

Load Feeders and Motor Starters for Use in the Control Cabinet



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Article-No.

3RA1943-2C
3RA1943-2B
3RA1953-2B
3RA1953-2N



Or directly in the Internet, e. g.
[www.siemens.com/
product?3RA1943-2C](http://www.siemens.com/product?3RA1943-2C)

Price groups

PG 12W, 14O, 230, 241, 250, 260, 41B, 41D, 41E, 41L, 42C, 42D, 42F, 471, 4N1, 5K1, 5K2, 5N2, 764, 815, 816

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Notes:

The 3RA1 load feeders (sizes S00/S0 to S3) can be found

- in the Catalog Add-On IC 10 AO · 2014 at the Information and Download Center
- in the interactive catalog CA 01
- in the Industry Mall

Conversion tool, [see
www.siemens.com/sirius/conversion-tool](http://www.siemens.com/sirius/conversion-tool)

Load Feeders and Motor Starters for Use in the Control Cabinet

Introduction

Overview



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 pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters) 2 sizes (S00, S0) - Can be supplied for direct-on-line start or reversing duty as - complete unit or - single devices for self-assembly - Can be supplied with screw or spring-type terminals		
3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/17
3RA21 direct-on-line starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/21
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SIRIUS 3RA1 Load Feeders

	- The 3RA1 fuseless load feeders consist of the 3RV1 motor starter protector and the 3RT1 contactor - The motor starter protector and contactor are prewired and mechanically and electrically connected in pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters) 2 sizes (S2, S3) - Can be supplied for direct-on-line start or reversing duty as - complete unit or - single devices for self-assembly - Can be supplied with screw terminals		
3RA11 direct-on-line starters for snapping onto standard mounting rails or for screw fixing	Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 35 mm standard mounting rail or for screw fixing	3RA1130	8/46
3RA12 reversing starters for snapping onto standard mounting rails or for screw fixing	Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 35 mm standard mounting rail or for screw fixing	Only for self-assembly	8/47
Accessories for 3RA1 direct-on-line and reversing starters			8/48

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 [Chapter 6 "Soft Starters and Solid-State Switching Devices"](#) → ["SIRIUS 3RW Soft Starters"](#)).

Load Feeders and Motor Starters for Use in the Control Cabinet

Introduction



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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	8/60
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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 (22.5 mm wide)		
3RM10 direct-on-line starters	Direct-on-line starting with solid-state overload protection	3RM10	8/85
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Load Feeders and Motor Starters for Use in the Control Cabinet

Introduction



3RK1301 (DS1-x)



3RK1301 (RS1-x)



3RK1301 (DS1e-x)



3RK1301 (DSS1e-x)



3RK1301(RS1e-x)

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ET 200S Motor Starters and Safety Motor Starters

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Standard motor starters	Direct-on-line and reversing starters up to 5.5 kW	3RK1301	8/101
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Safety modules PROFIsafe	Sensor and actuator assignment are freely configurable (distributed safety concept)	3RK1903	8/112
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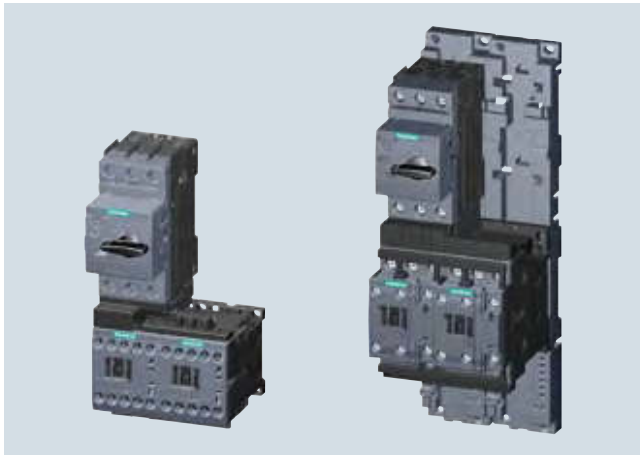
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Overview

3RA2 load feeders



3RA22 reversing starters for snapping onto standard mounting rails or for 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 preassembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

Around 500 preassembled 3RA2 combinations of these innovative 3RT2 controls and 3RV2 protection equipment can be ordered for direct-on-line and reversing starting of standard three-phase motors up to 32 A (approx. 15 kW/400 V).

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 32 A in sizes S00 and S0:

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

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

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

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

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 (types "1" and "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 component 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.

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-type connection is available as well as screw terminals. To connect two devices with spring-type terminals, there are plug-in connection modules 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-type terminals there are special hybrid connection modules for the sizes S00 and S0.



Screw terminals



Spring-type terminals

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

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

3RA2 complete units

The 3RA2 fuseless load feeders can be ordered as preassembled complete units for direct-on-line starting (3RA21) or for reversing duty (3RA22) with screw or spring-type connection.

There are control supply voltages available of 50/60 Hz 230 V AC and 24 V DC.

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

3RA21 load feeders in the size S0 must be configured on standard mounting rail adapters if high vibration and shock loads (railways, power generation,...) 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. They include the top-connected, transverse auxiliary switch on the motor starter protector, which is available with 1 CO contact or 1 NO contact + 1 NC contact. Special auxiliary switch blocks 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

On the whole four different energy supply possibilities are available (see "3RV29 Infeed System for Load Feeders" on page 8/41).

Customer assembly of fuseless load feeders

While the preassembled 3RA2 load feeders can be ordered up to 32 A, combinations up to 40 A (approx. 18.5 kW/400 V) are possible for customer assembly without link modules.

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.

For assembly kits for direct-on-line starting or reversing duty for mounting onto standard mounting rails or busbars, see "Selection and Ordering Data" at "Accessories".

For reversing starters size S0 it is imperative to use a standard mounting rail adapter in order to ensure the necessary mechanical strength. A standard mounting rail adapter is not necessary if a busbar adapter is used.

The 3RA1 fuseless load feeders can be used for fuseless load feeders between 32 and 100 A.

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

Special equipment 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 solid-state 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 preassembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

The following types of configuration are possible:

- Direct-on-line/reversing starting (see preassembled 3RA2 combinations)
- Wye-delta starting (only customer assembly with link module)
- Solid-state/soft starting (only customer assembly with link module)

For more information and assignment tables for combinations of the 3RA2 generation for self-assembly, see the configuration manual:

<http://support.automation.siemens.com/WW/view/en/39714188> (can be ordered at "Selection and ordering data", page 8/40).

Self-assembly of fused load feeders

The flexible, modular system of SIRIUS also enables the configuration of fused load feeders up to 40 A (approx. 18.5 kW/ 400V). 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 "Low-Voltage Power Distribution and Electrical Installation Technology" → "SENTRON Safety, Switching, Measuring and Monitoring Devices".

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Communications integration using 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 communication-capable contactor onto which a 3RA2711 function module is plugged (various versions for direct-on-line, reversing and wye-delta starters). The design of the SIRIUS load feeders permits a group of up to 4 SIRIUS controls to be conveniently connected through the standardized open IO-Link system to a control system, thus reducing wiring work 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 wye-delta starters) and the timing relay function (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 Chapter 2 "Industrial Communication"](#)
- 3RA27 function modules, [see Chapter 3 "Switching Devices – Contactors and Contactor Assemblies" → "Function Modules"](#).

Communications integration 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. This solution also requires a communication-capable contactor and a corresponding 3RA2712 function module (various versions for direct-on-line, reversing and 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 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 wye-delta starters) and the timing relay function (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 Chapter 2 "Industrial Communication"](#)
- 3RA27 function modules, [see Chapter 3 "Switching Devices – Contactors and Contactor Assemblies" → "Function Modules"](#).

Contactors with voltage tap-off

Contactors with a voltage tap-off are required for configuring load feeders with a communication interface (AS-i/IO-Link). These contactors are not included as standard in the preassembled 3RA2 load feeders. A load feeder with communication interface must be assembled therefore from single devices.

Complete integration in the automation landscape

As the result of the communication connection 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 assembly on TH 35 standard mounting rails according to EN 60715 (depth 15 mm)
- For assembly on 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.

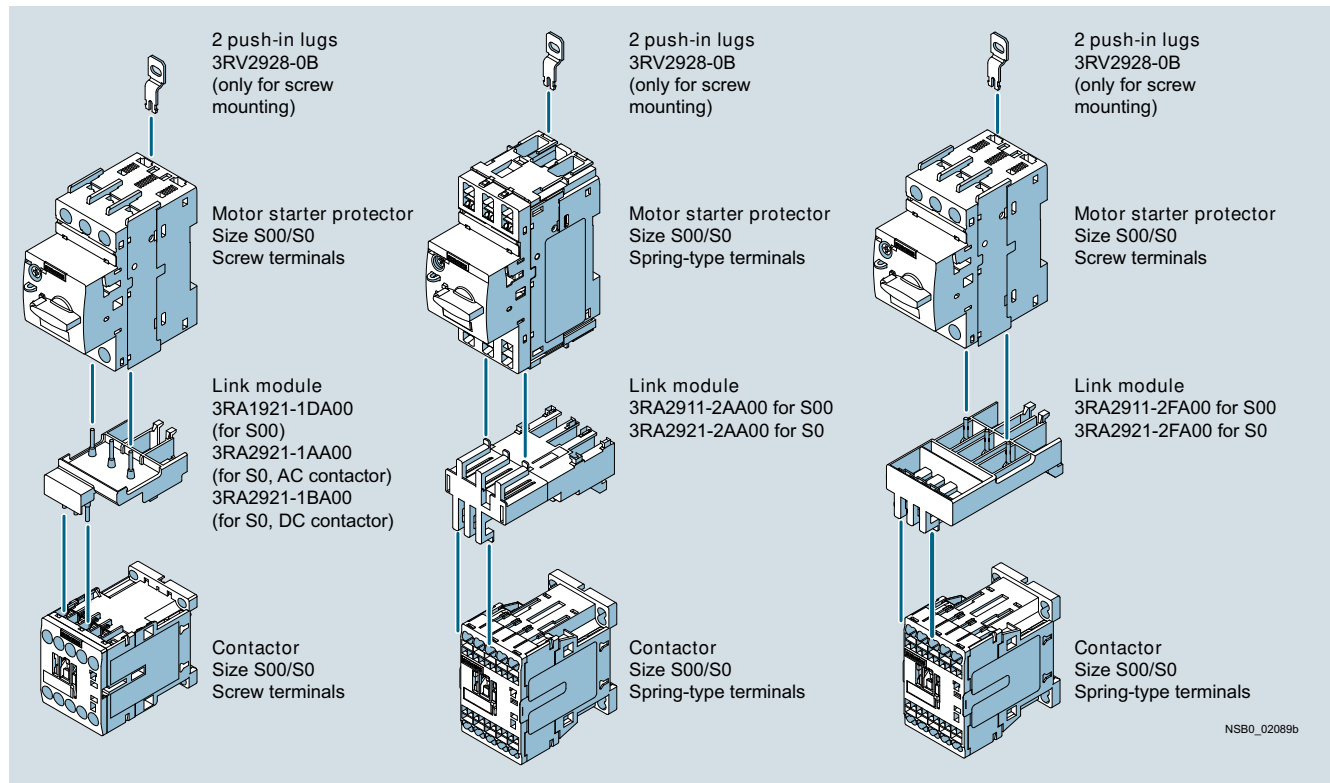
The 3RA2 fuseless load feeders can also be configured with the 3RV29 infeed system ([see Chapter 7 "Protection Equipment" → "Motor Starter Protectors/Circuit Breakers" → "SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers up to 80 A" → "3RV29 Infeed System"](#)).

Load Feeders and Motor Starters for Use in the Control Cabinet

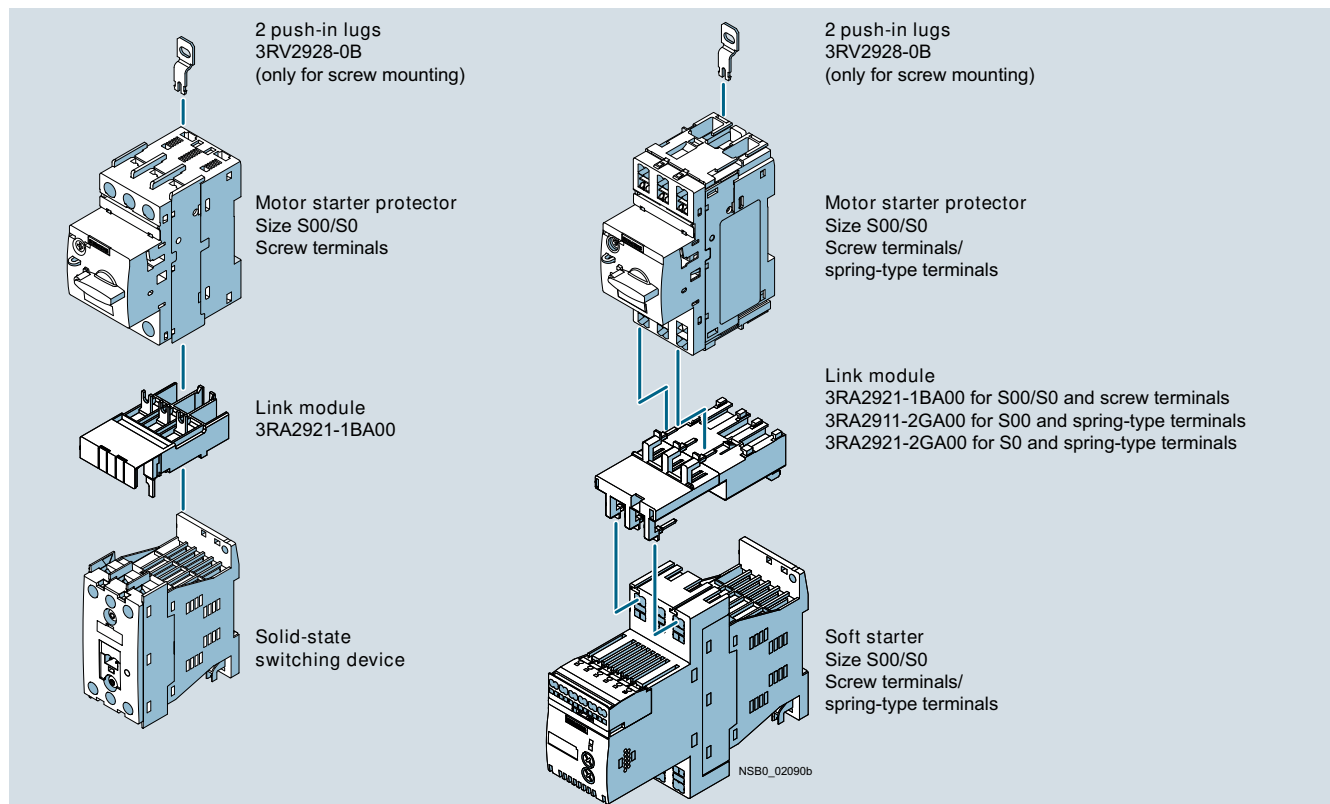
SIRIUS 3RA2 Load Feeders

General data

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



Left: 3RA21 load feeder with screw terminals
Center: 3RA21 load feeder with spring-type terminals
Right: Motor starter protector combination with screw terminals, with contactor with spring-type terminals

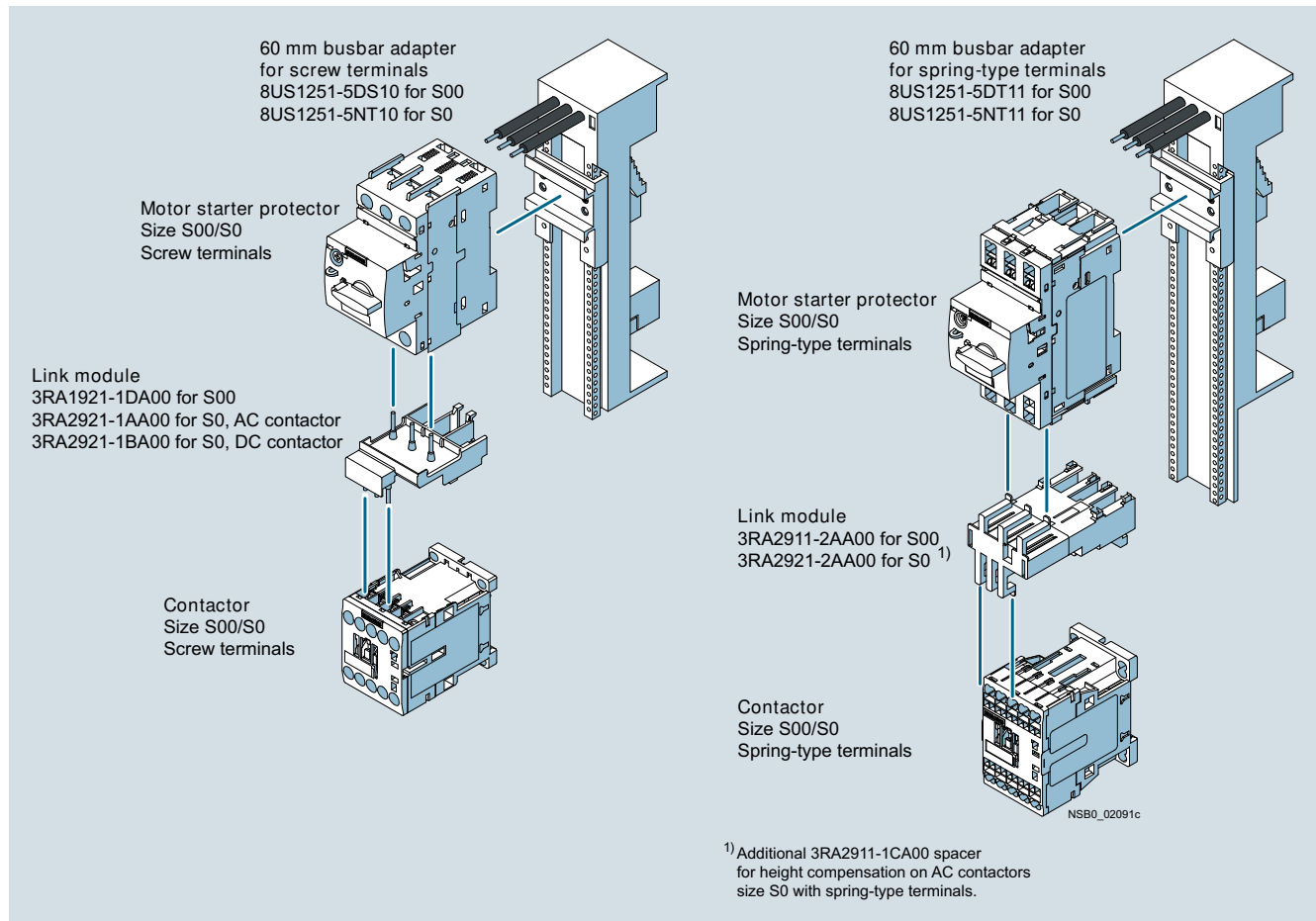


Left: Motor starter protector combination with solid-state switching device with screw terminals
Right: Motor starter protector combination with soft starter with spring-type terminals

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 • Sizes S00 and S0



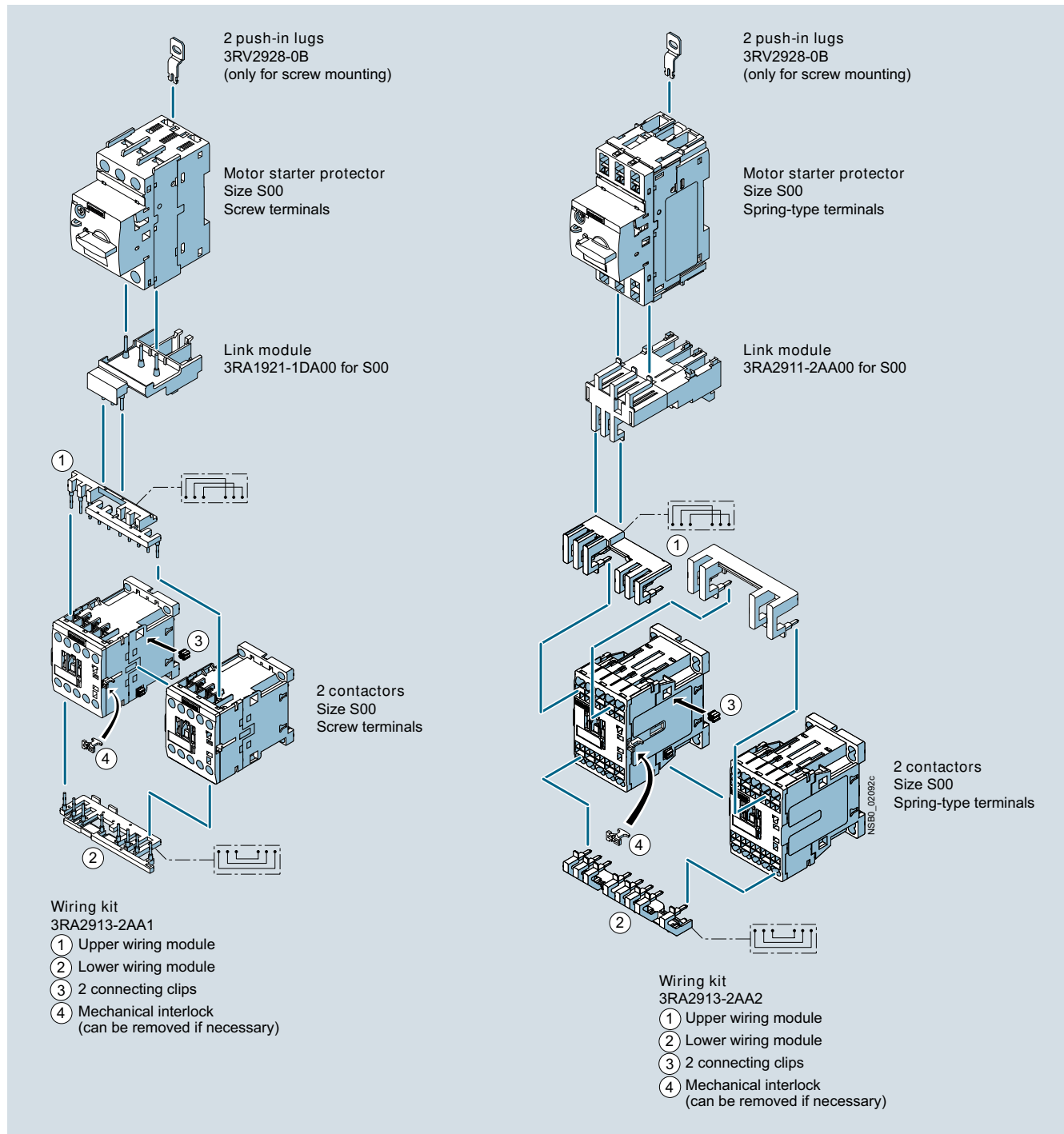
Left: 3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals
 Right: 3RA21 load feeder for direct-on-line starting with busbar adapter with spring-type terminals

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Reversing duty • For standard rail mounting or screw fixing • Size S00



Left: 3RA22 load feeder with screw terminals with push-in lugs with 2 contactors for reversing duty and 3RA2913-2AA1 wiring kit for connection of the contactors (incl. mechanical interlocking and connecting clips)

Right: 3RA22 load feeder with spring-type terminals with push-in lugs with 2 contactors for reversing duty and 3RA2913-2AA2 wiring kit (incl. mechanical interlocking and connecting clips)

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

General data

Reversing duty • For standard rail mounting • Size S0

RH assembly kit for reversing duty and standard rail mounting in size S0

For screw terminals:

3RA2923-1BB1

For spring-type terminals:

3RA2923-1BB2¹⁾

Comprising:

- 1 wiring kit
- 2 standard mounting rail adapters
- 2 connecting wedges

¹⁾ Also includes 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

Motor starter protector
 Size S0
 Screw terminals/
 spring-type terminals

Link module

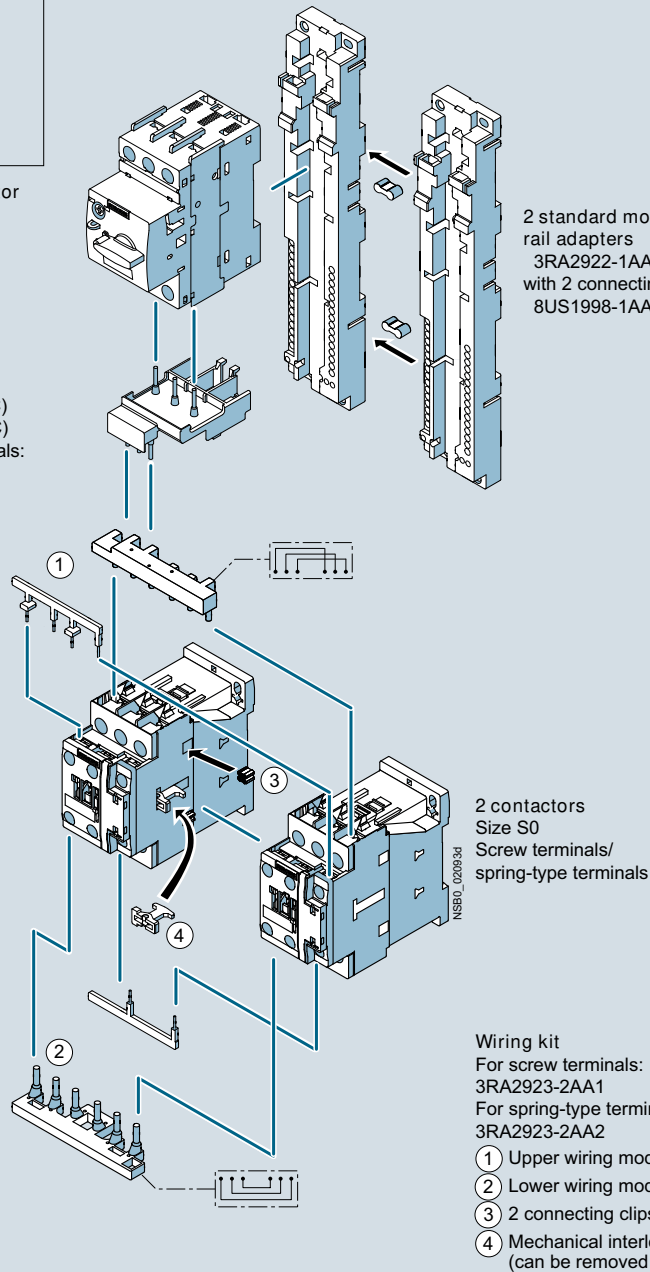
For screw terminals:

3RA2921-1AA00 (AC)

3RA2921-1BA00 (DC)

For spring-type terminals:
 3RA2921-2AA00 ²⁾

2 standard mounting
 rail adapters
 3RA2922-1AA00
 with 2 connecting wedges
 8US1998-1AA00



2 contactors
 Size S0
 Screw terminals/
 spring-type terminals

Wiring kit

For screw terminals:

3RA2923-2AA1

For spring-type terminals:

3RA2923-2AA2

- ① Upper wiring module
- ② Lower wiring module
- ③ 2 connecting clips
- ④ Mechanical interlock
 (can be removed if necessary)

²⁾ Additional 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals

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

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

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

RS assembly kit for reversing duty and busbar mounting

Screw connection:

3RA2913-1DB1 for S00

3RA2923-1DB1 for S0

For spring-type connection:

3RA2913-1DB2 for S00

3RA2923-1DB2 for S0 ¹⁾

Comprising:

1 wiring kit

1 busbar adapter

1 device holder

2 connecting wedges

¹⁾ Also includes 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

Motor starter protector

Size S00/S0

Screw terminals/
spring-type terminals

Link module

For screw terminals:

3RA1921-1DA00 for S00

3RA2921-1AA00 for S0, AC contactor

3RA2921-1BA00 for S0, DC contactor

For spring-type terminals:

3RA2911-2AA00 for S00

3RA2921-2AA00 for S0 ²⁾

60 mm busbar adapter

For screw terminals:

8US1251-5DS10 for S00

8US1251-5NT10 for S0

For spring-type terminals:

8US1251-5DT11 for S00

8US1251-5NT11 for S0

2 connecting wedges
8US1998-1AA00

60 mm device holder

8US1250-5AS10 or

8US1250-5AT10

(according to left adapter)

2 contactors

Size S00/S0

Screw terminals/
spring-type terminals

Wiring kit

Screw connection:

3RA2913-2AA1 for S00

3RA2923-2AA1 for S0

Spring-type connection:

3RA2913-2AA2 for S00

3RA2923-2AA2 for S0

① Upper wiring module

② Lower wiring module

③ 2 connecting clips

④ Mechanical interlock
(can be removed if necessary)

²⁾ Additional 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

3RA22 load feeder for reversing duty and 60 mm busbar in size S00/S0
(the version with screw terminals is shown in the picture)

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Article No. scheme

Digit of the Article No.	1st - 3rd □□□	4th □	5th □	6th □	7th 0	–	8th □	9th □	10th □	11th □	12th □	–	13th □	14th □	15th □	16th □
SIRIUS feeders	3 R A															
SIRIUS 2nd generation		2														
Type of feeder (direct-on-line starter = 1, reversing starter = 2)			□													
Size (S00 = 1, S0 = 2)				□												
Setting range for overload release							□	□								
Design type and connection method									□							
Rated power at 400 V AC										□	□					
Integrated auxiliary switches of the contactor													□			
Operating range/solenoid coil circuit (contactor)														□		
Rated control supply voltage (contactor)															□	□
Example	3 R A	2	1	1	0	–	0	B	A	1	5	–	1	A	P	0

Note:

The Article No. scheme is presented here merely for information purposes and for better understanding of the logic behind the article numbers.

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

Benefits

The 3RA2 fuseless load feeders offer a number of benefits:

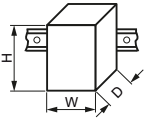
- Minimum planning and assembly work and far less wiring with the preassembled complete units (only one Article number 3RA2)
- Plug-in connectors from the motor starter protector to all types of SIRIUS controls, for quicker and error-free assembly of feeders with screw and spring-type connection
- High planning reliability through consistent combination tests for fuseless (400 V according to IEC) and fused configuration (400 V, 500 V and 690 V according to IEC)
- Comprehensive approvals for use world-wide on request, see Chapter 16 "Appendix" → "Standards and Approvals".
- High operational reliability through short-circuit breaking capacity of 150 kA with type of coordination "1" and "2"
- Uniform accessories for the two sizes S00 and S0
- Spring-type connection possible throughout: Enhanced operational reliability (vibration-resistant wiring) and less wiring work thanks to plug-in connections
- 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

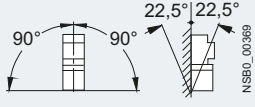
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Technical specifications

Direct-on-line starters/ reversing starters	Size	Connection methods	Mounting	Control voltage	Width W	Height H	Depth D
					mm	mm	mm
Mounting dimensions							
Direct-on-line starters 3RA21. 	S00 3RA211.	Screw terminals	Standard mounting rails	AC/DC	45	167	97
			Busbar adapters	AC/DC	45	200	155
		Spring-type terminals	Standard mounting rails	AC/DC	45	198	97
			Busbar adapters	AC/DC	45	260	155
	S0 3RA212.	Screw terminals	Standard mounting rails	AC	45	193	97
				DC	45	193	107
				AC	45	260	155
		Spring-type terminals	Standard mounting rails	AC	45	260	165
				DC	45	260	165
				AC/DC	45	243	107
Reversing starters 3RA22. 	S00 3RA221.	Screw terminals	Standard mounting rails	AC/DC	90	170	97
			Busbar adapters	AC/DC	90	200	155
		Spring-type terminals	Standard mounting rails	AC/DC	90	204	97
			Busbar adapters	AC/DC	90	260	155
	S0 3RA222.	Screw terminals	Standard mounting rail adapters	AC	90	265	120.3
				DC	90	265	130
				AC	90	260	155
				DC	90	260	165
		Spring-type terminals	Standard mounting rail adapters	AC/DC	90	270	131
				AC/DC	90	260	165

Type		3RA2.1	3RA2.2
Size		S00	S0
Number of poles		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
Permissible mounting position			
 Important: Acc. to DIN 43602 start command "I" at the right or top			
Shock resistance	Acc. to IEC 60068-2-27	g/ms	6/11 (sine pulse)
Degree of protection	Acc. to IEC 60947-1		IP20

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Type		3RA2.1	3RA2.2
Size		S00	S0
Number of poles		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
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)	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	10	
Rated short-circuit current I_n at 50/60 Hz 400 V AC according to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	kA	150	
Types of coordination according to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)		See "Selection and ordering data"	
Power loss $P_{v \max}$ of all main current paths	Up to 1.25 A	W	2
	1.6 ... 6.3 A	W	2.3
Dependent on the rated current I_n	8 ... 12 A	W	3.5
(upper setting range)	16 A	W	4.3
	5 ... 6.3 A	W	--
	8 ... 12 A	W	2.3
	16 ... 32 A	W	3.5
		W	4.3
Power consumption of the solenoid coils for contactors as a function of the standard output P of the motor (when coil is cold and U_s 50 Hz)			
• AC operation			
- Closing	Up to 4 kW	VA	27
	5.5 ... 7.5 kW	VA	37
	Up to 5.5 kW	VA	--
	7.5 ... 15 kW	VA	65
	P.f.		77
			0.82
- Closed	Up to 4 kW	VA	4.2
	5.5 ... 7.5 kW	VA	5.7
	Up to 5.5 kW	VA	--
	7.5 ... 15 kW	VA	8.5
	P.f.		9.8
			0.25
• DC operation	Closing =	W	4
	Closed		5.9
Magnetic coil operating range for contactors			
	Low limit at 55 °C		0.8 ... 1.1 x U_s
	At 60 °C		0.8 x U_s
			0.85 x U_s
Endurance of the motor starter protector			
• Mechanical endurance	Operating cycles		100 000
• Electrical endurance	Operating cycles		100 000
• Max. switching frequency per hour (motor starts)	1/h		15
Endurance of contactor			
• Mechanical endurance	Operating cycles	30 million	10 million
• Electrical endurance	Operating cycles	See endurance characteristic curves of the contactors → Chapter 3 "Switching Devices – Contactors and Contactor Assemblies"	
Touch protection	Acc. to EN 50274	Finger-safe	
Phase failure sensitivity of the motor starter protector	Acc. to IEC 60947-1, EN 60947-1 (VDE 0660 Part 102)	Yes	
Isolating features of the motor starter protector	Acc. to IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)	Yes	
Main control and EMERGENCY-STOP switch characteristics of the motor starter protector and accessories	Acc. to IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)	Yes (with overvoltage releases of category 1 under conditions of proper use)	
Protective separation between main and auxiliary circuits	Acc. to EN 60947-1, Appendix N	V	Up to 400
Mirror contacts for contactors		Yes	Yes, from main contact to auxiliary NC contact

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

General data

Type	SIRIUS 3RA2 load feeders				
Connection type	 Screw terminals		 Spring-type terminals		
Conductor cross-sections for main conductors Size S00					
		Motor starter protectors, contactors		Motor starter protectors, contactors	
Terminal screw		M3, Pozidriv size 2		--	
Operating devices	mm	Ø 5 ... 6		3.0 x 0.5 and 3.5 x 0.5	
Prescribed tightening torque	Nm	0.8 ... 1.2		--	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid and stranded	mm ² mm ² mm ²	2 x (0.5 ... 1.5) ¹⁾ only for contactors, 2 x (0.75 ... 2.5) ¹⁾ , max. 2 x 4		2 x (0.5 ... 4)	
• Finely stranded without end sleeve	mm ²	--		2 x (0.5 ... 2.5)	
• Finely stranded with end sleeves (DIN 46 228 T1)	mm ² mm ²	2 x (0.5 ... 1.5) ¹⁾ 2 x (0.75 ... 2.5) ¹⁾		2 x (0.5 ... 2.5)	
• AWG cables, solid or stranded	AWG AWG AWG	2 x (20 ... 16) ¹⁾ only for contactors, 2 x (18 ... 14) ¹⁾ , 2 x 12		2 x (20 ... 12)	
Max. external diameter of the conductor insulation	mm	--		3.6	
Conductor cross-sections for main conductors Size S0		Motor starter protectors, contactors		Motor starter protectors, contactors	
Terminal screw		M4, Pozidriv size 2		--	
Operating devices	mm	Ø 5 ... 6		3.0 x 0.5 and 3.5 x 0.5	
Prescribed tightening torque	Nm	2.0 ... 2.5		--	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid and stranded	mm ² mm ²	2 x (1.0 ... 2.5) ¹⁾ , 2 x (2.5 ... 10) ¹⁾		2 x (1.0 ... 10)	
• Finely stranded without end sleeve	mm ²	--		2 x (1.0 ... 6.0)	
• Finely stranded with end sleeves (DIN 46 228 T1)	mm ² mm ² mm ²	2 x (1.0 ... 2.5) ¹⁾ , 2 x (2.5 ... 6) ¹⁾ , max. 1 x 10		2 x (1.0 ... 6.0)	
• AWG cables, solid or stranded	AWG AWG	2 x (16 ... 12) ¹⁾ , 2 x (14 ... 8) ¹⁾		2 x (18 ... 8)	
Max. external diameter of the conductor insulation	mm	--		3.6	
Conductor cross-sections for auxiliary conductors Size S00/S0		Contactors (basic unit), motor starter protectors (accessories), contactors (mountable accessories), overload relays		Contactors S00	Contactors S0, motor starter protectors (accessories), contactors (accessories), overload relays
Terminal screw		M3, Pozidriv size 2		--	
Operating devices	mm	Ø 5 ... 6		3.0 x 0.5 and 3.5 x 0.5	
Prescribed tightening torque	Nm	0.8 ... 1.2		--	
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid and stranded	mm ² mm ² mm ²	2 x (0.5 ... 1.5) ¹⁾ 2 x (0.75 ... 2.5) ¹⁾ , Max. 2 x 4 only for contactors S00		2 x (0.5 ... 4)	2 x (0.5 ... 2.5)
• Finely stranded without end sleeve	mm ²	--		2 x (0.5 ... 2.5)	2 x (0.5 ... 1.5)
• Finely stranded with end sleeve	mm ² mm ²	2 x (0.5 ... 1.5) ¹⁾ 2 x (0.75 ... 2.5) ¹⁾		2 x (0.5 ... 2.5)	2 x (0.5 ... 1.5)
• AWG cables, solid or stranded	AWG AWG AWG	2 x (20 ... 16) ¹⁾ , 2 x (18 ... 14) ¹⁾ , 2 x 12 only for contactors S00		2 x (20 ... 12)	2 x (20 ... 14)
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. If identical cross-sections are used, this restriction does not apply.

Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing

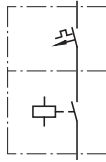
Selection and ordering data



3RA2110

3RA2120

Direct-on-line start



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 2 push-in lugs each per load feeder is 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module					
							Screw terminals			
							Configurator			
							Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2110-0BA15-1AP0	1	1 units 41D
	0.06	0.2	0.18 ... 0.25	11-0CA10			A	3RA2110-0CA15-1AP0	1	1 units 41D
	0.09	0.3	0.22 ... 0.32	11-0DA10			A	3RA2110-0DA15-1AP0	1	1 units 41D
	0.09	0.3	0.28 ... 0.4	11-0EA10			A	3RA2110-0EA15-1AP0	1	1 units 41D
	0.12	0.4	0.35 ... 0.5	11-0FA10			A	3RA2110-0FA15-1AP0	1	1 units 41D
	0.18	0.6	0.45 ... 0.63	11-0GA10			A	3RA2110-0GA15-1AP0	1	1 units 41D
	0.18	0.6	0.55 ... 0.8	11-0HA10			A	3RA2110-0HA15-1AP0	1	1 units 41D
	0.25	0.85	0.7 ... 1	11-0JA10			A	3RA2110-0JA15-1AP0	1	1 units 41D
	0.37	1.1	0.9 ... 1.25	11-0KA10			A	3RA2110-0KA15-1AP0	1	1 units 41D
	0.55	1.5	1.1 ... 1.6	11-1AA10			A	3RA2110-1AA15-1AP0	1	1 units 41D
	0.75	1.9	1.4 ... 2	11-1BA10			A	3RA2110-1BA15-1AP0	1	1 units 41D
	0.75	1.9	1.8 ... 2.5	11-1CA10			A	3RA2110-1CA15-1AP0	1	1 units 41D
	1.1	2.7	2.2 ... 3.2	11-1DA10			A	3RA2110-1DA15-1AP0	1	1 units 41D
	1.5	3.6	2.8 ... 4	11-1EA10			A	3RA2110-1EA15-1AP0	1	1 units 41D
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	2921-1AA00	A	3RA2120-1FA24-0AP0	1	1 units 41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			A	3RA2120-1GA24-0AP0	1	1 units 41D
	3	6.5	5.5 ... 8	11-1HA10			A	3RA2120-1HA24-0AP0	1	1 units 41D
	4	8.5	7 ... 10	11-1JA10			A	3RA2120-1JA24-0AP0	1	1 units 41D
	5.5	11.5	9 ... 12.5	11-1KA10			A	3RA2120-1KA24-0AP0	1	1 units 41D
	7.5	15.5	10 ... 16	21-4AA10	26-1AP00		A	3RA2120-4AA26-0AP0	1	1 units 41D
	7.5	15.5	13 ... 20	21-4BA10	27-1AP00		B	3RA2120-4BA27-0AP0	1	1 units 41D
	11	22	16 ... 22	21-4CA10			A	3RA2120-4CA27-0AP0	1	1 units 41D
	11	22	18 ... 25	21-4DA10			A	3RA2120-4DA27-0AP0	1	1 units 41D
	15	28	23 ... 28	21-4NA10			A	3RA2120-4NA27-0AP0	1	1 units 41D
	15	29 ⁴⁾	27 ... 32	21-4EA10			A	3RA2120-4EA27-0AP0	1	1 units 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	11-1FA10	15-1AP01	1921-1DA00	A	3RA2110-1FA15-1AP0	1	1 units 41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			A	3RA2110-1GA15-1AP0	1	1 units 41D
	3	6.5	5.5 ... 8	11-1HA10			A	3RA2110-1HA15-1AP0	1	1 units 41D
	4	8.5	7 ... 10	11-1JA10	16-1AP01		A	3RA2110-1JA16-1AP0	1	1 units 41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1AP01		A	3RA2110-1KA17-1AP0	1	1 units 41D
	7.5	15.5	10 ... 16	11-4AA10	18-1AP01		A	3RA2110-4AA18-1AP0	1	1 units 41D

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Push-in lugs, see "Accessories" on page 8/38.

²⁾ Auxiliary switches, see "Accessories" on page 8/33.

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 motors up to a starting current of 256 A; for higher starting currents we recommend using size S2.

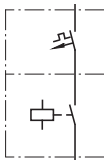
Load Feeders and Motor Starters for Use in the Control Cabinet

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing



3RA2110

3RA2120



Rated control supply voltage
50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-type connection

- Screw fixing with 2 push-in lugs each per load feeder is 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ Contactor	+ Link module		Spring-type terminals 			
							Configurator 			
							Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2110-0BE15-1AP0		1	1 units	41D	
	0.06	0.2	0.18 ... 0.25	11-0CA20			A	3RA2110-0CE15-1AP0		1	1 units	41D	
	0.09	0.3	0.22 ... 0.32	11-0DA20			A	3RA2110-0DE15-1AP0		1	1 units	41D	
	0.09	0.3	0.28 ... 0.4	11-0EA20	A	3RA2110-0EE15-1AP0	1	1 units		41D			
	0.12	0.4	0.35 ... 0.5	11-0FA20	A	3RA2110-0FE15-1AP0	1	1 units		41D			
	0.18	0.6	0.45 ... 0.63	11-0GA20	A	3RA2110-0GE15-1AP0	1	1 units		41D			
	0.18	0.6	0.55 ... 0.8	11-0HA20	A	3RA2110-0HE15-1AP0	1	1 units		41D			
	0.25	0.85	0.7 ... 1	11-0JA20	A	3RA2110-0JE15-1AP0	1	1 units		41D			
	0.37	1.1	0.9 ... 1.25	11-0KA20	A	3RA2110-0KE15-1AP0	1	1 units		41D			
	0.55	1.5	1.1 ... 1.6	11-1AA20	A	3RA2110-1AE15-1AP0	1	1 units		41D			
	0.75	1.9	1.4 ... 2	11-1BA20	A	3RA2110-1BE15-1AP0	1	1 units		41D			
	0.75	1.9	1.8 ... 2.5	11-1CA20	A	3RA2110-1CE15-1AP0	1	1 units		41D			
	1.1	2.7	2.2 ... 3.2	11-1DA20	A	3RA2110-1DE15-1AP0	1	1 units		41D			
	1.5	3.6	2.8 ... 4	11-1EA20	A	3RA2110-1EE15-1AP0	1	1 units		41D			
	S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00	C		3RA2120-1FE24-0AP0	1	1 units	41D
		2.2	4.9	4.5 ... 6.3	21-1GA20			C		3RA2120-1GE24-0AP0	1	1 units	41D
3		6.5	5.5 ... 8	21-1HA20	C			3RA2120-1HE24-0AP0	1	1 units	41D		
4		8.5	7 ... 10	21-1JA20	C			3RA2120-1JE24-0AP0	1	1 units	41D		
5.5		11.5	9 ... 12.5	21-1KA20	C	3RA2120-1KE24-0AP0	1	1 units	41D				
7.5		15.5	10 ... 16	21-4AA20	26-2AP00	A	3RA2120-4AE26-0AP0	1	1 units	41D			
7.5		15.5	13 ... 20	21-4BA20		27-2AP00	B	3RA2120-4BE27-0AP0	1	1 units	41D		
11		22	16 ... 22	21-4CA20			A	3RA2120-4CE27-0AP0	1	1 units	41D		
11		22	18 ... 25	21-4DA20			A	3RA2120-4DE27-0AP0	1	1 units	41D		
15		28	23 ... 28	21-4NA20			A	3RA2120-4NE27-0AP0	1	1 units	41D		
15		29 ⁴⁾	27 ... 32	21-4EA20			A	3RA2120-4EE27-0AP0	1	1 units	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	15-2AP01	11-2AA00	A	3RA2110-1FE15-1AP0		1	1 units	41D
2.2	4.9	4.5 ... 6.3	11-1GA20			A	3RA2110-1GE15-1AP0		1	1 units	41D
3	6.5	5.5 ... 8	11-1HA20			A	3RA2110-1HE15-1AP0		1	1 units	41D
4	8.5	7 ... 10	11-1JA20	16-2AP01		A	3RA2110-1JE16-1AP0		1	1 units	41D
5.5	11.5	9 ... 12.5	11-1KA20	17-2AP01		A	3RA2110-1KE17-1AP0		1	1 units	41D
7.5	15.5	10 ... 16	11-4AA20	18-2AP01		A	3RA2110-4AE18-1AP0		1	1 units	41D

⚙ For online configurator, see www.siemens.com/sirius/configurators.

- 1) Push-in lugs, see "Accessories" on page 8/38.
- 2) Auxiliary switches, see "Accessories" on page 8/33.
- 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 motors up to a starting current of 256 A; for higher starting currents we recommend using size S2.

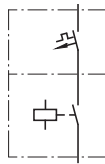
Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA2 Load Feeders

3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw fixing



3RA2110 3RA2120

Direct-on-line start



Rated control supply voltage 24 V DC
With screw terminals

- Screw fixing with 2 push-in lugs each per load feeder is 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ Contactor	+ Link module					
							Screw terminals			
							Configurator			
							Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2110-0BA15-1BB4	1	1 units	41D			
	0.06	0.2	0.18 ... 0.25	11-0CA10			A	3RA2110-0CA15-1BB4	1	1 units	41D			
	0.09	0.3	0.22 ... 0.32	11-0DA10			A	3RA2110-0DA15-1BB4	1	1 units	41D			
	0.09	0.3	0.28 ... 0.4	11-0EA10	A	3RA2110-0EA15-1BB4	1	1 units	41D					
	0.12	0.4	0.35 ... 0.5	11-0FA10	A	3RA2110-0FA15-1BB4	1	1 units	41D					
	0.18	0.6	0.45 ... 0.63	11-0GA10	A	3RA2110-0GA15-1BB4	1	1 units	41D					
	0.18	0.6	0.55 ... 0.8	11-0HA10	A	3RA2110-0HA15-1BB4	1	1 units	41D					
	0.25	0.85	0.7 ... 1	11-0JA10	A	3RA2110-0JA15-1BB4	1	1 units	41D					
	0.37	1.1	0.9 ... 1.25	11-0KA10	A	3RA2110-0KA15-1BB4	1	1 units	41D					
	0.55	1.5	1.1 ... 1.6	11-1AA10	A	3RA2110-1AA15-1BB4	1	1 units	41D					
	0.75	1.9	1.4 ... 2	11-1BA10	A	3RA2110-1BA15-1BB4	1	1 units	41D					
	0.75	1.9	1.8 ... 2.5	11-1CA10	A	3RA2110-1CA15-1BB4	1	1 units	41D					
	1.1	2.7	2.2 ... 3.2	11-1DA10	A	3RA2110-1DA15-1BB4	1	1 units	41D					
	1.5	3.6	2.8 ... 4	11-1EA10	A	3RA2110-1EA15-1BB4	1	1 units	41D					
	S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40	2921-1BA00	A	3RA2120-1FA24-0BB4	1	1 units	41D		
2.2		4.9	4.5 ... 6.3	11-1GA10	A			3RA2120-1GA24-0BB4	1	1 units	41D			
3		6.5	5.5 ... 8	11-1HA10	A			3RA2120-1HA24-0BB4	1	1 units	41D			
4		8.5	7 ... 10	11-1JA10			A	3RA2120-1JA24-0BB4	1	1 units	41D			
5.5		11.5	9 ... 12.5	11-1KA10			A	3RA2120-1KA24-0BB4	1	1 units	41D			
7.5		15.5	10 ... 16	21-4AA10	26-1BB40	A	3RA2120-4AA26-0BB4	1	1 units	41D				
7.5		15.5	13 ... 20	21-4BA10	27-1BB40	B	3RA2120-4BA27-0BB4	1	1 units	41D				
11		22	16 ... 22	21-4CA10		A	3RA2120-4CA27-0BB4	1	1 units	41D				
11		22	18 ... 25	21-4DA10		A	3RA2120-4DA27-0BB4	1	1 units	41D				
15		28	23 ... 28	21-4NA10		A	3RA2120-4NA27-0BB4	1	1 units	41D				
15		29 ⁴⁾	27 ... 32	21-4EA10		A	3RA2120-4EA27-0BB4	1	1 units	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	11-1FA10	15-1BB41	1921-1DA00	A	3RA2110-1FA15-1BB4	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10			A	3RA2110-1GA15-1BB4	1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA10			A	3RA2110-1HA15-1BB4	1	1 units	41D
	4	8.5	7 ... 10	11-1JA10	16-1BB41		A	3RA2110-1JA16-1BB4	1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1BB41		A	3RA2110-1KA17-1BB4	1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1BB41		A	3RA2110-4AA18-1BB4	1	1 units	41D

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Push-in lugs, see "Accessories" on page 8/38.

²⁾ Auxiliary switches, see "Accessories" on page 8/33.

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 motors up to a starting current of 256 A; for higher starting currents we recommend using size S2.

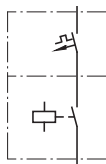
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

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



Direct-on-line start



Rated control supply voltage
50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-type connection

- 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 due 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⁾		Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)		Motor starter protector	+ Contactor	+ Link module + Busbar adapter					
								Spring-type terminals			
								Configurator			
								Article No.	Basic price per PU		
Type of coordination "2" at $I_q = 150$ kA at 400 V (compatible with type of coordination "1")											
				3RV20	3RT20	3RA29					
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP01	11-2AA00	A	3RA2110-0BH15-1AP0	1	1 units	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 8US1251-5DT11	A	3RA2110-0CH15-1AP0	1	1 units	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20			A	3RA2110-0DH15-1AP0	1	1 units	41D
	0.09	0.3	0.28 ... 0.4	11-0EA20			A	3RA2110-0EH15-1AP0	1	1 units	41D
	0.12	0.4	0.35 ... 0.5	11-0FA20			A	3RA2110-0FH15-1AP0	1	1 units	41D
	0.18	0.6	0.45 ... 0.63	11-0GA20			A	3RA2110-0GH15-1AP0	1	1 units	41D
	0.18	0.6	0.55 ... 0.8	11-0HA20			A	3RA2110-0HH15-1AP0	1	1 units	41D
	0.25	0.85	0.7 ... 1	11-0JA20			A	3RA2110-0JH15-1AP0	1	1 units	41D
	0.37	1.1	0.9 ... 1.25	11-0KA20			A	3RA2110-0KH15-1AP0	1	1 units	41D
	0.55	1.5	1.1 ... 1.6	11-1AA20			A	3RA2110-1AH15-1AP0	1	1 units	41D
	0.75	1.9	1.4 ... 2	11-1BA20			A	3RA2110-1BH15-1AP0	1	1 units	41D
	0.75	1.9	1.8 ... 2.5	11-1CA20			A	3RA2110-1CH15-1AP0	1	1 units	41D
	1.1	2.7	2.2 ... 3.2	11-1DA20			A	3RA2110-1DH15-1AP0	1	1 units	41D
	1.5	3.6	2.8 ... 4	11-1EA20			A	3RA2110-1EH15-1AP0	1	1 units	41D
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2AP00	21-2AA00	C	3RA2120-1FH24-0AP0	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 8US1251-5NT11 ³⁾	C	3RA2120-1GH24-0AP0	1	1 units	41D
	3	6.5	5.5 ... 8	21-1HA20			C	3RA2120-1HH24-0AP0	1	1 units	41D
	4	8.5	7 ... 10	21-1JA20			C	3RA2120-1JH24-0AP0	1	1 units	41D
	5.5	11.5	9 ... 12.5	21-1KA20			C	3RA2120-1KH24-0AP0	1	1 units	41D
	7.5	15.5	10 ... 16	21-4AA20	26-2AP00		A	3RA2120-4AH26-0AP0	1	1 units	41D
	7.5	15.5	13 ... 20	21-4BA20	27-2AP00		B	3RA2120-4BH27-0AP0	1	1 units	41D
	11	22	16 ... 22	21-4CA20			A	3RA2120-4CH27-0AP0	1	1 units	41D
	11	22	18 ... 25	21-4DA20			A	3RA2120-4DH27-0AP0	1	1 units	41D
	15	28	23 ... 28	21-4NA20			A	3RA2120-4NH27-0AP0	1	1 units	41D
	15	29 ⁴⁾	27 ... 32	21-4EA20			A	3RA2120-4EH27-0AP0	1	1 units	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".											
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP01	11-2AA00	A	3RA2110-1FH15-1AP0	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 8US1251-5DT11	A	3RA2110-1GH15-1AP0	1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA20			A	3RA2110-1HH15-1AP0	1	1 units	41D
	4	8.5	7 ... 10	11-1JA20	16-2AP01		A	3RA2110-1JH16-1AP0	1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP01		A	3RA2110-1KH17-1AP0	1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP01		A	3RA2110-4AH18-1AP0	1	1 units	41D

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Auxiliary switches, see "Accessories" on page 8/33.

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-type terminals is included in the scope of supply.

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

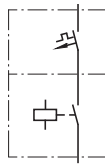
Load Feeders and Motor Starters for Use in the Control Cabinet

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



3RA2110 3RA2120

Direct-on-line start



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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Screw terminals Configurator			
							Article No.	Basic price per PU		

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

[illegible]

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	15-1BB41	1921-1DA00	A	3RA2110-1FD15-1BB4	1	1	units	41D
2.2	4.9	4.5 ... 6.3	11-1GA10		+ 8US1251-	A	3RA2110-1GD15-1BB4	1	1	units	41D
3	6.5	5.5 ... 8	11-1HA10		5DS10	A	3RA2110-1HD15-1BB4	1	1	units	41D
4	8.5	7 ... 10	11-1JA10	16-1BB41		A	3RA2110-1JD16-1BB4	1	1	units	41D
5.5	11.5	9 ... 12.5	11-1KA10	17-1BB41		A	3RA2110-1KD17-1BB4	1	1	units	41D
7.5	15.5	10 ... 16	11-4AA10	18-1BB41		A	3RA2110-4AD18-1BB4	1	1	units	41D

⚙ For online configurator, see www.siemens.com/sirius/configurators.

1) Auxiliary switches, see "Accessories" on page 8/33.

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 motors up to a starting current of 256 A; for higher starting currents we recommend using size S2.

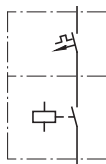
Load Feeders and Motor Starters for Use in the Control Cabinet

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



3RA2110

3RA2120



Rated control supply voltage 24 V DC
With spring-type connection

- 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Spring-type terminals  Configurator 			
							Article No.	Basic price per PU		
	kW	A	A							

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2110-0BH15-1BB4		1	1 units	41D		
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 8US1251-	A	3RA2110-0CH15-1BB4		1	1 units	41D		
	0.09	0.3	0.22 ... 0.32	11-0DA20		5DT11	A	3RA2110-0DH15-1BB4		1	1 units	41D		
	0.09	0.3	0.28 ... 0.4	11-0EA20		A	3RA2110-0EH15-1BB4	1		1 units	41D			
	0.12	0.4	0.35 ... 0.5	11-0FA20		A	3RA2110-0FH15-1BB4	1		1 units	41D			
	0.18	0.6	0.45 ... 0.63	11-0GA20		A	3RA2110-0GH15-1BB4	1		1 units	41D			
	0.18	0.6	0.55 ... 0.8	11-0HA20		A	3RA2110-0HH15-1BB4	1		1 units	41D			
	0.25	0.85	0.7 ... 1	11-0JA20		A	3RA2110-0JH15-1BB4	1		1 units	41D			
	0.37	1.1	0.9 ... 1.25	11-0KA20		A	3RA2110-0KH15-1BB4	1		1 units	41D			
	0.55	1.5	1.1 ... 1.6	11-1AA20		A	3RA2110-1AH15-1BB4	1		1 units	41D			
	0.75	1.9	1.4 ... 2	11-1BA20		A	3RA2110-1BH15-1BB4	1		1 units	41D			
	0.75	1.9	1.8 ... 2.5	11-1CA20		A	3RA2110-1CH15-1BB4	1		1 units	41D			
	1.1	2.7	2.2 ... 3.2	11-1DA20		A	3RA2110-1DH15-1BB4	1		1 units	41D			
	1.5	3.6	2.8 ... 4	11-1EA20		A	3RA2110-1EH15-1BB4	1		1 units	41D			
	S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	C		3RA2120-1FH24-0BB4		1	1 units	41D
		2.2	4.9	4.5 ... 6.3	21-1GA20		+ 8US1251-	C		3RA2120-1GH24-0BB4		1	1 units	41D
3		6.5	5.5 ... 8	21-1HA20	5NT11		C	3RA2120-1HH24-0BB4	1	1 units		41D		
4		8.5	7 ... 10	21-1JA20			C	3RA2120-1JH24-0BB4	1	1 units		41D		
5.5		11.5	9 ... 12.5	21-1KA20		C	3RA2120-1KH24-0BB4	1	1 units	41D				
7.5		15.5	10 ... 16	21-4AA20	26-2BB40		A	3RA2120-4AH26-0BB4	1	1 units		41D		
7.5		15.5	13 ... 20	21-4BA20	27-2BB40		B	3RA2120-4BH27-0BB4	1	1 units		41D		
11		22	16 ... 22	21-4CA20			A	3RA2120-4CH27-0BB4	1	1 units		41D		
11		22	18 ... 25	21-4DA20			A	3RA2120-4DH27-0BB4	1	1 units		41D		
15		28	23 ... 28	21-4NA20			A	3RA2120-4NH27-0BB4	1	1 units		41D		
15		29 ³⁾	27 ... 32	21-4EA20			A	3RA2120-4EH27-0BB4	1	1 units		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	A	3RA2110-1FH15-1BB4	1	1 units	41D
2.2	4.9	4.5 ... 6.3	11-1GA20		+ 8US1251-	A	3RA2110-1GH15-1BB4	1	1 units	41D
3	6.5	5.5 ... 8	11-1HA20		5DT11	A	3RA2110-1HH15-1BB4	1	1 units	41D
4	8.5	7 ... 10	11-1JA20	16-2BB41		A	3RA2110-1JH16-1BB4	1	1 units	41D
5.5	11.5	9 ... 12.5	11-1KA20	17-2BB41		A	3RA2110-1KH17-1BB4	1	1 units	41D
7.5	15.5	10 ... 16	11-4AA20	18-2BB40		A	3RA2110-4AH18-1BB4	1	1 units	41D

⚙ For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Auxiliary switches, see "Accessories" on page 8/33.

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 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

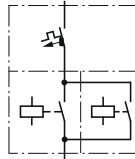
3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing

Selection and ordering data



3RA2210 3RA2220

Reversing duty



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 2 push-in lugs each per load feeder is possible¹⁾
- Without standard mounting rail adapter for size S00
- With 2 standard mounting 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protectors	+ 2 contactors	+ Link module + Assembly kit RH ⁴⁾ /Wiring kit		Screw terminals Configurator			
							Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2210-0BA15-2AP0 3RA2210-0CA15-2AP0 3RA2210-0DA15-2AP0 3RA2210-0EA15-2AP0 3RA2210-0FA15-2AP0 3RA2210-0GA15-2AP0 3RA2210-0HA15-2AP0 3RA2210-0JA15-2AP0 3RA2210-0KA15-2AP0 3RA2210-1AA15-2AP0 3RA2210-1BA15-2AP0 3RA2210-1CA15-2AP0 3RA2210-1DA15-2AP0 3RA2210-1EA15-2AP0	1	1 units	41D					
	0.06	0.2	0.18 ... 0.25	11-0CA10		+ 29 13-2AA1	A					1				
	0.09	0.3	0.22 ... 0.32	11-0DA10		A	1									
	0.09	0.3	0.28 ... 0.4	11-0EA10	A	1										
	0.12	0.4	0.35 ... 0.5	11-0FA10	A	1										
	0.18	0.6	0.45 ... 0.63	11-0GA10	A	1										
	0.18	0.6	0.55 ... 0.8	11-0HA10	A	1										
	0.25	0.85	0.7 ... 1	11-0JA10	A	1										
	0.37	1.1	0.9 ... 1.25	11-0KA10	A	1										
	0.55	1.5	1.1 ... 1.6	11-1AA10	A	1										
	0.75	1.9	1.4 ... 2	11-1BA10	A	1										
	0.75	1.9	1.8 ... 2.5	11-1CA10	A	1										
	1.1	2.7	2.2 ... 3.2	11-1DA10	A	1										
	1.5	3.6	2.8 ... 4	11-1EA10	A	1										
	S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	2921-1AA00					A	3RA2220-1FB24-0AP0 3RA2220-1GB24-0AP0 3RA2220-1HB24-0AP0 3RA2220-1JB24-0AP0 3RA2220-1KB24-0AP0 3RA2220-4AB26-0AP0 3RA2220-4BB27-0AP0 3RA2220-4CB27-0AP0 3RA2220-4DB27-0AP0 3RA2220-4NB27-0AP0 3RA2220-4EB27-0AP0	1	1 units	41D
		2.2	4.9	4.5 ... 6.3	11-1GA10		+ 29 23-1BB1					A				
3		6.5	5.5 ... 8	11-1HA10	A		1									
4		8.5	7 ... 10	11-1JA10	A		1									
5.5		11.5	9 ... 12.5	11-1KA10	A	1										
7.5		15.5	10 ... 16	21-4AA10	26-1AP00	A	1									
7.5		15.5	13 ... 20	21-4BA10		27-1AP00	B	1								
11		22	16 ... 22	21-4CA10	A		1									
11		22	18 ... 25	21-4DA10	A		1									
15		28	23 ... 28	21-4NA10	A		1									
15		28 ⁵⁾	27 ... 32	21-4EA10	A		1									

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".

									1			
S00	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP02	1921-1DA00	A	3RA2210-1FA15-2AP0		1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA10		+ 29 13-2AA1	A	3RA2210-1GA15-2AP0		1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA10			A	3RA2210-1HA15-2AP0		1	1 units	41D
	4	8.5	7 ... 10	11-1JA10	16-1AP02		A	3RA2210-1JA16-2AP0		1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA10	17-1AP02		A	3RA2210-1KA17-2AP0		1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA10	18-1AP02		A	3RA2210-4AA18-2AP0		1	1 units	41D

⚙ For online configurator, see www.siemens.com/sirius/configurators.

1) Push-in lugs, see "Accessories" on page 8/38.

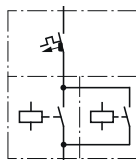
2) Auxiliary switches, see "Accessories" on page 8/33.

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

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in size S0.

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

3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing



Rated control supply voltage
50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-type connection

- Screw fixing with 2 push-in lugs each per load feeder is possible¹⁾
- Without standard mounting rail adapter for size S00
- With 2 standard mounting 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	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 + Assembly kit RH ⁴⁾ /Wiring kit		Spring-type terminals			
						Configurator				
							Article No.	Basic price per PU		

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

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

S00								1			
1.5	3.6	3.5 ... 5	11-1FA20	15-2AP02	11-2AA00	A	3RA2210-1FE15-2AP0	1	1 units	41D	
2.2	4.9	4.5 ... 6.3	11-1GA20		+ 29 13-2AA2	A	3RA2210-1GE15-2AP0	1	1 units	41D	
3	6.5	5.5 ... 8	11-1HA20			A	3RA2210-1HE15-2AP0	1	1 units	41D	
4	8.5	7 ... 10	11-1JA20	16-2AP02		A	3RA2210-1JE16-2AP0	1	1 units	41D	
5.5	11.5	9 ... 12.5	11-1KA20	17-2AP02		A	3RA2210-1KE17-2AP0	1	1 units	41D	
7.5	15.5	10 ... 16	11-4AA20	18-2AP02		A	3RA2210-4AE18-2AP0	1	1 units	41D	

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

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

3RA2210 3RA2220

3RA2210 3RA2220

A schematic diagram of a circuit. It features a vertical wire on the left and a vertical wire on the right. A horizontal wire connects the two vertical wires at the top. A switch is located on the left vertical wire, below the top horizontal wire. A light bulb is connected between the two vertical wires, below the switch. The light bulb is represented by a circle with a cross inside.

- Screw fixing with 2 push-in lugs each per load feeder is possible¹⁾
- Without standard mounting rail adapter for size S00
- With 2 standard mounting 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	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 + Assembly kit RH ⁴⁾ /Wiring kit		Screw terminals 			
							Configurator 			
							Article No.	Basic price per PU		

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	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 units	41D			
	0.06	0.2	0.18 ... 0.25	11-OCA10		+ 29 13-2AA1	A			1	1 units	41D			
	0.09	0.3	0.22 ... 0.32	11-ODA10		A	1			1 units	41D				
	0.09	0.3	0.28 ... 0.4	11-OEA10		A	1			1 units	41D				
	0.12	0.4	0.35 ... 0.5	11-OFA10		A	1			1 units	41D				
	0.18	0.6	0.45 ... 0.63	11-OGA10		A	1			1 units	41D				
	0.18	0.6	0.55 ... 0.8	11-OHA10		A	1			1 units	41D				
	0.25	0.85	0.7 ... 1	11-OJA10		A	1			1 units	41D				
	0.37	1.1	0.9 ... 1.25	11-OKA10	A	1	1 units			41D					
	0.55	1.5	1.1 ... 1.6	11-1AA10	A	1	1 units			41D					
	0.75	1.9	1.4 ... 2	11-1BA10	A	1	1 units			41D					
	0.75	1.9	1.8 ... 2.5	11-1CA10	A	1	1 units			41D					
	1.1	2.7	2.2 ... 3.2	11-1DA10	A	1	1 units			41D					
	1.5	3.6	2.8 ... 4	11-1EA10	A	1	1 units			41D					
	S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1BB40	2921-1BA00			A	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 units	41D
		2.2	4.9	4.5 ... 6.3	11-1GA10		+ 29 23-1BB1			A			1	1 units	41D
3		6.5	5.5 ... 8	11-1HA10	A		1	1 units	41D						
4		8.5	7 ... 10	11-1JA10	A		1	1 units	41D						
5.5		11.5	9 ... 12.5	11-1KA10	A	1	1 units	41D							
7.5		15.5	10 ... 16	21-4AA10	26-1BB40	A	1	1 units	41D						
7.5		15.5	13 ... 20	21-4BA10		27-1BB40	B	1	1 units	41D					
11		22	16 ... 22	21-4CA10			A	1	1 units	41D					
11		22	18 ... 25	21-4DA10			A	1	1 units	41D					
15		28	23 ... 28	21-4NA10			A	1	1 units	41D					
15		29 ⁵⁾	27 ... 32	21-4EA10			A	1	1 units	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".

[illegible]

⚙ For online configurator, see www.siemens.com/sirius/configurators.

1) Push-in lugs, see "Accessories" on page 8/38.

2) Auxiliary switches, see "Accessories" on page 8/33.

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

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in size S0.

⁵⁾ Suitable for use with IE3 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

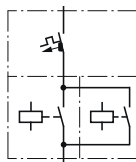
3RA22 reversing starters for snapping onto standard mounting rails or for screw fixing



3RA2210

3RA2220

Reversing duty



Rated control supply voltage 24 V DC With spring-type connection

- Screw fixing with 2 push-in lugs each per load feeder is possible¹⁾
- Without standard mounting rail adapter for size S00
- With 2 standard mounting 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protector	+ 2 contactors	+ Link module + Assembly kit RH ⁴⁾ /Wiring kit		Spring-type terminals			
							Configurator			
							Article No.	Basic price per PU		

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

								ToC 2			
				3RV20	3RT20	3RA29					
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2BB42	11-2AA00	A	3RA2210-0BE15-2BB4	1	1 units	41D
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 29 13-2AA2	A	3RA2210-0CE15-2BB4	1	1 units	41D
	0.09	0.3	0.22 ... 0.32	11-0DA20		A	3RA2210-0DE15-2BB4	1	1 units	41D	
	0.09	0.3	0.28 ... 0.4	11-0EA20	A	3RA2210-0EE15-2BB4	1	1 units	41D		
	0.12	0.4	0.35 ... 0.5	11-0FA20	A	3RA2210-0FE15-2BB4	1	1 units	41D		
	0.18	0.6	0.45 ... 0.63	11-0GA20	A	3RA2210-0GE15-2BB4	1	1 units	41D		
	0.18	0.6	0.55 ... 0.8	11-0HA20	A	3RA2210-0HE15-2BB4	1	1 units	41D		
	0.25	0.85	0.7 ... 1	11-0JA20	A	3RA2210-0JE15-2BB4	1	1 units	41D		
	0.37	1.1	0.9 ... 1.25	11-0KA20	A	3RA2210-0KE15-2BB4	1	1 units	41D		
	0.55	1.5	1.1 ... 1.6	11-1AA20	A	3RA2210-1AE15-2BB4	1	1 units	41D		
	0.75	1.9	1.4 ... 2	11-1BA20	A	3RA2210-1BE15-2BB4	1	1 units	41D		
	0.75	1.9	1.8 ... 2.5	11-1CA20	A	3RA2210-1CE15-2BB4	1	1 units	41D		
	1.1	2.7	2.2 ... 3.2	11-1DA20	A	3RA2210-1DE15-2BB4	1	1 units	41D		
	1.5	3.6	2.8 ... 4	11-1EA20	A	3RA2210-1EE15-2BB4	1	1 units	41D		
S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	C	3RA2220-1FF24-0BB4	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	21-1GA20		+ 29 23-1BB2	C	3RA2220-1GF24-0BB4	1	1 units	41D
	3	6.5	5.5 ... 8	21-1HA20		C	3RA2220-1HF24-0BB4	1	1 units	41D	
	4	8.5	7 ... 10	21-1JA20		C	3RA2220-1JF24-0BB4	1	1 units	41D	
	5.5	11.5	9 ... 12.5	21-1KA20	C	3RA2220-1KF24-0BB4	1	1 units	41D		
	7.5	15.5	10 ... 16	21-4AA20	26-2BB40	A	3RA2220-4AF26-0BB4	1	1 units	41D	
	7.5	15.5	13 ... 20	21-4BA20		B	3RA2220-4BF27-0BB4	1	1 units	41D	
	11	22	16 ... 22	21-4CA20		A	3RA2220-4CF27-0BB4	1	1 units	41D	
	11	22	18 ... 25	21-4DA20		A	3RA2220-4DF27-0BB4	1	1 units	41D	
	15	28	23 ... 28	21-4NA20		A	3RA2220-4NF27-0BB4	1	1 units	41D	
	15	29 ⁵⁾	27 ... 32	21-4EA20		A	3RA2220-4EF27-0BB4	1	1 units	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			
S00	1.5	3.6	3.5 ... 5	11-1FA20	15-2BB42	11-2AA00	A	3RA2210-1FE15-2BB4	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 29 13-2AA2	A	3RA2210-1GE15-2BB4	1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA20			A	3RA2210-1HE15-2BB4	1	1 units	41D
	4	8.5	7 ... 10	11-1JA20	16-2BB42		A	3RA2210-1JE16-2BB4	1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2BB42		A	3RA2210-1KE17-2BB4	1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2BB42		A	3RA2210-4AE18-2BB4	1	1 units	41D

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Push-in lugs, see "Accessories" on page 8/38.

²⁾ Auxiliary switches, see "Accessories" on page 8/33.

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

⁴⁾ RH = assembly kit for reversing duty and standard rail mounting in size S0.

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

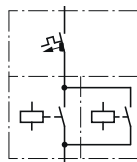
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

3RA22 reversing starters for 60 mm busbars



Reversing duty



Rated control supply voltage
50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0
With spring-type connection

- 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	Motor starter protectors	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ /Wiring kit					
							Spring-type terminals			
							Configurator			
							Article No.	Basic price per PU		

kW A A

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

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

								1			
S00	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP02	11-2AA00	A	3RA2210-1FH15-2AP0	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 29 13-1DB2	A	3RA2210-1GH15-2AP0	1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA20			A	3RA2210-1HH15-2AP0	1	1 units	41D
	4	8.5	7 ... 10	11-1JA20	16-2AP02		A	3RA2210-1JH16-2AP0	1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2AP02		A	3RA2210-1KH17-2AP0	1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2AP02		A	3RA2210-4AH18-2AP0	1	1 units	41D

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ Auxiliary switches, see "Accessories" on page 8/33.

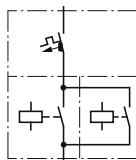
²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = assembly kit for reversing duty and busbar mounting.

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

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

3RA22 reversing starters for 60 mm busbars



Rated control supply voltage 24 V DC
With spring-type connection

- 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 due 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⁾	Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PU (UNIT, SET, M)	PS*	PG
	Standard output <i>P</i>	Motor current <i>I</i> (guide value)	Motor starter protectors	+ 2 contactors	+ Link module + Assembly kit RS ³⁾ /Wiring kit		Spring-type terminals  Configurator 			
							Article No.	Basic price per PU		
	kW	A	A							

Type of coordination "2" at $I_q = 150$ kA at 400 V
(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	A	3RA2210-0BH15-2BB4		1	1 units	41D	
	0.06	0.2	0.18 ... 0.25	11-0CA20		+ 29 13-1DB2	A	3RA2210-0CH15-2BB4		1	1 units	41D	
	0.09	0.3	0.22 ... 0.32	11-0DA20		A	3RA2210-0DH15-2BB4		1	1 units	41D		
	0.09	0.3	0.28 ... 0.4	11-0EA20		A	3RA2210-0EH15-2BB4		1	1 units	41D		
	0.12	0.4	0.35 ... 0.5	11-0FA20		A	3RA2210-0FH15-2BB4		1	1 units	41D		
	0.18	0.6	0.45 ... 0.63	11-0GA20		A	3RA2210-0GH15-2BB4		1	1 units	41D		
	0.18	0.6	0.55 ... 0.8	11-0HA20		A	3RA2210-0HH15-2BB4		1	1 units	41D		
	0.25	0.85	0.7 ... 1	11-0JA20		A	3RA2210-0JH15-2BB4		1	1 units	41D		
	0.37	1.1	0.9 ... 1.25	11-0KA20		A	3RA2210-0KH15-2BB4		1	1 units	41D		
	0.55	1.5	1.1 ... 1.6	11-1AA20	A	3RA2210-1AH15-2BB4		1	1 units	41D			
	0.75	1.9	1.4 ... 2	11-1BA20	A	3RA2210-1BH15-2BB4		1	1 units	41D			
	0.75	1.9	1.8 ... 2.5	11-1CA20	A	3RA2210-1CH15-2BB4		1	1 units	41D			
	1.1	2.7	2.2 ... 3.2	11-1DA20	A	3RA2210-1DH15-2BB4		1	1 units	41D			
	1.5	3.6	2.8 ... 4	11-1EA20	A	3RA2210-1EH15-2BB4		1	1 units	41D			
	S0	1.5	3.6	3.5 ... 5	21-1FA20	24-2BB40	21-2AA00	C	3RA2220-1FH24-0BB4		1	1 units	41D
		2.2	4.9	4.5 ... 6.3	21-1GA20		+ 29 23-1DB2	C	3RA2220-1GH24-0BB4		1	1 units	41D
3		6.5	5.5 ... 8	21-1HA20	C		3RA2220-1HH24-0BB4		1	1 units	41D		
4		8.5	7 ... 10	21-1JA20	C		3RA2220-1JH24-0BB4		1	1 units	41D		
5.5		11.5	9 ... 12.5	21-1KA20	C		3RA2220-1KH24-0BB4		1	1 units	41D		
7.5		15.5	10 ... 16	21-4AA20	26-2BB40		A	3RA2220-4AH26-0BB4		1	1 units	41D	
7.5		15.5	13 ... 20	21-4BA20			B	3RA2220-4BH27-0BB4		1	1 units	41D	
11		22	16 ... 22	21-4CA20			A	3RA2220-4CH27-0BB4		1	1 units	41D	
11		22	18 ... 25	21-4DA20			A	3RA2220-4DH27-0BB4		1	1 units	41D	
15		28	23 ... 28	21-4NA20			A	3RA2220-4NH27-0BB4		1	1 units	41D	
15		29 ⁴⁾	27 ... 32	21-4EA20			A	3RA2220-4EH27-0BB4		1	1 units	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".

S00	1.5	3.6	3.5 ... 5	11-1FA20	15-2BB42	11-2AA00	A	3RA2210-1FH15-2BB4	1	1 units	41D
	2.2	4.9	4.5 ... 6.3	11-1GA20		+ 29 13-1DB2	A	3RA2210-1GH15-2BB4	1	1 units	41D
	3	6.5	5.5 ... 8	11-1HA20			A	3RA2210-1HH15-2BB4	1	1 units	41D
	4	8.5	7 ... 10	11-1JA20	16-2BB42		A	3RA2210-1JH16-2BB4	1	1 units	41D
	5.5	11.5	9 ... 12.5	11-1KA20	17-2BB42		A	3RA2210-1KH17-2BB4	1	1 units	41D
	7.5	15.5	10 ... 16	11-4AA20	18-2BB42		A	3RA2210-4AH18-2BB4	1	1 units	41D

⚙ For online configurator, see www.siemens.com/sirius/configurators.

1) Auxiliary switches, see "Accessories" on page 8/33.

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

3) RS = assembly kit for reversing duty and busbar mounting.

4) Suitable for use with IE3 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	DT	Screw terminals		DT	Spring-type terminals	
			Article No.	Price per PU		Article No.	Price per PU
	Size						

Auxiliary switches

Transverse auxiliary switches for front mounting

1 CO S00/S0
1 NO + 1 NC



3RV2901-1D
3RV2901-1E



--
3RV2901-2E

Lateral auxiliary switches mountable on the left

1 NO + 1 NC S00/S0



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	DT	Screw terminals	DT	Spring-type 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	Article No.	Price per PU
V	V	V	V	Size					

Auxiliary releases for motor starter protectors³⁾

Undervoltage releases

230 240 -- -- S00/S0



3RV2902-1AP0



3RV2902-2AP0

Shunt releases

-- -- 210 ... 240 190 ... 330 S00/S0



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 AC 50/60 Hz 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).

Complete range of accessories for the motor starter protectors see Chapter 7 "Protection Equipment" → "Motor Starter Protectors/Circuit Breakers" → "SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers up to 80 A" → "Accessories".

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

Accessories

Accessories for contactors

For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Size								
Auxiliary switch blocks for snapping onto the front of contactors								
	Cable entry from below		Screw terminals					
	S00/S0	1-pole						
3RH2911-1BA..		- 1 NO	▶ 3RH2911-1BA10		1	1 units	41B	
		- 1 NC	▶ 3RH2911-1BA01		1	1 units	41B	
	S00/S0	2-pole						
		- 1 NO + 1 NC	▶ 3RH2911-1MA11		1	1 units	41B	
3RH2911-1MA..		- 2 NO	▶ 3RH2911-1MA20		1	1 units	41B	
	Auxiliary switch blocks for contactors, for lateral mounting							
	S00	2 NC	A	Screw terminals				
	S00	1 NO + 1 NC	A	3RH2911-1DA02	1	1 units	41B	
	S00	2 NO	A	3RH2911-1DA11	1	1 units	41B	
	S0	2 NC	A	3RH2911-1DA20	1	1 units	41B	
	S0	1 NO + 1 NC	A	3RH2921-1DA02	1	1 units	41B	
	S0	2 NO	A	3RH2921-1DA11	1	1 units	41B	
3RH2911-1DA..				3RH2921-1DA20	1	1 units	41B	
	Spring-type terminals							
	S00	2 NC	A	3RH2911-2DA02	1	1 units	41B	
	S00	1 NO + 1 NC	A	3RH2911-2DA11	1	1 units	41B	
	S00	2 NO	A	3RH2911-2DA20	1	1 units	41B	
	S0	2 NC	A	3RH2921-2DA02	1	1 units	41B	
3RH2911-2DA..	S0	1 NO + 1 NC	A	3RH2921-2DA11	1	1 units	41B	
	S0	2 NO	A	3RH2921-2DA20	1	1 units	41B	
	Connection modules for contactors with screw terminals (can be used only for direct-on-line starters)							
		Adapters for contactors		Screw terminals				
		Ambient temperature $T_{u\max} = 60\text{ °C}$						
	3RT1926-4RD01	S00	Rated operational current I_e at AC-3/400 V: 20 A	B	3RT1916-4RD01	1	1 units	41B
S0		Rated operational current I_e at AC-3/400 V: 25 A	B	3RT1926-4RD01	1	1 units	41B	
	Plugs for contactors							
	S00, S0	--	B	3RT1900-4RE01	1	1 units	41B	
3RT1900-4RE01								

Complete range of accessories for the contactors, see [Chapter 3 "Switching Devices – Contactors and Contactor Assemblies"](#) → "Accessories and Spare Parts".

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⁾	DT	Article No. ²⁾	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V						
Surge suppressors without LED for contactors								
Size S00								
For plugging onto the front side of the contactors with and without auxiliary switch blocks								
	3RT2.	Varistors	24 ... 48 AC, 24 ... 70 DC	▶ 3RT2916-1BB00		1	1 units	41B
			127 ... 240 AC, 150 ... 250 DC	▶ 3RT2916-1BD00		1	1 units	41B
	3RT2.	RC elements	24 ... 48 AC, 24 ... 70 DC	▶ 3RT2916-1CB00		1	1 units	41B
			127 ... 240 AC, 150 ... 250 DC	▶ 3RT2916-1CD00		1	1 units	41B
	3RT2.	Noise suppression diodes	12 ... 250 DC	▶ 3RT2916-1DG00		1	1 units	41B
	3RT2.	Diode assemblies (diode and Zener diode) for DC operation and short break times	12 ... 250 DC	▶ 3RT2916-1EH00		1	1 units	41B
	Size S0							
	For plugging onto the front side of the contactors (prior to mounting of the auxiliary switch block)							
	3RT202	Varistors	24 ... 48 AC, 24 ... 70 DC	▶ 3RT2926-1BB00		1	1 units	41B
			127 ... 240 AC, 150 ... 250 DC	▶ 3RT2926-1BD00		1	1 units	41B
	3RT202	RC elements	24 ... 48 AC, 24 ... 70 DC	▶ 3RT2926-1CB00		1	1 units	41B
			127 ... 240 AC, 150 ... 250 DC	▶ 3RT2926-1CD00		1	1 units	41B
	3RT202	Diode assemblies for DC operation and short break times	DC24	▶ 3RT2926-1ER00		1	1 units	41B
			30 ... 250 DC	▶ 3RT2926-1ES00		1	1 units	41B

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

²⁾ For packs of 10 or 5 units, "-Z" and order code "X90" must be added to the Article No.

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	Actuating voltage of contactor	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size							
Link modules for motor starter protector to contactor²⁾									
 3RA2921-1AA00	Electrical and mechanical link between motor starter protector and contactor				Screw terminals 				
	Single-unit packaging								
	S00/S0	S00	AC and DC	►	3RA1921-1DA00		1	1 units	41B
	S00/S0	S0	AC	A	3RA2921-1AA00		1	1 units	41B
 3RA2921-1BA00									
	Multi-unit packaging								
	S00/S0	S00	AC and DC	►	3RA1921-1D		1	10 units	41B
	S00/S0	S0	AC	A	3RA2921-1A		1	10 units	41B
 3RA2921-2AA00	Electrical and mechanical link between motor starter protector and contactor				Spring-type terminals 				
	Single-unit packaging								
	S00	S00	AC and DC	►	3RA2911-2AA00		1	1 units	41B
	S0	S0	AC ¹⁾ and DC	►	3RA2921-2AA00		1	1 units	41B
 3RA2911-2FA00									
	Multi-unit packaging								
	S00	S00	AC and DC	►	3RA2911-2A		1	10 units	41B
	S0	S0	AC ¹⁾ and DC	►	3RA2921-2A		1	10 units	41B
Hybrid link modules from motor starter protector to contactor²⁾³⁾									
 3RA2911-2FA00	Electrical and mechanical link between motor starter protector with screw terminals and contactor with spring-type terminals								
	Single-unit packaging								
	S00	S00	AC and DC	►	3RA2911-2FA00		1	1 units	41B
	S0	S0	AC ¹⁾ and DC	►	3RA2921-2FA00		1	1 units	41B
 3RA2921-2FA00									
	Multi-unit packaging								
	S00	S00	AC and DC	►	3RA2911-2F		1	10 units	41B
	S0	S0	AC ¹⁾ and DC	►	3RA2921-2F		1	10 units	41B

Note:

Link modules and hybrid link modules up to max. 32 A can be used.

¹⁾ A spacer for height compensation on AC contactors with spring-type terminals, size S0, is optionally available, [see page 8/40](#).

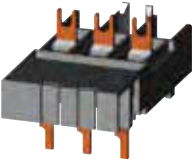
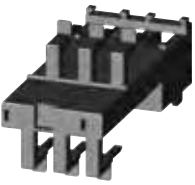
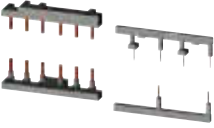
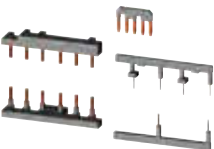
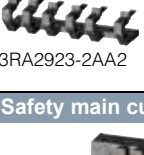
²⁾ The link modules from motor starter protector to contactor and the hybrid link modules from motor starter protector to contactor cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

³⁾ The motor starter protector to contactor hybrid link modules are only suitable for constructing direct-on-line starters.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

Accessories

	For motor starter protectors	For soft starters	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size						
Link modules from motor starter protector to soft starter¹⁾								
 3RA2921-1BA00	Electrical and mechanical link between motor starter protector and soft starter			Screw terminals				
	Single-unit packaging							
	S00/S0	S00/S0	A	3RA2921-1BA00		1	1 units	41B
	Multi-unit packaging							
	S00/S0	S00/S0	A	3RA2921-1B		1	10 units	41B
 3RA2921-2GA00	Electrical and mechanical link between motor starter protector and soft starter			Spring-type terminals				
	Single-unit packaging							
	S00	S00	▶	3RA2911-2GA00		1	1 units	41B
	S0	S0	▶	3RA2921-2GA00		1	1 units	41B
	Multi-unit packaging							
	S00	S00	▶	3RA2911-2G		1	10 units	41B
	S0		▶	3RA2921-2G		1	10 units	41B
Note:								
Link modules up to max. 32 A can be used.				¹⁾ The link modules for motor starter protector to soft starter cannot be used for the 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.				
	For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size							
Wiring kits for contactors								
 3RA2923-2AA1	Reversing duty			Screw terminals				
	Electrical and mechanical link for reversing contactors, optionally with integrated electrical and mechanical interlock		▶	3RA2913-2AA1		1	1 units	41B
	S00		▶	3RA2923-2AA1		1	1 units	41B
	S0							
 3RA2923-2BB1	Wye-delta starting							
	Electrical and mechanical link for three contactors of same size		▶	3RA2913-2BB1		1	1 units	41B
	S00		▶	3RA2923-2BB1		1	1 units	41B
	S0							
 3RA2923-2AA2	Reversing duty			Spring-type terminals				
	Electrical and mechanical link for reversing contactors, optionally with integrated electrical and mechanical interlock		▶	3RA2913-2AA2		1	1 units	41B
	S00		▶	3RA2923-2AA2		1	1 units	41B
	S0							
 3RA2923-2BB2	Wye-delta starting							
	Electrical and mechanical link for three contactors of same size		▶	3RA2913-2BB2		1	1 units	41B
	S00		▶	3RA2923-2BB2		1	1 units	41B
	S0							
Safety main current connectors for 2 contactors								
 3RA2916-1A	Switches 2 contactors in series			Screw terminals				
			A	3RA2916-1A		1	1 units	41B
	S00		A	3RA2926-1A		1	1 units	41B
	S0							

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	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mounting rails for mounting contactors for the customer assembly of 3RA21 load feeders with busbar adapters for 60 mm systems									
	--	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 existing on the busbar adapter. For pushing onto the busbar adapter, including fixing screws	A	8US1998-7CB45		1	10 units	140
8US1998-7CB45									
Standard mounting rail adapters									
	S00, S0	S00, S0	For mechanical fixing of motor starter protector and contactor; for snapping onto standard mounting rail or for screw fixing	A	3RA2922-1AA00		1	1 units	41B
	S00, S0	S00, S0	Single-unit packaging	A	3RA2922-1A		1	5 units	41B
3RA2922-1AA00									
Side modules for standard mounting rail adapters									
	S00/S0	S00/S0	For standard mounting rail adapters 10 mm wide, 96 mm long, for widening standard mounting rail adapters when using lateral auxiliary switches, 2 units required		3RA1902-1B		1	10 units	41B
3RA1902-1B									
RH assembly kits for reversing duty and standard rail mounting in size S0									
RH assembly kits for screw terminals									
	S0	S0	Comprising: • Wiring kit • 2 standard mounting rail adapters • 2 connecting wedges Link modules must be ordered separately.	A	3RA2923-1BB1		1	1 units	41B
3RA2923-1BB1									
RH assembly kits for spring-type terminals									
	S0	S0	Comprising: • Wiring kit • 2 standard mounting rail adapters • 2 connecting wedges • Spacers Link modules must be ordered separately.	A	3RA2923-1BB2		1	1 units	41B
Push-in lugs for screw fixing									
	S00, S0	--	For screwing the motor starter protector (of the load feeder) onto mounting plates; 2 units are required for each motor starter protector	A	3RV2928-0B		100	10 units	41E
3RV2928-0B									

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	Connecting cable	Adapter length	Adapter width	Rated voltage	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	A	AWG	mm	mm	V						
Busbar adapters for 60 mm systems											
For flat copper profiles according to DIN 46433 Width: 12 mm and 30 mm Thickness: 5 mm and 10 mm also 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 units	140
S00 (motor starter protector)/S0 (contactor)	25	12	260	45	690	►	8US1251-5DT10		1	1 units	140
S0	32	10	260	45	690	►	8US1251-5NT10		1	1 units	140
• For load feeders with spring-type terminals											
							Spring-type terminals				
S00	25	12	200	45	690	►	8US1251-5DS11		1	1 units	140
S00/S0	25	12	260	45	690	►	8US1251-5DT11		1	1 units	140
S0	32	10	260	45	690	►	8US1251-5NT11		1	1 units	140
Accessories¹⁾											
Device holders											
For lateral attachment to busbar adapters	--	--	200	45	--	►	8US1250-5AS10		1	1 units	140
	--	--	260	45	--	►	8US1250-5AT10		1	1 units	140
Side modules											
For widening busbar adapters	--	--	200	9	--	A	8US1998-2BJ10		1	10 units	140
Spacers											
For fixing the load feeder onto the busbar adapter	--	--	--	--	--	►	8US1998-1BA10		1	50 units	140
Vibration and shock kits											
For high vibration and shock loads	--	--	--	--	--	►	8US1998-1CA10		1	2 units	140

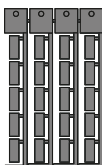
¹⁾ Additional mounting rails for busbar adapter, see page 8/38.

For motor starter protectors	For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Size							
RS assembly kits for reversing duty for 60 mm busbar systems								
RS assembly kits for screw terminals				Screw terminals				
S00, S0	S00	Comprising:	A	3RA2913-1DB1		1	1 units	41B
S0	S0	• Wiring kit	A	3RA2923-1DB1		1	1 units	41B
S00	S0	• Busbar adapters	A	3RA2923-1EB1		1	1 units	41B
		• Device holders						
		• 2 connecting wedges						
		Link modules must be ordered separately.						
RS assembly kits for spring-type terminals				Spring-type terminals				
S00	S00	Comprising:	A	3RA2913-1DB2		1	1 units	41B
S0	S0	• Wiring kit	A	3RA2923-1DB2		1	1 units	41B
		• Busbar adapters						
		• Device holders						
		• 2 connecting wedges						
		• Spacers						
		Link modules must be ordered separately.						

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA2 Load Feeders

Accessories

	For motor starter protectors	For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size							
Connecting wedges									
	For mechanical linking of busbar adapters and device holders or of standard mounting rail adapters (2 units per combination required)				▶	8US1998-1AA00	100	100 units	140
8US1998-1AA00									
Spacers									
	For height compensation on AC contactors size S0 with spring-type terminals					Spring-type terminals 			
	S0	S0	Single-unit packaging	A	3RA2911-1CA00		1	1 units	41B
	S0	S0	Multi-unit packaging	A	3RA2911-1C		1	5 units	41B
3RA2911-1CA00									
	Version			DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spring-type terminals									
	Screwdrivers For all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated				A	Spring-type terminals 			
3RA2908-1A						3RA2908-1A	1	1 units	41B
Blank labels									
	Unit labeling plates ¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray				D	3RT2900-1SB20	100	340 units	41B
3RT2900-1SB20									
Configuration Manual "Configuring SIRIUS Innovations"									
Configuration manual for new combinations of load feeders Information and assignment tables for combinations for self-assembly. The configuration manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/39714188 .									

¹⁾ PC labeling system for individual inscription of unit labeling plates available from:
murrplastik Systemtechnik GmbH
www.murrplastik.de.

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:

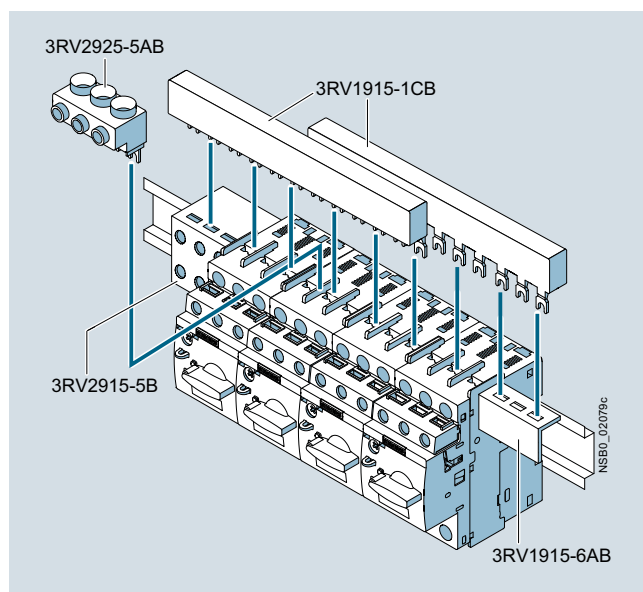
- Parallel wiring
- Use of three-phase busbars (combination with SIRIUS motor starter protectors and contactors possible)
- 8US busbar adapters
- SIRIUS 3RV29 infeed systems

Insulated three-phase busbar systems

Three-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 2 and 5 feeders. However, any kind of extension is possible by clamping the tags of an additional busbar (rotated by 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/circuit breakers are supplied by appropriate infeed terminals.



SIRIUS three-phase busbar system size S00/S0

The three-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 three-phase busbar systems can also be used to construct "Type E Starters" of size S0 or S2 according to UL/CSA. Special infeed terminals must be used for this purpose, see Chapter 7 "Protection Equipment" → "Motor Starter Protectors/Circuit Breakers" → "SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers up to 80 A" → "Accessories" → "Busbar Accessories".

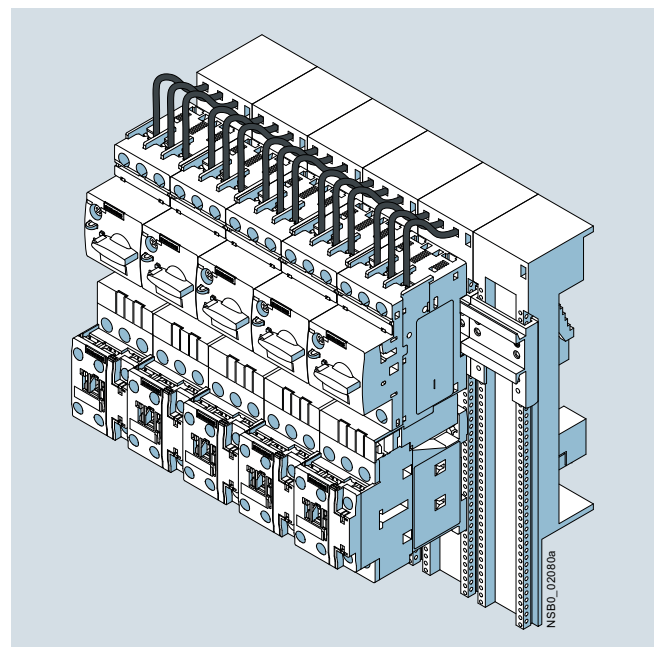
8US busbar adapters for 60 mm systems

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 8/39.



SIRIUS load feeders with busbar adapters snapped onto busbars

SIRIUS 3RV29 infeed systems

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 a screw or spring-type connection up to size S0.

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

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

3RV29 infeed system, see Chapter 7 "Protection Equipment" → "Motor Starter Protectors/Circuit Breakers" → "SIRIUS 3RV2 Motor Starter Protectors/Circuit Breakers up to 80 A" → "Accessories".

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

General data

Overview

3RA1 fuseless load feeders

Note:

The 3RA1 fuseless load feeders, including sizes S00, S0 and S2, can be found

- in the Catalog Add-On IC 10 AO · 2014 in the DVD box IC 01
- in the Catalog Add-On IC 10 AO · 2014 at the Information and Download Center
- in the interactive catalog CA 01
- in the Industry Mall

The 3RA1 fuseless load feeders consist of the 3RV1 motor starter protector and the 3RT1 contactor. Motor starter protectors and contactors are electrically and mechanically connected using pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

As the 3RA1 fuseless load feeders are constructed from 3RV1 motor starter protectors and 3RT1 contactors, the same accessories can be used for the 3RA1 fuseless load feeders as for these motor starter protectors and contactors.

Pre-assembled link modules 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.

The 3RV1 motor starter protector is responsible for overload and short-circuit protection in the fuseless load feeder. Back-up protective devices, such as melting fuses or limiters, are superfluous here, as the circuit breaker is capable of withstanding short circuits of up to 50 or 100 kA at 400 V.

The 3RT1 contactor is particularly suitable for extremely complex switching tasks requiring the greatest endurance.

The permissible ambient temperature is 60 °C with butt-mounting and without derating (70 °C possible subject to certain restrictions).

3RA1 fuseless load feeders are available for motors up to 45 kW at AC-3 and 400 V (grounded network) and setting ranges from 0.14 A to 100 A.

Only size S3 of the 3RA1 fuseless load feeders are covered in IC 10. 3RA2 fuseless load feeders are available for sizes S00 and S0 (see page 8/5).

Size	Width of direct-on-line starter mm	Max. rated current $I_{n \max}$ A	For three-phase motors up to kW
S3	70	100	45

3RA1 load feeder sizes S2 and S3 can be ordered preassembled only as direct-on-line starters in size S2. The direct-on-line starter size S3 and the reversing starter sizes S2 and S3 are available only for self-assembly.

The SENTRON 3VL circuit breakers and the SIRIUS 3RT contactors can be used for fuseless load feeders >100 A. The corresponding distances from grounded or live parts, as detailed in the technical specifications, must be observed.

More information and assignment tables for self-assembly combinations for 400 V, 440 V, 480 V, 500 V, 550 V and 690 V, see the configuration manual "Configuring SIRIUS – Selection Data for Fuseless Load Feeders", page 8/50 or <http://support.automation.siemens.com/WW/view/en/40625241/0>.

Operating conditions

3RA1 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.

Overload tripping times

All 3RA1 fuseless 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.

Types of coordination

EN 60947-4-1 (VDE 0660 Part 102) and IEC 60947-4-1 make a distinction between two different types of coordination (types "1" and "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.



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.



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.

Connection methods

3RA1 load feeders are offered with screw terminals.



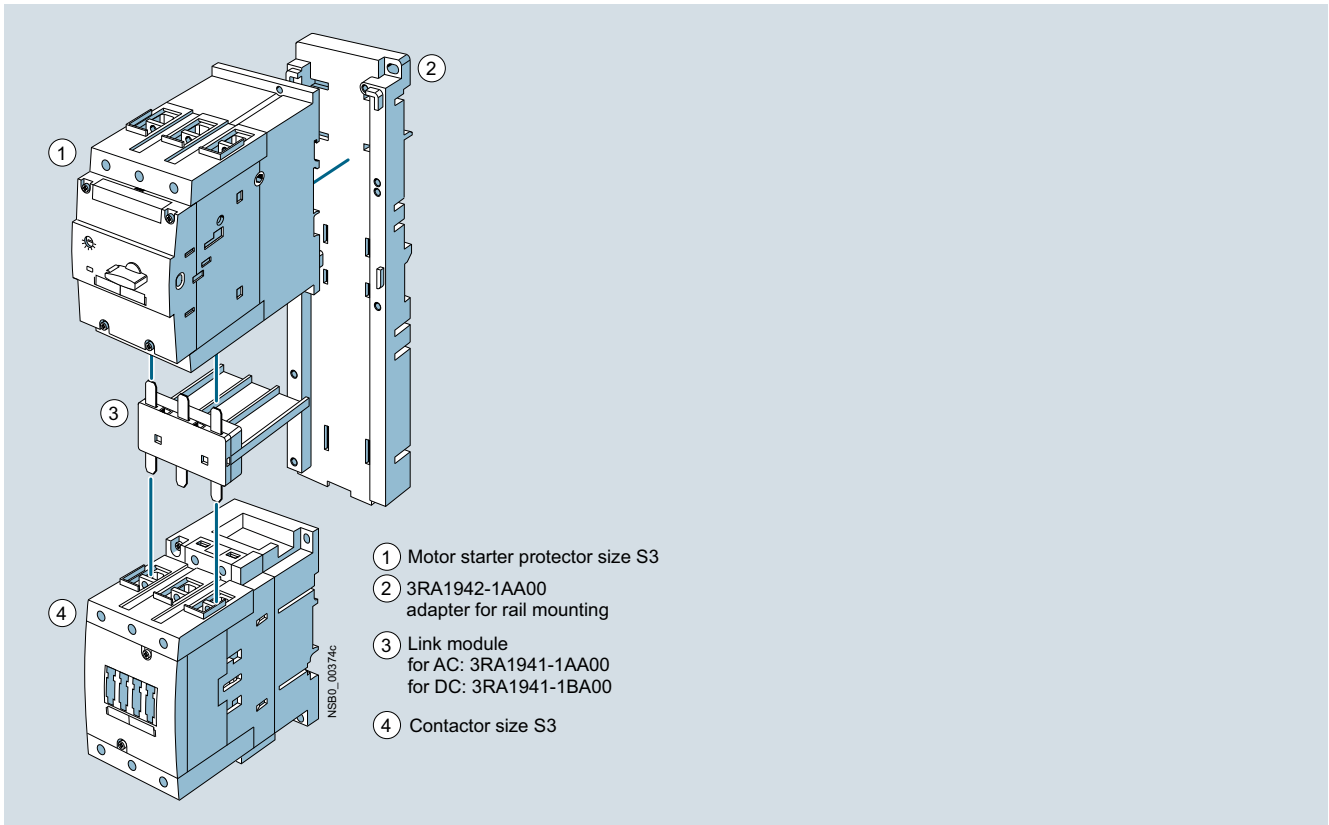
Screw terminals

The terminals are indicated in the corresponding tables by the symbol shown on an orange background.

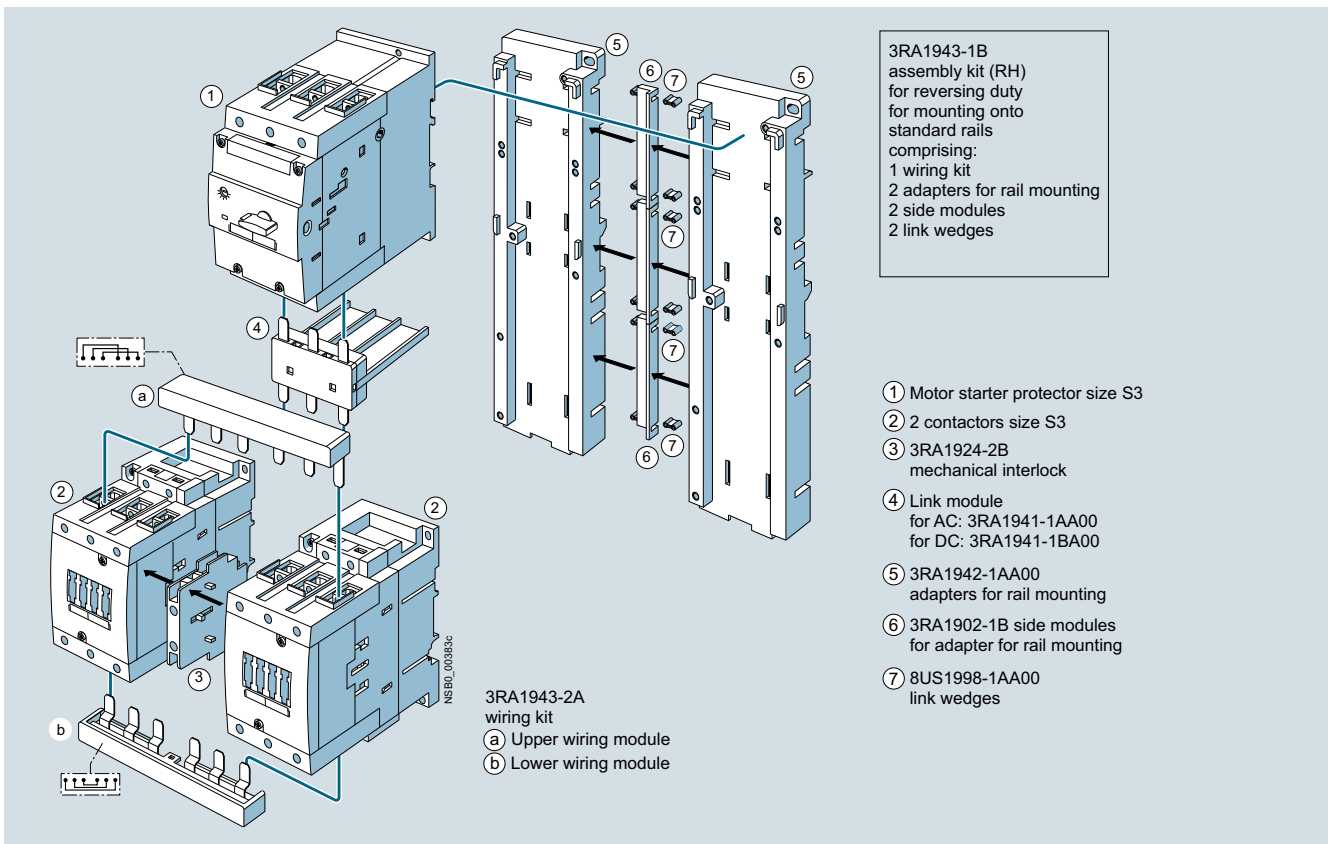
Load Feeders and Motor Starters for Use in the Control Cabinet SIRIUS 3RA1 Load Feeders

General data

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



Reversing duty • For standard rail mounting • Size S3



This graphical overview is shown without small mounting parts (screws etc.).

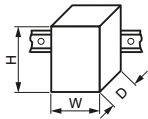
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

General data

Technical specifications

Direct-on-line starters/ reversing starters	Size	Connection methods	Mounting	Control voltage	Width W	Height H	Depth D
					mm	mm	mm
Mounting dimensions							
3RA11. direct-on-line starters	S3	Screw terminals	Standard mounting rails	AC/DC	70	330	192
3RA12. reversing starters	S3	Screw terminals	Standard mounting rail adapters	AC/DC	150	330	192



Type

Size

Number of poles

3RA1. 4
S3
3

Mechanics and environment

Permissible ambient temperature

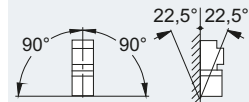
- During operation
- During storage and transport

°C

°C

 -20 ... +70 (up to +60 °C without restriction)
 -55 ... +80

Permissible mounting position



Important: Acc. to DIN 43602 start command "I" at the right or top

Shock resistance (sine-wave pulse)

Acc. to IEC 60086 Part 2-27

g

Up to 6

Degree of protection

Acc. to IEC 60947-1

IP20

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

General data

Type		3RA1. 4
Size		S3
Number of poles		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	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)	Acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	10
Rated short-circuit current I_G at 50/60 Hz 400 V AC according to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)	kA	50
Types of coordination according to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)		See "Selection and ordering data"
Power loss $P_{V \max}$ of all main current paths Dependent on the rated current I_n (upper setting range)		
	63 A	W 29
	75 ... 90 A	W 45
	100 A	W 60
Power consumption of the solenoid coils in the case of contactors (for cold coil and U_s 50 Hz)		
• AC operation	Closing	VA 270
	P.f.	0.68
	Closed	VA 22
	P.f.	0.27
• DC operation	Closing = Closed	W 15
Endurance of the motor starter protector		
• Mechanical endurance	Operating cycles	50 000
• Electrical endurance	Operating cycles	50 000
• Max. switching frequency per hour (motor starts)	1/h	15
Endurance of contactor		
• Mechanical endurance	Operating cycles	10 million
• Electrical endurance	Operating cycles	See endurance characteristic curves of the contactors → Chapter 3 "Switching Devices – Contactors and Contactor Assemblies"
Touch protection	Acc. to EN 50274	Finger-safe
Phase failure sensitivity of the motor starter protector	Acc. to IEC 60947-1, EN 60947-1 (VDE 0660 Part 102)	Yes
Isolating features of the motor starter protector	Acc. to IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)	Yes
Main control and EMERGENCY-STOP switch characteristics of the motor starter protector and accessories	Acc. to IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)	Yes, (with overvoltage releases of category 1 under conditions of proper use)
Protective separation between main and auxiliary circuits	Acc. to EN 60947-1, Appendix N	V Up to 400
Positively-driven operation at contactors		Yes, from main contact to auxiliary NC contact
Conductor cross-sections of main circuit		
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)
Connection type		Box terminals
Terminal screw		Allen screw
Conductor cross-sections (min. ... max.)		
• Finely stranded with end sleeve		
- 1 conductor	mm ²	2.5 ... 50
- 2 conductors	mm ²	2 x (2.5 ... 35)
• Solid		
- 1 conductor	mm ²	2.5 ... 16
- 2 conductors	mm ²	2 x (2.5 ... 16)
• Stranded		
- 1 conductor	mm ²	2.5 ... 70
- 2 conductors	mm ²	2 x (2.5 ... 50)
Connection, main contacts, ribbon cable conductors		Yes
Busbar connections		Yes
• Solid or stranded	AWG	--
• Stranded	AWG	2 x (10 ... 1/0)

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

Accessories

Selection and ordering data

	For motor starter protectors	For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size							
Motor starter protectors¹⁾									
	S3	--	Auxiliary switches						
			Transverse	1 CO	▶ 3RV1901-1D		1	1 unit	41E
				1 NO + 1 NC	▶ 3RV1901-1E		1	1 unit	41E
	S3	--	Laterally mountable	1 NO + 1 NC	▶ 3RV1901-1A		1	1 unit	41E
	S3	--	Undervoltage releases		▶ 3RV1902-1AP0		1	1 unit	41E
			50 Hz 230 V AC						
			Shunt releases		▶ 3RV1902-1DP0		1	1 unit	41E
	S3	--	50 Hz 230 V AC						

3RV1902-1...

Contactors²⁾

Snap-on auxiliary switch blocks								
Connection from below								
--	S3	2-pole	1 NO + 1 NC	▶	3RH1921-1MA11	1	1 unit	41B
			2 NO	▶		1	1 unit	41B
			2 NC	▶		1	1 unit	41B
Connection from 2 sides								
--	S3	1-pole	1 NO	▶	3RH1921-1CA10	1	1 unit	41B
			1 NC	▶		1	1 unit	41B
--	S3	4-pole	2 NO + 2 NC	▶	3RH1921-1FA22	1	1 unit	41B

¹⁾ See also Chapter 7 "Protection Equipment" → "Motor Starter Protectors/Circuit Breakers" → "SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers up to 100 A".

²⁾ See also Chapter 3 "Switching Devices – Contactors and Contactor Assemblies".

	For contactors	Version	Rated control supply voltage $U_s^{1)}$	DT	Article No. ²⁾	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type									

Surge suppressors without LED

Size S3									
	3RT104	For fitting onto the coil terminals at top or bottom							
		Varistors	24 ... 48 V AC	▶	3RT1926-1BB00		1	1 unit	41B
			24 ... 70 V DC						
	3RT104	RC elements	127 ... 240 V AC	▶	3RT1926-1BD00		1	1 unit	41B
			150 ... 250 V DC						
			24 ... 48 V AC	▶	3RT1936-1CB00		1	1 unit	41B
	3RT104	Diode assemblies	24 ... 70 V DC						
			127 ... 240 V AC	▶	3RT1936-1CD00		1	1 unit	41B
			150 ... 250 V DC						
	3RT104	Diode assemblies	For DC operation and short break times						
			• Can be plugged in at bottom	24 V DC	▶ 3RT1936-1TR00		1	1 unit	41B
				30 ... 250 V DC	B 3RT1936-1TS00		1	1 unit	41B

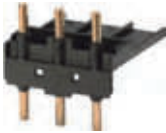
¹⁾ Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

²⁾ For packs of 10 or 5 units, "-Z" and order code "X90" must be added to the Article No.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

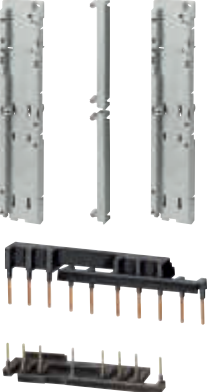
Accessories

	For motor starter protectors	For contactors	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size							
Link modules									
			Electrical and mechanical link between motor starter protector and contactor.						
	Single-unit packaging								
			Actuating voltage of contactor						
	S3	S3	AC	▶	3RA1941-1AA00		1	1 unit	41B
			DC	▶	3RA1941-1BA00		1	1 unit	41B
Multi-unit packaging									
			Actuating voltage of contactor						
S3	S3	AC	▶	3RA1941-1A		1	5 units	41B	
		DC	▶	3RA1941-1B		1	5 units	41B	
Wiring kit									
		S3	Reversing duty	▶	3RA1943-2A		1	1 unit	41B
			Electrical and mechanical link for reversing contactors. Can be combined with link module. For size S3: Mechanical locking device must be ordered separately.						
		S3	Wye-delta starting	▶	3RA1943-2B		1	1 unit	41B
			Electrical and mechanical link for three contactors of same size						
Mechanical interlocks									
	--	S3	For reversing contactors, laterally mountable with 1 auxiliary contact (1 NC) each per contactor.	▶	3RA1924-2B		1	1 unit	41B
Coil repeat terminals									
	--	S3	For A1 and A2 of the reversing contactors (one set contains 10 x A1 and 5 x A2)	B	3RA1923-3B		1	1 unit	41B

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA1 Load Feeders

Accessories

	For motor starter protectors Size	For contactors Size	Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Standard mounting rail adapters									
	Single-unit packaging								
	S3	S3	For mechanical fixing of motor starter protector and contactor; for snapping onto standard mounting rail or for screw fixing	▶	3RA1942-1AA00		1	1 unit	41B
	Multi-unit packaging								
	S3	S3	For mechanical fixing of motor starter protector and contactor; for snapping onto standard mounting rail or for screw fixing	▶	3RA1942-1A		1	5 units	41B
Side modules									
	S3	S3	For standard mounting rail adapter 10 mm wide, 96 mm long, for widening standard mounting rail adapters. For size S3: 3 units required.	▶	3RA1902-1B		1	10 units	41B
Assembly kits (RH) for reversing duty for standard mounting rails									
	S3	S3	Also suitable for screw fixing. Comprising: Wiring kit, standard mounting rail adapters, side modules. Link modules to be ordered separately. Mechanical locking device also to be ordered separately.	A	3RA1943-1B		1	1 unit	41B
Configuration Manual "Configuring SIRIUS"									
Configuration Manual "Configuring SIRIUS: Selection Data for Fuseless Load Feeders"									
More information and assignment tables for self-assembly combinations for 400 V, 440 V, 480 V, 500 V, 550 V and 690 V. The configuration manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/40625241 .									

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Overview

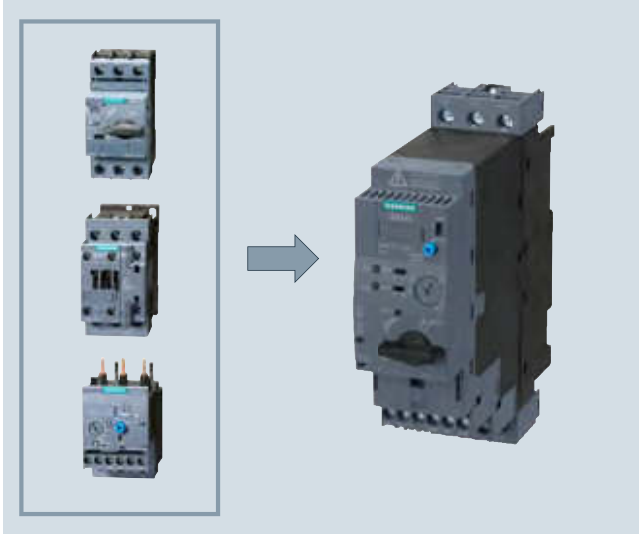
3RA6 fuseless compact starters and infeed system for 3RA6



3RA62 reversing starter

Integrated functionality

The SIRIUS 3RA6 compact starters are a generation of innovative 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

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

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.

Low variance of devices

Thanks to wide setting ranges for the rated current and wide voltage ranges, the equipment variance is greatly reduced compared to conventional load feeders.

Very high operational reliability

The high short-circuit breaking capacity and defined shut-down when the end of service life is reached means 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).

Communications integration through AS-Interface

To enable communications integration 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.

Communications integration using IO-Link

Up to 4 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 SIRIUS 4SI electronic modules are used e.g. as IO-Link masters for connection to the SIMATIC ET 200S distributed I/O system.

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

Details of the communications integration using IO-Link, [see Chapter 2 "Industrial Communication" → "IO-Link"](#).

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 8/72](#)) it is possible to carry out the wiring in advance without a compact starter needing 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 connections or mounting on a standard mounting 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.

Consistent solution from the infeed to the motor feeder

The SIRIUS infeed system for 3RA6 with integrated PE bar is offered as a user-friendly possibility of feeding in summation currents up to 100 A with a maximum conductor cross-section of 70 mm² and connecting the motor cable directly without additional intermediate terminals.

Screw and spring-type terminals

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

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data



Screw terminals



Spring-type 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.

Types of infeed for the 3RA6 fuseless compact starters

On the whole four different infeed possibilities are available:

- Parallel wiring
- Use of three-phase busbars (combination with SIRIUS motor starter protectors and SIRIUS contactors possible)
- 8US busbar adapters
- SIRIUS infeed system for 3RA6 (see page 8/72)

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

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

SIRIUS 3RA6 compact starters

The 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 $I_q = 53$ kA, i.e. they are practically weld-free. They combine the functions of a motor starter protector, a contactor and a solid-state overload relay in one enclosure. Direct-on-line starters with 45 mm width and reversing starters with 90 mm width are available as variants.

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 disconnecter units (main control switch according to EN 60204 or DIN VDE 0113). Isolation is effected by moving the actuator into the "OFF" position; disconnection by means of the control contacts is not enough.

3RA6 fuseless compact starters are supplied for 5 different current setting ranges. The 3RA61 and 3RA62 have 2 control voltage ranges (AC/DC), 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		

Note:

The 3RA1 load feeders can be used for fuseless load feeders >32 A up to 100 A.

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 SIRIUS compact starters are generally designed to degree of protection IP20. 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 forms of power supply and voltages are available on request from Technical Assistance:

Tel.: +49 (9 11) 8 95-59 00

E-mail: technical-assistance@siemens.com

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 reset after 3 minutes cooling time.

With autoreset 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 communication interface

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Four complement versions for 3RA61 and 3RA62 compact starters

- For standard mounting rail or screw fixing: basic version including 1 pair of main circuit terminals and 1 pair of control circuit terminals
- For standard mounting rail 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 with the infeed system for 3RA6: without main circuit terminals because they are supplied with the infeed system and the expansion modules
- For use with the infeed system for 3RA6 and the 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.

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.

Available for the 3RA61 and 3RA64 direct-on-line starters is a slot for an optional auxiliary switch block (optionally 2 NO, 2 NC or 1 NO + 1 NC) and for the 3RA62 and 3RA65 reversing starters there are two slots (for auxiliary switch blocks, see "Accessories" on page 8/65).

Positively-driven operation of the auxiliary contacts

Positively-driven 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 block offers positively driven contacts in the 3RA6913-1A version, each with one normally closed contact and one normally open contact.

Article No. scheme

Digit of the Article No.	1st - 4th	5th	6th	7th	8th	9th	10th	11th	12th	
	□□□□	□	□	□	–	□	□	□	□	□
SIRIUS 3RA6 compact starters	3 R A 6									
Version (direct-on-line starter = 1, reversing starter = 2, direct-on-line starter for IO-Link = 4, reversing starter for IO-Link = 5, infeed system = 8, accessories = 9)		□								
Details of accessories			□	□						
Connection method (0 = without terminals, 1 = screw terminals, 2 = spring-type terminals)					□					
Setting range						□				
Rated control supply voltage							□	□		
Terminals complement variant									□	
Special versions										
Example	3 R A 6	1	2	0	–	0	A	B	3 0	

Note:

The Article No. scheme is presented here merely for information purposes and for better understanding of the logic behind the article numbers.

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

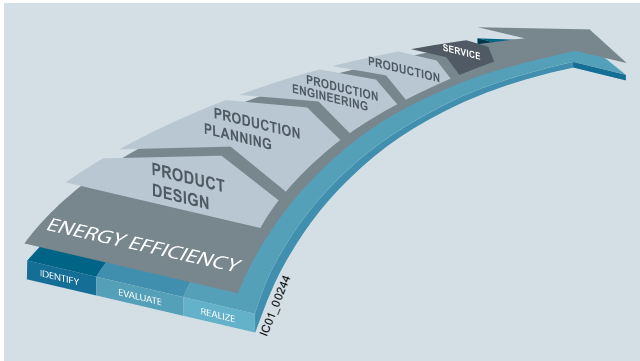
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Benefits

Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see www.siemens.com/sirius/energysaving).

With the 3RA6 compact starters, control cabinets heat up less because power losses have been minimized by operation:

- Lower intrinsic power loss (than comparable motor feeders with thermal overload trips) thanks to electronic current analysis
- Lower power losses (than conventional load feeders) because there is only one switching point for short circuit and operational switching
- Lower control circuit power losses (compared with conventional switching devices) as a result of electronic control of switching points
- Thanks to the above advantages, additional energy savings are possible because less cooling is required (and a more compact design is possible)

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 through 2 wide voltage ranges and 5 wide setting ranges for the rated current mean low stock levels
- High plant availability through integrated functionalities such as prevention of main contact welding and disconnection at end of service life
- Greater productivity through automatic device reset 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 start up thanks to optional "control kits"
- Speedy replacement of devices thanks to removable terminals with spring-type and screw connections 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 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

Type		3RA61	3RA62	3RA64	3RA65
Size		S0			
Number of poles		3			
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
• Spring-type terminals		mm	45 x 191 x 165	90 x 191 x 165	45 x 191 x 165
					90 x 170 x 165
					90 x 191 x 165
Depth from standard mounting rail		mm	160		
Permissible ambient temperature		°C	-20 ... +70, restriction as from 60 depending on design		
• For operation (permissible operational current, see the following section "Electrical Specifications")		°C	-55 ... +80		
• 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		Acc. to IEC 60947-1	IP20		
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	1.25		
		A	4		
		A	12		
		A	32		
Permissible operational current of the compact starter ²⁾ when several compact starters are mounted side-by-side in the 3RA6 infeed system (for more details on the various design variants, see System Manual "SIRIUS Compact Starters and Accessories")					
• 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)		Acc. 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		
Power loss P _{v max} of all main current paths dependent on the rated current I _n (upper setting range)		mW	10		
		mW	100		
		W	1		
		W	1.8		
		W	5.4		
Max. switching frequency		1/h	750		
		1/h	250		
		1/h	15		
No-load switching frequency		1/h	3 600		3 600, depending on the IO-Link communication time
Touch protection		Acc. to DIN VDE 0106, Part 100	Finger-safe		

¹⁾ For use of 3RA6 compact starters in conjunction with highly energy-efficient IE3 motors, please observe the information on dimensioning and configuring in the "Configuration Manual for SIRIUS Controls with IE3 Motors".

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 "SIRIUS Compact Starters and Accessories".

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Type			3RA61	3RA62	3RA64	3RA65
Size			S0			
Number of poles			3			
Electrical specifications (continued)						
Isolating features of the compact starter	Acc. to IEC 60947-3		Yes: Isolation is assured only by moving the actuator into the "OFF" position.			
Main and EMERGENCY-STOP switch characteristics of the compact starter and accessories	Acc. to IEC 60204		Yes			
Protective separation	Acc. to IEC 60947-2					
Control circuit to auxiliary circuit		V	Up to 400			
• Horizontal standard mounting rail		V	Up to 250			
• Other mounting position						
Auxiliary circuit to auxiliary circuit		V	Up to 400			
• Horizontal standard mounting rail		V	Up to 250			
• Other mounting position						
Main circuit to auxiliary circuit		V	Up to 400			
• Any mounting position						
EMC interference immunity	Acc. to IEC 60947-1		Corresponds to degree of severity 3			
Conducted interference	BURST acc. to IEC 61000-4-4	kV	4		4	
• In the main circuit		kV	3		2	
• In the auxiliary circuit						
Conducted interference	SURGE acc. to IEC 61000-4-5					
• In the main circuit		kV	4		2	
- Conductor - Ground		kV	2		1	
- Conductor - Conductor						
• In the auxiliary circuit		kV	2		0.5 ¹⁾	
- Conductor - Ground		kV	1		0.5 ¹⁾	
- Conductor - Conductor						
Auxiliary switches						
• Integrated			1 NO + 1 NC	2 NO	1 NO + 1 NC	2 NO
- Position of the main contacts			1 CO/1 NO			
• Overload/short circuit and malfunction signal						
• Expandable			2 NO, 2 NC, 1 NO, 1 NC			
- Position of the main contacts						
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 At 50 kA	mm ² mm ²	2.5 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 Up to 32 A	kW kW	5.5 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

¹⁾ To maintain maximum interference immunity in a harsh electromagnetic environment, additional overvoltage protection should be provided in the control circuit. A suitable answer is for example the Dehn Blitzductor BVT AD 24 V, Art. No. 918 402 or an equivalent protection element.
 Manufacturer:
 DEHN+SÖHNE GmbH+Co. KG
 Hans-Dehn-Straße 1
 Postfach 1640
 D-92306 Neumarkt.

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		3RA6 20-□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
Type		3RA6400-□B4., 3RA6500-□B4. □ = A, B, C or D Rated operational current ≤ 12A		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

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Type		3RA61	3RA62	3RA64	3RA65
Size		S0			
Number of poles		3			
Control circuit					
Rated operational voltage					
• External auxiliary switch block	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 block					
	AC-15				
	• Up to $U_e = 230$ V	A	6		
	• Up to $U_e = 400$ V	A	3		
	• Up to $U_e = 289/500$ V	A	2		
	• Up to $U_e = 400/690$ V	A	1		
	DC-13				
	• Up to $U_e = 24$ V	A	6		
	• Up to $U_e = 60$ V	A	0.9		
	• Up to $U_e = 125$ V	A	0.55		
	• Up to $U_e = 250$ V	A	0.27		
• Internal auxiliary switch	AC-15				
	• Up to $U_e = 230$ V	A	6		
	• Up to $U_e = 400$ V	A	3		
	• Up to $U_e = 289/500$ V	A	2		
	• Up to $U_e = 400/690$ V	A	1		
	DC-13				
	• Up to $U_e = 24$ V	A	10		
	• Up to $U_e = 60$ V	A	2		
	• Up to $U_e = 125$ V	A	1		
	• Up to $U_e = 250$ V	A	0.27		
	• Up to $U_e = 480$ V	A	0.1		
• Signaling switches	AC-15				
	• Up to $U_e = 230$ V	A	3		
	• Up to $U_e = 400$ V	A	1		
	DC-13				
	• Up to $U_e = 24$ V	A	2		
	• Up to $U_e = 250$ V	A	0.11		
External auxiliary switch blocks, internal auxiliary switches					
Endurance in operating cycles					
• Mechanical endurance		10 000 000		3 000 000	
• Electrical endurance	AC-15, 230 V				
	• 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	Fuse links, operational class gG - NEOZED Type 5SE - DIAZED Type 5SB - LV HRC Type 3NA	A	10		
• Short-circuit current $I_K < 400$ A	Miniature circuit breaker up to 230 V with C characteristic	A	10		

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

General data

Type				3RA61	3RA62	3RA64	3RA65
Size				S0			
Number of poles				3			
Signaling switches							
Endurance in operating cycles							
• Mechanical endurance				20 000			
• Electrical endurance AC-15	At 230 V and 3 A			6 050			
Contact reliability		At 17 V and 5 mA	Operat- ing cycles	1 incorrect switching operation per 100 000 000			
Short-circuit protection							
• 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	6				
• Short-circuit current $I_K < 400$ A	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			

More information

Notes on safety

System networking requires suitable protective measures (including network segmentation for IT security) in order to ensure safe plant operation.

More information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

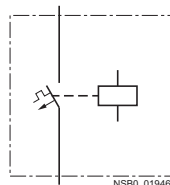
3RA61, 3RA62 Compact Starters

3RA61 direct-on-line starters

Selection and ordering data



Direct-on-line start



Width 45 mm

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

A set of 3A6940-0A 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 solid-state
 overload release

Instantaneous
 overcurrent release

DT²⁾

Article No.

Price
 per PU

DT²⁾

Article No.

Price
 per PU

Configurator



Configurator



kW

A

A

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

0.09

0.1 ... 0.4

56

C

3RA6120-0A□30

--

0.37

0.32 ... 1.25

56

C

3RA6120-0B□30

--

1.5

1 ... 4

56

A

3RA6120-0C□30

--

5.5

3 ... 12

168

A

3RA6120-0D□30

--

15

8 ... 32

448

A

3RA6120-0E□30

--

Screw terminals



Spring-type terminals



For standard mounting rail or screw fixing,
 including 1 pair of main circuit terminals and 1 pair of control circuit terminals

0.09

0.1 ... 0.4

56

A

3RA6120-1A□32

A

3RA6120-2A□32

0.37

0.32 ... 1.25

56

A

3RA6120-1B□32

A

3RA6120-2B□32

1.5

1 ... 4

56

A

3RA6120-1C□32

A

3RA6120-2C□32

5.5

3 ... 12

168

A

3RA6120-1D□32

A

3RA6120-2D□32

15

8 ... 32

448

A

3RA6120-1E□32

A

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

C

3RA6120-1A□33

C

3RA6120-2A□33

0.37

0.32 ... 1.25

56

A

3RA6120-1B□33

C

3RA6120-2B□33

1.5

1 ... 4

56

A

3RA6120-1C□33

C

3RA6120-2C□33

5.5

3 ... 12

168

A

3RA6120-1D□33

A

3RA6120-2D□33

15

8 ... 32

448

A

3RA6120-1E□33

A

3RA6120-2E□33

Article No. supplements for rated control supply voltage

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

For standard mounting rail or screw fixing when using the
 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

C

3RA6120-1AB34

C

3RA6120-2AB34

0.37

0.32 ... 1.25

56

C

3RA6120-1BB34

C

3RA6120-2BB34

1.5

1 ... 4

56

C

3RA6120-1CB34

C

3RA6120-2CB34

5.5

3 ... 12

168

A

3RA6120-1DB34

C

3RA6120-2DB34

15

8 ... 32

448

C

3RA6120-1EB34

C

3RA6120-2EB34

For online configurator, see www.siemens.com/sirius/configurators.

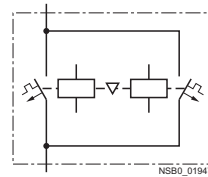
¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ The delivery time classes apply for a rated control supply voltage of 24 V AC/DC. For the other rated control supply voltages, longer delivery times are possible.

Selection and ordering data



Reversing duty



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

3RA6250-1CP32

3RA6250-2DP32

Standard three-phase motor 4-pole at 400 V AC ¹⁾	Setting range for electronic overload release	Instantaneous overcurrent release	DT ²⁾	Article No.	Price per PU	DT ²⁾	Article No.	Price per PU
Standard output <i>P</i>				Configurator			Configurator	
kW	A	A						

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

0.09	0.1 ... 0.4	56	C	3RA6250-0A□30		--
0.37	0.32 ... 1.25	56	C	3RA6250-0B□30		--
1.5	1 ... 4	56	C	3RA6250-0C□30		--
5.5	3 ... 12	168	C	3RA6250-0D□30		--
15	8 ... 32	448	C	3RA6250-0E□30		--

Screw terminals

Spring-type terminals

For standard mounting rail or screw fixing, including 1 pair of main circuit terminals and 1 pair of control circuit terminals

0.09	0.1 ... 0.4	56	C	3RA6250-1A□32	C	3RA6250-2A□32
0.37	0.32 ... 1.25	56	A	3RA6250-1B□32	A	3RA6250-2B□32
1.5	1 ... 4	56	A	3RA6250-1C□32	A	3RA6250-2C□32
5.5	3 ... 12	168	A	3RA6250-1D□32	A	3RA6250-2D□32
15	8 ... 32	448	A	3RA6250-1E□32	C	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	C	3RA6250-1A□33	C	3RA6250-2A□33
0.37	0.32 ... 1.25	56	C	3RA6250-1B□33	C	3RA6250-2B□33
1.5	1 ... 4	56	C	3RA6250-1C□33	C	3RA6250-2C□33
5.5	3 ... 12	168	C	3RA6250-1D□33	C	3RA6250-2D□33
15	8 ... 32	448	C	3RA6250-1E□33	C	3RA6250-2E□33

Article No. supplements for rated control supply voltage

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

For standard mounting rail or screw fixing when using the 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	C	3RA6250-1AB34	C	3RA6250-2AB34
0.37	0.32 ... 1.25	56	C	3RA6250-1BB34	C	3RA6250-2BB34
1.5	1 ... 4	56	A	3RA6250-1CB34	C	3RA6250-2CB34
5.5	3 ... 12	168	C	3RA6250-1DB34	C	3RA6250-2DB34
15	8 ... 32	448	C	3RA6250-1EB34	C	3RA6250-2EB34

For online configurator, see www.siemens.com/sirius/configurators.

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

²⁾ The delivery time classes apply for a rated control supply voltage of 24 V AC/DC. For the other rated control supply voltages, longer delivery times are possible.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

3RA64, 3RA65 Compact Starters for IO-Link

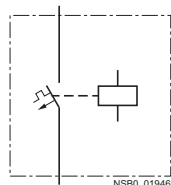
3RA64 direct-on-line starters

Selection and ordering data



3RA64 with 3RA6911-1A
auxiliary switch block

Direct-on-line start



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 3A6940-0A adapters is required for screw fixing.

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

Auxiliary switch block								
Standard three-phase motor 4-pole at 400 V AC ¹⁾	Setting range for electronic overload release	Instantaneous overcurrent release	DT	Article No.	Price per PU	DT	Article No.	Price per PU
Standard output <i>P</i>				Configurator 			Configurator 	
				Screw terminals 			Spring-type terminals 	
kW	A	A						
For standard mounting rail or screw fixing, including 1 pair of main circuit terminals and 1 pair of control circuit terminals								
0.09	0.1 ... 0.4	56	C	3RA6400-1AB42	C	3RA6400-2AB42		
0.37	0.32 ... 1.25	56	A	3RA6400-1BB42	A	3RA6400-2BB42		
1.5	1 ... 4	56	A	3RA6400-1CB42	A	3RA6400-2CB42		
5.5	3 ... 12	168	A	3RA6400-1DB42	A	3RA6400-2DB42		
15	8 ... 32	448	C	3RA6400-1EB42	C	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	C	3RA6400-1AB43	C	3RA6400-2AB43		
0.37	0.32 ... 1.25	56	A	3RA6400-1BB43	A	3RA6400-2BB43		
1.5	1 ... 4	56	A	3RA6400-1CB43	A	3RA6400-2CB43		
5.5	3 ... 12	168	A	3RA6400-1DB43	A	3RA6400-2DB43		
15	8 ... 32	448	C	3RA6400-1EB43	C	3RA6400-2EB43		

For online configurator, see www.siemens.com/sirius/configurators.

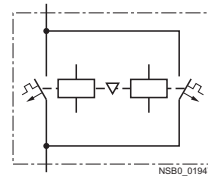
¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Selection and ordering data



3RA65 with 3RA6911-1A
 auxiliary switch blocks

Reversing duty



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⁾ Standard output <i>P</i>	Setting range for electronic overload release	Instantaneous overcurrent release	DT	Article No.	Price per PU	DT	Article No.	Price per PU
				Configurator			Configurator	
				Screw terminals			Spring-type terminals	
kW	A	A						
For standard mounting rail or screw fixing, including 1 pair of main circuit terminals and 1 pair of control circuit terminals								
0.09	0.1 ... 0.4	56	C	3RA6500-1AB42	C		3RA6500-2AB42	
0.37	0.32 ... 1.25	56	A	3RA6500-1BB42	A		3RA6500-2BB42	
1.5	1 ... 4	56	A	3RA6500-1CB42	A		3RA6500-2CB42	
5.5	3 ... 12	168	A	3RA6500-1DB42	A		3RA6500-2DB42	
15	8 ... 32	448	C	3RA6500-1EB42	C		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	C	3RA6500-1AB43	C		3RA6500-2AB43	
0.37	0.32 ... 1.25	56	A	3RA6500-1BB43	A		3RA6500-2BB43	
1.5	1 ... 4	56	A	3RA6500-1CB43	A		3RA6500-2CB43	
5.5	3 ... 12	168	A	3RA6500-1DB43	A		3RA6500-2DB43	
15	8 ... 32	448	C	3RA6500-1EB43	C		3RA6500-2EB43	

For online configurator, see www.siemens.com/sirius/configurators.

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 8/72](#)
- AS-i add-on module: [see page 8/70 onwards "AS-Interface add-on modules"](#)
- External auxiliary switch blocks: Snap-on auxiliary switch as versions 2 NO, 2 NC and 1 NO 1 NC with screw or spring-type terminals; the contacts of the auxiliary switch block 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 terminals: Available with screw and spring-type terminals
- Main circuit terminals mixed connection method: With the main circuit terminals mixed connection method it is also possible in the main circuit to switch from screw terminals on the line side to spring-type terminals on the outgoing side. This enables for example the side-by-side mounting of several compact starters and their cost-efficient connection using three-phase busbars on the infeed side. The motors are then connected directly by the quick and reliably contacting spring-type connection method.

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 demanded according to UL 508.

Accessories for infeed using three-phase busbar systems

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

The busbars are suitable for between 2 and 5 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 motor starter protector.

A connecting piece is required for the combination with 3RV1 motor starter protector size S00. Motor starter protectors S00 and S0 of the 3RV2 series can be combined in any way (without a special connecting piece). The motor starter protectors are supplied by appropriate infeed terminals. Special infeed terminals are required for constructing "Type E Starters" according to UL/CSA.

The three-phase busbar systems are finger-safe 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 along side 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 more accessories such as incoming and outgoing terminals, flat copper profiles etc., [see Catalog LV 10](#).

Accessories for operation with closed control cabinet doors

Door-coupling rotary operating mechanisms for standard and emergency-stop applications are available for operating the compact starter with closed control cabinet doors.

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

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

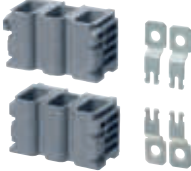
- The 4SI SIRIUS electronic module as IO-Link master allows for the simple and economical connection of SIRIUS controls with IO-Link (e.g. up to four groups of 4 compact starters) to the multifunctional SIMATIC ET 200S distributed I/O system
- Additional connection cables for side-by-side mounting of up to 4 compact starters
- Operator panel for on-site control and diagnostics of up to 4 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	DT	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	A	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.	A	3RA6940-0A	1	1 unit 42F
Screw terminals 						
Auxiliary switch blocks for compact starters						
 3RA6911-1A	• 2 NO	A	3RA6911-1A	1	1 unit	42F
	• 2 NC	A	3RA6912-1A	1	1 unit	42F
	• 1 NO + 1 NC (these auxiliary contacts are positively driven.)	A	3RA6913-1A	1	1 unit	42F
 3RA6920-1A		Main circuit terminals (incoming and outgoing side)	A	3RA6920-1A	1	1 unit 42F
Control circuit terminals						
 3RA6920-1B	• For 3RA61	A	3RA6920-1B	1	1 unit	42F
	• For 3RA62	A	3RA6920-1C	1	1 unit	42F
Spring-type terminals 						
Auxiliary switch blocks for compact starters						
 3RA6911-2A	• 2 NO	A	3RA6911-2A	1	1 unit	42F
	• 2 NC	A	3RA6912-2A	1	1 unit	42F
	• 1 NO + 1 NC (these auxiliary contacts are positively driven.)	A	3RA6913-2A	1	1 unit	42F
 3RA6920-2A		Main circuit terminals (incoming and outgoing side)	A	3RA6920-2A	1	1 unit 42F
Control circuit terminals						
 3RA6920-2B	• For 3RA61	A	3RA6920-2B	1	1 unit	42F
	• For 3RA62	A	3RA6920-2C	1	1 unit	42F

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Accessories

Version	DT	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-type terminals

C **3RA6920-3A** 1 1 unit 42F

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories especially for 3RA64, 3RA65 compact starters for IO-Link



3RA6931-0A

Additional connection 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

A **3RA6932-0A** 1 5 units 42F

A **3RA6933-0B** 1 5 units 42F

A **3RA6931-0A** 1 5 units 42F

A **3RA6933-0C** 1 5 units 42F



3RA6935-0A

Operator panels (set)

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

A **3RA6935-0A** 1 1 unit 42F

Enabling modules (replacement)

A **3RA6936-0A** 1 1 unit 42F

Interface covers (replacement)

A **3RA6936-0B** 1 5 units 42F

Connection cable (round) for connecting the operator panel
10-pole, 2 000 mm

A **3RA6933-0A** 1 1 unit 42F

¹⁾ 10-pole connection cables are required for EMERGENCY-STOP 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 Chapter 2

"Industrial Communication" → "IO-Link" → "Masters".

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Terminals for "Self-Protected Combination Motor Controllers (Type E)" acc. to UL 508 for infeed through parallel wiring with compact starters



3RV2928-1H

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 three-phase busbars.

Terminal blocks type E

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

► **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 that can be connected Without lateral accessories	Modular spacing mm	Rated current I_n at 690 V A	For motor starter protectors Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Three-phase busbars for infeed with 3RA6

	For feeding several compact starters and/or motor starter protectors with screw terminals, mounted side-by-side on standard mounting rails, insulated, with touch protection.								
3RV1915-1AB	2	45	63	S00, S0 ¹⁾	▶	3RV1915-1AB	1	1 unit	41E
	3	45	63	S00, S0 ¹⁾	▶	3RV1915-1BB	1	1 unit	41E
3RV1915-1BB	4	45	63	S00, S0 ¹⁾	▶	3RV1915-1CB	1	1 unit	41E
	5	45	63	S00, S0 ¹⁾	▶	3RV1915-1DB	1	1 unit	41E
3RV1915-1CB									
									
3RV1915-1DB									

¹⁾ Not suitable for 3RV11/3RV21 motor starter protectors for motor protection with overload relay function and for 3RV17/3RV27 and 3RV18/3RV28 circuit breakers according to UL 489 / CSA C22.2 No.5-02. Joint clamping of 3RV1 motor starter protector sizes S00 and S0 is not possible on account of the different modular spacings and the different height of the terminals. The 3RV1915-5DB connecting piece is available for connecting the compact starters to the 3RV1 motor starter protector size S00. Motor starter protectors S00/S0 of the 3RV2 series can be jointly clamped; no connecting piece has to be used.

Version	Modular spacing mm	For motor starter protectors Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Covers for connection tags of the three-phase busbars

	Touch protection for empty positions	--	S00, S0	▶	3RV1915-6AB		1	10 units	41E
3RV1915-6AB									

Conductor cross-section Solid or stranded mm ²	Finely stranded with end sleeve mm ²	AWG cables, solid or stranded AWG	Tightening torque Nm	For compact starters and motor starter protectors Size	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Three-phase infeed terminals for three-phase busbars¹⁾

	Connection from top									
3RV1925-5AB	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	S00, S0	▶	3RV1925-5AB	1	1 unit	41E
	Connection from below²⁾									
3RV2915-5B	2.5 ... 25	2.5 ... 16	10 ... 4	Input: 4; Output: 2 ... 2.5	S00, S0	▶	3RV2915-5B	1	1 unit	41E

Three-phase infeed terminals for constructing "Type E Starters" according to UL 508 for three-phase busbars

	Connection from top									
3RV2925-5EB	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	S0	A	3RV2925-5EB	1	1 unit	41E

¹⁾ The 3RV2925-5AB three-phase infeed terminals cannot be used with the 3RA6.

²⁾ 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

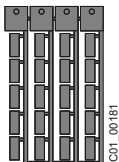
Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Busbar adapters for 60 mm systems						
 8US1211-1NS10	►	8US1211-1NS10		1	1 unit	140
Device holders for lateral mounting along side the busbar adapter for 60 mm systems						
 8US1250-1AA10	►	8US1250-1AA10		1	1 unit	140

Version	Color of actuator	Version of extension shaft	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Door-coupling rotary operating mechanisms for operating the compact starter with closed control cabinet doors								
 3RV2926-0B			►	3RV2926-0B		1	1 unit	41E
Door-coupling rotary operating mechanisms	Black	130						
EMERGENCY-STOP door-coupling rotary operating mechanisms	Red/yellow	130	►	3RV2926-0C		1	1 unit	41E

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Accessories

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spring-type terminals						
 3RA2908-1A	A	Spring-type terminals 		1	1 unit	41B
		3RA2908-1A				
Blank labels						
 3RT2900-1SB20	D	Unit labeling plates¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray		100	340 units	41B
		3RT2900-1SB20				
System Manual "SIRIUS Compact Starters and Accessories"						
The system manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/27136554/133300						

¹⁾ PC labeling system for individual inscription of unit labeling plates available from:
 murrplastik Systemtechnik GmbH
www.murrplastik.de

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 controller

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

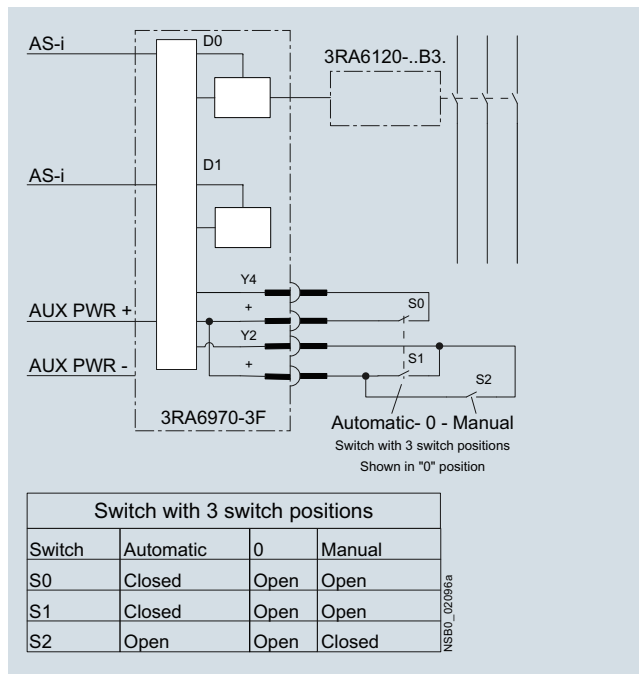
Opening the two inputs Y2 and Y4 will result in the direct disconnection of the compact starter. Operation through AS-i communication is finished and the compact starter can now be switched on and off directly using NO contacts (one NO contact per direction of rotation on the reversing starter).

"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.

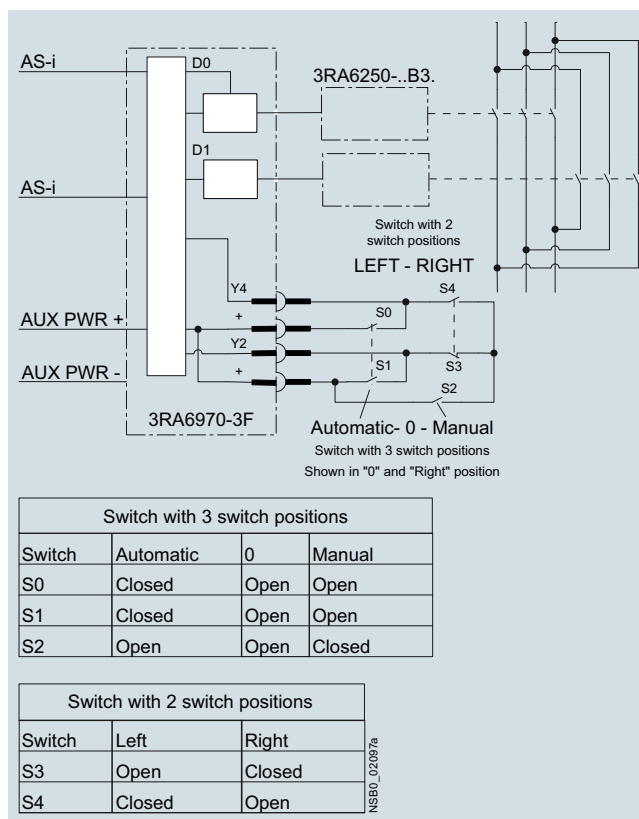
Resetting to "Automatic" mode

Simultaneous application of a "1" signal 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	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
AS-i add-on modules						
 3RA6970-3A 3RA6970-3B to -3F	Standard version	A	3RA6970-3A	1	1 unit	42F
	For communication of the compact starter with the control system using AS-Interface					
	With two local inputs	A	3RA6970-3B	1	1 unit	42F
	For safe disconnection through local safety relays, e.g. cable-operated switches					
	With two free external inputs	A	3RA6970-3C	1	1 unit	42F
	Replaces the digital standard inputs "Motor On" and "Group warning"					
	With one free external input and one free external output	A	3RA6970-3D	1	1 unit	42F
	Replaces the digital standard input "Group warning"					
	With two free external outputs	A	3RA6970-3E	1	1 unit	42F
	Only for direct-on-line starters, replaces the digital standard output "Motor left"					
	For local control	A	3RA6970-3F	1	1 unit	42F
	Control of the compact starter optionally using AS-Interface or local switches					
Spare parts for AS-i add-on modules						
	Connectors for data and auxiliary supply cable with 2 insulation displacement terminations for standard litz wires 2 x 0.5 ... 0.75 mm ²					
	• Flat, yellow, extender	C	3RK1901-0NA00	1	5 units	42C
	• Flat, black, extender	C	3RK1901-0PA00	1	5 units	42C
Accessories for AS-i add-on modules						
 3RK1904-2AB02	AS-Interface addressing unit V 3.0	A	3RK1904-2AB02	1	1 unit	42C
	- For AS-Interface modules and sensors and actuators with integrated AS-Interface in accordance with 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 4 batteries type AA (IEC LR6, NEDA 15) - Scope of supply: - Addressing unit with 4 batteries - Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5m					

Matching AS-Interface masters, routers and power supply units, see [Chapter 2 "Industrial Communication" → "AS-Interface"](#).

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

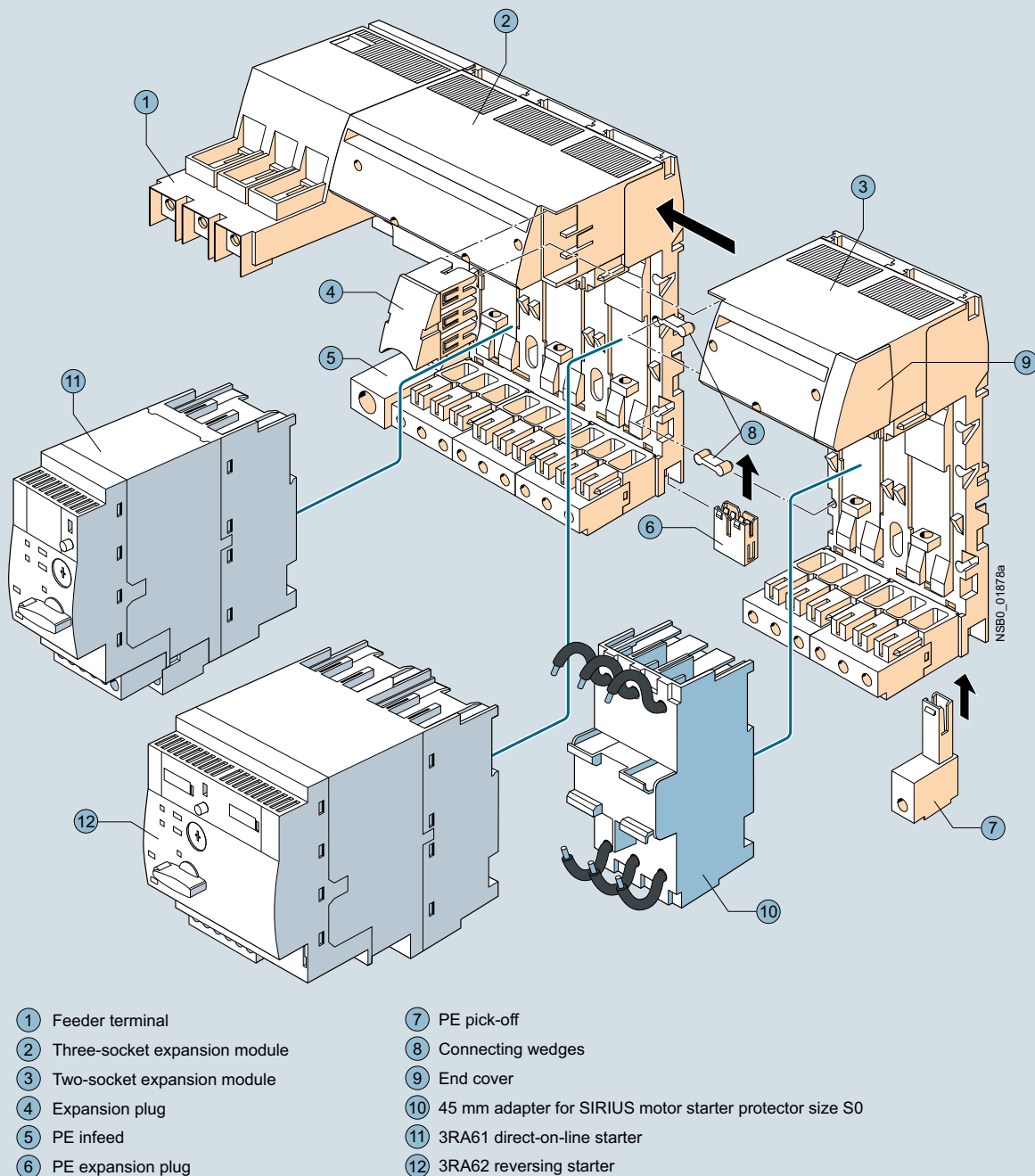
Overview

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).

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 standard mounting rail or flat surfaces.



Infeed system for 3RA6 compact starters

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

① Infeed

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

The infeed with spring-type terminal can be fitted on the left as well as on the right to 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 connection enable connection of the main conductors (L1, L2, L3) either from above or from below.

The infeed with screw connection is supplied complete with 1 end cover, the infeed with spring-type connection complete with 2 end covers.

② Three-socket expansion modules

The expansion module with 3 sockets for compact starters is available with screw connection and with spring-type connection.

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 2 connecting wedges and 1 expansion plug. These assembly parts are included in the scope of supply of the respective expansion module.

When the infeed system for 3RA6 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 3RV1 and 3RV2 motor starter protectors size S0 up to 25 A (using 3RA6890-0BA adapter)

③ Two-socket expansion modules

If only 2 instead of 3 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 infeeds

This module enables a PE cable to be connected.

The PE infeed can be ordered with screw connection and spring-type connection (35 mm²) and can be fitted on the right or left to 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 connection and spring-type connection (6/10 mm²). It is snapped into the infeed system from below.

⑧ Connecting wedges

Two connecting wedges are used to hold together 2 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 adapters for SIRIUS 3RV1/3RV2 motor starter protectors

SIRIUS 3RV1 and 3RV2 motor starter protectors size S0 with screw connection can be fitted to the adapter, enabling them to be plugged into the infeed system.

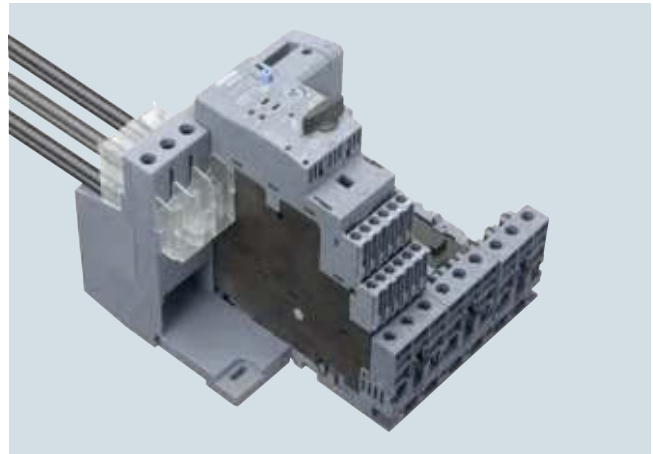
IP20 terminal covers for increasing finger-safety

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

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

The terminal covers can be used in two ways on the infeed terminals of the infeeds with screw connection 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 connection 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.

Terminal blocks

Using the terminal block the 3 phases can be fed out of the system; this means that single-phase, two-phase and three-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.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

Expansion plugs 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 connection 50/70 mm ²	100
Infeed with screw connection 25/35 mm ²	63
Infeed with spring-type connection 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 mm ²	Inscriptions	Proposal for upstream short-circuit protection device
Short-circuit protection for infeed block (25/35 mm²) with screw connection		
2.5 ... 35	$I_{d, \max} = 19 \text{ kA}$, $I^2t = 440 \text{ kA}^2\text{s}$	3RV1041-4JA10
Short-circuit protection for infeed block (50/70 mm²) with screw connection		
2.5 ... 70	$I_{d, \max} = \text{approx. } 22 \text{ kA}$	3RV1041-4MA10
Short-circuit protection for infeed block with spring-type connection		
4	$I_{d, \max} = 9.5 \text{ kA}$, $I^2t = 85 \text{ kA}^2\text{s}$	3RV1021-4DA10
6	$I_{d, \max} = 12.5 \text{ kA}$, $I^2t = 140 \text{ kA}^2\text{s}$	3RV1031-4EA10
10	$I_{d, \max} = 15 \text{ kA}$, $I^2t = 180 \text{ kA}^2\text{s}$	3RV1031-4HA10
16/25	$I_{d, \max} = 19 \text{ kA}$, $I^2t = 440 \text{ kA}^2\text{s}$	3RV1041-4JA10
Short-circuit protection for terminal block		
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 systems for 3RA6

Selection and ordering data

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

Three-phase infeeds and expansion modules



3RA6812-8AB



3RA6812-8AC

Infeeds with screw connection 25/35 mm² left

Infeeds with screw connection at line side with a permanently fitted 3-socket expansion module with screw or spring-type 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



A

- Spring-type terminals on the outgoing side



A

Screw terminals



3RA6812-8AB

1

1 unit

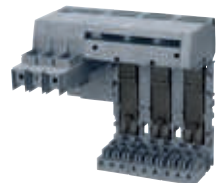
42F

3RA6812-8AC

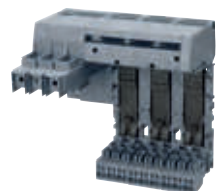
1

1 unit

42F



3RA6813-8AB



3RA6813-8AC

Infeeds with screw connection 50/70 mm² left

Infeeds with screw connection at line side with a permanently fitted 3-socket expansion module with screw or spring-type 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



A

- Spring-type terminals on the outgoing side



A

Screw terminals



3RA6813-8AB

1

1 unit

42F

3RA6813-8AC

1

1 unit

42F



3RA6830-5AC

Infeeds with spring-type connection 25/35 mm² left or right

Up to 63 A

A

Spring-type terminals



3RA6830-5AC

1

1 unit

42F

For online configurator, see www.siemens.com/sirius/configurators.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

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

Expansion modules



3RA6822-0AB

Two-socket expansion modules

with screw or spring-type connection 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.

- Screw terminals

A

Screw terminals

**3RA6822-0AB**

1

1 unit

42F



3RA6822-0AC

- Spring-type terminals

A

Spring-type terminals

**3RA6822-0AC**

1

1 unit

42F



3RA6823-0AB

Three-socket expansion modules

with screw or spring-type connection 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.

- Screw terminals

A

Screw terminals

**3RA6823-0AB**

1

1 unit

42F



3RA6823-0AC

- Spring-type terminals

A

Spring-type terminals

**3RA6823-0AC**

1

1 unit

42F

For online configurator, see www.siemens.com/sirius/configurators.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for infeed systems for 3RA6						
PE infeeds 25/35 mm²						
 3RA6860-6AB	• Screw terminals	A	Screw terminals  3RA6860-6AB	1	1 unit	42F
	• Spring-type terminals	A	Spring-type terminals  3RA6860-5AC	1	1 unit	42F
PE pick-offs 6/10 mm²						
 3RA6870-4AB	• Screw terminals	A	Screw terminals  3RA6870-4AB	1	1 unit	42F
	• Spring-type terminals	A	Spring-type terminals  3RA6870-3AC	1	1 unit	42F
Expansion plug						
 3RA6890-0EA	PE expansion plugs	A	3RA6890-0EA	1	1 unit	42F
 3RA6890-1AB	Expansion plugs Between 2 expansion modules Is included in the scope of supply of the expansion modules.	A	3RA6890-1AB	1	1 unit	42F
 3RA6890-1AA	Expansion plugs for SIRIUS 3RV29 infeed system Connects infeed system for 3RA6 to 3RV29 infeed system	A	3RA6890-1AA	1	1 unit	42F

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RA6 Compact Starters

Infeed systems for 3RA6

Version	DT	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 3RV1.2 and 3RV2.2 motor starter protectors. Size S0 up to 25 A • Screw terminals (conductor cross-section AWG 10)					
	A	Screw terminals  3RA6890-0BA		1	1 unit	42F
 3RA6880-2AB	Terminal covers for infeeds with screw connection IP20 terminal covers for infeeds with screw connection 25/35 mm² (3RA6812-8AB/AC) (2 units per pack)					
	A	3RA6880-2AB		1	1 unit	42F
 3RA6880-3AB	IP20 terminal covers for infeeds with screw connection 50/70 mm² (3RA6813-8AB/AC) (2 units per pack)					
	A	3RA6880-3AB		1	1 unit	42F
 3RV2917-5D	Terminal blocks For integration of single-phase, 2-phase and 3-phase external components • Spring-type terminals					
	A	Spring-type terminals  3RV2917-5D		1	1 unit	41E
Tools for opening spring-type terminals						
 3RA2908-1A	Screwdrivers For all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated					
	A	Spring-type terminals  3RA2908-1A		1	1 unit	41B
System Manual "SIRIUS Compact Starters and Accessories"						
		The system manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/27136554/133300				

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Overview



3RM13 motor starter with reversing functionality, electronic overload protection and safety-related shutdown

SIRIUS 3RM1 motor starters are compact, 22.5-mm-wide devices that combine a large number of functions in a single enclosure. They consist of combinations of relay contacts, power semiconductors (hybrid technology), and a 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.

Characteristic	Value
Rated current	0.1 ... 0.5 A
(wide setting range of the electronic overload release)	0.4 ... 2.0 A 1.6 ... 7.0 A (10 A)
Rated operational voltage	48 ... 500 V
Rated frequency	50/60 Hz
Rated control supply voltage	24 V DC, 110 V DC, 110 ... 230 V AC
Trip class	CLASS 10A

The 3RM1 motor starters with overload protection with wide setting range are offered as direct-on-line starters and reversing starters and as versions with safety-related shutdown.

The 3RM1 motor starters are available in four versions:

Characteristic	3RM10	3RM11	3RM12	3RM13
Direct-on-line starters	✓	✓	--	--
Reversing starters	--	--	✓	✓
Overload protection with wide setting range	✓	✓	✓	✓
ATEX certification overload protection	--	✓	--	✓
Safety-related shutdown up to SIL 3/PL e	--	✓	--	✓

✓ Function available

-- Function not available

Hybrid technology

The 3RM1s combine the benefits of semiconductor technology and relay technology. This combination is also known as hybrid technology. The hybrid technology in the motor starter is characterized by the following features:

- The inrush current is conducted briefly via the semiconductors.
Advantage: protection of relay contacts, long service life due to low wear
- The uninterrupted current is conducted via relay contacts.
Advantage: lower heat losses compared with the semiconductor
- Shutdown is implemented again via the semiconductor.
Advantage: the contacts are only slightly exposed to arcs, and this results in a longer service life

Functional density/space requirement

The 3RM1 motor starters combine the functions of direct-on-line/reversing starting, electronic overload protection and safety-related shutdown in a single device, without changing in size.

For simple applications (such as starting and reversing three-phase loads with overload protection), motor starter combinations of power contactors and a electronic overload relay, for example, can be replaced by a 3RM1 device. The more functions are required, the more devices can be replaced. The surface area required for each motor starter in the control cabinet is reduced by values of 20 to 80 %.

In the case of assemblies and grouped feeder units there are further advantages.

Wiring outlay

By combining various functions in a single device, wiring outlay is reduced. The greater the scope of functions, the greater the saving in wiring. Savings can be made in:

- Mains supply line, motor feeder and device connections in the main circuit
- Wiring of the reversing contactor assembly in the main circuit, if required
- Contact locking if there is a reversing contactor assembly in the control circuit
- Control cables for coil terminals in the control circuit

These savings reduce the time required for the wiring itself, while at the same time reducing both the risk of wiring errors and the amount of testing required after control cabinets have been completed.

Configuration and stock keeping

The wide setting range of the electronic overload release (up to 1:5) reduces the cost of keeping stocks and the considerations involved in configuration where the actual motor current to be expected is concerned. Compared with protection equipment with thermal overload protection, only 3 versions are now required, instead of 17, to cover a current range of 0.1 to 7 A when using the 3RM1.

Connection methods

The 3RM1 is available with screw terminals and spring-type terminals or mixed connection method (screw terminals for the main circuit and push-in terminals for the control circuit).



Screw terminal for removable terminal (3-pole) for 3RM1 motor starters and 3SK1 safety relays



Spring-type terminal as push-in connection for removable terminal (3-pole) for 3RM1 motor starters and 3SK1 safety relays

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Push-in connection method

Push-in connections are a form of spring-type connection allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

Finely-stranded or stranded conductors with no end sleeve are wired using a screwdriver (with a 3.0 x 0.5 mm blade).

As with other spring-type terminals, a screwdriver is also required to release the conductor. The same tool as above can be used for this purpose.

The advantages of the push-in terminals are found, as with all spring-type terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.



Screw terminals



Spring-type terminals

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

Innovative enclosure concept

① Terminals

The terminals are easy to replace, optionally with screw or spring-type connections:

- 1.2.3: 3-pole terminals for the control circuit
- 4.5.6: 2-pole terminals for the main circuit

② Labeled cover caps

To access the top and bottom terminals, the covers must be opened. To facilitate orientation, there is a laser inscription on the inside of the caps for the connections.

③ Sealable cover

To protect against unauthorized access, a sealable cover can be attached.

④ LED status display

You can see at a glance from the LED status display whether operation is normal or whether faults exist. This allows fast, selective commissioning. Faults can be quickly traced and even more quickly corrected.

⑤ Rotary coding switch

The current of the motor to be monitored can be set using the rotary coding switch. When a motor is replaced, it can be adapted within the respective wide setting range. This means that in most cases the motor starter does not have to be replaced.

⑥ TEST/RESET button

Acknowledgment in the event of a fault:

1. Resetting in the event of overload
2. Performance of the test function
3. Switching from manual to auto reset

⑦ Data matrix code

The data matrix code enables simple and fast scanning in of article numbers and serial numbers.

⑧ Width

The width of only 22.5 mm saves space in the control cabinet, and is thus cost-effective, especially in plants with a large number of small motors up to 3 kW.



Innovative enclosure concept for the SIRIUS 3RM1 motor starters

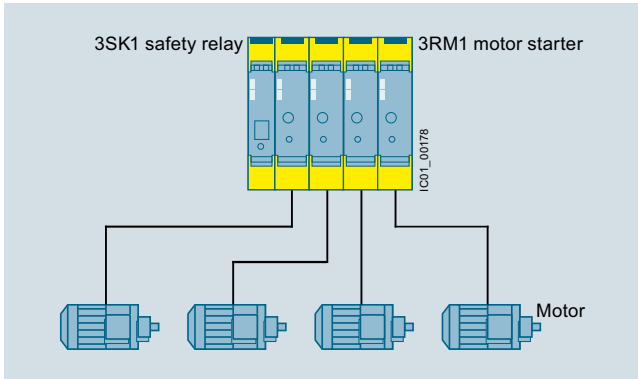
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Safety-related shutdown/safety integration

Thanks to the redundant design of the main circuit and internal monitoring, safety-related shutdown in accordance with SIL 3/PL e is possible by shutting down the control supply voltage with the 3RM11 Failsafe and 3RM13 Failsafe motor starters or, in the case of the 24 V DC control voltage version, by deactivation of the control inputs. Additional safety relays are not required in the main circuit.



Combination of four SIRIUS 3RM1 Failsafe motor starters with SIRIUS 3SK1 safety relay to allow safety-related collective disconnection of connected motors

3RM1 motor starters are ideal for combining with the 3SK1 safety relay (see "Safety Technology" → "SIRIUS 3SK1 Safety Relays"). They can be combined by means of:

- Conventional wiring
- A special device connector

This makes it very simple to shut down connected motors collectively. The wiring, and ultimately the shutting down of the control supply voltage in Emergency-Stop situations, is performed via the device connector. There is no further need for complex looping of the connecting cables.

Article No. scheme

Digit of the Article No.	1st - 3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
	□□□	□	□	□	□	-	□	□	□	□
SIRIUS 3RM1 motor starter	3RM									
Generation (1)		□								
Function (direct-on-line starter = 0, Failsafe direct-on-line starter = 1; reversing starter = 2; Failsafe reversing starter = 3; accessories = 9)			□							
Setting range rated motor current (0.1 ... 0.5 A = 01, 0.4 ... 2.0 A = 02, 1.6 ... 7.0 A = 07)				□	□					
Connection type (screw terminal = 1, push-in spring-type terminal = 2, mixed connection method ¹⁾ = 3)							□			
Reserved (A)								□		
Width (22.5 mm = A)									□	
Rated control supply voltage (24 V DC = 0; 110 V DC, 110 V ... 230 V AC = 1)										□
Rated operational voltage (48 ... 500 V = 4)										□
Example	3RM	1	0	0	1	-	1	A	A	0 4

¹⁾ Mixed connection method: Control circuit realized as push-in spring-type terminal and main circuit as screw terminal

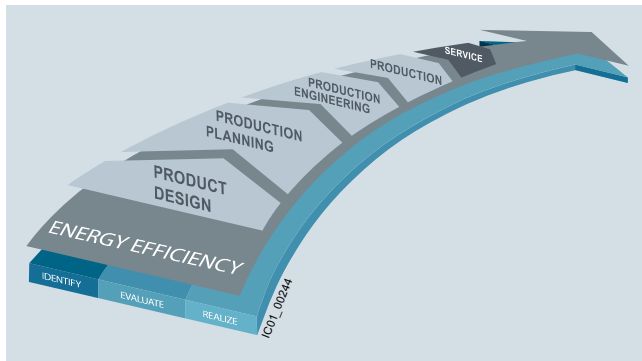
Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Benefits

Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see www.siemens.com/sirius/energysaving).

With 3RM1 motor starters, control cabinets warm up less because power losses have been reduced by operation:

- Lower intrinsic power loss (than comparable motor feeders with thermal overload trips) thanks to electronic current analysis
- Lower control circuit power losses (compared with conventional switching devices) as a result of electronic control of switching points
- Thanks to the above advantages, additional energy savings are possible because less cooling is required (and a more compact design is possible)

Product advantages

The SIRIUS 3RM1 motor starters offer a number of benefits:

- 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
- Less wiring and testing required as a result of integrating several functions into a single device
- 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 push-in spring-type connections
- Safety-related shutdown in accordance with SIL 3/PL e by shutting down the control supply voltage without additional devices in the main circuit
- Safety-related shutdown in accordance with SIL 3/PL e on the 24 V DC control voltage version by shutting down the control inputs without additional devices in the main circuit
- 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: "Increased safety" type of protection EEx e according to ATEX Directive 94/9/EC (3RM1 motor starters in the Failsafe version are suitable for overload protection of explosion-proof motors with "increased safety" type of protection EEx e)

Application

3RM1 motor starters are designed for applications in which small motors have to be connected in the most confined spaces.

Main areas of use

- Conveyor systems
- Logistics systems
- Production machines
- Machine tools
- Small elevators

Note:

For the use of 3RM1 motor starters in conjunction with highly energy-efficient IE3 motors, please observe the information on dimensioning and configuring, see "Configuration Manual for SIRIUS Controls with IE3 Motors", <http://support.automation.siemens.com/WW/view/en/94770820>.

More information, see page 3.

Standards and approvals

The motor starter complies with the following standards:

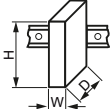
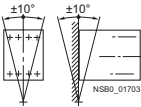
- IEC/EN 60947-4-2
- UL 508
- ATEX
- IEC 61508-1: SIL 3
- ISO 13849: PL e
- CCC approval for China

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Technical specifications

Type		3RM10 3RM12	3RM11 3RM13	
Mechanics and environment				
Dimensions (W x H x D)		mm	22.5	
• Width		mm	100	
• Height		mm	136.5 (from the standard mounting rail)	
• Depth		mm	141.6 (entire enclosure depth)	
Ambient temperature		°C	-25 ... +60	
• During operation		°C	-40 ... +70	
• During storage		°C	-40 ... +70	
• During transport		°C	-40 ... +70	
Installation altitude at height above sea level maximum	m	4 000	2 000	
Shock resistance		6g / 11 ms		
Vibration resistance		1 ... 6 Hz, 15 mm; 20 m/s², 500 Hz		
IP degree of protection		IP20		
Mounting position		Vertical, horizontal, standing		
Electromagnetic compatibility (EMC)				
Emitted interference		Class B for residential, business and commercial applications		
• Conducted RF interference emission according to CISPR11		Class B for residential, business and commercial applications		
• Non-conducted RF interference emission according to CISPR11				
Interference immunity				
• Electrostatic discharge according to IEC 61000-4-2		4 kV contact discharge 8 kV air discharge 10 V	6 kV contact discharge 8 kV air discharge	
• Conducted interference as high frequency interference according to IEC 61000-4-6		3 kV / 5 kHz		
• Conducted interference BURST according to IEC 61000-4-4		2 kV	4 kV signal cables 2 kV	
• Conducted interference – phase-to-ground SURGE according to IEC 61000-4-5		1 kV	2 kV	
• Conducted interference – phase-to-phase SURGE according to IEC 61000-4-5				
Article No.		3RM1.01	3RM1.02	3RM1.07
Main circuit				
Operational voltage rated value maximum	V	500		
Operating frequency				
• 1 rated value	Hz	50		
• 2 rated value	Hz	60		
Insulation voltage rated value	V	500		
Impulse withstand voltage rated value	kV	6		
Operational current at 400 V AC, rated value	A	0.5	2	7
Active power loss typical	W	0.02	0.3	3.4
Minimum load in % of I_M	%	20		
Adjustable response value current				
• of the inverse-time delayed overload release	A	0.1 ... 0.5	0.4 ... 2	1.6 ... 7

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

General data

Article No.		3RM1...-AA0.	3RM1...-AA1.
Control circuit			
Type of voltage of the control supply voltage		DC	AC/DC
Control supply voltage 1			
• At DC	V	24	110
• At AC			
- At 50 Hz	V	--	110 ... 230
Frequency of the control supply voltage			
• 1 rated value	Hz	--	50
• 2 rated value	Hz	--	60
Operating range factor of the control supply voltage, rated value			
• At DC		0.8 ... 1.25	0.85 ... 1.1
• At AC			
- At 50 Hz		--	0.85 ... 1.1
Control current	A	0.07	0.02
Input voltage at the digital input			
• At DC	V	24	110
• At AC	V	--	110 ... 230
- Rated value			
Input voltage at the digital input with signal <1>			
• At DC	V	15 ... 30	79 ... 121
• At AC	V	--	93 ... 253
Input current at the digital input with signal <1>, typical	mA	11	2

Article No.		Screw terminals	Spring-type terminals
Connection methods for 3RM1			
Connectable conductor cross-section for main contacts			
• Solid or stranded	mm ²	0.5 ... 4	
• Finely stranded			
- With end sleeves	mm ²	0.5 ... 2.5	
- Without end sleeves	mm ²	--	0.5 ... 4
Connectable conductor cross-section for auxiliary contacts			
• Solid or stranded	mm ²	0.5 ... 2.5	0.5 ... 1.5
• Finely stranded			
- With end sleeves	mm ²	0.5 ... 2.5	0.5 ... 1
- Without end sleeves	mm ²	--	0.5 ... 1.5
AWG number as coded connectable conductor cross-section			
• For main contacts		20 ... 12	
• For auxiliary contacts		20 ... 14	20 ... 16

Note:

All the above technical specifications are relevant for selecting the motor starters. Details about installation conditions and the use of the motor starters, and particularly about the derating of the rated current, can be found in the manual ([see Accessories](#)) and the data sheets.

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

3RM10 direct-on-line starters

Selection and ordering data



3RM100.-1AA.4



3RM100.-2AA.4, 3RM100.-3AA.4

Rating for three-phase motor at 400 V at 50/60 Hz with 3-phase AC ¹⁾	Adjustable current response value of the inverse-time delayed overload release	DT		Price per PU	PU (UNIT, SET, M)	PS*	PG
		Configurator					
kW		A	Article No.				

**3RM10 motor starter for direct-on-line start,
with electronic overload protection**

Rated control supply voltage

$U_s = 24 \text{ V DC}$

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

Rated control supply voltage

$U_s = 110 \dots 230 \text{ V AC } 50/60 \text{ Hz}; 110 \text{ V DC}$

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

Article No. supplements for connection types

- With screw terminals for main and control circuit
- With spring-type terminals for main and control circuit
- With screw terminals for main circuit and spring-type terminals for control circuit

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ The actual startup characteristics of the motor as well as its rated data are important factors here.

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Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

3RM12 reversing starters

Selection and ordering data



3RM120.-1AA.4



3RM120.-2AA.4, 3RM120.-3AA.4

Rating for three-phase motor at 400 V at 50/60 Hz with 3-phase AC ¹⁾	Adjustable current response value of the inverse-time delayed overload release	DT	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Configurator			
kW			Article No.			

3RM12 motor starter with reversing functionality and electronic overload protection

Rated control supply voltage

$U_s = 24 \text{ V DC}$

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

Rated control supply voltage

$U_s = 110 \dots 230 \text{ V AC } 50/60 \text{ Hz; } 110 \text{ V DC}$

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

Article No. supplements for connection types

- With screw terminals for main and control circuit
- With spring-type terminals for main and control circuit
- With screw terminals for main circuit and spring-type terminals for control circuit

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ The actual startup characteristics of the motor as well as its rated data are important factors here.

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Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

3RM11 Failsafe direct-on-line starters

Selection and ordering data



3RM110.-1AA.4



3RM110.-2AA.4, 3RM110.-3AA.4

Rating for three-phase motor at 400 V at 50/60 Hz with 3-phase AC ¹⁾	Adjustable current response value of the inverse-time delayed overload release	DT	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Configurator			
kW			Article No.			

3RM11 motor starter for direct-on-line starting, with electronic overload protection and safety-related shutdown

Rated control supply voltage

$U_s = 24 \text{ V DC}$

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

Rated control supply voltage

$U_s = 110 \dots 230 \text{ V AC } 50/60 \text{ Hz}; 110 \text{ V DC}$

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

Article No. supplements for connection types

- With screw terminals for main and control circuit
- With spring-type terminals for main and control circuit
- With screw terminals for main circuit and spring-type terminals for control circuit

 For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ The actual startup characteristics of the motor as well as its rated data are important factors here.

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Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

3RM13 Failsafe reversing starters

Selection and ordering data



3RM130.-1AA.4



3RM130.-2AA.4, 3RM130.-3AA.4

Rating for three-phase motor at 400 V at 50/60 Hz with 3-phase AC ¹⁾	Adjustable current response value of the inverse-time delayed overload release	DT	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Configurator			
kW			Article No.			

**3RM13 motor starter with reversing functionality,
electronic overload protection and safety-related shutdown**

Rated control supply voltage

$U_s = 24 \text{ V DC}$

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

Rated control supply voltage

$U_s = 110 \dots 230 \text{ V AC } 50/60 \text{ Hz}; 110 \text{ V DC}$

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

Article No. supplements for connection types

- With screw terminals for main and control circuit
- With spring-type terminals for main and control circuit
- With screw terminals for main circuit and spring-type terminals for control circuit

For online configurator, see www.siemens.com/sirius/configurators.

¹⁾ The actual startup characteristics of the motor as well as its rated data are important factors here.

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Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

Accessories

Overview

Accessories for 3RM1 motor starters

The following accessories are available for the 3RM1 motor starter:

- 3-phase infeed system for the main circuit
- Device connectors for the control circuit
- Spare terminals for main and control circuits
 - With screw terminals
 - With push-in spring-type terminals
- Push-in lugs for wall mounting the motor starters
- Sealable cover as protection against unauthorized access

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

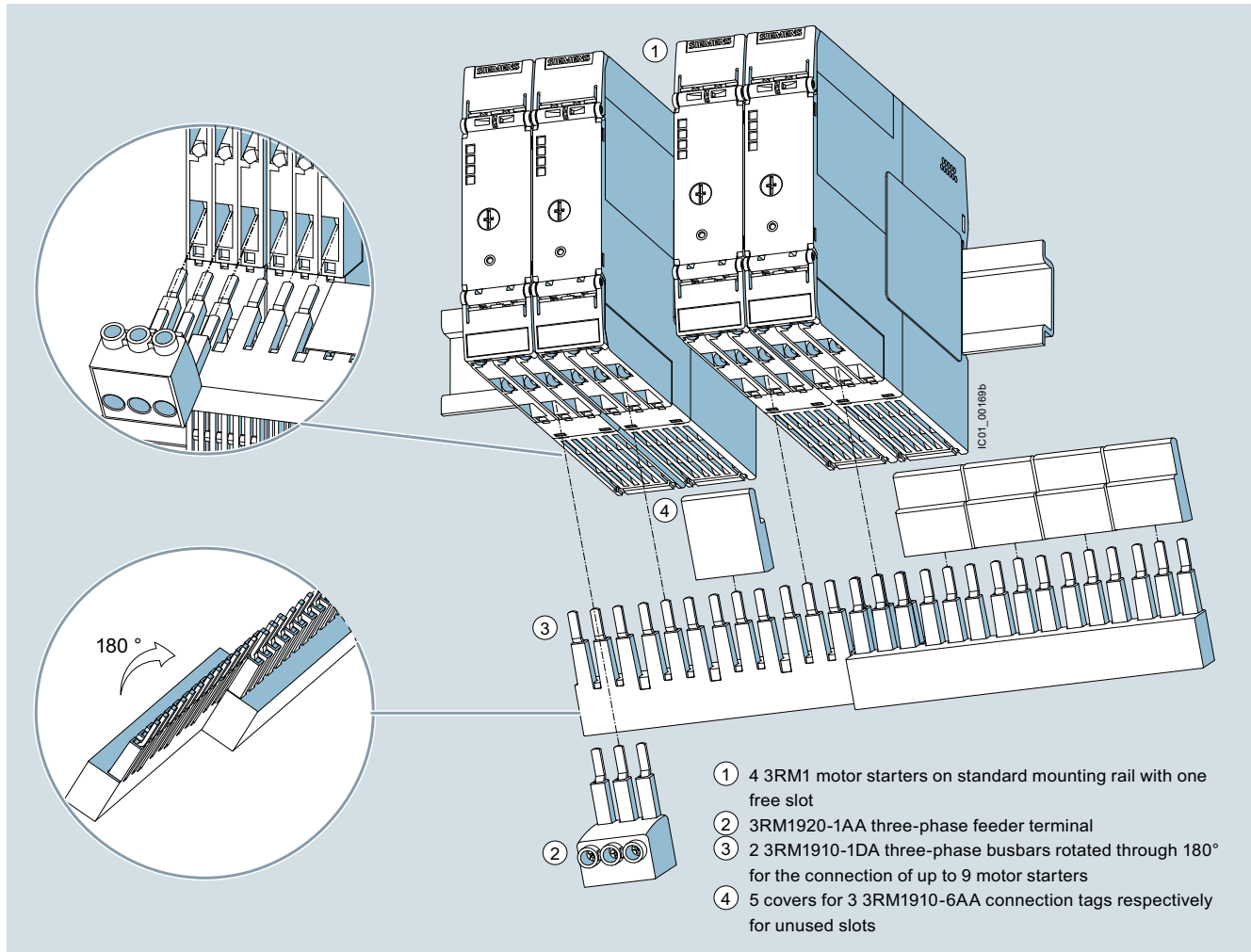
Special three-phase busbar systems can be used to provide an easy, time-saving and safe means of feeding two or more 3RM1 motor starters with screw terminals.

These busbars are available in three lengths, thus allowing 2, 3 or 5 motor starters (arranged side-by-side) to be connected at the same time. More than 5 devices can be connected by clamping the connection tags of an additional busbar rotated by 180° (e.g. 6 devices using one 5-pole busbar and one 2-pole busbar).

A single motor starter can be removed from the assembly without loosening the terminal screws of neighboring motor starters.

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

The three-phase busbars are finger-safe but empty connection tags must be fitted with covers.



3RM19 infeed system with three-phase infeed terminal: In the above example, two three-phase busbars (5-pole busbars) rotated through 180° allow up to 9 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

Accessories

Device connectors for the control circuit

The outlay for cabling between the devices is reduced using device connectors snapped onto a mounting rail, or screwed onto a level mounting panel (one device connector per motor starter).

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

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

Up to ten motor starters can be connected with device connectors. The 24 V DC control supply voltage must be within the operating range of 0.9 to 1.1 for this purpose. If the full operating range of 0.8 to 1.25 is to be used, no more than five motor starters can be used.

If the motor starters are not to be interconnected side-by-side, device daisy chain connectors must be used for the gaps.

When removing a motor starter, the corresponding device connector must be replaced by a device daisy chain connector if the control voltage is not to be interrupted for motor starters on the right.

The last motor starter in a row can be placed on a device termination connector. Flush termination of the configuration is thus possible.

In combination with the 3RM11 and 3RM13 Failsafe motor starters, the device connector can also be used for safety-related disconnection. For this application, groups of no more than 5 Failsafe motor starters can be connected using a device connector, and the group must be terminated with a terminating connector. Removing the control voltage supply from the first motor starter will safely shut down the whole group.

Using device connectors in conjunction with 3SK1 safety relays

Interconnection of several 3RM11 and 3RM13 Failsafe motor starters into a group can also be used for joint disconnection by a 3SK1 safety relay.

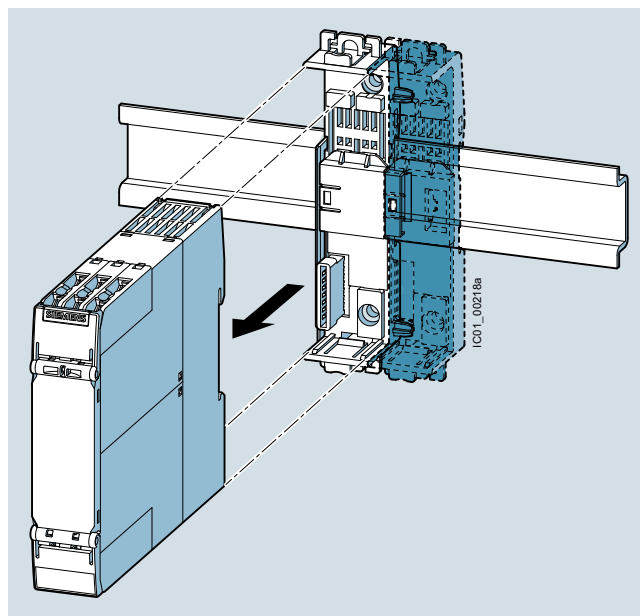
Disconnection of the motor starters occurs through the removal of the control supply voltage by means of the 3SK1 relay. For this reason, the voltage must not also be applied to the motor starters.

The motors can then also be shut down safely according to SIL 3/PL e with the motor starters.

Up to five motor starters can be operated on one safety relay with device connectors. If the motor starters are not to be interconnected side-by-side, device daisy chain connectors must be used for the gaps.

The last motor starter in a row must be placed on a device termination connector. This closes the circuits that were built up with the connectors.

For 3SK1 safety relays and associated device connectors, [see Chapter 11 "Safety Technology" → "SIRIUS 3SK1 Safety Relays"](#)



Device connectors snapped onto a standard mounting rail to allow the joint connection of the control supply voltage for 3RM1 motor starters or connection to the 3SK1 safety relays

Usage restrictions for accessories

- The 3RM19 three-phase infeed system for the main circuit can be used only with 3RM1 motor starters with screw terminals in the main circuit
- The device connectors are only suitable for 3RM1 motor starters with a control supply voltage of 24 V DC

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

Accessories

Product designation		DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Removable terminals for SIRIUS devices in the industrial standard mounting rail enclosure for use in the main circuit							
Terminals, 2-pole							
 3ZY1122-1BA00	• Screw terminals, 1 x 4 mm ²	A	Screw terminals  3ZY1122-1BA00		1	6 units	41L
 3ZY1122-2BA00	• Spring-type terminals as push-in terminals, 1 x 4 mm ²	A	Spring-type terminals  3ZY1122-2BA00		1	6 units	41L
Removable terminals for SIRIUS devices in the industrial standard mounting rail enclosure for use in the control circuit							
Terminals, 3-pole							
 3ZY1131-1BA00	• Screw terminals, 1 x 2.5 mm ²	A	Screw terminals  3ZY1131-1BA00		1	6 units	41L
 3ZY1131-2BA00	• Spring-type terminals as push-in terminals, 1 x 2.5 mm ²	A	Spring-type terminals  3ZY1131-2BA00		1	6 units	41L

Load Feeders and Motor Starters for Use in the Control Cabinet

SIRIUS 3RM1 Motor Starters

Accessories

Product designation	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessories						
 3ZY1311-0AA00	A	3ZY1311-0AA00		1	10 units	41L
Push-in lugs for wall mounting (2 lugs per motor starter are required, i.e. 1 PS is sufficient for 5 motor starters)						
 3ZY1321-2AA00	A	3ZY1321-2AA00		1	5 units	41L
Sealable covers, 22.5 mm (Simple protection against unauthorized access)						
 3ZY1440-1AA00	A	3ZY1440-1AA00		1	12 units	41L
Coding pins for removable terminals of SIRIUS devices in the industrial standard mounting rail enclosure For mechanical coding of removable terminals						
Manual "SIRIUS 3RM1 Motor Starters"						
The manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/66295730						

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data

Overview

ET 200S motor starters in the ET 200S I/O system

The SIMATIC ET 200S is the multifunctional and bit-modular I/O system in degree of protection IP20 for exact adaptation to the automation task.

Interface modules (IM) are used for connecting the ET 200S to PROFIBUS DP or PROFINET. If interface modules with integrated S7-CPU are used, the ET 200S can act as a miniature control system.

The ET 200S is designed for combining with a large range of digital and analog input or output modules, technology modules, IO-Link master modules, pneumatic connections, or motor starters and frequency converters for the control of drives.

In addition to the standard versions, SIPLUS versions are available both for interface modules and I/O modules. They can be used for an extended temperature range and increased medial loads.

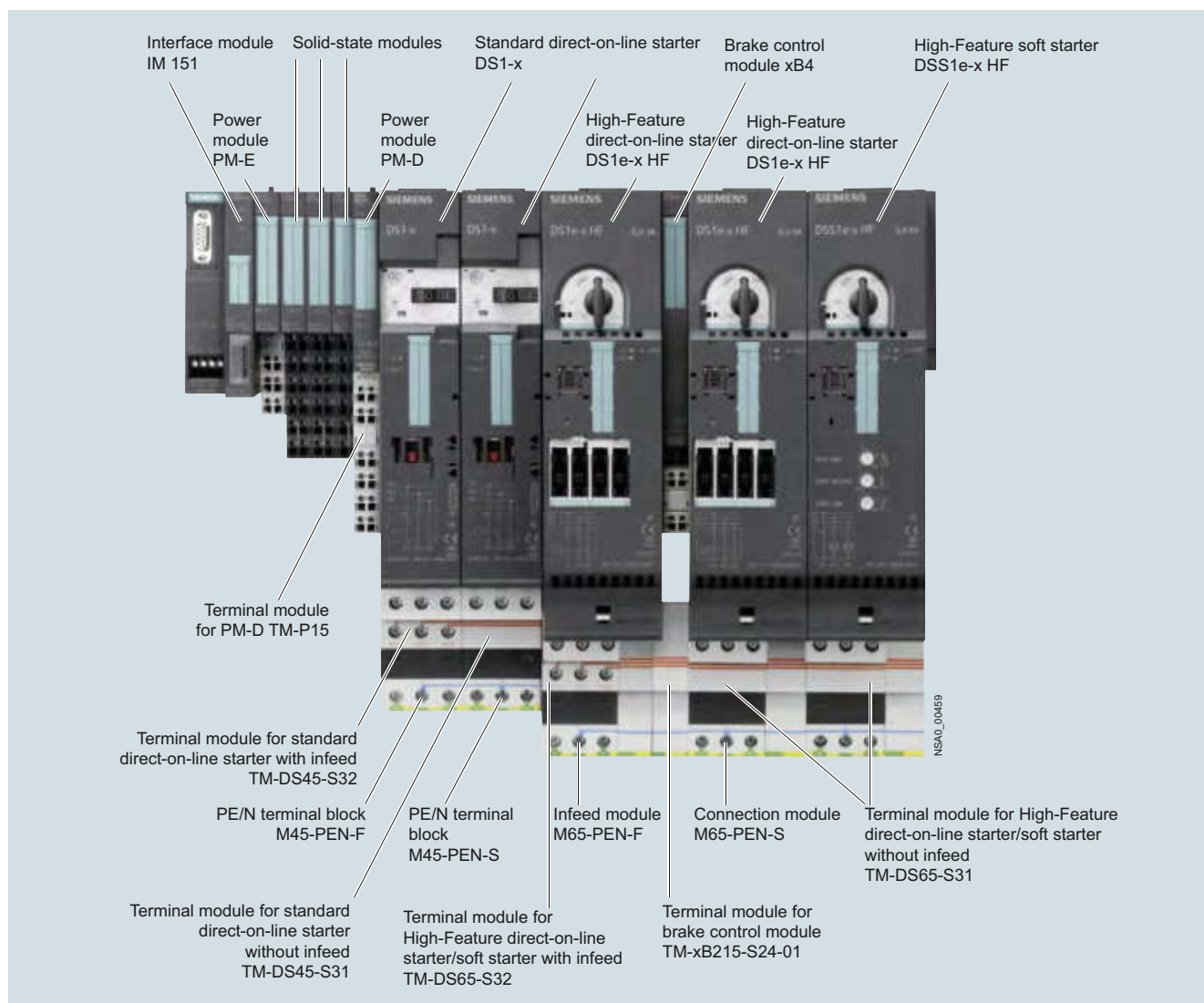
Device replacement is easy and quick thanks to permanent wiring and automatic re-parameterization.

Hot swapping, i.e. the disconnection and connection of modules without prior isolation, guarantees high availability of the automation system along with extensive diagnostics information.

The ET 200S motor starters are connected to the control system and parameterized through the fieldbus using either PROFIBUS or PROFINET via IM modules – available in both standard and safety-related versions.

For detailed information about SIMATIC ET 200S, see [Catalog ST 70 · 2015](#).

With the ET 200S motor starters, any AC loads can be protected and switched. The communication interface makes them ideal for operation in distributed control cabinets or control enclosures.



Interaction of ET 200S motor starter components in the ET 200S I/O system

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data

Motor starter versions

The ET 200S motor starters are available as direct-on-line, reversing or soft starter versions:

- **Standard motor starters** up to 5.5 kW (direct-on-line and reversing starters)
- **High-Feature motor starters** up to 7.5 kW (direct-on-line, reversing and direct-on-line soft starters)
- **Failsafe motor starters** up to 7.5 kW (direct-on-line and reversing starters)
 - Properties of the High-Feature motor starter
 - Failsafe functionality

Innovation of the ET 200S High-Feature motor starters

The ET 200S High-Feature motor starters have undergone radical innovation and now support the acyclic services on PROFIBUS and PROFINET as well as PROFlenergy on PROFINET. They are now:

- Even more flexible – flexible assignment of parameters
- Even better integrated in TIA (Totally Integrated Automation)
- Even more transparent – through comprehensive diagnostic data records
- Even more anticipatory – through maintenance functions
- Energy-efficient – through PROFlenergy

Basic functionality of the ET 200S motor starters

All versions of the ET 200S motor starters have the following functionality. Any additional specific functionality is described for the respective versions.

- Fully pre-wired motor starters for switching and protecting any AC loads up to 7.5 kW at 400 V AC and 500 V AC
- With self-assembling 40/50 A power bus, i.e. the load voltage is only fed in once for a group of motor starters
- All control supply voltages connected only once, i.e. when modules are added they are automatically connected to the next module
- Hot swapping is permissible
- Inputs and outputs for activating and signaling the status are already integrated
- 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 contactor(s) or soft starters, and system faults
- Interface for controlling an expansion module, e.g. brake control module xB1 ... xB4 for controlling mechanical brakes in three-phase motors for 24 V DC and 500 V DC
- Brake control module xB5 and xB6 for 400 V AC
- Can be combined with safety technology for use in safety-related system components (IEC 62061 and ISO 13849-1)

Mounting

As the motor starters are fully pre-wired, up to 80 % of the wiring outlay can be saved. The control cabinets can be assembled far more quickly and compactly.

Expansions are easily possible through the subsequent adding of terminal modules. With their terminal block design (10 mm²), the latter also do away with the distribution wiring otherwise required. Through the permanent wiring and the "hot swapping" function (disconnection and connection during operation) a motor starter can be replaced within seconds if necessary. The motor starters are therefore recommendable in particular for applications with special demands on availability.

Parameterization and configuration

Configuration is made easier by the bit-modular structure.

When using the ET 200S motor starters, the list of parts per load feeder is reduced to two main items: The passive terminal module and the motor starter. This makes the ET 200S ideal for modular machine concepts as well.

All ET 200S motor starters are set up without fuses. Contactors and soft starters are activated through the integrated outputs. The inputs of the motor starters evaluate the signal states of the protective devices (short circuit or overload), the switching states of contactor(s) or soft starters, and system faults.

The motor starter protector signaling is freely programmable with regard to group fault signals (group fault at motor starter protector "Off"/group fault signal at motor starter protector "Off" only in case of "On" command from the motor starter).

Brake control modules and optional digital inputs and outputs

With one of the optional brake control modules (xB1-xB6), which is butt-mounted to the right of a motor starter, it is possible to control a mechanical holding brake on a three-phase motor from the process image of the motor starter.

Motors with 24 V DC brakes (xB1, xB3) as well as motors with 500 V DC brakes (xB2, xB4) can be controlled using the brake control modules xB1-xB4.

The modules xB5 (without digital input) and xB6 (with two digital inputs) have been added to the range in order to control a mechanical holding brake with a rated operational voltage of 400 V AC. A further motor brake voltage commonly found on the market is thus supported.

The 24 V DC brakes have an external supply and can be released independently of the switching state of the motor starter. By contrast the 500 V DC brakes and the 400 V AC brakes usually have a direct supply from the terminal board of the motor through a rectifier module and therefore cannot be released when the motor starter is switched off. These brakes cannot be used in combination with the DSS1e-x motor starter (soft starter).

The outputs of the brake control modules can be used alternatively for other purposes, e.g. for controlling DC valves.

With two digital inputs available on the brake control modules (xB3, xB4, xB6) and another two digital inputs available on the optional control module it is possible to realize autonomous special functions which work independently of the bus and the higher-level control system, e.g. as a quick stop on gate valve controls. The signals of these digital inputs are in the process image and are reported to the control system.

Power supply through terminal modules

Power is supplied through the terminal modules for motor starters:

- The auxiliary voltages are fed in only once via the PM-D or PM-DFx power module which must be connected to the left of the first motor starter
- The load voltage is fed in at the first (left) TM-xxxxS32 terminal module of a motor starter. The other TM-xxxxS31 terminal modules are automatically supplied with power through the integrated power bus when they are mounted side by side. If the power bus is utilized to its full capacity of 40 A for Standard motor starters or 50 A for High-Feature motor starters, a new supply must be fed in through an additional TM-xxxxS32 terminal module.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data

TM-DS and TM-RS terminal modules for motor starters

- Mechanical modules in which the motor starter and expansion modules are inserted
- For constructing the permanent wiring and self-assembling voltage bus
- For connecting the motor connection cables
- Positive-locking connection to ensure enhanced vibration resistance

Terminal modules are purely mechanical components for accommodating the ET 200S I/O modules. The self-assembling voltage buses integrated into the terminal modules 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 terminal modules together. The rugged design and keyed connection technology enables use in harsh industrial conditions.

The TM-DS and TM-RS terminal modules are available in various versions for the Standard motor starters and the High-Feature motor starters.

Terminal modules with the suffix "-S32"

- The terminal modules with the suffix "-S32" have connection terminals for feeding into the integrated 40A/50A power bus and connection terminals for the motor connection cable. They are mounted at the beginning (left) of a power bus segment.
- To configure a new load group, another "-S32" terminal module is plugged in
- The "-S32" terminal modules are supplied with three caps for closing the power bus contacts on the final terminal module of a segment
- Optionally expandable with PE/N modules

Terminal modules with the suffix "-S31"

- The terminal modules with the suffix "-S31" only have connection terminals for the motor connection cable. These terminal modules follow on the right after a "-S32" terminal module.
- Optionally expandable with PE/N modules

All connection terminals of the terminal modules for motor starters are equipped with powerful 10 mm² screw terminals.

Power modules (page 8/107)

PM-D power modules are used for monitoring the two 24 V DC auxiliary voltages for the group of motor starters following on the right or for supplying power to the group of frequency converters following on the right.

TM-P terminal modules for PM-D power modules (page 8/108)

- Connection using screw terminals
- Light colored enclosure for visual distinction
- Always before the first TM-DS/TM-RS

ET 200S Safety motor starters with integrated safety technology

The safety-related, communication-capable ET 200S motor starters offer the right solution for every safety application. The range extends from the simple local safety solution through to the user-friendly version with PROFI-safe, which can be used in conjunction with a safe control system (see "Safety Modules local and PROFI-safe", page 8/112).

The safety technology is an integral part and is therefore pre-wired at the factory.

The ET 200S Safety Motor Starter Solutions comprise:

- Safety modules (page 8/113)
- Standard motor starters (page 8/101)
- High-Feature motor starters (page 8/104)
- Failsafe motor starters (page 8/109)

System configuration with ET 200S motor starters

When constructing an ET 200S station with motor starters a distinction can be made between the following configurations:

- Conventional ET 200S motor starter solution consisting of:
 - PM-D module
 - Standard motor starter or High-Feature motor starter
- ET 200S Safety Motor Starter Solution local (see page 8/112)
- ET 200S Safety Motor Starter Solutions PROFI-safe (see page 8/116)

SIRIUS motor starter block library for SIMATIC PCS 7

With the SIRIUS motor starter PCS 7 block library, SIRIUS ET 200S motor starters (direct and reversing starters, direct-on-line soft starters) can be easily and simply integrated into the SIMATIC PCS 7 process control system. The SIRIUS motor starter PCS 7 block library contains the diagnostics and driver concept of SIMATIC PCS 7 corresponding diagnostics and driver blocks as well as the elements required for operation and monitoring (symbols and faceplates), see Chapter "Parameterization, Configuration and Visualization with SIRIUS".

Configuration tool for ET 200S station

The "TIA Selection Tool" enables the fast and accurate selection of SIMATIC hardware. It is available as a configurator in the Siemens Industry Mall free of charge. Combine your stations (e.g. S7-1200, S7-300, S7-400, S7-400H) and select the desired distributed I/O (e.g. ET 200S, ET 200pro). You can transfer the parts list you receive to the Industry Mall shopping cart and place your order quickly, conveniently and with no problems.

You can find detailed information about the ET 200S system at:

www.siemens.com/ET200S

Here you will find a link to the TIA Selection Tool.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data



SIMATIC ET 200S

Standard motor starters

SIMATIC ET 200S

High-Feature motor starters¹⁾

Device functions (firmware features)

Slave on the bus

Fieldbus ✓ Dependent on interface module

Parameterization

PROFIBUS/PROFINET data records -- ✓

Parameterization using data record start up -- ✓

Diagnostics

Acyclic through data records -- ✓

Diagnostic interrupt support ✓

Diagnostics using PROFIBUS/PROFINET -- ✓ See manual²⁾

Process image

Process image ✓ 3I/3O

Address area required per module ✓ 4 bits

✓ 16I/7O

✓ 2 bytes

Data channels

Manual mode local interface -- ✓ Through module

Motor Starter ES via local interface -- ✓ Starting end of 2011

Motor Starter ES via bus -- ✓ Starting end of 2011

Data records (acyclic)

Parameterization -- ✓

Support for PROFlenergy profile -- ✓ Measuring the motor current and disconnection in idle times

Diagnostics -- ✓

Measured values -- ✓

Statistics -- ✓

Commands -- ✓

Slave pointer -- ✓

Logbook -- ✓

Device identification -- ✓

I&M data -- ✓

Inputs

Number ✓ Maximum 2, via xB3, xB4, xB6

✓ Maximum 4, 2 via xB3, xB4, xB6 and 2 via module 2DI 24 V DC COM

• Of which in the process image -- ✓ 4

Input action ✓ End position on left, right

✓ Parameterizable: flexible

Quick stop -- ✓

✓ Parameterizable

Outputs

Number ✓ Internal, for controlling the brake module

Output action ✓ Brake

Brake output with additional module

Motor brake voltage: brake module ✓ 24 V DC: xB1/xB3, 500 V DC: xB2/xB4, 400 V AC: xB5/xB6

Motor protection

Overload protection ✓ Thermal, range 1:1.3

✓ Solid-state, wide range 1:10

Overload warning -- Only tripping

✓

Short-circuit protection ✓ Motor starter protectors

✓

Full motor protection --

Motor protection response in case of overload Thermal motor model response --

✓ Parameterizable: disconnection without restart, disconnection with restart, warning

Automatic reset --

Temperature sensor --

Emergency start function -- (✓ with Control Unit 3RK1903-OCG00)

✓

✓ Function available

-- Function not available

¹⁾ The specified device functions apply in full only to the new .-AB4 starters.

²⁾ <http://support.automation.siemens.com/WW/view/en/6008567>

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data



SIMATIC ET 200S
Standard motor starters



SIMATIC ET 200S
High-Feature motor starters

Device functions (firmware features)

Device functions

Repair switch	✓	Rocker switch	✓	Motor starter protectors
Motor starter protector signaling	✓		✓	Parameterizable
Lower current limit monitoring	--		✓	Parameterizable, increment 3.125 %, 18.75 ... 100 %
Upper current limit monitoring	--		✓	Parameterizable, increment 3.125 %, 50 ... 400 %
Zero current detection	--		✓	Parameterizable: warning, disconnection
Stall protection/disconnecting the blocking current	--		✓	Parameterizable
Unbalance	✓		✓	Parameterizable: warning, disconnection
Load type	--		✓	Parameterizable: 1 and 3-phase
Tripping class	✓	CLASS 10	✓	Parameterizable for DS1e-x, RS1e-x: CLASS 5 (10a), 10, 15, 20 for DSS1e-x: CLASS 5 (10a), 10 (only at 0.3 ... 3 A)
Protection against voltage failure	✓		✓	Parameterizable: activated/deactivated

Local diagnostics functions using LEDs

"C-STAT" switching status	✓	Red/green/yellow LEDs
"SF" group fault	✓	Red LEDs
"DEVICE" device status	--	✓ Red/green/yellow LEDs

Auxiliary switches for enabling circuit of the ET 200S – safety technology already integrated (for use up to SIL 3 (IEC 61508) or PL e (EN ISO 13849-1) in combination with infeed contactor)

-- Failsafe kit needed

✓ Except DSS1e-x (max. SIL 1 or PL b can be achieved)

✓ Function available

-- Function not available

ET 200S Standard motor starters

DS1-x, RS1-x

ET 200S High-Feature motor starters

DS1e-x, RS1e-x

DSS1e-x

Device functions (firmware features)

Soft starter control function

Soft start function	--	✓
Bypass function	--	
Starting time	--	✓ Locally adjustable, not through bus 0 ... 20 s
Ramp-down time	--	✓ Locally adjustable, not through bus 0 ... 20 s
Ramp-down mode	--	✓ Locally adjustable, not through bus
Start voltage	--	✓ Locally adjustable, not through bus 30 ... 100 % of U_e
Stopping voltage	--	✓ Locally adjustable, not through bus
Trace	--	

✓ Function available

-- Function not available

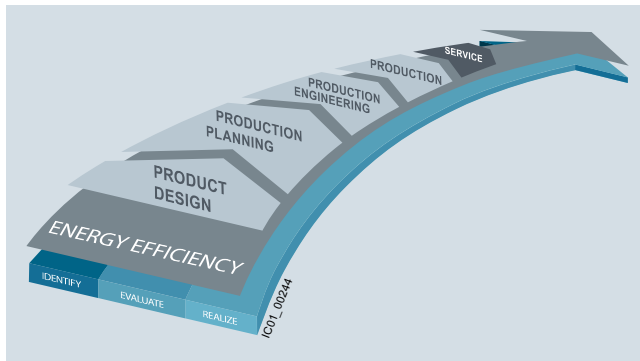
Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data

Benefits

Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency ([see www.siemens.com/sirius/energysaving](https://www.siemens.com/sirius/energysaving)).

SIMATIC ET 200S motor starters contribute to energy efficiency as follows:

- **Energy management**
Provision of energy data (current) by bus to higher-level systems using PROFIenergy ([see "High-Feature Motor Starters", page 8/104](#))
- **Elimination of energy consumption in dead times through disconnection using PROFIenergy** ([see "High-Feature Motor Starters", page 8/104](#))
- **Current management**
Avoidance of current peaks, thus reducing the load on the grid and the mechanical system
- **Reduced heating of the control cabinet**
Technology-reduced inherent power loss as speed-controlled drive systems, enabling also lower cooling costs (and a more compact design)

Application

The SIMATIC ET 200S motor starters are ideal for the use of several spatially concentrated distributed drive solutions in which several motors, digital or analog sensors and actuators are addressed by a distributed control cabinet or control box. They are perfectly suited for protecting and switching any AC loads. For use of SIMATIC ET 200S motor starters in conjunction with highly energy-efficient IE3 motors, please observe the information on dimensioning and configuring in the "Configuration Manual for SIRIUS Controls with IE3 Motors".

Application areas

The SIMATIC ET 200S motor starters are suitable for numerous sectors of industry, e.g. machinery and plant engineering or conveying applications.

The ET 200S High-Feature motor starters are an excellent choice for the operation of ventilation systems, pump drives or winches.

Technical specifications

		ET 200S Standard motor starters DS1-x, RS1-x	ET 200S High-Feature motor starters DS1e-x, RS1e-x		DSS1e-x
Mechanics and environment					
Motor starters for connection to ET 200S, max. ¹⁾		42	17		
Mounting dimensions (W x H x D)					
• Direct-on-line starters	mm	45 x (265 + 45) x (120 + 27); (45: PE/N block; 27: auxiliary switch contactor from F-Kit)	65 x (290 + 45) x (150 + 23); (45: PE/N block; 23: control module)		
• Reversing starters	mm	90 x (265 + 45) x (120 + 27); (45: PE/N block; 27: auxiliary switch contactor from F-Kit)	130 x (290 + 45) x (150 + 23); (45: PE/N block; 23: control module)		
Permissible ambient temperature					
• During operation	°C	0 ... +60, from +40 with derating	0 ... +60 for horizontal mounting up to +40		
• During storage	°C	-40 ... +70	-40 ... +70		
• Permissible mounting position	°C	Vertical, horizontal with derating	Vertical, horizontal		
Weight					
• Direct-on-line/reversing starters incl. terminal module	kg	1.0/1.6	1.6/2.2	1	
• Direct-on-line/reversing starters incl. terminal block PE/N		1.1/1.8	1.7/2.3	1.1	
Vibration resistance acc. to IEC 60068, parts 2-6	g	2			
Shock resistance acc. to IEC 60068, parts 2-27	g/ms	Square 5/11			
Conductor cross-section					
• Solid	mm ²	2 x (1 ... 2.5) ²⁾ ; 2 x (2.5 ... 6) ²⁾ , according to IEC 60947: max. 1 x 10			
• Finely stranded with end sleeve	mm ²				
• AWG cables, solid or stranded	AWG				
Degree of protection		IP20, finger-safe (also applies to terminal modules on a dismantled motor starter)			

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

General data

		ET 200S Standard motor starters DS1-x, RS1-x	ET 200S High-Feature motor starters DS1e-x, RS1e-x		DSS1e-x
Mechanical endurance • Motor starter protectors • Contactors • Contactors with safety function (F-Kit)		Operating cycles	100 000 30 million 10 million	10 million --	-- --
Electrical specifications					
Power consumption • From auxiliary circuit L+/M (U_1) • From auxiliary circuit A1/A2 (U_2)		mA mA	Approx. 20 Approx. 100	Approx. 40 Approx. 1 700 (80 ms long), approx. 350 (after 80 ms)	Approx. 30
Rated operational current for terminal modules TM-D I_e	A	40	50		
Rated operational voltage U_e	V	400			
Approval DIN VDE 0106, part 101	V	Yes, up to 500			Yes, up to 480
CSA and U_L approval	V	Yes, up to 600			Yes, up to 480
Rated operational current I_e for motor starters • AC-1/2/3 at 60 °C - At 400 V - At 500 V • AC-4 at 60 °C - At 400 V		A A A	12 9 4.1	16 11 9	3 / 8 / 16 -- --
Rated short-circuit breaking capacity	kA	50 at 400 V			
Power of three-phase motors at 500 V	kW	5.5	7.5		
Utilization categories		AC-1, AC-2, AC-3, AC-4			
Protective separation between main and auxiliary circuits	V	400, according to DIN VDE 0106, part 101			
Positively-driven operation of contactor relay (NC)		Yes			
Trip class		CLASS 10		Parameterizable CLASS 5 (10 A), 10, 15, 20	0.3 ... 3 A: CLASS 10/10A Parameterizable; 2.4 ... 8 A: CLASS 10A 2.4 ... 16 A: CLASS 10A
Type of coordination		Up to 1.6 A: 2 Up to 12 A: 1		Up to 16 A: 2	Up to 16 A: 1
Electrical endurance • Motor starter protectors • Contactors		h	100 000 See manual³⁾		--
Permissible switching frequency with starting time $t_A = 0.1$ s and relative ON period $t_{ED} = 50$ %		1/h	< 80	See manual³⁾	
Induction protection		Already installed			

¹⁾ Additional limits: process image, max. design width 2 m.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified. If identical cross-sections are used, this restriction does not apply.

³⁾ <http://support.automation.siemens.com/WW/view/en/6008567>

More information

Notes on safety

System networking requires suitable protective measures (including network segmentation for IT security) in order to ensure safe plant operation.

More information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Standard motor starters

Overview

Functionality of the Standard motor starters

- For basic functionality, see "General data" → "Overview", page 8/95
- Direct-on-line and reversing starters up to 5.5 kW
- Power bus up to 40 A
- With motor starter protector and contactor assembly
- Integrated isolating function via motor starter protector
- Can be combined with local safety technology for use in safety-related system components with F-Kit and PM-D F modules (see "Accessories" → "Overview", page 8/123)

Device functions (firmware features)

See "General data" → "Overview", page 8/97

Technical specifications

See "General data" → "Technical specifications", page 8/99

Selection and ordering data

	Motor rating three-phase motor 4-pole at 400 V AC, standard output <i>P</i> kW	Setting range of the overcurrent release A	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Standard motor starters, with diagnostics, electromechanical, fuseless, expandable with Brake Control Module								
 DS1-x	Direct starter DS1-x							
	< 0.06	0.14 ... 0.20	A	3RK1301-0BB00-0AA2		1	1 unit	42D
	0.06	0.18 ... 0.25	A	3RK1301-0CB00-0AA2		1	1 unit	42D
	0.09	0.22 ... 0.32	A	3RK1301-0DB00-0AA2		1	1 unit	42D
	0.10	0.28 ... 0.40	A	3RK1301-0EB00-0AA2		1	1 unit	42D
	0.12	0.35 ... 0.50	A	3RK1301-0FB00-0AA2		1	1 unit	42D
	0.18	0.45 ... 0.63	A	3RK1301-0GB00-0AA2		1	1 unit	42D
	0.21	0.55 ... 0.80	A	3RK1301-0HB00-0AA2		1	1 unit	42D
	0.25	0.70 ... 1.00	A	3RK1301-0JB00-0AA2		1	1 unit	42D
	0.37	0.90 ... 1.25	A	3RK1301-0KB00-0AA2		1	1 unit	42D
	0.55	1.1 ... 1.6	A	3RK1301-1AB00-0AA2		1	1 unit	42D
	0.75	1.4 ... 2.0	A	3RK1301-1BB00-0AA2		1	1 unit	42D
	0.90	1.8 ... 2.5	A	3RK1301-1CB00-0AA2		1	1 unit	42D
	1.1	2.2 ... 3.2	A	3RK1301-1DB00-0AA2		1	1 unit	42D
	1.5	2.8 ... 4.0	A	3RK1301-1EB00-0AA2		1	1 unit	42D
	1.9	3.5 ... 5.0	A	3RK1301-1FB00-0AA2		1	1 unit	42D
	2.2	4.5 ... 6.3	A	3RK1301-1GB00-0AA2		1	1 unit	42D
	3.0	5.5 ... 8.0	A	3RK1301-1HB00-0AA2		1	1 unit	42D
	4.0	7 ... 10	A	3RK1301-1JB00-0AA2		1	1 unit	42D
	5.5	9 ... 12	A	3RK1301-1KB00-0AA2		1	1 unit	42D
 RS1-x	Reversing starter RS1-x							
	< 0.06	0.14 ... 0.20	A	3RK1301-0BB00-1AA2		1	1 unit	42D
	0.06	0.18 ... 0.25	C	3RK1301-0CB00-1AA2		1	1 unit	42D
	0.09	0.22 ... 0.32	A	3RK1301-0DB00-1AA2		1	1 unit	42D
	0.10	0.28 ... 0.40	A	3RK1301-0EB00-1AA2		1	1 unit	42D
	0.12	0.35 ... 0.50	A	3RK1301-0FB00-1AA2		1	1 unit	42D
	0.18	0.45 ... 0.63	A	3RK1301-0GB00-1AA2		1	1 unit	42D
	0.21	0.55 ... 0.80	A	3RK1301-0HB00-1AA2		1	1 unit	42D
	0.25	0.70 ... 1.00	A	3RK1301-0JB00-1AA2		1	1 unit	42D
	0.37	0.90 ... 1.25	A	3RK1301-0KB00-1AA2		1	1 unit	42D
	0.55	1.1 ... 1.6	A	3RK1301-1AB00-1AA2		1	1 unit	42D
	0.75	1.4 ... 2.0	A	3RK1301-1BB00-1AA2		1	1 unit	42D
	0.90	1.8 ... 2.5	A	3RK1301-1CB00-1AA2		1	1 unit	42D
	1.1	2.2 ... 3.2	A	3RK1301-1DB00-1AA2		1	1 unit	42D
	1.5	2.8 ... 4.0	A	3RK1301-1EB00-1AA2		1	1 unit	42D
	1.9	3.5 ... 5.0	A	3RK1301-1FB00-1AA2		1	1 unit	42D
	2.2	4.5 ... 6.3	A	3RK1301-1GB00-1AA2		1	1 unit	42D
	3.0	5.5 ... 8.0	A	3RK1301-1HB00-1AA2		1	1 unit	42D
	4.0	7 ... 10	A	3RK1301-1JB00-1AA2		1	1 unit	42D
	5.5	9 ... 12	A	3RK1301-1KB00-1AA2		1	1 unit	42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Standard terminal modules

Overview

Terminal modules **TM-DS**, **TM-RS**

More information, [see also "General data" → "Overview" → from the section "Power supply through terminal modules", page 8/95](#).

- "-S32" version with supply terminals: 2 x 3 x 10 mm² screw terminals for power bus and motor feeder
- "-S31" version without supply terminals: 1 x 3 x 10 mm² screw terminals for motor feeder
- Optionally expandable with PE/N modules ([see "Accessories", page 8/126](#))
- Applies only to Standard motor starters: For applications with high motor currents (> 6.3 A) or high ambient temperatures (> 40 °C), it is recommended to use the DM-V15 distance module between two DS1-x motor starters ([see "Accessories", page 8/124](#)).

Technical specifications

TM-DS45 and TM-DS65/TM-FDS65 terminal modules

		TM-DS45	TM-DS65/TM-FDS65
Dimensions			
• Mounting dimensions (W x H x D)	mm	45 x 264 x 100	65 x 290 x 100
• Height with PE/N terminal block	mm	306	332
• Depth with motor starter	mm	127	150
• Depth with motor starter and F-Kit (safety technology)	mm	152	--
• Depth with motor starter and 2DI control module	mm	--	173
Rated voltages, currents and frequencies for the power bus			
• Rated insulation voltage U_i	V	690	
• Rated operational voltage U_e	V AC	500	
• Rated impulse withstand voltage U_{imp}	kV	6	
• Rated operational current I_e	A	40	50
• Rated frequency	Hz	50/60	
Conductor cross-sections			
• Solid	mm ²	2 x (1 ... 2.5) ¹⁾ or 2 x (2.5 ... 6) ¹⁾	
• Finely stranded with end sleeve	mm ²	1 x 10 or 2 x (1 ... 2.5) ¹⁾ or 2 x (2.5 ... 6) ¹⁾ according to IEC 60947	
• AWG cables, solid or stranded	AWG	2 x (14 ... 10)	
• With additional three-phase infeed terminal if required			
- Solid or stranded	mm ²	1 x 2.5 ... 25	
- Finely stranded with end sleeve	mm ²	1 x 2.5 ... 25	
- AWG cables, solid or stranded	AWG	1 x 12 ... 4	
Wiring			
• Required tool		Standard screwdriver size 2 and Pozidriv 2	
• Tightening torque	Nm	2.0 ... 2.5	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified. If identical cross-sections are used, this restriction does not apply.

TM-RS90 and TM-RS130/TM-FRS130 terminal modules

		TM-RS90	TM-RS130/TM-FRS130
Dimensions			
• Mounting dimensions (W x H x D)	mm	90 x 264 x 100	130 x 290 x 100
• Height with PE/N	mm	306	332
• Depth with motor starter	mm	127	150
• Depth with motor starter and F-Kit (safety technology)	mm	152	--
• Depth with motor starter and 2DI control module	mm	--	173
Rated voltages, currents and frequencies for the power bus			
• Rated insulation voltage U_i	V	690	
• Rated operational voltage U_e	V AC	500	
• Rated impulse withstand voltage U_{imp}	kV	6	
• Rated operational current I_e	A	40	50
• Rated frequency	Hz	50/60	

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Standard terminal modules

		TM-RS90	TM-RS130/TM-FRS130
Conductor cross-sections			
• Solid	mm ²	2 x (1 ... 2.5) ¹⁾ or 2 x (2.5 ... 6) ¹⁾	
• Finely stranded with end sleeve	mm ²	1 x 10 or 2 x (1 ... 2.5) ¹⁾ or 2 x (2.5 ... 6) ¹⁾ according to IEC 60947	
• AWG cables, solid or stranded	AWG	2 x (14 ... 10)	
• With additional three-phase infeed terminal if required			
- Solid or stranded	mm ²	1 x 2.5 ... 25	
- Finely stranded with end sleeve	mm ²	1 x 2.5 ... 25	
- AWG cables, solid or stranded	AWG	1 x 12 ... 4	
Wiring			
• Required tool		Standard screwdriver size 2 and Pozidriv 2	
• Tightening torque	Nm	2.0 ... 2.5	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified. If identical cross-sections are used, this restriction does not apply.

Selection and ordering data

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

Terminal modules for Standard motor starters



3RK1903-0AB00

TM-DS45-S32
for DS1-x direct-on-line starters
 with incoming power bus connection
 including three caps for terminating the power bus

A

3RK1903-0AB00

1

1 unit

42D



3RK1903-0AB10

TM-DS45-S31
for DS1-x direct-on-line starters
 without incoming power bus connection

A

3RK1903-0AB10

1

1 unit

42D



3RK1903-0AC00

TM-RS90-S32
for RS1-x reversing starters
 with incoming power bus connection
 including three caps for terminating the power bus

A

3RK1903-0AC00

1

1 unit

42D

TM-RS90-S31
for RS1-x reversing starters
 without incoming power bus connection

A

3RK1903-0AC10

1

1 unit

42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

High-Feature motor starters **NEW**

Overview

Functionality of the High-Feature motor starters

- For basic functionality, see "General data" → "Overview", page 8/95.
- Direct-on-line, reversing or soft starters up to 7.5 kW
- With wide range in 3 setting ranges, with 0.3 to 3 A, 2.4 up to 8 A, 2.4 to 16 A available
- With combination of starter circuit breaker, electronic overload protection (parameterizable), and contactor or soft starter
- Power bus up to 50 A
- Upper and lower current limits for plant and process monitoring
- Motor stall protection, zero current detection and asymmetry detection integrated
- The actual motor current is measured and transmitted for diagnostics in the cycle process image
- Control of the motor starter from the control system and extensive diagnostics status via the cyclic process image
- Optional digital inputs available in the cyclic process image and flexibly assignable with functions for adaptation to all applications
- Integrated isolating function using starter circuit breakers
- Detection of the switching state of the starter circuit breaker via auxiliary switches and of the contactor via current evaluation
- Local safety engineering possible (without F-kit in the case of the HF starter, because the function of the failsafe kit is already integrated)
- Front-mounting 2DI LC COM control module for another 2 parameterizable digital inputs
- Optional "Motor Starter ES" software for easy commissioning and diagnostics (see Chapter "Parameterization, Configuration and Visualization with SIRIUS")
- PROFlenergy capable
- Supplying the motor current in PROFlenergy format and shutting down in dead times
- Support of all DPV1 acyclic services on PROFIBUS and PROFINET
 - Changing of parameters during operation, e.g. the rated operational current
 - Reading and writing acyclic data for exact diagnostics of the unit or process and for analysis of the plant status

Selective protection concept for ET 200S High-Feature motor starters

As the result of the selective protection concept (separate tripping of short circuit and overload) with electronic overload evaluation, additional advantages are realized on the High-Feature motor starters – advantages which soon make themselves positively felt particularly in manufacturing processes with high plant stoppage costs:

- Only two versions up to 7.5 kW – hence little order variance and stock keeping
- All settings can be parameterized by bus – hence full TIA capability
- Separate signaling of overload and short circuit – enables selective diagnostics
- Overload can be acknowledged by remote reset – ideal for highly automated plants
- Current asymmetry monitoring – complete monitoring of the motor
- Stall protection – complete monitoring of the motor
- Emergency start function in case of overload – operation is possible in an emergency

- Current value transmission via bus – monitoring of the application
- Current limit monitoring
- Trip class can be parameterized – overload tripping can be adapted to the application
- Type of coordination "2" – still functional after short circuit with magnitude of 50 kA
- Very high contact endurance



ET 200S High-Feature motor starters: DS1e-x direct-on-line starter



ET 200S High-Feature motor starters: DSS1e-x direct-on-line soft starter



ET 200S High-Feature motor starters: RS1e-x reversing starter

Load Feeders and Motor Starters for Use in the Control Cabinet ET 200S Motor Starters and Safety Motor Starters

NEW High-Feature motor starters

PROFenergy for ET 200S High-Feature motor starters¹⁾

Increasing energy prices, far-reaching ecological problems worldwide and the threat of climate change make it necessary for you to be more conscious about your use of energy.

Active and effective energy management is possible with PROFenergy.

PROFenergy is a manufacturer-independent profile on PROFINET, which can be used by all manufacturers, has been standardized by PNO¹⁾ and supports shutting down electrical devices during dead times and reading out measured values.

The ET 200S HF motor starter supplies the motor current in PROFenergy format and switches off during dead times.

Support of all acyclic services on PROFIBUS and PROFINET

Thanks to the acyclic services, the ET 200S HF motor starters now offer plenty of diagnostics data via data records. There are new extensive options for reading out data from the motor starter for monitoring devices, systems or processes. The motor starter is equipped internally with three logbooks for device faults, motor starter trips and events, which are issued with a time stamp. These logbooks can be read out of the motor starter on demand at any time and provide the plant operator with plenty of information about the state of his plant and process which he can use to carry out improvements.

With the slave pointer and statistical data functions it is possible to read out, for example, the maximum internal current values or the number of motor starter connection operations. This allows deviations in the process to be monitored, but also optimum initial commissioning to take place.

Statistical data or measured values make plant monitoring easy for the user.

The device diagnostics data record contains details of all the states of the motor starter, the device configuration and the communication status as a basis for central device and plant monitoring.

The Installation and Maintenance functions (I&M) store, firstly, information (I&M) about the modules used in the motor starter and, secondly, data (I&M) that can be defined during configuration, e.g. location designations. I&M functions are used for troubleshooting faults and localizing changes in hardware at a plant or checking the system configuration.

Supported data records:

- DS 0 S7-V1 system diagnostics (S7 diagnostics alarm)
- DS 72, 73, 75 logbooks, device faults, trips, events
- DS 92 device diagnostics
- DS 93 command
- DS 94 measured values
- DS 95 statistics
- DS 96 slave pointer
- DS 100 device identification
- DS 131 device parameters
- DS 134 maintenance
- DS 165 comment
- DS 226 PROFenergy technology function
- DS 231 I&M 0 (= device identification)
- DS 232 I&M 1 (= equipment identifier)
- DS 233 I&M 2 (= installation)
- DS 234 I&M 3 (= description)

Device functions (firmware features)

See "General data" → "Overview", page 8/97

¹⁾ In the PNO (PROFIBUS Nutzerorganisation e. V. – PROFIBUS User Organization), manufacturers and users have come together to agree on the standardized communication technologies PROFIBUS and PROFINET.

Technical specifications

See "General data" → "Technical specifications", page 8/99

Selection and ordering data

High-Feature motor starters in fully innovated design ("-.AB4 starters")¹⁾

Setting range of the overcurrent release	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
A						
High-Feature motor starters, with diagnostics, electronic overload protection, fuseless, expandable with brake control module						
DS1e-x direct-on-line starters						
0.3 ... 3	A	3RK1301-0AB10-0AB4		1	1 unit	42D
2.4 ... 8	A	3RK1301-0BB10-0AB4		1	1 unit	42D
2.4 ... 16	A	3RK1301-0CB10-0AB4		1	1 unit	42D
RS1e-x reversing starters						
0.3 ... 3	A	3RK1301-0AB10-1AB4		1	1 unit	42D
2.4 ... 8	A	3RK1301-0BB10-1AB4		1	1 unit	42D
2.4 ... 16	A	3RK1301-0CB10-1AB4		1	1 unit	42D
DSS1e-x direct-on-line soft starter						
0.3 ... 3	A	3RK1301-0AB20-0AB4		1	1 unit	42D
2.4 ... 8	A	3RK1301-0BB20-0AB4		1	1 unit	42D
2.4 ... 16	A	3RK1301-0CB20-0AB4		1	1 unit	42D



DS1e-x

¹⁾ When a device is replaced, the innovated motor starter will behave like the not yet innovated motor starter ("-.AA4 starter"), i.e. it will run in DPV0 mode.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

High-Feature terminal modules

Overview

Terminal modules *TM-DS*, *TM-RS*

More information, see also "General data" → "Overview" → from the section "Power supply through terminal modules", page 8/95.

- "-S32" version with incoming connection: 2 x 3 x 10 mm² screw terminals for power bus and motor feeder
- "-S31" version without incoming connection: 1 x 3 x 10 mm² screw terminals for motor feeder
- Optionally expandable with PE/N modules (see "Accessories", page 8/126)

Technical specifications

See "Standard terminal modules" → "Technical specifications", page 8/102.

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal modules for High-Feature motor starters						
TM-DS65-S32 for DS1e-x and DSS1e-x direct-on-line starters with incoming power bus connection including three caps for terminating the power bus	A	3RK1903-0AK00		1	1 unit	42D
TM-DS65-S31 for DS1e-x and DSS1e-x direct-on-line starters without incoming power bus connection	A	3RK1903-0AK10		1	1 unit	42D
TM-RS130-S32 for RS1e-x reversing starters with incoming power bus connection including three caps for terminating the power bus	A	3RK1903-0AL00		1	1 unit	42D
TM-RS130-S31 for RS1e-x reversing starters without incoming power bus connection	A	3RK1903-0AL10		1	1 unit	42D



3RK1903-0AK00

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Power modules

Overview

- Disconnection of a complete group of motor starters is possible without any additional outlay (PL b according to ISO 13849-1 or SIL 1 according to IEC 62061)
- PM-D power modules are plugged onto the TM-P15 terminal modules. (A PM-D power module must be followed by at least one motor starter or one frequency converter.)

PM-D power modules are used for monitoring the two 24 V DC auxiliary voltages for the group of motor starters following on the right or for supplying power to the group of frequency converters following on the right. The voltage is fed in through TM-D terminal modules to the self-assembling potential bars.

A voltage failure is signaled through PROFIBUS diagnostics to the higher-level master. Additional LEDs inform locally about the status of the auxiliary voltages.

The separation of auxiliary voltages for signal checkback and power unit actuation enables the entire group to be shut down while maintaining the diagnostics capability.

Technical specifications

		PM-D power module 3RK1903-0BA00
Rated control supply voltage U_s Up to 60 °C	V	20.4 ... 28
Rated operational current I_o		
• Recommended short-circuit protection	A	10
• Melting fuse	A	10
• Miniature circuit breaker	A	10, tripping characteristic B
Power consumption from backplane bus	mA	≤ 10
Supply of		
• Motor starters		Yes
• Frequency converters		Yes
• Motor starters for safety technology		No
• Electronic modules		No
• Ex(i) modules		No
Alarms		None
Diagnostics functions		Yes
• System fault/device fault		Red "SF" LED
• Monitoring of the electronics power supply U_1		Green "PWR" LED
• Monitoring of the supply voltage for contactors U_2		Green "CON" LED
• Diagnostics information can be read out		Yes
Conductor cross-sections		
• Flexible with end sleeve	mm ²	1.5
• Rigid	mm ²	2.5
Mounting dimensions (W x H x D)	mm	15 x 195.5 x 117.5

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power modules						
 3RK1903-0BA00		PM-D power modules for 24 V DC with diagnostics	A	3RK1903-0BA00	1	1 unit 42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Power module terminal module

Overview

Terminal module for power module

For supplying load and sensor voltage to the self-assembling potential bars of the Standard motor starters, High-Feature motor starters and frequency converters. Power modules for voltage monitoring are plugged onto TM-P modules.

TM-P modules can be used any number of times within the ET 200S. A power module must always be plugged upstream from the first motor starter/frequency converter.

Selection and ordering data

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

Terminal module for power module



3RK1903-0AA00

TM-P15 S27-01 terminal module
for PM-D power module

A

3RK1903-0AA00

1

1 unit

42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S Failsafe motor starters

Overview



ET 200S Failsafe motor starters F-DS1e-x direct-on-line starters

The Failsafe motor starter has been developed on the basis of the High-Feature motor starter (.-AA4 starter). It differs in that, in addition to a motor starter protector and contactor assembly, a safe electronic evaluation circuit is installed for fault detection purposes which makes the motor starter failsafe.

If the contactor to be switched fails in an EMERGENCY-STOP case, the evaluation electronics detects a fault and opens the motor starter protector in the motor starter through a shunt release in a safety-related manner. The second redundant shut-down component is therefore no longer a main contactor, as is generally the case, but the motor starter protector installed in the motor.

All functions of the High-Feature starter are already integrated

The new Failsafe motor starters are characterized by easy, space-saving assembly as well as minimal wiring outlay. Like the High-Feature starters, the Failsafe motor starters have a switching capacity of up to 7.5 kW (16 A) which is achieved with just two motor starter versions. Another important feature is the high availability due to the high short-circuit strength (type of coordination "2").

Use

The Failsafe motor starter is predestined for use in combination with PROFIsafe (see connection diagram "ET 200S Safety Motor Starter Solution PROFIsafe with Failsafe motor starters", page 8/117). Another field of application is in combination with ASIsafe or safety relays (see Example 2, page 8/115).

High degree of flexibility with safety technology

PROFIsafe solution with PM-D F PROFIsafe

In EMERGENCY-STOP applications, the Failsafe motor starters are selectively switched off through the upstream PM-D F PROFIsafe safety module. For each safety module, six switch-off groups can be formed. In the first delivery stage, the fail-safe freely-programmable logic of the SIMATIC controller is used to interface with the relevant fail-safe sensor technology. The interface between PROFIsafe and installations that use conventional safety technologies is implemented through the F-CM Failsafe contact multiplier with four floating contacts.

Solution local with PM-D FX1

Failsafe motor starters with safety relay (version 1) or ASIsafe (version 2, see example 2, page 8/115): Signals with relevance for safety can be input to ET 200S through a PM-D F X1 infeed terminal module through the enabling circuits of the AS-i safety monitor or the safety relay to control the Failsafe motor starters which then selectively switch off the downstream motors.

Benefits

Advantages over conventional safety technology:

- Significant savings in components (less hardware)
- Less mounting and installation work
- Motor starters are fail-safe and offer high availability

Technical specifications

F-DS1e-x direct-on-line starters/F-RS1e-x reversing starters

		F-DS1e-x direct-on-line starters	F-RS1e-x reversing starters
Dimensions			
Dimensions (W x H x D)	mm	65 x 290 x 150 (incl. terminal module)	130 x 290 x 150 (incl. terminal module)
Height with PE/N module	mm	332	
Depth with 2DI control module (not safe)	mm	173	
Module-specific specifications			
Type of coordination		Type 2 up to $I_{th} \leq 16$ A at 400 V	
Internal power supply		U1 (from PM-D F / PM-D X1)	
Maximum achievable safety class		SIL 3 Tripping class 6 (AK6) PL e	
Safety characteristics			
Low demand	PFD _{AVG} (10a)		
• Test interval 3 months		3.5×10^{-5}	
• Test interval 6 months		8.0×10^{-5}	
High demand/continuous mode	PFH		
• Test interval 3 months	1/h	8.1×10^{-10}	
• Test interval 6 months	1/h	1.8×10^{-9}	
Proof-test interval	Years	10	

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S Failsafe motor starters

		F-DS1e-x direct-on-line starters	F-RS1e-x reversing starters
Voltages, currents, potentials			
Switching capacity	A	Up to 7.5 kW at 400 V AC in three setting ranges • 0.3 ... 3 • 2.4 ... 8 • 2.4 ... 16	
	A		
	A		
Status, alarms, diagnostics			
Status display		SF, DEVICE and C-STAT, SG1 ... SG6	
Diagnostics functions		Red LED (SF) Available	
• Group fault display			
• Diagnostics information can be read out			
Control circuit			
Rated operational voltage for electronics U_1	V DC	24 (20.4 ... 28.8)	24 (21.6 ... 26.4)
Reverse polarity protection for electronics U_1		Yes	
Rated operational voltage for contactor U_2	V DC	24 (20.4 ... 28.8)	
Reverse polarity protection for contactor U_2		Yes	
Power consumption			
• From electronics supply U_1	mA	Approx. 40	Approx. 100
• From contactor supply U_2	A	1.7 (for 80 ms)	--
	- Pickup		
	- Hold	Max. 350	--
• From SG1 to 6	mA	250 (for 200 ms)	
	- Pickup		
	- Hold	Max. 55	
• Test function of the shunt release/starter circuit breaker (50 ms) from U_1	A	Approx. 1.5	
• From the backplane bus	mA	Approx. 20	
Main circuit			
Rated operational voltage U_0			
• Acc. to DIN VDE 0106, part 1014, IEC 60947-1, EN 60947-1	V AC	500	
• Protective separation between main and auxiliary circuits	V	400	
• UL, CSA	V AC	600	
Rated insulation voltage U_i	V AC	500	
Rated impulse withstand voltage U_{imp}	kV	6	
Rated frequency	Hz	50/60	

Selection and ordering data

		DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Setting range of the overcurrent release							
A							
ET 200S Failsafe motor starters							
 F-DS1e-x direct-on-line starters	F-DS1e-x direct-on-line starters						
	Failsafe direct-on-line starters up to 7.5 kW at 400 V AC						
	Mechanically switching						
	Electronic overload protection						
	• 0.3 ... 3	A	3RK1301-0AB13-0AA4		1	1 unit	42D
	• 2.4 ... 8	A	3RK1301-0BB13-0AA4		1	1 unit	42D
	• 2.4 ... 16	A	3RK1301-0CB13-0AA4		1	1 unit	42D
	F-RS1e-x reversing starters						
	Failsafe reversing starters up to 7.5 kW at 400 V AC						
	Mechanically switching						
	Electronic overload protection, fuseless						
	• 0.3 ... 3	A	3RK1301-0AB13-1AA4		1	1 unit	42D
	• 2.4 ... 8	A	3RK1301-0BB13-1AA4		1	1 unit	42D
	• 2.4 ... 16	A	3RK1301-0CB13-1AA4		1	1 unit	42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Failsafe terminal modules

Selection and ordering data

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

Terminal modules for Failsafe motor starters



3RK1903-3AC00

TM-FDS65-S32-01/S31-01 terminal modules for F-DS1e-x direct-on-line starters with coding

- With incoming power bus connection (TM-FDS65-S32-01)
- Without incoming power bus connection (TM-FDS65-S31-01)

A

3RK1903-3AC00

1

1 unit

42D

A

3RK1903-3AC10

1

1 unit

42D

TM-FRS130-S32-01/S31-01 terminal modules for F-RS1e-x reversing starter with coding

- With incoming power bus connection (TM-FRS130-S32-01)
- Without incoming power bus connection (TM-FRS130-S31-01)

A

3RK1903-3AD00

1

1 unit

42D

A

3RK1903-3AD10

1

1 unit

42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

Overview

ET 200S Safety Motor Starter Solutions local/PROFIsafe

The ET 200S Safety Motor Starter Solutions are preferred in all production and process automation fields in which the enhancement of plant availability and flexibility play a key role.

- ET 200S Safety Motor Starters Solutions local are preferred from the safety technology point of view for locally restricted safety applications. These motor starters are not dependent on a safe control system.
- ET 200S Safety Motor Starters Solutions PROFIsafe, on the other hand, are often found in safety applications of the more complex type that are interlinked. In this case a safe control system is used with the PROFINET or PROFIBUS bus systems with the PROFIsafe profile.

The ET 200S Safety Motor Starter Solutions comprise:

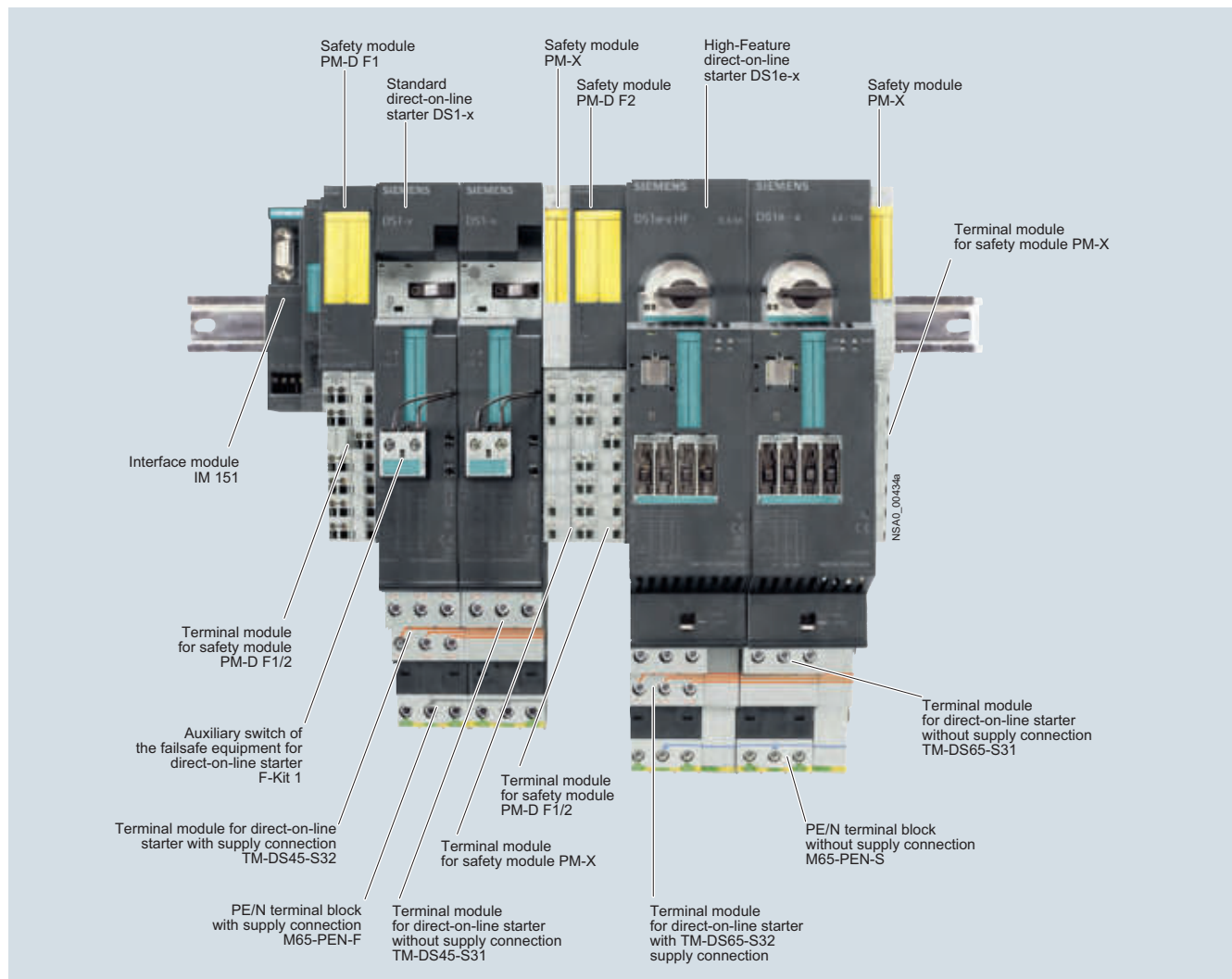
- Safety modules ([page 8/113](#))
- Standard motor starters ([page 8/101](#))
- High-Feature motor starters ([page 8/104](#))
- Failsafe motor starters ([page 8/109](#))

With the ET 200S Safety Motor Starter Solution local there is no complicated and hence cost-intensive configuring and wiring compared to conventional safety systems. The ET 200S Safety Motor Starter Solutions local are designed for PLe according to ISO 13849-1 or SIL 3 IEC 62061.

They enable the use of safety-related direct-on-line starters or reversing starters in the SIMATIC ET 200S distributed peripherals system on PROFINET or PROFIBUS. The bit-modular architecture of the system permits optimum imaging of machine or plant applications.

Within an ET 200S station the Safety Motor Starter Solutions local can also be combined with Standard motor starters or High-Feature motor starters without safety functions up to max. 4 kW up to PLe according to ISO 13849-1 or SIL 2 according to IEC 62061.

ET 200S Safety Motor Starter Solution local



Interaction of ET 200S Safety Motor Starter Solutions local components

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

Components for ET 200S Safety Motor Starter Solution local

The ET 200S Safety Motor Starter Solutions local comprise:

Version 1 (see example 1, page 8/115):

- Safety modules PMD F1 ... 5
- PM-X module
- Standard motor starter or High-Feature motor starter

Version 2 (see example 2, page 8/115):

- PM-D FX1 safety module
- Failsafe motor starter

Functionality of the ET 200S Safety Motor Starter Solution local

- For using Standard, High-Feature or Failsafe motor starters in systems with safety category SIL 1 (according to IEC 62061) or PL c to PL e (according to ISO 13849-1)
- Can also be used in combination with external safety relays
- Can also be used to activate external safety systems
- No complex wiring for conventional safety technology
- Safety module available for function-monitored and automatic starting
- Safety module available for Stop category 0 and 1
- Safety module for monitoring the auxiliary voltages for motor starters
- Safety modules can be plugged into the TM-PF30 terminal modules

With Safety Motor Starter Solutions local the highest safety category can be achieved according to ISO 13849-1 and IEC 62061. They can thus be used for evaluation of EMERGENCY-STOP circuits or for monitoring protective doors and also for time-delayed disconnections. With the contact multiplier the safety-relevant signals can also be made available to external systems.

All standard safety applications can be covered through combination of different TM-PF30 terminal modules. Needless to say, ET 200S motor starters can also be used in conjunction with external safety relays or with ASIsafe.

With the Safety Motor Starter Solutions local, up to 80 % of wiring is saved compared to conventional safety systems with local safety applications.

With the Safety Motor Starter Solutions local it is easy to configure several safety circuits. The safety sensors are connected directly and locally to the safety modules. These safety modules perform the work of the otherwise obligatory safety relays and safely shut down the downstream motor starters in accordance with the function selected. The crosslinks required for this are already integrated in the system and need no additional wiring. All signals from the safety modules are automatically relayed as diagnostic signals, e.g. in the event of cross-circuit in the EMERGENCY-STOP circuit.

The safety module evaluates the signal state of the connected safety sensors and, using the integrated safety relays, shuts down the group(s) of downstream motor starters. The shutdown function is monitored by the module, and the auxiliary voltages likewise.

Safety-relevant system signals, e.g. due to an actuated EMERGENCY-STOP switch or a missing auxiliary voltage, are automatically generated and notified to the interface module. The latter assigns an unambiguous ID to the fault. Using the PROFIBUS DP diagnostics block, faults of this type can be identified and localized without a great deal of programming work.

PM-D F1/F2/F3/F4/F5 safety modules

- PM-D F1/F2/F3/F4 safety modules monitor auxiliary voltages and contain the complete functionality of a safety relay:
 - PM-D F1: For evaluation of EMERGENCY-STOP circuits with the function "Monitored start"
 - PM-D F2: For monitoring of protective doors with the function "Automatic start"
 - PM-D F3: Expansion to PM-D F1/F2 for time-delayed disconnection
 - PM-D F4: For expanding safety circuits with other ET 200S motor starters, e.g. in a different tier
 - PM-D F5: Transmits the status from PM-D F1 ... 4 via four floating enabling circuits to external safety devices (contact multipliers)
- The PM-D F1 and PM-D F2 modules can be combined with the PM-D F3 or PM-D F4 modules
- A PM-D F5 can be positioned at any point between a PM-D F1 ... 4 and a PM-X¹⁾
- Safety modules monitor the U1 and U2 auxiliary voltages. A voltage failure is relayed as a diagnostic signal over the bus.
 - No additional PM-D safety module is required when the safety modules are used
 - Each safety circuit, beginning with a PM-D F1 ... 4, must be terminated with one PM-X each¹⁾

¹⁾ See "Accessories for Safety modules local", page 8/127.



PM-D F1 safety module

PM-D FX1 safety module

The PM-D FX1 safety module is used for feeding in 1 to 6 switch-off groups. The infeed voltage can be switched using 1 to 6 external safety shutdown devices (either ASIsafe monitors or 3TK28 safety relays). This safety module is used in applications with external safety shutdown devices where there is a need for the fully selective safety shutdown of Failsafe motor starters/frequency converters (see example 2, page 8/115).

Terminal modules for (TM-PF30) safety module

For feeding load and sensor voltage to the potential bars of the motor starters, and for connection of the 2-channel sensor circuit (e.g. EMERGENCY-STOP pushbutton) and a RESET button. Different terminal modules are available for the configuring of separate safety circuits or for the cascading of safety circuits, and for applications with time-delayed disconnection (see page 8/121).

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

Terminal module (TM-X)

For connection of an external infeed contactor (2nd shutdown possibility), with terminals for contactor coil and feedback contact, is always required to terminate a group of safety-related motor starters.

Failsafe Kit

The Failsafe Kit (F-Kit) must be added to each Standard motor starter in a safety segment in order to monitor the switching function.

F-Kit 1 supplements the DS1-x direct-on-line starter, F-Kit 2 the RS1-x reversing starter.

The F-Kits are comprised of:

- Contact supports for the terminal modules
- One or two auxiliary switch blocks for the contactor/contactors of the motor starter
- Connecting cables

High-Feature motor starters and their terminal modules come as standard with the functionality of the F-Kits integrated.

Components needed for applications with safety requirement

Components needed	Maximum achievable safety integrity according to ISO 13849-1 or IEC 62061				
	ISO 13849-1 IEC 62061	PL b/c SIL 1	PL c SIL 1	PL d ¹⁾ SIL 2	PL d / PL e ¹⁾ SIL 3
PM-D		✓	--	--	--
PM-D F1/-F2/-F4		--	✓	✓	✓
PM-D F3		--	✓	✓	--
Fail-safe kit 1/Fail-safe kit 2		--	✓ ²⁾	✓ ²⁾	✓ ²⁾
PM-X		--	✓	✓	✓
PM-D FX1		--	✓	✓	✓

✓ Required

-- Not required

¹⁾ An external infeed contactor is required in the main circuit (2-channel capability).

²⁾ F-Kit is only required for the Standard motor starter; it is already integrated in the High-Feature motor starter.

Possible combinations of safety and terminal modules

Terminal modules	PM-D F1	PM-D F2	PM-D F3	PM-D F4	PM-D F5	PM-X	PM-DFX1	FCM
TM-PF30 S47-B0	✓	✓	--	--	--	--	--	--
TM-PF30 S47-B1	✓	✓	--	--	--	--	--	--
TM-PF30 S47-C0	--	--	✓	✓	--	--	--	--
TM-PF30 S47-C1	--	--	✓	✓	--	--	--	--
TM-PF30 S47-D0	--	--	--	--	✓	--	--	--
TM-X15 S27-01	--	--	--	--	--	✓	--	--
TM-PFX30 S47-G0	--	--	--	--	--	--	✓	--
TM-PFX30 S47-G1	--	--	--	--	--	--	✓	--
TM-FCM30 S47	--	--	--	--	--	--	--	✓

✓ Available

-- Not available

Load Feeders and Motor Starters for Use in the Control Cabinet ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

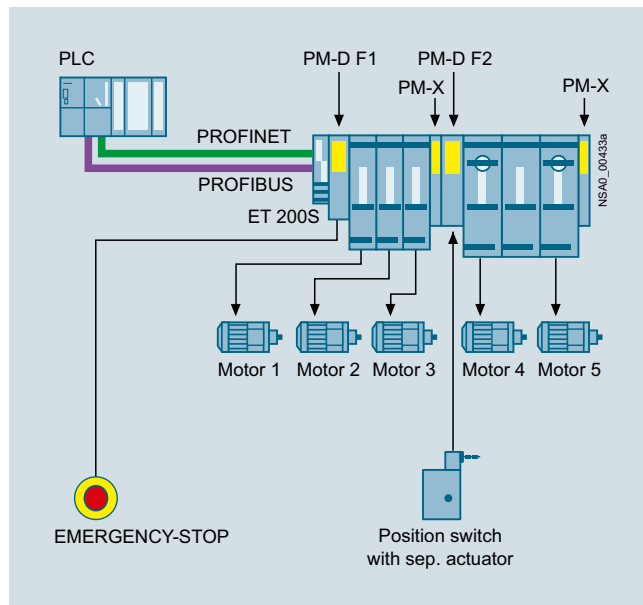
Examples

The diverse possible uses of the Safety Motor Starter Solutions local are presented in the manual SIMATIC ET 200S Motor Starters in the context of typical sample applications.

Safety functional examples for easy, quick and low-cost implementations of applications with Safety Motor Starter Solutions local are available on the Internet:

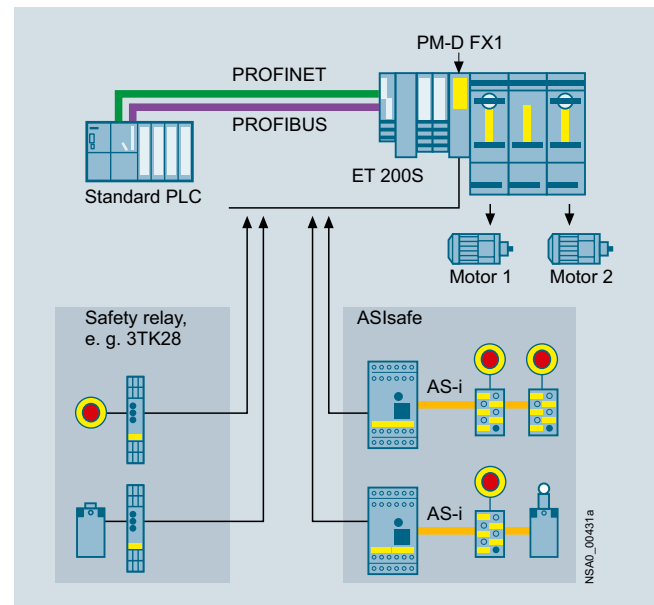
More information can be found on the Internet at:
www.siemens.com/ET200S-motorstarter

Example 1:



ET 200S Safety Motor Starter Solutions local with 2 safety circuits (= switch-off groups), Standard motor starters and High-Feature motor starters.

Example 2:



ET 200S Safety Motor Starter Solutions local with 2 external safety combinations (= safety relays or ASIsafe monitors) and with Failsafe motor starters (PM-DFX1 application). 2 of the 6 available safe switch-off groups are used.

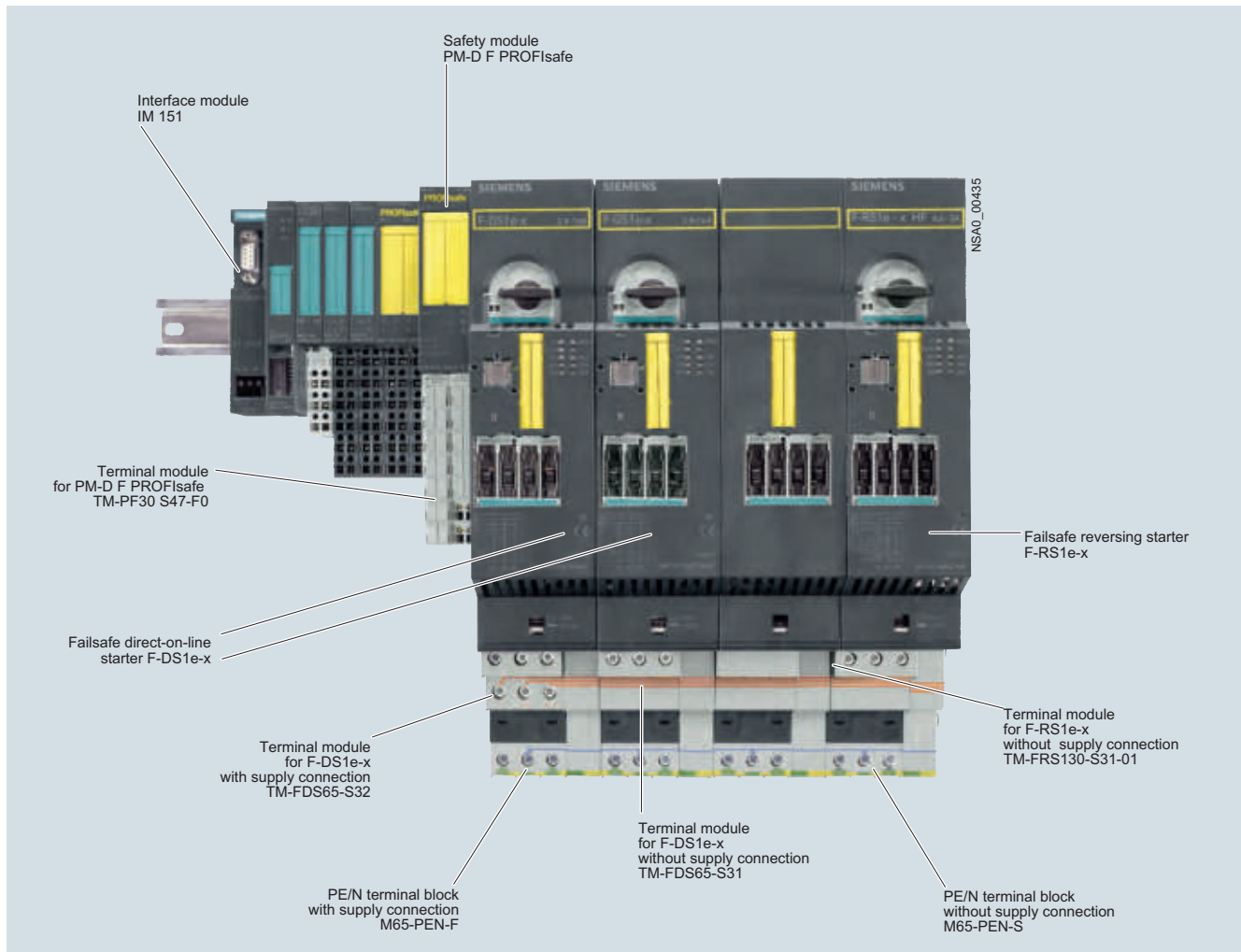
Signals with relevance for safety can be input to ET 200S through a PM-DFX1 infeed terminal module through the enabling circuits of the ASIsafe monitor or the safety relay to control the Failsafe motor starters which then selectively switch off the downstream motors.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

ET 200S Safety Motor Starter Solution PROFIsafe



Interaction of ET 200S Safety Motor Starter Solution PROFIsafe components

Components for Safety Motor Starter ET 200S Solution PROFIsafe

The ET 200S Safety Motor Starter Solutions PROFIsafe consist of (see example, page 8/117):

- PMD F PROFIsafe safety modules
- Failsafe motor starters
- Safe control system is used with the PROFINET or PROFIBUS bus systems with the PROFIsafe profile

Functionality of the ET 200S Safety Motor Starter Solution PROFIsafe

- For the use of Failsafe motor starters in plants with PL c to PL e according to ISO 13849-1 and SIL 2 and 3 according to IEC 62061. The use of Standard or High-Feature motor starters is also possible with certain assemblies.
- High flexibility (any assignment of sensors to motor starters using the PLC)
- Full selectivity of disconnection of the Failsafe motor starters
- No complex wiring for conventional safety systems, e.g. no infeed contactors even in the highest safety category
- Can also be used to activate external safety systems through F-CM contact multiplier
- Safety module available for any safety function
- Safety module available for Stop category 0 and 1

- Safety module for monitoring the auxiliary voltages for motor starters
- Safety modules can be plugged into the TM-PF30 terminal modules

Sensor and actuator assignment are freely configurable within the framework of the distributed safety concept:

The logic of the safety functions is implemented by software. Safety-related PROFIsafe communication and the use of a safety-related control system are required. Integration of the safety technology in the standard automation is realized through a single bus system (see Advantages of PROFIsafe), using PROFIBUS as well as PROFINET.

High degree of flexibility with safety technology

Failsafe motor starters for PROFIsafe:

In EMERGENCY-STOP applications, the Failsafe motor starters are selectively switched off through the upstream PM-D F PROFIsafe safety module. For each safety module, six switch-off groups can be formed. In the first delivery stage, the fail-safe freely-programmable logic of the SIMATIC controller is used to interface with the relevant fail-safe sensor technology.

F-CM contact multipliers

The interface between PROFIsafe and installations that use conventional safety technology is implemented through the F-CM Failsafe contact multiplier with four floating contacts.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

PM-D F PROFIsafe safety modules

The PM-D F PROFIsafe safety module receives the shutdown signal from the interface module of the ET 200S and safely switches off 1 to 6 switch-off groups. This safety module is used in PROFIsafe applications where there is a need for the selective safety shutdown of Failsafe motor starters/frequency converters.

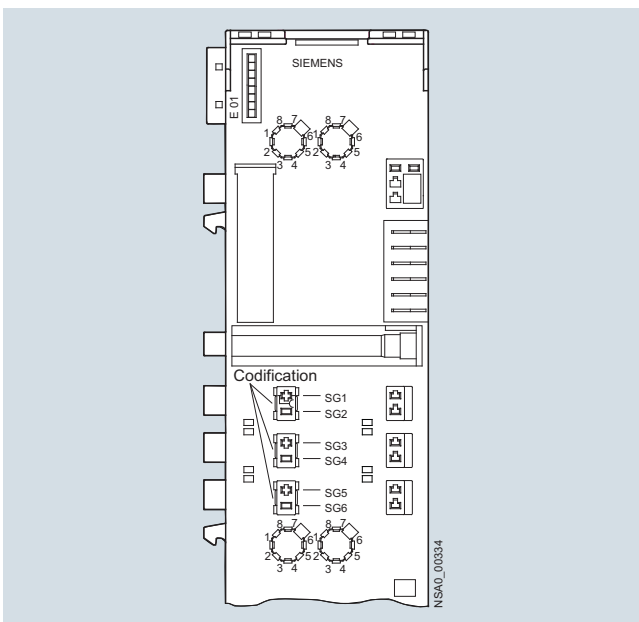


PM-D F PROFIsafe with TM-PF30 S47-F0 terminal module

Terminal modules

The terminal assignment of the terminal modules for safe motor starters corresponds to the terminal assignment of the 45 mm and 65 mm terminal modules. The terminal modules for safe motor starters have a coding module in addition. This enables the safe motor starter to be assigned to one of the six switch-off groups.

The terminal module contains three coding elements which fully cover the three coding openings in the terminal module. The labeled coding element contains (in the chamber marked with the dash) the busbar tap; the non-labeled coding elements are used only to cover the coding openings. Switch-off group 1 (AG1 or SG1) is coded in the as-delivered state. The coding can be changed to switch-off group 2 by releasing the coding element and turning it through 180°. Changing the coding to switch-off group 3 is possible by exchanging the labeled and blank coding elements. In this case, the dash on the labeled coding element must correlate with the dash of the required switch-off group (symbolized busbar).



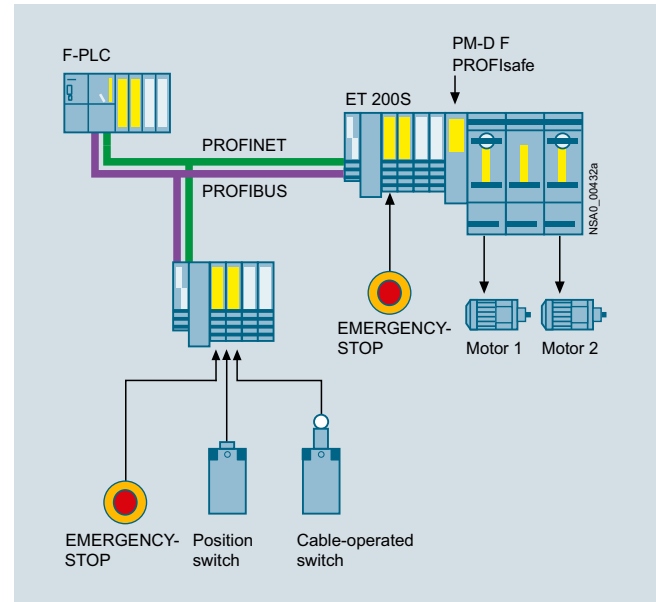
The Failsafe motor starters are assigned to one of the six possible switch-off groups.

Example:

The diverse possible uses of the Safety Motor Starter Solutions PROFIsafe are presented in the manual SIMATIC ET 200S Motor Starters in the context of typical sample applications.

Safety functional examples for easy, quick and low-cost implementations of applications with Safety Motor Starter Solution PROFIsafe are available on the Internet:

More information can be found on the Internet at:
www.siemens.com/ET200S



ET 200S Safety Motor Starter Solution PROFIsafe with Failsafe motor starters and fully selective disconnection (PM-DF PROFIsafe application)

Within an ET 200S station the Failsafe motor starters are assigned to one of 6 safety segments. For plants with distributed configuration the shutdown signals of these safety segments are preferably issued by a higher-level, safety-related control system through PROFIsafe. This permits the greatest flexibility for assigning the motor starters to different safety circuits.

Alternatively, an ET 200S F-CPU can also be used for control purposes.

If a safety-related SIMATIC CPU is used, the ET 200S is available as a safety-related I/O. Nevertheless, in such a station it is possible to configure conventional motor starters and input/output modules mixed with modules with safety functions.

Thanks to the PROFIsafe profile, the safety functions are available in the complete network, which means that the Safety Motor Starter Solutions PROFIsafe enable the selective disconnection of a Failsafe motor starters or the disconnection of a group of Standard and High-Feature motor starters regardless of where and on which peripheral station the safe control devices were connected. As such, this solution provides an unprecedented level of flexibility and reduction of wiring for applications in wide-spread plants or with a sporadic demand for changes in the assignment of safety segments.

The Safety Motor Starter Solutions PROFIsafe are ideally suited for safety concepts with Cat. 2 to 4 according to ISO 13849-1 and up to SIL 3 according to IEC 62061.

Each safety module switches up to 6 switch-off groups for Failsafe motor starters/frequency converters.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

Technical specifications

Safety modules PM-D F1, F2, F3, F4 and F5		
Mechanical endurance	Operating cycles	10 x 10 ⁶
Electrical endurance	Operating cycles	200 000 at I_e
Utilization category		DC-13
Control times		
• Minimum command duration	ms	200
• Recovery time	s	< 1
• OFF-delay	ms	30
Control circuit U_1		
• Rated control supply voltage U_s	V DC	24
• Operating range DC up to 60 °C		0.85 ... 1.2 x U_s
• Power consumption	W	2.4
• Recommended short-circuit protection		gG 2 A
• Output OUT+/OUT- for control of expansion modules		24 V DC/< 50 mA (PTC fuse)
Switched auxiliary circuit U_2		
• Rated control supply voltage U_s	V DC	24
• Operating range DC up to 60 °C		0.85 ... 1.2 x U_s
• Rated operational current I_e (13 ... 24 V DC)	A	4
• Uninterrupted thermal current I_{th}	A	5
Recommended short-circuit protection for enabling and signaling circuits		Fuse links: LV HRC type 3NA, DIAZED type 5SB, NEOZED type 5SE Operating class gG 6 A
Supply of		
• Motor starters		Yes
• Electronic modules		No
• Ex(i) modules		No
• BG certification		Yes
• UL, CSA certification		Yes
Cable length for EMERGENCY-STOP and ON buttons	m	Max. 1 000
Mounting dimensions (W x H x D)	mm	30 x 196.5 x 117.5 (incl. terminal module)
Enabling circuits with PM-D F5		4 (floating)

PM-D FX1 safety module (infeed terminal module)		
Dimensions		
Mounting dimensions (W x H x D)	mm	30 x 196.5 x 117.5 (incl. terminal module)
Module-specific specifications		
Ambient temperature	°C	0 ... +60
Degree of protection		IP20
Maximum achievable safety classes		
• IEC 62061		SIL 3
• DIN V 19250		Tripping class 5 and 6
• ISO 13849-1		PL e
Safety characteristics		
Proof-test interval		10 years
Voltages, currents, potentials		
Rated control supply voltage U_s	V DC	21.6 ... 26.4 to 60 °C
Rated operational current I_e	A	6
Recommended upstream short-circuit protection	A	Internal fuse protection 7 A (quick-response) Melting fuse gG 6.3
Supply of		
• Failsafe motor starters		Yes
• Failsafe frequency converters		Yes
• Electronic modules		No
• Ex[i] modules		No
Power consumption		
• From the backplane bus	mA	≤ 10
• From U_1	mA	≤ 35
• From SGx	mA	≤ 15
Status, alarms, diagnostics		
Alarms		None
Diagnostics functions		
• Group fault/device fault		Red "SF" LED
• Monitoring of the electronics power supply U 1 (PWR)		Green LED PWR
• Monitoring of six switch-off groups		Green LED SG1 ... SG6
• Diagnostics information can be read out		Yes
Standards, approvals		
• TÜV		Yes
• UL, CSA certification		Yes

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

F-CM contact multipliers		
Dimensions		
Dimensions (W x H x D)	mm	30 x 196.5 x 117.5 (incl. terminal module)
Module-specific specifications		
Number of relay outputs		4 (4 x 1-channel or 2 x 2-channel safe coupling / contact multiplication)
Internal power supply for busbar		U1 (from PM-D F / PM-D FX1)
Maximum achievable safety class		SIL 3
• According to IEC 62061		AK 6
• According to DIN VDE 0801		Cat. 4
• According to ISO 13849-1		
Voltages, currents, potentials		
Switching capacity of relay outputs		Utilization category DC-13 (I_E/U_E): 1.5 A/24 V
Electrical separation		Yes
• Between outputs and backplane bus		Yes
• Between outputs and power supply		Yes
• Between outputs		Yes
• Between outputs/power supply and shield		Yes
Status, alarms, diagnostics		
Status display		PWR and STAT
Alarms: Diagnostic interrupt		None
Diagnostics functions		Yes
• Group fault display		Red LED (SF)
• Diagnostics information can be read out		Available
• Monitoring of the electronics power supply U_1 (PWR)		Green LED PWR
• Monitoring of the switching status of the enabling circuit		Red/green LED STAT

PM-D F PROFIsafe safety modules		
Dimensions		
Dimensions (W x H x D)	mm	30 x 196.5 x 117.5 (incl. terminal module)
Module-specific specifications		
Number of outputs, switching to P potential		6 switch-off groups (safety group 1 ... 6)
Internal power supply for busbar		U1
Assigned address range		
• in the PII	Byte	5
• in the PIQ	Byte	5
Maximum achievable safety class		SIL 3
• According to IEC 62061		AK 6
• According to DIN VDE 0801		Cat. 4
• According to ISO 13849-1		
Voltages, currents, potentials		
Supply voltage	V	24 DC
Electrical separation		Yes
• Between outputs and backplane bus		No
• Between outputs and power supply		No
• Between outputs		No
• Between outputs/power supply and shield		Yes
Status, alarms, diagnostics		
Status display		Green LED per SG Green LED for electronics supply Green LED for load voltage
Alarms: Diagnostic interrupt		"ON"
Diagnostics functions		Red LED (SF)
• Group fault display		Available
• Diagnostics information can be read out		
Settings		
Module address		Diverse: 1. Using a safety-related parameter in the parameterization message frame via the backplane bus 2. Using the 10-pole DIL switch (binary-coded) on the leftside of the module The received address is then compared with the DIL switch setting.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe

Selection and ordering data

Version		DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Safety modules local							
 3RK1903-3DA00	PM-D F1	A	3RK1903-1BA00		1	1 unit	42D
	With diagnostics Safety module for EMERGENCY-STOP application Monitored start						
	PM-D F2	A	3RK1903-1BB00		1	1 unit	42D
	With diagnostics Safety module for protective door monitoring Automatic start						
	PM-D F3	B	3RK1903-1BD00		1	1 unit	42D
	With diagnostics Safety module for expanding PM-D F1/2 for another voltage group Time-delayed 0 to 15 s						
	PM-D F4	B	3RK1903-1BC00		1	1 unit	42D
	With diagnostics Safety module for expanding PM-D F1/2 for another voltage group						
	PM-D F5	B	3RK1903-1BE00		1	1 unit	42D
	With diagnostics Safety module for expanding PM-D F1...4 with four floating enabling circuits Contact multipliers						
	PM-D FX1	A	3RK1903-3DA00		1	1 unit	42D
	With diagnostics Infeed terminal module for supply of 1 to 6 switch-off groups						
	FC-M contact multipliers	A	3RK1903-3CA00		1	1 unit	42D
	With 4 safe floating contacts						
Safety modules PROFIsafe							
	PM-D F PROFIsafe safety modules	A	3RK1903-3BA02		1	1 unit	42D
	For PROFIBUS and PROFINET For Failsafe motor starters For Failsafe contact multipliers With six switch-off groups (SG1 to SG6)						
	F-CM contact multipliers	A	3RK1903-3CA00		1	1 unit	42D
	With 4 safe floating contacts						

Load Feeders and Motor Starters for Use in the Control Cabinet ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe terminal modules

Overview

Terminal modules for PM-D F1/F2/F3/F4/F5 safety modules

For supplying load and sensor voltage to the self-assembling potential bars of the Standard motor starters, High-Feature motor starters and frequency converters. Safety modules for voltage monitoring are plugged onto TM-P modules. TM-P modules can be used any number of times within the ET 200S. A safety module must always be plugged upstream from the first motor starter.

Different safety circuits can be functionally separated or else cascaded using different terminal modules. Each group in such a case must be terminated with a PM-X safety module (connection module).

TM-PF30 S47-B1

The terminal module is always positioned at the beginning of a safety segment and accommodates the PM-DF1 safety module for EMERGENCY-STOP applications or the PM-DF2 safety module for protective door monitoring. The 24 V control supply voltages for the electronics (U1) and those for supplying the contactors (U2) of the motor starters must be connected along with the 2-channel connection of the safety sensors (e.g. EMERGENCY-STOP pushbuttons) to this terminal module. Connections for the ON button (enabling) and safe output of the safety module are available in addition.

TM-PF30 S47-B0

The terminal module is used to cascade lower level safety segments and accommodates the PM-DF1 safety module for EMERGENCY-STOP applications or the PM-DF2 safety module for protective door monitoring. No other auxiliary voltage has to be connected to this terminal module. The supply comes from the preceding PM-DF1 or PM-DF2 module over the potential bars of the terminal modules. Once the potential of the preceding safety module is disconnected, this sub-potential also has no voltage.

TM-PF30 S47-C1

The terminal module is always positioned at the beginning of a safety segment expansion in a new station, e.g. at an interlace point. It accommodates the PM-D F3 safety module for time-delayed shutdown or the PM-D F4 safety module for direct shutdown in separately located ET 200S stations. The 24 V control supply voltages for the electronics (U1) and those for supplying the contactors (U2) are fed in anew. The shutdown command from an upstream ET 200S station is received through a safe input. Separate terminals are available to connect the feedback circuit to the upstream ET 200S station. No safety sensors can be connected to this terminal module.

TM-PF30 S47-C0

The terminal module is used to cascade lower level safety segments and accommodates the PM-D F3 safety module for time-delayed shutdown or the PM-D F4 safety module. Only the U2 control supply voltage for the contactors must be connected to this terminal module. The U1 supply comes from the preceding safety module (sub-potential group) over the potential bars of the terminal modules. No safety sensors can be connected to this terminal module.

TM-PF30 S47-D0

The terminal module is used to accommodate the PM-D F5 safety module. On this terminal module, safe signals can be relayed to external systems through four groups, each with two safety relay contacts configured with redundancy. The terminal module must always be positioned between one of the above mentioned terminal modules and a terminal module for the TM-X connection module. No safety sensors can be connected to this terminal module.

Terminal module for PM-X safety module (TM-X)

TM-X15 S27-01

For connection of an external infeed contactor (second shutdown option) for SIL 2 and SIL 3 or PL d and PL e. The PM-X safety module (connection module) is plugged on the right next to the last motor starter of a safety segment. On the TM-X terminal module there are the terminals for connecting the positively driven NC contact of the contactors as well as the terminals for connecting the contactor coil. If no contactor with redundant switching is required, e.g. for PL c (ISO 13849-1), the feedback circuit has to be closed at these terminals with a jumper. In applications with external safety relays it is also used instead of the safety module as interface to the external safety relay.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Safety modules local and PROFIsafe terminal modules

Technical specifications

TM-PFX30 S47/TM-PF30 S47 terminal modules			
Dimensions			
• Mounting dimensions (W x H x D)	mm	30 x 196.5 x 102	
• Depth with power module	mm	117.5	
Insulation voltages and rated currents			
• Insulation voltage	V	500	
• Rated operational voltage	V DC	24	
• Rated operational current	A	10	
Conductor cross-sections			
• Solid	mm ²	1 x (0.14 ... 2.5), according to IEC 60947 1 x 2.5	
• Finely stranded with end sleeve	mm ²	1 x (0.14 ... 1.5), according to IEC 60947	
• AWG cables, solid or stranded	AWG	1 x (18 ... 22)	
Wiring			
• Required tool		Standard screwdriver size 1	
• Tightening torque	Nm	0.4 ... 0.7	

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal modules for Safety modules local						
 3RK1903-1AA00		TM-PF30 S47-B1 terminal modules For PM-D F1/2 safety modules With infeed U1/U2 and sensor connection	A	3RK1903-1AA00	1	1 unit 42D
		TM-PF30 S47-B0 terminal modules For PM-D F1/2 safety modules With sensor connection	A	3RK1903-1AA10	1	1 unit 42D
		TM-PF30 S47-C1 terminal modules For PM-D F3/4 safety modules With infeed U1/U2 and control input IN+/IN-	A	3RK1903-1AC00	1	1 unit 42D
		TM-PF30 S47-C0 terminal modules For PM-D F3/4 safety modules With infeed U2	A	3RK1903-1AC10	1	1 unit 42D
		TM-PF30 S47-D0 terminal module For PM-D F5 safety modules	A	3RK1903-1AD10	1	1 unit 42D
		TM-X15 S27-01 terminal module For PM-X safety module	A	3RK1903-1AB00	1	1 unit 42D
		TM-P15-S27-01 terminal modules For PM-D power module	A	3RK1903-0AA00	1	1 unit 42D
		TM-PFX30 S47-G0/G1 terminal modules For PM-D FX1 safety modules (infeed terminal modules)				
		• Infeed left (TM-PFX30 S47-G0)	A	3RK1903-3AE10	1	1 unit 42D
		• Infeed center (TM-PFX30 S47-G1)	A	3RK1903-3AE00	1	1 unit 42D
		TM-FCM30 S47-F01 terminal module For F-CM contact multipliers	A	3RK1903-3AB10	1	1 unit 42D
Terminal modules for Safety modules PROFIsafe						
		TM-PF30 S47-F0 terminal modules For PM-D F PROFIsafe safety modules	A	3RK1903-3AA00	1	1 unit 42D
		TM-FCM30 S47-F01 terminal module For F-CM contact multipliers	A	3RK1903-3AB10	1	1 unit 42D

Overview

Accessories for Standard motor starters

Control kit

The control kit for the Standard motor starter provides the possibility of testing the motor during start up or service by actuating the motor starter protector. Using the control kit with the motor starter protector tripped, the contactor is mechanically locked in ON position.

Control unit

With the control unit the contactor coils of the Standard motor starter can be directly controlled using 24 V DC. The motor starter can thus be started as normal using a local control station without PLC or bus.

Note:

The control unit cannot be used in combination with the safety system or a brake control module.

DM-V15 distance module

- Passive module without bus connection and terminals
- Does not need a separate terminal module
- Follows a TM-DS45 or TM-RS90 or TM-xB if required
- Does not need to be taken into account when configuring the GSD file

The distance module is available for applications with high motor currents or high ambient temperatures involving Standard motor starters. It can be used to the right and left of a DS1-x direct-on-line starter or to the right of an xB1...4 brake module in order to improve heat dissipation to the side. The distance module is a completely passive module and does not need to be taken into account with regard to the control system during configuration. Details of the distance module can be found in the manual "SIMATIC ET 200S". If you have any queries concerning the use of the distance module, contact Technical Support for Siemens Industrial Controls (Fax: +49 911/895-5907).

Accessories for High-Feature motor starters

2DI LC COM control module

The 2DI LC COM control module is plugged into the interface on the front of the motor starter. The module provides two inputs which can receive signals from the process and be assigned directly to the starter.

The functionality can be selected from a list of various control functions as part of the PROFIBUS parameterization. Local control point, emergency start and quick stop, for example, are available as functions. The signal levels can also be parameterized (NO/NC). For more extensive control functions the two inputs of an xB3 or xB4 brake control module, which is plugged in alongside on the right, can be integrated in addition. The signal states of all inputs are transmitted in parallel with the internal use to the higher-level control system.

When a motor starter is replaced, the parameterization is automatically transmitted by download to the new starter. The inputs on the motor starter ensure autonomous operation, e.g. in the event of PLC failure, on the one hand and short response times through direct processing in the starter on the other hand. Another advantage results from the direct assignment of functions to modular machine concepts.

The 2DI LC COM control module has in addition a PC interface for connecting the Switch ES Motorstarter parameterization and diagnostics software (Version 2.0 and higher). The module works solely on High-Feature motor starters with Motor Starter ES interface. The Logo! PC cable is used as connecting cable between the 2DI LC COM control module and the High-Feature motor starter.

Accessories for Standard and High-Feature motor starters

PE/N bridge modules

PE/N bridge modules are used to bridge gaps of the PE/N bus which are caused, for example, by using Brake Control Modules, PM-D(F) power modules or PM-X connection modules. If a bridge module is used, the supply must not be fed in anew. They are available in 15 mm and in 30 mm widths.

L123 bridge modules

The L123 bridge modules are used to bridge gaps of the power bus (see above). They are available in 15 mm and in 30 mm widths.

Brake control module

For motors with mechanical brake (see "General Data" → "Overview", page 8/95)

Terminal modules for brake control modules

The TM-xB terminal modules are used to accommodate the xB1, xB2, xB3 and xB4 brake control modules. The TM-xB terminal module must always follow directly after a terminal module for Standard motor starters, High-Feature motor starters or frequency converters as control of the solid-state braking switch is provided through an output of the motor starter/frequency converter. The xB215 terminal modules for the brake control modules have not only the terminals for connecting the cable for the motor brake but also the terminals of the two local acting inputs. These local inputs are not evaluated by a frequency converter, which is why the xB215 terminal module can only be switched downstream of a motor starter.

Accessories for Standard, High-Feature and Failsafe motor starters

PE/N terminal blocks

The PE/N terminal block is required for direct connection of the protective conductor in the motor cable without intermediate terminals. It is plugged together with the terminal module for motor starters or frequency converters before the latter is mounted on the standard mounting rail. With two PE terminals and one N terminal the "-F" version is connected to the "-S32" terminal modules for motor starters or frequency converters. The "-S" version is combined with the "-S31" terminal module. The "F" terminal blocks are delivered with two caps for closing the PE/N bus contacts on the final terminal block of a segment. The modules for the Standard motor starters have a width of 45 mm and the modules for the High-Feature motor starters and frequency converters have a width of 65 mm.

There is no electrical connection between the terminals of the PE/N terminal block and the integrated shielding of the frequency converter. The PE/N terminal block must therefore not be used for the shielding of the motor cable.

Accessories for Safety modules local

The Fail-safe Kit (F-Kit) is required for Standard motor starters in a safety segment (see page 8/114).

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Accessories

Technical specifications

Brake control modules xB1, xB2, xB3, xB4, xB5, xB6

		xB1	xB3	xB2	xB4	xB5	xB6
Dimensions (W x H x D)	mm	15 x 196.5 x 125.5 including terminal module on 7.5 mm standard mounting rail					
Rated operational voltage	V	24 DC			500 DC (at least 100)		400 AC
Power supply		Externally through terminal module			From brake rectifier through terminal module		Externally through terminal module
Rated operational current	A	4			0.7		0.5
Reverse polarity protection		No, in the event of polarity reversal the brake is released and the overload/short-circuit protection is ineffective					Not relevant
Overload/short-circuit protection		Electronic					1 A melting fuse
Conductor cross-section of terminal module for brake control module	mm ²	1 x 2.5 without end sleeve 1 x 1.5 with end sleeve					
Number of outputs		0	1 (used internally)	0	1 (used internally)	0	1 (used internally)
Number of inputs		0	2	0	2	0	2
Address area required per module							
• With summary		0	2 bits	0	2 bits	0	2 bits
• Without summary		0	1 byte	0	1 byte	0	1 byte
Diagnostics functions							
• Group fault "SF"		Red LED					
• Switching status for brake "STAT"		Yellow LED					
• Inputs 1 and 5		--	Green LED	--	Green LED	--	Green LED
Parameters (default value underlined)							
• Brake overload diagnostics		--	Disable/ Enable	--	Disable/ Enable	--	
• Input delay	ms	--	0 / 0.1 / 0.5 / <u>3</u> / 15	--	0 / 0.1 / 0.5 / <u>3</u> / 15	--	0 / 0.1 / 0.5 / <u>3</u> / 15

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
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Accessories for Standard motor starters



3RK1903-0CA00

Control kits
for manually operating the contactor contacts during start up and servicing
(one set contains five control kits)

A

3RK1903-0CA00

1

1 unit

42D



3RK1903-0CG00

Control Units
for direct contactor control
(manual control)
24 V DC

A

3RK1903-0CG00

1

1 unit

42D



3RK1903-0CD00

DM-V15 distance modules
for DS1-x direct-on-line starters
with high temperatures or high current loading
15 mm wide

A

3RK1903-0CD00

1

1 unit

42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Accessories

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for Standard motor starters (continued)						
 3RK1903-2AA00		PE/N M45-PEN-F terminal blocks 45 mm wide including two caps in combination with TM-DS45-S32/TM-RS90-S32	A	3RK1903-2AA00	1	1 unit 42D
 3RK1903-2AA10		PE/N M45-PEN-S terminal blocks 45 mm wide in combination with TM-DS45-S31/TM-RS90-S31	A	3RK1903-2AA10	1	1 unit 42D
Accessories for High-Feature motor starters						
 3RK1903-0CH20		2DI LC COM control modules Digital input module with 2 inputs (cable length up to 100 m) for local motor starter functions for mounting onto the front of motor starters, operational voltage 24 V DC (supplied from U_1), short-circuit proof, floating contact with serial interface for connecting Motor Starter ES, connected using LOGO! PC cable	A	3RK1903-0CH20	1	1 unit 42D
 3RK1922-3BA00		Hand-held devices For ET 200S High-Feature motor starters (or for ET 200pro and M200D motor starters) for local operation. The motor starter-specific serial interface cables must be ordered separately. The LOGO! PC cable is used for the MS ET 200S HF.	B	3RK1922-3BA00	1	1 unit 42D
 6ED1057-1AA00-0BA0		LOGO! USB PC cables For connecting the ET 200S High-Feature motor starters to the RS 232 interface of a PG/PC/laptop (with the Motor Starter ES software) or the hand-held device 3RK1922-3BA00.	A	6ED1057-1AA01-0BA0	1	1 unit 200
 3RK1903-2AC10		M65-PEN-F terminal blocks 65 mm wide, including two caps, in combination with TM-DS65-S32/TM-RS130-S32	A	3RK1903-2AC00	1	1 unit 42D
		M65-PEN-S terminal blocks 65 mm wide, in combination with TM-DS65-S31/TM-RS130-S31	A	3RK1903-2AC10	1	1 unit 42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Accessories

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for Standard/High-Feature motor starters						
 3RK1903-0AH00  3RK1903-0AJ00  3RK1903-0AE00  3RK1903-0AF00  3RK1903-0AF20  3RK1903-0CB00	M15-PE/N bridge modules 15 mm wide for bridging a 15 mm module	A	3RK1903-0AH00	1	1 unit	42D
	M30-PE/N bridge modules 30 mm wide for bridging a 30 mm module	A	3RK1903-0AJ00	1	1 unit	42D
	M15-L123 bridge modules 15 mm wide for bridging a 15 mm module	A	3RK1903-0AE00	1	1 unit	42D
	M30-L123 bridge modules 30 mm wide for bridging a 30 mm module	A	3RK1903-0AF00	1	1 unit	42D
	Sealing caps for L123 and PE/N bridge modules (bag containing 20 units)	A	3RK1903-0AF20	1	1 unit	42D
	Brake control modules for motors with mechanical brake					
	• xB1 for motor starters 24 V DC/4 A	A	3RK1903-0CB00	1	1 unit	42D
	• xB2 for motor starters 500 V DC/0.7 A	A	3RK1903-0CC00	1	1 unit	42D
	• xB3 for motor starters 24 V DC/4 A/2 DI 24 V DC local control with diagnostics, with two inputs	A	3RK1903-0CE00	1	1 unit	42D
	• xB4 for motor starters 500 V DC/0.7 A/2 DI 24 V DC local control with diagnostics, with two inputs	A	3RK1903-0CF00	1	1 unit	42D
	• xB5 for motor starters 400 V AC without digital input	A	3RK1903-0CJ00	1	1 unit	42D
	• xB6 for motor starters 400 V AC with two digital inputs	B	3RK1903-0CK00	1	1 unit	42D
	Terminal modules for brake control modules					
	• TM-xB15 S24-01 for xB1, xB2 or xB5	A	3RK1903-0AG00	1	1 unit	42D
	• TM-xB215 S24-01 for xB3, xB4 or xB6	A	3RK1903-0AG01	1	1 unit	42D

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

Accessories

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for Failsafe motor starters						
M65-PEN-F terminal blocks With incoming connection, with caps	A	3RK1903-2AC00		1	1 unit	42D
M65-PEN-S terminal blocks without incoming connection	A	3RK1903-2AC10		1	1 unit	42D
Accessories for Safety modules local						
 PM-X safety modules (connection modules) With diagnostics, for plugging onto TM-X15 S27-01 Module for connecting a safety group and for connecting an external infeed contactor or for connecting to an external safety circuit	A	3RK1903-1CB00		1	1 unit	42D
 F-Kit 1 Failsafe equipment for DS1-x Standard motor starters ¹⁾	A	3RK1903-1CA00		1	1 unit	42D
 F-Kit 2 Failsafe equipment for RS1-x Standard motor starters ¹⁾	A	3RK1903-1CA01		1	1 unit	42D
Manual "SIMATIC ET 200S Motor Starters, Fail-Safe Motor Starters, Safety-Integrated Systems"						
		The manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/6008567				

¹⁾ The function of the Fail-safe Kit is already integrated into High-Feature motor starters.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – interface modules with CPU

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-7 CPU interface modules						
For communication between ET 200S and higher-level masters over PROFIBUS DP						
IM 151-7 CPU FO (48 K) interface modules Including termination module	A	6ES7151-7AB00-0AB0		1	1 unit	250
IM 151-7 CPU (128 K) V3.3 interface modules Including termination module	A	6ES7151-7AA21-0AB0		1	1 unit	250
Accessories						
MMC 64 Kbyte ¹⁾ For program backups	A	6ES7953-8LF30-0AA0		1	1 unit	230
MMC 128 Kbyte ¹⁾ For program backups	A	6ES7953-8LG30-0AA0		1	1 unit	230
MMC 512 Kbyte ¹⁾ For program backups	A	6ES7953-8LJ30-0AA0		1	1 unit	230
MMC 2 Mbyte ¹⁾ For program backups and/or the firmware update	A	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 Mbyte ¹⁾ For program backups	A	6ES7953-8LM31-0AA0		1	1 unit	230
MMC 8 Mbyte ¹⁾ For program backups	A	6ES7953-8LP31-0AA0		1	1 unit	230
External prommers For e.g. MMC with USB interface	A	6ES7792-0AA00-0XA0		1	1 unit	260
PG With integrated MMC interface		On req.				
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Manuals for ET 200S distributed I/O system Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
Termination modules As spare part for ET 200S	A	6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs Spare parts, for connection to supply voltage 24 V DC • With push-in terminals	A	6ES7193-4JB00-0AA0		1	10 units	250
SIMATIC S5, 35 mm standard mounting rails • 483 mm long for 19" cabinets • 530 mm long for 600 mm cabinets • 830 mm long for 900 mm cabinets • Length 2 m	C A A A	6ES5710-8MA11 6ES5710-8MA21 6ES5710-8MA31 6ES5710-8MA41		1 1 1 1	1 unit 1 unit 1 unit 1 unit	250 250 250 250
PROFIBUS DP interface RS 485 bus connectors With 90° cable feeder, max. transmission rate 12 Mbit/s • Without PG interface • With PG interface With 90° cable feeder for FastConnect connections, max. transmission rate 12 Mbit/s Without PG interface • 1 unit • 100 units With PG interface • 1 unit • 100 units	A A A A A A	6ES7972-0BA12-0XA0 6ES7972-0BB12-0XA0 6ES7972-0BA52-0XA0 6ES7972-0BA52-0XB0 6ES7972-0BB52-0XA0 6ES7972-0BB52-0XB0		1 1 1 1 1 1	1 unit 1 unit 1 unit 100 units 1 unit 100 units	250 250 250 250 250 250
PROFIBUS FastConnect bus cables Standard type with special design for fast installation, 2-core, shielded, sold by the meter; delivery unit max. 1000 m; minimum order quantity 20 m	A	6XV1830-0EH10		1	1 M	5K1
PROFIBUS bus components For setting up MPI/PROFIBUS communication		See catalogs IK PI, CA 01				
SIPLUS IM 151-7 CPU interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-7 CPU (96 K) interface modules (-25 ... +60 °C)	D	6AG1151-7AA21-2AB0		1	1 unit	473
SIPLUS ET 200S termination module	D	6AG1193-4JA00-2AA0		1	1 unit	473
Accessories		See IM 151-7 CPU interface modules				

¹⁾ For operation of the CPU, an MMC is essential.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – interface modules with CPU

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-8 PN/DP CPU interface modules						
IM 151-8 PN/DP CPU interface modules (192 K) Including termination module	A	6ES7151-8AB01-0AB0		1	1 unit	250
Accessories						
MMC 64 Kbyte¹⁾ For program backups	A	6ES7953-8LF30-0AA0		1	1 unit	230
MMC 128 Kbyte¹⁾ For program backups	A	6ES7953-8LG30-0AA0		1	1 unit	230
MMC 512 Kbyte¹⁾ For program backups	A	6ES7953-8LJ30-0AA0		1	1 unit	230
MMC 2 Mbyte¹⁾ For program backups and/or the firmware update	A	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 Mbyte¹⁾ For program backups	A	6ES7953-8LM31-0AA0		1	1 unit	230
MMC 8 Mbyte¹⁾ For program backups	A	6ES7953-8LP31-0AA0		1	1 unit	230
External prommers For e.g. MMC with USB interface	A	6ES7792-0AA00-0XA0		1	1 unit	260
PG With integrated MMC interface		On req.				
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Manuals for ET 200S distributed I/O system Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
Termination modules As spare part for ET 200S	A	6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs Spare parts, for connection to supply voltage 24 V DC • With push-in terminals	A	6ES7193-4JB00-0AA0		1	10 units	250
SIMATIC S5, 35 mm standard mounting rails • 483 mm long for 19" cabinets • 530 mm long for 600 mm cabinets • 830 mm long for 900 mm cabinets • Length 2 m	C A A A	6ES5710-8MA11 6ES5710-8MA21 6ES5710-8MA31 6ES5710-8MA41		1 1 1 1	1 unit 1 unit 1 unit 1 unit	250 250 250 250
Industrial Ethernet FC RJ45 Plug 90 RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder • 1 unit • 10 units • 50 units	A A A	6GK1901-1BB20-2AA0 6GK1901-1BB20-2AB0 6GK1901-1BB20-2AE0		1 1 1	1 unit 10 units 50 units	5K1 5K1 5K1
Industrial Ethernet FastConnect installation cables • FastConnect standard cables • FastConnect trailing cables • FastConnect marine cables	A A A	6XV1840-2AH10 6XV1840-3AH10 6XV1840-4AH10		1 1 1	1 M 1 M 1 M	5K1 5K1 5K1
Industrial Ethernet FastConnect stripping tool	A	6GK1901-1GA00		1	1 unit	5K2
SIPLUS IM 151-8 PN/DP CPU interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-8 PN/DP CPU interface modules Including termination module • For areas with unusual medial loading (conformal coating); ambient temperature -40 ... +70 °C	D	6AG1151-8AB01-7AB0		1	1 unit	473
Accessories						
See IM 151-8 PN/DP CPU interface modules						

¹⁾ For operation of the CPU, an MMC is essential.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – interface modules with CPU

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Master interface modules for IM 151-7(8) CPU/ IM 151-7 F-CPU interface modules						
Master interface modules for IM 151-7 CPU / IM 151-7 F-CPU / IM 151-8 PN/DP CPU / IM 151-8 F PN/DP CPU interface modules	A	6ES7138-4HA00-0AB0		1	1 unit	250
Accessories						
PROFIBUS DP interface RS 485 bus connectors						
With 90° cable feeder, max. transmission rate 12 Mbit/s						
• Without PG interface	A	6ES7972-0BA12-0XA0		1	1 unit	250
• With PG interface	A	6ES7972-0BB12-0XA0		1	1 unit	250
With 90° cable feeder for FastConnect connections, max. transmission rate 12 Mbit/s						
Without PG interface						
• 1 unit	A	6ES7972-0BA52-0XA0		1	1 unit	250
• 100 units	A	6ES7972-0BA52-0XB0		1	100 units	250
With PG interface						
• 1 unit	A	6ES7972-0BB52-0XA0		1	1 unit	250
• 100 units	A	6ES7972-0BB52-0XB0		1	100 units	250
PROFIBUS FastConnect bus cables	A	6XV1830-0EH10		1	1 M	5K1
Standard type with special design for fast installation, 2-core, shielded, sold by the meter; delivery unit max. 1000 m; minimum order quantity 20 m						
PROFIBUS bus components		See catalogs IK PI, CA 01				
For setting up MPI/PROFIBUS communication						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Manuals for ET 200S distributed I/O system						
Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
SIPLUS IM 151 CPU master interface modules (extended temperature range and medial loading)						
SIPLUS master interface modules for IM 151-7 CPU / IM 151-7 F-CPU / IM 151-8 PN / DP CPU/IM 151-8 F PN / DP CPU interface modules (-40 ... +70 °C)	D	6AG1138-4HA00-7AB0		1	1 unit	473
Accessories						
		See master interface modules for IM 151 CPU				

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – interface modules with Failsafe CPU

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-7 F-CPU interface modules						
IM 151-7 F-CPU interface modules For constructing a fail-safe automation system, 192 kByte	A	6ES7151-7FA21-0AB0		1	1 unit	241
Accessories						
S7 Distributed Safety V5.4 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 V5.3 SP3 and higher						
• Floating license	A	6ES7833-1FC02-0YA5		1	1 unit	241
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade From V5.x to V5.4; floating license for 1 user	C	6ES7833-1FC02-0YE5		1	1 unit	241
STEP 7 Safety Advanced V13 Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1500F, S7-300F, S7-400F, WinAC RTX F, ET 200SP, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 Professional V13						
• Floating license for 1 user	B	6ES7833-1FA13-0YA5		1	1 unit	216
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FA13-0YH5		1	1 unit	216
MMC 64 Kbyte²⁾ For program backups	A	6ES7953-8LF30-0AA0		1	1 unit	230
MMC 128 Kbyte²⁾ For program backups	A	6ES7953-8LG30-0AA0		1	1 unit	230
MMC 512 Kbyte²⁾ For program backups	A	6ES7953-8LJ30-0AA0		1	1 unit	230
MMC 2 Mbyte²⁾ For program backups and/or the firmware update	A	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 Mbyte²⁾ For program backups	A	6ES7953-8LM31-0AA0		1	1 unit	230
External prommers For MMC with USB interface	A	6ES7792-0AA00-0XA0		1	1 unit	260
Termination modules As spare part for ET 200S	A	6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs Spare parts; for connection to 24 V DC supply voltage • With push-in terminals						
		6ES7193-4JB00-0AA0				
SIMATIC S5, 35 mm standard mounting rails • 483 mm long for 19" cabinets • 530 mm long for 600 mm cabinets • 830 mm long for 900 mm cabinets • Length 2 m						
	C	6ES5710-8MA11		1	1 unit	250
	A	6ES5710-8MA21		1	1 unit	250
	A	6ES5710-8MA31		1	1 unit	250
	A	6ES5710-8MA41		1	1 unit	250
SIPLUS IM 151-7 F-CPU interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-7 F-CPU Standard interface modules (-25 ... +60 °C)	D	6AG1151-7FA21-2AB0		1	1 unit	473
Accessories See IM 151-7 F-CPU interface modules						
IM 151-8F PN/DP CPU interface modules						
IM 151-8F PN/DP CPU interface modules (256 K) Including termination module	A	6ES7151-8FB01-0AB0		1	1 unit	241
Accessories						
S7 Distributed Safety V5.4 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 V5.3 SP3 and higher						
• Floating license	A	6ES7833-1FC02-0YA5		1	1 unit	241
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade From V5.x to V5.4; floating license for 1 user	C	6ES7833-1FC02-0YE5		1	1 unit	241

¹⁾ Up-to-date information and availability for download, see under:
<http://www.siemens.com/tia-online-software-delivery>

²⁾ For operation of the CPU, an MMC is essential.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – interface modules with Failsafe CPU

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-8F PN/DP CPU interface modules (continued)						
STEP 7 Safety Advanced V13						
Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1500F, S7-300F, S7-400F, WinAC RTX F, ET 200SP, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco						
Requirements: STEP 7 Professional V13 SP1						
• Floating license for 1 user						
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery						
MMC 64 Kbyte²⁾ For program backups	A	6ES7953-8LF30-0AA0		1	1 unit	230
MMC 128 Kbyte²⁾ For program backups	A	6ES7953-8LG30-0AA0		1	1 unit	230
MMC 512 Kbyte²⁾ For program backups	A	6ES7953-8LJ30-0AA0		1	1 unit	230
MMC 2 Mbyte²⁾ For program backups and/or the firmware update	A	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 Mbyte²⁾ For program backups	A	6ES7953-8LM31-0AA0		1	1 unit	230
MMC 8 Mbyte²⁾ For program backups	A	6ES7953-8LP31-0AA0		1	1 unit	230
External prommers For MMC with USB interface	A	6ES7792-0AA00-0XA0		1	1 unit	260
PG With integrated MMC interface		On req.				
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Manuals for ET 200S distributed I/O system						
Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
Termination modules As spare part for ET 200S	A	6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs						
Spare parts, for connection to supply voltage 24 V DC						
• With push-in terminals						
SIMATIC S5, 35 mm standard mounting rails						
• 483 mm long for 19" cabinets	C	6ES5710-8MA11		1	1 unit	250
• 530 mm long for 600 mm cabinets	A	6ES5710-8MA21		1	1 unit	250
• 830 mm long for 900 mm cabinets	A	6ES5710-8MA31		1	1 unit	250
• Length 2 m	A	6ES5710-8MA41		1	1 unit	250
Industrial Ethernet FC RJ45 Plug 90						
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder						
• 1 unit	A	6GK1901-1BB20-2AA0		1	1 unit	5K1
• 10 units	A	6GK1901-1BB20-2AB0		1	10 units	5K1
• 50 units	A	6GK1901-1BB20-2AE0		1	50 units	5K1
Industrial Ethernet FastConnect installation cables						
• FastConnect standard cables	A	6XV1840-2AH10		1	1 M	5K1
• FastConnect trailing cables	A	6XV1840-3AH10		1	1 M	5K1
• FastConnect marine cables	A	6XV1840-4AH10		1	1 M	5K1
Industrial Ethernet FastConnect stripping tool	A	6GK1901-1GA00		1	1 unit	5K2
SIPLUS IM 151-8F PN/DP CPU interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-8F PN/DP CPU interface modules (-25 ... +60 °C)	D	6AG1151-8FB01-2AB0		1	1 unit	473

Accessories

See IM 151-8F PN/DP CPU interface modules

¹⁾ Up-to-date information and availability for download, see under:
<http://www.siemens.com/tia-online-software-delivery>

²⁾ For operation of the CPU, an MMC is essential.

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-1 interface modules						
For connecting the ET 200S to PROFIBUS DP						
IM 151-1 BASIC interface modules For ET 200S; transmission rates up to 12 Mbit/s; up to 12 power, solid-state and motor starter modules can be connected; connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1CA00-0AB0		1	1 unit	250
IM 151-1 COMPACT 32 DI 24 V DC interface modules For ET 200S; transmission rates up to 12 Mbit/s; 32 digital inputs, up to 12 power, solid-state and motor starter modules can be connected; connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1CA00-1BL0		1	1 unit	250
IM 151-1 COMPACT 16 DI 24 V DC / 16 DO 24 V/0.5 A interface modules For ET 200S; transmission rates up to 12 Mbit/s; 16 digital inputs and 16 digital outputs, up to 12 power, solid-state and motor starter modules can be connected; connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1CA00-3BL0		1	1 unit	250
IM 151-1 STANDARD interface modules For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 power, solid-state and motor starter modules can be connected; connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1AA05-0AB0		1	1 unit	250
IM 151-1 FO STANDARD interface modules For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 power, solid-state and motor starter modules can be connected; connection to bus using integrated fiber-optic cable including termination module	A	6ES7151-1AB05-0AB0		1	1 unit	250
IM 151-1 HIGH-FEATURE interface modules For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 modules can be connected; connection of PROFI-safe modules, isochronous mode (clocked operation); connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1BA02-0AB0		1	1 unit	250
Accessories						
TM-C120S terminal modules Terminal module for ET 200S COMPACT, screw terminals	A	6ES7193-4DL10-0AA0		1	1 unit	250
TM-C120C terminal modules Terminal module for ET 200S COMPACT, spring-type terminals	A	6ES7193-4DL00-0AA0		1	1 unit	250
TE-U120S4x10 additional terminals Additional terminal for TM-C120x terminal modules of ET 200S COMPACT; screw terminals for 3-conductor connection; please order two for 4-conductor connection. Can also be plugged into TM-E/TM-P if the same height of the terminal modules exists over a width of at least 120 mm.	A	6ES7193-4FL10-0AA0		1	1 unit	250
TE-U120C4x10 additional terminals Additional terminal for TM-C120x terminal modules of ET 200S COMPACT; spring-type terminals for 3-conductor connection; please order two for 4-conductor connection Can also be plugged into TM-E/TM-P if the same height of the terminal modules exists over a width of at least 120 mm.	A	6ES7193-4FL00-0AA0		1	1 unit	250
Manuals for ET 200S distributed I/O system Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	B	6ES7998-8XC01-8YE0		1	1 unit	230
SIMATIC Manual Collection – Update service for 1 year Scope of supply: The current DVD S7 Manual Collection as well as the 3 subsequent updates	X	6ES7998-8XC01-8YE2		1	1 unit	230
PROFIBUS DP interface RS 485 bus connectors With 90° cable feeder for FastConnect connections, max. transmission rate 12 Mbit/s Without PG interface						
• 1 unit	A	6ES7972-0BA52-0XA0		1	1 unit	250
• 100 units	A	6ES7972-0BA52-0XB0		1	100 units	250
With PG interface						
• 1 unit	A	6ES7972-0BB52-0XA0		1	1 unit	250
• 100 units	A	6ES7972-0BB52-0XB0		1	100 units	250
100 Simplex connectors For plastic fiber-optic cable including 5 polishing sets	A	6GK1901-0FB00-0AA0		1	1 set	5K2
50 plug-in adapters Each for 2 Simplex connectors	A	6ES7195-1BE00-0XA0		1	50 units	250

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – Interface Modules

Interface modules without CPU

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-1 interface modules (continued)						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Inscription sheets in A4 format (10 units)						
Can be used for ET 200S COMPACT; each sheet contains 10 labeling strips						
• Beige	A	6ES7193-4BA10-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB10-0AA0		1	10 units	250
• Red	A	6ES7193-4BD10-0AA0		1	10 units	250
• Petrol	A	6ES7193-4BH10-0AA0		1	10 units	250
Termination modules						
As spare part for ET 200S						
A		6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs						
Spare parts, for connection to supply voltage 24 V DC						
• With push-in terminals	A	6ES7193-4JB00-0AA0		1	10 units	250
• With screw terminals	A	6ES7193-4JB50-0AA0		1	10 units	250
SIMATIC S5, 35 mm standard mounting rails						
• 483 mm long for 19" cabinets	C	6ES5710-8MA11		1	1 unit	250
• 530 mm long for 600 mm cabinets	A	6ES5710-8MA21		1	1 unit	250
• 830 mm long for 900 mm cabinets	A	6ES5710-8MA31		1	1 unit	250
• Length 2 m	A	6ES5710-8MA41		1	1 unit	250
SIPLUS IM 151-1 interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-1 STANDARD interface modules (-25 ... +70 °C)						
For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 power, solid-state and motor starter modules can be connected; connection to bus through 9-pole Sub-D including termination module						
D		6AG1151-1AA05-7AB0		1	1 unit	473
SIPLUS IM 151-1 HIGH-FEATURE interface modules (-25 ... +60 °C)						
For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 modules can be connected; connection of PROFI-safe modules, isochronous mode (clocked operation); connection to bus through 9-pole Sub-D including termination module						
D		6AG1151-1BA02-2AB0		1	1 unit	473
Accessories						
See IM 151-1 interface modules						
IM 151-3 PN interface modules						
For connecting the ET 200S to PROFINET						
IM 151-3 PN interface modules						
For ET 200S; transmission rates up to 100 Mbit/s; data volume dependent on number of modules mounted, up to 63 modules can be connected, connection to bus through RJ45						
A		6ES7151-3AA23-0AB0		1	1 unit	250
IM 151-3 PN PROFINET High-Feature interface modules						
For ET 200S; transmission rates up to 100 Mbit/s; up to 63 modules with max. width of 2 m can be connected, connection to bus through RJ45, including termination module						
A		6ES7151-3BA23-0AB0		1	1 unit	250
IM 151-3 FO interface modules						
For ET 200S; with 2 PROFINET fiber-optic interfaces and integrated 2-port switch, up to 63 modules up to 2 m wide can be connected, including termination module						
A		6ES7151-3BB23-0AB0		1	1 unit	250
Accessories						
Industrial Ethernet FC RJ45 Plug 90						
RJ45 plug-in connector for Industrial Ethernet, with robust metal enclosure and integrated insulation displacement contacts for connection of Industrial Ethernet FC installation cables; with 90° cable feeder						
• 1 unit	A	6GK1901-1BB20-2AA0		1	1 unit	5K1
• 10 units	A	6GK1901-1BB20-2AB0		1	10 units	5K1
• 50 units	A	6GK1901-1BB20-2AE0		1	50 units	5K1
Industrial Ethernet FastConnect installation cables						
• FastConnect standard cables						
• FastConnect trailing cables	A	6XV1840-2AH10		1	1 M	5K1
• FastConnect marine cables	A	6XV1840-3AH10		1	1 M	5K1
	A	6XV1840-4AH10		1	1 M	5K1

Interface modules without CPU

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IM 151-3 PN interface modules (continued)						
Termination kits						
• SC RJ POF Plug Termination kit for local mounting of SC RJ connectors, comprising insulation stripping tool, kevlar shears, microscope, abrasive paper and support	A	6GK1900-0ML00-0AA0		1	1 unit	5K2
• IE SC RJ POF Plug Threaded connectors for local mounting on POF fiber-optic cables (1 pack = 20 units)	A	6GK1900-0MB00-0AC0		1	20 units	5K2
• IE SC RJ Refill Set POF Refill set for SC RJ POF Plug termination kit, comprising abrasive paper and disk (set of 5)	A	6GK1900-0MN00-0AA0		1	5 units	5K2
• SC RJ PCF Plug Termination kit for local mounting of SC RJ connectors, comprising insulation stripping tool, buffer insulation stripping tool, kevlar shears, fiber cleaver, microscope	A	6GK1900-0NL00-0AA0		1	1 unit	5K2
• Industrial Ethernet SC RJ PCF Plug Threaded connectors for local mounting on PCF fiber-optic cables (1 pack = 10 units)	A	6GK1900-0NB00-0AC0		1	10 units	5K2
Industrial Ethernet FastConnect stripping tool	A	6GK1901-1GA00		1	1 unit	5K2
MMC 64 Kbyte¹⁾ For storing the unit's name	A	6ES7953-8LF30-0AA0		1	1 unit	230
MMC 128 Kbyte¹⁾ For storing the unit's name	A	6ES7953-8LG30-0AA0		1	1 unit	230
MMC 512 Kbyte¹⁾ For storing the unit's name	A	6ES7953-8LJ30-0AA0		1	1 unit	230
MMC 2 Mbyte¹⁾ For storing the unit's name and/or the firmware update	A	6ES7953-8LL31-0AA0		1	1 unit	230
MMC 4 Mbyte¹⁾ For storing the unit's name and/or the firmware update	A	6ES7953-8LM31-0AA0		1	1 unit	230
MMC 8 Mbyte¹⁾ For storing the unit's name and/or the firmware update	A	6ES7953-8LP31-0AA0		1	1 unit	230
Manuals for ET 200S distributed I/O system Can be downloaded as a PDF file from the Internet: www.siemens.com/simatic-docu						
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	B	6ES7998-8XC01-8YE0		1	1 unit	230
SIMATIC Manual Collection – Update service for 1 year Scope of supply: The current DVD S7 Manual Collection as well as the three subsequent updates	X	6ES7998-8XC01-8YE2		1	1 unit	230
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Termination modules as spare part for ET 200S	A	6ES7193-4JA00-0AA0		1	1 unit	250
Power supply plugs Spare parts, for connection to supply voltage 24 V DC						
• With push-in terminals	A	6ES7193-4JB00-0AA0		1	10 units	250
• With screw terminals	A	6ES7193-4JB50-0AA0		1	10 units	250
35 mm standard mounting rails						
• 483 mm long for 19" cabinets	C	6ES5710-8MA11		1	1 unit	250
• 530 mm long for 600 mm cabinets	A	6ES5710-8MA21		1	1 unit	250
• 830 mm long for 900 mm cabinets	A	6ES5710-8MA31		1	1 unit	250
• Length 2 m	A	6ES5710-8MA41		1	1 unit	250
Industrial Ethernet switches Managed Industrial Ethernet switches; isochronous real-time, LED diagnostics, error signaling contacts with SET button, redundant power supply						
• SCALANCE X202-2P IRT 2 x 10/100 Mbit/s RJ45 ports, 2 x 100 Mbit/s POF/PCF SC RJ	B	6GK5202-2BH00-2BA3		1	1 unit	5N2
• SCALANCE X201-3P IRT 1 x 10/100 Mbit/s RJ45 ports, 3 x 100 Mbit/s POF/PCF SC RJ	B	6GK5201-3BH00-2BA3		1	1 unit	5N2
• SCALANCE X200-4P IRT 4 x 100 Mbit/s POF/PCF SC RJ	B	6GK5200-4AH00-2BA3		1	1 unit	5N2
SIPLUS IM 151-3 PN interface modules (extended temperature range and medial loading)						
SIPLUS IM 151-3 PN interface modules (-25 ... +60 °C) For ET 200S; transmission rates up to 100 Mbit/s; data volume dependent on number of modules mounted, up to 63 modules can be connected, connection to bus through RJ45	D	6AG1151-3AA23-2AB0		1	1 unit	473
SIPLUS IM 151-3 PROFINET High-Feature interface modules (-25 ... +70 °C) For ET 200S; transmission rates up to 100 Mbit/s; up to 63 modules with max. width of 2 m can be connected, connection to bus through RJ45, including termination module	D	6AG1151-3BA23-7AB0		1	1 unit	473

Accessories

See IM 151-3 PN interface modules

¹⁾ For operation of the IM 151-3, an MMC is essential.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O modules

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
PM-E power modules for electronic modules						
Standard PM-E power modules 24 V DC¹⁾						
For electronic modules, with diagnostics						
• 1 unit	A	6ES7138-4CA01-0AA0		1	1 unit	250
• 5 units	A	6ES7138-4CA01-1AA0		1	5 units	250
High-Feature PM-E power modules 24 V DC¹⁾						
For electronic modules, with diagnostics	A	6ES7138-4CA60-0AB0		1	1 unit	250
PM-E power modules 24 to 48 V DC						
For electronic modules, with diagnostics, with status bit "Load voltage available"						
• 1 unit	A	6ES7138-4CA50-0AB0		1	1 unit	250
• 5 units	A	6ES7138-4CA50-1AB0		1	5 units	250
PM-E power modules 24 to 48 V DC, 42 to 230 V AC						
For electronic modules, with diagnostics and fuse	A	6ES7138-4CB11-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
SIPLUS PM-E power modules for electronic modules (extended temperature range and medial loading)						
PM-E power modules 24 V DC¹⁾ (-40 ... +70 °C)						
For electronic modules, with diagnostics	D	6AG1138-4CA01-2AA0		1	1 unit	473
PM-E power modules 24 to 48 V DC (-25 ... +60 °C)						
For electronic modules, with diagnostics, with status bit "Load voltage available"	D	6AG1138-4CA50-2AB0		1	1 unit	473
PM-E power modules 24 to 48 V DC, 24 to 230 V AC (-25 ... +60 °C)						
For electronic modules, with diagnostics and fuse	C	6AG1138-4CB11-2AB0		1	1 unit	473
Accessories						
See PM-E power modules for electronic modules						
Reserve modules						
Reserve modules for ET 200S						
For reserving space in unused slots						
• 15 mm width (5 units)	A	6ES7138-4AA01-0AA0		1	5 units	250
• 30 mm width (1 unit)	A	6ES7138-4AA11-0AA0		1	1 unit	250
Potential distributor modules						
Potential distributor modules for ET 200S						
For supplying the load voltage to additional terminals, 15 mm wide, 1 unit	A	6ES7138-4FD00-0AA0		1	1 unit	250
Accessories for inscription						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250

¹⁾ For all solid-state and technology modules except
2 DI 120 V AC/2 DI 230 V AC/2 DO 120/230 V AC.

Load Feeders and Motor Starters for Use in the Control Cabinet ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Digital electronic modules						
Digital input modules						
Order unit 5 units						
• 2 DI 24 V DC Standard	A	6ES7131-4BB01-0AA0		1	5 units	250
• 2 DI 24 V DC High-Feature	A	6ES7131-4BB01-0AB0		1	5 units	250
• 4 DI 24 V DC Standard	A	6ES7131-4BD01-0AA0		1	5 units	250
• 4 DI 24 V DC High-Feature	A	6ES7131-4BD01-0AB0		1	5 units	250
• 2 DI 120 V AC	A	6ES7131-4EB00-0AB0		1	5 units	250
• 2 DI 230 V AC	A	6ES7131-4FB00-0AB0		1	5 units	250
• 4 DI 24 ... 48 V UC	A	6ES7131-4CD02-0AB0		1	5 units	250
• 4 DI 24 V DC SOURCE INPUT	A	6ES7131-4BD51-0AA0		1	5 units	250
Order unit 1 unit						
• 4 DI 24 V DC NAMUR	A	6ES7131-4RD02-0AB0		1	1 unit	250
• 8 DI 24 V DC Standard	A	6ES7131-4BF00-0AA0		1	1 unit	250
• 8 DI 24 V DC Standard SOURCE INPUT	A	6ES7131-4BF50-0AA0		1	1 unit	250
Order unit 100 units						
• 8 DI 24 V DC Standard	A	6ES7131-4BF00-4AA0		1	100 units	250
Digital output modules						
Order unit 5 units						
• 2 DO 24 V DC/0.5 A Standard	A	6ES7132-4BB01-0AA0		1	5 units	250
• 2 DO 24 V DC/0.5 A High-Feature	A	6ES7132-4BB01-0AB0		1	5 units	250
• 2 DO 24 V DC/2 A Standard	A	6ES7132-4BB31-0AA0		1	5 units	250
• 2 DO 24 V DC/2 A High-Feature	A	6ES7132-4BB31-0AB0		1	5 units	250
• 4 DO 24 V DC/0.5 A Standard	A	6ES7132-4BD02-0AA0		1	5 units	250
• 4 DO 24 V DC/0.5 A Standard SOURCE OUTPUT	A	6ES7132-4BD50-0AA0		1	5 units	250
• 4 DO 24 V DC/0.5 A High-Feature	A	6ES7132-4BD00-0AB0		1	5 units	250
• 8 DO 24 V DC/0.5 A High-Feature	A	6ES7132-4BF00-0AB0		1	1 unit	250
• 4 DO 24 V DC/2 A Standard	A	6ES7132-4BD32-0AA0		1	5 units	250
• 4 DO 24 V DC/2 A High-Feature	A	6ES7132-4BD30-0AB0		1	5 units	250
• 2 DO 24 ... 230 V AC/2 A	A	6ES7132-4FB01-0AB0		1	5 units	250
• 2 DO 24 V DC ... 230 V AC/5 A relay, NO contact	A	6ES7132-4HB01-0AB0		1	5 units	250
• 2 DO 24 ... 48 V DC/5 A, 24 ... 230 V AC/5 A relay, CO contact	A	6ES7132-4HB12-0AB0		1	5 units	250
Order unit 1 unit						
• 2 DO 24 ... 48 V DC/5 A, 24 ... 230 V AC/5 A relay, CO contact, with manual operation	A	6ES7132-4HB50-0AB0		1	1 unit	250
• 8 DO 24 V DC/0.5 A Standard	A	6ES7132-4BF00-0AA0		1	1 unit	250
• 8 DO 24 V DC/0.5 A Standard SINK OUTPUT	A	6ES7132-4BF50-0AA0		1	1 unit	250
Order unit 100 units						
• 8 DO 24 V DC/0.5 A Standard	A	6ES7132-4BF00-4AA0		1	100 units	250
Accessories						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
SIPLUS digital electronic modules (extended temperature range and medial loading)						
SIPLUS digital input modules						
Order unit 5 units						
• 4 DI 24 V DC Standard (-25 ... +60 °C)	D	6AG1131-4BD01-2AA0		1	5 units	473
• 4 DI 24 V DC High-Feature (-25 ... +70 °C)	D	6AG1131-4BD01-7AB0		1	5 units	473
• 8 DI 24 V DC Standard (-25 ... +70 °C)	D	6AG1131-4BF00-7AA0		1	1 unit	473
Order unit 1 unit						
• 8 DI 24 V DC Source Input (-40 ... +70 °C)	D	6AG1131-4BF50-7AA0		1	1 unit	473
SIPLUS digital output modules						
Order unit 5 units						
• 2 DO 24 V DC/0.5 A High-Feature (-25 ... +60 °C)	D	6AG1132-4BB01-2AB0		1	5 units	473
• 2 DO 24 V DC/2 A High-Feature (-25 ... +70 °C)	D	6AG1132-4BB31-7AB0		1	5 units	473
• 4 DO 24 V DC/0.5 A Standard (-25 ... +70 °C)	D	6AG1132-4BD02-7AA0		1	5 units	473
• 4 DO 24 V DC/2 A Standard (-25 ... +60 °C)	D	6AG1132-4BD32-2AA0		1	5 units	473
• 2 DO 24 V DC ... 230 V AC/5 A relay, NO contact (-25 ... +70 °C)	D	6AG1132-4HB01-2AB0		1	5 units	473
• 2 DO 24 ... 48 V DC/5 A, 24 ... 230 V AC/5 A relay, CO contact (-25 ... +60 °C)	D	6AG1132-4HB12-2AB0		1	5 units	473
Order unit 1 unit						
• 8 DO 24 V DC/0.5 A Standard (-25 ... +70 °C)	D	6AG1132-4BF00-7AA0		1	1 unit	473
• 8 DO 24 V DC/0.5 A Standard SOURCE OUTPUT (-25 ... +70 °C)	D	6AG1132-4BF50-7AA0		1	1 unit	473
Accessories						
See digital electronic modules						

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Analog electronic modules						
Analog input modules						
Order unit 1 unit						
• 2 AI U Standard	A	6ES7134-4FB01-0AB0		1	1 unit	250
• 2 AI U High Speed	A	6ES7134-4FB52-0AB0		1	1 unit	250
• 2 AI U High-Feature	A	6ES7134-4LB02-0AB0		1	1 unit	250
• 2 AI I Standard 2-wire	A	6ES7134-4GB01-0AB0		1	1 unit	250
• 2 AI I High Speed 2-wire	A	6ES7134-4GB52-0AB0		1	1 unit	250
• 2 AI I Standard 4-wire	A	6ES7134-4GB11-0AB0		1	1 unit	250
• 2 AI High Speed 4 wire	A	6ES7134-4GB62-0AB0		1	1 unit	250
• 2 AI I High-Feature 2/4-wire (15 bits + sign)	A	6ES7134-4MB02-0AB0		1	1 unit	250
• 2 AI RTD Standard	A	6ES7134-4JB51-0AB0		1	1 unit	250
• 2 AI TC Standard	A	6ES7134-4JB01-0AB0		1	1 unit	250
• 2 AI RTD High-Feature	A	6ES7134-4NB51-0AB0		1	1 unit	250
• 2 AI TC High-Feature	A	6ES7134-4NB01-0AB0		1	1 unit	250
• 4 AI Standard 2-wire	A	6ES7134-4GD00-0AB0		1	1 unit	250
• 4 AI TC Standard	A	6ES7134-4JD00-0AB0		1	1 unit	250
Analog output modules						
Order unit 1 unit						
• 2 AO U Standard	A	6ES7135-4FB01-0AB0		1	1 unit	250
• 2 AO U High Speed	A	6ES7135-4FB52-0AB0		1	1 unit	250
• 2 AO U High-Feature	A	6ES7135-4LB02-0AB0		1	1 unit	250
• 2 AO I Standard	A	6ES7135-4GB01-0AB0		1	1 unit	250
• 2 AO I High Speed	A	6ES7135-4GB52-0AB0		1	1 unit	250
• 2 AO I High-Feature	A	6ES7135-4MB02-0AB0		1	1 unit	250
Accessories for inscription						
Inscription sheets in A4 format (10 units)						
Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Accessories for system-integrated shield connections						
Shield attachments						
Order unit 5 units For plugging into TM-E and TM-P						
	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield terminals						
Order unit 5 units For busbars 3 × 10 mm						
	A	6ES7193-4GB00-0AA0		1	5 units	250
Ground connection terminals						
Order unit 1 unit For conductor cross-sections up to 25 mm ²						
	C	8WA2868		1	50 units	12W
Busbars 3 x 10 mm						
Order unit 1 unit						
	A	8WA2842		1	1 unit	12W
SIPLUS analog electronic modules (extended temperature range and medial loading)						
SIPLUS analog input modules						
• 2 AI U Standard (-25 ... +60 °C)	D	6AG1134-4FB01-2AB0		1	1 unit	473
• 2 AI U High-Feature (-25 ... +60 °C)	D	6AG1134-4LB02-2AB0		1	1 unit	473
• 2 AI I Standard 2-wire (-25 ... +60 °C)	D	6AG1134-4GB01-2AB0		1	1 unit	473
• 2 AI I Standard 4-wire (-25 ... +60 °C)	D	6AG1134-4GB11-2AB0		1	1 unit	473
• 2 AI I High-Feature 2-/4-wire (15 bits + sign) (-25 ... +70 °C)	D	6AG1134-4MB02-2AB0		1	1 unit	473
• 2 AI High Speed 2-wire (-25 ... +60 °C)	D	6AG1134-4GB52-2AB0		1	1 unit	473
• 4 AI Standard 2-wire (-25 ... +60 °C)	D	6AG1134-4GD00-2AB0		1	1 unit	473
• 2 AI RTD Standard (-25 ... +70 °C)	D	6AG1134-4JB51-7AB0		1	1 unit	473
• 2 AI RTD High-Feature (-25 ... +60 °C)	D	6AG1134-4NB51-2AB0		1	1 unit	473
• 2 AI TC High-Feature (0 ... +70 °C)	D	6AG1134-4NB01-7AB0		1	1 unit	473
SIPLUS analog output modules						
• 2 AO U Standard (-25 ... +60 °C)	D	6AG1135-4FB01-2AB0		1	1 unit	473
• 2 AO U High-Feature (-25 ... +60 °C)	D	6AG1135-4LB02-7AB0		1	1 unit	473
• 2 AO I Standard (-25 ... +70 °C)	D	6AG1135-4GB01-2AB0		1	1 unit	473
Accessories						
See analog electronic modules						

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SSI modules						
SSI modules For the connection of absolute encoders with SSI interface	A	6ES7138-4DB03-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Signal cables Assembled for SSI absolute encoders 6FX2001-5, without Sub-D connector, UL/DESINA	B	6FX5002-2CC12-....		1	1 unit	764
2PULSE pulse generators						
2PULSE pulse generators and timer modules For ET 200S	A	6ES7138-4DD01-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
SIPLUS 2PULSE pulse generators						
SIPLUS 2PULSE pulse generators and timer modules For ET 200S	D	6AG1138-4DD01-7AB0		1	1 unit	473
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
1STEP step modules						
1STEP step modules For simple positioning tasks with stepper motor axes	A	6ES7138-4DC01-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules.						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
SIMOSTEP stepper motors						
Power units for stepper motors FM STEPDRIVE						
1POS U positioning modules						
1POS U positioning modules Single-channel positioning module for ET 200S for positioning of adjusting and operating axes	A	6ES7138-4DL00-0AB0		1	1 unit	250

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O Modules

Technology modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
1 COUNT 24 V/100 kHz counter modules						
1 COUNT 24 V/100 kHz counter modules For universal counting and measuring tasks with ET 200S	A	6ES7138-4DA04-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Shield attachments For TM-P and TM-E terminal modules, as support for busbar 3 x 10 mm, 5 units	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield terminals For connection of braided shields to busbars, 5 units	A	6ES7193-4GB00-0AA0		1	5 units	250
SIMODRIVE sensor incremental encoders Mountable sensor, optically incremental with HTL level, operational voltage 10 ... 30 V		6FX2001-4.... See Catalog ST 70				
Signal cables Assembled, for HTL and TTL sensors, without Sub-D connector, UL/DESINA	B	6FX5002-2CA12-....		1	1 unit	764
SIPLUS 1 COUNT 24 V/100 kHz counter modules (extended temperature range and medial loading)						
SIPLUS 1 COUNT 24 V/100 kHz counter modules (-25 ... +60 °C) For universal counting and measuring tasks with ET 200S	D	6AG1138-4DA04-2AB0		1	1 unit	473
Accessories See 1 COUNT 24 V/100 kHz counter modules						
1 COUNT 5 V/500 kHz counter modules						
1 COUNT 5 V/500 kHz counter modules For universal counting and measuring tasks with ET 200S	A	6ES7138-4DE02-0AB0		1	1 unit	250
Accessories						
Inscription sheets in A4 format (10 units) Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules						
• Petrol	A	6ES7193-4BH00-0AA0		1	10 units	250
• Red	A	6ES7193-4BD00-0AA0		1	10 units	250
• Yellow	A	6ES7193-4BB00-0AA0		1	10 units	250
• Light beige	A	6ES7193-4BA00-0AA0		1	10 units	250
Shield attachments For TM-P and TM-E terminal modules, as support for busbar 3 x 10 mm, 5 units	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield terminals For connection of braided shields to busbars, 5 units	A	6ES7193-4GB00-0AA0		1	5 units	250
SIMODRIVE incremental encoders With RS 422 (TTL), operational voltage 10 ... 30 V		6FX2001-2.... See Catalog ST 70				
Signal cables Assembled, for HTL and TTL sensors, without Sub-D connector, UL/DESINA	B	6FX5002-2CA12-....		1	1 unit	764
1 SI interface modules						
1 SI interface modules						
• ASCII and 3964(R) protocol	A	6ES7138-4DF01-0AB0		1	1 unit	250
• Modbus and USS protocol	A	6ES7138-4DF11-0AB0		1	1 unit	250
Accessories						
TM-E15S 26-A1 terminal modules Order unit 5 units	A	6ES7193-4CA40-0AA0		1	5 units	250
TM-E15C26-A1 terminal modules Order unit 5 units	A	6ES7193-4CA50-0AA0		1	5 units	250
TM-E15N24-A1 terminal modules Order unit 5 units	A	6ES7193-4CA80-0AA0		1	5 units	250
TM-E15S24-01 terminal modules Order unit 5 units	A	6ES7193-4CB20-0AA0		1	5 units	250
TM-E15C24-01 terminal modules Order unit 5 units	A	6ES7193-4CB30-0AA0		1	5 units	250
TM-E15N24-01 terminal modules Order unit 5 units	A	6ES7193-4CB70-0AA0		1	5 units	250
SIPLUS 1 SI interface modules (extended temperature range and medial loading)						
1 SI interface modules						
• ASCII and 3964(R) protocols (-25 ... +70 °C)	D	6AG1138-4DF11-7AB0		1	1 unit	473
• MODBUS and USS protocols (-25 ... +70 °C)	D	6AG1138-4DF01-7AB0		1	1 unit	473
Accessories See 1 SI interface modules						

Technology modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SIWAREX CS						
SIWAREX CS Weighing electronics for weighers in SIMATIC ET 200S	D	7MH4910-0AA01		1	1 unit	816
SIWAREX CS manuals • In various languages Free download from: http://www.siemens.com/weightingtechnology						
SIWAREX CS "Getting started" Sample software for a simple introduction to programming weighers in STEP 7. Free download from: http://www.siemens.com/weightingtechnology						
SIWAREX CS configuration package on CD-ROM for SIMATIC and TIA Portal • SIWATOOL CS software for weigher calibration (in various languages) • Manuals on CD (in various languages) • SIWAREX CD "Getting started"	C	7MH4910-0AK02		1	1 unit	816
SIWATOOL connection cables From SIWAREX U/CS with serial PC interface, for 9-pole PC interfaces (RS 232), length 3 m	C	7MH4607-8CA		1	1 unit	815
Installation materials (essential)						
Terminal modules TM-E 30 mm wide (required for each SIWAREX module)	A	6ES7193-4CG20-0AA0 or compatible		1	1 unit	250
Shield attachments Contents 5 units, sufficient for 5 cables	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield connection terminals Contents: 5 units, sufficient for 5 cables <u>Note:</u> One shield connection terminal is required for • Weigher connection and • The TTY interface or • RS 232 interface	A	6ES7193-4GB00-0AA0		1	5 units	250
N busbars, galvanized 3 x 10 mm, 1 m long	A	8WA2842		1	1 unit	12W
Infeed terminals for N busbar Remote displays (optional) The digital remote displays can be connected directly through the TTY interface to the SIWAREX CS. <u>Usable remote display:</u> S102	C	8WA2868 Obtainable from the company Siebert, see Chapter 16 "Appendix" → "External Partners"		1	50 units	12W
Accessories						
SIWAREX JB junction box, aluminum housing For parallel switching of up to 4 weigh-cells and for connecting several connection boxes	C	7MH4710-1BA		1	1 unit	815
SIWAREX JB junction box, stainless steel housing For parallel switching of up to 4 weigh-cells	D	7MH4710-1EA		1	1 unit	815
Ex-Interface, type SIWAREX IS With ATEX approval, but without UL and FM approval For the inherently safe connection of weigh-cells, including manual, suitable for the SIWAREX U, CS, MS, FTA, FTC, M and CF weigher modules. Use in the EU is possible. • With short-circuit current < DC 199 mA • With short-circuit current < DC 137 mA	C C	7MH4710-5BA 7MH4710-5CA		1 1	1 unit 1 unit	815 815
Cables (optional)						
Cables Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) – CY, sheath color orange For connecting SIWAREX U, CS, MS, FTA, FTC, M and CF to the connection and distribution box (JB), extension box (EB) or Ex-Interface (Ex-I) and between two JB's, for local laying, occasional bending is possible, 10.8 mm external diameter, for ambient temperature -40 ... +80 °C	C	7MH4702-8AG		1	1 M	815
Cables Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) – CY, sheath color blue Connecting of connection and distribution box (JB) or extension box (EB) in hazardous areas and Ex-Interface (Ex-I), for local laying, occasional bending is possible, blue PVC insulating covering, approx. 10.8 mm external diameter, for ambient temperature -40 ... +80 °C	C	7MH4702-8AF		1	1 M	815

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O Modules

Technology modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SIWAREX CF						
SIWAREX CF Force measuring module for DMS sensors in SIMATIC ET 200S (SIWAREX CF configuration package not required)	C	7MH4920-0AA01		1	1 unit	816
SIWAREX CF manuals • German, English Free download from: http://www.siemens.com/weighingtechnology						
SIWAREX CF "Getting started" Sample software for a simple introduction to programming in STEP 7. Free download from: http://www.siemens.com/weighingtechnology						
Installation materials (essential)						
Terminal modules TM-E 30 mm wide (required for each SIWAREX module)	A	6ES7193-4CG20-0AA0 or compatible		1	1 unit	250
Shield attachments Contents 5 units, sufficient for 5 cables	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield connection terminals Contents: 5 units, sufficient for 5 cables One shield connection terminal is required for each sensor cable	A	6ES7193-4GB00-0AA0		1	5 units	250
N busbars, galvanized 3 x 10 mm, 1.5 m long	A	8WA2842		1	1 unit	12W
Infeed terminals for N busbar	C	8WA2868		1	50 units	12W
Accessories						
SIWAREX EB extension boxes For extending sensor cables	C	7MH4710-2AA		1	1 unit	815
Ex-Interface, type SIWAREX IS With ATEX approval, but without UL and FM approval For the inherently safe connection of weigh-cells, including manual, suitable for the SIWAREX U, CS, MS, FTA, FTC, M and CF weigher modules. Use in the EU is possible.						
• With short-circuit current < DC 199 mA • With short-circuit current < DC 137 mA	C	7MH4710-5BA		1	1 unit	815
	C	7MH4710-5CA		1	1 unit	815
Cables (optional)						
Cables Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) – CY, sheath color orange For connecting SIWAREX U, CS, MS, FTA, FTC, M and CF to the connection and distribution box (JB), extension box (EB) or Ex-Interface (Ex-I) and between two JB's, for local laying, occasional bending is possible, 10.8 mm external diameter, for ambient temperature -40 ... +80 °C	C	7MH4702-8AG		1	1 M	815

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal modules for power modules and electronic modules						
TM-P terminal modules for PM-E power modules						
TM-P15S23-A1 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CC20-0AA0 6ES7193-4CC20-1AA0		1 1	1 unit 5 units	250 250
TM-P15C23-A1 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CC30-0AA0 6ES7193-4CC30-1AA0		1 1	1 unit 5 units	250 250
TM-P15N23-A1 , order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CC70-0AA0		1	1 unit	250
TM-P15S23-A0 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CD20-0AA0 6ES7193-4CD20-1AA0		1 1	1 unit 5 units	250 250
TM-P15C23-A0 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CD30-0AA0 6ES7193-4CD30-1AA0		1 1	1 unit 5 units	250 250
TM-P15N23-A0 Order unit: 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, FastConnect	A	6ES7193-4CD70-0AA0		1	1 unit	250
TM-P15S22-01 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CE00-0AA0 6ES7193-4CE00-1AA0		1 1	1 unit 5 units	250 250
TM-P15C22-01 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A A	6ES7193-4CE10-0AA0 6ES7193-4CE10-1AA0		1 1	1 unit 5 units	250 250
TM-P15N22-01 , order unit 1 unit 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CE60-0AA0		1	1 unit	250
TM-P30S44-A0 , order unit 1 unit 7 × 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals for PM-E F PROFIsafe	A	6ES7193-4CK20-0AA0		1	1 unit	241
TM-P30C44-A0 , order unit 1 unit 7 × 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals for PM-E F PROFIsafe	A	6ES7193-4CK30-0AA0		1	1 unit	241
TM-E terminal modules for electronic modules¹⁾						
TM-E15S24-A1 , order unit 5 units 2 × 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CA20-0AA0		1	5 units	250
TM-E15C24-A1 , order unit 5 units 2 × 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CA30-0AA0		1	5 units	250
TM-E15S24-01 , order unit 5 units 2 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CB20-0AA0		1	5 units	250
TM-E15C24-01 , order unit 5 units 2 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CB30-0AA0		1	5 units	250
TM-E15S23-01 , order unit 5 units 2 × 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CB00-0AA0		1	5 units	250
TM-E15C23-01 , order unit 5 units 2 × 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CB10-0AA0		1	5 units	250
TM-E15N23-01 , order unit 5 units 2 × 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CB60-0AA0		1	5 units	250

¹⁾ Note for selecting suitable TM-E and TM-P configuration aids.

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – I/O Modules

Terminal modules for power modules and electronic modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal modules for power modules and electronic modules (continued)						
TM-E terminal modules for electronic modules¹⁾ (continued)						
TM-E15N24-01 Order unit: 5 units 2 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CB70-0AA0		1	5 units	250
TM-E15S26-A1 Order unit: 5 units 2 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CA40-0AA0		1	5 units	250
TM-E15C26-A1 Order unit: 5 units 2 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CA50-0AA0		1	5 units	250
TM-E15N24-A1 Order unit: 5 units 2 × 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CA70-0AA0		1	5 units	250
TM-E15N26-A1 Order unit: 5 units 2 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	A	6ES7193-4CA80-0AA0		1	5 units	250
TM-E30S44-01 Order unit: 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CG20-0AA0		1	1 unit	250
TM-E30C44-01 Order unit: 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CG30-0AA0		1	1 unit	250
TM-E30S46-A1 Order unit: 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CF40-0AA0		1	1 unit	250
TM-E30C46-A1 Order unit: 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CF50-0AA0		1	1 unit	250
TM-E15S24-AT Order unit: 1 unit for internal temperature compensation for 2 AI TC High-Feature, screw terminals	A	6ES7193-4CL20-0AA0		1	1 unit	250
TM-E15C24-AT Order unit: 1 unit for internal temperature compensation for 2 AI TC High-Feature, spring-type terminals	A	6ES7193-4CL30-0AA0		1	1 unit	250
Accessories for shield connection						
Shield attachments Order unit: 5 units, for plugging into TM-E and TM-P	A	6ES7193-4GA00-0AA0		1	5 units	250
Shield terminals Order unit: 5 units, for busbars 3 × 10 mm	A	6ES7193-4GB00-0AA0		1	5 units	250
Ground connection terminals Order unit 1 unit For conductor cross-sections up to 25 mm ²	C	8WA2868		1	50 units	12W
Busbars 3 × 10 mm Order unit 1 unit	A	8WA2842		1	1 unit	12W
Accessories for coding						
Color coding plates Order unit: 200 units for TM-P, TM-E						
• White	A	6ES7193-4LA20-0AA0		1	200 units	250
• Yellow	A	6ES7193-4LB20-0AA0		1	200 units	250
• Yellow and green	A	6ES7193-4LC20-0AA0		1	200 units	250
• Red	A	6ES7193-4LD20-0AA0		1	200 units	250
• Blue	A	6ES7193-4LF20-0AA0		1	200 units	250
• Brown	A	6ES7193-4LG20-0AA0		1	200 units	250
• Turquoise	A	6ES7193-4LH20-0AA0		1	200 units	250
Inscription labels, with inscription Order unit: 1 set						
• 200 units for slot numbering (1 ... 20) 10 ×	C	8WA8861-0AB		100	200 units	12W
• 200 units for slot numbering (1 ... 40) 5 ×	C	8WA8861-0AC		100	200 units	12W
• 200 units for slot numbering (1 ... 64) 1 ×, (1 ... 68) 2 ×	C	8WA8861-0DA		100	200 units	12W
Inscription labels, blank 200 units for slot numbering	A	8WA8848-2AY		100	100 units	12W

¹⁾ Note for selecting suitable TM-E and TM-P configuration aids.

Terminal modules for power modules and electronic modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SIPLUS terminal modules for power modules and electronic modules (extended temperature range and medial loading)						
TM-P terminal modules for PM-E power modules						
SIPLUS ET 200S TM-P15S23-A0 (-40 ... +70 °C) Order unit: 1 unit 2 x 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals	D	6AG1193-4CD20-2AA0		1	1 unit	473
SIPLUS ET 200S TM-P15C23-A0 (-40 ... +70 °C) Order unit: 1 unit 2 x 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals	D	6AG1193-4CD30-2AA0		1	1 unit	473
SIPLUS ET 200S TM-P15C22-01 (-40 ... +70 °C) Order unit: 1 unit 2 x 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CE10-2AA0		1	1 unit	473
TM-E terminal modules for electronic modules						
SIPLUS ET 200S TM-E15C23-01 (0 ... +70 °C) Order unit: 5 units 2 x 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CB10-7AA0		1	5 units	473
SIPLUS ET 200S TM-E15N24-01 (-40 ... +70 °C) Order unit: 5 units 2 x 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, FastConnect	D	6AG1193-4CB70-7AA0		1	5 units	473
SIPLUS ET 200S TM-E15C24-A1 (-40 ... +70 °C) Order unit: 5 units 2 x 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CA30-2AA0		1	5 units	473
SIPLUS ET 200S TM-E15C24-01 (-40 ... +70 °C) Order unit: 5 units 2 x 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CB30-2AA0		1	5 units	473
SIPLUS ET 200S TM-E15S26-A1 (-40 ... +70 °C) Order unit: 5 units 2 x 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	D	6AG1193-4CA40-2AA0		1	5 units	473
SIPLUS ET 200S TM-E15C26-A1 (-40 ... +70 °C) Order unit: 5 units 2 x 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CA50-2AA0		1	5 units	473
SIPLUS ET 200S TM-E30C44-01 (-40 ... +70 °C) Order unit: 1 unit 4 x 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CG30-2AA0		1	1 unit	473
SIPLUS ET 200S TM-E30C46-A1 (-40 ... +70 °C) Order unit: 1 unit 4 x 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	D	6AG1193-4CF50-7AA0		1	1 unit	473
SIPLUS ET 200S TM-E15C24-AT (0 ... +70 °C) Order unit: 1 unit for internal temperature compensation for 2 AI TC High-Feature, spring-type terminals	D	6AG1193-4CL30-7AA0		1	1 unit	473

Accessories for shield connection

[See terminal modules for power modules and electronic modules](#)

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – Fail-safe I/O modules

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
PM-E F PROFIsafe F power modules						
PM-E F pm PROFIsafe 24 V DC power modules For the safe disconnection of digital output modules	A	6ES7138-4CF03-0AB0		1	1 unit	241
PM-E F pp PROFIsafe 24 V DC power modules For the safe disconnection of digital output modules	A	6ES7138-4CF42-0AB0		1	1 unit	241
Accessories						
IM 151-1 HIGH-FEATURE interface modules For ET 200S; transmission rates up to 12 Mbit/s; data volume of 244 bytes each for inputs and outputs; up to 63 modules can be connected; connection of PROFIsafe modules, isochronous mode (clocked operation); connection to bus through 9-pole Sub-D including termination module	A	6ES7151-1BA02-0AB0		1	1 unit	250
IM 151-3 PN HF interface modules For ET 200S; transmission rates up to 100 Mbit/s; up to 63 I/O modules up to 2 m width can be connected; 2 x connection to bus with RJ45 plug, including termination module	A	6ES7151-3BA23-0AB0		1	1 unit	250
IM 151-3 PN FO interface modules For ET 200S; 2 PROFINET fiber-optic interfaces, integrated 2-port switch, up to 63 I/O modules up to 2 m wide can be connected, including termination module	A	6ES7151-3BB23-0AB0		1	1 unit	250
Terminal modules for power modules						
TM-P30S44-A0 Order unit: 1 unit 7 x 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals for PM-E F PROFIsafe	A	6ES7193-4CK20-0AA0		1	1 unit	241
TM-P30C44-A0 Order unit: 1 unit 7 x 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals for PM-E F PROFIsafe	A	6ES7193-4CK30-0AA0		1	1 unit	241
S7 Distributed Safety V5.4 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 V5.3 SP3 and higher						
- Floating license - Floating license for 1 user, license key download without software and documentation¹⁾; email address required for delivery	A	6ES7833-1FC02-0YA5		1	1 unit	241
	A	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade From V5.x to V5.4; floating license for 1 user	C	6ES7833-1FC02-0YE5		1	1 unit	241
STEP 7 Safety Advanced V13 Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1500F, S7-300F, S7-400F, WinAC RTX F, ET 200SP, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 Professional V13 SP1						
- Floating license for 1 user - Floating license for 1 user, license key download without software and documentation¹⁾; email address required for delivery	B	6ES7833-1FA13-0YA5		1	1 unit	216
	A	6ES7833-1FA13-0YH5		1	1 unit	216
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	B	6ES7998-8XC01-8YE0		1	1 unit	230
SIMATIC Manual Collection update service for 1 year Scope of supply: The current DVD S7 Manual Collection as well as the three subsequent updates	X	6ES7998-8XC01-8YE2		1	1 unit	230
F electronic modules						
4/8 F-DI PROFIsafe 24 V DC electronic modules 30 mm width, up to PL e according to ISO 13849.1	A	6ES7138-4FA05-0AB0		1	1 unit	241
4 F-DO PROFIsafe 24 V DC/2 A electronic modules 30 mm width, up to PL e according to ISO 13849.1	A	6ES7138-4FB04-0AB0		1	1 unit	241
4 F-DI / 3 F-DO PROFIsafe 24 V DC/2 A electronic modules 30 mm width, up to PL e according to ISO 13849.1/ SIL 2 (IEC 62061)	A	6ES7138-4FC01-0AB0		1	1 unit	241

¹⁾ Up-to-date information and availability for download, see under:

<http://www.siemens.com/tia-online-software-delivery>

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – Fail-safe I/O modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
F electronic modules (continued)						
Accessories						
Terminal modules for electronic modules		See F terminal modules				
IM 151-1 High-Feature interface modules For ET 200S; transmission rates up to 12 Mbit/s; up to 63 modules can be connected, with isochronous mode, connection to bus through 9-pole Sub-D, including termination module	A	6ES7151-1BA02-0AB0		1	1 unit	250
IM 151-3 PN HF interface modules For ET 200S; transmission rates up to 100 Mbit/s; up to 63 I/O modules up to 2 m width can be connected; 2 x connection to bus with RJ45 plug, including termination module	A	6ES7151-3BA23-0AB0		1	1 unit	250
IM 151-3 PN FO interface modules For ET 200S; 2 PROFINET fiber-optic interfaces, integrated 2-port switch, up to 63 I/O modules up to 2 m wide can be connected, including termination module	A	6ES7151-3BB23-0AB0		1	1 unit	250
Distributed Safety V5.4 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 V5.3 SP3 and higher						
• Floating license	A	6ES7833-1FC02-0YA5		1	1 unit	241
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade From V5.x to V5.4; floating license for 1 user	C	6ES7833-1FC02-0YE5		1	1 unit	241
STEP 7 Safety Advanced V13 Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1500F, S7-300F, S7-400F, WinAC RTX F, ET 200SP, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 Professional V13 SP1						
• Floating license for 1 user	B	6ES7833-1FA13-0YA5		1	1 unit	216
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FA13-0YH5		1	1 unit	216
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	B	6ES7998-8XC01-8YE0		1	1 unit	230
SIMATIC Manual Collection – Update service for 1 year Scope of supply: The current DVD S7 Manual Collection as well as the three subsequent updates	X	6ES7998-8XC01-8YE2		1	1 unit	230
SIPLUS F electronic modules (extended temperature range and medial loading)						
4/8 F-DI PROFI-safe electronic modules 24 V DC (-25 ... +60 °C) 30 mm width, up to Category 4 (EN 954-1)	D	6AG1138-4FA04-2AB0		1	1 unit	473
4 F-DO PROFI-safe electronic modules 24 V DC/2 A (-25 ... +60 °C) 30 mm width, up to Category 4 (EN 954-1)	D	6AG1138-4FB03-2AB0		1	1 unit	473

Accessories

[See F electronic modules](#)

¹⁾ Up-to-date information and availability for download, see under:
<http://www.siemens.com/tia-online-software-delivery>

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

ET 200S – Fail-safe I/O modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RELAY F electronic modules						
1 F-RO F electronic modules Relay output (2 NO), outgoing current 5 A, load voltage 24 V DC and 24 ... 230 V AC, can be used up to category 4/SIL3 when controlled by F-DO	A	6ES7138-4FR00-0AA0		1	1 unit	241
Accessories						
Terminal modules for electronic modules		See F terminal modules				
IM 151-1 High-Feature interface modules For ET 200S; transmission rates up to 12 Mbit/s; up to 63 modules can be connected, with isochronous mode, connection to bus through 9-pole Sub-D, including termination module	A	6ES7151-1BA02-0AB0		1	1 unit	250
IM 151-3 PN HF interface modules For ET 200S; transmission rates up to 100 Mbit/s; up to 63 I/O modules up to 2 m width can be connected; 2 x connection to bus with RJ45 plug, including termination module	A	6ES7151-3BA23-0AB0		1	1 unit	250
IM 151-3 PN FO interface modules For ET 200S; 2 PROFINET fiber-optic interfaces, integrated 2-port switch, up to 63 I/O modules up to 2 m wide can be connected, including termination module	A	6ES7151-3BB23-0AB0		1	1 unit	250
S7 Distributed Safety V5.4 programming tool Task: Configuration software for configuring fail-safe user programs for SIMATIC S7-300F, S7-400F, WinAC RTX F, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 V5.3 SP3 and higher						
• Floating license	A	6ES7833-1FC02-0YA5		1	1 unit	241
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FC02-0YH5		1	1 unit	241
S7 Distributed Safety upgrade From V5.x to V5.4; floating license for 1 user	C	6ES7833-1FC02-0YE5		1	1 unit	241
STEP 7 Safety Advanced V13 Task: Engineering tool for configuring fail-safe user programs for SIMATIC S7-1500F, S7-300F, S7-400F, WinAC RTX F, ET 200SP, ET 200S, ET 200M, ET 200iSP, ET 200pro, ET 200eco Requirements: STEP 7 Professional V13 SP1						
• Floating license for 1 user	B	6ES7833-1FA13-0YA5		1	1 unit	216
• Floating license for 1 user, license key download without software and documentation ¹⁾ ; email address required for delivery	A	6ES7833-1FA13-0YH5		1	1 unit	216
SIMATIC Manual Collection Electronic manuals on DVD, several languages: S7-200, TD 200, S7-300, M7-300, C7, S7-400, M7-400, STEP 7, Engineering Tools, Runtime Software, SIMATIC DP (Distributed I/O), SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication)	B	6ES7998-8XC01-8YE0		1	1 unit	230
SIMATIC Manual Collection – Update service for 1 year Scope of supply: The current DVD S7 Manual Collection as well as the three subsequent updates	X	6ES7998-8XC01-8YE2		1	1 unit	230

¹⁾ Up-to-date information and availability for download, see under:
<http://www.siemens.com/tia-online-software-delivery>

Load Feeders and Motor Starters for Use in the Control Cabinet ET 200S Motor Starters and Safety Motor Starters

ET 200S – Fail-safe I/O modules

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
F terminal modules						
F terminal modules for power modules						
TM-P15S23-A1 2 x 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CC20-0AA0		1	1 unit	250
	A	6ES7193-4CC20-1AA0		1	5 units	250
TM-P15C23-A1 2 x 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CC30-0AA0		1	1 unit	250
	A	6ES7193-4CC30-1AA0		1	5 units	250
TM-P15S23-A0 2 x 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CD20-0AA0		1	1 unit	250
	A	6ES7193-4CD20-1AA0		1	5 units	250
TM-P15C23-A0 2 x 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CD30-0AA0		1	1 unit	250
	A	6ES7193-4CD30-1AA0		1	5 units	250
TM-P15S22-01 2 x 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CE00-0AA0		1	1 unit	250
	A	6ES7193-4CE00-1AA0		1	5 units	250
TM-P15C22-01 2 x 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals • Order unit 1 unit • Order unit 5 units	A	6ES7193-4CE10-0AA0		1	1 unit	250
	A	6ES7193-4CE10-1AA0		1	5 units	250
TM-P30S44-A0 Order unit: 1 unit 7 x 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw terminals for PM-E F PROFIsafe	A	6ES7193-4CK20-0AA0		1	1 unit	241
TM-P30C44-A0 Order unit: 1 unit 7 x 2 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-type terminals for PM-E F PROFIsafe	A	6ES7193-4CK30-0AA0		1	1 unit	241
F terminal modules for electronic modules						
TM-E30S44-01 Order unit: 1 unit 4 x 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CG20-0AA0		1	1 unit	250
TM-E30C44-01 Order unit: 1 unit 4 x 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CG30-0AA0		1	1 unit	250
TM-E30S46-A1 Order unit: 1 unit 4 x 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw terminals	A	6ES7193-4CF40-0AA0		1	1 unit	250
TM-E30C46-A1 Order unit: 1 unit 4 x 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-type terminals	A	6ES7193-4CF50-0AA0		1	1 unit	250
Accessories						
Color coding plates Order unit: 200 units for TM-P, TM-E						
• White	A	6ES7193-4LA20-0AA0		1	200 units	250
• Yellow	A	6ES7193-4LB20-0AA0		1	200 units	250
• Yellow and green	A	6ES7193-4LC20-0AA0		1	200 units	250
• Red	A	6ES7193-4LD20-0AA0		1	200 units	250
• Blue	A	6ES7193-4LF20-0AA0		1	200 units	250
• Brown	A	6ES7193-4LG20-0AA0		1	200 units	250
• Turquoise	A	6ES7193-4LH20-0AA0		1	200 units	250
Ground connection terminals Order unit 1 unit For conductor cross-sections up to 25 mm ²	C	8WA2868		1	50 units	12W
Busbars 3 x 10 mm Order unit 1 unit	A	8WA2842		1	1 unit	12W
Inscription labels, with inscription Order unit: 1 set						
• 200 units for slot numbering (1 ... 20) 10 x	C	8WA8861-0AB		100	200 units	12W
• 200 units for slot numbering (1 ... 40) 5 x	C	8WA8861-0AC		100	200 units	12W
• 200 units for slot numbering (1 ... 64) 1 x, (1 ... 68) 2 x	C	8WA8861-0DA		100	200 units	12W
Inscription labels, blank 200 units for slot numbering	A	8WA8848-2AY		100	100 units	12W

Load Feeders and Motor Starters for Use in the Control Cabinet

ET 200S Motor Starters and Safety Motor Starters

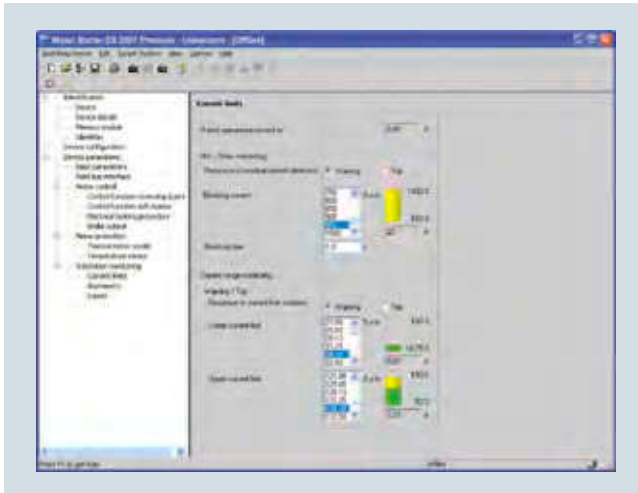
ET 200S – IO-Link master modules

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
IO-Link 4SI electronic module						
IO-Link masters For integrating sensors and actuators from different manufacturers into the ET 200S I/O system; 4 ports Connection method: Screw terminals, spring-type terminals or FastConnect	A	6ES7138-4GA50-0AB0		1	1 unit	250
Accessories						
Universal terminal modules for ET 200S						
• TM-E15S26-A1 with screw terminals	A	6ES7193-4CA40-0AA0		1	5 units	250
• TM-E15C26-A1 with spring-type terminals	A	6ES7193-4CA50-0AA0		1	5 units	250
• TM-E15N26-A1 with FastConnect	A	6ES7193-4CA80-0AA0		1	5 units	250
SIRIUS 4SI electronic modules						
IO-Link masters For connecting SIRIUS controls with IO-Link to ET 200S; 4 ports Connection method: Screw terminals, spring-type terminals or FastConnect	►	3RK1005-0LB00-0AA0		1	1 unit	42F
Accessories						
Universal terminal modules for ET 200S						
• TM-E15S26-A1 with screw terminals	A	6ES7193-4CA40-0AA0		1	5 units	250
• TM-E15C26-A1 with spring-type terminals	A	6ES7193-4CA50-0AA0		1	5 units	250
• TM-E15N26-A1 with FastConnect	A	6ES7193-4CA80-0AA0		1	5 units	250
Product manual "ET 200S for SIRIUS 4SI Electronic Modules"						
The product manual can be downloaded free of charge in PDF format from the Internet, see http://support.automation.siemens.com/WW/view/en/37856470						

Overview

Motor Starter ES

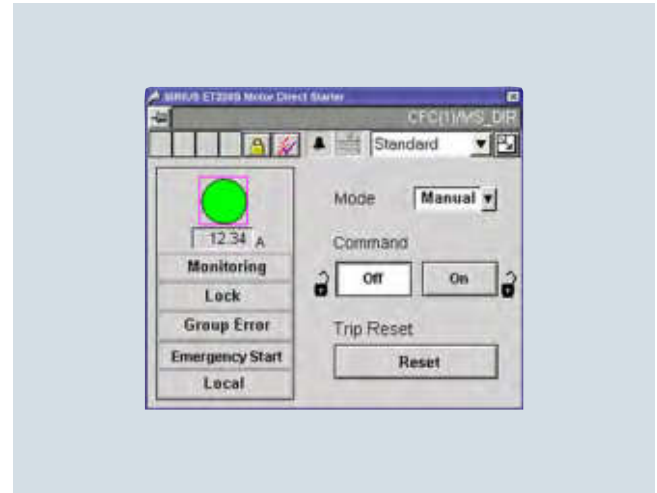


Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

Motor Starter ES is used for start up, parameterization, diagnostics, documentation and the preventative maintenance of the motor starters in the SIMATIC ET 200S, SIMATIC ET 200pro and SIRIUS M200D product families.

Detailed information on the Motor Starter ES software, see [Chapter 14 "Parameterization, Configuration and Visualization with SIRIUS"](#).

SIRIUS motor starter block library for SIMATIC PCS 7



Faceplate of the motor block

With the SIRIUS motor starter PCS 7 block library, SIRIUS ET 200S and ET 200pro motor starters can be easily and simply integrated into the SIMATIC PCS 7 process control system.

The SIRIUS motor starter PCS 7 block library contains the diagnostics and driver blocks corresponding to the SIMATIC PCS 7 diagnostics and driver concept as well as the elements (symbols and faceplates) required for operator control and process monitoring.

Detailed information about the SIRIUS motor starter block library for SIMATIC PCS 7, see [Chapter 14 "Parameterization, Configuration and Visualization with SIRIUS"](#).

Load Feeders and Motor Starters for Use in the Control Cabinet

Notes