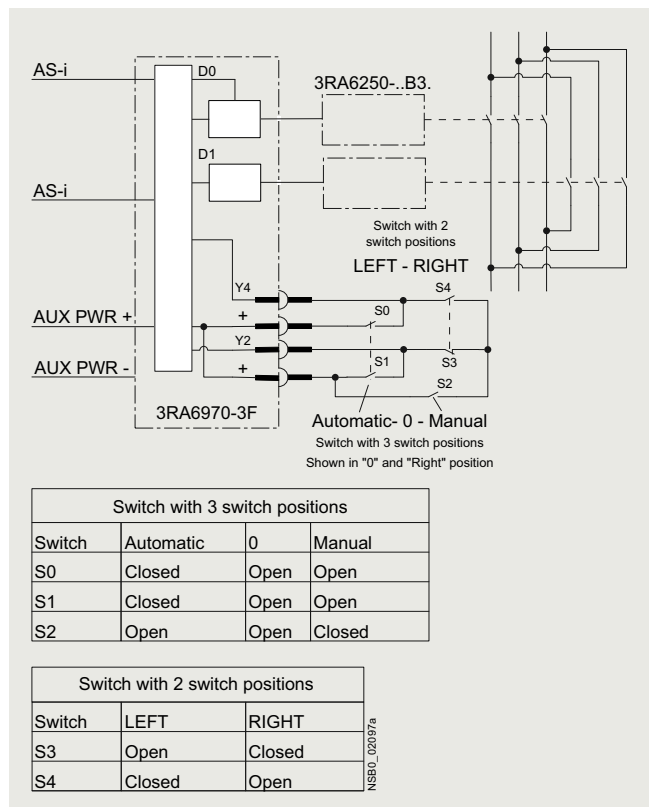
Resetting to "Automatic" mode

If a "1" signal is simultaneously applied at the local inputs, the availability bit DI 0 is switched to a "1" signal.

If AS-i communication is reset, the motor is first switched off and then on again when requested by the control system.



Circuit diagram example for controlling a 3RA6120 direct-on-line starter using an AS-i add-on module for local control



Circuit diagram example for controlling a 3RA6250 reversing starter using an AS-i add-on module for local control

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Add-on modules for AS-Interface

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
AS-i add-on modules					
 3RA6970-3A  3RA6970-3B to -3F	Standard version For communication of the compact starter with the control system through AS-Interface	3RA6970-3A	1	1 unit	42F
	With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches	3RA6970-3B	1	1 unit	42F
	With two free external inputs Replaces the digital standard inputs "Motor On" and "Group warning"	3RA6970-3C	1	1 unit	42F
	With one free external input and one free external output Replaces the digital standard input "Group warning"	3RA6970-3D	1	1 unit	42F
	With two free external outputs Only for direct-on-line starters, replaces the digital standard input "Motor CCW"	3RA6970-3E	1	1 unit	42F
	For local control Control of the compact starter optionally using AS-Interface or local switches	3RA6970-3F	1	1 unit	42F
Spare parts for AS-i add-on modules					
 3RK1901-0NA00  3RK1901-0PA00	Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 ... 0.75 mm ²				
	- Flat, yellow, extender - Flat, black, extender	3RK1901-0NA00 3RK1901-0PA00	1	5 units	42C
Accessories for AS-i add-on modules					
 3RK1904-2AB02	AS-Interface addressing unit V3.0 - For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 - For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves) - With input/output test function and many other commissioning functions - Battery operation with four type AA batteries (IEC LR6, NEDA 15) - Scope of supply: - Addressing unit with four batteries - Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	3RK1904-2AB02	1	1 unit	42C

For matching AS-Interface masters, routers and power supply units, see pages 2/29, 2/41 and 2/67 onwards.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Overview

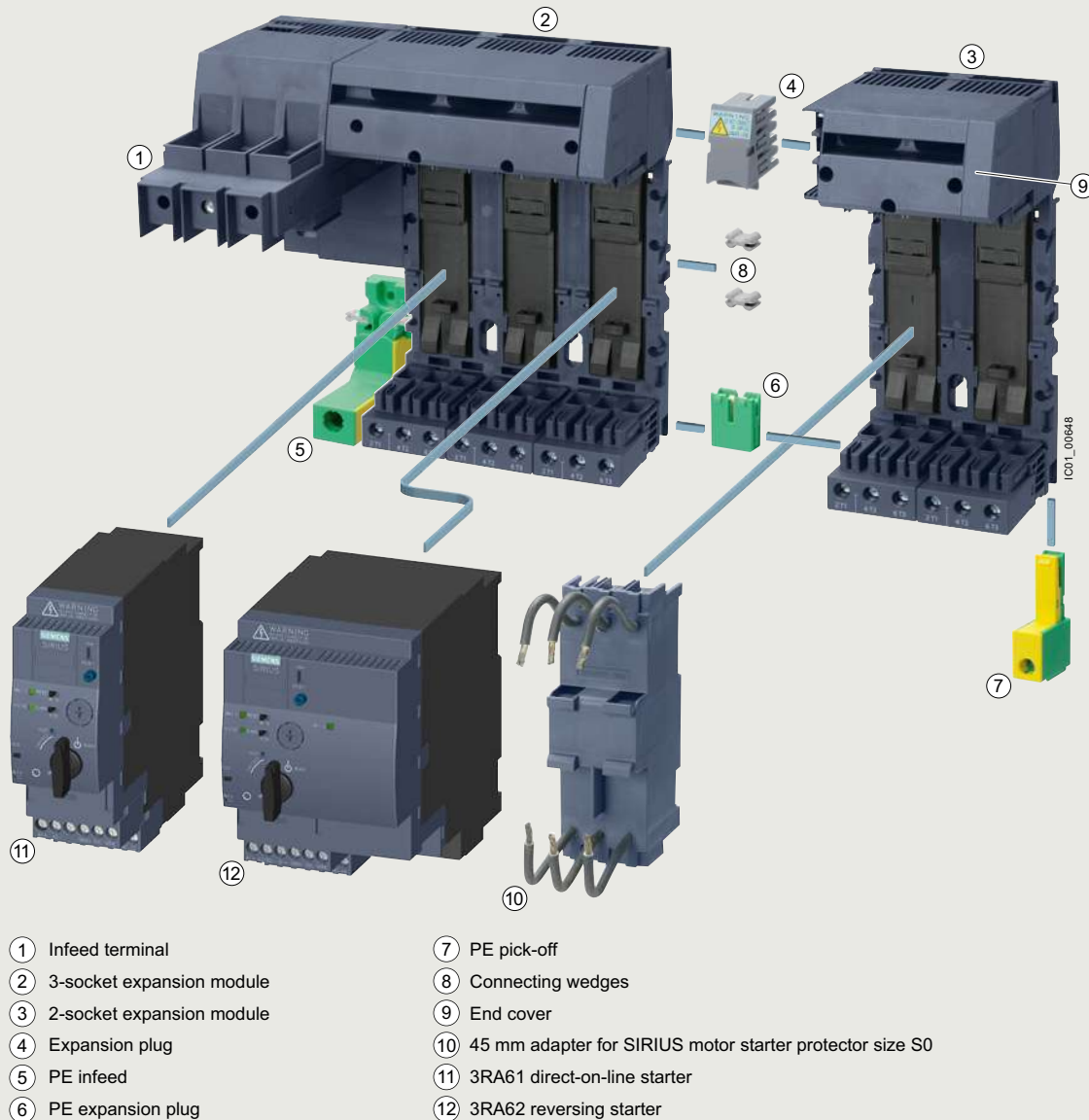
More information

Homepage, see www.siemens.com/sirius-infeed-system
 Industry Mall, see www.siemens.com/product?3RA68

Online configurator, see www.siemens.com/sirius/configurators

The infeed system for 3RA6 compact starters enables far less wiring in the main circuit and, thanks to the easy exchangeability of the compact starters, reduces the usual downtimes for maintenance work during the plant's operating phase. The infeed system provides the possibility of completely prewiring

the main circuit without a compact starter needing to be connected at the same time. As the result of the removable terminals in the main circuit, compact starters can be integrated in an infeed system in easy manner (without the use of tools).



Infeed system for 3RA6 compact starters

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

In addition, the integrated PE bar means it is optionally possible to connect the motor cable directly to the infeed system without additional intermediate terminals. The infeed system for 3RA6 compact starters is designed for summation currents up to 100 A with a maximum conductor cross-section of up to 70 mm² on the infeed terminal block.

The infeed system can be mounted on a DIN rail or flat surfaces.

① Infeed

The 3-phase infeed is available as an infeed with screw terminal (25/35 mm² up to 63 A or 50/70 mm² up to 100 A) and as an infeed with spring-loaded terminal (25/35 mm² up to 63 A).

The infeed with spring-loaded terminal can be fitted on the left as well as on the right of an expansion module.

The infeed with screw terminal is supplied only with a 3-socket expansion module and permanently fitted on the left side.

The infeeds with screw terminal enable connection of the main conductors (L1, L2, L3) either from above or from below.

The infeed with screw terminal is supplied complete with one end cover, the infeed with spring-loaded terminal complete with two end covers.

② 3-socket expansion module

The expansion module with three sockets for compact starters is available with screw terminals and with spring-loaded terminals.

Expansion modules enable the infeed system to be expanded and can be fitted to each other in any number.

Two expansion modules are held together with the help of two connecting wedges and one expansion plug. These assembly parts are included in the scope of supply of the respective expansion module.

When the infeed system for 3RA6 compact starters is used, the compact starters (plug-in modules) are easily assembled and disassembled even when live.

Optional possibilities:

- PE connection on motor outgoing side
- Outfeed for external auxiliary devices
- Connection to 3RV29 infeed system
- Integration of SIRIUS 3RV2 motor starter protectors size S0 up to 25 A (using 3RA6890-0BA adapter)

③ 2-socket expansion module

If only two instead of three additional sockets are required, then the 2-socket expansion module is the right choice. It has the same functionality as the 3-socket expansion module.

④ Expansion plug

Two expansion modules can be connected together using the expansion plug. Flexible expansion of the infeed system is thus possible.

⑤ PE infeed

This module enables a PE cable to be connected.

The PE infeed can be ordered with screw terminals and spring-loaded terminals (35 mm²) and can be fitted on the left or right of the expansion block.

⑥ PE expansion plug

The PE expansion plug is inserted from below and enables two PE bars to be connected.

⑦ PE pick-off

The PE pick-off is available with screw terminals and spring-loaded terminals (6/10 mm²). It is snapped into the infeed system from below.

⑧ Connecting wedges

Two connecting wedges are used to hold together two expansion modules.

⑨ End covers

On the last expansion module of a row, the socket provided for the expansion plug can be covered by inserting the end cover.

⑩ 45 mm adapter for SIRIUS motor starter protectors size S0

SIRIUS 3RV2 motor starter protectors size S0 with screw terminals can be fitted to the adapter, enabling them to be plugged into the infeed system.

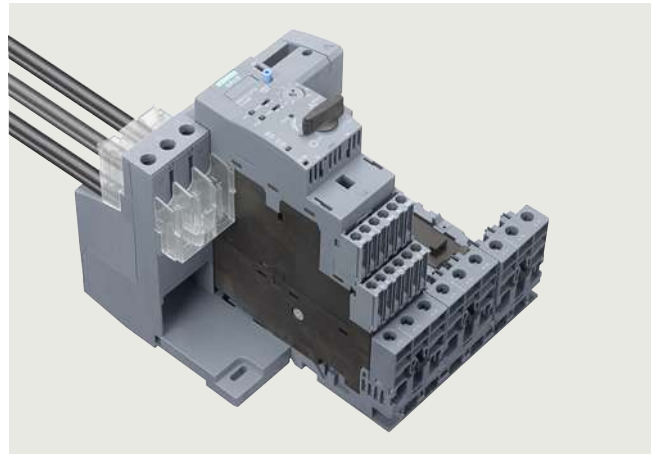
Terminal covers for increasing finger protection on the front

Universally configured terminal covers are available for the 25/35 mm² and 50/70 mm² 3-phase infeeds with screw terminal:

- 3RA6880-2AB terminal covers for infeeds with screw terminal 25/35 mm² (3RA6812-8AB/AC)
- 3RA6880-3AB terminal covers for infeeds with screw terminal 50/70 mm² (3RA6813-8AB/AC)

The terminal covers can be used in two ways on the infeed terminals of the infeeds with screw terminal 25/35 mm² and 50/70 mm² (see illustration):

- If the terminals are connected, the cables are also covered:
 - by approx. 14 mm with the 3RA6880-2AB
 - by approx. 18 mm with the 3RA6880-3AB
- On clamping points without connected cables, the covers can be turned once and then pushed over the clamping points for finger-safe covering of the metal parts.



Use of the 3RA6880-2AB terminal cover on the infeed with screw terminal 25/35 mm² (3RA6812-8AB/AC). The upper cover increases the finger-safety for the connected conductors. The identical lower cover is turned for use and prevents touching of the voltage-carrying metal parts of the infeed terminal. For better recognition, the covers are shown as transparent in this illustration and not in their original color.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Terminal blocks

Using the terminal block the three phases can be fed out of the system; this means that 1-phase, 2-phase and 3-phase components can also be integrated in the system.

After the end cover is pulled out, the terminal block can be plugged onto an expansion module.

Expansion plug for SIRIUS 3RV29 infeed systems

After the end cover is pulled out, the expansion plug for the SIRIUS 3RV29 infeed system can be plugged onto an expansion module. It connects the infeed system for 3RA6 compact starters with the SIRIUS 3RV29 infeed system.

Maximum rated operational current

The following maximum rated operational currents apply for the components of the infeed system for 3RA6:

Component	Maximum rated operational current A
Infeed with screw terminal 50/70 mm ²	100
Infeed with screw terminal 25/35 mm ²	63
Infeed with spring-loaded terminal 25/35 mm ²	63
Expansion plug	63

With side-by-side mounting of several expansion modules, the maximum rated operational current from the second expansion module to the end of the row is 63 A.

Proposal for upstream short-circuit protection devices

The following short-circuit data apply for the components of the infeed system for 3RA6 compact starters:

Conductor cross-section	Maximum let-through current $I_{d,max}$ and current integral I^2t	Proposal for upstream short-circuit protection device	Maximum prospective $I_{short-circuit}$ kA
mm ²			
Short-circuit protection for 3RA681-8A, infeed with screw terminal (25/35 mm ² and 50/70 mm ²)			
2.5 ... 35 2.5 ... 70	$I_{d,max} < 21 \text{ kA}, I^2t = 530 \text{ kA}^2\text{s}$	3RV2041-4MA10 (NH gG 3NA3; 315 A)	50
Short-circuit protection for infeed with spring-loaded terminal 25/35 mm ² , 3RA6830-5AC			
4	$I_{d,max} < 9.5 \text{ kA}, I^2t = 85 \text{ kA}^2\text{s}$	3RV2021-4DA10	40
6	$I_{d,max} < 12.5 \text{ kA}, I^2t = 140 \text{ kA}^2\text{s}$	3RV2031-4EA10	30
10	$I_{d,max} < 15 \text{ kA}, I^2t = 180 \text{ kA}^2\text{s}$	3RV2031-4WA10	25
16/25	$I_{d,max} < 19 \text{ kA}, I^2t = 440 \text{ kA}^2\text{s}$	3RV2031-4JA10	65
		3RV2041-4JA10	65
35	$I_{d,max} < 21 \text{ kA}, I^2t = 530 \text{ kA}^2\text{s}$	3RV2041-4MA10 (NH gG 3NA3; 315 A)	50
Short-circuit protection for terminal block, 3RV2917-5D			
1.5	$I_{d,max} < 7.5 \text{ kA}$	5SY... 1)	
2.5	$I_{d,max} < 9.5 \text{ kA}$		
4	$I_{d,max} < 9.5 \text{ kA}$		
6	$I_{d,max} < 12.5 \text{ kA}$		

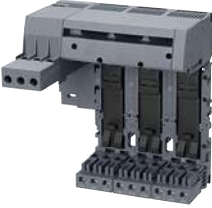
1) To prevent the possibility of short circuits, the cables on the terminal block must be installed so that they are short-circuit-proof.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3-phase infeeds and expansion modules					
 3RA6812-8AB	Infeeds with screw terminal 25/35 mm² left Infeed with screw terminal at line side with a permanently fitted 3-socket expansion module with screw or spring-loaded terminals on the outgoing side and integrated PE bar Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter				
	Screw terminals on the outgoing side				
	Spring-loaded terminals on the outgoing side				
	 3RA6812-8AC				
 3RA6813-8AB	Infeeds with screw terminal 50/70 mm² left Infeed with screw terminal at line side with a permanently fitted 3-socket expansion module with screw or spring-loaded terminals on the outgoing side and integrated PE bar Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter, suitable for UL operation according to UL 508 Type E				
	Screw terminals on the outgoing side				
	Spring-loaded terminals on the outgoing side				
	 3RA6813-8AC				
 3RA6830-5AC	Infeeds with spring-loaded terminals 25/35 mm² left or right Up to 63 A				
	 3RA6830-5AC				

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
---------	-------------	-----------------	-------------------------	-----	----

Expansion modules



3RA6822-0AB



3RA6822-0AC

2-socket expansion modules

With screw or spring-loaded terminals and integrated PE bar

With 2 sockets for 2 direct-on-line starters or 1 reversing starter

Expansion plug and 2 connecting wedges are included in the scope of supply.

- Version with screw terminals
- Version with spring-loaded terminals

Screw terminals



3RA6822-0AB

1

1 unit

42F

Spring-loaded terminals



3RA6822-0AC

1

1 unit

42F



3RA6823-0AB



3RA6823-0AC

3-socket expansion modules

With screw or spring-loaded terminals and integrated PE bar

With 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter

Expansion plug and 2 connecting wedges are included in the scope of supply.

- Version with screw terminals
- Version with spring-loaded terminals

Screw terminals



3RA6823-0AB

1

1 unit

42F

Spring-loaded terminals



3RA6823-0AC

1

1 unit

42F

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
---------	-------------	-----------------	-------------------------	-----	----

Accessories for infeed systems for 3RA6

PE infeeds, 25/35 mm²



3RA6860-6AB

- Version with screw terminals

Screw terminals



3RA6860-6AB

1

1 unit

42F



3RA6860-5AC

- Version with spring-loaded terminals

Spring-loaded terminals



3RA6860-5AC

1

1 unit

42F

PE pick-offs 6/10 mm²



3RA6870-4AB

- Version with screw terminals

Screw terminals



3RA6870-4AB

1

1 unit

42F



3RA6870-3AC

- Version with spring-loaded terminals

Spring-loaded terminals



3RA6870-3AC

1

1 unit

42F

Expansion plugs

PE expansion plugs



3RA6890-0EA

3RA6890-0EA

1

1 unit

42F

Expansion plugs

Between 2 expansion modules

Included in the scope of supply of the expansion modules



3RA6890-1AB

3RA6890-1AB

1

1 unit

42F

Expansion plugs for SIRIUS 3RV29 infeed system

Connect infeed system for 3RA6 to 3RV29 infeed system



3RA6890-1AA

3RA6890-1AA

1

1 unit

42F

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

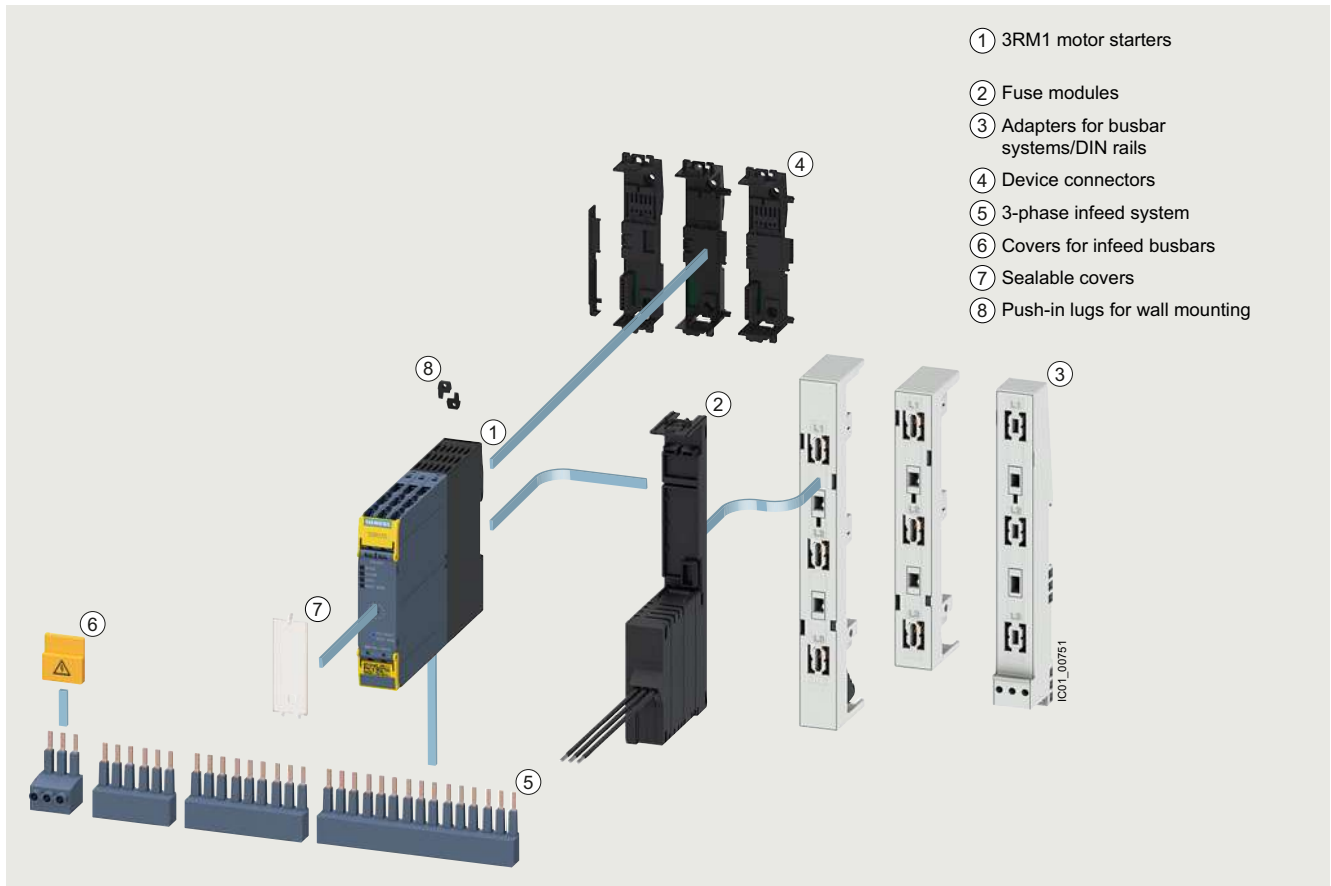
Infeed system for 3RA6

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for infeed systems for 3RA6 (continued)					
 3RA6890-0BA	45 mm adapters For SIRIUS 3RV2.2 motor starter protectors/circuit breakers size S0 up to 25 A Screw terminals (conductor cross-section AWG 10)	Screw terminals  3RA6890-0BA	1	1 unit	42F
	Terminal covers for infeeds with screw terminals IP20 terminal covers for infeeds with screw terminal 25/35 mm² (3RA6812-8AB/AC) (2 units per pack)	3RA6880-2AB	1	1 unit	42F
 3RA6880-2AB	IP20 terminal covers for infeeds with screw terminal 50/70 mm² (3RA6813-8AB/AC) (2 units per pack)	3RA6880-3AB	1	1 unit	42F
 3RA6880-3AB	Terminal blocks For integration of 1-phase, 2-phase and 3-phase external components Spring-loaded terminals	Spring-loaded terminals  3RV2917-5D	1	1 unit	41E
 3RV2917-5D	Tools for opening spring-loaded terminals				
 3RA2908-1A	Screwdriver For all SIRIUS devices with spring-loaded terminals Length, approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Spring-loaded terminals  3RA2908-1A	1	1 unit	41B
Manuals					
System Manual for 3RA6 compact starter and infeed system for 3RA6, see https://support.industry.siemens.com/cs/ww/en/view/27865747					

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Overview



SIRIUS 3RM1 motor starters with accessories

More information

3RM1 motor starters:

- Homepage, see www.siemens.com/sirius-motor-starter-3RM1
- Industry Mall, see www.siemens.com/product?3RM1
- Online configurator, see www.siemens.com/sirius/configurators

3SK safety relays for protecting the 3RM1 motor starters:

- Homepage, see www.siemens.com/sirius-safety-relays
- Industry Mall, see www.siemens.com/product?3SK

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=MotorStarter3RM1

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Industry Online Support (SIOS) topic page with information on the planning and operating phases, see <https://support.industry.siemens.com/cs/ww/en/view/109792664>

SIRIUS 3RM1 motor starters are compact devices, 22.5 mm wide, combining a large number of functions in a single enclosure. They consist of combinations of relay contacts, power semiconductors (hybrid technology), and an electronic overload relay for operational switching of three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V.

The 3RM1 motor starters with overload protection with wide setting range are available as direct-on-line starters and reversing starters and as versions with safety-related shutdown up to SIL 3 and PL e.

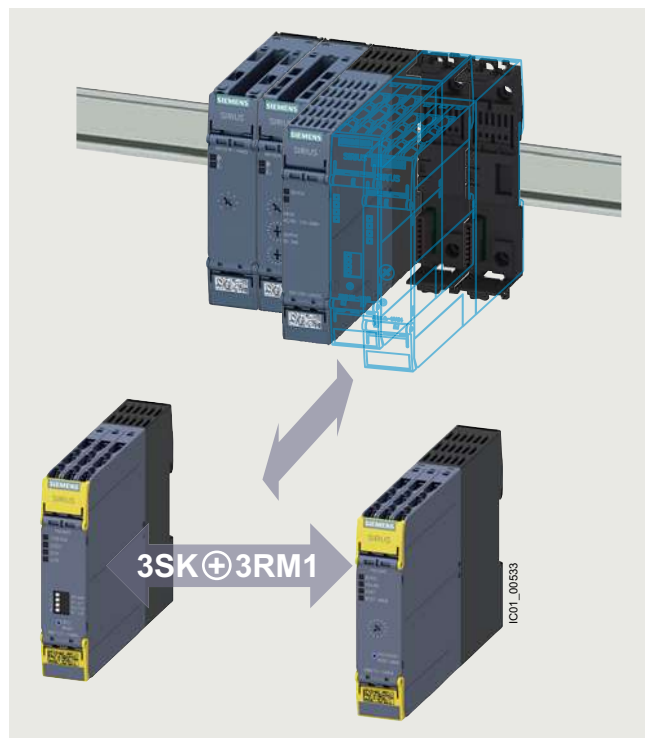


Video: SIRIUS 3RM1 motor starters – Compact, economical, simple

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Seamlessly integrated safety right through to the main circuit



Problem-free integration of functional safety into the main circuit through the simple combination of 3RM1 and 3SK devices

Functional safety in the main circuit needs to be both simple and flexible.

The unique compatibility of hybrid 3RM1 fail-safe motor starters and 3SK safety relays means that integrated functional safety right through to the main circuit is no longer a problem.

Their compact design allows the motor starters to be installed to the right of the safety relay in a simple manner, just like an output expansion. The wiring of the safety-related signals to the relay can be performed simply, quickly and in an error-free manner using the device connector.

The ergonomically designed enclosure with removable terminals and terminal labeling in the hinged cover allows for the cables to be conveniently diagonally mounted from the front. Either screw or spring-loaded terminals with push-in technology are available.

Highlights

- Fail-safe disconnection of motors up to 3 kW
- Problem-free combination of fail-safe motor starters and safety relays
- End-to-end system, simple setup using device connectors
- Ergonomic enclosure

Note:

For SIRIUS 3SK safety relays, [see page 11/13](#).

Online configurator



Online configurator

An online configurator with a wide range of functions is available for the SIRIUS 3RM1 motor starters.

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

- Create individual motor starters or a complex motor starter group
- Individual selection options, such as direct or reversing starting, spring-loaded or screw terminals, as well as motor current and control voltage
- Graphic representation of the design during configuration
- Automatic calculation of the matching motor starter protector/circuit breaker (for group configuration)

Ordering notes for multi-unit packaging

SIRIUS 3RM1 motor starters can also be ordered in practical, environment-friendly multi-unit packaging on request.

Multi-unit packaging with order code X90

When ordering products in multi-unit packaging, the article number of the product concerned must be supplemented with "-Z" and, in addition, the order code "X90" must be specified.

Ordering example:

3RM1201-2AA04-Z X90;

purchase order quantity 12 units → Delivery of one package containing 12 units

For more information, [see page 16/7](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Article number scheme

Product versions		Article number					
Product function	Direct-on-line starters	3RM10	0	□	–	□	AA □ 4
	Failsafe direct-on-line starters	3RM11	0	□	–	□	AA □ 4
	Reversing starters	3RM12	0	□	–	□	AA □ 4
	Failsafe reversing starters	3RM13	0	□	–	□	AA □ 4
Wide setting range for electronic overload release	0.1 ... 0.5 A		1				For motor standard output 0 ... 0.12 kW ²⁾
	0.4 ... 2.0 A		2				For motor standard output 0.09 ... 0.75 kW ²⁾
	1.6 ... 7.0 A (10 A) ¹⁾		7				For motor standard output 0.55 ... 3 kW ²⁾
Connection method	Screw terminals		1				
	Spring-loaded terminals (push-in)		2				
	Mixed connection method		3				Spring-loaded terminals (push-in)
Rated control supply voltage U_s	24 V DC					0	
	110 ... 230 V AC, 110 V DC					1	
Example		3RM13	0	1	–	2	AA 0 4

¹⁾ Operation of resistive loads with up to 10 A.

²⁾ Standard three-phase motor, basis 4-pole at 400 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Less space required in the control cabinet (20 to 80%) thanks to high functional density, which also means reduced wiring and testing
- Greater endurance and reduced heat losses thanks to hybrid technology
- Lower costs for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:5)
- Fast wiring without tools for rigid conductors or conductors equipped with end sleeves thanks to spring-loaded terminals (push-in)
- Safety-related shutdown in accordance with SIL 3 and PL e by shutting down the control supply voltage without additional devices in the main circuit
- The motor starters can be ideally combined with 3SK safety relays for safety-related shutdown (see page 11/13)
- Motor status feedback to the higher-level control system in the case of 3RM10 and 3RM12 motor starters in the 24 V DC version

- Virtually error-free wiring on the mains connection side and reduction in short-circuit protective devices by means of 3RM19 infeed system
- ATEX certification of the overload protection of the 3RM1 Failsafe motor starters: "Increased safety" type of protection EEx e according to ATEX directive 2014/34/EU
- The 3RM1 motor starters can be used with highly efficient IE3 and IE4 motors. In this regard, please observe the information on dimensioning and configuring, see [Application Manual](#). For more information, see page 1/8.

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA¹⁾
- ATEX
- IEC 61508: SIL 3
- IEC 62061: SIL 3
- ISO 13849-1: PL e
- CCC approval for China

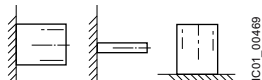
¹⁾ The CSA approval is valid for a maximum operational voltage of 400 V, see <https://support.industry.siemens.com/cs/ww/en/view/109481789>.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Technical specifications

More information			
Industry Mall, see www.siemens.com/product?3RM1		FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16311/faq	
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/66295730			

Article number		3RM1
General technical specifications		
Dimensions (W x H x D)	mm	22.5 x 100 x 141.6
Ambient temperature		
• During operation	°C	-25 ... +60
• During storage	°C	-40 ... +70
• During transport	°C	-40 ... +70
Installation altitude at height above sea level, maximum	m	4 000 (observe derating)
Shock resistance		6 g/11 ms
Vibration resistance		1 ... 6 Hz, 15 mm; 20 m/s², 500 Hz
Degree of protection IP on the front	According to IEC 60529	IP20
Touch protection on the front	According to IEC 60529	Finger-safe for vertical touching from the front
Mounting position		Vertical, horizontal, standing (consider derating)

Article number		3RM1.01	3RM1.02	3RM1.07
Main circuit				
Operational voltage, rated value, maximum	V	500		
Operating frequency	Hz	50/60		
Operational current at AC-53a at 400 V at an ambient temperature of 40 °C	A	0.5	2	7
Minimum load [%]	%	20		
Adjustable current response value of the inverse-time delayed overload release	A	0.1 ... 0.5	0.4 ... 2	1.6 ... 7

Article number		3RM1.0.-AA04	3RM1.0.-AA14
Control circuit			
Type of voltage of the control supply voltage		DC	AC/DC
Control supply voltage			
• At DC	V	24	110
• At AC at 50 Hz	V	--	110 ... 230
Frequency of the control supply voltage	Hz	--	50/60

Type		3RM1.0.-1AA.4	3RM1.0.-3AA.4	3RM1.0.-2AA.4
Connections/terminals				
Type of electrical connection for the main circuit (1 or 2 conductors can be connected)		 Screw terminals	 Spring-loaded terminals (push-in)	
Connectable conductor cross-section for main contacts				
• Solid	mm²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)		1 x (0.5 ... 4)
• Finely stranded				
- With end sleeve	mm²	1 x (0.5 ... 4), 2 x (0.5 ... 1.5)		1 x (0.5 ... 2.5)
- Without end sleeve	mm²	--		1 x (0.5 ... 4)
Type of electrical connection for auxiliary and control circuits (1 or 2 conductors can be connected)		 Screw terminals	 Spring-loaded terminals (push-in)	
Type of connectable conductor cross-sections for auxiliary contacts				
• Solid	mm²	1 x (0.5 ... 2.5), 2 x (1.0 ... 1.5)		1 x (0.5 ... 1.5), 2 x (0.5 ... 1.5)
• Finely stranded				
- With end sleeve	mm²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1)		1 x (0.5 ... 1.0), 2 x (0.5 ... 1.0)
- Without end sleeve	mm²	--		1 x (0.5 ... 1.5), 2 x (0.5 ... 1.5)
Type of connectable conductor cross-sections for AWG cables				
• For main contacts		1 x (20 ... 12), 2 x (20 ... 14)		1 x (20 ... 12)
• For auxiliary contacts		1 x (20 ... 14), 2 x (18 ... 16)		1 x (20 ... 16), 2 x (20 ... 16)

Accessories

More information

Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/66295730>

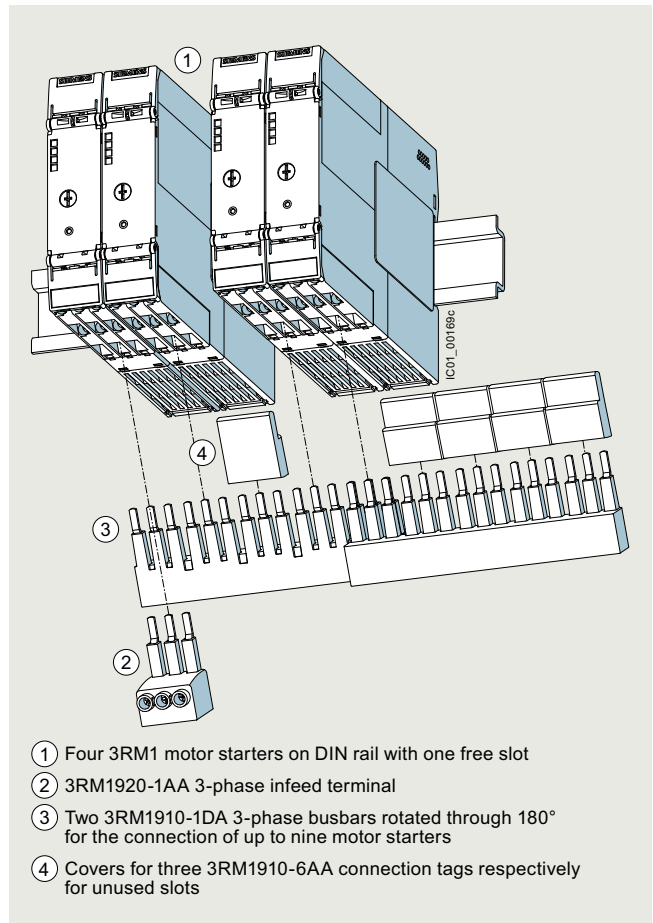
3-phase infeed system (3RM19 3-phase busbar system)

The system permits an easy, time-saving and safe means of feeding two or more 3RM1 motor starters. It can be used only with motor starters with screw terminals and in combination with 8US1716-0RK00 adapters for mounting rails in the main circuit.

The maximum summation current must not exceed 25 A.
 The primary infeed is connected via a 3-phase infeed terminal.

The busbars are available in three lengths, for two, three or five motor starters. More than five devices can be connected by clamping the connection tags of a second busbar underneath, rotated 180°.

The 3-phase busbars have touch protection but empty connection tags must be fitted with covers.



3RM19 infeed system with 3-phase infeed terminal: In the above example, two 3-phase busbars (5-pole busbars) rotated 180° allow up to nine 3RM1 motor starters to be connected. Contact with the unused connection tags in unoccupied positions is prevented safely by the covers.

Load feeders and motor starters for use in the control cabinet

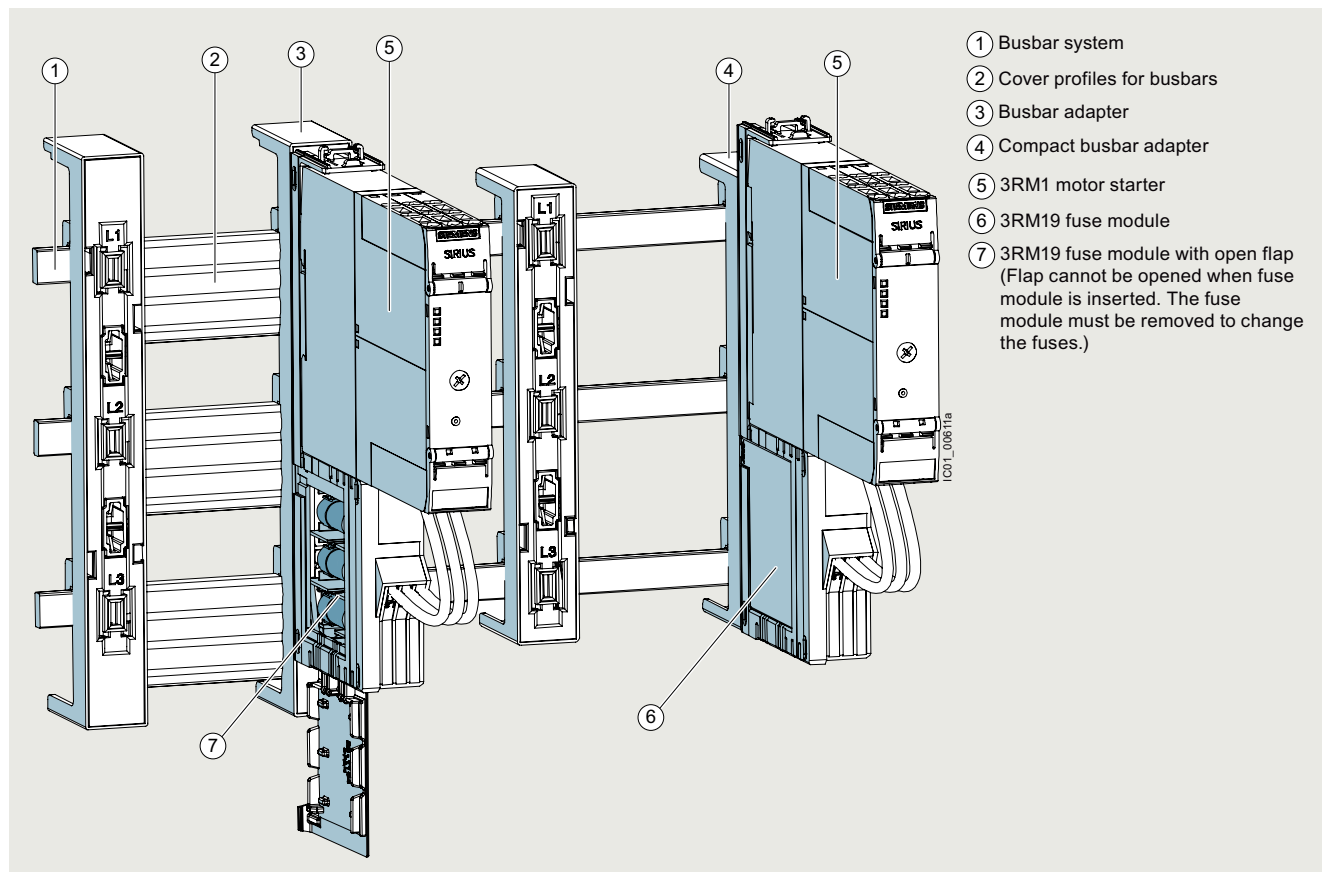
SIRIUS 3RM1 motor starters

Fuse module for the use of 3RM1 motor starters on 8US busbar systems and mounting rails

The fuse module permits the very compact construction of a load feeder with a maximum width of 22.5 mm. The 3RM1 motor starter in combination with the integrated fuses for short-circuit protection can thus be used in this way on 8US busbar systems.

By means of different adapters, the fuse module can be used in all 60 mm busbar systems and also in compact busbar systems, as well as on mounting rails. The interface to the adapter also permits a simple and secure replacement of the load feeder.

The fuse module can be combined with all 3RM1 motor starters. The easily replaceable fuses protect the motor starter, the connected motor and the cables.



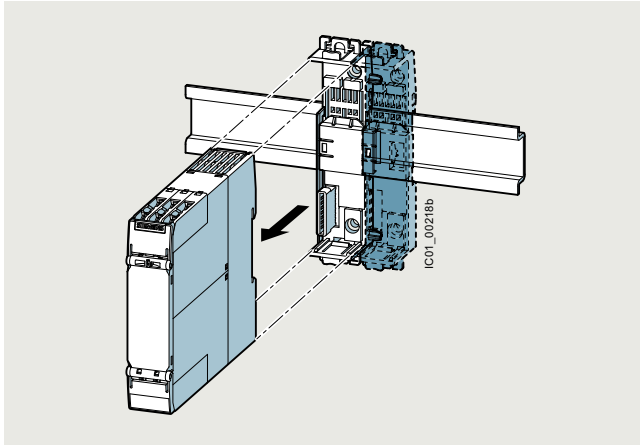
By means of the fuse module, 3RM1 motor starters can be used in busbar systems and 8US compact busbar systems as well as on mounting rails

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Device connectors for the control circuit

The device connectors for 3RM1 motor starters (24 V DC control supply voltage only) reduce the outlay for cabling by looping through the control supply voltage. The device connectors can be snapped onto a DIN rail or fixed to a level mounting panel using screws.



Device connector with 3RM1 motor starter

Using the device connectors exclusively for feeding in the control supply voltage

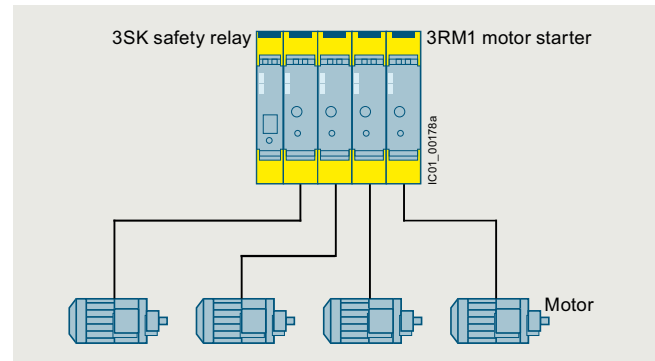
By using device connectors, a maximum of five motor starters can be supplied with 24 V DC control supply voltage. This requires the control supply voltage to be applied to the A1 and A2 terminals of only one motor starter.

Device daisy chain connectors can be used for gaps between two motor starters. Device termination connectors terminate a group.

Using the device connectors for safe group shutdown

In combination with the 3RM11 and 3RM13 fail-safe motor starters, the device connector can also be used for safety-related shutdown. For this application, groups of no more than five fail-safe motor starters can be connected using a device connector, and the group must be terminated with a termination connector. Removing the control voltage supply from the first motor starter will safely shut down the whole group.

Safe group shutdown can be implemented particularly easily in conjunction with 3SK safety relays. In this case, up to five motor starters can be directly connected to 3SK safety relays via the device connector and then safely shut down (see page 11/13).



Ideal connection: Combination of four SIRIUS 3RM1 Failsafe motor starters with SIRIUS 3SK safety relays

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors < 1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- For 3RT2916-1P.. EMC suppression modules for direct mounting on the contactor, see page 3/113
- For motor suppression modules that are fitted in the main circuit, see page 8/93

Note:

For more information, see <https://support.industry.siemens.com/cs/ww/en/view/109758696>.

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters **IE3/IE4 ready**

Selection and ordering data

More information

Industry Mall, see www.siemens.com/product?3RM1

Multi-unit packaging
see page 16/7.

Ratings of three-phase motors at 400 V ¹⁾	Adjustable current response value of the inverse- time delayed overload release	Control supply voltage		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		at DC	at AC at 50 Hz					
kW	A	V	V					

Direct-on-line starters



3RM1001-1AA04

0 ... 0.12	0.1 ... 0.5	24	--	3RM1001-□AA04		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	24	--	3RM1002-□AA04		1	1 unit	41D
0.55 ... 3	1.6 ... 7	24	--	3RM1007-□AA04		1	1 unit	41D
0 ... 0.12	0.1 ... 0.5	110	110 ... 230	3RM1001-□AA14		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	110	110 ... 230	3RM1002-□AA14		1	1 unit	41D
0.55 ... 3	1.6 ... 7	110	110 ... 230	3RM1007-□AA14		1	1 unit	41D

Reversing starters



3RM1201-1AA04

0 ... 0.12	0.1 ... 0.5	24	--	3RM1201-□AA04		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	24	--	3RM1202-□AA04		1	1 unit	41D
0.55 ... 3	1.6 ... 7	24	--	3RM1207-□AA04		1	1 unit	41D
0 ... 0.12	0.1 ... 0.5	110	110 ... 230	3RM1201-□AA14		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	110	110 ... 230	3RM1202-□AA14		1	1 unit	41D
0.55 ... 3	1.6 ... 7	110	110 ... 230	3RM1207-□AA14		1	1 unit	41D

Failsafe direct-on-line starters



3RM1101-1AA04

0 ... 0.12	0.1 ... 0.5	24	--	3RM1101-□AA04		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	24	--	3RM1102-□AA04		1	1 unit	41D
0.55 ... 3	1.6 ... 7	24	--	3RM1107-□AA04		1	1 unit	41D
0 ... 0.12	0.1 ... 0.5	110	110 ... 230	3RM1101-□AA14		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	110	110 ... 230	3RM1102-□AA14		1	1 unit	41D
0.55 ... 3	1.6 ... 7	110	110 ... 230	3RM1107-□AA14		1	1 unit	41D

Failsafe reversing starters



3RM1301-1AA04

0 ... 0.12	0.1 ... 0.5	24	--	3RM1301-□AA04		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	24	--	3RM1302-□AA04		1	1 unit	41D
0.55 ... 3	1.6 ... 7	24	--	3RM1307-□AA04		1	1 unit	41D
0 ... 0.12	0.1 ... 0.5	110	110 ... 230	3RM1301-□AA14		1	1 unit	41D
0.09 ... 0.75	0.4 ... 2	110	110 ... 230	3RM1302-□AA14		1	1 unit	41D
0.55 ... 3	1.6 ... 7	110	110 ... 230	3RM1307-□AA14		1	1 unit	41D

Type of electrical connection

- Screw terminals for main circuit, screw terminals for control circuit
- Spring-loaded terminals (push-in) for main circuit, spring-loaded terminals (push-in) for control circuit
- Screw terminals for main circuit, spring-loaded terminals (push-in) for control circuit

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

1
2
3

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Product designation		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3-phase infeed system for 3RM1 with screw terminals						
 3RM1920-1AA	3-phase infeed terminals • For 3-phase busbars	3RM1920-1AA		1	1 unit	41D
	3-phase busbars • For 2 motor starters	3RM1910-1AA		1	1 unit	41D
	• For 3 motor starters	3RM1910-1BA		1	1 unit	41D
	• For 5 motor starters	3RM1910-1DA		1	1 unit	41D
	Covers For 3 connection tags of the 3-phase busbars	3RM1910-6AA		1	10 units	41D
Fuse modules for 3RM1 for use on busbars or mounting rails						
 3RM1932-1AB	Fuse module with 3NW6007-1 fuse	3RM1932-1AB		1	1 unit	41D
	Fuse module without fuse¹⁾	3RM1930-1AA		1	1 unit	41D
Adapters						
 8US1216-0AS00	Adapters for 60 mm busbar systems 22.5 mm x 200 mm x 41.5 mm Note: The adapter can be used on busbars with a width of 12 mm, 15 mm, 20 mm, 25 mm or 30 mm and a thickness of 5 mm or 10 mm.	8US1216-0AS00		1	1 unit	140
	Adapters for 60 mm compact busbar systems 22.5 mm x 160 mm x 41.5 mm Note: The adapter can be used on busbars with a width of 12 mm and a thickness of 5 mm or 10 mm.	8US1616-0AK02		1	1 unit	140
 8US1616-0AK02						

¹⁾ For details of alternative fuses, see [Equipment Manual](#).

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RM1 motor starters

Product designation		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Adapters						
	Adapter for 35 mm DIN mounting rails 22.5 mm x 185 mm x 23.5 mm	8US1716-0RK00		1	1 unit	140
8US1716-0RK00						
Cover profiles ¹⁾²⁾						
Cover profiles for busbars						
	12 mm x 5 mm x 1 000 mm 40 mm or 60 mm center-to-center busbar clearance depending on busbar system	8US1922-2CA00		1	10 units	140
8US1922-2CA00						
	15 mm x 5 mm x 1 000 mm 20 mm x 5 mm x 1 000 mm 25 mm x 5 mm x 1 000 mm 30 mm x 5 mm x 1 000 mm 40 mm or 60 mm center-to-center busbar clearance depending on busbar system	8US1922-2AA00		1	10 units	140
8US1922-2AA00						
	12 mm x 10 mm x 1 000 mm 15 mm x 10 mm x 1 000 mm 20 mm x 10 mm x 1 000 mm 25 mm x 10 mm x 1 000 mm 30 mm x 10 mm x 1 000 mm 60 mm center-to-center busbar clearance	8US1922-2BA00		1	10 units	140
8US1922-2BA00						
Device connectors						
	Device connectors For 3RM1 motor starters, 24 V DC, 22.5 mm	3ZY1212-2EA00		1	1 unit	41L
3ZY1212-2EA00						
	Device daisy chain connectors For 3RM1 motor starters, 24 V DC, 22.5 mm For gaps without motor starters in assemblies	3ZY1212-2AB00		1	1 unit	41L
3ZY1212-2AB00						
	Device termination connectors For 3RM1 motor starters, 24 V DC, 22.5 mm	3ZY1212-2FA00		1	1 unit	41L
3ZY1212-2FA00						

¹⁾ The cover profiles for busbars can be used for maintaining minimum spacing between the load feeders.

²⁾ For further accessories for the configuration of a busbar system, see Catalog LV 10.

Load feeders and motor starters for use in the control cabinet

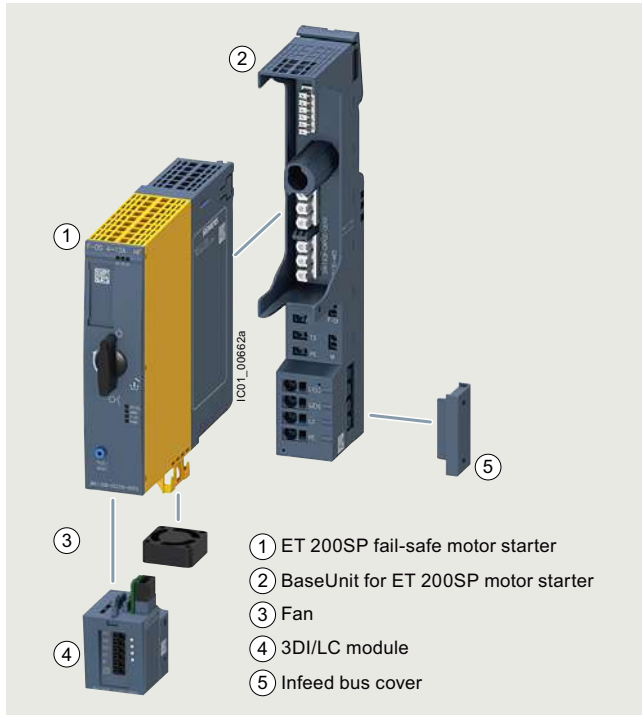
SIRIUS 3RM1 motor starters

Product designation		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Removable terminals							
 3ZY1122-1BA00	Terminals for main circuit, 2-pole Version with screw terminals, up to max. 1 x 4 mm² or 2 x 2.5 mm²	Screw terminals 		1	6 units	41L	
		3ZY1122-1BA00					
	Terminals for control circuit, 3-pole Version with spring-loaded terminals (push-in), up to max. 1 x 4 mm² or 2 x 1.5 mm² (both in one end sleeve)	Spring-loaded terminals (push-in) 		1	6 units	41L	
		3ZY1122-2BA00					
 3ZY1131-1BA00	Terminals for main circuit, 2-pole Version with screw terminals, up to max. 2 x 1.5 mm² or 1 x 2.5 mm²	Screw terminals 		1	6 units	41L	
		3ZY1131-1BA00					
	Terminals for control circuit, 3-pole Version with spring-loaded terminals (push-in), up to max. 2 x 1.5 mm²	Spring-loaded terminals (push-in) 		1	6 units	41L	
		3ZY1131-2BA00					
Further accessories							
 3ZY1311-0AA00	Push-in lugs for wall mounting 2 lugs per device are required	3ZY1311-0AA00		1	10 units	41L	
 3ZY1321-2AA00	Sealable covers, 22.5 mm For simple protection against unauthorized access	3ZY1321-2AA00		1	5 units	41L	
 3ZY1440-1AA00	Coding pins for removable terminals For mechanical coding of the terminals	3ZY1440-1AA00		1	12 units	41L	
 3ZY1450-1AB00	Hinged cover Replacement cover, without terminal labeling, 22.5 mm wide - Titanium gray - Yellow	3ZY1450-1AB00		1	5 units	41L	
		3ZY1450-1BB00		1	5 units	41L	
 3RK1911-6EA00	Motor suppression module - Square - Round	3RK1911-6EA00		1	1 unit	42D	
		3RK1911-6EB00		1	1 unit	42D	
 3RA2908-1A	Screwdriver For all SIRIUS devices with spring-loaded terminals Length, approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Spring-loaded terminals 		1	1 unit	41B	
		3RA2908-1A					

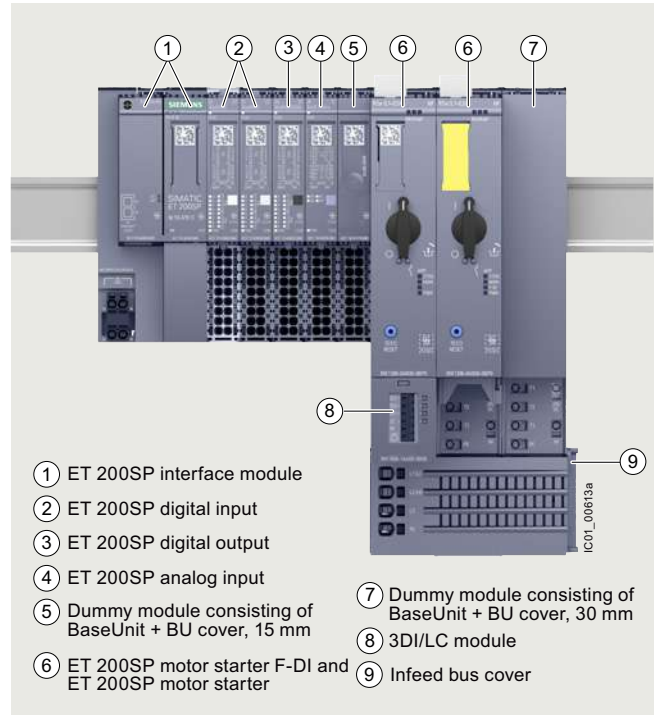
Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

Overview



Motor starter, BaseUnit, fan and 3DI/LC control module



3RK1308 motor starter in the ET 200SP I/O system

More information

Homepage, see www.siemens.com/sirius-motor-starter-et200sp
 Industry Mall, see www.siemens.com/product?3RK1308
 TIA Selection Tool, see www.siemens.com/TST
 Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Industry Online Support (SIOS) topic page with information on the planning and operating phases, see <https://support.industry.siemens.com/cs/ww/en/view/109792664>
 Further components in the ET 200SP I/O system:
 • Catalog ST 70
 • Homepage, see www.siemens.com/et200sp

ET 200SP motor starters

ET 200SP is a scalable and extremely flexible modular I/O system with degree of protection IP20.

As I/O modules, the ET 200SP motor starters are an integral part of this I/O system. They are switching and protection devices for 1- and 3-phase loads and are available as direct-on-line or reversing starters.



Video: SIMATIC ET 200SP motor starter - Flexible, powerful, space-saving

Basic functionality

All versions of the ET 200SP motor starter feature the following functionality:

- Fully pre-wired motor starters for switching and protecting any AC loads up to 5.5 kW from 48 V AC to 500 V AC
- Disconnection possible via fail-safe motor starters up to SIL 3 and PL e Cat. 4
- With self-assembling 32 A power bus, i.e. the load voltage is only fed in once for a group of motor starters

- All supply voltages connected only once, i.e. when modules are added, they are automatically connected to the next module
- Hot swapping is permissible
- Digital inputs can optionally be used via a 3DI/LC module
- Control of the motor starter from the control system and of the diagnostics status via the cyclic process image
- Diagnostics capability for active monitoring of the switching and protection functions
- The signal states in the process image of the motor starter provide information about protective devices (short circuit or overload), the switching states of the motor starter, and system faults.

Starter kit

The 3RK1908-1SK00 starter kit is a favorably priced complete package for switching and monitoring motors in the ET 200SP system, see [page 8/102](#).

It contains:

- A 3RK1308-0BC00-0CP0 reversing starter (0.9 to 3 A)
- A 3RK1908-0AP00-0AP0 BaseUnit with 500 V and 24 V AC/DC infeed
- An EMC distance module (consisting of 6ES7193-6BP00-0BA0 BaseUnit plus 6ES7133-6CV15-1AM0 BU cover 15 mm)

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

Use of fan

For motor starters with a 12 A rated current, the 3RW4928-8VB00 fan is included in the scope of supply.

This fan can also be ordered as an option for motor starters with lower rated currents, if the boundary conditions demand this. For information on the ambient conditions for the use of motor starters, see chapter "Product features" in the Equipment Manual.

Designing interference-free motor starters

For interference-free operation of the ET 200SP station in accordance with IEC 60947-4-2 standard, use a dummy module before the first motor starter. The dummy module consists of the 6ES7193-6BP00-0BA0 or 6ES7193-6BP00-0DA0 BaseUnit and the 6ES7133-6CV15-1AM0 BU cover 15 mm.

The 15 mm BU cover protects the plug contacts of the BaseUnit against dirt.

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors <1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- For 3RT2916-1P.. EMC suppression modules for direct mounting on the contactor, see page 3/113
- For motor suppression modules that are fitted in the main circuit, see page 8/102

Note:

For more information, see <https://support.industry.siemens.com/cs/ww/en/view/109758696>.

3DI/LC control module

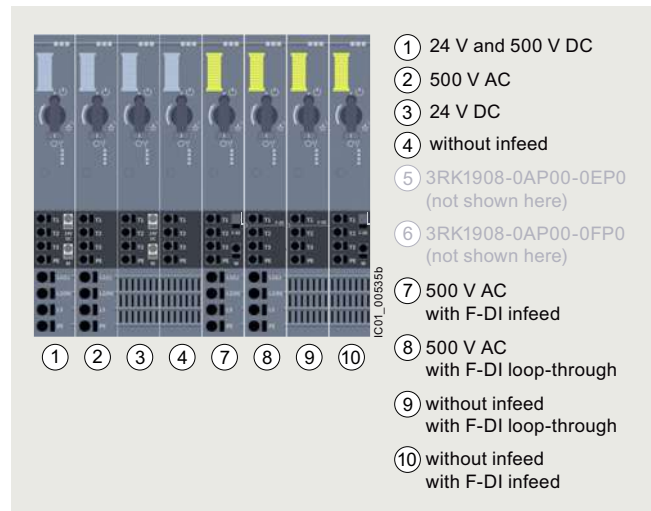


3DI/LC control module

This is a digital input module with three inputs for local motor starter functions such as "manual local control", "implementation of fast inputs" or "end position disconnection". For a list of all the functions permitted by the 3DI/LC module, see chapter "Functions" in the Equipment Manual.

The module is plugged into the front of the motor starter from which it is supplied with a 24 V DC operational voltage.

BaseUnits for motor starters



View of the BaseUnit infeeds for the motor starters

BaseUnits are components used for mounting the ET 200SP I/O modules.

The self-assembling voltage buses integrated into the BaseUnits reduce wiring outlay to the single infeed (both of auxiliary and load voltage).

All modules following on the right are automatically supplied upon plugging the BaseUnits together, if BaseUnits are inserted with a loop-through.

The rugged design and keyed connection technology enables use in harsh industrial conditions.

The BaseUnits are available with various infeeds for the motor starters.

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

Article number schemes

Product versions		Article number	
Motor starters		3RK1308 – 0 □ □ 0 0 – 0 C P 0	
Product function	Direct-on-line starters	A	For motor standard output 0.09 ... 5.5 kW ¹⁾
	Reversing starters	B	For motor standard output 0.09 ... 5.5 kW ¹⁾
	Fail-safe direct-on-line starters	C	For motor standard output 0.09 ... 5.5 kW ¹⁾
	Fail-safe reversing starters	D	For motor standard output 0.09 ... 5.5 kW ¹⁾
Current range	0.1 ... 0.4 A	A	Maximum current-carrying capacity when starting 4 A
	0.3 ... 1 A	B	Maximum current-carrying capacity when starting 10 A
	0.9 ... 3 A	C	Maximum current-carrying capacity when starting 30 A
	2.8 ... 9 A	D	Maximum current-carrying capacity when starting 90 A
	4 ... 12 A	E	Including fan (3RW4928-8VB00), maximum current-carrying capacity when starting 100 A
Example		3RK1308 – 0 A D 0 0 – 0 C P 0	

¹⁾ For standard motors: 1-phase or 3-phase asynchronous motors, 1-phase AC motors, 1-phase asynchronous motors, at 400 V AC and 500 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

Product versions		Article number	
BaseUnit		3RK1908 – 0 A P 0 0 – 0 □ P 0	
BU infeed	24 V DC and 500 V AC	A	
	24 V DC	B	
	500 V AC	C	
	Without infeed	D	
	500 V AC	G	With F-DI infeed
	500 V AC	H	With F-DI loop-through
	Without infeed	J	With F-DI loop-through
	Without infeed	K	With F-DI infeed
Example		3RK1908 – 0 A P 0 0 – 0 A P 0	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The ET 200SP motor starters offer a number of advantages:

- Fully integrated into the ET 200SP I/O system (including TIA Selection Tool and TIA Portal)
- High degree of flexibility when it comes to safety applications via SIMATIC F-CPU or 3SK safety relays up to SIL 3 and PL e Cat. 4.
- Simple, integrated current value transmission
- Extensive parameterization by means of TIA Portal
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Greater endurance and reduced heat losses thanks to hybrid technology
- Less space required in the control cabinet (20 to 80%) as a result of greater functional density (direct-on-line and reversing starters in same width)
- Extensive diagnostics and information for preventive maintenance
- Parameterizable inputs via 3DI/LC control module
- Less wiring and testing required as a result of integrating several functions into a single device
- Lower overheads for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:3)
- Technology has lower inherent power losses than speed-controlled drive systems, so that less cooling (and smaller footprint) are possible

- The ET 200SP motor starters can be used with highly efficient IE3 and IE4 motors, [see Application Manual](#). Take the current characteristics of the connected motor and motor starter into account when dimensioning. In addition to the rated current, the maximum permissible current range of the motor starter and the ratio of the rated current to the starting current of the motor are relevant. For more information, [see page 1/8](#).

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA
- ATEX
- IEC 62061: SIL 3
- ISO 13849-1: PL e
- CCC approval for China

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

Application

The ET 200SP motor starters are suitable for the following applications:

- Switching and monitoring of
 - 3-phase motors with overload and short-circuit protection (e.g. 400 V asynchronous motors for secondary drives in conveyor systems)
 - 1-phase motors with overload and short-circuit protection (e.g. 230 V motors for pump applications)
 - Resistive loads by means of current value and diagnostics via the maintenance function (e.g. for heaters)
- Plant monitoring and energy management in conveyor systems:
 - By means of the phase asymmetry and zero current detection during current measurement, drive belt monitoring and blocking monitoring are possible, for example.

- Track switching and lifting table control in conveyor systems: Track switches can be implemented by means of the quick stop function and lifting table controls by means of the "immediate end position disconnection" function without any laborious programming.
- Safe isolation of drive from main power supply: The isolating functions in accordance with IEC 60947-1 offer protection against inadvertent activation during plant maintenance.

Motor starters in the process industry

For the ET 200SP motor starters, special 3RK1908-0AP00-0.H0 BaseUnits are available that enable the devices to also be used in the ET 200SP HA I/O system. This is typically used in process engineering applications.

For more information, see <https://mall.industry.siemens.com/mall/ww/en/Catalog/Products/10398144?tree=CatalogTree>.

Technical specifications

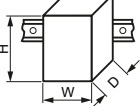
More information

Industry Mall, see www.siemens.com/product?3RK1308

Equipment Manual, see <https://support.industry.siemens.com/cs/ww/en/view/109479973>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/21800/faq>

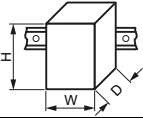
ET 200SP motor starters

Article number		3RK1308-0.A00-0CP0	3RK1308-0.B00-0CP0	3RK1308-0.C00-0CP0	3RK1308-0.D00-0CP0	3RK1308-0.E00-0CP0
Product category		Motor starters				
General technical specifications						
Width x height x depth	mm	30 x 142 x 150				
						
Design of the switching contact		Hybrid				
Design of the motor protection		Electronic				
Installation altitude at height above sea level, maximum	m	4 000, derating, see Manual				
Mounting position		Vertical, horizontal, (observe derating)				
Type of mounting		Can be plugged into BaseUnit				
Ambient temperature						
• During operation	°C	-25 ... +60				
• During transport	°C	-40 ... +70				
• During storage	°C	-40 ... +70				
Relative humidity during operation	%	10 ... 95				
Vibration resistance		15 mm up to 6 Hz; 2 g up to 500 Hz				
Shock resistance		6 g/11 ms				
Degree of protection IP on the front according to IEC 60529		IP20				
Touch protection on the front according to IEC 60529		Finger-safe				
Type of coordination		1				
Electrical specifications						
Supply voltage at DC rated value	V	24				
Operational power for AC-53a at 400 V rated value	kW	0.12	0.25	1.1	4	5.5
Operating frequency, rated value	Hz	50 ... 60				
Ultimate short-circuit current breaking capacity (I_{cu})						
• At 400 V rated value	kA	55				
• At 500 V rated value	kA	55				
Adjustable current response value of the inverse-time delayed overload release	A	0.1 ... 0.4	0.3 ... 1	0.9 ... 3	2.8 ... 9	4 ... 12
Max. current-carrying capacity on starting	A	4	10	30	90	100
Max. permissible voltage for protective separation between main and auxiliary circuit	V	500				
Insulation voltage, rated value	V	500				
Trip class		CLASS OFF/5/10 can be set				

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

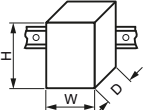
BaseUnits for motor starters

Article number		3RK1908-0AP00-0AP0	3RK1908-0AP00-0BP0	3RK1908-0AP00-0CP0 3RK1908-0AP00-0GP0 3RK1908-0AP00-0HP0	3RK1908-0AP00-0DP0 3RK1908-0AP00-0JP0 3RK1908-0AP00-0KP0
Product designation		BaseUnit			
General technical specifications					
Width x height x depth		mm	30 x 215 x 75		
					
Ambient temperature					
• During operation		°C	-25 ... +60		
• During transport		°C	-40 ... +70		
• During storage		°C	-40 ... +70		
Degree of protection IP on the front according to IEC 60529		IP20			
Touch protection on the front according to IEC 60529		Finger-safe			
Connections/terminals					
Type of connectable conductor cross-sections					
• At the inputs for supply voltage					
- Solid		1 x 0.5 ... 2.5 mm ²	--	--	--
- Finely stranded with end sleeve		1 x 0.5 ... 2.5 mm ²	--	--	--
- Finely stranded without end sleeve		1 x 0.5 ... 2.5 mm ²	--	--	--
- Solid for AWG cables		1 x 20 ... 12	--	--	--
• For infeed					
- Solid		1 x 1 ... 6 mm ²	--	1 x 1 ... 6 mm ²	--
- Finely stranded with end sleeve		1 x 1 ... 6 mm ²	--	1 x 1 ... 6 mm ²	--
- Finely stranded without end sleeve		1 x 1 ... 6 mm ²	--	1 x 1 ... 6 mm ²	--
- For AWG cables		1 x 18 ... 10	--	1 x 18 ... 10	--
• For load-side outgoing feeder					
- Solid		1 x 0.5 ... 2.5 mm ²	--	--	--
- Finely stranded with end sleeve		1 x 0.5 ... 2.5 mm ²	--	--	--
- Finely stranded without end sleeve		1 x 0.5 ... 2.5 mm ²	--	--	--
- For AWG cables		1 x 20 ... 12	--	--	--
Type of electrical connection for auxiliary and control circuits		Spring-loaded terminals (push-in)			
Miscellaneous					
Type of screwdriver tip		Slotted			
Size of screwdriver tip		Standard screwdriver 0.6 mm x 3.5 mm			

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

3DI/LC control module

Article number		3RK1908-1AA00-0BP0
Product designation		3DI/LC control module
General technical specifications		
Width x height x depth	mm	30 x 54.5 x 42.3
		
Product version		Accessories
Number of digital inputs		4
Installation altitude at height above sea level, maximum	m	2 000
Mounting position		Vertical, horizontal, flat
Type of mounting		Can be plugged onto motor starter
Ambient temperature		
• During operation	°C	-25 ... +60
• During transport	°C	-40 ... +70
• During storage	°C	-40 ... +70
Connections/terminals		
Connectable conductor cross-section for auxiliary contacts		
• Solid or stranded	mm²	0.2 ... 1.5
• Finely stranded with end sleeve	mm²	0.25 ... 1.5
• Finely stranded without end sleeve	mm²	0.2 ... 1.5
AWG number as coded connectable conductor cross-section for auxiliary contacts		24 ... 16
Type of electrical connection for auxiliary and control circuits		Spring-loaded terminals (push-in)
Electrical specifications		
Type of voltage of the control supply voltage		DC
Control supply voltage at DC rated value	V	20.4 ... 28.8
Miscellaneous		
Type of screwdriver tip		Slotted
Size of screwdriver tip		Standard screwdriver 0.6 mm x 3.5 mm

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters **IE3/IE4 ready**

Selection and ordering data

	Adjustable current response value of the inverse-time delayed overload release	Max. current-carrying capacity on starting	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A					
Motor starters							
Direct-on-line starters							
	0.1 ... 0.4	4	3RK1308-0AA00-0CP0		1	1 unit	42D
	0.3 ... 1	10	3RK1308-0AB00-0CP0		1	1 unit	42D
	0.9 ... 3	30	3RK1308-0AC00-0CP0		1	1 unit	42D
	2.8 ... 9	90	3RK1308-0AD00-0CP0		1	1 unit	42D
	4 ... 12	100	3RK1308-0AE00-0CP0		1	1 unit	42D
Reversing starters							
	0.1 ... 0.4	4	3RK1308-0BA00-0CP0		1	1 unit	42D
	0.3 ... 1	10	3RK1308-0BB00-0CP0		1	1 unit	42D
	0.9 ... 3	30	3RK1308-0BC00-0CP0		1	1 unit	42D
	2.8 ... 9	90	3RK1308-0BD00-0CP0		1	1 unit	42D
	4 ... 12	100	3RK1308-0BE00-0CP0		1	1 unit	42D
Fail-safe direct-on-line starters							
	0.1 ... 0.4	4	3RK1308-0CA00-0CP0		1	1 unit	42D
	0.3 ... 1	10	3RK1308-0CB00-0CP0		1	1 unit	42D
	0.9 ... 3	30	3RK1308-0CC00-0CP0		1	1 unit	42D
	2.8 ... 9	90	3RK1308-0CD00-0CP0		1	1 unit	42D
	4 ... 12	100	3RK1308-0CE00-0CP0		1	1 unit	42D
Fail-safe reversing starters							
	0.1 ... 0.4	4	3RK1308-0DA00-0CP0		1	1 unit	42D
	0.3 ... 1	10	3RK1308-0DB00-0CP0		1	1 unit	42D
	0.9 ... 3	30	3RK1308-0DC00-0CP0		1	1 unit	42D
	2.8 ... 9	90	3RK1308-0DD00-0CP0		1	1 unit	42D
	4 ... 12	100	3RK1308-0DE00-0CP0		1	1 unit	42D

Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

Product version	Operational voltage of AC infeed	Supply voltage of DC infeed	Push-in terminals	PU (UNIT, SET, M)	PS*	PG
	V	V	Article No. Price per PU			

BaseUnits¹⁾

3RK1908-0AP00-0AP0

For motor starters

• With AC/DC infeed	500	24
• With DC infeed	--	24
• With AC infeed	500	--
• Without infeed	--	--

For fail-safe motor starters

• With AC infeed, with F-DI infeed	500	--
• With AC infeed, with F-DI loop-through	500	--
• Without AC/DC infeed, with F-DI loop-through	--	--
• Without AC/DC infeed, with F-DI infeed	--	--

3RK1908-0AP00-0AP0	1	1 unit	42D
3RK1908-0AP00-0BP0	1	1 unit	42D
3RK1908-0AP00-0CP0	1	1 unit	42D
3RK1908-0AP00-0DP0	1	1 unit	42D

3RK1908-0AP00-0GP0	1	1 unit	42D
3RK1908-0AP00-0HP0	1	1 unit	42D
3RK1908-0AP00-0JP0	1	1 unit	42D
3RK1908-0AP00-0KP0	1	1 unit	42D

¹⁾ The voltage is looped-through from BaseUnits with infeed to subsequent BaseUnits without infeed.

Product version	Supply voltage at DC rated value	Loop through the potential group from the left	Push-in terminals	PU (UNIT, SET, M)	PS*	PG
	V		Article No. Price per PU			

BaseUnits



6ES7193-6BP00-0BA0

For dummy modules

• Dark, looping through the potential group	24	Yes
• Light, opening a new potential group	24	No

6ES7193-6BP00-0BA0	1	1 unit	255
6ES7193-6BP00-0DA0	1	1 unit	255

Control supply voltage at DC rated value	Product function		Push-in terminals	PU (UNIT, SET, M)	PS*	PG
	local control	digital inputs parameterizable	Article No. Price per PU			
V						

3DI/LC control module



3RK1908-1AA00-0BP0

20.4 ... 28.8	Yes	Yes	3RK1908-1AA00-0BP0	1	1 unit	42D
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Load feeders and motor starters for use in the control cabinet

ET 200SP motor starters

	Product designation	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories							
	BU cover 15 mm	For BaseUnits Type A0 or A1	6ES7133-6CV15-1AM0		1	5 units	255
	BU cover 30 mm	For protection of empty slots, 30 mm	3RK1908-1CA00-0BP0		1	1 unit	42D
	Covers Infeed bus (1 bag containing 10 covers)	For ET 200SP	3RK1908-1DA00-2BP0		1	1 unit	42D
	Additional mounting base unit (1 bag containing 5 additional mounting base units)	Mechanical, for ET 200SP	3RK1908-1EA00-1BP0		1	1 unit	42D
	Fan	Can be used for 3RK1308	3RW4928-8VB00		1	1 unit	42G
	Motor suppression module • Square • Round		3RK1911-6EA00		1	1 unit	42D
			3RK1911-6EB00		1	1 unit	42D
	Starter kit	Consists of 3RK1308-0BC00-0CP0 reversing starter (0.9 ... 3 A), 3RK1908-0AP00-0AP0 BaseUnit with 500 V and 24 V AC/DC infeed, and EMC distance module (consisting of 6ES7193-6BP00-0BA0 BaseUnit plus 6ES7133-6CV15-1AM0 BU cover 15 mm)	3RK1908-1SK00		1	1 unit	42D