Load Feeders

6

Introduction

Overview

Products at a glance


3RK1 301


3RK1 300


3RK1 322


3RA51


3RA52

		Order No.	Page
Communication-capable load feeders			
ET 200S			
ET 200S motor starters	• Completely factory-wired motor starters for switching and protecting any three-phase loads • Can be used as a direct-on-line, reversing or soft starter	3RK1 301	6/5
Power modules for ET 200S motor starters	• For supplying and monitoring the auxiliary voltages for motor starters	3RK1 903-0BA00	6/8
SIGUARD safety systems for ET 200S motor starters	• For the use of motor starters in systems with safety categories 2 to 4 (EN 954-1)	3RK1 903	6/9
ET 200S Failsafe motor starters	• Used with PROFIsafe and AS-i Safety at Work	3RK1 301	6/11
Terminal modules for ET 200S motor starters	• Mechanical modules in which the motor starter and expansion modules are inserted	3RK1 903	6/12
ET 200S software	• Used for start-up, parameterization, diagnostics, documentation and for preventative maintenance of the High Feature motor starters of the SIMATIC ET 200S and ECOFAST product families	3ZS1 310-0CC20	6/15
ET 200S interface/solid-state modules	• Interface modules, power modules, reserve modules, digital/analog solid-state modules, F power and F solid-state modules, F terminal modules, 4 IQ-Sense sensor module, SSI module, 1 STEP step module, positioning modules, counter modules, terminal modules for power and solid-state modules	6ES7 1	6/16
ET 200X			
ET 200X motor starters	• For switching and protection of any three-phase loads • Direct-on-line or reversing starters • Electromechanical or solid-state	3RK1 300	6/28
ET 200X basic/expansion modules	• Intelligent basic modules, ECOFAST basic modules, PM 148 power module, digital/analog expansion modules, PM 148-P pneumatic modules, PM 148-P pneumatic interface	6ES7 14	6/32
AS-Interface motor starters and Load feeders IP65/67			
AS-Interface compact starters IP65 (AC 400 V)	• Completely factory-wired load feeders to the IP65 degree of protection, designed for switching and protecting any type of three-phase loads, in particular standard induction motors in direct-on-line or reversing duty	3RK1 322	6/40
AS-Interface motor starters IP67 (DC 24 V)	• For the lowest power range up to 70 W, DC 24 V motors and the associated sensor systems can also be directly and locally connected to AS-Interface quickly and easily. Three different versions are available: - Single direct-on-line starter - Double direct-on-line starter - Reversing starters	3RK1 400-1	6/43
ECOFAST motors and soft starters	• Distributed motor starters are available for PROFIBUS DP and AS-Interface • Functionality ranges from direct-on-line starters, through reversing starters and soft starters as far as frequency converters	3RK1 3	6/44
AS-Interface motor starters and load feeders IP20	• For connecting motor starters to higher-level automation systems quickly and cost-effectively • For busbar systems with a busbar center-to-center distance of 40 mm and 60 mm • Completely factory-wired and adaptable to busbar systems		
AS-Interface direct-on-line starters for busbar systems	• For direct start, a load can be switched on and off with the load feeder	3RA51	6/46
AS-Interface reversing starters for busbar systems	• The feeder for reversing duty is designed for two directions of rotation of induction motors	3RA52	6/47

Products at a glance

3RA11

3RA12

3RE10

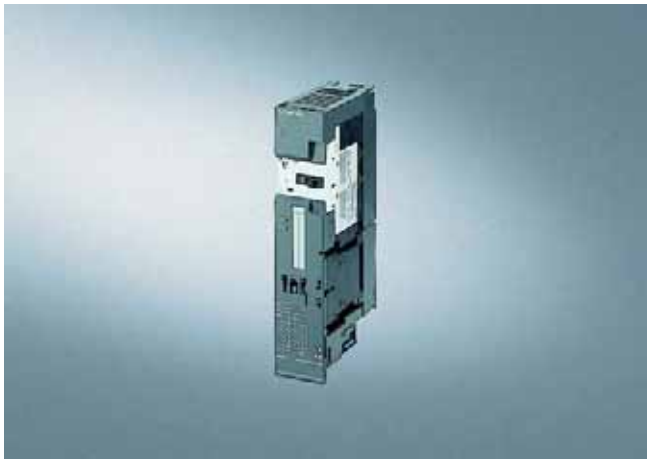
8US1 (40 mm)

8US1 (60 mm)

		Order No.	Page
Fuseless load feeders			
	• The 3RA1 fuseless load feeders comprise the 3RV1 circuit-breaker and the 3RT1 contactor. The circuit-breaker and contactor are prewired and mechanically connected in pre-assembled installation sets (link modules, wiring sets and standard-rail or busbar adapters). The circuit-breaker and contactor are mechanically and electrically connected by means of the link module • 4 sizes (S00, S0, S2, S3) • Can be supplied for direct start or reversing duty as - Complete unit or - Single units for self-assembly		
SIRIUS direct-on-line starters			
For snapping onto a standard rail or for screw mounting	• Rated control supply voltage AC 50 Hz 230 V and DC 24 V for 35 mm standard mounting rail or screw mounting	3RA11	6/67
For busbar systems	• Rated control supply voltage AC 50 Hz 230 V and DC 24 V for 40 mm and 60 mm busbar systems	3RA11	6/69
SIRIUS reversing starters			
For snapping onto a standard rail or for screw mounting	• Rated control supply voltage AC 50 Hz 230 V and DC 24 V for 35 mm standard mounting rail or screw mounting	3RA12	6/71
For busbar systems	• Rated control supply voltage AC 50 Hz 230 V and DC 24 V for 40 mm and 60 mm busbar systems	3RA12	6/73
Enclosed starters			
	• The 3RE1 enclosed starters are used for switching and for the inverse-time delayed protection of load feeders up to 22 kW at AC 400 V • The starters are available as direct-on-line starters for motors with a single direction of rotation and as reversing starters for motors with two directions of rotation		
SIRIUS direct-on-line starters	• Molded-plastic enclosure, IP65 degree of protection, including contactor	3RE10	6/90
SIRIUS reversing starters	• Molded-plastic enclosure, IP65 degree of protection, including contactor assembly	3RE13	6/91
Accessories for enclosed starters	• Molded-plastic enclosure, IP65 degree of protection, for direct-on-line and reversing starters	3RE19	6/92
8US1 busbar adapter system			
40 mm system	• Adapter for SIRIUS sizes S00/S0/S2 - Circuit-breaker - Circuit-breaker + lateral auxiliary switch - Contactor + overload relay - Direct start load feeder - Reversing duty load feeder • Adapter for SIRIUS size S3 - Circuit-breaker • Adapter for 3VF3 circuit-breakers • Adapter for SENTRON 3VL1 circuit-breakers	8US1	6/95
60 mm system	• Adapter for SIRIUS sizes S00/S0/S2 - Circuit-breaker - Circuit-breaker + lateral auxiliary switch - Contactor + overload relay - Direct start load feeder - Reversing duty load feeder • Adapter for SIRIUS size S3 - Circuit-breaker • Adapter for 3VF3, 3VF4, 3VF5 circuit-breakers • Adapter for SENTRON 3VL1, 3VL2, 3VL3, 3VL4 circuit-breakers • Adapter for SENTRIC switch disconnectors • Adapter for SENTRIC fuse switch disconnectors	8US1	6/96

ET 200S motor starters

Overview



Standard motor starters, DS1-x direct-on-line starter

High Feature motor starters, DS1e-x direct-on-line starter

- Completely factory-wired motor starters for switching and protecting any three-phase loads
- Can be used as a direct-on-line, reversing or soft starter
- Standard motor starter with circuit-breaker contactor combination up to 5.5 kW
- High Feature motor starter with a combination comprising starter circuit-breaker, solid-state overload protection and contactor or soft starter up to 7.5 kW
- With self-assembling 40/50 A power bus, i.e. the load voltage is only supplied once for a group of motor starters
- Hot swapping is permissible
- Inputs and outputs for activating and signalling the statistics have been integrated
- Diagnostics capability for active monitoring of the switching and protection functions
- Can be combined with expansion modules: Brake control module for controlling electromechanical brakes in induction motors and with two optional inputs for special functions (for quick stop with the Standard motor starter and for parameterizable special functions with the High Feature motor starter)
- For combining with SIGUARD safety systems for use in safety-related subsystems (EN 954-1)

Selection and ordering data

Standard motor starters with diagnostics, electromechanical, fuseless, expandable with brake control module

DS1-x

RS1-x

Motor rating, standard induction motor	Setting range of the overcurrent release	DT	DS1-x direct-on-line starters Order No.	PS*	Weight per PU approx. kg	DT	RS1-x reversing starters Order No.	PS*	Weight per PU approx. kg
in kW	in A								
< 0.06	0.14 ... 0.20	B	**3RK1 301-0BB00-0AA2**	1 unit	0.922	B	**3RK1 301-0BB00-1AA2**	1 unit	1.340
0.06	0.18 ... 0.25	B	**3RK1 301-0CB00-0AA2**	1 unit	0.923	B	**3RK1 301-0CB00-1AA2**	1 unit	1.360
0.09	0.22 ... 0.32	B	**3RK1 301-0DB00-0AA2**	1 unit	0.919	B	**3RK1 301-0DB00-1AA2**	1 unit	1.360
0.10	0.28 ... 0.40	B	**3RK1 301-0EB00-0AA2**	1 unit	0.925	B	**3RK1 301-0EB00-1AA2**	1 unit	1.360
0.12	0.35 ... 0.50	B	**3RK1 301-0FB00-0AA2**	1 unit	0.929	B	**3RK1 301-0FB00-1AA2**	1 unit	1.360
0.18	0.45 ... 0.63	B	**3RK1 301-0GB00-0AA2**	1 unit	0.922	B	**3RK1 301-0GB00-1AA2**	1 unit	1.350
0.21	0.55 ... 0.80	B	**3RK1 301-0HB00-0AA2**	1 unit	0.928	B	**3RK1 301-0HB00-1AA2**	1 unit	1.340
0.35	0.70 ... 1.00	A	**3RK1 301-0JB00-0AA2**	1 unit	0.923	B	**3RK1 301-0JB00-1AA2**	1 unit	1.330
0.37	0.90 ... 1.25	A	**3RK1 301-0KB00-0AA2**	1 unit	0.971	B	**3RK1 301-0KB00-1AA2**	1 unit	1.390
0.55	1.1 ... 1.6	A	**3RK1 301-1AB00-0AA2**	1 unit	0.988	B	**3RK1 301-1AB00-1AA2**	1 unit	1.390
0.75	1.4 ... 2.0	A	**3RK1 301-1BB00-0AA2**	1 unit	0.970	B	**3RK1 301-1BB00-1AA2**	1 unit	1.380
0.90	1.8 ... 2.5	A	**3RK1 301-1CB00-0AA2**	1 unit	0.975	B	**3RK1 301-1CB00-1AA2**	1 unit	1.410
1.1	2.2 ... 3.2	A	**3RK1 301-1DB00-0AA2**	1 unit	0.976	B	**3RK1 301-1DB00-1AA2**	1 unit	1.410
1.5	2.8 ... 4.0	A	**3RK1 301-1EB00-0AA2**	1 unit	0.974	B	**3RK1 301-1EB00-1AA2**	1 unit	1.380
1.9	3.5 ... 5.0	A	**3RK1 301-1FB00-0AA2**	1 unit	0.996	B	**3RK1 301-1FB00-1AA2**	1 unit	1.400
2.2	4.5 ... 6.3	A	**3RK1 301-1GB00-0AA2**	1 unit	0.989	B	**3RK1 301-1GB00-1AA2**	1 unit	1.390
3.0	5.5 ... 8.0	A	**3RK1 301-1HB00-0AA2**	1 unit	0.969	B	**3RK1 301-1HB00-1AA2**	1 unit	1.410
4.0	7 ... 10	A	**3RK1 301-1JB00-0AA2**	1 unit	0.972	B	**3RK1 301-1JB00-1AA2**	1 unit	1.410
5.5	9 ... 12	A	**3RK1 301-1KB00-0AA2**	1 unit	0.966	B	**3RK1 301-1KB00-1AA2**	1 unit	1.390

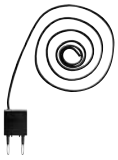
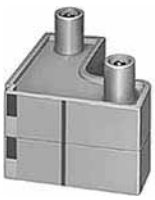
High Feature motor starters with diagnostics, solid-state overload protection, fuseless, expandable with brake control module

DS1e-x

Version	DT	Order No.	PS*	Weight per PU approx. kg
DS1e-x direct-on-line starters with interface for Switch ES motor starters				
Setting range of the overcurrent release in A				
0.3 ... 3	A	**3RK1 301- 0AB10-0AA3**	1 unit	1.340
2.4 ... 8	A	**3RK1 301- 0BB10-0AA3**	1 unit	1.320
2.4 ... 16	A	**3RK1 301- 0CB10-0AA3**	1 unit	1.330
RS1e-x reversing starters with interface for Switch ES motor starters				
Setting range of the overcurrent release in A				
0.3 ... 3	A	**3RK1 301-0AB10-1AA3**	1 unit	1.950
2.4 ... 8	A	**3RK1 301-0BB10-1AA3**	1 unit	1.940
2.4 ... 16	A	**3RK1 301-0CB10-1AA3**	1 unit	1.990
DSS1e-x soft starters with interface for Switch ES motor starters				
Setting range of the overcurrent release in A				
0.3 ... 3	A	**3RK1 301-0AB20-0AA3**	1 unit	1.210
2.4 ... 8	A	**3RK1 301-0BB20-0AA3**	1 unit	1.190
2.4 ... 16	A	**3RK1 301-0CB20-0AA3**	1 unit	1.190

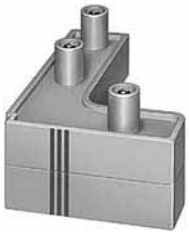
*** This quantity or a multiple thereof can be ordered.**

ET 200S motor starters

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
Accessories for Standard motor starters					
 3RK1 903-0CA00	**Control kit** for manually operating the contactor contacts during start-up and servicing (one set contains five control kits)	A	**3RK1 903-0CA00**	1 unit	0.018
 3RK1 903-0CG00	**Control unit** for direct contactor control (manual control) DC 24 V	B	**3RK1 903-0CG00**	1 unit	0.038
 3RK1 903-0CD00	**DM-V15 distance module** **for DS1-x direct-on-line starters with high temperatures or high load currents** 15 mm wide	A	**3RK1 903-0CD00**	1 unit	0.128
Accessories for High Feature motor starters					
 3RK1 903-0CH10	**2DI control module** **DC 24 V COM** Digital input module with two inputs for local motor starter functions for mounting on the front of motor starters with a serial interface for interfacing to the ES motor starter software switch Connected using LOGO! PC cable	A	**3RK1 903-0CH10**	1 unit	0.030
	LOGO! PC cable For connecting the High Feature motor starter with switch ES interface to a PC	A	**6ED1 057-1AA00-0BA0**	1 unit	0.168
Accessories for Standard and High Feature motor starters					
 3RK1 903-0AH00	**M15-PEN bridge module** 15 mm wide for bridging a 15 mm module	A	**3RK1 903-0AH00**	1 unit	0.019
 3RK1 903-0AJ00	**M30-PEN bridge module** 30 mm wide for bridging a 30 mm module	A	**3RK1 903-0AJ00**	1 unit	0.032
 3RK1 903-0AE00	**M15-L123 bridge module** 15 mm wide for bridging a 15 mm module	A	**3RK1 903-0AE00**	1 unit	0.027

*** This quantity or a multiple thereof can be ordered.**

ET 200S motor starters



3RK1 903-0AF00

3RK1 903-0CB00

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
M30-L123 bridge module 30 mm wide for bridging a 30 mm module	A	**3RK1 903-0AF00**	1 unit	0.046
Brake control module for motors with mechanical brakes				
• **xB1** DC 24 V / 4 A	A	**3RK1 903-0CB00**	1 unit	0.106
• **xB2** DC 500 V / 0.7 A	A	**3RK1 903-0CC00**	1 unit	0.109
• **xB3** DC 24 V / 4 A / 2 DI DC 24 V local control and diagnostics with two inputs	A	**3RK1 903-0CE00**	1 unit	0.110
• **xB4** DC 500 V / 0.7 A / 2 DI DC 24 V local control and diagnostics with two inputs	A	**3RK1 903-0CF00**	1 unit	0.114
ET 200S Manual				
• German	A	**6ES7 151-1AA00-8AA0**	1 unit	5.560
• English	A	**6ES7 151-1AA00-8BA0**	1 unit	5.520
• French	B	**6ES7 151-1AA00-8CA0**	1 unit	5.442

*** This quantity or a multiple thereof can be ordered.**

Power modules for ET 200S motor starters

Overview

- For supplying and monitoring the auxiliary voltages for motor starters
- Deactivation of a complete group of motor starters is possible without any additional outlay (safety category 1 acc. to EN 954-1)
- For plugging into TM-P15 terminal module

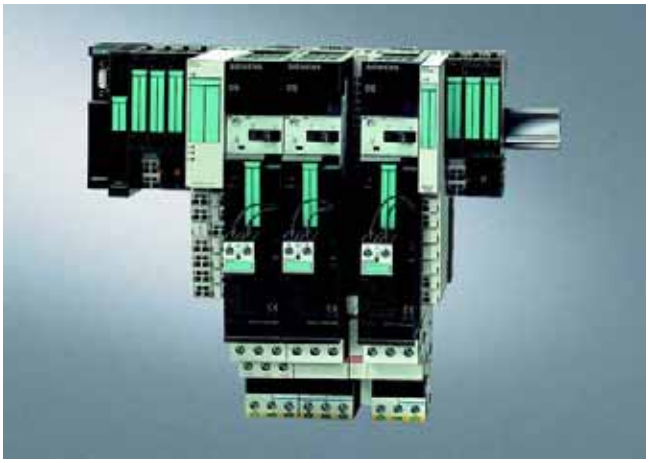
Selection and ordering data

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
 3RK1 903-0BA00	**Power module PM-D** for DC 24 V with diagnostics	A	**3RK1 903-0BA00**	1 unit	0.071
Accessories					
	Color coding plates 1200 color coding plates for terminal modules (60 x 20 color coding plates)				
	• white	A	**6ES7 193-4LA10-0AA0**	1 set	0.038
	• yellow	A	**6ES7 193-4LB10-0AA0**	1 set	0.038
	• yellow/green	A	**6ES7 193-4LC10-0AA0**	1 set	0.043
	• red	A	**6ES7 193-4LD10-0AA0**	1 set	0.038
	• blue	A	**6ES7 193-4LF10-0AA0**	1 set	0.038
	• brown	A	**6ES7 193-4LG10-0AA0**	1 set	0.039
	• petrol	A	**6ES7 193-4LH10-0AA0**	1 set	0.039

*** This quantity or a multiple thereof can be ordered.**

SIGUARD safety systems for ET 200S motor starters

Overview



- For the use of motor starters in systems with safety categories 2 to 4 (EN 954-1)
- No complex wiring for conventional safety systems
- Can also be used in combination with external safety relays
- Can also be used to activate external safety systems
- SIGUARD power modules for function-monitored and automatic starting
- SIGUARD power modules are available for Stop category 0 and 1
- SIGUARD power modules for monitoring the auxiliary voltages for motor starters
- SIGUARD power modules can be plugged into the TM-PF30 terminal modules.

Selection and ordering data

Version	DT	Order No.	PS*	Weight per PU approx. kg
SIGUARD power modules				
 3RK1 903-1BB00				
PM-D F1 SIGUARD With diagnostics Power module for EMERGENCY-STOP use Monitored start	A	**3RK1 903-1BA00**	1 unit	0.230
PM-D F2 SIGUARD With diagnostics Power module for door safety monitoring Automatic start	A	**3RK1 903-1BB00**	1 unit	0.231
PM-D F3 SIGUARD With diagnostics Power module for expanding PM-D F1/2 for another voltage group Time-delayed 0 to 15 s	A	**3RK1 903-1BD00**	1 unit	0.209
PM-D F4 SIGUARD With diagnostics Power module for expanding PM-D F1/2 for another voltage group	A	**3RK1 903-1BC00**	1 unit	0.229
PM-D F5 SIGUARD With diagnostics Power module for expanding PM-D F1 ... 4 with four floating release circuits Contact multiplier	A	**3RK1 903-1BE00**	1 unit	0.222
 3RK1 903-1BD00				
Accessories				
 3RK1 903-1CA00				
SIGUARD PM-X connection module With diagnostics Module for connecting a safety group and for connecting an external infeed contactor or for connecting to an external safety circuit	A	**3RK1 903-1CB00**	1 unit	0.068
F-Kit 1 Failsafe equipment for DS1-x standard motor starter [1])	A	**3RK1 903-1CA00**	1 unit	0.030
 3RK1 903-1CA01				
F-Kit 2 Failsafe equipment for RS1-x standard motor starter [1])	A	**3RK1 903-1CA01**	1 unit	0.056

1) The function of the Failsafe kit is already integrated into High Feature motor starters.

*** This quantity or a multiple thereof can be ordered.**

ET 200S Failsafe motor starters

Overview

Failsafe motor starter with ET 200S PROFIsafe

New to the world market: Failsafe motor starter

The Failsafe motor starter has been developed on the basis of the High Feature motor starter. It differs in that, in addition to a circuit-breaker/contactor assembly, a safe solid-state evaluation circuit is installed for error detection purposes which makes the motor starter Failsafe.

If the contactor to be switched fails in an EMERGENCY-STOP case, the evaluation solid-states detects a fault and opens the circuit-breaker in the motor starter through a shunt release in a fail-safe manner. The second redundant shutdown components is therefore no longer a main contactor, as is generally the case, but the circuit-breaker 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 withstand capability (type of coordination 2).

Application

The Failsafe motor starter is predestined for use in combination with PROFIsafe (see Figure *Failsafe motor starter with ET 200S PROFIsafe*). Another field of application is in combination with AS-i Safety at Work or safety relays (see Figure *Failsafe motor starters with AS-i Safety at Work and 3TK28*).

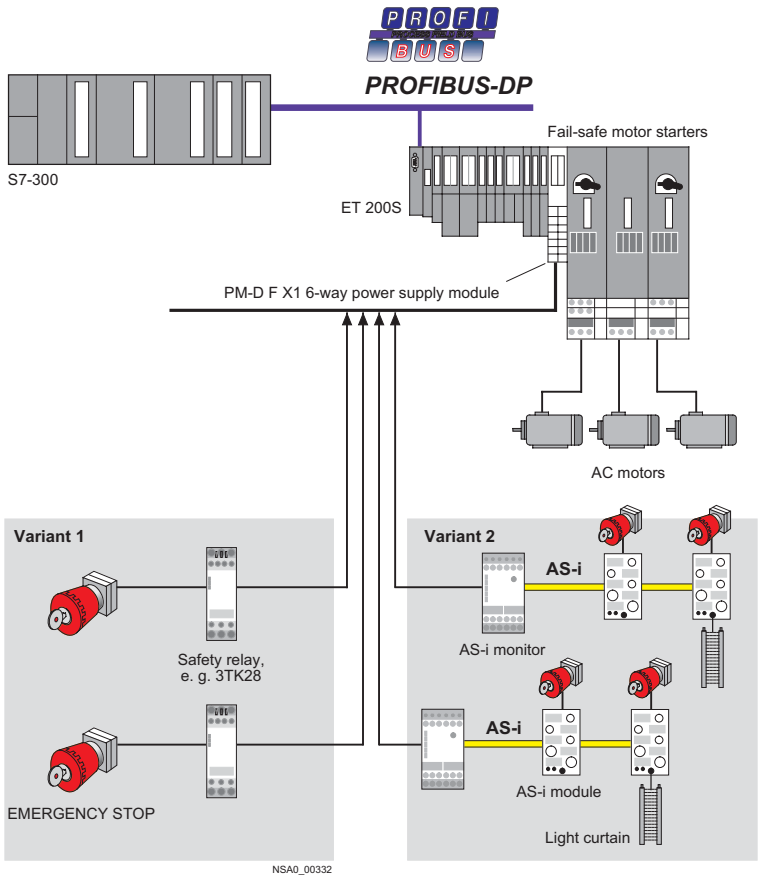
High degree of flexibility with safety engineering

Failsafe motor starter for PROFIsafe: In EMERGENCY-STOP applications, the Failsafe motor starters are selectively switched off through the upstream power module PM-D F PROFIsafe. For each power module, six switch-off groups can be formed. In the first delivery stage, the Failsafe freely-programmable logic of the SIMATIC controller is used to interface with the relevant Failsafe sensors. The interface between PROFIsafe and installations that use conventional safety systems is implemented through the Failsafe Contact Multiplier F-CM with four floating contacts.

Failsafe motor starter with safety relay (Variant 1) or AS-i Safety at Work (Variant 2): Signals with relevance for safety can be input to ET 200S through a PM-D F X1 infeed terminal module through the release 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.

Advantages over conventional safety systems

- Significant savings in components (less hardware)
- Less mounting and installation work
- Motor starters are failsafe and offer high availability
- Flexible assignment of the motor starters to one of the 6 switch-off groups (safety segments)



Failsafe motor starter with AS-i Safety at Work and 3TK28

Selection and ordering data

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
PM-D F PROFIsafe power module For six switch-off groups (SG1 ... SG6)	A	**3RK1 903-3BA00**	1 unit	0.139
PM-D F X1 power module (infeed terminal module)	A	**3RK1 903-3DA00**	1 unit	0.123
F-CM contact multiplier	A	**3RK1 903-3CA00**	1 unit	0.223
F-DS1e-x direct-on-line starter Failsafe direct-on-line starters up to 7.5 kW mechanically switching solid-state overload protection				
• 0.3 ... 3 A	A	**3RK1 301-0AB13-0AA2**	1 unit	1.680
• 2.4 ... 8 A	C	**3RK1 301-0BB13-0AA2**	1 unit	1.710
• 2.4 ... 16 A	A	**3RK1 301-0CB13-0AA2**	1 unit	1.720
F-RS1e-x reversing starter Failsafe reversing starters up to 7.5 kW mechanically switching solid-state overload protection fuseless				
• 0.3 ... 3 A	A	**3RK1 301-0AB13-1AA2**	1 unit	2.580
• 2.4 ... 8 A	C	**3RK1 301-0BB13-1AA2**	1 unit	2.570
• 2.4 ... 16 A	A	**3RK1 301-0CB13-1AA2**	1 unit	2.580

*** This quantity or a multiple thereof can be ordered.**

Terminal modules for ET 200S motor starters

Overview

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 module for SIGUARD (TM-X) Connection Module

- Connection via screw-type terminals
- Light colored enclosure for visual distinction

Terminal module for SIGUARD (TM-PF30) Power Module

- Connection via screw-type terminals
- Light colored enclosure for visual distinction

Terminal module for power module

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

Selection and ordering data

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
Components for standard motor starters					
	Terminal modules				
 3RK1 903-0AB00	• TM-DS45-S32 for DS1-x direct-on-line starters with incoming energy bus connection including three caps for terminating the energy bus	A	**3RK1 903-0AB00**	1 unit	0.376
 3RK1 903-0AB10	• TM-DS45-S31 for DS1-x direct-on-line starters without an incoming connection for the energy bus	A	**3RK1 903-0AB10**	1 unit	0.371
 3RK1 903-0AC00	• TM-RS90-S32 for RS1-x reversing starters with incoming energy bus connection including three caps for terminating the energy bus	A	**3RK1 903-0AC00**	1 unit	0.500
	• TM-RS90-S31 for RS1-x reversing starters without supply connection for power bus	A	**3RK1 903-0AC10**	1 unit	0.613

*** This quantity or a multiple thereof can be ordered.**

Terminal modules for ET 200S motor starters

	Version	DT	Order No.	PS*	Weight per PU approx. kg
Components for standard motor starters					
 3RK1 903-2AA00	**Terminal block PE/ground/N M45-PEN-F** 45 mm wide incl. 2 caps in combination with TM-DS45-S32 / TM-RS90-S32	A	**3RK1 903-2AA00**	1 unit	0.077
 3RK1 903-2AA10	**Terminal block PE/ground/N M45-PEN-S** 45 mm wide in combination with TM-DS45-S31 / TM-RS90-S31[1)]	A	**3RK1 903-2AA10**	1 unit	0.081
Components for High Feature motor starters					
 3RK1 903-0AK00	**Terminal modules** • TM-DS65-S32 for DS1e-x, DSS1e-x direct-on-line starters with incoming energy bus connection including three caps for terminating the energy bus	A	**3RK1 903-0AK00**	1 unit	0.490
	• TM-DS65-S31 for DS1e-x, DSS1e-x direct-on-line starters without incoming energy bus connection	A	**3RK1 903-0AK10**	1 unit	0.472
	• TM-RS130-S32 for RS1e-x reversing starters with incoming energy bus connection including three caps for terminating the energy bus	A	**3RK1 903-0AL00**	1 unit	0.785
	• TM-RS130-S31 for RS1e-x reversing starters without incoming energy bus connection	A	**3RK1 903-0AL10**	1 unit	0.843
	M65-PEN-F infeed module 65 mm wide incl. 2 caps in combination with TM-DS65-S32 / TM-RS130-S32	A	**3RK1 903-2AC00**	1 unit	0.093
	M65-PEN-S connection module 65 mm wide in combination with TM-DS65-S31 / TM-RS130-S31	A	**3RK1 903-2AC10**	1 unit	0.099
Components for Standard and High Feature motor starters					
 3RK1 903-0AG00	**Terminal modules** For brake control module • TM-xB15 S24-01 for xB1 or xB2	A	**3RK1 903-0AG00**	1 unit	0.174
	• TM-xB215 S24-01 for xB1 ... 4	A	**3RK1 903-0AG01**	1 unit	0.188
Components for power modules for motor starters					
 3RK1 903-0AA00	**TM-P15-S27-01 terminal module** for PM-D power module	A	**3RK1 903-0AA00**	1 unit	0.224

1) For TM-RS90-S31 two PE/ground/N M45-PEN-S terminal blocks are required.

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Terminal modules for ET 200S motor starters

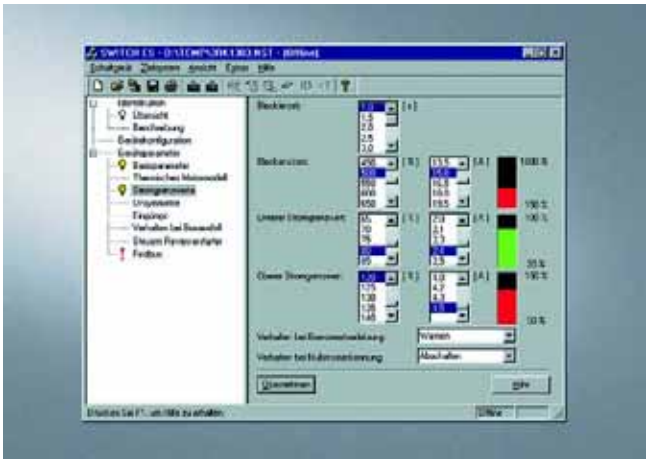
Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Components for Failsafe motor starters				
TM-PF30 S47-F0 terminal module For PM-D F PROFIsafe power module	B	**3RK1 903-3AA00**	1 unit	0.360
TM-PFX30 S47-G0/G1 terminal module For PM-D F X1 power module (infeed terminal module)				
• Infeed left (TM-PFX30 S47-G0)	A	**3RK1 903-3AE00**	1 unit	0.405
• Infeed center (TM-PFX30 S47-G1)	A	**3RK1 903-3AE10**	1 unit	0.408
TM-FCM30 S47-F01 terminal module For F-CM contact multiplier	B	**3RK1 903-3AB10**	1 unit	0.410
TM-FDS65-S32/S31-01 terminal module For F-DS1e-x direct-on-line starter with coding				
• With supply terminals for power bus (TM-FDS65-S32-01)	A	**3RK1 903-3AC00**	1 unit	0.471
• Without supply terminals for power bus (TM-FDS65-S31-01)	A	**3RK1 903-3AC10**	1 unit	0.490
TM-FRS130-S32/S31-01 terminal module For F-RS1e-x reversing starter with coding				
• With supply terminals for power bus (TM-FRS130-S32-01)	A	**3RK1 903-3AD00**	1 unit	0.818
• Without supply terminals for power bus (TM-FRS130-S31-01)	A	**3RK1 903-3AD10**	1 unit	0.875
M65-PEN-F infeed module	A	**3RK1 903-2AC00**	1 unit	0.093
M65-PEN-S connection module	A	**3RK1 903-2AC10**	1 unit	0.099
Components for SIGUARD safety system for ET 200S motor starters				
Terminal modules				
• TM-PF30 S47-B1 for PM-D F1/2 power modules with infeed U_1/U_2 and sensor connection	A	**3RK1 903-1AA00**	1 unit	0.408
• TM-PF30 S47-B0 for PM-D F1/2 power modules with sensor connection	A	**3RK1 903-1AA10**	1 unit	0.393
• TM-PF30 S47-C1 for PM-D F3/4 power modules with infeed U_1/U_2 and actuation input IN+/IN-	A	**3RK1 903-1AC00**	1 unit	0.399
• TM-PF30 S47-C0 for PM-D F3/4 power modules with infeed U_2	A	**3RK1 903-1AC10**	1 unit	0.378
• TM-PF30 S47-D0 with PM-D F5 power modules	A	**3RK1 903-1AD10**	1 unit	0.400
• TM-X15 S27-01 for SIGUARD connection module	A	**3RK1 903-1AB00**	1 unit	0.203


3RK1 903-1AA00

*** This quantity or a multiple thereof can be ordered.**

Overview

Switch ES motor starter



Switch ES motor starter is used for start-up, parameterization, diagnostics, documentation and for preventative maintenance of the High Feature motor starters of the SIMATIC ET 200S and ECOFAST product families.

Interfacing is performed

- either through the serial device interface (applicable to ET 200S/ECOFAST) or
- with PROFIBUS DP V1 capable motor starters from any point in Profibus (for ECOFAST).

Using Switch ES motor starter, the communication capable motor starters are easily parameterized during start-up, monitored during normal operation and successfully diagnosed for service purposes. Preventative maintenance is supported by a function for reading out diverse statistical data (e.g. operating hours, operating cycles, cut-off currents, etc.). The user is supported during these procedures with comprehensive Help functions and plain text displays.

Switch ES motor starter can either be used as a stand-alone program or it can be integrated into STEP 7 V5.1 SP3 upwards via an object manager.

Selection and ordering data

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Switch ES motor starter comprising: • Switch ES motor starter Version 2.1 for parameterizing, monitoring, diagnosing and testing the ECOFAST motor starters and SIMATIC ET200S High Feature starter over PROFIBUS DP with Online Help English/German selectable tested for execution under Windows 95/98/2000/NT/XP System requirements: PROFIBUS DP interface: CP5411 (ISA), CP5412 (ISA), CP5511 (PCMCIA), CP5611 (PCI), Smart Cable for serial communication through a serial interface and teleservice, CP5613 and CP5614 (new CP card) and MPI interface on PG7xx and its driver software, CD-ROM drive • STEP7 Object Manager For integrating the ECOFAST Starter as an S7 slave in SIMATIC S7 For calling Switch ES from STEP7 System requirements: SIMATIC S7/M7/C7/PCS7, STEP7 (Version 5.0 or higher), CD-ROM drive	A	**3ZS1 310-0CC20-0YA0**	1 unit	0.230

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Selection and ordering data

Version	DT	Order No.	PS*	Weight per PU approx. kg
IM 151-1 interface module				
IM 151 BASIC interface module[1)] for ET 200S; data transfer rates up to 12 Mbit/s; up to 12 power, solid-state and motor starter modules can be connected; connected to the bus through 9-pole Sub-D incl. bus termination module	A	**6ES7 151-1CA00-0AB0**	1 unit	0.186
IM 151 Standard interface module for ET 200S; data transfer rates up to 12 Mbit/s; data volume of 128 bytes for inputs and 128 bytes for outputs; up to 63 power, solid-state or motor starter modules can be connected; connected to the bus through 9-pole Sub-D incl. bus termination module	A	**6ES7 151-1AA03-0AB0**	1 unit	0.188
IM 151 FO Standard interface module for ET 200S; data transfer rates up to 12 Mbit/s; data volume of 128 bytes for inputs and 128 bytes for outputs; up to 63 power, solid-state or motor starter modules can be connected; connected to the bus through integr. fiber-optic cable ncl. bus termination module	A	**6ES7 151-1AB02-0AB0**	1 unit	0.198
IM 151 High Feature interface module for ET 200S; data transfer rates up to 12 Mbit/s; data volume of 244 bytes each for I/Os, up to 63 modules can be connected; isochrone mode bus connection through 9-pole Sub-D incl. bus termination module	X	**6ES7 151-1BA00-0AB0**	1 unit	0.184
Accessories				
ET 200S Manual				
• German	A	**6ES7 151-1AA00-8AA0**	1 unit	5.560
• English	A	**6ES7 151-1AA00-8BA0**	1 unit	5.520
• French	B	**6ES7 151-1AA00-8CA0**	1 unit	5.442
SIMATIC Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
SIMATIC Manual Collection – Update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400
100 Simplex connectors For plastic fiber-optic cable incl. 5 polishing sets	B	**6GK1 901-0FB00-0AA0**	1 set	0.200
50 plug-in adapters for 2 Simplex connectors	A	**6ES7 195-1BE00-0XA0**	1 set	0.117
Inscription sheet in A4 format, perforated Order unit is 1 set of 10 sheets of 60 strips that can be used for solid-state modules, power modules and motor starters + 20 strips that can be used for IM 151				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Termination module for ET 200S	A	**6ES7 193-4JA00-0AA0**	1 unit	0.030
SIMATIC S5, 35 mm standard mounting rail, 483 mm long for 19" cabinets	A	**6ES5 710-8MA11**	1 unit	0.452
SIMATIC S5, 35 mm standard mounting rail, 530 mm long for 600 mm cabinets	A	**6ES5 710-8MA21**	1 unit	0.478
SIMATIC S5, 35 mm standard mounting rail, 830 mm long for 900 mm cabinets	A	**6ES5 710-8MA31**	1 unit	0.750
SIMATIC S5, 35 mm standard mounting rail, 2 m long	A	**6ES5 710-8MA41**	1 unit	1.930

1) Technical specifications available on request.

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
IM 151-7 CPU interface module				
IM 151/CPU FO (24 K) interface module Including bus termination module	A	**6ES7 151-7AB00-0AB0**	1 unit	0.257
IM 151/CPU (48 K) interface module Including bus termination module	A	**6ES7 151-7AA10-0AB0**	1 unit	0.100
Accessories				
MMC 64 KB [1] for program backup	A	**6ES7 953-8LF00-0AA0**	1 unit	0.013
MMC 128 KB [1] for program backup	A	**6ES7 953-8LG00-0AA0**	1 unit	0.020
MMC 512 KB [1] for program backup	A	**6ES7 953-8LJ00-0AA0**	1 unit	0.012
MMC 2 MB [1] for program backup and/or firmware update	A	**6ES7 953-8LL00-0AA0**	1 unit	0.009
MMC 4 MB [1] for program backup	A	**6ES7 953-8LM00-0AA0**	1 unit	0.013
MMC 8 MB [1] for program backup	A	**6ES7 953-8LP10-0AA0**	1 unit	0.021
MMC adapter for PG memory card slot	C	**6ES7 798-0BA00-0XA0**	1 unit	0.041
External prommer for eg. MMC with USB interface	A	**6ES7 792-0AA00-0XA0**	1 unit	1.290
PG with integrated MMC interface		on request		
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
ET 200S Manual				
• German	A	**6ES7 151-1AA00-8AA0**	1 unit	5.560
• English	A	**6ES7 151-1AA00-8BA0**	1 unit	5.520
• French	B	**6ES7 151-1AA00-8CA0**	1 unit	5.442
Termination module for ET 200S	A	**6ES7 193-4JA00-0AA0**	1 unit	0.030
SIMATIC S5, 35 mm standard mounting rail, 483 mm long for 19" cabinets	A	**6ES5 710-8MA11**	1 unit	0.452
SIMATIC S5, 35 mm standard mounting rail, 530 mm long for 600 mm cabinets	A	**6ES5 710-8MA21**	1 unit	0.478
SIMATIC S5, 35 mm standard mounting rail, 830 mm long for 900 mm cabinets	A	**6ES5 710-8MA31**	1 unit	0.750
SIMATIC S5, 35 mm standard mounting rail, 2 m long	A	**6ES5 710-8MA41**	1 unit	1.930

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

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Master interfaces for IM 151-7 CPU interface modules				
Master interface module for IM151-7 CPU interface module	A	**6ES7 138-4HA00-0AB0**	1 unit	0.100
Accessories				
MMC 64 KB [1] for program backup	A	**6ES7 953-8LF00-0AA0**	1 unit	0.013
MMC 128 KB [1] for program backup	A	**6ES7 953-8LG00-0AA0**	1 unit	0.020
MMC 512 KB [1] for program backup	A	**6ES7 953-8LJ00-0AA0**	1 unit	0.012
MMC 2 MB [1] for program backup and/or firmware update	A	**6ES7 953-8LL00-0AA0**	1 unit	0.009
MMC 4 MB [1] for program backup	A	**6ES7 953-8LM00-0AA0**	1 unit	0.013
MMC 8 MB [1] for program backup	A	**6ES7 953-8LP10-0AA0**	1 unit	0.021
MMC adapter for PG memory card slot	C	**6ES7 798-0BA00-0AA0**	1 unit	0.041
External prommer for eg. MMC with USB interface	A	**6ES7 792-0AA00-0XA0**	1 unit	1.290
PG with integrated MMC interface		on request		
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
ET 200S Manual				
• German	A	**6ES7 151-1AA00-8AA0**	1 unit	5.560
• English	A	**6ES7 151-1AA00-8BA0**	1 unit	5.520
• French	B	**6ES7 151-1AA00-8CA0**	1 unit	5.442
Termination module for ET 200S	A	**6ES7 193-4JA00-0AA0**	1 unit	0.030
SIMATIC S5. 35 mm standard mounting rail, 483 mm long for 19" cabinets	A	**6ES5 710-8MA11**	1 unit	0.452
SIMATIC S5, 35 mm standard mounting rail, 530 mm long for 600 mm cabinets	A	**6ES5 710-8MA21**	1 unit	0.478
SIMATIC S5, 35 mm standard mounting rail, 830 mm long for 900 mm cabinets	A	**6ES5 710-8MA31**	1 unit	0.750
SIMATIC S5, 35 mm standard mounting rail, 2 m long	A	**6ES5 710-8MA41**	1 unit	1.930

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

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx. kg
IM151-7 F-CPU interface module				
IM151-7 F-CPU interface module For constructing a failsafe automation system	X	**6ES7 151-7FA00-0AB0**	1 unit	0.247
Accessories				
MMC 64 KB [1] for program backup	A	**6ES7 953-8LF00-0AA0**	1 unit	0.013
MMC 128 KB [1] for program backup	A	**6ES7 953-8LG00-0AA0**	1 unit	0.020
MMC 512 KB [1] for program backup	A	**6ES7 953-8LJ00-0AA0**	1 unit	0.012
MMC 2 MB [1] for program backup and/or firmware update	A	**6ES7 953-8LL00-0AA0**	1 unit	0.009
MMC 4 MB [1] for program backup	A	**6ES7 953-8LM00-0AA0**	1 unit	0.013
MMC adapter for PG memory card slot	C	**6ES7 798-0BA00-0XA0**	1 unit	0.041
External prommer for eg. MMC with USB interface	A	**6ES7 792-0AA00-0XA0**	1 unit	1.290
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Termination module				
• for ET 200S	A	**6ES7 193-4JA00-0AA0**	1 unit	0.030
• SIMATIC S5, 35 mm standard mounting rail, 483 mm long for 19" cabinets	A	**6ES5 710-8MA11**	1 unit	0.452
• SIMATIC S5, 35 mm standard mounting rail, 530 mm long for 600 mm cabinets	A	**6ES5 710-8MA21**	1 unit	0.478
• SIMATIC S5, 35 mm standard mounting rail, 830 mm long for 900 mm cabinets	A	**6ES5 710-8MA31**	1 unit	0.750
• SIMATIC S5, 35 mm standard mounting rail, 2 m long	A	**6ES5 710-8MA41**	1 unit	1.930
Documentation for S7-300F				
System description Configuration and Programming of PROFIsafe Failsafe Modules				
• German	C	**6ES7 988-8FB10-8AA0**	1 unit	1.821
• English	D	**6ES7 988-8FB10-8BA0**	1 unit	2.000
• French	D	**6ES7 988-8FB10-8CA0**	1 unit	2.080
PM-E power modules for solid-state modules				
PM-E DC 24 V power module [2] For solid-state modules; With diagnostics	A	**6ES7 138-4CA00-0AA0**	1 unit	0.041
PM-E power module DC 24 to 48 V For solid-state modules; With diagnostics	X	**6ES7 138-4CA50-0AB0**	1 unit	0.041
PM-E power module DC 24 to 48 V, AC 42 to 230 V For solid-state modules; With diagnostics and fuse	A	**6ES7 138-4CB10-0AB0**	1 unit	0.047
PM-E F PROFIsafe power module DC 24 V For the safe switch-off of digital output modules	X	**6ES7 138-4CF00-0AB0**	1 unit	0.100
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Reserve modules				
Reserve modules for ET 200S				
For reserving space in unused slots				
• 15 mm overall width (5 units)	X	**6ES7 138-4AA00-0AA0**	1 set	0.134
• 30 mm overall width (1 unit)	X	**6ES7 138-4AA10-0AA0**	1 unit	0.042

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

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

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Digital solid-state modules				
Digital input modules				
Order unit 5 units				
• 2 DI DC 24 V Standard	X	**6ES7 131-4BB00-0AA0**	1 set	0.179
• 2 DI DC 24 V High Feature	A	**6ES7 131-4BB00-0AB0**	1 set	0.183
• 4 DI DC 24 V Standard	A	**6ES7 131-4BD00-0AA0**	1 set	0.184
• 4 DI DC 24 V High Feature	A	**6ES7 131-4BD00-0AB0**	1 set	0.185
• 2DI AC 120 V	A	**6ES7 131-4EB00-0AB0**	1 set	0.200
• 2DI AC 230 V	A	**6ES7 131-4FB00-0AB0**	1 set	0.200
• 4 DI UC 24 ... 48 V	A	**6ES7 131-4CD00-0AB0**	1 set	0.200
• 4 DI DC 24 V NAMUR	A	**6ES7 131-4RD00-0AB0**	1 set	0.100
• 4 DI DC 24 V SOURCE INPUT	A	**6ES7 131-4BD50-0AA0**	1 set	0.187
Digital output modules				
Order unit 5 units				
• 2 DO DC 24 V/0.5 A Standard	X	**6ES7 132-4BB00-0AA0**	1 set	0.183
• 2 DO DC 24 V/0.5 A High Feature	A	**6ES7 132-4BB00-0AB0**	1 set	0.187
• 2 DO DC 24 V/2 A Standard	X	**6ES7 132-4BB30-0AA0**	1 set	0.185
• 2 DO DC 24 V/2 A High Feature	A	**6ES7 132-4BB30-0AB0**	1 set	0.204
• 4 DO DC 24 V/0.5 A Standard	A	**6ES7 132-4BD00-0AA0**	1 set	0.186
• 4 DO DC 24 V/2 A Standard	A	**6ES7 132-4BD30-0AA0**	1 set	0.189
• 2 DO AC 120/230 V/1 A	A	**6ES7 132-4FB00-0AB0**	1 set	0.215
• 2 DO DC 24 V ... AC 230 V/5 A relay, NO	A	**6ES7 132-4HB00-0AB0**	1 set	0.223
• 2 DO DC 24 ... 48 V to AC 230 V/5 A relay, CO	A	**6ES7 132-4HB10-0AB0**	1 set	0.200
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Analog solid-state modules				
Analog input modules				
Order unit 1 unit				
• 2 AI U Standard	A	**6ES7 134-4FB00-0AB0**	1 unit	0.046
• 2 AI U High Speed	A	**6ES7 134-4FB51-0AB0**	1 unit	0.060
• 2 AI U High Feature	A	**6ES7 134-4LB00-0AB0**	1 unit	0.040
• 2 AI I Standard 2-wire	A	**6ES7 134-4GB00-0AB0**	1 unit	0.044
• 2 AI I High Speed 2-wire	A	**6ES7 134-4GB51-0AB0**	1 unit	0.032
• 2 AI I Standard 4-wire	A	**6ES7 134-4GB10-0AB0**	1 unit	0.045
• 2 AI I High Speed 4-wire	A	**6ES7 134-4GB61-0AB0**	1 unit	0.033
• 2 AI I High Feature 2/4-wire (15 bits + sign)	A	**6ES7 134-4MB00-0AB0**	1 unit	0.050
• 2 AI RTD Standard	A	**6ES7 134-4JB50-0AB0**	1 unit	0.047
• 2 AI TC Standard	A	**6ES7 134-4JB00-0AB0**	1 unit	0.046
• 2 AI RTD High Feature	A	**6ES7 134-4NB50-0AB0**	1 unit	0.045
• 2 AI TC High Feature	A	**6ES7 134-4NB00-0AB0**	1 unit	0.047
Analog output modules				
Order unit 1 unit				
• 2 AO U Standard	A	**6ES7 135-4FB00-0AB0**	1 unit	0.046
• 2 AO U High Feature	X	**6ES7 135-4LB01-0AB0**	1 unit	0.064
• 2 AO I Standard	A	**6ES7 135-4GB00-0AB0**	1 unit	0.050
• 2 AO I High Feature	X	**6ES7 135-4MB01-0AB0**	1 unit	0.064
Accessories for inscription				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Accessories for system-integrated shield connection				
Shield attachment	A	**6ES7 193-4GA00-0AA0**	1 set	0.045
Order unit 5 units				
for plugging into TM-E and TM-P				
Shield terminals	A	**6ES7 193-4GB00-0AA0**	1 set	0.063
Order unit 5 units				
For busbars 3 × 10 mm				
Ground connection terminal	A	**8WA2 868**	1 unit	0.014
Order unit 1 unit				
For conductor cross-sections up to 25 mm^2				
Busbars 3 × 10 mm	A	**8WA2 842**	1 unit	0.267
Order unit 1 unit				

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*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
F power modules				
PM-E 24 V DC With diagnostics	A	**6ES7 138-4CA00-0AA0**	1 unit	0.041
PM-E DC 24-48 V, AC 24-230 V With diagnostics and fuse	A	**6ES7 138-4CB10-0AB0**	1 unit	0.047
PM-E F PROFIsafe DC 24 up to category 4 (EN 954-1)	X	**6ES7 138-4CF00-0AB0**	1 unit	0.100
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Programming tool Distributed Safety V5.2 *Task:* Configuration software for configuring failsafe application programs for SIMATIC S7-300F *Prerequisite:* STEP 7 V5.1 SP 6 and higher	A	**6ES7 833-1FC00-0YX0**	1 unit	0.252
Documentation for S7-300F System description Configuration and Programming of PROFIsafe Failsafe Modules				
• German	C	**6ES7 988-8FB10-8AA0**	1 unit	1.821
• English	D	**6ES7 988-8FB10-8BA0**	1 unit	2.000
• French	D	**6ES7 988-8FB10-8CA0**	1 unit	2.080
F solid-state modules				
Solid-state module 4/8 F-DI PROFIsafe DC 24V 30 mm overall width, up to category 4 (EN 954-1)	X	**6ES7 138-4FA00-0AB0**	1 unit	0.089
Solid-state module 4 F-DO PROFIsafe DC 24V/2A 30 mm overall width, up to category 4 (EN 954-1)	X	**6ES7 138-4FB00-0AB0**	1 unit	0.093
Accessories				
TM-E30S44-01 terminal module Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CG20-0AA0**	1 unit	0.148
TM-E30C44-01 terminal module Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CG30-0AA0**	1 unit	0.129
TM-E30S46-A1 terminal module Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	X	**6ES7 193-4CF40-0AA0**	1 unit	0.184
TM-E30C46-A1 terminal module Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	X	**6ES7 193-4CF50-0AA0**	1 unit	0.157
Programming tool Distributed Safety V5.2 *Task:* Configuration software for configuring failsafe application programs for SIMATIC S7-300F *Prerequisite:* STEP 7 V5.1 SP 6 and higher	A	**6ES7 833-1FC00-0YX0**	1 unit	0.252
Documentation for S7-300F System description Configuration and Programming of PROFIsafe Failsafe Modules				
• German	C	**6ES7 988-8FB10-8AA0**	1 unit	1.821
• English	D	**6ES7 988-8FB10-8BA0**	1 unit	2.000
• French	D	**6ES7 988-8FB10-8CA0**	1 unit	2.080

*** This quantity or a multiple thereof can be ordered.**

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
F terminal modules				
TM-P15S23-A1 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CC20-0AA0**	1 unit	0.077
TM-P15C23-A1 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CC30-0AA0**	1 unit	0.071
TM-P15S23-A0 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw-type terminals	A	**6ES7 193-4CD20-0AA0**	1 unit	0.067
TM-P15C23-A0 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-loaded terminals	A	**6ES7 193-4CD30-0AA0**	1 unit	0.070
TM-P15S22-01 Order unit 1 unit 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CE00-0AA0**	1 unit	0.060
TM-P15C22-01 Order unit 1 unit 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CE10-0AA0**	1 unit	0.064
TM-P30S44-A0 Order unit 1 unit 7 × 2 terminals, connection to AUX1 rail, AUX1 disconnected through to the left, screw terminals for PM-E F PROFIsafe	X	**6ES7 193-4CK20-0AA0**	1 unit	0.140
TM-P30C44-A0 Order unit 1 unit 7 × 2 terminals, connection to AUX1 rail, AUX1 disconnected through to the left, spring-loaded terminals for PM-E F PROFIsafe	X	**6ES7 193-4CK30-0AA0**	1 unit	0.120
TM-E30S44-01 Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CG20-0AA0**	1 unit	0.148
TM-E30C44-01 Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CG30-0AA0**	1 unit	0.129
TM-E30S46-A1 Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	X	**6ES7 193-4CF40-0AA0**	1 unit	0.184
TM-E30C46-A1 Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	X	**6ES7 193-4CF50-0AA0**	1 unit	0.157
Accessories				
Color coding plates Order unit 1 set of 1200 units in each color, • yellow • yellow/green	 A A	 **6ES7 193-4LB10-0AA0** **6ES7 193-4LC10-0AA0**	 1 set 1 set	 0.038 0.043
Inscription sheet in A4 format • petrol • red • yellow • light beige	 A A A A	 **6ES7 193-4BH00-0AA0** **6ES7 193-4BD00-0AA0** **6ES7 193-4BB00-0AA0** **6ES7 193-4BA00-0AA0**	 1 set 1 set 1 set 1 set	 0.234 0.220 0.224 0.160
Programming tool Distributed Safety V5.2 *Task:* Configuration software for configuring failsafe application programs for SIMATIC S7-300F *Prerequisite:* STEP 7 V5.1 SP 6 and higher	A	**6ES7 833-1FC00-0YX0**	1 unit	0.252

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
F terminal modules (continued)				
Documentation for S7-300F				
System description Configuration and Programming, PROFIsafe Failsafe Modules				
• German	C	**6ES7 988-8FB10-8AA0**	1 unit	1.821
• English	D	**6ES7 988-8FB10-8BA0**	1 unit	2.000
• French	D	**6ES7 988-8FB10-8CA0**	1 unit	2.080
Ground connection terminal	A	**8WA2 868**	1 unit	0.014
Order unit 1 unit For conductor cross-sections up to 25 mm^2				
Busbars 3 × 10 mm	A	**8WA2 842**	1 unit	0.267
Order unit 1 unit				
Labeling plates, with inscription				
Order unit 1 set				
• 200 units for slot numbering (1 ... 20) 10 ×	A	**8WA8 861-0AB**	1 set	0.033
• 200 units for slot numbering (1 ... 40) 5 ×	A	**8WA8 861-0AC**	1 set	0.034
• 200 units for slot numbering (1 ... 64) 1 ×, (1 ... 68) 2 ×	A	**8WA8 861-0DA**	1 set	0.034
Labeling plates, without inscription				
200 units for slot numbering	A	**8WA8 848-2AY**	1 set	0.018
4 IQ-Sense sensor modules				
4 IQ-Sense sensor module	X	**6ES7 138-4GA00-0AB0**	1 unit	0.201
Sensors				
for connecting to the 4 IQ-Sense sensor module				
• Diffuse sensor, type C40 IQ-Sense	▶	**3SF7 240-3JQ00**	1 unit	0.985
• Diffuse sensor, type K80 IQ-Sense	▶	**3SF7 210-3JQ00**	1 unit	0.123
• Diffuse sensor with background suppression, type K80 IQ-Sense	C	**3SF7 214-3JQ00**	1 unit	0.126
• Retroreflective sensor, type C40 IQ-Sense	▶	**3SF7 241-3JQ00**	1 unit	0.985
• Retroreflective sensor, type K80 IQ-Sense	▶	**3SF7 211-3JQ00**	1 unit	0.118
SSI modules				
SSI module	X	**6ES7 138-4DB01-0AB0**	1 unit	0.047
For the connection of absolute encoders with SSI interface				
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
2 PULSE pulse generators				
Pulse generator and timer module 2 PULSE	A	**6ES7 138-4DD00-0AB0**	1 unit	0.060
for ET 200S				
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
1 STEP step modules				
1 STEP step module	A	**6ES7 138-4DC00-0AB0**	1 unit	0.051
for simple positioning tasks with stepper motor axes				
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
SIMOSTEP stepper motors		see ST 70 Catalog		
Power section for stepper motors FM STEPDRIVE		see ST 70 Catalog		

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
1 POS SSI/digital positioning modules				
1 POS SSI/digital positioning module for controlled positioning for absolute encoders with an SSI interface	A	**6ES7 138-4DH00-0AB0**	1 unit	0.076
1 POS SSI/analog positioning modules				
1 POS SSI/analog positioning module For controlled positioning with analog output for SSI encoder, 30 mm overall width	A	**6ES7 138-4DK00-0AB0**	1 unit	0.083
1 POS Inc/digital positioning modules				
1 POS Inc/digital positioning module for controlled positioning for incremental encoders acc. to RS 422	A	**6ES7 138-4DG00-0AB0**	1 unit	0.078
1 POS Inc/analog positioning modules				
1 POS Inc/analog positioning module For controlled positioning with analog output for 5 V incremental encoder, 30 mm overall width	A	**6ES7 138-4DJ00-0AB0**	1 unit	0.080
1 COUNT 24 V/100 kHz counter modules				
1 COUNT 24 V/100 kHz counter module for universal counting and measuring tasks with ET 200S	A	**6ES7 138-4DA03-0AB0**	1 unit	0.049
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Shield attachment 5 units	A	**6ES7 193-4GA00-0AA0**	1 set	0.045
Shield terminals 5 units	A	**6ES7 193-4GB00-0AA0**	1 set	0.063
SIMODRIVE sensor incremental encoder		**6FX2 001-4...**		
1 COUNT 5 V/500 kHz counter modules				
1 COUNT 5 V/500 kHz counter module for universal counting and measuring tasks with ET 200S	X	**6ES7 138-4DE01-0AB0**	1 unit	0.070
Accessories				
Inscription sheet in A4 format				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• Yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Shield attachment 5 units	A	**6ES7 193-4GA00-0AA0**	1 set	0.045
Shield terminals 5 units	A	**6ES7 193-4GB00-0AA0**	1 set	0.063
SIMODRIVE sensor incremental encoder		**6FX2 001-4...**		
1 SI interface modules				
1 SI interface module				
• ASCII and 3964(R) protocol	A	**6ES7 138-4DF00-0AB0**	1 unit	0.047
• Modbus and USS protocol	A	**6ES7 138-4DF10-0AB0**	1 unit	0.046
Accessories				
TM-E15S 26-A1 terminal module Order unit 5 units	A	**6ES7 193-4CA40-0AA0**	1 set	0.502
TM-E15C26-A1 terminal module Order unit 5 units	A	**6ES7 193-4CA50-0AA0**	1 set	0.434
TM-E15N24-A1 terminal module Order unit 5 units	A	**6ES7 193-4CA70-0AA0**	1 set	0.435
TM-E15S24-01 terminal module Order unit 5 units	A	**6ES7 193-4CB20-0AA0**	1 set	0.384
TM-E15C24-01 terminal module Order unit 5 units	A	**6ES7 193-4CB30-0AA0**	1 set	0.370
TM-E15N24-01 terminal module	X	**6ES7 193-4CB70-0AA0**	1 unit	0.442

*** This quantity or a multiple thereof can be ordered.**

ET 200S interface/solid-state modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Terminal modules for power and solid-state modules				
TM-P terminal modules for PM-E power modules				
TM-P15S23-A1 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CC20-0AA0**	1 unit	0.077
TM-P15C23-A1 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CC30-0AA0**	1 unit	0.071
TM-P15S23-A0 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, screw-type terminals	A	**6ES7 193-4CD20-0AA0**	1 unit	0.067
TM-P15C23-A0 Order unit 1 unit 2 × 3 terminals, termination onto AUX1 rail, AUX1 disconnected through to the left, spring-loaded terminals	A	**6ES7 193-4CD30-0AA0**	1 unit	0.070
TM-P15S22-01 Order unit 1 unit 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CE00-0AA0**	1 unit	0.060
TM-P15C22-01 Order unit 1 unit 2 × 2 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CE10-0AA0**	1 unit	0.064
TM-P30S44-A0 Order unit 1 unit 7 × 2 terminals, connection to AUX1 rail, AUX1 disconnected through to the left, screw terminals for PM-E F PROFIsafe	X	**6ES7 193-4CK20-0AA0**	1 unit	0.140
TM-P30C44-A0 Order unit 1 unit 7 × 2 terminals, connection to AUX1 rail, AUX1 disconnected through to the left, spring-loaded terminals for PM-E F PROFIsafe	X	**6ES7 193-4CK30-0AA0**	1 unit	0.120
TM-E terminal modules for solid-state modules				
TM-E15S24-A1 Order unit 5 unit 2 × 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CA20-0AA0**	1 set	0.372
TM-E15C24-A1 Order unit 5 units 2 × 4 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CA30-0AA0**	1 set	0.360
TM-E15S24-01 Order unit 5 units 2 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CB20-0AA0**	1 set	0.384
TM-E15C24-01 Order unit 5 units 2 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CB30-0AA0**	1 set	0.370
TM-E15S23-01 Order unit 5 units 2 × 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CB00-0AA0**	1 set	0.358
TM-E15C23-01 Order unit 5 units 2 × 3 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CB10-0AA0**	1 set	0.325
TM-E15S26-A1 Order unit 5 units 2 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CA40-0AA0**	1 set	0.502
TM-E15C26-A1 Order unit 5 units 2 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CA50-0AA0**	1 set	0.434

*** This quantity or a multiple thereof can be ordered.**

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Terminal modules for power and solid-state modules (continued)				
TM-E30S44-01 Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	A	**6ES7 193-4CG20-0AA0**	1 unit	0.148
TM-E30C44-01 Order unit 1 unit 4 × 4 terminals, no termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	A	**6ES7 193-4CG30-0AA0**	1 unit	0.129
TM-E30S46-A1 Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, screw-type terminals	X	**6ES7 193-4CF40-0AA0**	1 unit	0.184
TM-E30C46-A1 Order unit 1 unit 4 × 6 terminals, termination onto AUX1 rail, AUX1 connected through to the left, spring-loaded terminals	X	**6ES7 193-4CF50-0AA0**	1 unit	0.157
TM-E15S24-AT Order unit 1 unit for internal temperature compensation for 2 AI TC High Feature, screw-type terminals	A	**6ES7 193-4CL20-0AA0**	1 unit	0.075
TM-E15C24-AT Order unit 1 unit for internal temperature compensation for 2 AI TC High Feature, spring-loaded terminals	A	**6ES7 193-4CL30-0AA0**	1 unit	0.073
Accessories for shield attachment				
Shield attachment Order unit 5 units for plugging onto TM-E and TM-P	A	**6ES7 193-4GA00-0AA0**	1 set	0.045
Shield terminals Order unit 5 units for busbar 3 × 10 mm	A	**6ES7 193-4GB00-0AA0**	1 set	0.063
Ground connection terminal Order unit 1 unit for conductor cross-sections up to 25 mm^2	A	**8WA2 868**	1 unit	0.014
Busbars 3 × 10 mm Order unit 1 unit	A	**8WA2 842**	1 unit	0.267
Accessories for lettering				
Inscription sheet in A4 format, perforated Order unit 1 set 10 sheets of 60 strips that can be used for solid-state modules, power modules and motor starters + 20 strips that can be used for IM 151				
• petrol	A	**6ES7 193-4BH00-0AA0**	1 set	0.234
• red	A	**6ES7 193-4BD00-0AA0**	1 set	0.220
• yellow	A	**6ES7 193-4BB00-0AA0**	1 set	0.224
• light beige	A	**6ES7 193-4BA00-0AA0**	1 set	0.160
Accessories for coding				
Color coding plates Order unit 1200 units for TM-P, TM-E				
• white	A	**6ES7 193-4LA10-0AA0**	1 set	0.038
• yellow	A	**6ES7 193-4LB10-0AA0**	1 set	0.038
• yellow/green	A	**6ES7 193-4LC10-0AA0**	1 set	0.043
• red	A	**6ES7 193-4LD10-0AA0**	1 set	0.038
• blue	A	**6ES7 193-4LF10-0AA0**	1 set	0.038
• brown	A	**6ES7 193-4LG10-0AA0**	1 set	0.039
• petrol	A	**6ES7 193-4LH10-0AA0**	1 set	0.039
Labeling plates, with inscription Order unit 1 set				
• 200 units for slot numbering (1 ... 20) 10 ×	A	**8WA8 861-0AB**	1 set	0.033
• 200 units for slot numbering (1 ... 40) 5 ×	A	**8WA8 861-0AC**	1 set	0.034
• 200 units for slot numbering (1 ... 64) 1 ×, (1 ... 68) 2 ×	A	**8WA8 861-0DA**	1 set	0.034
Labeling plates, without inscription 200 units for slot numbering	A	**8WA8 848-2AY**	1 set	0.018

*** This quantity or a multiple thereof can be ordered.**

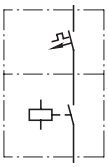
ET 200X motor starters

Overview

- For switching and protection of any three-phase loads
- Direct-on-line or reversing starters
- Electromechanical or solid-state
- Power bus can be plugged in using the new HAN Q8 plug-in connectors
- Conductor cross-sections up to 4 mm^2
- 35 A per segment
- Supplied with different brake contacts as an option

Selection and ordering data

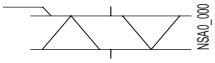
Expansion modules for electromechanical motor starters



Version	DT	**EM 300 DS expansion module** direct-on-line starter	PS*	Weight per PU approx.	DT	**EM 300 RS expansion module** reversing starter	PS*	Weight per PU approx.
		Order No.		kg		Order No.		kg
Induction motor 4-pole at AC 400 V standard output P in kW / *Setting range of the overcurrent release in A*								
< 0.06 / 0.14 ... 0.20	C	**3RK1 300-0BS01-0AA☐**	1 unit	On req	C	**3RK1 300-0BS01-1AA☐**	1 unit	On req
0.06 / 0.18 ... 0.25	C	**3RK1 300-0CS01-0AA☐**	1 unit	On req	C	**3RK1 300-0CS01-1AA☐**	1 unit	On req
0.09 / 0.22 ... 0.32	C	**3RK1 300-0DS01-0AA☐**	1 unit	On req	C	**3RK1 300-0DS01-1AA☐**	1 unit	On req
0.10 / 0.28 ... 0.40	C	**3RK1 300-0ES01-0AA☐**	1 unit	On req	C	**3RK1 300-0ES01-1AA☐**	1 unit	On req
0.12 / 0.35 ... 0.50	C	**3RK1 300-0FS01-0AA☐**	1 unit	On req	C	**3RK1 300-0FS01-1AA☐**	1 unit	On req
0.18 / 0.45 ... 0.63	C	**3RK1 300-0GS01-0AA☐**	1 unit	On req	C	**3RK1 300-0GS01-1AA☐**	1 unit	On req
0.21 / 0.55 ... 0.80	C	**3RK1 300-0HS01-0AA☐**	1 unit	On req	C	**3RK1 300-0HS01-1AA☐**	1 unit	On req
0.25 / 0.70 ... 1.00	C	**3RK1 300-0JS01-0AA☐**	1 unit	On req	C	**3RK1 300-0JS01-1AA☐**	1 unit	On req
0.37 / 0.90 ... 1.25	C	**3RK1 300-0KS01-0AA☐**	1 unit	On req	C	**3RK1 300-0KS01-1AA☐**	1 unit	On req
0.55 / 1.1 ... 1.6	C	**3RK1 300-1AS01-0AA☐**	1 unit	On req	C	**3RK1 300-1AS01-1AA☐**	1 unit	On req
0.75 / 1.4 ... 2.0	C	**3RK1 300-1BS01-0AA☐**	1 unit	On req	C	**3RK1 300-1BS01-1AA☐**	1 unit	On req
0.90 / 1.8 ... 2.5	C	**3RK1 300-1CS01-0AA☐**	1 unit	On req	C	**3RK1 300-1CS01-1AA☐**	1 unit	On req
1.1 / 2.2 ... 3.2	C	**3RK1 300-1DS01-0AA☐**	1 unit	On req	C	**3RK1 300-1DS01-1AA☐**	1 unit	On req
1.5 / 2.8 ... 4.0	C	**3RK1 300-1ES01-0AA☐**	1 unit	On req	C	**3RK1 300-1ES01-1AA☐**	1 unit	On req
1.9 / 3.5 ... 5.0	C	**3RK1 300-1FS01-0AA☐**	1 unit	On req	C	**3RK1 300-1FS01-1AA☐**	1 unit	On req
2.2 / 4.5 ... 6.3	C	**3RK1 300-1GS01-0AA☐**	1 unit	On req	C	**3RK1 300-1GS01-1AA☐**	1 unit	On req
3.0 / 5.5 ... 8.0	C	**3RK1 300-1HS01-0AA☐**	1 unit	On req	C	**3RK1 300-1HS01-1AA☐**	1 unit	On req
4.0 / 7 ... 10	C	**3RK1 300-1JS01-0AA☐**	1 unit	On req	C	**3RK1 300-1JS01-1AA☐**	1 unit	On req
5.5 / 9 ... 12	C	**3RK1 300-1KS01-0AA☐**	1 unit	On req	C	**3RK1 300-1KS01-1AA☐**	1 unit	On req
Type								
Standard version		**0**				**0**		
Version with brake contact for DC 24 V/3 A externally-fed brakes		**1**				**1**		
Design with brake contact for AC 400 V/0.5 A infeed for brake rectifier		**3**				**3**		
Version with brake contact for DC-side switching of the brakes with DC 500 V/0.2 A		**4**				**4**		

*** This quantity or a multiple thereof can be ordered.**

Expansion module for solid-state motor starter



Version	DT	EM 300 EDS expansion module direct-on-line starter	PS*	Weight per PU approx.	DT	EM 300 ERS expansion module reversing starter	PS*	Weight per PU approx.
		Order No.		kg		Order No.		kg
Induction motor 4-pole at AC 400 V standard output P in kW / *Setting range of the overcurrent release in A*								
0.18 ... 0.80 / 0.60 ... 2.18	C	**3RK1 300-0AS10-0AA☐**	1 unit	On req	C	**3RK1 300-0AS10-1AA☐**	1 unit	On req
0.75 ... 2.20 / 2.00 ... 5.95	C	**3RK1 300-0BS10-0AA☐**	1 unit	On req	C	**3RK1 300-0BS10-1AA☐**	1 unit	On req
Type								
Standard version		**0**				**0**		
Version with brake contact for DC 24 V/3 A externally-fed brakes		**1**				**1**		
Design with brake contact for AC 400 V/0.5 A infeed for brake rectifier		**3**				**3**		
Version with brake contact for DC-side switching of the brakes with DC 500 V/0.2 A		**4**				**4**		

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
Accessories for DC 24 V				
Manual				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
Plug connector for PROFIBUS DP, control and auxiliary voltage (incl. two cable glands)	A	**6ES7 194-1AA01-0XA0**	1 unit	0.082
Cable for bus and control voltage 5-core not pre-assembled any length [1]				
• PVC	C	**6ES7 194-1LY00-0AA0**	10 m	0.100
• PUR capable of trailing oil-resistant conditionally resistant to electromagnetic fields	C	**6ES7 194-1LY10-0AA0**	10 m	0.100
M12 coupler plug				
• 5-pole for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
• 4-pole shielded for connecting analog expansion modules		Order from: Franz Binder GmbH & Co. (see Appendix –> External partners)		
M12 angular coupler plug				
• 5-pole for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
• 4-pole shielded for connecting analog expansion modules		Order from: Franz Binder GmbH & Co. (see Appendix –> External partners)		
M12 Y-shaped coupler plug 5-pole for connecting two sensors with a single cable	A	**6ES7 194-1KA01-0XA0**	1 unit	0.045
M 12 sealing caps For sealing unused input and output sockets (one packing contains ten sealing caps)	►	**3RK1 901-1KA00**	1 set	0.011

6ES7 194-1AA00-0XA0

6ES7 194-1KA01-0XA0

1) The suffix "-Z" must be appended to the order number and the length must be specified in plain text.

Example for a cable with a PVC sheath and a length of 35 m:
6ES7 194-1LY00-0AA0-Z
Y01 35 m

*** This quantity or a multiple thereof can be ordered.**

ET 200X motor starters

Version	DT	Order No.	PS*	Weight per PU approx. kg
Accessories for motor starter EM 300, 9-pole connector (Han Q8/0)				
 3RK1 902-0CA00				
Connector set for power infeed				
9-pole comprising:				
One connector enclosure with Pg 16 cable gland				
One female insert, 9-pole				
Six female contacts, suitable for cable				
• 4 x 2.5 mm^2, 6 x 2.5 mm^2	A	**3RK1 902-0CA00**	1 set	0.059
• 4 x 4 mm^2, 6 x 4 mm^2	A	**3RK1 902-0CB00**	1 set	0.056
 3RK1 902-0CC00				
Connector set for power loop-through connection				
9-pole comprising:				
One connector enclosure with Pg 16 cable gland				
One male insert, 9-pole				
Six male contacts, suitable for cable				
• 6 x 2.5 mm^2	A	**3RK1 902-0CC00**	1 set	0.059
• 4 x 4 mm^2, 6 x 4 mm^2	A	**3RK1 902-0CD00**	1 set	0.056
Connector set for motor connection 1.5 mm^2	A	**3RK1 902-0CE00**	1 set	0.065
9-pole comprising:				
one connector enclosure with Pg 16				
gland, one male insert, 9-pole, eight male contacts 1.5 mm^2				
 3RK1 902-0CH00				
Sealing cap				
for 9-pole power socket (-X3)				
• One set comprises ten sealing caps	A	**3RK1 902-0CJ00**	1 set	0.093
• One set comprises one sealing cap	A	**3RK1 902-0CK00**	1 unit	0.013
Power supply line				
0.12 m long				
• 4 x 4 mm^2	A	**3RK1 902-0CG00**	1 unit	0.173
• 5 x 4 mm^2, without brake lead	D	**3RK1 902-0CF00**	1 unit	0.202
• 6 x 4 mm^2	A	**3RK1 902-0CH00**	1 unit	0.207
• 7 x 4 mm^2, DESINA, with brake lead	A	**3RK1 902-0CU00**	1 unit	0.207
Motor connection cable, 4 x 1.5 mm^2				
with power connector,				
9-pole				
• 1.5 m	A	**3RK1 902-0CL00**	1 unit	0.218
• 3 m	B	**3RK1 902-0CM00**	1 unit	0.432
• 5 m	A	**3RK1 902-0CP00**	1 unit	0.576
• 10 m	A	**3RK1 902-0CQ00**	1 unit	1.270
Motor connection cable, 6 x 1.5 mm^2				
with power connector,				
9-pole				
• 3 m	A	**3RK1 902-0CN00**	1 unit	0.696
• 5 m	A	**3RK1 902-0CR00**	1 unit	1.110
• 10 m	A	**3RK1 902-0CS00**	1 unit	1.840

*** This quantity or a multiple thereof can be ordered.**

ET 200X motor starters

	Version	DT	Order No.	PS*	Weight per PU approx. kg
Mounting accessories					
 3RK1 194-1GA.0-0XA0	**Single mounting rails for SIMATIC ET 200X (narrow)**				
	• 400 mm long for basic module + three expansion modules (60 mm)	A	**6ES7 194-1GA00-0XA0**	1 unit	0.703
	• 640 mm long for basic module + seven expansion modules (60 mm)	A	**6ES7 194-1GA10-0XA0**	1 unit	1.125
	• 2000 mm long for customer-specific lengths	A	**6ES7 194-1GA20-0XA0**	1 unit	3.500
 3RK1 902-0AH00	**Double mounting rails for SIMATIC ET 200X (wide)**				
	• 520 mm long for basic module + one expansion module (60 mm) + two motor starters/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB00-0XA0**	1 unit	3.060
	• 1000 mm long for basic module + one expansion module (60 mm) + six motor starters/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB10-0XA0**	1 unit	5.800
	Fixing screws M5 x 20 One set contains 100 fixing screws	A	**6ES7 194-1KC00-0XA0**	1 set	0.514
	Crimping tool for male and female contacts of				
	• 1.5 to 2.5 mm^2	A	**3RK1 902-0AH00**	1 unit	0.507
	• 1.5 to 4 mm^2	A	**3RK1 902-0CT00**	1 unit	0.644
	Disassembling tool for disassembling male and female contacts in 9-pole inserts	A	**3RK1 902-0AJ00**	1 unit	0.047
Miscellaneous accessories					
 3RK1 902-0AM00	**Hand-held device for start-up** with 0.5 m connection cable and plug	A	**3RK1 902-0AM00**	1 unit	0.217
 6ES7 194-1BA00-0XA0	**Indicator label** For designating the inputs and outputs as well as the item codes one set contains 20 frames with 40 labels each, 8 x 10 mm, petrol colors	A	**6ES7 194-1BA00-0XA0**	1 set	0.280

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* This quantity or a multiple thereof can be ordered.

ET 200X basic/expansion modules

Selection and ordering data

Version	DT	Order No.	PS*	Weight per PU approx. kg
BM 147/CPU intelligent basic modules				
BM 147-1 CPU basic module with integrated PLC functionality	A	**6ES7 147-1AA10-0XB0**	1 unit	0.551
BM 147-2 CPU basic module with integrated PLC functionality and additional PROFIBUS master interface	A	**6ES7 147-2AA00-0XB0**	1 unit	0.551
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
Cover plates for ET 200X basic modules Protective cover for bus terminals and power supply terminals (pack of 10)	A	**6ES7 194-1JB00-0XA0**	1 unit	0.188
Single mounting rails for SIMATIC ET 200X (narrow)				
• 400 mm long for basic module + 3 expansion modules (60 mm)	A	**6ES7 194-1GA00-0XA0**	1 unit	0.703
• 640 mm long for basic module + 7 expansion modules (60 mm)	A	**6ES7 194-1GA10-0XA0**	1 unit	1.125
• 2000 mm long for customer-specific lengths	A	**6ES7 194-1GA20-0XA0**	1 unit	3.500
Double mounting rails for SIMATIC ET 200X (wide)				
• 520 mm long for basic module + 1 one expansion module (60 mm) + 2 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB00-0XA0**	1 unit	3.060
• 1000 mm long for basic module + 1 one expansion module (60 mm) + 6 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB10-0XA0**	1 unit	5.800
Fixing screws M5 x 20, 1 packg. = 100 units	A	**6ES7 194-1KC00-0XA0**	1 set	0.514
Connecting cable for PROFIBUS 12 Mbaud, for PG connection to PROFIBUS DP, assembled with 2 x 9-pol. Sub-D connector, 3.0 m	A	**6ES7 901-4BD00-0XA0**	1 unit	0.323
ECOFAST hybrid cable				
Assembled with ECOFAST plug connectors				
• 1.5 m	B	**6XV1 830-7BH15**	1 unit	0.400
• 3.0 m	B	**6XV1 830-7BH30**	1 unit	0.535
• 5.0 m	B	**6XV1 830-7BH50**	1 unit	0.805
• 10.0 m	B	**6XV1 830-7BN10**	1 unit	1.800
• 15.0 m	B	**6XV1 830-7BN15**	1 unit	2.155
ECOFAST termination resistor				
• Order unit 1 unit	C	**6GK1 905-0DA10**	1 unit	0.020
• Order unit 5 units	C	**6GK1 905-0DA00**	1 set	0.060
ECOFAST plug connector, can be preassembled Male contacts; Order unit 5 units	C	**6GK1 905-0CA00**	1 set	0.060
ECOFAST plug connector, can be preassembled Female contacts; Order unit 5 units	C	**6GK1 905-0CB00**	1 set	0.060
MMC memory cards up to 8 MB (as for S7-314)				

*** This quantity or a multiple thereof can be ordered.**

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx. kg
BM 141 and BM 142 basic modules				
BM 141 basic module DI 8 × DC 24 V	A	**6ES7 141-1BF12-0XB0**	1 unit	0.020
BM 142 basic module DO 4 × DC 24 V/2 A	A	**6ES7 142-1BD22-0XB0**	1 unit	0.550
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
Cover plates for ET 200X basic modules Protective cover for bus terminals and power supply terminals (pack of 10)	A	**6ES7 194-1JB00-0XA0**	1 set	0.188
Single mounting rails for SIMATIC ET 200X (narrow)				
• 400 mm long for basic module + 3 expansion modules (60 mm)	A	**6ES7 194-1GA00-0XA0**	1 unit	0.703
• 640 mm long for basic module + 7 expansion modules (60 mm)	A	**6ES7 194-1GA10-0XA0**	1 unit	1.125
• 2000 mm long for customer-specific lengths	A	**6ES7 194-1GA20-0XA0**	1 unit	3.500
Double mounting rails for SIMATIC ET 200X (wide)				
• 520 mm long for basic module + 1 one expansion module (60 mm) + 2 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB00-0XA0**	1 unit	3.060
• 1000 mm long for basic module + 1 one expansion module (60 mm) + 6 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB10-0XA0**	1 unit	5.800
Fixing screws M5 x 20, 1 packg. = 100 units	A	**6ES7 194-1KC00-0XA0**	1 set	0.514
Connector plate for BM 141, BM 142 T functionality for PROFIBUS DP (spare part)	A	**6ES7 194-1FC00-0XA0**	1 unit	0.054
Plug connector for PROFIBUS DP Control voltage and auxiliary voltage (incl. 2 heavy-duty threaded joints and 1 blanking plug); 3 connectors required for each basic module	A	**6ES7 194-1AA01-0XA0**	1 unit	0.082
Cable 5-core, for bus signals, power supply, sold by the meter, minimum order quantity: 10 m				
• PVC sheath (standard)	C	**6ES7 194-1LY00-0AA0** Specify length in m	10 m	0.100
• PUR sheath (trailing permitted, oil-resistant, conditionally resistant to electromagnetic fields)	C	**6ES7 194-1LY10-0AA0** Specify length in m	10 m	0.100
Cover plates To protect the bus terminals and power supply terminals on BM 141, BM 142 and BM 147 (10 units per packing unit)	A	**6ES7 194-1JB00-0XA0**	1 set	0.188
M12 coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
M12 angular coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
M12 Y-shaped coupler plug 5-pole, for connecting two sensors with a single cable	A	**6ES7 194-1KA01-0XA0**	1 unit	0.045
Pre-assembled Y cable for actuators and sensors		Order from: Franz Binder GmbH & Co. (see Appendix –> External partners)		
M12 sealing caps for closing unused input or output sockets	►	**3RX9 802-0AA00**	1 set	0.008
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400

*** This quantity or a multiple thereof can be ordered.**

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx. kg
ECOFAST basic modules				
BM 141/ECOFAST basic module 8 DI, DC 24 V, 5-pole, M12 with single-channel connection hybrid fieldbus port (copper), ident. plug, IP67	A	**6ES7 141-1BF00-0AB0**	1 unit	0.822
BM 141 basic module/ECOFAST RS 485 8 DI, DC 24 V, 5-pole, M12 channel diagnostics, short-circuit and wire-break, process interrupts, input delay time: 0.5 ms/3 ms/15 ms/20 ms	A	**6ES7 141-1BF40-0AB0**	1 unit	0.818
BM 143/DESINA basic module 8 DI/DO, parameterizable, add. diagnostics inputs, hybrid fieldbus port (copper), ident. plug, IP67	A	**6ES7 143-1BF00-0AB0**	1 unit	0.835
BM 143/DESINA basic module 8 DI/DO, parameterizable, add. diagnostics inputs, hybrid fieldbus port (fiber-optic), ident. plug, IP67	A	**6ES7 143-1BF00-0XB0**	1 unit	0.838
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
Cover plates for ET 200X basic modules Protective cover for bus terminals and power supply terminals (pack of 10)	A	**6ES7 194-1JB00-0XA0**	1 set	0.188
Single mounting rails for SIMATIC ET 200X (narrow)				
• 400 mm long for basic module + 3 expansion modules (60 mm)	A	**6ES7 194-1GA00-0XA0**	1 unit	0.703
• 640 mm long for basic module + 7 expansion modules (60 mm)	A	**6ES7 194-1GA10-0XA0**	1 unit	1.125
• 2000 mm long for customer-specific lengths	A	**6ES7 194-1GA20-0XA0**	1 unit	3.500
Double mounting rails for SIMATIC ET 200X (wide)				
• 520 mm long for basic module + 1 one expansion module (60 mm) + 2 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB00-0XA0**	1 unit	3.060
• 1000 mm long for basic module + 1 one expansion module (60 mm) + 6 two motor starter/frequency converters/pneumatic interfaces	A	**6ES7 194-1GB10-0XA0**	1 unit	5.800
Fixing screws M5 x 20, 1 packg. = 100 units	A	**6ES7 194-1KC00-0XA0**	1 set	0.514
PROFIBUS ECOFAST Hybrid Fieldbus Cable – copper Trailing cable with 4 copper cores, 1.5 mm^2 and 2 copper cores, shielded		See IK PI Catalog		
PROFIBUS ECOFAST Hybrid Fieldbus Cable – fiber-optic Trailing cable with two plastic FO conductors for PROFIBUS DP and four copper cores with 1.5 mm^2 only for use in DESINA-compatible devices		See IK PI Catalog		
Identification plug for setting the PROFIBUS station address (included in scope of supply of BM 143/DESINA)	A	**6ES7 194-1KB00-0XA0**	1 unit	0.031
M12 coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
M12 angular coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
Pre-assembled Y cable for actuators and sensors		Order from: Franz Binder GmbH & Co.		
M12 covering caps for closing unused input or output sockets	►	**3RX9 802-0AA00**	1 set	0.008
Crimping tool for male and female contacts				
• 1.5 to 2.5 mm^2	A	**3RK1 902-0AH00**	1 unit	0.507
• 1.5 to 4 mm^2	A	**3RK1 902-0CT00**	1 unit	0.644
Disassembling tool For male and female contacts for 9-pole inserts/Cu	A	**3RK1 902-0AJ00**	1 unit	0.047

*** This quantity or a multiple thereof can be ordered.**

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
ECOFAST basic modules				
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400
EM 141 and EM 142 digital expansion modules				
EM 141 expansion modules				
• DI 8 × DC 24 V, double assignment	A	**6ES7 141-1BF31-0XA0**	1 unit	0.288
• DI 8 × DC 24 V, double assignment with single-channel diagnostics	A	**6ES7 141-1BF30-0XB0**	1 unit	0.295
• DI 4 × DC 24 V	A	**6ES7 141-1BD31-0XA0**	1 unit	0.296
• DI 8 × DC 24 V, single assignment	A	**6ES7 141-1BF41-0XA0**	1 unit	0.384
• DI 8 × DC 24 V, single assignment with single-channel diagnostics	A	**6ES7 141-1BF40-0XB0**	1 unit	0.383
EM 142 expansion modules				
• DO 4 × DC 24 V, 2 A without diagnostics	A	**6ES7 142-1BD40-0XA0**	1 unit	0.290
• DO 4 × DC 24 V, 2 A with diagnostics	A	**6ES7 142-1BD40-0XB0**	1 unit	0.305
• DO 4 × DC 24 V; 0.5 A	A	**6ES7 142-1BD30-0XA0**	1 unit	0.289
• DO 8 × DC 24 V/1.2 A single assignment	A	**6ES7 142-1BF30-0XA0**	1 unit	0.386
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
M12 coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
M12 angular coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
M12 Y-shaped coupler plug 5-pole, for connecting two sensors with a single cable	A	**6ES7 194-1KA01-0XA0**	1 unit	0.045
Pre-assembled Y cable for actuators and sensors		Order from: Franz Binder GmbH & Co.		
M12 sealing caps for closing unused input or output sockets	►	**3RX9 802-0AA00**	1 set	0.008
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400

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*** This quantity or a multiple thereof can be ordered.**

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
PM 148 power modules				
PM 148 power module DO 4 x DC 24 V, 2 A with diagnostics and infeed for auxiliary voltage (load)	A	**6ES7 148-1CA00-0XB0**	1 unit	0.357
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
M12 coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
M12 angular coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
Pre-assembled Y cable for actuators and sensors		Order from: Franz Binder GmbH & Co.		
M12 sealing caps for closing unused input or output sockets	►	**3RX9 802-0AA00**	1 set	0.008
Plug connector for PROFIBUS DP Control voltage and auxiliary voltage (incl. 2 heavy-duty threaded joints and 1 blanking plug); 3 connectors required for each basic module	A	**6ES7 194-1AA01-0XA0**	1 unit	0.082
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400

*** This quantity or a multiple thereof can be ordered.**

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
EM 143/DESINA digital expansion modules				
EM 143/DESINA expansion module 8 I/O DESINA	A	**6ES7 143-1BF30-0XB0**	1 unit	0.398
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
M12 coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 667**	1 unit	0.026
M12 angular coupler plug 5-pole, for connecting actuators and sensors	A	**3RX1 668**	1 unit	0.027
Pre-assembled Y cable for actuators and sensors		Order from: Franz Binder GmbH & Co.		
M12 sealing caps for closing unused input or output sockets	►	**3RX9 802-0AA00**	1 set	0.008
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400
EM 144 and EM 145 analog expansion modules				
EM 144 expansion modules with diagnostics/limit values				
• AI 2 × ±10 V	A	**6ES7 144-1FB31-0XB0**	1 unit	0.298
• AI 2 × ±20 mA, 4DMU	A	**6ES7 144-1GB31-0XB0**	1 unit	0.300
• AI 2 × 4 to 20 mA, 2DMU	A	**6ES7 144-1GB41-0XB0**	1 unit	0.300
• AI 2 × RTD (Pt100)10 V	A	**6ES7 144-1JB31-0XB0**	1 unit	0.288
EM 145 expansion modules With diagnostics/substitute values				
• AO 2 × ±10 V	A	**6ES7 145-1FB31-0XB0**	1 unit	0.305
• AO 2 × ± 20 mA, 4 to 20 mA	A	**6ES7 145-1GB31-0XB0**	1 unit	0.306
Accessories				
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400

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* This quantity or a multiple thereof can be ordered.

ET 200X basic/expansion modules

Version	DT	Order No.	PS*	Weight per PU approx.
				kg
EM 148-P pneumatic modules				
Pneumatic module EM 148-P DI 4 x DC 24 V/DO 2 x P with 2 integrated 4/2-way valves	A	**6ES7 148-1DA00-0XA0**	1 unit	0.570
Accessories				
Silencer for pneumatic modules	A	**6ES7 194-1EA00-0XA0**	1 unit	0.005
Sealing caps for pneumatic module for using the 4/2-way valve as a 3/2-way valve, to protect the connections	A	**6ES7 194-1JA00-0XA0**	1 set	0.008
EM 148-P pneumatic interfaces				
EM 148-P pneumatic interface				
• DO 16 xP/CPV 10 for direct connection of the FESTO valve terminal CPV 10 16 DO xP	A	**6ES7 148-1EH01-0XA0**	1 unit	0.528
• DO 16 xP/CPV 14 for direct connection of the FESTO valve terminal CPV 14 16 DO xP	A	**6ES7 148-1EH11-0XA0**	1 unit	0.538
FESTO valve terminal CPV 10		Can be ordered from FESTO AG & Co.		
FESTO valve terminal CPV 14		Can be ordered from FESTO AG & Co.		
EM 148-FC frequency converters				
EM 148-FC frequency converter For controlling 3-phase induction motors AC 380–500 V up to 0.75 kW with integrated line filter	A	**6ES7 148-1FA10-0XB0**	1 unit	4.122
Accessories				
Connector for motor outgoing feeder HAN Q8 shielded, assignments acc. to DESINA specification	A	**6ES7 194-1AB01-0XA0**	1 unit	0.229
Connector set HAN Q8				
for power infeed				
• 2.5 mm^2, 9-pole	A	**3RK1 902-0CA00**	1 set	0.059
• 4 mm^2, 9-pole	A	**3RK1 902-0CB00**	1 set	0.056
for power loop-through connection				
• 2.5 mm^2, 9-pole	A	**3RK1 902-0CC00**	1 set	0.059
• 4 mm^2, 9-pole	A	**3RK1 902-0CD00**	1 set	0.056
Motor cable				
Pre-assembled, shielded, HAN Q8 open end				
• 1.5 m	A	**6ES7 194-1LA01-0AA0**	1 unit	0.760
• 3 m	A	**6ES7 194-1LB01-0AA0**	1 unit	1.237
• 5 m	A	**6ES7 194-1LC01-0AA0**	1 unit	1.842
• 10 m	A	**6ES7 194-1LD01-0AA0**	1 unit	3.487
Sealing caps for 9-pole power socket, 1 packg. = 10 units	A	**3RK1 902-0CJ00**	10 units	0.093
Disassembling tool for disassembling male and female contacts in 6-pole inserts	A	**3RK1 902-0AJ00**	1 unit	0.047
Hand-held device with 0.5 m connection cable and plug	A	**3RK1 902-0AM00**	1 unit	0.217
Indicator label For designation of the inputs and outputs, as item code; 20 frames with 40 labels each, 8 x 10 mm, petrol color	A	**6ES7 194-1BA00-0XA0**	1 unit	0.280
Manual for ET 200X distributed I/O station				
• German	B	**6ES7 198-8FA01-8AA0**	1 unit	1.771
• English	B	**6ES7 198-8FA01-8BA0**	1 unit	1.760
• French	A	**6ES7 198-8FA01-8CA0**	1 unit	1.676
S7 Manual Collection Manuals on CD, 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)	A	**6ES7 998-8XC01-8YE0**	1 unit	0.172
S7 Manual Collection update service for 1 year Scope of delivery: The current CD S7 Manual Collection as well as the three subsequent updates	X	**6ES7 998-8XC01-8YE2**	1 unit	0.400

*** This quantity or a multiple thereof can be ordered.**

AS-Interface compact starters IP65 (AC 400 V)

Overview

The AS-Interface compact starter is a load feeder with IP65 degree of protection, which is fully prewired inside, for switching and protecting any three-phase loads up to 5.5 kW at 400/500 V AC (electromechanical compact starter) or up to 2.2 kW (solid-state compact starter) mostly standard induction motors in direct start and reversing duty. It consists either of an electromechanical controlgear combination or a solid-state overload relay and circuit-breaker unit. The overload or short-circuit protection is located below a sealable, transparent cover and is therefore available for diagnostics. Two LEDs are provided to the left of the cover for diagnostic purposes for the AS-Interface and the auxiliary power.

It is not possible for live parts to be touched even when the cover is open. The control elements are activated via the integrated outputs. The status of the device is scanned via the inputs, e.g. checkbacks from the auxiliary contacts of the circuit-breaker and contactor(s). A further input is used to detect the operating state of the optional hand-held device. The three power connectors are used to feed and loop through to the load supply voltage (power bus) and to connect to the load itself. Prefabricated power supply lines can be used to connect compact starters which are directly adjacent to each other. The maximum number of starters that can be supplied via a power supply cable is limited by the maximum permissible total current (up to max. 4 mm^2 corresponds to ~ 35 A) (see Section *Technical specifications*).

DS/RS compact starters (electromechanical)

The electromechanical compact starters consist of a conventional controlgear combination with a SIRIUS circuit-breaker for protection against short-circuits and overloading and SIRIUS contactor(s) for normal switching. The advantages of the electromechanical starters are the reliable isolation during disconnection and tripping, the integrated fuseless protection against short-circuits and the favorable price. What is more, direct currents can also be switched with the electromechanical starters.

Planning information: In the case of temperature-critical applications, we recommend operation in the lower setting range of the circuit-breaker.

EDS/ERS compact starters (solid-state)

The solid-state compact starters EDS (direct-on-line starter) and ERS (reversing starter) consist of a solid-state overload relay and a solid-state circuit-breaker unit.

The advantages of these solid-state compact starters are the broad limits within which the overload protection can be adjusted (the power range up to 2.2 kW at AC 400/500 V is covered with just 2 variants), the fact that the solid-state contact elements in the power section are non-wearing, current detection (used for monitoring the energy connector), emergency operation in the event of an overload as well as remote resetting via the AS-Interface after overload tripping.

The ERS compact starter is designed for direct start in reversing duty. The solid-state overload protection and the shutdown response in the event of overload can be adjusted directly at the device.

Version with brake contact

All compact starters are available optionally with a separately activated brake contact for electrically operated motor brakes. For externally fed motor brakes, DC 24 V is supplied jointly with the load voltage via the power connector on -X1. It is looped through via -X3 for supplying the next compact starter on -X1. The DC 24 V supply for the brakes is only bridged in those devices equipped with a brake contact. At the project planning stage, it is important to ensure that these starters are located alongside each other.

All compact starters with a brake contact for DC 500 V can be equipped with an AC 400 brake contact.

Hand-held device

The hand-held device enables the compact starter to be operated locally and autonomously, providing that the auxiliary voltage supply is connected. Thus, assuming that the automation level is functioning correctly, local switching operations can be carried out in addition to normal manual operations in the event of a programmable controller / bus system failure (emergency mode) or during test runs before commissioning, e.g. for testing the direction of rotation of the motor. The hand-held device can be connected to the compact starter by means of a connecting cable via a socket underneath the transparent cover.

Spare inputs

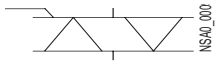
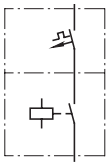
The compact starters are also equipped with two spare inputs.

The M12 socket is a "Y" connector. The signal inputs are applied to PIN 2 and 4. In this manner, it is possible, for example, to connect an optical proximity switch that supplies a signal and the fouling alarm.

A "T" adapter can be used to split the signal inputs onto two M12 sockets. Compact starters modified in this way offer additional advantages. At no extra cost, it is possible to save AS-i addresses, reduce the space requirement and to build up logical groupings.

AS-Interface compact starters IP65 (AC 400 V)

Selection and ordering data

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
	**EDS compact starters** Solid-state direct-on-line starter with two spare digital inputs	C	**3RK1 322-□□S12-0AA□**	1 unit	On req.
	ERS compact starters Solid-state reversing starter with two spare digital inputs	C	**3RK1 322-□□S12-1AA□**	1 unit	On req.
	**Order No. supplement for** *Induction motor 4-pin at AC 400 V standard output P* / *kW* *Setting range of the overcurrent release* / *A* 0.18 ... 0.8 / 0.6 ... 2.18 0.75 ... 2.2 / 2.0 ... 5.95		**0A** **0B**		
	**DS compact starters** electromechanical direct-on-line starter, with two spare digital inputs	C	**3RK1 322-□□S02-0AA□**	1 unit	On req.
	RS compact starters electromechanical reversing starter, with two spare digital inputs	C	**3RK1 322-□□S02-1AA□**	1 unit	On req.
	**Order No. supplement for** *Induction motor 4-pin at AC 400 V standard output P* / *kW* *Setting range of the overcurrent release* / *A* < 0.06 / 0.14 ... 0.20 0.06 / 0.18 ... 0.25 0.09 / 0.22 ... 0.32 0.10 / 0.28 ... 0.40 0.12 / 0.35 ... 0.50 0.18 / 0.45 ... 0.63 0.21 / 0.55 ... 0.80 0.25 / 0.70 ... 1.0 0.37 / 0.9 ... 1.25 0.55 / 1.1 ... 1.6 0.75 / 1.4 ... 2.0 0.90 / 1.8 ... 2.5 1.1 / 2.2 ... 3.2 1.5 / 2.8 ... 4.0 1.9 / 3.5 ... 5.0 2.2 / 4.5 ... 6.3 3.0 / 5.5 ... 8.0 4.0 / 7.0 ... 10 5.5 / 9.0 ... 12		**0B** **0C** **0D** **0E** **0F** **0G** **0H** **0J** **0K** **1 A** **1B** **1C** **1D** **1E** **1F** **1G** **1H** **1J** **1K**		
	Additional price Standard version Version with brake contact for DC 24 V/3 A externally-fed brakes Design with brake contact for AC 400 V/0.5 A Infeed for brake rectifier Design with brake contact for DC-side switching of the brake with DC 500 V/0.2 A			**0** **1** **3** **4**	

Accessories for DC 24 V, M12 plugs

	**M12 coupler plug** 5-pole for connecting actuators or sensors	A	**3RX1 667**	1 unit	0.026
	M12 angular coupler plug 5-pole for connecting actuators or sensors	A	**3RX1 668**	1 unit	0.027
	M12 Y-shaped coupler plug 5-pole, for connecting two sensors with a single cable	A	**6ES7 194-1KA01-0XA0**	1 unit	0.045
6ES7 194-1KA01-0XA0	**M12 sealing caps** For sealing unused input and output sockets (one packing contains ten sealing caps)	►	**3RX9 802-0AA00**	1 set	0.008

*** This quantity or a multiple thereof can be ordered.**

AS-Interface compact starters IP65 (AC 400 V)

Version	DT	Order No.	PS*	Weight per PU approx. kg
Accessories for AS-Interface compact starter (Han Q 8/0)				
 3RK1 902-0CA00				
Plug set for power infeed, 9-pole comprising 1 plug case with Pg 16 heavy-duty threaded joint female insert, 9-pole 6 female contacts				
• suitable for cable 4 ×2.5 mm^2, 6 ×2.5 mm^2	A	**3RK1 902-0CA00**	1 set	0.059
• suitable for cable 4 × 4 mm^2/6 × 4 mm^2	A	**3RK1 902-0CB00**	1 set	0.056
 3RK1 902-0CC00				
Plug set for power loop-through, 9-pole comprising 1 plug case with Pg 16 heavy-duty threaded joint 1 male insert, 9-pole 6 male contacts				
• suitable for cable 4 ×2.5 mm^2, 6 ×2.5 mm^2	A	**3RK1 902-0CC00**	1 set	0.059
• suitable for cable 4 × 4 mm^2/6 × 4 mm^2	A	**3RK1 902-0CD00**	1 set	0.056
Plug set for motor connection, 1.5 mm^2, 9-pole comprising 1 plug case with Pg 16 heavy-duty threaded joint 1 male insert, 9-pole 8 male contacts 1.5 mm^2	A	**3RK1 902-0CE00**	1 set	0.065
 3RK1 902-0AH00				
Sealing cap for 9-pole power socket (-X3)				
• One set contains one unit	A	**3RK1 902-0CK00**	1 unit	0.013
• One set contains ten units	A	**3RK1 902-0CJ00**	10 units	0.093
Power supply line 9-pole				
• 6 ×4 mm^2, 0.12 m long	A	**3RK1 902-0CH00**	1 unit	0.207
• 4 ×4 mm^2, 0.12 m long	A	**3RK1 902-0CG00**	1 unit	0.173
Motor connection cable, 4 x 1.5 mm^2 with power connector, 9-pole				
• Length: 3 m	B	**3RK1 902-0CM00**	1 unit	0.432
• Length: 5 m	A	**3RK1 902-0CP00**	1 unit	0.576
• Length: 10 m	A	**3RK1 902-0CQ00**	1 unit	1.270
Motor connection cable, 6 x 1.5 mm^2 with power connector, 9-pole				
• Length: 3 m	A	**3RK1 902-0CN00**	1 unit	0.696
• Length: 5 m	A	**3RK1 902-0CR00**	1 unit	1.110
• Length: 10 m	A	**3RK1 902-0CS00**	1 unit	1.840
Crimping tool				
• for male and female contacts 1.5 to 2.5 mm^2	A	**3RK1 902-0AH00**	1 unit	0.507
• for male and female contacts 1.5 to 4 mm^2	A	**3RK1 902-0CT00**	1 unit	0.644
Disassembling tool for disassembling male and female contacts in 9-pole inserts	A	**3RK1 902-0AJ00**	1 unit	0.047
Miscellaneous accessories				
 3RK1 902-0AP00				
Manual for AS-Interface compact starters				
• German, English	A	**3RK1 702-2GB10-2AA0**	1 unit	0.420
• French, Italian	A	**3RK1 702-2HB10-2AA0**	1 unit	0.420
Mounting plate for compact starters for accommodating the trapezoidal-section cable for AS-Interface line and auxiliary supply	A	**3RK1 902-0AP00**	1 unit	0.120
Gasket set for mounting plate for sealing the enclosure at the end of a drop cable (1 set = 5 straight seals, 5 shaped seals)	►	**3RK1 902-0AR00**	1 set	0.005
Hand-held device for start-up with 0.5 m connection cable and plug	A	**3RK1 902-0AM00**	1 unit	0.217
 3RK1 902-0AM00				

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* This quantity or a multiple thereof can be ordered.

AS-Interface motor starters IP67 (DC 24 V)

Overview

Connection of a drive roller with integrated DC motor to an AS-Interface DC 24 V motor starter

With the K60 AS-Interface DC 24 V motor starters for the low-end performance range up to 70 W, it is now possible to connect DC 24 V motors and the associated sensors directly to the AS-Interface quickly and easily.

Three different versions are available:

- Single direct-on-line starter
  (without brake and reversible quick-stop function)
- Double direct-on-line starter
  (with brake and reversible quick-stop function)
- Reversing starter
  (with brake and reversible quick-stop function)

DC motors are connected to the module via M12 plug-in connectors. The sensors and the module electronics can be supplied from the yellow AS-Interface cable. An auxiliary voltage (DC 24 V) is only required for supplying the outputs, which can be provided via the black AS-Interface cable.

Quick-stop function

All AS-Interface DC 24 V motor starters feature a quick-stop function which can be switched on and off as required via a switch integrated into the module. The quick-stop function allows a connected motor to be shut down immediately via an applied sensor signal (High). The switch for the quick-stop function is located alongside the input sockets and is protected by an M12 covering cap.

Brake

The double direct-on-line starter and reversing starter versions feature an integrated permanently set brake function. As soon as the output signal is set to "0", the motor is braked.

Start-up via integrated buttons

Buttons integrated into the module (below the output sockets) can be used to set the motor used. The buttons are protected by an M12 covering cap.

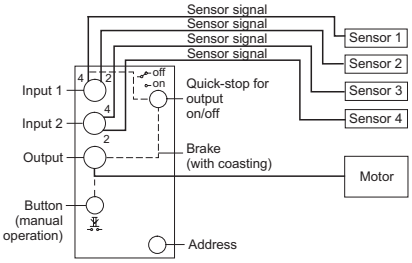
Note concerning double and reversing starters: If an input with the quick-stop function receives a "High" signal, the corresponding output (e.g. quick-stop input 1 → output 1) is switched off within the device (the motor is braked).The manual key function (Key 1/2) for local operation is only permitted to be used during "CPU Stop" in the higher-level PLC.

Note concerning single direct-on-line starters: If an input with the quick-stop function receives a "High" signal, the corresponding output (e.g. quick-stop input 1 → output 1) is switched off within the device (the motor runs down without being braked). The manual key function (Key 1) for local operation is only permitted to be used during "CPU Stop" in the higher-level PLC.

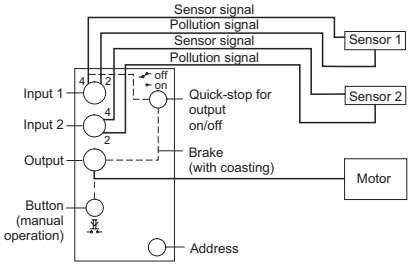
Applications

Single direct starter without brake
(with adjustable quick-stop function)

1st possibility: Connection to a maximum of four sensors without pollution indication

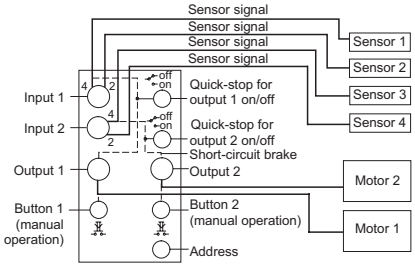


2nd possibility: Connection to a maximum of two sensors with pollution indication

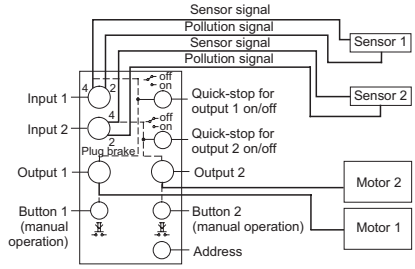


Double direct starter with brake
(with adjustable quick-stop function)

1st possibility: Connection to a maximum of four sensors without pollution indication

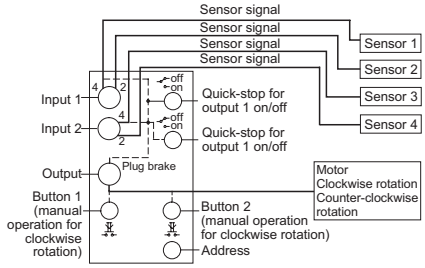


2nd possibility: Connection to a maximum of two sensors with pollution indication

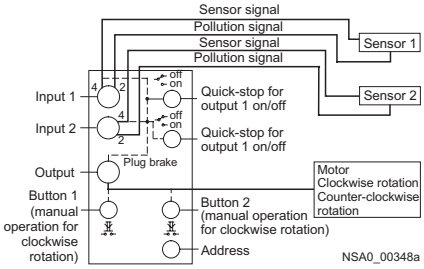


Single reversing starter with brake
(with adjustable quick-stop function)

1st possibility: Connection to a maximum of four sensors without pollution indication



2nd possibility: Connection to a maximum of two sensors with pollution indication



Selection and ordering data

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
 3RK1 400-1MQ01-0AA4	**Single direct-on-line starters** [1] 4 inputs 1 output quick-stop function	B	**3RK1 400-1NQ01-0AA4**	1 unit	0.205
	Double direct-on-line starter [1] 4 inputs 2 outputs quick-stop function	B	**3RK1 400-1MQ01-0AA4**	1 unit	0.208
	Single reversing starter [1] 4 inputs 1 output quick-stop function	B	**3RK1 400-1MQ03-0AA4**	1 unit	0.208

1) Modules supplied without mounting plate.

*** This quantity or a multiple thereof can be ordered.**

ECOFAST motor starters and soft starters

Overview

Distributed motor starters are used for switching and protecting loads locally. Variants with graded functional scope and with different installation possibilities ensure that both the functional requirements of the process and the constructional boundary conditions of the machine or installation are taken into account. Distributed motor starters are available for PROFIBUS DP and AS-Interface.

The starters can be installed close to the motor or mounted on the motor.

The following are available

- Single units for geographically distributed motors and
- Isolated solutions (ET 200X) for drives installed close together.

The functionality in the ECOFAST system ranges from direct-online starters, to reversing starters and soft starters through to frequency converters.

Brake contacts are available as an option for the starters. Two or four integrated digital contacts enable sensors to be scanned locally.

All starters are equipped throughout with standardized interfaces for data and power in accordance with the ECOFAST specification (DESINA compatible):

- HanBrid for PROFIBUS DP
- Han Q8 for the power supply
- Han 10e for motor connection

The starters can be connected using T pieces for data and power to prevent interruption.

Selection and ordering data

Version					DT	Order No.	PS*	Weight per PU approx.
								kg
Fieldbus interface	Switching function	Motor protection	Adjustment/performance range	Brake output				
PROFIBUS DP	Mechanical	Thermistor	0.3 ... 9 A/4 kW [1])	No	C	**3RK1 303-2AS51-1AA0**	1 unit	1.550
				AC 400 V	C	**3RK1 303-2AS51-1AA3**	1 unit	1.580
		Thermal motor model	0.3 ... 3 A/1.1 kW	No	C	**3RK1 303-5BS41-1AA0**	1 unit	1.630
				AC 400 V	C	**3RK1 303-5BS41-1AA3**	1 unit	1.640
			2.4 ... 9 A/4 kW	No	C	**3RK1 303-5CS41-1AA0**	1 unit	1.620
				AC 400 V	C	**3RK1 303-5CS41-1AA3**	1 unit	1.640
	Electronic, soft	Full motor protection	0.3 ... 3 A/1.1 kW	No	C	**3RK1 303-6BS71-1AA0**	1 unit	2.170
				AC 400 V	C	**3RK1 303-6BS71-1AA3**	1 unit	2.220
			2.4 ... 12 A/5.5 kW	No	C	**3RK1 303-6DS71-1AA0**	1 unit	2.130
				AC 400 V	C	**3RK1 303-6DS71-1AA3**	1 unit	2.240
	Electronic, soft, multi-speed, R255		0.6 ... 4 A/1.5 kW	AC 400 V	C	**3RK1 303-6ES81-3AA3**	1 unit	2.240
AS-Interface	Mechanical	Thermistor	0.3 ... 9 A/4 kW [1])	No	C	**3RK1 323-2AS51-1AA0**	1 unit	1.530
				AC 400 V	C	**3RK1 323-2AS51-1AA3**	1 unit	1.560
		Thermal motor model	0.3 ... 3 A/1.1 kW	No	C	**3RK1 323-5BS41-1AA0**	1 unit	1.600
				AC 400 V	C	**3RK1 323-5BS41-1AA3**	1 unit	1.630
			2.4 ... 9 A/4 kW	No	C	**3RK1 323-5CS41-1AA0**	1 unit	1.600
				400 V AC	C	**3RK1 323-5CS41-1AA3**	1 unit	1.630
	Electronic, soft	Full motor protection	0.3 ... 3 A/1.1 kW	No	C	**3RK1 323-6BS71-1AA0**	1 unit	2.120
				AC 400 V	C	**3RK1 323-6BS71-1AA3**	1 unit	2.180
			2.4 ... 12 A/5.5 kW	No	C	**3RK1 323-6DS71-1AA0**	1 unit	2.110
				AC 400 V	C	**3RK1 323-6DS71-1AA3**	1 unit	2.220
	Electronic, soft, multi-speed, R255		0.6 ... 4 A/1.5 kW	AC 400 V	A	**3RK1 323-6ES81-3AA3**	1 unit	2.240

1) The range from 0.3 to 9 A is fixed and cannot be set or modified manually.

*** This quantity or a multiple thereof can be ordered.**

Overview

The 3RA5 fuseless load feeders with AS-Interface offer the possibility of linking motor starters swiftly and at low cost to higher-level automation systems. The integrated 3RV1 circuit-breaker for motor protection protects the motor against overloads and provides short-circuit protection for the cables. The 3RT1 contactor is used for operational switching. The switching state is triggered and signalled via the 3RK14 load feeder module on the AS-Interface.

- For direct start, a load can be switched on and off with the load feeder
- The feeder for reversing duty is designed for two directions of rotation of induction motors. On these units, there is no electrical and mechanical interlock between the two contactors. Exception: size S00 features a mechanical interlock.

Area of application

The 3RA5 load feeders control central loads both in local switchboxes and also in switchgear cabinets. They are used in highly automated installations that place high demands on availability.

Design

The units are completely prewired and can be adapted to busbars. The units are offered for busbar systems with a busbar centerline spacing of 40 mm and 60 mm.

The DC 24 V auxiliary power and the AS-Interface data line are fed in via two communication connectors. Standard stranded conductors from 0.5 mm^2 to 0.75 mm^2 can be connected to these connectors via insulation displacement. The communication connectors (2 per unit) are included as standard.

The outgoing side is wired to the load via the power supply connector. Thus, the main conductors L1, L2 and L3 and the N or PE/ground conductor are connected to the load in plug-in fashion. The power supply connector is included in the scope of delivery.

Indicator lamps

Two LEDs are integrated in the load feeder module. They permit simple diagnostics of the auxiliary power (PWR) and the communication unit (AS-Interface).

Accessories

The standard accessories pertaining to the single units consisting of the 3RV1 circuit-breaker, the 3RT1 contactors and the 3RK14 load feeder modules can be used.

Technical specifications

The same technical specifications apply as in the case of the single units.

Further information

Classification types

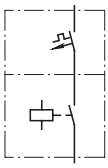
The response of the unit to short-circuits is described by the type of coordination to EN 60947-4-1 (VDE 0660 Part 102), IEC 60947-4-1.
The 3RA5 fuseless load feeders with AS-Interface achieve the type 1 coordination at I_q = 50 kA. This ensures that short-circuits of 50 kA will be deactivated without posing a hazard to persons and systems. The contactor may be damaged at such high short-circuit currents.

AS-Interface direct-on-line starters for busbar systems

Selection and ordering data

for 5 or 4-pole busbar systems, can also be used for 3-pole busbar systems, DC 24 V auxiliary power, power and communication connectors included.

Direct start



3RA51 10

for 40 mm busbar system

3RK1 400-1KG01-0AA1
(2I/1O, DC 24 V)

3RA51 20

for 60 mm busbar system

3RK1 400-1KG01-0AA1
(2I/1O, DC 24 V)

6

Size	Standard induction motor 4-pole at 400 V AC[1]		Setting range for thermal overload release	DT	Fuseless load feeders			DT	Fuseless load feeders		
	Standard output	Motor current (guide value)			Order No.	PS*	Weight per PU approx.		Order No.	PS*	Weight per PU approx.
	p	*I*									
	kW	A	A				kg				kg
Type of coordination 1[2]					**for 40 mm busbar systems, 5-pole**				**for 60 mm busbar systems, 4-pole**		
S00	0.06	0.2	0.14 ... 0.2	C	**3RA51 10-0BC15-0BB4**	1 unit	0.810	C	**3RA51 10-0BD15-0BB4**	1 unit	0.810
	0.06	0.2	0.18 ... 0.25	C	**3RA51 10-0CC15-0BB4**	1 unit	0.810	C	**3RA51 10-0CD15-0BB4**	1 unit	0.810
	0.09	0.3	0.22 ... 0.32	C	**3RA51 10-0DC15-0BB4**	1 unit	0.810	C	**3RA51 10-0DD15-0BB4**	1 unit	0.810
	0.09	0.3	0.28 ... 0.4	C	**3RA51 10-0EC15-0BB4**	1 unit	0.810	C	**3RA51 10-0ED15-0BB4**	1 unit	0.810
	0.12	0.4	0.35 ... 0.5	C	**3RA51 10-0FC15-0BB4**	1 unit	0.810	C	**3RA51 10-0FD15-0BB4**	1 unit	0.810
	0.18	0.6	0.45 ... 0.63	C	**3RA51 10-0GC15-0BB4**	1 unit	0.810	C	**3RA51 10-0GD15-0BB4**	1 unit	0.810
	0.25	0.8	0.55 ... 0.8	C	**3RA51 10-0HC15-0BB4**	1 unit	0.810	C	**3RA51 10-0HD15-0BB4**	1 unit	0.810
	0.25	0.8	0.7 ... 1	C	**3RA51 10-0JC15-0BB4**	1 unit	0.810	C	**3RA51 10-0JD15-0BB4**	1 unit	0.810
	0.37	1.1	0.9 ... 1.25	C	**3RA51 10-0KC15-0BB4**	1 unit	0.810	C	**3RA51 10-0KD15-0BB4**	1 unit	0.810
	0.55	1.5	1.1 ... 1.6	C	**3RA51 10-1AC15-0BB4**	1 unit	0.810	C	**3RA51 10-1AD15-0BB4**	1 unit	0.810
	0.75	1.9	1.4 ... 2	C	**3RA51 10-1BC15-0BB4**	1 unit	0.810	C	**3RA51 10-1BD15-0BB4**	1 unit	0.810
	0.75	1.9	1.8 ... 2.5	C	**3RA51 10-1CC15-0BB4**	1 unit	0.810	C	**3RA51 10-1CD15-0BB4**	1 unit	0.810
	1.1	2.7	2.2 ... 3.2	C	**3RA51 10-1DC15-0BB4**	1 unit	0.810	C	**3RA51 10-1DD15-0BB4**	1 unit	0.810
	1.5	3.6	2.8 ... 4	C	**3RA51 10-1EC15-0BB4**	1 unit	0.810	C	**3RA51 10-1ED15-0BB4**	1 unit	0.810
	1.5	3.6	3.5 ... 5	C	**3RA51 10-1FC15-0BB4**	1 unit	0.810	C	**3RA51 10-1FD15-0BB4**	1 unit	0.810
	2.2	5.2	4.5 ... 6.3	C	**3RA51 10-1GC15-0BB4**	1 unit	0.810	C	**3RA51 10-1GD15-0BB4**	1 unit	0.810
	3	6.8	5.5 ... 8	C	**3RA51 10-1HC15-0BB4**	1 unit	0.810	C	**3RA51 10-1HD15-0BB4**	1 unit	0.810
	4	9	7 ... 10	C	**3RA51 10-1JC16-0BB4**	1 unit	0.810	C	**3RA51 10-1JD16-0BB4**	1 unit	0.810
	5.5	11.5	9 ... 12	C	**3RA51 10-1KC17-0BB4**	1 unit	0.810	C	**3RA51 10-1KD17-0BB4**	1 unit	0.810
S0	7.5	15.5	11 ... 16		-			C	**3RA51 20-4AD25-0BB4**	1 unit	1.410

1) Selection depends on the concrete startup and rated data of the protected motor.

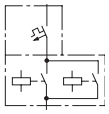
2) At I_q = 50 kA at 400 V.

*** This quantity or a multiple thereof can be ordered.**

AS-Interface reversing starters for busbar systems

for 5 or 4-pole busbar systems, can also be used for 3-pole busbar systems, DC 24 V auxiliary power, power and communication connectors included.

Reversing duty



3RA52 10

for 40 mm busbar system

3RK1 400-1MG01-0AA1
(4I/2O, DC 24 V)

3RA52 20

for 60 mm busbar system

3RK1 400-1MG01-0AA1
(4I/2O, DC 24 V)

6

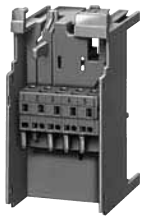
Size	Standard induction motor 4-pole at 400 VAC[1]		Setting range for thermal overload release	DT	Fuseless load feeders			DT	Fuseless load feeders		
	Standard output	Motor current (guide value)			Order No.	PS*	Weight per PU approx.		Order No.	PS*	Weight per PU approx.
	p	*I*									
	kW	A	A				kg				kg
Type of coordination 1[2]					**for 40 mm busbar system, 5-pole**				**for 60 mm busbar system, 4-pole**		
S00	0.06	0.2	0.14 ... 0.2	C	**3RA52 10-0BC15-0BB4**	1 unit	1.260	C	**3RA52 10-0BD15-0BB4**	1 unit	1.260
	0.06	0.2	0.18 ... 0.25	C	**3RA52 10-0CC15-0BB4**	1 unit	1.260	C	**3RA52 10-0CD15-0BB4**	1 unit	1.260
	0.09	0.3	0.22 ... 0.32	C	**3RA52 10-0DC15-0BB4**	1 unit	1.260	C	**3RA52 10-0DD15-0BB4**	1 unit	1.260
	0.09	0.4	0.28 ... 0.4	C	**3RA52 10-0EC15-0BB4**	1 unit	1.260	C	**3RA52 10-0ED15-0BB4**	1 unit	1.260
	0.12	0.4	0.35 ... 0.5	C	**3RA52 10-0FC15-0BB4**	1 unit	1.260	C	**3RA52 10-0FD15-0BB4**	1 unit	1.260
	0.18	0.6	0.45 ... 0.63	C	**3RA52 10-0GC15-0BB4**	1 unit	1.260	C	**3RA52 10-0GD15-0BB4**	1 unit	1.260
	0.25	0.8	0.55 ... 0.8	C	**3RA52 10-0HC15-0BB4**	1 unit	1.260	C	**3RA52 10-0HD15-0BB4**	1 unit	1.260
	0.25	0.8	0.7 ... 1.0	C	**3RA52 10-0JC15-0BB4**	1 unit	1.260	C	**3RA52 10-0JD15-0BB4**	1 unit	1.260
	0.37	1.1	0.9 ... 1.25	C	**3RA52 10-0KC15-0BB4**	1 unit	1.260	C	**3RA52 10-0KD15-0BB4**	1 unit	1.260
	0.55	1.5	1.1 ... 1.6	C	**3RA52 10-1AC15-0BB4**	1 unit	1.260	C	**3RA52 10-1AD15-0BB4**	1 unit	1.260
	0.75	1.9	1.4 ... 2.0	C	**3RA52 10-1BC15-0BB4**	1 unit	1.260	C	**3RA52 10-1BD15-0BB4**	1 unit	1.260
	0.75	1.9	1.8 ... 2.5	C	**3RA52 10-1CC15-0BB4**	1 unit	1.260	C	**3RA52 10-1CD15-0BB4**	1 unit	1.260
	1.1	2.7	2.2 ... 3.2	C	**3RA52 10-1DC15-0BB4**	1 unit	1.260	C	**3RA52 10-1DD15-0BB4**	1 unit	1.260
	1.5	3.6	2.8 ... 4.0	C	**3RA52 10-1EC15-0BB4**	1 unit	1.260	C	**3RA52 10-1ED15-0BB4**	1 unit	1.260
	1.5	3.6	3.5 ... 5.0	C	**3RA52 10-1FC15-0BB4**	1 unit	1.260	C	**3RA52 10-1FD15-0BB4**	1 unit	1.260
	2.2	5.2	4.5 ... 6.3	C	**3RA52 10-1GC15-0BB4**	1 unit	1.260	C	**3RA52 10-1GD15-0BB4**	1 unit	1.260
	3	6.8	5.5 ... 8.0	C	**3RA52 10-1HC15-0BB4**	1 unit	1.260	C	**3RA52 10-1HD15-0BB4**	1 unit	1.260
	4	9	7.0 ... 10	C	**3RA52 10-1JC16-0BB4**	1 unit	1.260	C	**3RA52 10-1JD16-0BB4**	1 unit	1.260
	5.5	11.5	9.0 ... 12	C	**3RA5210-1KC17-0BB4**	1 unit	1.260	C	**3RA52 10-1KD17-0BB4**	1 unit	1.260
S0	7.5	15.5	11 ... 16		**-**			C	**3RA52 20-4AD25-0BB4**	1 unit	2.260

1) Selection depends on the concrete startup and rated data of the protected motor.

2) At I_q = 50 kA at 400 V

*** This quantity or a multiple thereof can be ordered.**

Accessories

	Version		DT	Order No.	PS*	Weight per PU approx.
						kg
 3RK1 400-1KG01-0AA1 3RK1 400-1MG01-0AA1	**AS-Interface load feeder module** for mounting on standard rails for contactor, sizes S00 and S0 for mounting on 40 mm or 60 mm busbar systems and SIRIUS standard rail adapters, the matching carrier is required (see Accessories) the AS-Interface connectors for the data and auxiliary power cable (yellow and black) must be ordered separately (see Accessories)					
	Type	*Supply in V*				
	• 2 inputs / 1 output	DC 24 [1]	▶	**3RK1 400-1KG01-0AA1**	1 unit	0.097
	• 4 inputs / 2 outputs		▶	**3RK1 400-1MG01-0AA1**	1 unit	0.100
	• 2 inputs / 1 relay output	AC 120/230 [2]	▶	**3RK1 402-3KG02-0AA1**	1 unit	0.124
	• 3 inputs / 2 relay outputs		▶	**3RK1 402-3LG02-0AA1**	1 unit	0.134
	Manual for AS-Interface load feeder module					
	• German, English		▶	**3RK1 701-2GB00-0AA0**	1 unit	0.197
	• Italian, French		A	**3RK1 701-2HB00-0AA0**	1 unit	0.196
 Carrier with mounted 3RK1 901-3.A00 power connector coupling	**Carrier for AS-Interface load feeder module**					
	• With PE/ground and N conductor connection, for mounting on busbar adapter with 40 mm rail center-line spacing 3RK1 901-0EA00 power connector set is necessary					
	- 45 mm width		A	**3RK1 901-3AA00**	1 unit	0.076
	- 54 mm width		A	**3RK1 901-3BA00**	1 unit	0.082
	• With PE/ground and N conductor connection, for mounting on busbar adapter with 60 mm rail center-line spacing 3RK1 901-0EA00 power connector set is necessary					
	- 45 mm width		A	**3RK1 901-3CA00**	1 unit	0.069
	- 54 mm width		A	**3RK1 901-3DA00**	1 unit	0.080
	• Without PE/ground and N conductor connection, for mounting on busbar adapter with 40 mm or 60 mm rail center-line spacing					
	- 45 mm width		A	**3RK1 901-3EA00**	1 unit	0.064
	- 54 mm width		A	**3RK1 901-3FA00**	1 unit	0.073
	• For mounting onto 3RA19 22-1A SIRIUS standard mounting rail adapter - 45 mm width		A	**3RK1 901-3GA00**	1 unit	0.048
 3RK1 901-0EA00	**Power connector set** 5-pole 2.5 mm^2 (one set contains five connectors and five couplings)		A	**3RK1 901-0EA00**	1 set	0.020
 3RK1 901-0NA00 3RK1 901-0PA00	**AS-Interface connector for data and auxiliary supply cables** with insulation displacement terminals 2 × (0.5 ... 0.75 mm^2) Standard litz wires (one set contains five plug connectors)					
	• yellow		▶	**3RK1 901-0NA00**	5 units	0.015
	• black		▶	**3RK1 901-0PA00**	5 units	0.015

1) Without plug connector for data and auxiliary power.

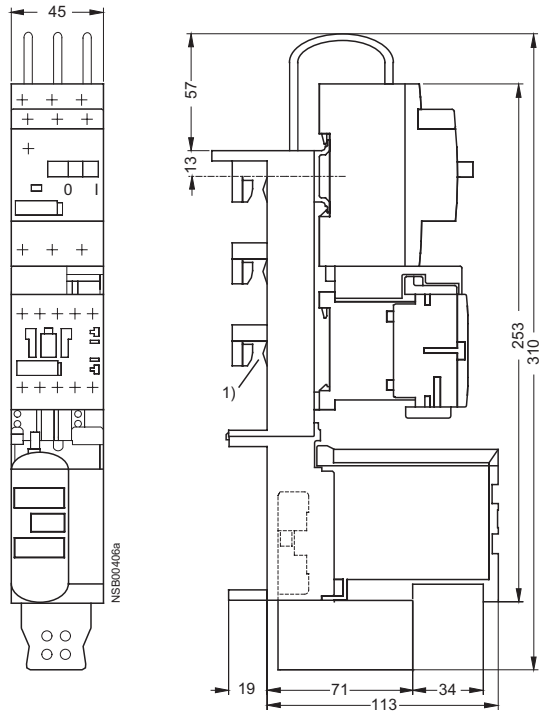
2) With one plug connector each for data and auxiliary power.

*** This quantity or a multiple thereof can be ordered.**

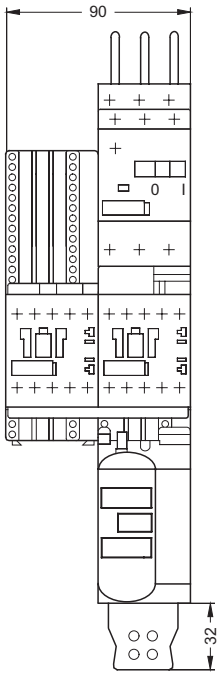
Dimension drawings

Size S00 · for 40 mm and 60 mm busbar systems

Direct start



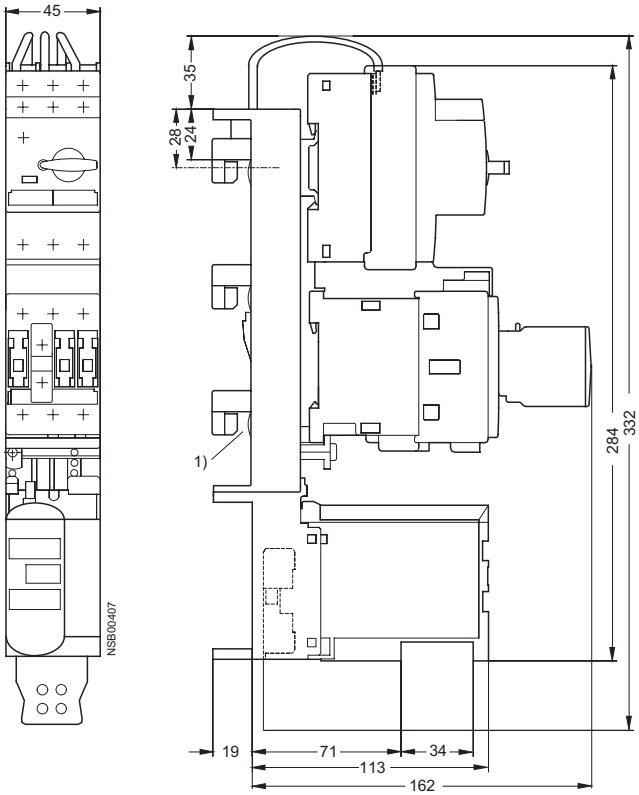
Reversing duty



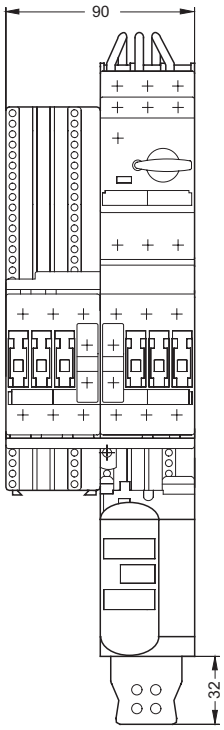
1) Busbar adapter suitable for rail thicknesses of 5 and 10 mm with chamfered edges.

Size S0 · for 40 mm and 60 mm busbar systems

Direct start



Reversing duty



1) Busbar adapter suitable for rail thicknesses of 5 and 10 mm with chamfered edges.

General data

Overview

The 3RA1 fuseless load feeders consist of the 3RV1 circuit-breaker and the 3RT1 contactor. Circuit-breakers and contactors are prewired and mechanically connected using pre-assembled sets of components (link modules, wiring sets and standard rail or busbar adapters).

As the 3RA1 fuseless load feeders are constructed from 3RV1 circuit-breakers and 3RT1 contactors, the same accessories can be used for the 3RA fuseless load feeders as for these circuit-breakers 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 controlgear acceptances, as – unlike with conventional wiring systems – there is no need to rectify possible wiring errors.

The 3RV1 circuit-breaker is responsible for overload and short-circuit protection in the fuseless load feeder. Back-up protective devices, such as 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 durable components.

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 AC-3/400 V and setting ranges from 0.14 A to 100 A.

3RA1 fuseless load feeders are supplied in four different sizes:

Size	Width	Max. rated current $I_{n\ max}$	For induction motors up to
	mm	A	kW
S00	45	12	5.5
S0	45	25	11
S2	55	50	22
S3	70	100	45

Operating conditions

3RA1 fuseless load feeders are climate-proof. They are intended for use in enclosed rooms in which no severe conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

Design

Complete equipment

The 3RA1 fuseless load feeders can be ordered as complete equipment for direct starting or for reversing duty. Control supply voltages of 50 Hz AC 230 V or DC 24 V and assembly on a 35 mm standard mounting rail or in a 40 or 60 mm busbar system are possible.

Special equipment for customer assembly can be ordered if other rated control supply voltages are required. The link modules simplify customer assembly of the load feeders.

The corresponding distances from grounded or live parts, as detailed in the technical specifications, must be observed.

Customer assembly

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

The fuseless load feeders can thus be assembled easily by the customer. It is simply necessary to assemble the standard 3RV1 circuit-breaker and 3RT1 contactor and the appropriate link module together.

For the order numbers for special equipment and link modules, see the selection and ordering data page 6/67 to page 6/74.

For installation sets for direct start or reversing duty for mounting on standard rails or busbars, see ordering data for accessories, page 6/75.

If a circuit-breaker with a rotary operating mechanism is required for the lower setting ranges up to 12 A, the S0 circuit-breaker can also be assembled with an S00 contactor. A special connecting module is available for this purpose.

For the installation of feeders, it is imperative to use standard rail adapters, as from size S2 for direct starting and as from size S0 for reversing, to ensure the necessary mechanical strength. A standard rail adapter is not necessary if a busbar adapter is used.

Accessories

The accessories for the special equipment, such as auxiliary contacts and undervoltage trips, can also be used for the 3RA1 fuseless load feeders.

In addition, certain accessories have been optimized for the fuseless load feeders. They include the top-connected, transverse auxiliary contact on the circuit-breaker with one changeover contact or one NO contact + one NC contact. Special auxiliary contact 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 via the equipment.

The special accessories for 3RA fuseless load feeders take the form of link modules for 3RV1 circuit-breakers and 3RT1 contactors.

Mounting

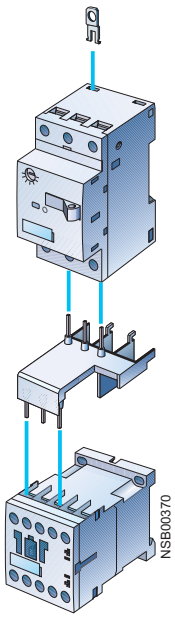
3RA1 fuseless load feeders are available for assembly on standard mounting rails in accordance with EN 50022-35 × 15 or on busbar adapters with a busbar centre-line spacing of 40 or 60 mm and a busbar thickness of 5 or 10 mm.

The fuseless load feeders are also suitable for screw fixing.

Size S00 and S0 can be screwed on with the aid of plug-in clips (accessories).

Direct start · for standard rail mounting · size S00 and S0

3RB19 00-0B
push-in lugs
(only for screw fixing)
(1 Order No.
= 10 units)

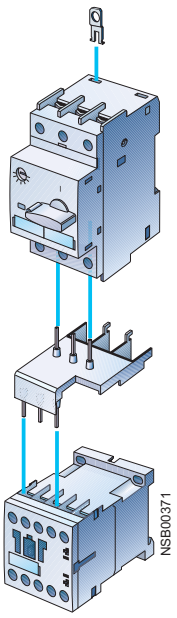


Circuit-breaker
Size S00

3RA19 11-1AA00
link module

Contactor
Size S00

3RB19 00-0B
push-in lugs
(only for screw fixing)
(1 Order No.
= 10 units)

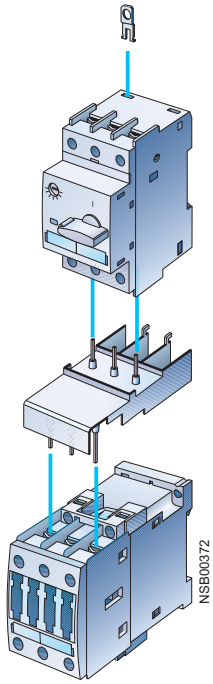


Circuit-breaker
Size S0

3RA19 21-1DA00
link module

Contactor
Size S00

3RB19 00-0B
push-in lugs
(only for screw fixing)
(1 Order No.
= 10 units)



Circuit-breaker
Size S0

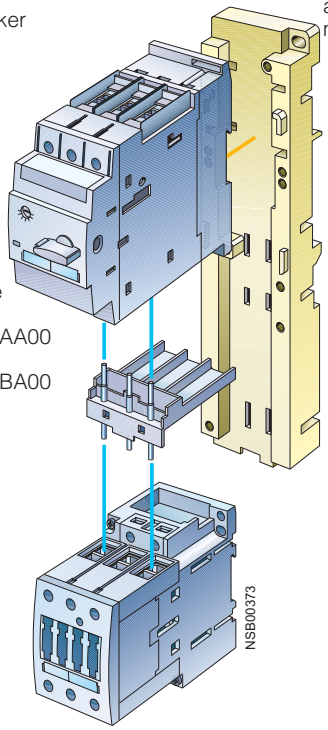
Link module
for AC: 3RA19 21-1AA00
for DC: 3RA19 21-1BA00

Contactor
Size S0

Direct start · for standard rail mounting · size S2 and S3

Circuit-breaker
Size S2

3RA19 32-1AA00
adapter for rail
mounting

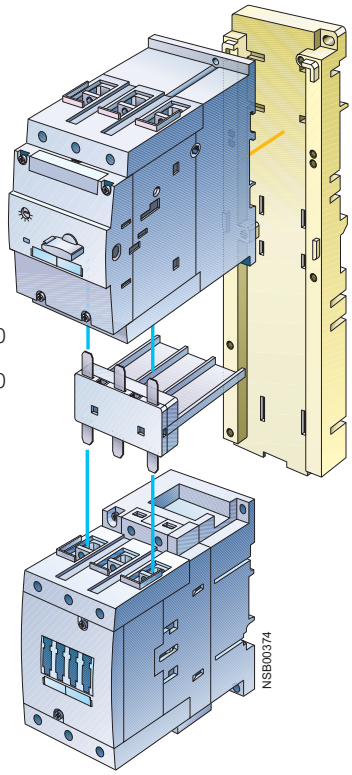


Link module
for AC:
3RA19 31-1AA00
for DC:
3RA19 31-1BA00

Contactor
Size S2

Circuit-breaker
Size S3

3RA19 42-1AA00
adapter for rail
mounting



Link module
for AC:
3RA19 41-1AA00
for DC:
3RA19 41-1BA00

Contactor
Size S3

These graphical overviews are shown without small mounting hardware (screws etc.).

General data

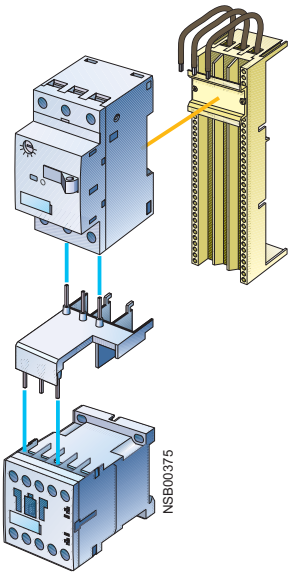
Direct start · for 40 mm and 60 mm busbar systems · size S00 and S0

Busbar adapter
40 mm: 8US10 51-5DM07
60 mm: 8US12 51-5DM07

Circuit-breaker
Size S00

3RA19 11-1AA00
link module

Contactor
Size S00

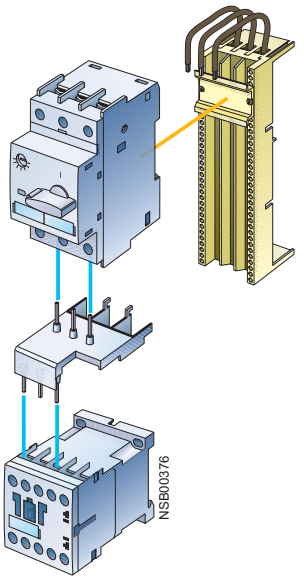


Busbar adapter
40 mm: 8US10 51-5DM07
60 mm: 8US12 51-5DM07

Circuit-breaker
Size S0

3RA19 21-1DA00
link module

Contactor
Size S00



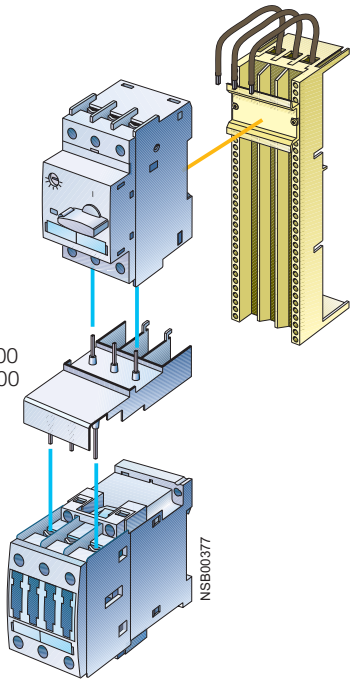
Direct start · for 40 mm and 60 mm busbar systems · size S0 and S2

Busbar adapter
40 mm: 8US10 51-5DM07
60 mm: 8US12 51-5DM07

Circuit-breaker
Size S0

Link module
for AC: 3RA19 21-1AA00
for DC: 3RA19 21-1BA00

Contactor
Size S0

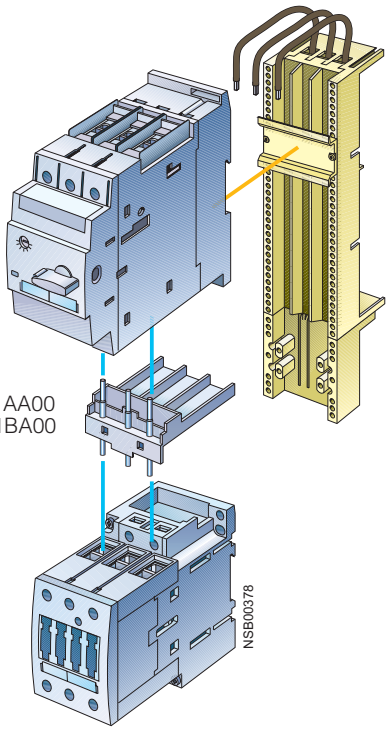


Busbar adapter
40 mm: 8US10 61-5FP08
60 mm: 8US12 61-5FP08

Circuit-breaker
Size S2

Link module
for AC: 3RA19 31-1AA00
for DC: 3RA19 31-1BA00

Contactor
Size S2

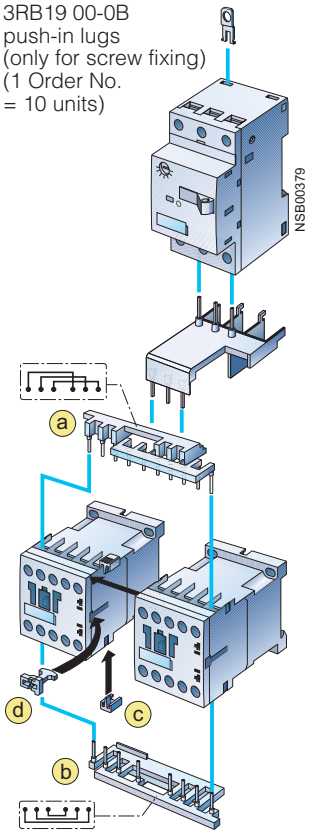


These graphical overviews are shown without small mounting hardware (screws etc.).

Design

Reversing duty · for standard rail mounting · size S00 and S0

3RB19 00-0B
push-in lugs
(only for screw fixing)
(1 Order No.
= 10 units)



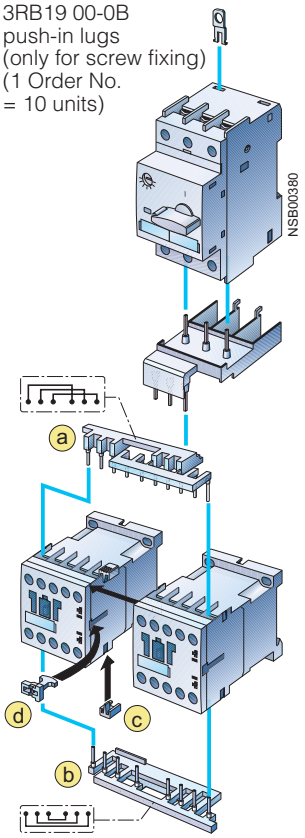
Circuit-breaker
Size S00

3RA19 11-1AA00
link module

2 contactors
Size S00

3RA19 13-2A
wiring kit
- (a) upper wiring module
- (b) lower wiring module
- (c) 2 connecting clips
- (d) mechanical locking device (can be removed)

3RB19 00-0B
push-in lugs
(only for screw fixing)
(1 Order No.
= 10 units)



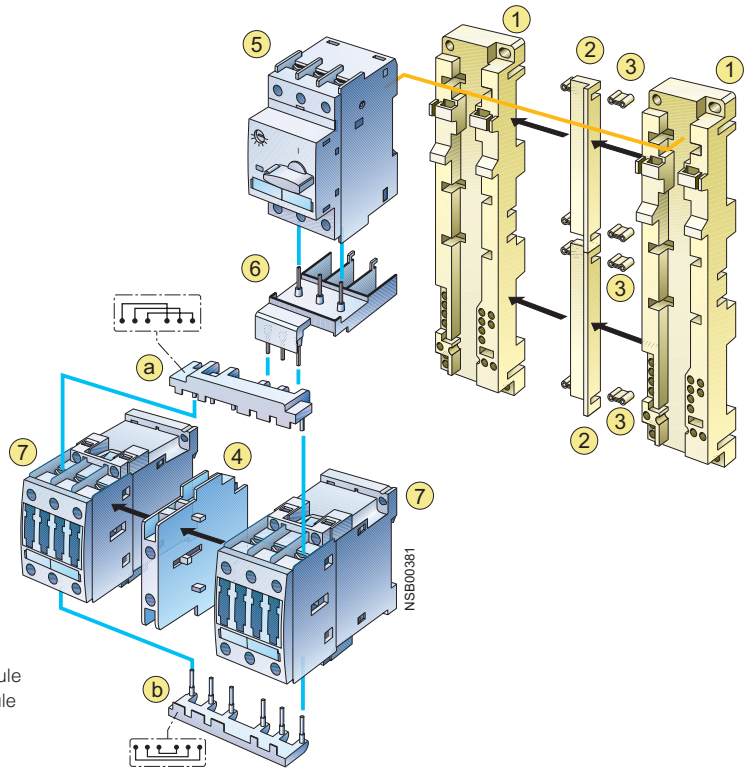
Circuit-breaker
Size S0

3RA19 21-1DA00
link module

2 contactors
Size S00

Reversing duty · for standard rail mounting · size S0

3RA19 23-1B
assembly kit (RH)
for reversing duty
for mounting rails
comprising:
1 wiring kit
2 adapters for rail mounting (1)
2 side modules (2)
4 link wedges (3)



- (1) 3RA19 22-1AA00
  adapters for rail mounting
- (2) 3RA19 02-1B
  side modules
  for adapter for rail mounting
  (1 Order No. = 10 units)
- (3) 8US19 98-1AA00
  link wedges
  (1 Order No. = 100 units)
- (4) 3RA19 24-2B
  mechanical interlock
- (5) Circuit-breaker
  Size S0
- (6) Link module
  for AC: 3RA19 21-1AA00
  for DC: 3RA19 21-1BA00
- (7) 2 contactors
  Size S0

3RA19 23-2A
wiring kit
- (a) upper wiring module
- (b) lower wiring module

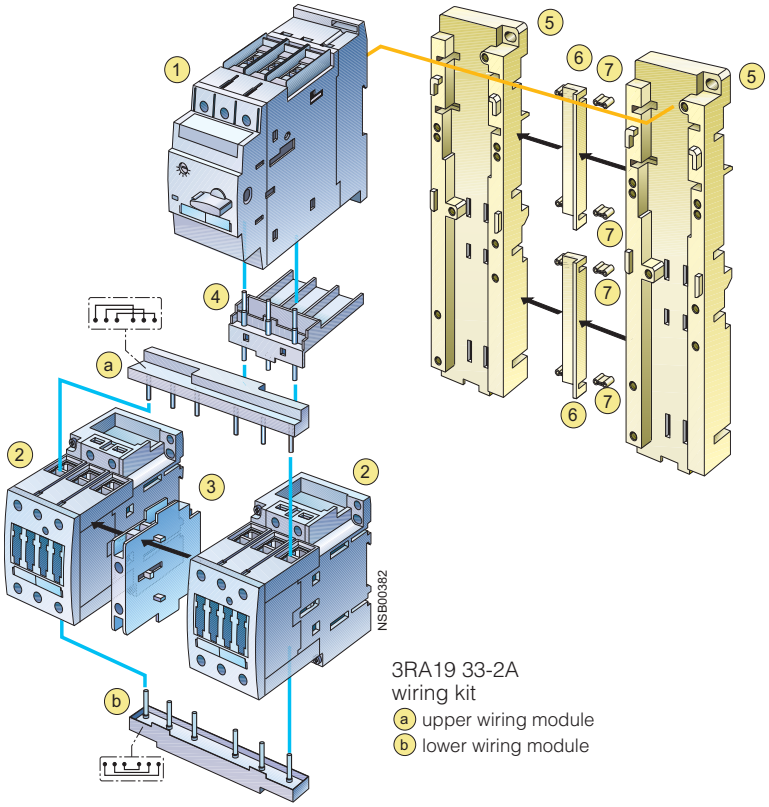
These graphical overviews are shown without small mounting hardware (screws etc.).

General data

Reversing duty · for standard rail mounting · size S2

3RA19 33-1B
assembly kit (RH)
for reversing duty
for mounting onto
standard rails
comprising:
1 wiring kit
2 adapters for rail
mounting (5)
2 side modules (6)
4 link wedges (7)

(1) Circuit-breaker size S2
(2) 2 contactors size S2
(3) 3RA19 24-2B
mechanical interlock
(4) Link module
for AC: 3RA19 31-1AA00
for DC: 3RA19 31-1BA00
(5) 3RA19 32-1AA00
adapters for rail mounting
(6) 3RA19 02-1B side modules
for adapter for rail mounting
(1 Order No. = 10 units)
(7) 8US19 98-1AA00
link wedges
(1 Order No. = 100 units)

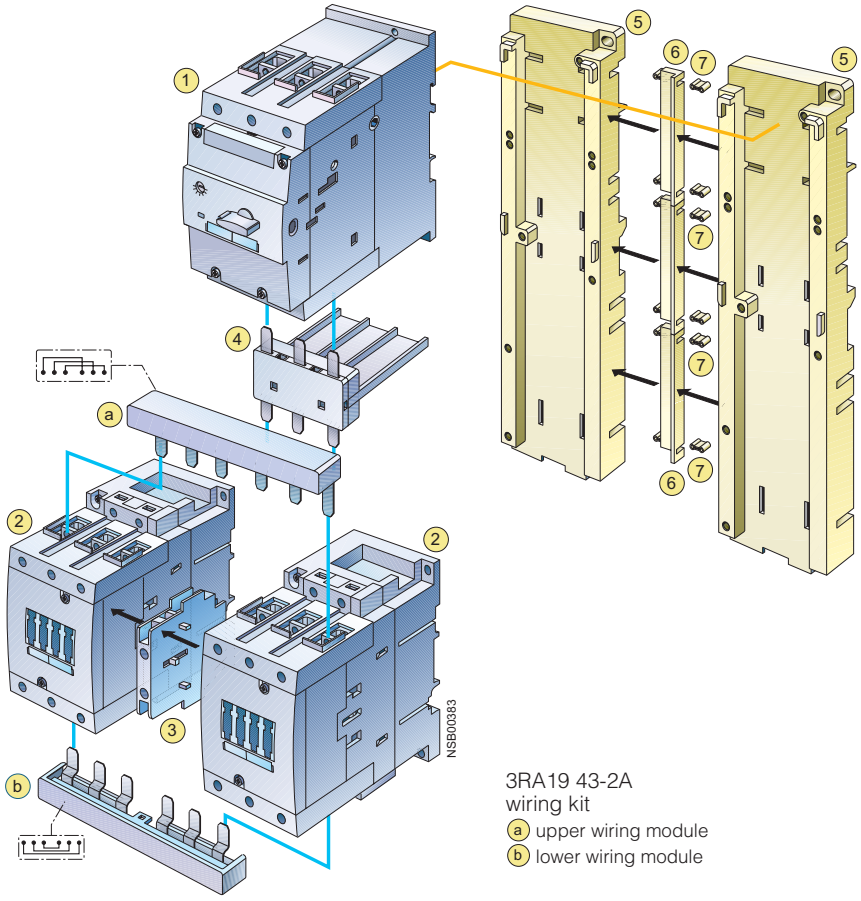


3RA19 33-2A
wiring kit
(a) upper wiring module
(b) lower wiring module

Reversing duty · for standard rail mounting · size S3

3RA19 43-1B
assembly kit (RH)
for reversing duty
for mounting onto
standard rails
comprising:
1 wiring kit
2 adapters for rail
mounting (5)
3 side modules (6)
6 link wedges (7)

(1) Circuit-breaker size S3
(2) 2 contactors size S3
(3) 3RA19 24-2B
mechanical interlock
(4) Link module
for AC: 3RA19 41-1AA00
for DC: 3RA19 41-1BA00
(5) 3RA19 42-1AA00
adapters for rail mounting
(6) 3RA19 02-1B side modules
for adapter for rail mounting
(1 Order No. = 10 units)
(7) 8US19 98-1AA00
link wedges
(1 Order No. = 100 units)

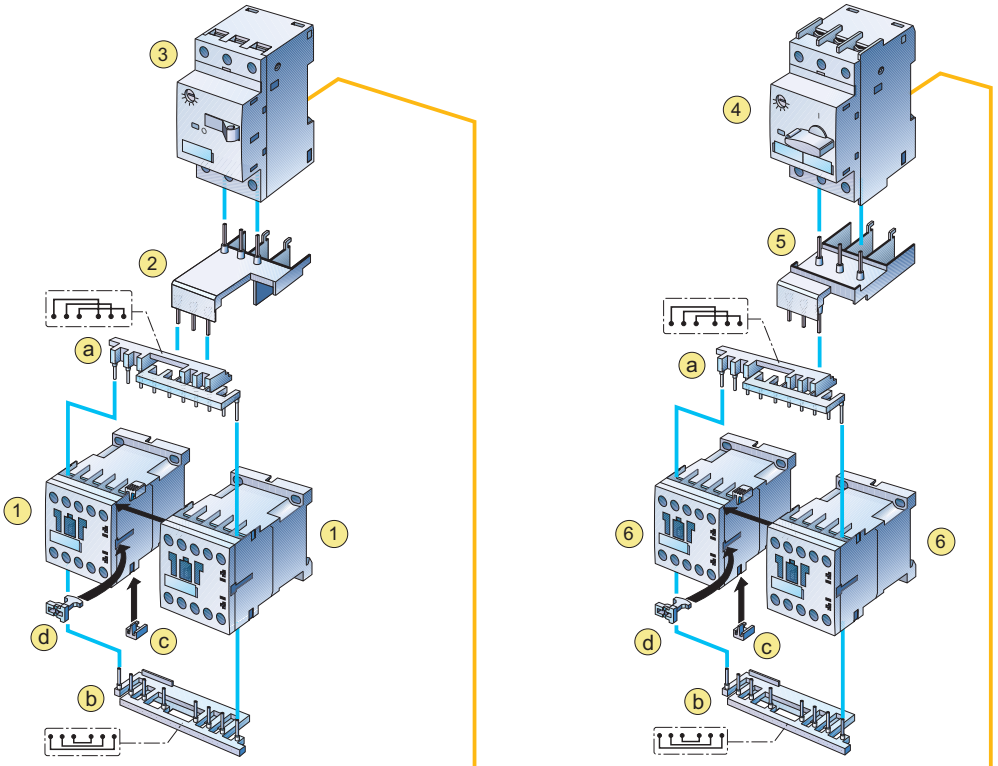


3RA19 43-2A
wiring kit
(a) upper wiring module
(b) lower wiring module

These graphical overviews are shown without small mounting hardware (screws etc.).

Reversing duty · for 40 mm and 60 mm busbar systems · size S00 and S0

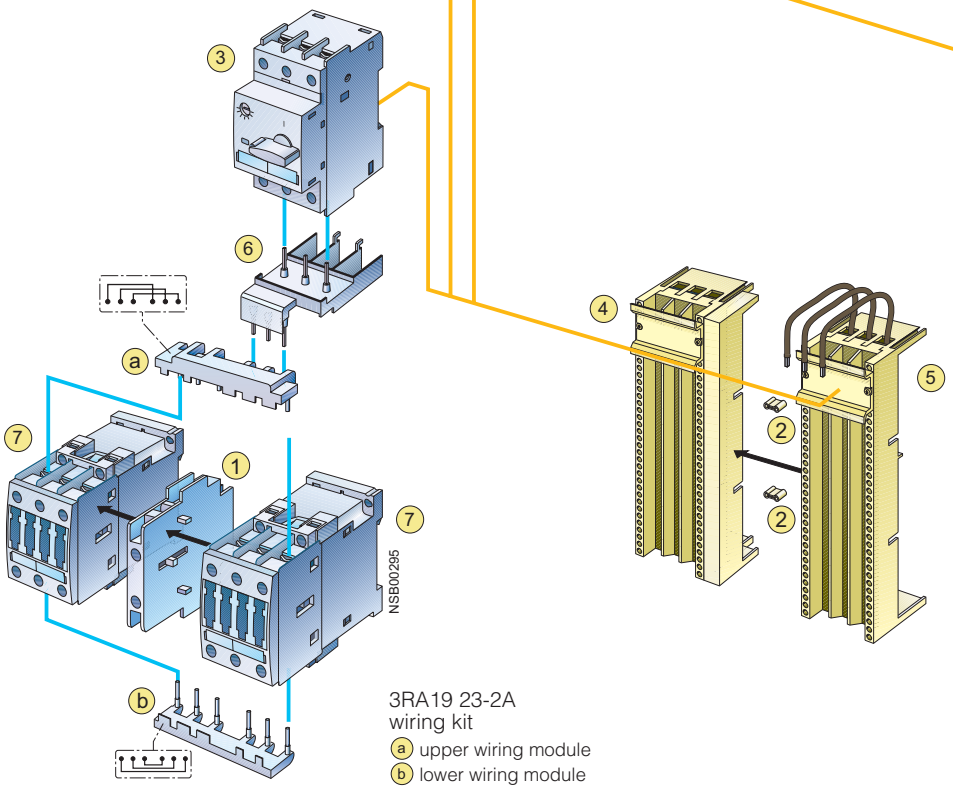
assembly kit (RH)
for reversing duty
for busbar mounting
40 mm: 3RA19 13-1C
60 mm: 3RA19 13-1D
comprising:
1 wiring kit
1 busbar adapter
1 switching device holder
2 link wedges



① Contactor, size S00
② 3RA 19 11-1AA00
link module
③ Circuit-breaker
Size S00
④ Circuit-breaker
Size S0
⑤ 3RA19 21-1DA00
link module
⑥ Contactor, size S00

3RA19 33-2A
wiring kit
ⓐ upper wiring module
ⓑ lower wiring module
ⓒ 2 connecting clips
ⓓ mechanical locking device
(can be removed)

Assembly kit (RS)
for reversing duty
for busbar mounting
40 mm: 3RA19 23-1C
60 mm: 3RA19 23-1D
comprising:
1 wiring kit
1 busbar adapter
1 switching device holder
2 link wedges



① 3RA 19 24-2B
mechanical interlock
② 8US19 98-1AA00
link wedges
③ Circuit-breaker
Size S0
④ Switching device holder
for sizes S00
40 mm: 8US10 50-5AM00
60 mm: 8US12 50-5AM00
Device holder
for sizes S0
40 mm: 8US10 60-5AM00
60 mm: 8US12 60-5AM00
⑤ Busbar adapter
40 mm: 8US10 51-5DM07
60 mm: 8US12 51-5DM07
⑥ Link module
for AC: 3RA19 21-1AA00
for DC: 3RA19 21-1BA00
⑦ Contactor, size S0

3RA19 23-2A
wiring kit
ⓐ upper wiring module
ⓑ lower wiring module

These graphical overviews are shown without small mounting hardware (screws etc.).

General data

Reversing duty · for 40 mm and 60 mm busbar systems · size S2

Assembly kit (RS)
for reversing duty
for busbar mounting
40 mm: 3RA19 33-1C
60 mm: 3RA19 33-1D
comprising:
1 wiring kit
1 busbar adapter
1 switching device holder
1 side module
2 link wedges ③

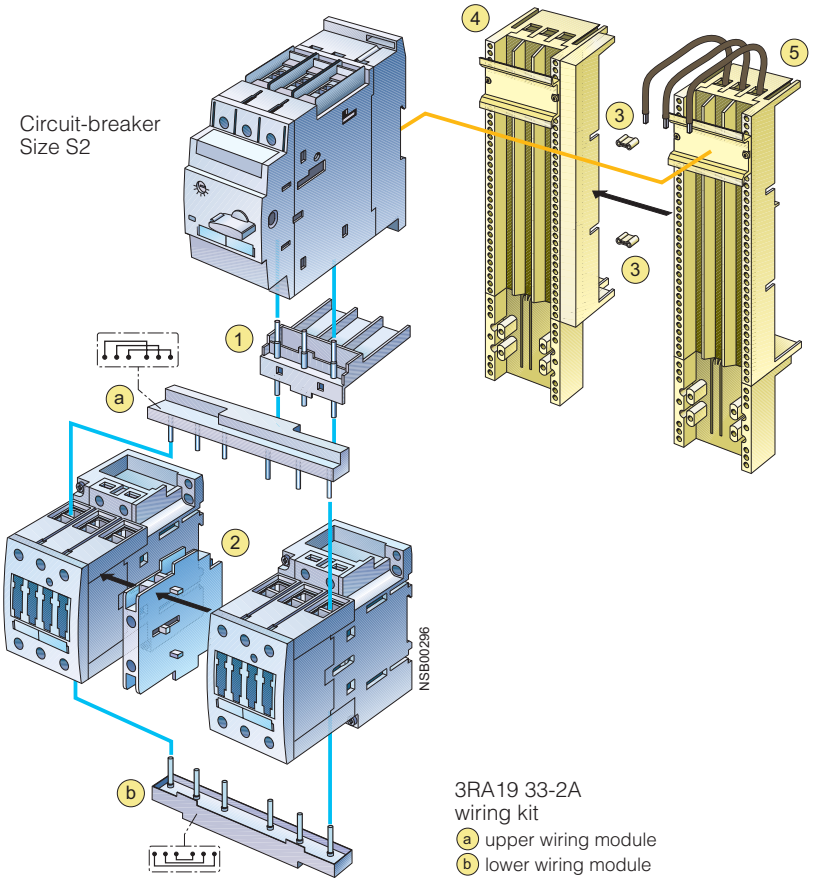
① Link module
for AC: 3RA19 31-1AA00
for DC: 3RA19 31-1BA00

② 3RA19 24-2B
mechanical interlock

③ 8US19 98-1AA00
link wedges
(1 Order No. = 100 units)

④ Switching device holder
40 mm: 8US10 60-5AP00
60 mm: 8US12 60-5AP00
with
8US19 98-2BM00 side module
for busbar adapter

⑤ Busbar adapter
40 mm: 8US10 61-5FP08
60 mm: 8US12 61-5FP08



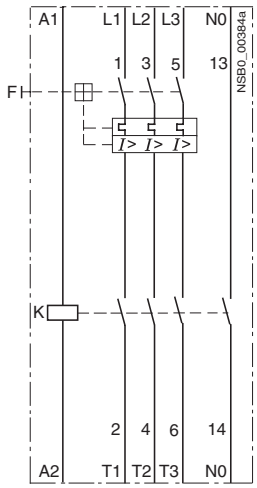
3RA19 33-2A
wiring kit
ⓐ upper wiring module
ⓑ lower wiring module

These graphical overviews are shown without small mounting hardware (screws etc.).

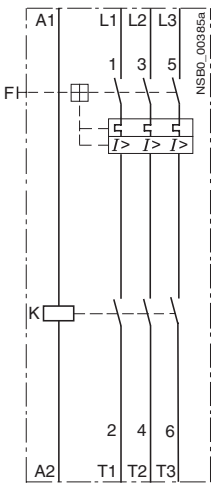
Circuit diagrams

Direct start

Size S00: 3RA11 1

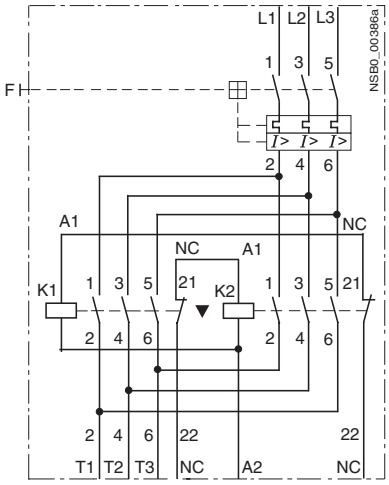


Sizes S0, S2 and S3: 3RA11 2, 3RA11 3

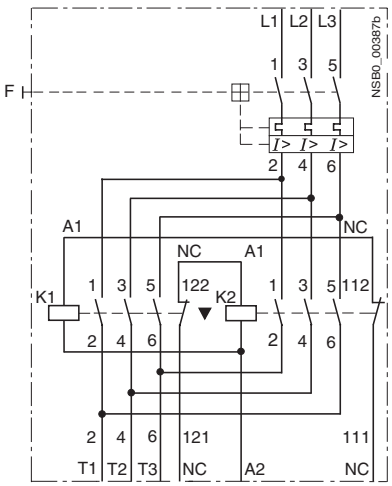


Reversing duty

Size S00: 3RA12



Size S0: 3RA12



6

General data

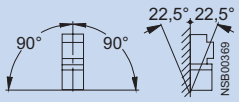
Technical specifications

Type			**3RA1. 1**	**3RA1. 2**	**3RA1. 3**	**3RA1.4**
Size			**S00**	**S0**	**S2**	**S3**
Number of poles			**3**	**3**	**3**	**3**
General data						
Specifications			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	12	25	50	100
Permissible ambient temperature		°C °C	–55 ... +80 for storage/transport –20 ... +70 for operation (restrictions apply at more than +60 °C)			
Rated operational voltage U_e		V	690			
Rated frequency		Hz	50/60			
Rated insulation voltage U_i		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_q at AC 50/60 Hz 400 V acc. to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)		kA	50			
Types of coordination to IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)			1)			
Power losses $P_{v\ max}$ of all main conducting paths Dependent on the rated current I_n (upper setting range)	up to 1.25 A 1.6 ... 6.3 A 8 ... 12 A	W W W	6 7 10.5			
	2 ... 6.3 A 8 ... 16 A 20 ... 25 A	W W W		7 9.5 13		
	25 ... 32 A 40 A 45 ... 50 A	W W W			19 28 35	
	63 A 75 ... 90 A 100 A	W W W				29 45 60
Power consumption of the coils in the case of contactors (for cold coil and U_s 50 Hz)						
• AC operation	closing p.f. closed p.f.	VA VA 	27 0.8 4.6 0.27	61 0.82 7.8 0.24	127 0.82 13.5 0.34	270 0.68 22 0.27
• DC operation	closing = closed	W	3.2	5.4	11.5	15
Coil operating range for contactors			0.8 ... 1.1 x U_s			
	low limit at 55 °C at 60 °C		0.8 x U_s 0.85 x U_s	- -		
Endurance of the circuit-breaker						
Endurance	operating cycles		100000		50000	
Electrical endurance	operating cycles		100000		50000	
Max. switching frequency per hour (motor starts)		1/h	15		15	
Endurance of contactor						
Endurance	operating cycles		30 million 2)	10 million		
Electrical endurance	operating cycles					
Shock resistance (sine-wave pulse)	acc. to IEC 60086 Part 2-27	*g*	up to 9.8	up to 12.5	up to 8	up to 6
Degree of protection	acc. to IEC 60 947-1		IP20		IP20 IP00 terminal compartment	
Touch protection	acc. to DIN VDE 0106 Part 100		Finger-safe			
Phase failure sensitivity of the circuit-breaker	acc. to IEC 60947-1, DIN EN 60947-1 (VDE 0660 Part 102)		Yes			
Isolating characteristics of the circuit-breaker	acc. to IEC 60947-2, DIN EN 60947-2 (VDE 0660 Part 101)		Yes			
Main and EMERGENCY-STOP switch characteristics of the circuit-breaker and accessories	acc. to IEC 60204-1, DIN EN 60204-1 (VDE 0113 Part 1)		Yes, (with overvoltage releases of category 1 under conditions of proper use)			
Safe isolation between main and auxiliary circuits	acc. to DIN VDE 0106 Part 101		up to 400 V			
Positively driven operation at contactors			Yes	Yes, from main contact to auxiliary NC contact		

1) See selection and ordering data for SIRIUS direct-on-line and reversing starters, page 6/67 to page 6/74.

2) See endurance characteristics of the contactors under Controlgear: Contactors and contactor assemblies.

General data

Type		**3RA1. 1**	**3RA1. 2**	**3RA1. 3**	**3RA1. 4**
Size		**S00**	**S0**	**S2**	**S3**
Number of poles		3	3	3	3
Conductor cross-sections of main circuit					
Specifications		IEC 60947-1, DIN 60947-1 (VDE 0660 Part 100) IEC 60947-2, DIN 60947-2 (VDE 0660 Part 101) IEC 60947-4-1, DIN 60947-4-1 (VDE 0660 Part 102)			
Connection type		Screw terminals	Screw terminals	Box terminals	Box terminals
Terminal screw		Pozidriv size 2	Pozidriv size 2	Pozidriv size 2	Allen screw
Minimum/maximum conductor cross-sections					
Finely stranded with end sleeve					
• 1 wire	mm²	0.5/2.5	1/6	0.75/25	2.5/50[1]
• 2 wires	mm²	0.5/2.5	1/2.5 ... 2.5/6	0.75/16	2.5/35
Solid or stranded					
• 1 wire	mm²	0.5/4	1/6	0.7/35	2.5/70
• 2 wires	mm²	0.75/2.5	1/2.5 .. 2.5/6	0.75/25	2.5/50
Connection, main contacts ribbon cable		-	-	Yes	Yes
Bus connection		-	-	-	Yes
Solid or stranded	AWG	2 x (18 ... 14)	2 x (14 ... 10)	2 x (30 ... 2)	-
Stranded	AWG				2 x (10 ... 1/0)
Connection type		Cage Clamp terminals			
	mm²	2 x (0.5 ... 2.5)	-		
	AWG	2 x (18 ... 14)			
Permissible mounting position		 Important: in accord. with DIN 43602 Start-up command "I" at the right or top			

1) Cable-lug and busbar connection possible after removing the box terminals.

Further information

Configuring

Overload tripping times

All the 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 circuit-breakers.

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, which are designated type of coordination "1" and type of coordination "2". Any short-circuits that occur are cleared safely by both types of coordination. The only differences concern the extent of the damage caused to the equipment by a short-circuit.

Type of coordination "1"

The fuseless load feeder may be non-operational after a short-circuit has been cleared. Damage to the contactor or to the overload relay is permissible. For 3RA1 load feeders, the circuit-breaker itself always achieves type of coordination "2".

Type of coordination "2"

There must be no damage to the overload trip or to any other components after a short-circuit has been cleared. The 3RA1 fuseless load feeder can resume operation without needing to be renewed. At most, it is permissible to weld the contactor contacts if they can be disconnected easily without any significant deformation.

General data

Technical specifications

Three-phase standard motor[1] 4-pole at AC 400 V		Setting range Thermal overload release	Circuit-breaker[2]	Contactor[3]	Short-circuit switching capacity	Size
Standard output	Motor current (guide value)		Type	Type	I_q kA	
P	I					
kW	A	A				
Selection tables						
Type of coordination "1" at AC 400 V Standard starting Class 10						
0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01	50	**S00**
0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10	3RT10 15-1AP01		
0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10	3RT10 15-1AP01		
0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10	3RT10 15-1AP01		
0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10	3RT10 15-1AP01		
0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10	3RT10 15-1AP01		
0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10	3RT10 15-1AP01		
0.25	0.85	0.7 ... 1	3RV10 11-0JA10	3RT10 15-1AP01		
0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10	3RT10 15-1AP01		
0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10	3RT10 15-1AP01		
0.75	1.9	1.4 ... 2	3RV10 11-1BA10	3RT10 15-1AP01		
1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10	3RT10 15-1AP01		
1.5	3.6	3.5 ... 5	3RV10 11-1FA10	3RT10 15-1AP01		
1.5	3.6	2.8 ... 4	3RV10 11-1EA10	3RT10 15-1AP01		
2.2	4.9	4.5 ... 6.3	3RV10 11-1GA10	3RT10 15-1AP01		
3	6.5	5.5 ... 8	3RV10 11-1HA10	3RT10 15-1AP01		
4	8.5	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP01		
5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1AP01		
7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00	50	**S0**
7.5	15.5	14 ... 20	3RV10 21-4BA10	3RT10 25-1AP00		
11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00		
11	22	20 ... 25	3RV10 21-4DA10	3RT10 26-1AP00		
15	29	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00	50	**S2**
18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00		
22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00		
22	41	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00		
30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	50	**S3**
37	66	57 ... 75	3RV10 41-4KA10	3RT10 45-1AP00		
45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1AP00		
45	80	80 ... 100[3]	3RV10 41-4MA10	3RT10 46-1AP00		
Type of coordination "2" at AC 400 V Standard starting Class 10						
0.04	0.16	0.11 ... 0.16	3RV10 11-0AA10	3RT10 15-1AP01	130	**S00**
0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01		
0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10	3RT10 15-1AP01		
0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10	3RT10 15-1AP01		
0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10	3RT10 15-1AP01		
0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10	3RT10 15-1AP01		
0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10	3RT10 15-1AP01		
0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10	3RT10 15-1AP01		
0.25	0.85	0.7 ... 1	3RV10 11-0JA10	3RT10 15-1AP01		
0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10	3RT10 15-1AP01		
0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10	3RT10 15-1AP01		
0.75	1.9	1.4 ... 2	3RV10 11-1BA10	3RT10 15-1AP01		
1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10	3RT10 24-1AP00	130	**S0**
1.5	3.6	2.8 ... 4	3RV10 21-1EA10	3RT10 24-1AP00		
1.5	3.6	3.5 ... 5	3RV10 21-1FA10	3RT10 24-1AP00		
2.2	5	4.5 ... 6.3	3RV10 21-1GA10	3RT10 24-1AP00		
3	6.5	5.5 ... 8	3RV10 21-1HA10	3RT10 24-1AP00		
4	8.5	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00		
5.5	11.5	9 ... 12.5	3RV10 21-1KA10	3RT10 26-1AP00		
7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 26-1AP00		
7.5	15.5	14 ... 20	3RV10 21-4BA10	3RT10 26-1AP00		
11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	100	**S2**
15	29	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00		
18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00		
22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00		
22	41	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00		
30	55	45 ... 63	3RV10 42-4JA10	3RT10 54-1AP36	100	**S3/S6**
37	66	57 ... 75	3RV10 42-4KA10	3RT10 54-1AP36		
45	80	70 ... 90	3RV10 42-4LA10	3RT10 54-1AP36		
45	80	80 ... 100	3RV10 42-4MA10	3RT10 54-1AP36		

1) Selection depends on the concrete startup and rated data of the protected motor.

2) The circuit-breaker remains fully operable and always conforms to type of coordination "2".

3) Rated control supply voltage AC 230 V. Further voltages are possible.

Three-phase standard motor[1] 4-pole at AC 400 V		Setting range Thermal overload release of the circuit-breaker (max. current)	Circuit-breaker[2]	Contactor[3]	Overload relay[4]	Setting range of solid-state overload release of the overload relay	Short-circuit switching capacity	Size
Standard output	Motor current (guide value)		Type	Type	Type		I_q kA	
P	I							
kW	A	A				A		
Type of coordination "1" and "2" at AC 400 V Heavy-duty starting conditions with Class 20								
7.5	15.5	11 ... 16	3RV10 31-4AB10	3RT10 34-1AP00			50	**S2**
		14 ... 20	3RV10 31-4BB10	3RT10 34-1AP00				
11	22	18 ... 25	3RV10 31-4DB10	3RT10 34-1AP00				
15	29	22 ... 32	3RV10 31-4EB10	3RT10 34-1AP00				
18.5	35	28 ... 40	3RV10 31-4FB10	3RT10 36-1AP00				
22	41	36 ... 45	3RV10 31-4GB10	3RT10 44-1AP00				**S2/S3**
		40 ... 50	3RV10 31-4HB10	3RT10 44-1AP00				
30	55	45 ... 63	3RV10 42-4JB10	3RT10 45-1AP00			50	**S3**
37	66	57 ... 75	3RV10 42-4KB10	3RT10 45-1AP00				
		70 ... 90	3RV10 42-4LB10	3RT1054-1AP36			50	**S3/S6**
45	80	80 ... 100	3RV10 42-4MB10	3RT1054-1AP36				
Type of coordination "1" at AC 400 V Heavy-duty starting up to Class 30 with 3RB12 solid-state overload relay for installation as a single unit								
0.25	0.85	1.4 ... 2	3RV10 11-1BA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[5]	50	**S00**
0.37	1.1	2.2 ... 3.2	3RV10 11-1DA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[5]		
0.55	1.5	2.8 ... 4	3RV10 11-1EA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[5]		
0.75	1.9	3.5 ... 5	3RV10 11-1FA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
1.1	2.7	4.5 ... 6.3	3RV10 11-1GA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
1.5	3.6	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
2.2	4.9	9 ... 12.5	3RV10 11-1KA10	3RT10 17-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
3	6.5	11 ... 16	3RV10 21-4AA10	3RT10 24-1AP00	3RB12 46-1QM00	6.3 ... 25	50	**S0**
4	8.5	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00	3RB12 46-1QM00	6.3 ... 25		
5.5	11.5	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25	50	**S2**
7.5	15.5	28 ... 40	3RV10 31-4FA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25		
11	22	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00	3RB12 46-1QM00	6.3 ... 25		
15	29	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00	3RB12 46-1EM00	25 ... 100	50	**S3**
18.5	35	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00	3RB12 46-1EM00	25 ... 100		
22	41	80 ... 100	3RV10 41-4MA10	3RT10 46-1AP00	3RB12 46-1EM00	25 ... 100		
Type of coordination "2" at AC 400 V Heavy-duty starting up to Class 30 with 3RB12 solid-state overload relay for installation as a single unit								
0.12	0.4	1.1 ... 1.6	3RV10 21-1AA10	3RT10 24-1AP00	3RB12 46-1PM00	1.25 ... 6.3 [5]	130	**S0**
0.18	0.6	1.4 ... 2.0	3RV10 21-1BA10	3RT10 24-1AP00		1.25 ... 6.3 [6]		
0.25	0.85	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1AP00		1.25 ... 6.3 [7]		
0.37	1.1	2.2 ... 3.2	3RV10 21-1DA10	3RT10 24-1AP00				
0.55	1.5	2.8 ... 4	3RV10 21-1EA10	3RT10 24-1AP00				
0.75	1.9	3.5 ... 5	3RV10 21-1FA10	3RT10 26-1AP00				
1.1	2.7	4.5 ... 6.3	3RV10 21-1GA10	3RT10 26-1AP00				
1.5	3.5	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00				
2.2	5	9 ... 12.5	3RV10 21-1KA10	3RT10 26-1AP00				
3	6.5	11 ... 16	3RV10 31-4AA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25	100	**S2**
4	8.5	14 ... 20	3RV10 31-4BA10	3RT10 34-1AP00				
5.5	11.5	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00				
7.5	15.5	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00				
11	22	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00				
15	29	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00	3RB12 46-1EM00	25 ... 100	50	**S3**
18.5	35	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00				
22	41	80 ... 100	3RV10 41-4MA10	3RT10 46-1AP00				

1) Selection depends on the concrete startup and rated data of the protected motor.

2) The circuit-breaker must be set to the maximum value to ensure that only the overload relay trips in the event of an overload. The circuit-breaker remains fully operable and always conforms to type of coordination "2".

3) Rated control supply voltage AC 230 V. Further voltages are possible.

4) Time lag Class 30 must be set on the 3RB12.

5) Setting range 0.25 to 1.25 by looping the main current paths four times.

6) Setting range 0.25 to 1.25 by looping the main current paths three times.

7) Setting range 0.25 to 1.25 by looping the main current paths twice.

General data

Three-phase standard motor[1] 4-pole at AC 500 V		Setting range Thermal overload release	Circuit-breaker	Contactor[2]	Short-circuit switching capacity	Size
Standard output	Motor current (guide value)		Type	Type	I_q kA	
P	I					
kW	A	A				
Type of coordination "1" at AC 500 V Standard starting Class 10						
0.06	0.16	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01	50	**S00**
0.09	0.24	0.18 ... 0.25	3RV10 11-0CA10	3RT10 15-1AP01		
0.12	0.32	0.22 ... 0.32	3RV10 11-0DA10	3RT10 15-1AP01		
0.12	0.32	0.28 ... 0.4	3RV10 11-0EA10	3RT10 15-1AP01		
0.18	0.48	0.35 ... 0.5	3RV10 11-0FA10	3RT10 15-1AP01		
0.18	0.48	0.45 ... 0.63	3RV10 11-0GA10	3RT10 15-1AP01		
0.25	0.68	0.55 ... 0.8	3RV10 11-0HA10	3RT10 15-1AP01		
0.37	0.88	0.7 ... 1	3RV10 11-0JA10	3RT10 15-1AP01		
0.55	1.2	0.9 ... 1.25	3RV10 11-0KA10	3RT10 15-1AP01		
0.75	1.5	1.1 ... 1.6	3RV10 11-1AA10	3RT10 15-1AP01		
0.75	1.5	1.4 ... 2	3RV10 11-1BA10	3RT10 15-1AP01		
1.1	2.2	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1AP01		
1.5	2.9	2.2 ... 3.2	3RV10 11-1DA10	3RT10 15-1AP01		
1.5	2.9	2.8 ... 4	3RV10 11-1EA10	3RT10 15-1AP01		
2.2	3.9	3.5 ... 5	3RV10 11-1FA10	3RT10 15-1AP01		
3	5.2	4.5 ... 6.3	3RV10 11-1GA10	3RT10 15-1AP01		
4	6.8	5.5 ... 8	3RV10 11-1HA10	3RT10 16-1AP01		
5.5	9.2	7 ... 10	3RV10 11-1JA10	3RT10 17-1AP01		
7.5	12.4	9 ... 12.5	3RV10 21-1KA10	3RT10 25-1AP00	50	**S0**
7.5	12.4	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00		
11	17.6	14 ... 20	3RV10 21-4BA10	3RT10 26-1AP00		
15	23	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	50	**S2**
18.5	28	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00		
22	33	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00		
30	44	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00		
30	44	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00		
37	53	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	50	**S3**
45	64	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00		
55	78	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00		
Type of coordination "2" at AC 500 V Standard starting Class 10						
0.06	0.16	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01	50	**S00**
0.09	0.24	0.18 ... 0.25	3RV10 11-0CA10	3RT10 15-1AP01		
0.12	0.32	0.22 ... 0.32	3RV10 11-0DA10	3RT10 15-1AP01		
0.12	0.32	0.28 ... 0.4	3RV10 11-0EA10	3RT10 15-1AP01		
0.18	0.48	0.35 ... 0.5	3RV10 11-0FA10	3RT10 15-1AP01		
0.18	0.48	0.45 ... 0.63	3RV10 11-0GA10	3RT10 15-1AP01		
0.25	0.68	0.55 ... 0.8	3RV10 11-0HA10	3RT10 15-1AP01		
0.37	0.88	0.7 ... 1	3RV10 11-0JA10	3RT10 15-1AP01		
0.55	1.2	0.9 ... 1.25	3RV10 11-0KA10	3RT10 15-1AP01		
0.75	1.5	1.1 ... 1.6	3RV10 11-1AA10	3RT10 15-1AP01		
0.75	1.5	1.4 ... 2	3RV10 21-1BA10	3RT10 24-1AP00	50	**S0**
1.1	2.2	1.8 ... 2.5	3RV10 21-1CA10	3RT10 26-1AP00		
1.5	2.9	2.2 ... 3.2	3RV10 21-1DA10	3RT10 34-1AP00	50	**S0/S2**
1.5	2.9	2.8 ... 4	3RV10 21-1EA10	3RT10 34-1AP00		
2.2	4.0	3.5 ... 5	3RV10 21-1FA10	3RT10 34-1AP00		
3	5.2	4.5 ... 6.3	3RV10 21-1GA10	3RT10 34-1AP00		
4	6.8	5.5 ... 8	3RV10 21-1HA10	3RT10 34-1AP00		
5.5	9.2	7 ... 10	3RV10 21-1JA10	3RT10 34-1AP00		
7.5	12.4	9 ... 12.5	3RV10 21-1KA10	3RT10 34-1AP00		
7.5	12.4	11 ... 16	3RV10 31-4AA10	3RT10 34-1AP00	50	**S2**
11	17.6	14 ... 20	3RV10 31-4BA10	3RT10 34-1AP00		
15	23	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00		
18.5	28	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00		
22	33	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00		
30	44	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00		
30	44	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00		
37	53	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	50	**S3**
45	64	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00		
55	78	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00		

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Rated control supply voltage AC 230 V. Further voltages are possible.

Three-phase standard motor[1] 4-pole at AC 500 V		Setting range Thermal overload release of the circuit-breaker (max. current)	Circuit-breaker	Contactor[2]	Overload relay[3]	Setting range of solid-state overload release of the overload relay	Short-circuit switching capacity	Size
Standard output	Motor current (guide value)		Type	Type	Type		I_q kA	
P	I							
kW	A	A				A		
Type of coordination "1" at AC 500 V Heavy-duty starting up to Class 30 with 3RB12 solid-state overload relay for installation as a single unit								
0.37	0.88	1.4 ... 2	3RV10 21-1BA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[4]	50	**S00/S0**
0.55	1.2	2.2 ... 3.2	3RV10 21-1DA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[4]		
0.75	1.5	2.8 ... 4	3RV10 21-1EA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3[4]		
1.1	2.2	3.5 ... 5	3RV10 21-1FA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
1.5	2.8	4.5 ... 6.3	3RV10 21-1GA10	3RT10 15-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
2.2	3.9	7 ... 10	3RV10 21-1JA10	3RT10 16-1AP01	3RB12 46-1PM00	1.25 ... 6.3		
3	5.2	9 ... 12.5	3RV10 21-1KA10	3RT10 24-1AP00	3RB12 46-1PM00	1.25 ... 6.3	50	**S0**
4	6.8	11 ... 16	3RV10 31-4AA10	3RT10 25-1AP00	3RB12 46-1QM00	6.3 ... 25	50	**S0/S2**
5.5	9.2	14 ... 20	3RV10 31-4BA10	3RT10 26-1AP00	3RB12 46-1QM00	6.3 ... 25		
7.5	12.4	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25	50	**S2**
11	17.6	28 ... 40	3RV10 31-4FA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25		
15	23	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00	3RB12 46-1QM00	6.3 ... 25		
18.5	28	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00	3RB12 46-1EM00	25 ... 100	50	**S3**
22	33	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00	3RB12 46-1EM00	25 ... 100		
Type of coordination "2" at AC 500 V Heavy-duty starting up to Class 30 with 3RB12 solid-state overload relay for installation as a single unit								
0.37	0.88	1.8 ... 2.5	3RV10 21-1CA10	3RT10 26-1AP00	3RB12 46-1PM00	1.25 ... 6.3[4]	50	**S0**
0.55	1.2	2.2 ... 3.2	3RV10 21-1DA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3[4]	50	**S0/S2**
0.75	1.5	2.8 ... 4	3RV10 21-1EA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3		
1.1	2.2	3.5 ... 5	3RV10 21-1FA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3		
1.5	2.8	4.5 ... 6.3	3RV10 21-1GA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3		
2.2	3.9	7 ... 10	3RV10 21-1JA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3		
3	5.2	9 ... 12.5	3RV10 21-1KA10	3RT10 34-1AP00	3RB12 46-1PM00	1.25 ... 6.3		
4	6.8	11 ... 16	3RV10 31-4AA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25	50	**S2**
5.5	9.2	14 ... 20	3RV10 31-4BA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25		
7.5	12.4	22 ... 32	3RV10 31-4EA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25		
11	17.6	28 ... 40	3RV10 31-4FA10	3RT10 34-1AP00	3RB12 46-1QM00	6.3 ... 25		
15	23	40 ... 50	3RV10 31-4HA10	3RT10 36-1AP00	3RB12 46-1QM00	6.3 ... 25		
18.5	28	57 ... 75	3RV10 41-4KA10	3RT10 44-1AP00	3RB12 46-1EM00	25 ... 100	50	**S3**
22	33	70 ... 90	3RV10 41-4LA10	3RT10 45-1AP00	3RB12 46-1EM00	25 ... 100		

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Rated control supply voltage AC 230 V. Further voltages are possible.

3) Time lag Class 30 must be set on the 3RB12.

4) Setting range 0.25 to 1.25 A by looping the main current paths twice.

General data

Three-phase standard motor 4-pole at AC 690 V [1]		Setting range Circuit-breaker	Standard circuit-breaker with limit function	Downstream circuit-breaker	Contactor[2]	Short-circuit switching capacity I_q at 690 V	Size
Standard output	Motor current (guide value)		Type	Type	Type		
P	I						
kW	A	A				kA	
Type of coordination "1" and "2" at AC 690 V Normal starting Class 10							
0.09	0.17	0.14 ... 0.2	without	3RV10 21-0BA10	3RT10 24-1AP00	100[3]	**S0**
0.12	0.23	0.18 ... 0.25		3RV10 21-0CA10	3RT10 24-1AP00		
0.12	0.23	0.22 ... 0.32		3RV10 21-0DA10	3RT10 24-1AP00		
0.18	0.35	0.28 ... 0.4		3RV10 21-0EA10	3RT10 24-1AP00		
0.18	0.35	0.35 ... 0.5		3RV10 21-0FA10	3RT10 24-1AP00		
0.25	0.49	0.45 ... 0.63		3RV10 21-0GA10	3RT10 24-1AP00		
0.37	0.64	0.55 ... 0.8		3RV10 21-0HA10	3RT10 24-1AP00		
0.55	0.87	0.7 ... 1		3RV10 21-0JA10	3RT10 24-1AP00		
0.75	1.1	0.9 ... 1.25		3RV10 21-0KA10	3RT10 24-1AP00		
0.75	1.1	1.1 ... 1.6		3RV10 21-1AA10	3RT10 24-1AP00		
1.1	1.6	1.4 ... 2	3RV13 21-4DC10	3RV10 21-1BA10	3RT10 24-1AP00	50	**S0**
1.5	2.1	1.8 ... 2.5	size S0	3RV10 21-1CA10	3RT10 24-1AP00		
2.2	2.8	2.2 ... 3.2	I_n = 25 A	3RV10 21-1DA10	3RT10 24-1AP00		
3.0	3.8	3.5 ... 5		3RV10 21-1FA10	3RT10 24-1AP00		
4.0	4.9	4.5 ... 6.3		3RV10 21-1GA10	3RT10 24-1AP00		
5.5	6.7	5.5 ... 8		3RV10 21-1HA10	3RT10 24-1AP00		
11	8.9	7 ... 10		3RV10 21-1JA10	3RT10 24-1AP00	20	**S0**
	12.8	11 ... 6		3RV10 21-4AA10	3RT10 25-1AP00		
11	12.8	11 ... 16	3RV13 31-4HC10	3RV10 31-4AA10	3RT10 34-1AP00	50	**S2**
15	17	14 ... 20	size S2	3RV10 31-4BA10	3RT10 34-1AP00		
18.5	21	18 ... 25	I_n = 50 A	3RV10 31-4DA10	3RT10 35-1AP00		
22	24	22 ... 32		3RV10 31-4EA10	3RT10 35-1AP00		
30	32	28 ... 40		3RV10 31-4FA10	3RT10 44-1AP00 [4]	50	**S2/S3**
37	39	36 ... 45		3RV10 31-4GA10	3RT10 44-1AP00 [4]		
45	47	40 ... 50		3RV10 31-4HA10	3RT10 45-1AP00 [4]		

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Rated control supply voltage AC 230 V. Further voltages are possible.

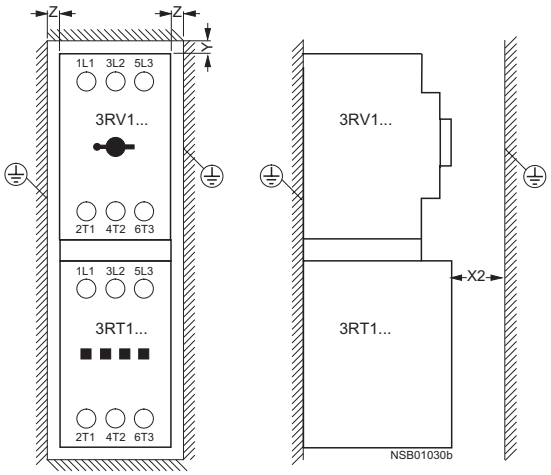
3) An upstream circuit-breaker is not required.

4) With these combinations, the distance between the downstream circuit-breaker and the contactor must be at least 10 cm.

Installation guidelines for AC 400/500 V

The following distances from grounded components must be observed when installing combinations:

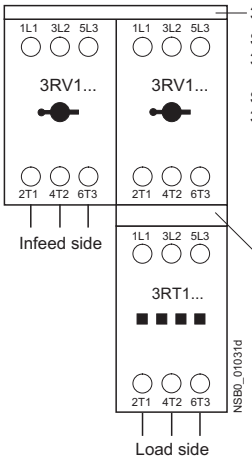
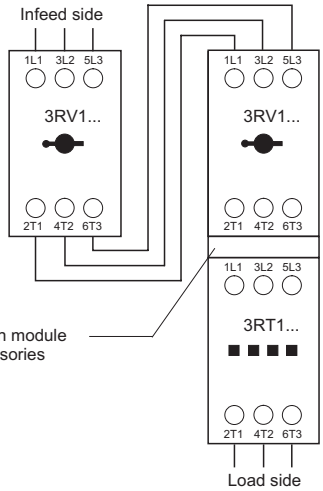
Circuit-breakers in combination with contactors			Distance to grounded or live parts acc. to IEC 60947-4		
Circuit-breaker	Contactor	Rated operational voltage	Y mm	X2[1] mm	Z mm
3RV1. 1 with	3RT10 1	400/500 V	20	10	9
3RV1. 2 with	3RT10 1	400/500 V	30	10	9
	3RT1. 2	400/500 V	30	10	9
	3RT1. 3	400/500 V	30	10	9
3RV1. 3 with	3RT10 2	400/500 V	50	10	10
	3RT1. 3	400/500 V	50	10	10
	3RT10 4	400/500 V	50	10	10
3RV1. 4 with	3RT10 4	400 V	90	10	12
	3RT10 4	500 V	220	10	20



1) Minimum distance to contactor at front. For the circuit-breaker, no minimum distance at the front must be maintained.

Installation guidelines for AC 690 V

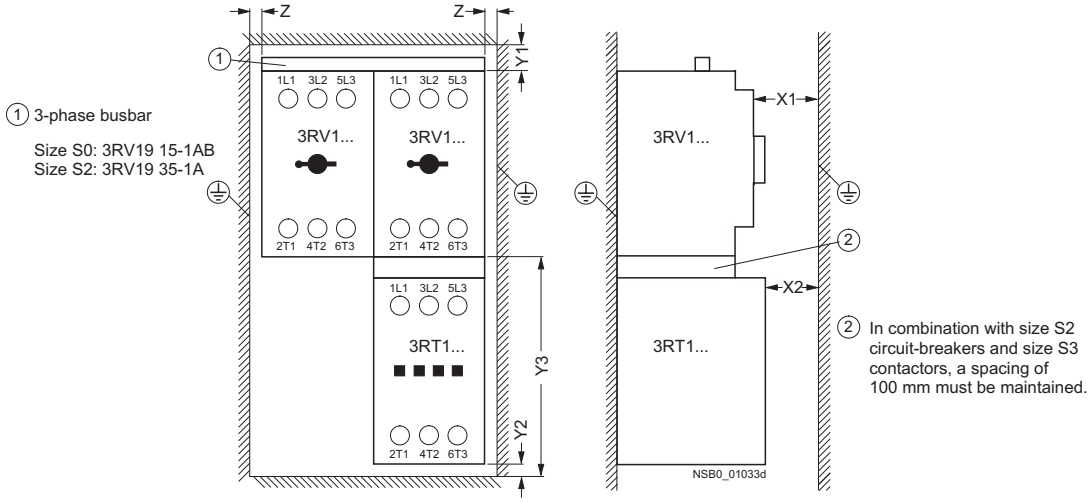
For assembling fuseless load feeders, one upstream and one downstream circuit-breaker are required. If the sum of the set currents does not exceed the rated or set current of the upstream circuit-breaker, several downstream circuit-breakers can also be used in parallel. The circuit-breakers must be placed adjacent to each other and can be connected with the wiring modules specified below. The contactor can be fitted with a connecting module under the downstream circuit-breaker. If contactor assemblies are used for reversing duty, the assembly must be mounted so that the space beneath the upstream circuit-breaker (infeed side) remains free.

Size	Mounting method	Standard mounting for sizes S0 up to 5.5 kW, S2 and S3	Mounting for size S0 from 7.5 to 11 kW
S0	Mounting on an insulated base plate. If screws are used for fixing, the screws must not be grounded. Alternatively, the adapter for rail mounting can be used without restriction.		
S2/S3	Mounting on an insulated base plate. Alternatively, the adapter for rail mounting can also be used.		

General data

The following distances from grounded components must be observed when installing combinations:

Two circuit-breakers in combination with contactors			Distance to grounded or live parts acc. to IEC 60947-4					
Circuit-breaker	Contactor	Rated operating voltage	Y1 mm	Y2 mm	Y3 mm	X1 mm	X2 mm	Z mm
3RV1. 2 with	3RT10 2	690 V	80	10	95	20	14	20
3RV1. 3 with	3RT10 3	690 V	50	10	120	10	32	10
	3RT10 4	690 V	50	10	120	10	40	10



1 3-phase busbar

Size S0: 3RV19 15-1AB
Size S2: 3RV19 35-1A

2 In combination with size S2 circuit-breakers and size S3 contactors, a spacing of 100 mm must be maintained.

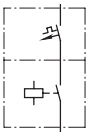
Selection and ordering data


3RA1110


3RA1120


3RA1130

Direct start



Rated control supply voltage AC 50 Hz 230 V[1] for 35 mm standard rail or screw mounting

- Circuit-breaker and contactor are linked electrically and mechanically by means of a link module
- As from size S2 with adapter for standard mounting rail [2] mechanical reinforcement
- Auxiliary switches[3] on the circuit-breaker and the contactor can be easily fitted due to the modular system (on contactor size S00:1 NO integrated)

Size	Three-phase standard motor 4-pole at AC 400 V [4]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor curr. (guide val.)		Circuit-breaker	+Contactor	+Connecting module +Adapter for rail mounting		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA/100 kA at 400 V (compatible with type of coord. "1")[5]										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01	3RA19 11-1AA00	A	**3RA11 10-0BA15-1AP0**	1 unit	0.454
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA11 10-0CA15-1AP0**	1 unit	0.450
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		6)	A	**3RA11 10-0DA15-1AP0**	1 unit	0.450
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10			A	**3RA11 10-0EA15-1AP0**	1 unit	0.452
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10			A	**3RA11 10-0FA15-1AP0**	1 unit	0.450
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10			A	**3RA11 10-0GA15-1AP0**	1 unit	0.448
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA11 10-0HA15-1AP0**	1 unit	0.446
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA11 10-0JA15-1AP0**	1 unit	0.451
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA11 10-0KA15-1AP0**	1 unit	0.495
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA11 10-1AA15-1AP0**	1 unit	0.502
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA11 10-1BA15-1AP0**	1 unit	0.490
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1AP00	3RA19 21-1AA00	A	**3RA11 20-1CA24-0AP0**	1 unit	0.720
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA11 20-1DA24-0AP0**	1 unit	0.720
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		6)	A	**3RA11 20-1EA24-0AP0**	1 unit	0.710
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10			A	**3RA11 20-1FA24-0AP0**	1 unit	0.723
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10			A	**3RA11 20-1GA24-0AP0**	1 unit	0.717
	3	6.8	5.5 ... 8	3RV10 21-1HA10			A	**3RA11 20-1HA24-0AP0**	1 unit	0.719
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00		A	**3RA11 20-1JA26-0AP0**	1 unit	0.720
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA11 20-1KA26-0AP0**	1 unit	0.719
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA11 20-4AA26-0AP0**	1 unit	0.720
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA11 20-4BA26-0AP0**	1 unit	0.722
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	3RA19 31-1AA00	A	**3RA11 30-4DB34-0AP0**	1 unit	2.070
	15	29	22 ... 32	3RV10 31-4EA10		+	A	**3RA11 30-4EB34-0AP0**	1 unit	2.080
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00	3RA19 32-1AA00	A	**3RA11 30-4FB35-0AP0**	1 unit	2.120
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00		A	**3RA11 30-4GB36-0AP0**	1 unit	2.130
	22	41	40 ... 50	3RV10 31-4HA10			A	**3RA11 30-4HB36-0AP0**	1 unit	2.090
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	3RA19 41-1AA00		Size S3 is only available for self-assembly		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1AP00	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1AP00	3RA19 42-1AA00				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V[5] (the circuit-breaker is compatible with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1AP01	3RA19 11-1AA00	A	**3RA11 10-1CA15-1AP0**	1 unit	0.497
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA11 10-1DA15-1AP0**	1 unit	0.498
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		6)	A	**3RA11 10-1EA15-1AP0**	1 unit	0.500
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10			A	**3RA11 10-1FA15-1AP0**	1 unit	0.501
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10			A	**3RA11 10-1GA15-1AP0**	1 unit	0.508
	3	6.8	5.5 ... 8	3RV10 11-1HA10			A	**3RA11 10-1HA15-1AP0**	1 unit	0.508
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP01		A	**3RA11 10-1JA16-1AP0**	1 unit	0.494
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1AP01		A	**3RA11 10-1KA17-1AP0**	1 unit	0.500
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00	3RA19 21-1AA00	A	**3RA11 20-4AA25-0AP0**	1 unit	0.729
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA11 20-4BA25-0AP0**	1 unit	0.724
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00	6)	A	**3RA11 20-4CA26-0AP0**	1 unit	0.724
	11	22	18 ... 25	3RV10 21-4DA10	3RT10 26-1AP00		A	**3RA11 20-4DA26-0AP0**	1 unit	0.729
	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

1) Size S00 also suitable for 60 Hz.
2) Adapter for rail mounting is also suitable for screw mounting.
3) For auxiliary switch, see accessories, page 6/75.
4) Selection depends on the concrete startup and rated data of the protected motor.
5) See load feeders ≥ 100 kA, page 6/60 to page 6/61.
6) Screw mounting with 1 push-in lug each per load feeder; see accessories, page 6/79.

*** This quantity or a multiple thereof can be ordered.**

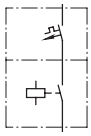
For snapping onto standard rail or for screw mounting


3RA1110


3RA1120


3RA1130

Direct start



Rated control supply voltage DC 24 V for 35 mm standard mounting rail or screw mounting

- Circuit-breaker and contactor are linked electrically and mechanically by means of a link module
- As from size S2 with adapter for standard mounting rail[1] for mechanical reinforcement
- Auxiliary switches[2] on the circuit-breaker and the contactor can be easily fitted due to the modular system (on contactor size S00: 1 NO integrated)

6

Size	Three-phase standard motor 4-pole at AC 400 V [3]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor curr. (guide val.)		Circuit-breaker	+Contactor	+Connecting module +Adapter for rail mounting		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA/100 kA at 400 V (compatible with type of coord. "1")[4]										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1BB41	3RA19 11-1AA00	A	**3RA11 10-0BA15-1BB4**	1 unit	0.510
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA11 10-0CA15-1BB4**	1 unit	0.512
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		[5]	A	**3RA11 10-0DA15-1BB4**	1 unit	0.500
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10			A	**3RA11 10-0EA15-1BB4**	1 unit	0.508
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10			A	**3RA11 10-0FA15-1BB4**	1 unit	0.500
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10			A	**3RA11 10-0GA15-1BB4**	1 unit	0.505
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA11 10-0HA15-1BB4**	1 unit	0.506
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA11 10-0JA15-1BB4**	1 unit	0.512
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA11 10-0KA15-1BB4**	1 unit	0.556
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA11 10-1AA15-1BB4**	1 unit	0.553
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA11 10-1BA15-1BB4**	1 unit	0.553
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1BB40	3RA19 21-1BA00	A	**3RA11 20-1CA24-0BB4**	1 unit	0.947
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA11 20-1DA24-0BB4**	1 unit	0.950
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		[5]	A	**3RA11 20-1EA24-0BB4**	1 unit	0.945
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10			A	**3RA11 20-1FA24-0BB4**	1 unit	0.951
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10			A	**3RA11 20-1GA24-0BB4**	1 unit	0.951
	3	6.8	5.5 ... 8	3RV10 21-1HA10			A	**3RA11 20-1HA24-0BB4**	1 unit	0.960
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1BB40		A	**3RA11 20-1JA26-0BB4**	1 unit	0.951
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA11 20-1KA26-0BB4**	1 unit	0.950
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA11 20-4AA26-0BB4**	1 unit	0.959
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA11 20-4BA26-0BB4**	1 unit	0.950
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1BB40	3RA19 31-1BA00	A	**3RA11 30-4DB34-0BB4**	1 unit	2.700
	15	29	22 ... 32	3RV10 31-4EA10		+	A	**3RA11 30-4EB34-0BB4**	1 unit	2.700
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1BB40	3RA19 32-1AA00	A	**3RA11 30-4FB35-0BB4**	1 unit	2.730
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1BB40		A	**3RA11 30-4GB36-0BB4**	1 unit	2.690
	22	41	40 ... 50	3RV10 31-4HA10			A	**3RA11 30-4HB36-0BB4**	1 unit	2.690
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1BB00	3RA19 41-1BA00		Size S3 is only available for self-assembly		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1BB00	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1BB00	3RA19 42-1BA00				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V[4] (the circuit-breaker is compatible with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1BB41	3RA19 11-1AA00	A	**3RA11 10-1CA15-1BB4**	1 unit	0.563
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA11 10-1DA15-1BB4**	1 unit	0.556
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		[5]	A	**3RA11 10-1EA15-1BB4**	1 unit	0.555
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10			A	**3RA11 10-1FA15-1BB4**	1 unit	0.567
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10			A	**3RA11 10-1GA15-1BB4**	1 unit	0.559
	3	6.8	5.5 ... 8	3RV10 11-1HA10			A	**3RA11 10-1HA15-1BB4**	1 unit	0.567
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1BB41		A	**3RA11 10-1JA16-1BB4**	1 unit	0.555
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1BB41		A	**3RA11 10-1KA17-1BB4**	1 unit	0.560
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1BB40	3RA19 21-1BA00	A	**3RA11 20-4AA25-0BB4**	1 unit	0.960
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA11 20-4BA25-0BB4**	1 unit	0.952
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1BB40	[5]	A	**3RA11 20-4CA26-0BB4**	1 unit	0.956
	11	22	18 ... 25	3RV10 21-4DA10			A	**3RA11 20-4DA26-0BB4**	1 unit	0.960
	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

1) Adapter for rail mounting is also suitable for screw mounting.

2) For auxiliary switch, see accessories, page 6/75.

3) Selection depends on the concrete startup and rated data of the protected motor.

4) See load feeders ≥ 100 kA, page 6/60 to page 6/61.

5) Screw mounting with 1 push-in lug each per load feeder; see accessories, page 6/79.

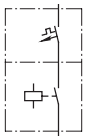
*** This quantity or a multiple thereof can be ordered.**

For busbar systems

3RA1110

3RA1120

Direct start



Rated control supply voltage AC 50 Hz 230 V[1)]
for 40 mm and 60 mm busbar systems

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- Auxiliary switches[2)] on the circuit-breaker and the contactor can be easily fitted due to the modular system (on contactor size S00: 1 NO integrated)

Size	Three-phase standard motor 4-pole at AC 400 V [3)]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor current (guide value)		Circuit-breaker	+Contactor	+Connecting module + Adapter for rail mounting		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA at 400 V (compatible with type of coordination "1")										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP01	3RA19 11-1AA00	A	**3RA11 10-0B□15-1AP0**	1 unit	0.660
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA11 10-0C□15-1AP0**	1 unit	0.642
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		40 mm	A	**3RA11 10-0D□15-1AP0**	1 unit	0.652
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10		8US10 51-5DM07	A	**3RA11 10-0E□15-1AP0**	1 unit	0.644
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10		or 60 mm	A	**3RA11 10-0F□15-1AP0**	1 unit	0.644
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10		8US12 51-5DM07	A	**3RA11 10-0G□15-1AP0**	1 unit	0.644
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA11 10-0H□15-1AP0**	1 unit	0.645
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA11 10-0J □15-1AP0**	1 unit	0.650
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA11 10-0K□15-1AP0**	1 unit	0.690
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA11 10-1A□15-1AP0**	1 unit	0.691
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA11 10-1B□15-1AP0**	1 unit	0.695
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1AP00	3RA19 21-1AA00	A	**3RA11 20-1C□24-0AP0**	1 unit	0.920
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA11 20-1D□24-0AP0**	1 unit	0.927
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		40 mm	A	**3RA11 20-1E□24-0AP0**	1 unit	0.920
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10		8US10 51-5DM07	A	**3RA11 20-1F□24-0AP0**	1 unit	0.928
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10		or 60 mm	A	**3RA11 20-1G□24-0AP0**	1 unit	0.927
	3	6.8	5.5 ... 8	3RV10 21-1HA10		8US12 51-5DM07	A	**3RA11 20-1H□24-0AP0**	1 unit	0.920
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00		A	**3RA11 20-1J □26-0AP0**	1 unit	0.930
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA11 20-1K□26-0AP0**	1 unit	0.922
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA11 20-4A□26-0AP0**	1 unit	0.939
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA11 20-4B□26-0AP0**	1 unit	0.930
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	3RA19 31-1AA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+ 40 mm				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00	8US10 61-5FP08				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00	or 60 mm				
	22	41	40 ... 50	3RV10 31-4HA10		8US12 61-5FP08				
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	3RA19 41-1AA00		For size S3, a busbar adapter is not necessary.		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1AP00	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1AP00	not available				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V (the circuit-breaker is compatible with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1AP01	3RA19 11-1AA00	A	**3RA11 10-1C□15-1AP0**	1 unit	0.696
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA11 10-1D□15-1AP0**	1 unit	0.700
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		40 mm	A	**3RA11 10-1E□15-1AP0**	1 unit	0.690
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10		8US10 51-5DM07	A	**3RA11 10-1F□15-1AP0**	1 unit	0.707
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10		or 60 mm	A	**3RA11 10-1G□15-1AP0**	1 unit	0.690
	3	6.8	5.5 ... 8	3RV10 11-1HA10		8US12 51-5DM07	A	**3RA11 10-1H□15-1AP0**	1 unit	0.694
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP01		A	**3RA11 10-1J □16-1AP0**	1 unit	0.692
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1AP01		A	**3RA11 10-1K□17-1AP0**	1 unit	0.699
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00	3RA19 21-1AA00	A	**3RA11 20-4A□25-0AP0**	1 unit	0.937
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA11 20-4B□25-0AP0**	1 unit	0.918
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00	40 mm	A	**3RA11 20-4C□26-0AP0**	1 unit	0.920
	11	22	18 ... 25	3RV10 21-4DA10		8US10 51-5DM07	A	**3RA11 20-4D□26-0AP0**	1 unit	0.915
						or 60 mm 8US12 51-5DM07				
S3	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

Order No. supplement for busbar center-line spacing

40 mm	**C**
60 mm	**D**

1) Size S00 also suitable for 60 Hz.

2) For auxiliary switch, see accessories, page 6/75.

3) Selection depends on the concrete startup and rated data of the protected motor.

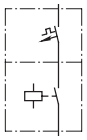
*** This quantity or a multiple thereof can be ordered.**

For busbar systems

3RA1110

3RA1120

Direct start



Rated control supply voltage DC 24 V for 40 and 60 mm busbar systems

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- Auxiliary switches[1] on the circuit-breaker and the contactor can be easily fitted due to the modular system (on contactor size S00: 1 NO integrated)

Size	Three-phase standard motor 4-pole at AC 400 V [2]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor current (guide val.)		Circuit-breaker	+Contactor	+Connecting module + Adapter for rail mounting		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA at 400 V (compatible with type of coordination "1")										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1BB41	3RA19 11-1AA00	A	**3RA11 10-0B□15-1BB4**	1 unit	0.710
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA11 10-0C□15-1BB4**	1 unit	0.699
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		40 mm	A	**3RA11 10-0D□15-1BB4**	1 unit	0.705
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10		8US10 51-5DM07	A	**3RA11 10-0E□15-1BB4**	1 unit	0.714
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10		or 60 mm	A	**3RA11 10-0F□15-1BB4**	1 unit	0.690
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10		8US12 51-5DM07	A	**3RA11 10-0G□15-1BB4**	1 unit	0.708
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA11 10-0H□15-1BB4**	1 unit	0.706
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA11 10-0J □15-1BB4**	1 unit	0.702
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA11 10-0K□15-1BB4**	1 unit	0.749
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA11 10-1A□15-1BB4**	1 unit	0.761
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA11 10-1B□15-1BB4**	1 unit	0.760
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1BB40	3RA19 21-1AA00	A	**3RA11 20-1C□24-0BB4**	1 unit	1.160
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA11 20-1D□24-0BB4**	1 unit	1.140
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		40 mm	A	**3RA11 20-1E□24-0BB4**	1 unit	1.150
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10		8US10 51-5DM07	A	**3RA11 20-1F□24-0BB4**	1 unit	1.150
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10		or 60 mm	A	**3RA11 20-1G□24-0BB4**	1 unit	1.150
	3	6.8	5.5 ... 8	3RV10 21-1HA10		8US12 51-5DM07	A	**3RA11 20-1H□24-0BB4**	1 unit	1.150
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1BB40		A	**3RA11 20-1J □26-0BB4**	1 unit	1.150
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA11 20-1K□26-0BB4**	1 unit	1.150
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA11 20-4A□26-0BB4**	1 unit	1.160
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA11 20-4B□26-0BB4**	1 unit	1.150
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1BB40	3RA19 31-1BA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+ 40 mm				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1BB40	8US10 61-5FP08				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1BB40	or 60 mm				
	22	41	40 ... 50	3RV10 31-4HA10		8US12 61-5FP08				
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1BB40	3RA19 41-1BA00		For size S3, a busbar adapter is not necessary.		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1BB40	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1BB40	not available				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V (the circuit-breaker is compatible with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1BB41	3RA19 11-1AA00	A	**3RA11 10-1C□15-1BB4**	1 unit	0.758
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA11 10-1D□15-1BB4**	1 unit	0.752
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		40 mm	A	**3RA11 10-1E□15-1BB4**	1 unit	0.750
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10		8US10 51-5DM07	A	**3RA11 10-1F□15-1BB4**	1 unit	0.768
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10		or 60 mm	A	**3RA11 10-1G□15-1BB4**	1 unit	0.755
	3	6.8	5.5 ... 8	3RV10 11-1HA10		8US12 51-5DM07	A	**3RA11 10-1H□15-1BB4**	1 unit	0.758
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1BB41		A	**3RA11 10-1J □16-1BB4**	1 unit	0.766
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1BB41		A	**3RA11 10-1K□17-1BB4**	1 unit	0.751
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1BB40	3RA19 21-1BA00	A	**3RA11 20-4A□25-0BB4**	1 unit	1.160
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA11 20-4B□25-0BB4**	1 unit	1.150
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1BB40	40 mm	A	**3RA11 20-4C□26-0BB4**	1 unit	1.160
	11	22	18 ... 25	3RV10 21-4DA10		8US10 51-5DM07	A	**3RA11 20-4D□26-0BB4**	1 unit	1.170
						or 60 mm 8US12 51-5DM07				
S3	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

Order No. supplement for busbar center-line spacing

40 mm	**C**
60 mm	**D**

1) For auxiliary switch, see accessories, page 6/75.

2) Selection depends on the concrete startup and rated data of the protected motor.

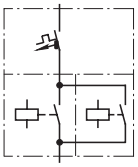
*** This quantity or a multiple thereof can be ordered.**

For snapping onto standard rail or for screw mounting


3RA1210


3RA1220

Reversing duty



Rated control supply voltage AC 50 Hz 230 V[1]
for 35 mm standard mounting rail or screw mounting

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- From size S0 with adapter for rail mounting[2] for mechanical reinforcement
- Auxiliary switches[3]) on the circuit-breaker and the contactor can be easily fitted due to the modular system
- Complete unit always with electrical and mechanical locking

Size	Three-phase standard motor 4-pole at AC 400 V [4]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor curr. (guide val.)		Circuit-breaker	+ 2 contactors	+Link module + Assembly kit RH[2)5)]		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA/100 kA at 400 V (compatible with type of coord. "1")[6]										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP02	3RA19 11-1AA00	A	**3RA12 10-0BA15-0AP0**	1 unit	0.699
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA12 10-0CA15-0AP0**	1 unit	0.700
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		3RA19 13-2A[7)]	A	**3RA12 10-0DA15-0AP0**	1 unit	0.700
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10			A	**3RA12 10-0EA15-0AP0**	1 unit	0.720
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10			A	**3RA12 10-0FA15-0AP0**	1 unit	0.708
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10			A	**3RA12 10-0GA15-0AP0**	1 unit	0.717
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA12 10-0HA15-0AP0**	1 unit	0.710
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA12 10-0JA15-0AP0**	1 unit	0.710
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA12 10-0KA15-0AP0**	1 unit	0.755
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA12 10-1AA15-0AP0**	1 unit	0.765
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA12 10-1BA15-0AP0**	1 unit	0.765
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1AP00	3RA19 21-1AA00	A	**3RA12 20-1CB24-0AP0**	1 unit	1.400
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA12 20-1DB24-0AP0**	1 unit	1.390
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		3RA19 23-1B[8)]	A	**3RA12 20-1EB24-0AP0**	1 unit	1.380
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10			A	**3RA12 20-1FB24-0AP0**	1 unit	1.380
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10			A	**3RA12 20-1GB24-0AP0**	1 unit	1.390
	3	6.8	5.5 ... 8	3RV10 21-1HA10			A	**3RA12 20-1HB24-0AP0**	1 unit	1.380
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00		A	**3RA12 20-1JB26-0AP0**	1 unit	1.380
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA12 20-1KB26-0AP0**	1 unit	1.380
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA12 20-4AB26-0AP0**	1 unit	1.400
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA12 20-4BB26-0AP0**	1 unit	1.400
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	3RA19 31-1AA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00	3RA19 33-1B[8)]				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00					
	22	41	40 ... 50	3RV10 31-4HA10						
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	3RA19 41-1AA00		Size S3 is only available for self-assembly		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1AP00	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1AP00	3RA19 43-1B[8)]				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V[6] (the circuit-breaker complies with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1AP02	3RA19 11-1AA00	A	**3RA12 10-1CA15-0AP0**	1 unit	0.755
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA12 10-1DA15-0AP0**	1 unit	0.760
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		3RA19 13-2A[7)]	A	**3RA12 10-1EA15-0AP0**	1 unit	0.750
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10			A	**3RA12 10-1FA15-0AP0**	1 unit	0.766
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10			A	**3RA12 10-1GA15-0AP0**	1 unit	0.760
	3	6.8	5.5 ... 8	3RV10 11-1HA10			A	**3RA12 10-1HA15-0AP0**	1 unit	0.755
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP02		A	**3RA12 10-1JA16-0AP0**	1 unit	0.761
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1AP02		A	**3RA12 10-1KA17-0AP0**	1 unit	0.760
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00	3RA19 21-1AA00	A	**3RA12 20-4AB25-0AP0**	1 unit	1.390
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA12 20-4BB25-0AP0**	1 unit	1.380
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00	3RA19 23-1B[8)]	A	**3RA12 20-4CB26-0AP0**	1 unit	1.200
	11	22	20 ... 25	3RV10 21-4DA10	3RT10 26-1AP00		A	**3RA12 20-4DB26-0AP0**	1 unit	1.420
S3	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

1) Size S00 also suitable for 60 Hz.

2) Assembly kit for adapter for standard mounting rail also suitable for screw mounting.

3) For auxiliary switch, see accessories, page 6/75.

4) Selection depends on the concrete startup and rated data of the protected motor.

5) RH = Reversing duty for rail mounting.

6) See load feeders ≥ 100 kA, page 6/60 to page 6/61.

7) Wiring kit necessary: Screw mounting with 1 push-in lug each per load feeder; see accessories, page 6/79.

8) Mechanical locking device must be ordered separately; see accessories, page 6/77.

*** This quantity or a multiple thereof can be ordered.**

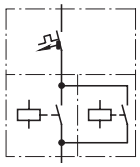
SIRIUS Reversing Starters

For snapping onto standard rail or for screw mounting

3RA1210

3RA1220

Reversing duty



Rated control supply voltage DC 24 V for 35 mm standard mounting rail or screw mounting

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- As from size S0 with adapter[1] for standard mounting rail for mechanical reinforcement
- Auxiliary switches[2]) on the circuit-breaker and the contactor can be easily fitted due to the modular system
- Complete unit always with electrical and mechanical locking

Size	Three-phase standard motor 4-pole at AC 400 V [3]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
	Standard output	Motor curr. (guide val.)		Circuit-breaker	+ 2 contactors	+Link module + Assembly kit RH[1)4)]		Order No.	PS*	Weight per PU approx.
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA/100 kA at 400 V (compatible with type of coord. "1")[5]										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1BB42	3RA19 11-1AA00	A	**3RA12 10-0BA15-0BB4**	1 unit	0.832
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA12 10-0CA15-0BB4**	1 unit	0.830
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		3RA19 13-2A[6)]	A	**3RA12 10-0DA15-0BB4**	1 unit	0.826
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10			A	**3RA12 10-0EA15-0BB4**	1 unit	0.833
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10			A	**3RA12 10-0FA15-0BB4**	1 unit	0.824
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10			A	**3RA12 10-0GA15-0BB4**	1 unit	0.835
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA12 10-0HA15-0BB4**	1 unit	0.830
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA12 10-0JA15-0BB4**	1 unit	0.830
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA12 10-0KA15-0BB4**	1 unit	0.878
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA12 10-1AA15-0BB4**	1 unit	0.880
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA12 10-1BA15-0BB4**	1 unit	0.875
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1BB40	3RA19 21-1BA00	A	**3RA12 20-1CB24-0BB4**	1 unit	1.840
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA12 20-1DB24-0BB4**	1 unit	1.850
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		3RA19 23-1B[7)]	A	**3RA12 20-1EB24-0BB4**	1 unit	1.850
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10			A	**3RA12 20-1FB24-0BB4**	1 unit	1.840
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10			A	**3RA12 20-1GB24-0BB4**	1 unit	1.840
	3	6.8	5.5 ... 8	3RV10 21-1HA10			A	**3RA12 20-1HB24-0BB4**	1 unit	1.850
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1BB40		A	**3RA12 20-1JB26-0BB4**	1 unit	1.850
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA12 20-1KB26-0BB4**	1 unit	1.850
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA12 20-4AB26-0BB4**	1 unit	1.860
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA12 20-4BB26-0BB4**	1 unit	1.850
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1BB40	3RA19 31-1BA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1BB40	3RA19 33-1B[7)]				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1BB40					
	22	41	40 ... 50	3RV10 31-4HA10						
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1BB40	3RA19 41-1BA00		Size S3 is only available for self-assembly		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1BB40	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1BB40	3RA19 43-1B[7)]				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V[5] (the circuit-breaker complies with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1BB42	3RA19 11-1AA00	A	**3RA12 10-1CA15-0BB4**	1 unit	0.883
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA12 10-1DA15-0BB4**	1 unit	0.882
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		3RA19 13-2A[6)]	A	**3RA12 10-1EA15-0BB4**	1 unit	0.879
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10			A	**3RA12 10-1FA15-0BB4**	1 unit	0.881
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10			A	**3RA12 10-1GA15-0BB4**	1 unit	0.888
	3	6.8	5.5 ... 8	3RV10 11-1HA10			A	**3RA12 10-1HA15-0BB4**	1 unit	0.890
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1BB42		A	**3RA12 10-1JA16-0BB4**	1 unit	0.882
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1BB42		A	**3RA12 10-1KA17-0BB4**	1 unit	0.872
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1BB40	3RA19 21-1BA00	A	**3RA12 20-4AB25-0BB4**	1 unit	1.850
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA12 20-4BB25-0BB4**	1 unit	1.850
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1BB40	3RA19 23-1B[7)]	A	**3RA12 20-4CB26-0BB4**	1 unit	1.850
	11	22	20 ... 25	3RV10 21-4DA10			A	**3RA12 20-4DB26-0BB4**	1 unit	1.860
S3	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

1) Assembly kit for adapter for standard mounting rail also suitable for screw mounting.

2) For auxiliary switch, see accessories, page 6/75.

3) Selection depends on the concrete startup and rated data of the protected motor.

4) RH = Reversing duty for rail mounting.

5) See load feeders ≥ 100 kA, page 6/60 to page 6/61.

6) Wiring kit necessary: Screw mounting with 1 push-in lug each per load feeder; see accessories, page 6/79.

7) Mechanical locking device must be ordered separately; see accessories, page 6/77.

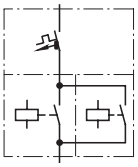
*** This quantity or a multiple thereof can be ordered.**

For busbar systems


3RA1210


3RA1220

Reversing duty



Rated control supply voltage AC 50 Hz 230 V[1)]
for 40 mm and 60 mm busbar systems

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- Auxiliary switches[2)]) on the circuit-breaker and the contactor can be easily fitted due to the modular system
- Complete unit always with electrical and mechanical locking

Size	Three-phase standard motor 4-pole at AC 400 V [3)]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
				Circuit-breaker	+ 2 contactors	+Link module + Assembly kit RS[4)]		Order No.	PS*	Weight per PU approx.
	Standard output	Motor curr. (guide val.)								
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA at 400 V (compatible with type of coordination "1")										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1AP02	3RA19 11-1AA00	A	**3RA12 10-0B□15-0AP0**	1 unit	1.030
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA12 10-0C□15-0AP0**	1 unit	1.030
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		40 mm	A	**3RA12 10-0D□15-0AP0**	1 unit	1.050
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10		3RA19 13-1C	A	**3RA12 10-0E□15-0AP0**	1 unit	1.040
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10		or 60 mm	A	**3RA12 10-0F□15-0AP0**	1 unit	1.040
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10		3RA19 13-1D	A	**3RA12 10-0G□15-0AP0**	1 unit	1.040
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA12 10-0H□15-0AP0**	1 unit	1.050
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA12 10-0J □15-0AP0**	1 unit	1.030
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA12 10-0K□15-0AP0**	1 unit	1.080
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA12 10-1A□15-0AP0**	1 unit	1.090
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA12 10-1B□15-0AP0**	1 unit	1.100
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1AP00	3RA19 21-1AA00	A	**3RA12 20-1C□24-0AP0**	1 unit	1.510
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA12 20-1D□24-0AP0**	1 unit	1.520
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		40 mm	A	**3RA12 20-1E□24-0AP0**	1 unit	1.510
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10		3RA19 23-1C[5)]	A	**3RA12 20-1F□24-0AP0**	1 unit	1.530
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10		or 60 mm	A	**3RA12 20-1G□24-0AP0**	1 unit	1.520
	3	6.8	5.5 ... 8	3RV10 21-1HA10		3RA19 23-1D[5)]	A	**3RA12 20-1H□24-0AP0**	1 unit	1.520
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1AP00		A	**3RA12 20-1J □26-0AP0**	1 unit	1.520
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA12 20-1K□26-0AP0**	1 unit	1.530
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA12 20-4A□26-0AP0**	1 unit	1.540
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA12 20-4B□26-0AP0**	1 unit	1.530
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1AP00	3RA19 31-1AA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1AP00	40 mm				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1AP00	3RA19 33-1C[5)]				
	22	41	40 ... 50	3RV10 31-4HA10		or 60 mm				
						3RA19 33-1D[5)]				
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1AP00	3RA19 41-1AA00		For size S3, a busbar adapter is not necessary.		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1AP00	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1AP00	not available				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V **(the circuit-breaker is compatible with type of coordination "2")**										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1AP02	3RA19 11-1AA00	A	**3RA12 10-1C□15-0AP0**	1 unit	1.080
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA12 10-1D□15-0AP0**	1 unit	1.090
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		40 mm	A	**3RA12 10-1E□15-0AP0**	1 unit	1.080
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10		3RA19 13-1C	A	**3RA12 10-1F□15-0AP0**	1 unit	1.080
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10		or 60 mm	A	**3RA12 10-1G□15-0AP0**	1 unit	1.100
	3	6.8	5.5 ... 8	3RV10 11-1HA10		3RA19 13-1D	A	**3RA12 10-1H□15-0AP0**	1 unit	1.110
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1AP02		A	**3RA12 10-1J □16-0AP0**	1 unit	1.080
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1AP02		A	**3RA12 10-1K□17-0AP0**	1 unit	1.080
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1AP00	3RA19 21-1AA00	A	**3RA12 20-4A□25-0AP0**	1 unit	1.520
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+ 40 mm	A	**3RA12 20-4B□25-0AP0**	1 unit	1.530
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1AP00	3RA19 23-1C[5)]	A	**3RA12 20-4C□26-0AP0**	1 unit	1.520
	11	22	20 ... 25	3RV10 21-4DA10		or 60 mm	A	**3RA12 20-4D□26-0AP0**	1 unit	1.600
						3RA19 23-1D[5)]				
	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

Order No. supplement for busbar center-line spacing

40 mm	**C**
60 mm	**D**

1) Size S00 also suitable for 60 Hz.
2) For auxiliary switch, see accessories, page 6/75.
3) Selection depends on the concrete startup and rated data of the protected motor.
4) RS = Reversing duty for busbar systems.
5) Mechanical locking device must be ordered separately; see accessories, page 6/77.

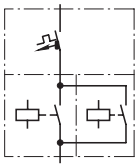
*** This quantity or a multiple thereof can be ordered.**

For busbar systems

3RA1210

3RA1220

Reversing duty



Rated control supply voltage DC 24 V for 40 and 60 mm busbar systems

- Circuit-breaker and contactor are connected electrically and mechanically by means of a link module
- Auxiliary switches[1] on the circuit-breaker and the contactor can be easily fitted due to the modular system
- Complete unit always with electrical and mechanical locking

6

Size	Three-phase standard motor 4-pole at AC 400 V [2]		Setting range for thermal overload release	Consisting of the following individual devices			DT	Fuseless load feeder		
				Circuit-breaker	+ 2 contactors	+Link module + Assembly kit RS[3]		Order No.	PS*	Weight per PU approx.
	Standard output	Motor curr. (guide val.)								
	p	*I*								
	kW	A	A							kg
Type of coordination "2" at I_q = 50 kA at 400 V (compatible with type of coordination "1")										
S00	0.06	0.2	0.14 ... 0.2	3RV10 11-0BA10	3RT10 15-1BB42	3RA19 11-1AA00	A	**3RA12 10-0B□15-0BB4**	1 unit	1.170
	0.06	0.2	0.18 ... 0.25	3RV10 11-0CA10		+	A	**3RA12 10-0C□15-0BB4**	1 unit	1.150
	0.09	0.3	0.22 ... 0.32	3RV10 11-0DA10		40 mm	A	**3RA12 10-0D□15-0BB4**	1 unit	1.170
	0.09	0.3	0.28 ... 0.4	3RV10 11-0EA10		3RA19 13-1C	A	**3RA12 10-0E□15-0BB4**	1 unit	1.150
	0.12	0.4	0.35 ... 0.5	3RV10 11-0FA10		or 60 mm	A	**3RA12 10-0F□15-0BB4**	1 unit	1.160
	0.18	0.6	0.45 ... 0.63	3RV10 11-0GA10		3RA19 13-1D	A	**3RA12 10-0G□15-0BB4**	1 unit	1.160
	0.18	0.6	0.55 ... 0.8	3RV10 11-0HA10			A	**3RA12 10-0H□15-0BB4**	1 unit	1.170
	0.25	0.8	0.7 ... 1	3RV10 11-0JA10			A	**3RA12 10-0J □15-0BB4**	1 unit	1.150
	0.37	1.1	0.9 ... 1.25	3RV10 11-0KA10			A	**3RA12 10-0K□15-0BB4**	1 unit	1.160
	0.55	1.5	1.1 ... 1.6	3RV10 11-1AA10			A	**3RA12 10-1A□15-0BB4**	1 unit	1.210
	0.75	1.9	1.4 ... 2	3RV10 11-1BA10			A	**3RA12 10-1B□15-0BB4**	1 unit	1.210
S0	0.75	1.9	1.8 ... 2.5	3RV10 21-1CA10	3RT10 24-1BB40	3RA19 21-1BA00	A	**3RA12 20-1C□24-0BB4**	1 unit	1.970
	1.1	2.7	2.2 ... 3.2	3RV10 21-1DA10		+	A	**3RA12 20-1D□24-0BB4**	1 unit	1.980
	1.5	3.6	2.8 ... 4	3RV10 21-1EA10		40 mm	A	**3RA12 20-1E□24-0BB4**	1 unit	1.970
	1.5	3.6	3.5 ... 5	3RV10 21-1FA10		3RA19 23-1C[4]	A	**3RA12 20-1F□24-0BB4**	1 unit	1.980
	2.2	5.2	4.5 ... 6.3	3RV10 21-1GA10		or 60 mm	A	**3RA12 20-1G□24-0BB4**	1 unit	1.990
	3	6.8	5.5 ... 8	3RV10 21-1HA10		3RA19 23-1D[4]	A	**3RA12 20-1H□24-0BB4**	1 unit	1.990
	4	9	7 ... 10	3RV10 21-1JA10	3RT10 26-1BB40		A	**3RA12 20-1J □26-0BB4**	1 unit	1.980
	5.5	11.5	9 ... 12.5	3RV10 21-1KA10			A	**3RA12 20-1K□26-0BB4**	1 unit	2.000
	7.5	15.5	11 ... 16	3RV10 21-4AA10			A	**3RA12 20-4A□26-0BB4**	1 unit	1.990
	7.5	15.5	14 ... 20	3RV10 21-4BA10			A	**3RA12 20-4B□26-0BB4**	1 unit	1.970
S2	11	22	18 ... 25	3RV10 31-4DA10	3RT10 34-1BB40	3RA19 31-1BA00		Size S2 is only available for self-assembly.		
	15	29	22 ... 32	3RV10 31-4EA10		+ 40 mm				
	18.5	35	28 ... 40	3RV10 31-4FA10	3RT10 35-1BB40	3RA19 33-1C[4]				
	22	41	36 ... 45	3RV10 31-4GA10	3RT10 36-1BB40	or 60 mm				
	22	41	40 ... 50	3RV10 31-4HA10		3RA19 33-1D[4]				
S3	30	55	45 ... 63	3RV10 41-4JA10	3RT10 44-1BB40	3RA19 41-1BA00		For size S3, a busbar adapter is not necessary.		
	37	67	57 ... 75	3RV10 41-4KA10	3RT10 45-1BB40	+				
	45	80	70 ... 90	3RV10 41-4LA10	3RT10 46-1BB40	not available				
	45	80	80 ... 100	3RV10 41-4MA10						
Type of coordination "1" at I_q = 50 kA at 400 V (the circuit-breaker is compatible with type of coordination "2")										
	0.75	1.9	1.4 ... 2					Load feeders for lower outputs see table above.		
S00	0.75	1.9	1.8 ... 2.5	3RV10 11-1CA10	3RT10 15-1BB42	3RA19 11-1AA00	A	**3RA12 10-1C□15-0BB4**	1 unit	1.210
	1.1	2.7	2.2 ... 3.2	3RV10 11-1DA10		+	A	**3RA12 10-1D□15-0BB4**	1 unit	1.210
	1.5	3.6	2.8 ... 4	3RV10 11-1EA10		40 mm	A	**3RA12 10-1E□15-0BB4**	1 unit	1.200
	1.5	3.6	3.5 ... 5	3RV10 11-1FA10		3RA19 13-1C	A	**3RA12 10-1F□15-0BB4**	1 unit	1.210
	2.2	5.2	4.5 ... 6.3	3RV10 11-1GA10		or 60 mm	A	**3RA12 10-1G□15-0BB4**	1 unit	1.210
	3	6.8	5.5 ... 8	3RV10 11-1HA10		3RA19 13-1D	A	**3RA12 10-1H□15-0BB4**	1 unit	1.210
	4	9	7 ... 10	3RV10 11-1JA10	3RT10 16-1BB42		A	**3RA12 10-1J □16-0BB4**	1 unit	1.210
	5.5	11.5	9 ... 12	3RV10 11-1KA10	3RT10 17-1BB42		A	**3RA12 10-1K□17-0BB4**	1 unit	1.200
S0	7.5	15.5	11 ... 16	3RV10 21-4AA10	3RT10 25-1BB40	3RA19 21-1BA00	A	**3RA12 20-4A□25-0BB4**	1 unit	1.990
	7.5	15.5	14 ... 20	3RV10 21-4BA10		+	A	**3RA12 20-4B□25-0BB4**	1 unit	1.980
	11	22	17 ... 22	3RV10 21-4CA10	3RT10 26-1BB40	3RA19 23-1C[4]	A	**3RA12 20-4C□26-0BB4**	1 unit	1.980
	11	22	20 ... 25	3RV10 21-4DA10		or 60 mm	A	**3RA12 20-4D□26-0BB4**	1 unit	1.970
						3RA19 23-1D[4]				
	15	29	22 ... 32					Load feeders for higher outputs see table above.		
	18.5	35	28 ... 40							
	22	41	36 ... 45							
			...							

Order No. supplement for busbar center-line spacing

40 mm	**C**
60 mm	**D**

1) For auxiliary switch, see accessories, page 6/75.

2) Selection depends on the concrete startup and rated data of the protected motor.

3) RS = Reversing duty for busbar systems.

4) Mechanical locking device must be ordered separately; see accessories, page 6/77.

*** This quantity or a multiple thereof can be ordered.**

For SIRIUS direct-on-line and reversing starters

Accessories

	For contactor Size	For circuit-breaker Size	Version		DT	Order No.	PS*	Weight per PU approx. kg
Circuit-breakers[1]								
 3RV19 01-1E	-	S00 ... S3	**Auxiliary switches** transverse	1 changeover	▶	**3RV19 01-1D**	1 unit	0.015
			transverse	1 NO + 1 NC	▶	**3RV19 01-1E**	1 unit	0.018
 3RV19 01-1A	-	S00 ... S3	for mounting laterally	1 NO + 1 NC	▶	**3RV19 01-1A**	1 unit	0.045
 3RV19 02-1...	-	S00 ... S3	**Undervoltage releases** AC 50 Hz 230 V		▶	**3RV19 02-1AP0**	1 unit	0.131
	-	S00 ... S3	**Shunt release** AC 50 Hz 230 V		▶	**3RV19 02-1DP0**	1 unit	0.130
Contactors[2]								
			Snap-on auxiliary contact blocks Connection from below					
 3RH19 11-1BA..	S00	-	1-pole	1 NO	▶	**3RH19 11-1BA10**	1 unit	0.015
				1 NC	▶	**3RH19 11-1BA01**	1 unit	0.016
	S00	-	2-pole	1 NO + 1 NC	▶	**3RH19 11-1MA11**	1 unit	0.052
				2 NO	▶	**3RH19 11-1MA20**	1 unit	0.053
	S0 ... S3	-		1 NO + 1 NC	▶	**3RH19 21-1MA11**	1 unit	0.074
				2 NO	▶	**3RH19 21-1MA20**	1 unit	0.076
				2 NC	▶	**3RH19 21-1MA02**	1 unit	0.073
			Connection from 2 sides					
 3RH19 11-1F ...	S00	-	4-pole	2 NO + 2NC	▶	**3RH19 11-1FA22**	1 unit	0.051
	S0 ... S3	-	1-pole	1 NO	▶	**3RH19 21-1CA10**	1 unit	0.020
				1 NC	▶	**3RH19 21-1CA01**	1 unit	0.019
	S0 ... S3	-	4-pole	2 NO + 2NC	▶	**3RH19 21-1FA22**	1 unit	0.074

1) See also Protective devices: Circuit-breakers

2) See also Controlgear: Contactors and contactor assemblies.

*** This quantity or a multiple thereof can be ordered.**

Accessories

For SIRIUS direct-on-line and reversing starters


3RT19 16-1DG00


3RT19 26-1B.00


3RT19 36-1C.00

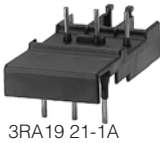
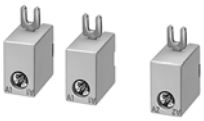
For contactor Type	Version	Rated control supply voltage U_s [1]	DT	Surge suppressors Order No. [2]	PS*	Weight per PU approx. kg
Surge suppressors without LED						
Size S00	**For plugging onto the front side of the contactors with and without auxiliary switch blocks**					
3RT1.	**Varistor**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 16-1BB00**	1 unit	0.007
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 16-1BD00**	1 unit	0.008
3RT1.	**RC element**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 16-1CB00**	1 unit	0.009
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 16-1CD00**	1 unit	0.009
3RT1.	**Noise suppression diode**	DC 12 V ... 250 V	►	**3RT19 16-1DG00**	1 unit	0.007
3RT1.	**Diode assembly** (diode and Zener diode) for DC operation and short break times	DC 12 V ... 250 V	►	**3RT19 16-1EH00**	1 unit	0.008
Size S0	**For fitting onto the coil terminals at top or bottom**					
3RT10 2	**Varistor**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 26-1BB00**	1 unit	0.023
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 26-1BD00**	1 unit	0.024
3RT10 2	**RC element**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 26-1CB00**	1 unit	0.023
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 26-1CD00**	1 unit	0.023
3RT10 2	**Diode assemblies** for DC operation short break times, • can be plugged in at bottom	DC 24 V	►	**3RT19 26-1TR00**	1 unit	0.023
		DC 30 V ... 250 V	A	**3RT19 26-1TS00**	1 unit	0.024
Sizes S0, S2 and S3	**For fitting onto the coil terminals at top or bottom**					
3RT10 3, 3RT10 4	**Varistor**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 26-1BB00**	1 unit	0.023
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 26-1BD00**	1 unit	0.024
3RT10 3, 3RT10 4	**RC element**	AC 24 V ... 48 V DC 24 V ... 70 V	►	**3RT19 36-1CB00**	1 unit	0.040
		AC 127 V ... 240 V DC 150 V ... 250 V	►	**3RT19 36-1CD00**	1 unit	0.041
3RT10 3, 3RT10 4	**Diode assemblies** for DC operation short break times, • can be plugged in at bottom	DC 24 V	►	**3RT19 36-1TR00**	1 unit	0.024
		DC 30 V ... 250 V	A	**3RT19 36-1TS00**	1 unit	0.024

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

2) For packings of 10 or 5 units **"-Z"** and order code **"X90"** must be added to the Order No.

*** This quantity or a multiple thereof can be ordered.**

For SIRIUS direct-on-line and reversing starters

	For contactor	For circuit-breaker	Version	DT	Order No.	PS*	Weight per PU approx.
	Size	Size					kg
Link modules							
 3RA19 11-1A			Electrical and mechanical link between circuit-breaker and contactor.				
	Individually packaged		Actuating voltage, contactor				
 3RA19 21-1A	S00	S00	AC and DC	▶	**3RA19 11-1AA00**	1 unit	0.027
	S00	S0		▶	**3RA19 21-1DA00**	1 unit	0.028
	S0	S0	AC	▶	**3RA19 21-1AA00**	1 unit	0.037
	S2	S2		▶	**3RA19 31-1AA00**	1 unit	0.042
	S3	S3		▶	**3RA19 41-1AA00**	1 unit	0.090
	S0	S0	DC	▶	**3RA19 21-1BA00**	1 unit	0.039
	S2	S2		▶	**3RA19 31-1BA00**	1 unit	0.043
	S3	S3		▶	**3RA19 41-1BA00**	1 unit	0.089
	Multi-pack		Actuating voltage, contactor				
 3RA19 31-1A	S00	S00	AC and DC	▶	**3RA19 11-1A**	10 units	0.019
	S00	S0		▶	**3RA19 21-1D**	10 units	0.020
	S0	S0	AC	▶	**3RA19 21-1A**	10 units	0.028
	S2	S2		▶	**3RA19 31-1A**	5 units	0.033
	S3	S3		▶	**3RA19 41-1A**	5 units	0.073
	S0	S0	DC	▶	**3RA19 21-1B**	10 units	0.030
	S2	S2		▶	**3RA19 31-1B**	5 units	0.034
	S3	S3		▶	**3RA19 41-1B**	5 units	0.075
Hybrid link modules							
 3RA19 21-2FA00	Cage Clamp terminals	Screw terminals	Electrical and mechanical connection between circuit-breaker with screw terminals and contactor with Cage Clamp terminals				
	Individually packaged		Contactor type of operation				
	S00	S00	AC and DC	▶	**3RA19 11-2FA00**	1 unit	0.038
	S00	S0	AC and DC	▶	**3RA19 21-2FA00**	1 unit	0.028
	Multi-pack		Contactor type of operation				
	S00	S00	AC and DC	▶	**3RA19 11-2F**	10 units	0.031
	S00	S0	AC and DC	▶	**3RA19 21-2F**	10 units	0.030
Wiring kit							
  3RA19 13-2A			**Reversing duty**				
	S00	-	Electrical and mechanical link for reversing contactors. Can be fitted together with link module. For size S00: Optionally with integrated electrical and mechanical locking.	▶	**3RA19 13-2A**	1 set	0.041
	S0	-	For sizes S0 ... S3:	▶	**3RA19 23-2A**	1 set	0.052
	S2	-	Mechanical locking device must be ordered separately.	▶	**3RA19 33-2A**	1 set	0.122
	S3	-		▶	**3RA19 43-2A**	1 set	0.295
			Star-delta starting				
	S00	-	Electrical and mechanical link for three contactors of same size	▶	**3RA19 13-2B**	1 set	0.048
	S0	-		▶	**3RA19 23-2B**	1 set	0.059
	S2	-		▶	**3RA19 33-2B**	1 set	0.072
	S3	-		▶	**3RA19 43-2B**	1 set	0.166
Mechanical interlocks							
 3RA19 24-2B	S0, S2, S3	-	For reversing contactors, laterally fittable with 1 auxiliary contact (1 NC) each per contactor.	▶	**3RA19 24-2B**	1 unit	0.060
Terminals for contactor coil							
 3RA19 23-3B	S0, S2, S3	-	For A1 and A2 of the reversing contactors (one set contains 10 x A1 and 5 x A2)	B	**3RA19 23-3B**	1 set	0,082

*** This quantity or a multiple thereof can be ordered.**

Accessories

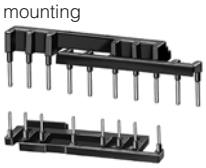
For SIRIUS direct-on-line and reversing starters

	For contactor	For circuit-breaker	Version	DT	Order No.	PS*	Weight per PU approx.
	Size	Size					kg
Adapters for rail mounting							
	Individually packaged						
	S00, S0	S00, S0	For mechanical fixing	▶	**3RA19 22-1AA00**	1 unit	0.104
	S2	S2	of circuit-breaker and contactor;	▶	**3RA19 32-1AA00**	1 unit	0.200
	S3	S3	for snapping onto mounting rail or for screw mounting	▶	**3RA19 42-1AA00**	1 unit	0.264
	Multi-pack						
	S00, S0[1]	S00, S0[1]		▶	**3RA19 22-1A**	5 units	0.095
	S2[1]	S2[1]		▶	**3RA19 32-1A**	5 units	0.185
	S3[1]	S3[1]		▶	**3RA19 42-1A**	5 units	0.239
Side modules							
	S00 ... S3	S00 ... S3	For adapter for rail mounting 10 mm wide, 96 mm long, for widening adapters for rail mounting. For size S00 ... S2: 2 units required. For size S3: 3 units required	▶	**3RA19 02-1B**	10 units	0.009
Assembly kits (RH) for reversing duty for mounting rails							
	S0	S0	Also suitable for screw mounting.	B	**3RA19 23-1B**	1 set	0.288
	S2	S2	Consisting of wiring kit, side modules and adapters for rail mounting. Link modules to be ordered separately. Mechanical locking device to be ordered separately.	B	**3RA19 33-1B**	1 set	0.557
	S3	S3		B	**3RA19 43-1B**	1 set	0.818
Accessories, adapters and link modules for Cage Clamp connection							
		S00	**Link module, Cage Clamp** electrical connection between circuit-breaker and contactor (1 pack = 10 units)	▶	**3RA19 11-2A**	10 units	0.016
		S00	**Link module, Cage Clamp with mechanical connection** mechanical and electrical connection between circuit-breaker and contactor (1 packing = 10 units)	▶	**3RA19 11-2E**	10 units	0.028
		45 mm wide	**Adapter for rail mounting** for Cage Clamp with 2 mounting rails, one is movable	▶	**3RA19 22-1L**	1 unit	0.413
		40 mm wide	**Busbar adapter** 45 mm wide, 182 mm long modified for Cage Clamp circuit-breaker. If there is an additional contactor, a further standard mounting rail must be fitted.	▶	**8US10 51-5CM47**	1 unit	0.193
		60 mm wide		▶	**8US12 51-5CM47**	1 unit	0.190
		40 mm wide	**35 mm mounting rail**, plastic incl. fixing screws. (1 packg. = 10 units)	A	**8US19 98-7CA15**	10 units	0.085

3RA19 32 3RA19 22

3RA19 02

for rail mounting



3RA19 11-2A + 8US10 51-5CM47

3RA19 11-2E

1) Multi-pack

* This quantity or a multiple thereof can be ordered.

For SIRIUS direct-on-line and reversing starters

	Size For contactor	Size For circuit-breaker	Version	Busbar centerline spacing mm	DT	Order No.	PS*	Weight per PU approx. kg
Plug-in lugs for screw mounting								
 3RB19 00-0B	-	S00, S0	For 3RV1 circuit-breaker, 2 units each required; for 3RA1 fuseless load feeder 1 unit required; for AS-Interface switching device holder 2 units each required (1 packing = 10 units)		▶	**3RB19 00-0B**	10 units	0.100
Busbar adapters								
 8US12 51-5DM07	S00, S0	S00, S0	45 mm wide, 182 mm long for busbars	40	▶	**8US10 51-5DM07**	1 unit	0.184
				60	▶	**8US12 51-5DM07**	1 unit	0.183
	S2	S2	55 mm wide, 242 mm long including screw and spacer	40	▶	**8US10 61-5FP08**	1 unit	0.308
				60	▶	**8US12 61-5FP08**	1 unit	0.292
Device supports								
 8US12 50-5AM00	S00, S0	S00, S0	With mounting rail without connecting cables 45 mm wide, 182 mm long for busbar	40	▶	**8US10 50-5AM00**	1 unit	0.182
				60	▶	**8US12 50-5AM00**	1 unit	0.158
	S0	S0	55 mm wide, 182 mm long	40	▶	**8US10 60-5AM00**	1 unit	0.197
				60	▶	**8US12 60-5AM00**	1 unit	0.202
	S2	S2	55 mm wide, 242 mm long including screw and spacer	40	▶	**8US10 60-5AP00**	1 unit	0.244
				60	▶	**8US12 60-5AP00**	1 unit	0.243
Side modules								
 8US19 98-2BM00	-	-	Including connecting wedge for widening busbar adapters or switching device holder 13.5 mm wide, 182 mm long	-	A	**8US19 98-2BM00**	4 units	0.036
Assembly kits for reversing duty for 40 mm and 60 mm busbar systems								
	S00	S00, S0	Consisting of wiring kit, busbar adapter, switching device holder and side module. Link modules and mechanical locking devices to be ordered separately. For size S00 always with mechanical locking.	40	B	**3RA19 13-1C**	1 set	0.437
	S0	S0			B	**3RA19 23-1C**	1 set	0.472
	S2	S2			B	**3RA19 33-1C**	1 set	0.738
	S00	S00, S0		60	▶	**3RA19 13-1D**	1 set	0.431
	S0	S0			B	**3RA19 23-1D**	1 set	0.475
	S2	S2			B	**3RA19 33-1D**	1 set	0.743

*** This quantity or a multiple thereof can be ordered.**

Accessories

For SIRIUS direct-on-line and reversing starters

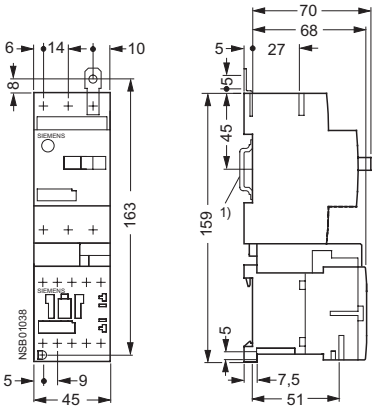
	For contactor	For circuit-breaker	Version	DT	Order No.	PS*	Weight per PU approx.
	Size	Size					kg
Link wedge							
 8US19 98-1AA00	-	-	For mechanical connection of busbars adapters and switching device holders or adapters for rail mounting (2 units required for mounting) (1 packing = 100 units)	►	**8US19 98-1AA00**	100 units	0.051
Load-side terminal strip, separable							
 8US12 51-5DM07 with 8US19 98-8AM07	S00, S0	S00, S0	Light grey with carrier for mounting onto busbar adapter 45 mm wide, 91 mm long 3 x 2.5 mm² plug-type terminals, 400 V 4 x 1.5 mm² plug-type terminals, 250 V	A	**8US19 98-8AM07**	1 unit	0.061
Spacer							
 8US19 98-1BA00	S00, S0	-	Fixes the load feeder onto the busbar adapter (1 packing = 100 units)	►	**8US19 98-1BA00**	100 units	0.071
Screw holder							
 8US19 98-1CA00	S00, S0	-	Allows additional fixing of the branch with screws (1 pack = 20 units)	B	**8US19 98-1CA00**	20 units	0.054

*** This quantity or a multiple thereof can be ordered.**

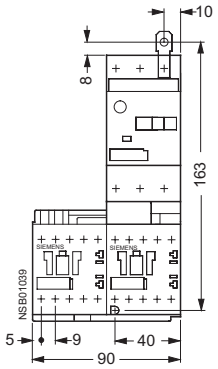
Dimension drawings

Size S00 · for standard rail mounting

3RA11 10-. . A .
Direct start

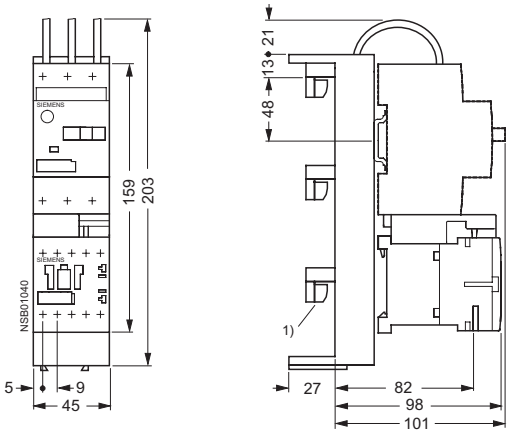


3RA12 10-. . A .
Reversing duty

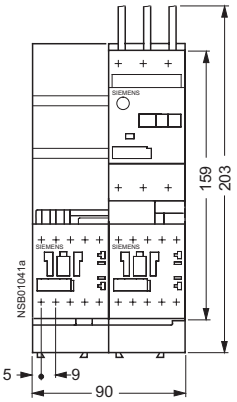


Size S00 · for 40 mm and 60 mm busbar systems

3RA11 10-. . C . .
3RA11 10-. . D . .
Direct start



3RA12 10-. . C . .
3RA12 10-. . D .
Reversing duty



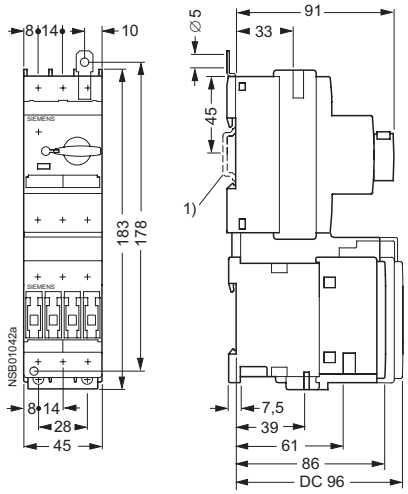
1) Busbar adapter
suitable for rail thicknesses
of 5 and 10 mm
with chamfered edges.

When mounting the combinations, observe the installation guidelines (page 6/65).

Project planning aids

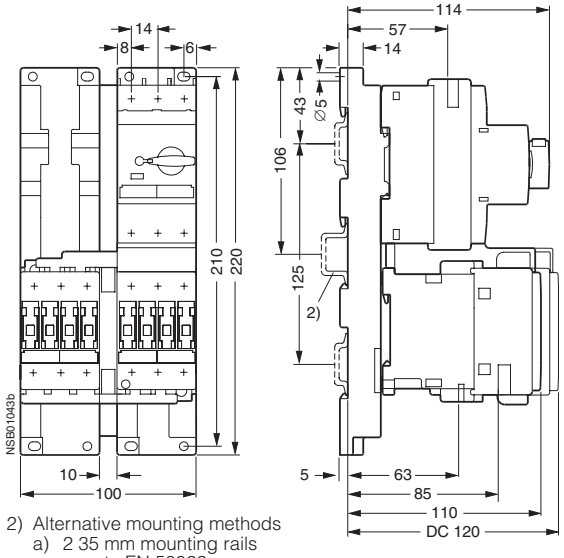
Size S0 · for standard rail mounting

3RA11 20-. . A .
Direct start



1) Mounting with one 35 mm mounting rail acc. to EN 50022
Depth: 7.5 or 15 mm.

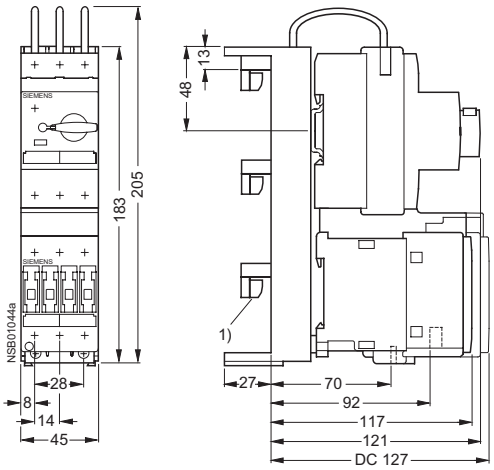
3RA12 20-. . B . .
Reversing duty



2) Alternative mounting methods
a) 2 35 mm mounting rails acc. to EN 50022
Spacing: 125 mm
Depth: 7.5 or 15 mm.
b) 1 35 mm mounting rail acc. to EN 50022
Depth: 15 mm.

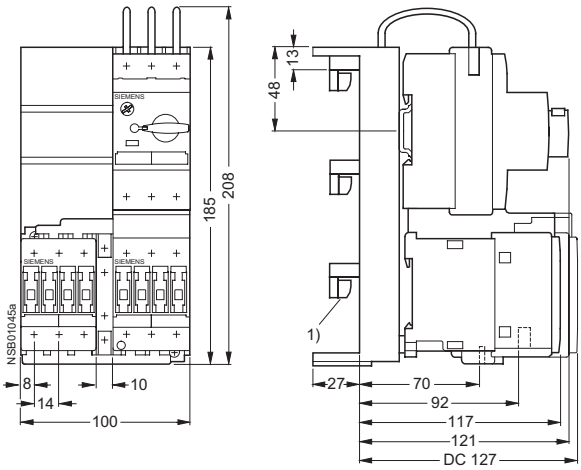
Size S0 · for 40 mm and 60 mm busbar systems

3RA11 20-. . C . .
3RA11 20-. . D .
Direct start



1) Busbar adapter suitable for rail thicknesses of 5 and 10 mm with chamfered edges.

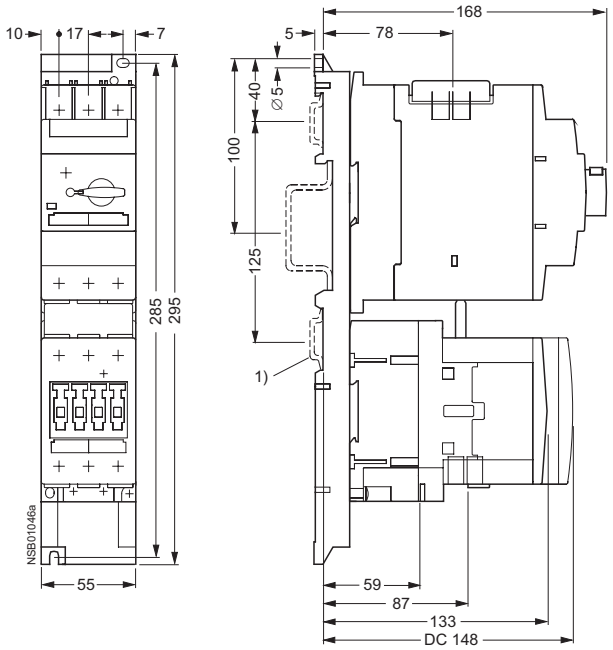
3RA12 20-. . C . .
3RA12 20-. . D .
Reversing duty



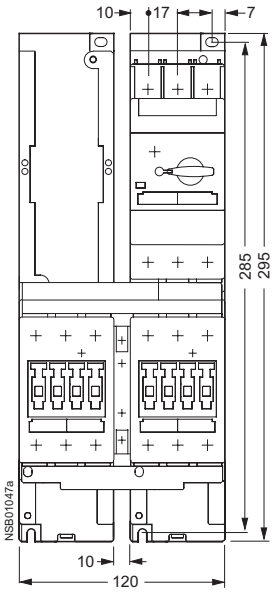
When mounting the combinations, observe the installation guidelines (page 6/65).

Size S2 · for standard rail mounting

Direct start



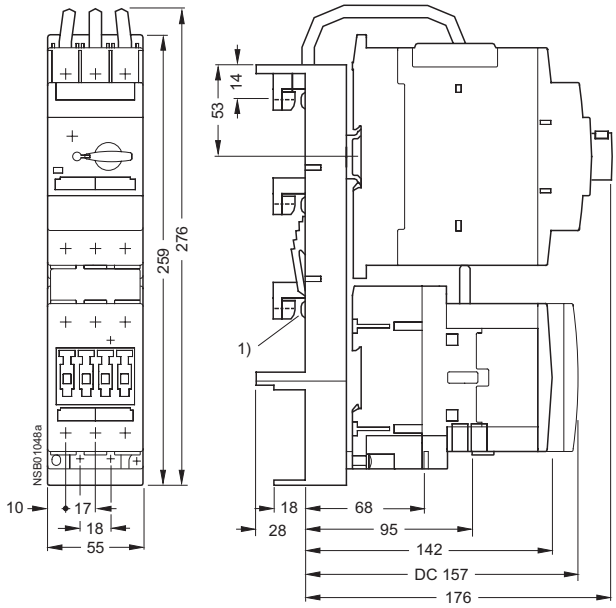
Reversing duty



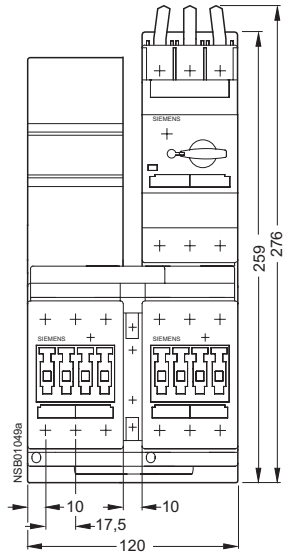
1) Alternative mounting methods
   a) 2 35 mm mounting rails acc. to EN 50022
      Spacing: 125 mm
      Depth: 7.5 or 15 mm
   b) 1 75 mm mounting rail acc. to EN 50023
      Depth: 15 mm

Size S2 · for 40 mm and 60 mm busbar systems

Direct start



Reversing duty



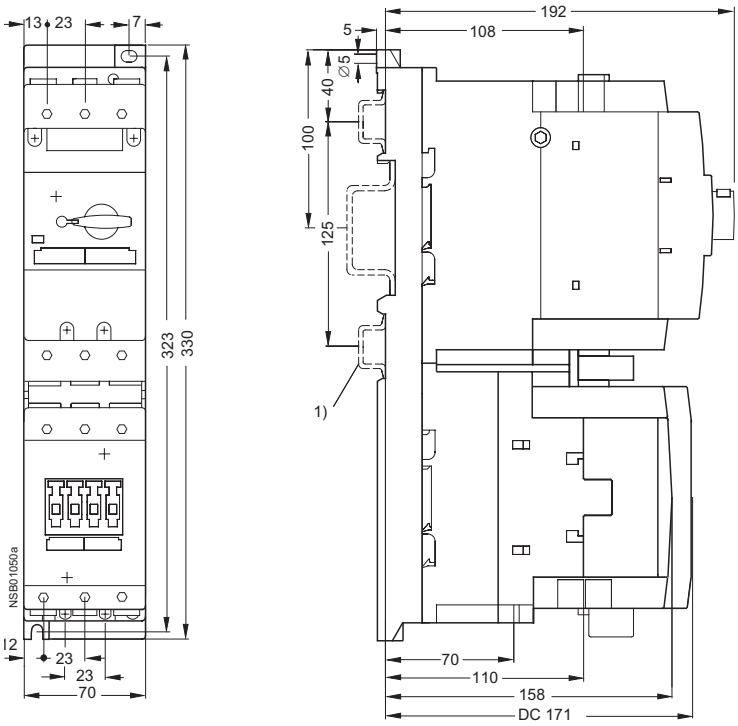
1) Busbar adapter suitable for rail thicknesses of 5 and 10 mm with chamfered edges.

When mounting the combinations, observe the installation guidelines (page 6/65).

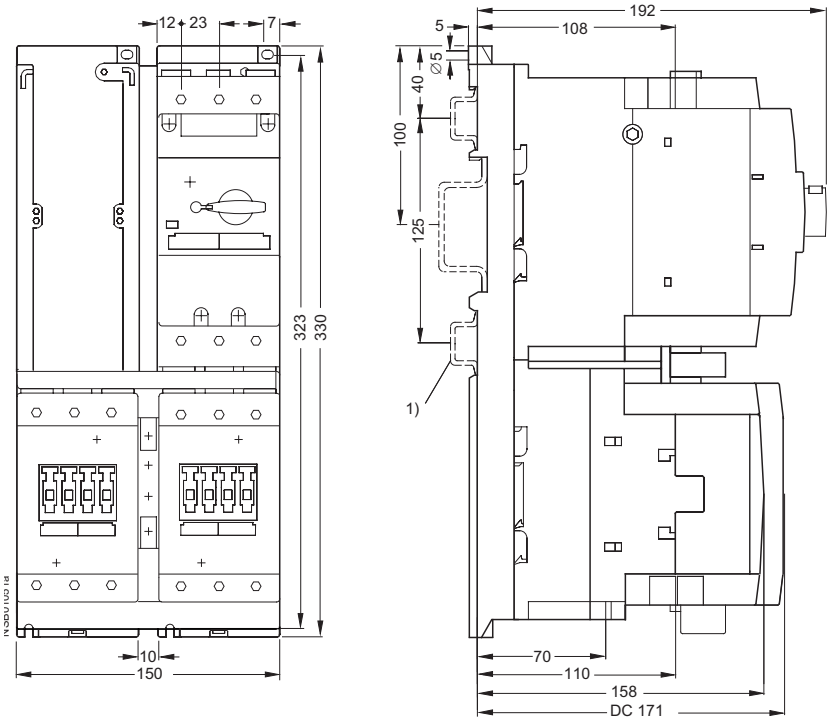
Project planning aids

Size S3 · for standard rail mounting

Direct start



Reversing duty



1) Alternative mounting methods
   a) 2 35 mm mounting rails acc. to EN 50022
   Spacing: 125 mm
   Depth: 7.5 or 15 mm.
   b) 1 75 mm mounting rail acc. to EN 50023.

When mounting the combinations, observe the installation guidelines (page 6/65).

Overview

The 3RE1 enclosed starters are available as direct-on-line starters and as reversing starters.

Direct-on-line starters

The direct-on-line starters are available in three sizes:

- Size **S00** is suitable for induction motors up to 5.5 kW with AC 400 V and a maximum rated motor current of 12 A. The starters are available in the following two variants:
  - Molded-plastic enclosure for direct-on-line starters including contactor - in this case the overload relay must be selected and ordered according to the rated motor current.
  - Molded-plastic enclosure for direct-on-line starters (without contactor) - in this case the contactor and overload relay must be selected and ordered separately.
- Size **S0** is suitable for induction motors up to 11 kW with AC 400 V and a maximum rated motor current of 25 A. The starters are available in the following two variants:
  - Molded-plastic enclosure for direct-on-line starters including contactor - in this case the overload relay must be selected and ordered according to the rated motor current.
  - Molded-plastic enclosure for direct-on-line starters (without contactor) - in this case the contactor, auxiliary switch and overload relay must be selected and ordered separately.
- Size **S2** is suitable for induction motors up to 22 kW with AC 400 V and a maximum rated motor current of 50 A. The starters are available in the following variant:
  - Molded-plastic enclosure for direct-on-line starters (without contactor) - in this case the contactor, auxiliary switch and overload relay must be selected and ordered separately.

Reversing starters

The reversing starters are available in two sizes:

- Size **S00** is suitable for induction motors up to 5.5 kW with AC 400 V and a maximum rated motor current of 12 A. The starters are available in the following two variants:
  - Molded-plastic enclosure for reversing starters including contactor assembly - in this case the overload relay must be selected and ordered according to the rated motor current.
  - Molded-plastic enclosure for reversing starters (without contactor assembly) - in this case the contactor assembly, auxiliary switch and overload relay must be selected and ordered separately.
- Size **S0** is suitable for induction motors up to 11 kW with AC 400 V and a maximum rated motor current of 25 A. The starters are available in the following variant:
  - Molded-plastic enclosure for reversing starters (without contactor assembly) - in this case the contactor assembly, auxiliary switch and overload relay must be selected and ordered separately.

Benefits

The 3RE1 starters are enclosed with a high degree of protection (IP65) and are used for the switching and inverse-time delayed protection of load. They are ideally suited for implementation directly at the machine.

Area of application

The 3RE1 enclosed starters are used for switching and for the inverse-time delayed protection of load feeders up to 22 kW at 400 V AC.

The starters are available as direct-on-line starters for motors with a single direction of rotation and as reversing starters for motors with two directions of rotation.

Design

Components

The 3RE1 enclosed starters consist of a 3RT10 contactor or 3RA13 contactor assembly (fully mounted) for switching, 3RU11 thermal overload relay or 3RB10 solid-state overload relay for inverse-time delayed protection, auxiliary switch(es) and molded-plastic enclosure including the necessary actuators.

Mounting options

There are two options for mounting the 3RE1 enclosed starters:

- The first option is to use a 3RE10 direct-on-line starter or a 3RE13 reversing starter consisting of a molded-plastic enclosure with actuators, integrated contactor or integrated contactor assembly and auxiliary switches. Only the overload relay (to be ordered separately) needs to be mounted on the contactor or contactor assembly. Wiring is carried out quickly and easily according to the circuit diagrams thanks to prefabricated cabling.
- The second option is to use a 3RE19 molded-plastic enclosure with integrated actuators. The contactor or contactor assembly, which is available fully mounted or in the form of individual components for self-assembly, the auxiliary switches (in the case of the size S00 direct-on-line starter these are already integrated in the contactor) and the overload relay must be ordered separately. In this case, too, the overload relay is mounted directly on the contactor or contactor assembly and wired up. The complete assembly is snapped onto the standard mounting rail in the molded-plastic enclosure.

General data

In the case of the second mounting option, the following components must be ordered:

	Components for mounting	Size	Order No.	Number	Alternative components for mounting	Size	Order No.	Number
Direct-online starters Size S00	Molded-plastic enclosure	S00	3RE19 13-1CB1	1				
	Contactor with integrated auxiliary switch 1 NO	S00	3RT10 1.-....1	1				
	Thermal or solid-state overload relay	S00	3RU11 16 or 3RB10 16	1				
Direct-online starters Size S0	Molded-plastic enclosure	S0	3RE19 23-1CB2	1				
	Contactor	S0	3RT10 2	1				
	Thermal or solid-state overload relay	S0	3RU11 26 or 3RB10 26	1				
	Lateral auxiliary switch 1 NO / 1 NC	-	3RH19 21-1DA11	1				
Direct-online starters Size S2	Molded-plastic enclosure	S2	3RE19 33-1CB3	1				
	Contactor	S2	3RT10 3	1				
	Thermal or solid-state overload relay	S2	3RU11 36 or 3RB10 36	1				
	Lateral auxiliary switch 1 NO / 1 NC	-	3RH19 21-1DA11	1				
Reversing starters Size S00	Molded-plastic enclosure	S00/S0	3RE19 13-2CB3	1				
	Contactor	S00	3RT10 1	2	Reversing assembly	S00	3RA13 17-8XC17-0..	1
	Wiring kit for reversing assemblies	S00	3RH19 13-2A	1				
	Thermal or solid-state overload relay	S00	3RU11 16 or 3RB10 16	1				
	Front auxiiary switch 1 NO	-	3RH19 11-1BA10	2				
Reversing starters Size S0	Molded-plastic enclosure	S00/S0	3RE19 13-2CB3	1				
	Contactor	S0	3RT10 2	2	Reversing assembly	S0	3RA13 2.-8XB30-0..	1
	Wiring kit for reversing assemblies	S0	3RH19 23-2A	1				
	Mechanical interlock	-	3RH19 24-2B	1				
	Thermal or solid-state overload relay	S00	3RU11 26 or 3RB10 26	1				
	Front auxiiary switch 1 NO	-	3RH19 21-1CA10	2				

Functions

The 3RE1 enclosed starters, which are available as direct-online starters and reversing starters, are used for the switching and inverse-time delayed protection of loads. The switching of loads is taken care of by 3RT10 contactors. Inverse-time delayed protection is achieved with 3RU11 thermal overload relays or 3RB10 solid-state overload relays with a wide setting range.

These starter combinations consisting of a contactor or contactors and overload relay(s) are contained in a molded-plastic enclosure that provides effective protection against dust and splashwater with its high degree of protection IP65. This high degree of protection also applies to the actuators, which are used for manual switching on and off locally.

Control circuit

The enclosed starters including contactor or contactor assembly are available with the following rated control supply voltages:

- Size S00: 230 V, 50/60 Hz and 400 V, 50/60 Hz
- Size S0: 230 V, 50 Hz and 400 V, 50 Hz

The 3RU11 thermal overload relays and 3RB10 solid-state overload relays do not require a separate supply.

Short-circuit protection

Fuses (fused construction) or circuit-breakers (fuseless construction) are to be used for short-circuit protection.

Details of the assignment of appropriate short-circuit devices for the combinations of 3RT contactor with 3RU11 thermal overload relay are given in the technical specifications.

If a 3RB10 solid-state overload relay is used, short-circuit protection must be provided in accordance with the table "Short-circuit protection with fuses for motor feeders" (see Section 5 "SIRIUS overload relays "SIRIUS solid-state overload relays "up to 630A, CLASS 10 and CLASS 20, fixed setting).

When the load feeders are selected from the table, the types of coordination must also be taken into account.

Overload protection

Detailed information about the 3RU11 thermal overload relays and 3RB10 solid-state overload relays (e.g. about recovery time, trip classes, tripping characteristics and phase loss protection) is given in the corresponding sections relating to the SIRIUS overload relays.

Manual/automatic resetting

In the case of the size S00 and S0 direct-on-line starters, a choice can be made between automatic and manual resetting on the overload relay. If manual resetting is chosen, the black button (O) is also the reset button. This button must be actuated after an overload tripping operation before the load can be restarted.

The only type of resetting possible with the other starters is an automatic reset.

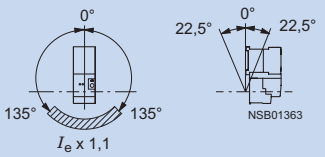
Details about setting the overload relays to automatic/manual resetting are given in the corresponding section describing the overload relays.

Switching on and off

With the direct-on-line starters, the load is switched on using the white button (I). The black button (O) is used for switching the load off.

With the reversing starters, the load can be started in the relevant direction of rotation by turning the upper switch clockwise or anti-clockwise, as appropriate. The direction of rotation can be changed by pressing the black button (O).

Technical specifications

		3RE1. 10 3RE19 13	3RE1. 20 3RE19 23	3RE10 30 3RE19 33
General data				
Standards • IEC 60947-1, DIN EN 60947-1 (VDE 0660 Part 100) • IEC 60947-5, DIN EN 60947-5 (VDE 0660 Part 200) • IEC 60947-2, DIN EN 60947-2 (VDE 0660 Part 102)		 Yes Yes Yes		
Size		S00	S0	S2
Max. rated current $I_{n\ max}$ = (Max. rated operational current I_e)	A	12	25	50
Rated insulation voltage U_i (pollution degree 3)	V	400		
Rated impulse withstand voltage U_{imp}	kV	4		
Permissible ambient temperature				
• Operation • Storage	°C °C	-20 ... +35 (derating is necessary above +35 °C) -55 ... +80		
Degree of protection acc. to IEC 60947-1		IP65		
Touch protection according to DIN EN 50274 (VDE 0660 Part 514)		Finger-safe		
Installation altitude	m	Up to 2000 above sea level; above this, please enquire		
Permissible rated current I_n • Overload relay for ambient temperature: +35 °C • Overload relay for ambient temperature: +45 °C	 % %	 100 87		
Mounting position		For installation in the hatched area, a setting correction of 10 % must be implemented.  Contactor + overload relay		
Conductor cross-sections		1)		
Short-circuit protection				
Main circuit		2) 3)		
Auxiliary circuit		1)		

1) See Section 5, "SIRIUS thermal overload relay".

2) When using the 3RU11 thermal overload release, see "Selection of overload relay and short-circuit protection", page 6/88.

3) When using the 3RB10 solid-state overload relay, see Section 5, "SIRIUS solid-state overload relay" / "630 A, CLASS 10 and CLASS 20, permanently set".

General data

Selection of overload relay and short-circuit protection

With short-circuit currents to 50 kA at 400 V, 50/60 Hz permissible short-circuit protection for enclosed motor starters consisting of contactor/contactor assembly and overload relay

Size S00

Setting range	3RU11 thermal overload relay	**Fuses for type of coordination "1"[1)]** 5.5 kW = 3RE1. 10-8XC17 (3RT10 17 contactor) $I_{e\ max}$ = 12 A (at 400 V, 50/60 Hz)		**Fuses for type of coordination "2"[1)]** 5.5 kW = 3RE1. 10-8XC17 (3RT10 17 contactor) $I_{e\ max}$ = 12 A (at 400 V, 50/60 Hz)		**Circuit-breaker for type of coordination "2"[1)]** at I_q = 50 kA / 400 V, 50/60 Hz
		gL/gG	BS88	gL/gG	BS88	
A		A	A	A	A	
0.11 ... 0.16	3RU11 16-0AB0	25	25	0.5	–	–
0.14 ... 0.2	3RU11 16-0BB0	25	25	1	–	3RV13 21-0BC10
0.18 ... 0.25	3RU11 16-0CB0	25	25	1	–	3RV13 21-0CC10
0.22 ... 0.32	3RU11 16-0DB0	25	25	1.6	2	3RV13 21-0DC10
0.28 ... 0.4	3RU11 16-0EB0	25	25	2	2	3RV13 21-0EC10
0.35 ... 0.5	3RU11 16-0FB0	25	25	2	2	3RV13 21-0FC10
0.45 ... 0.63	3RU11 16-0GB0	25	25	2	4	3RV13 21-0GC10
0.55 ... 0.8	3RU11 16-0HB0	25	25	4	4	3RV13 21-0HC10
0.7 ... 1	3RU11 16-0JB0	25	25	4	6	3RV13 21-0JC10
0.9 ... 1.25	3RU11 16-0KB0	25	25	4	6	3RV13 21-0KC10
1.1 ... 1.6	3RU11 16-1AB0	35	35	6	10	3RV13 21-1AC10
1.4 ... 2	3RU11 16-1BB0	35	35	6	10	3RV13 21-1BC10
1.8 ... 2.5	3RU11 16-1CB0	35	35	10	10	–
2.2 ... 3.2	3RU11 16-1DB0	35	35	10	16	–
2.8 ... 4	3RU11 16-1EB0	35	35	16	16	–
3.5 ... 5	3RU11 16-1FB0	35	35	20	20	–
4.5 ... 6.3	3RU11 16-1GB0	35	35	20	20	–
5.5 ... 8	3RU11 16-1HB0	35	35	20	20	–
7 ... 10	3RU11 16-1JB0	35	35	20	20	–
9 ... 12	3RU11 16-1KB0	35	35	–	–	–

Size S0

Setting range	3RU11 thermal overload relay	**Fuses for type of coordination "1"[1)]** 7.5 kW = 3RE1. 20-8XC25 (3RT10 25 contact.) $I_{e\ max}$ = 17 A (at 400 V, 50/60 Hz)		11 kW = 3RE1. 20-8XC26 (3RT10 26 contact.) $I_{e\ max}$ = 25 A		**Fuses for type of coordination "2"[1)]** 7.5 kW = 3RE1. 20-8XC25 (3RT10 25 contact.) $I_{e\ max}$ = 17 A (at 400 V, 50/60 Hz)		11 kW = 3RE1. 20-8XC26 (3RT10 26 contact.) $I_{e\ max}$ = 25 A		**Circuit-breaker for type of coordination "2"[1)]** at I_q = 50 kA / 400 V, 50/60 Hz
		gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	
A		A	A	A	A	A	A	A	A	
1.8 ... 2.5	3RU11 26-1CB0	63	63	63	63	10	10	10	10	3RV13 21-1CC10
2.2 ... 3.2	3RU11 26-1DB0	63	63	63	63	10	16	10	16	3RV13 21-1DC10
2.8 ... 4	3RU11 26-1EB0	63	63	63	63	16	16	16	16	3RV13 21-1EC10
3.5 ... 5	3RU11 26-1FB0	63	63	63	63	20	20	20	20	3RV13 21-1FC10
4.5 ... 6.3	3RU11 26-1GB0	63	63	63	63	20	25	20	25	3RV13 21-1GC10
5.5 ... 8	3RU11 26-1HB0	63	63	63	63	25	32	25	32	3RV13 21-1HC10
7 ... 10	3RU11 26-1JB0	63	63	63	63	25	32	32	35	3RV13 21-1JC10
9 ... 12.5	3RU11 26-1KB0	63	63	63	63	25	32	35	35	3RV13 21-1KC10
11 ... 16	3RU11 26-4AB0	63	63	63	63	25	32	35	35	3RV13 21-4AC10
14 ... 20	3RU11 26-4BB0	63	63	63	63	25	32	35	35	3RV13 21-4BC10
17 ... 22	3RU11 26-4CB0	–	–	100	100	–	–	35	35	3RV13 21-4CC10
20 ... 25	3RU11 26-4DB0	–	–	100	100	–	–	35	35	–

1) Type of coordination and short-circuit protection according to EN 60947-4-1:
Type of coordination 1: In the short-circuit case, the contactor or starter must not put equipment or personnel at risk. They do not have to be suitable for further operation (without repair and the replacement of parts).
Type of coordination 2: In the short-circuit case, the contactor or starter must not put equipment or personnel at risk. This must be capable of further operation. There is a danger of contact welding.

Size S2

Setting range	3RU11 thermal overload relay	Fuses for type of coordination "1"[1] 15 kW = 3RT10 34 $I_{e\ max}$ = 32 A (at 400 V, 50/60 Hz)		18.5 kW = 3RT10 35 $I_{e\ max}$ = 40 A (at 400 V, 50/60 Hz)		22 kW = 3RT10 36 $I_{e\ max}$ = 50 A (at 400 V, 50/60 Hz)		Fuses for type of coordination "2"[1] 15 kW = 3RT10 34 $I_{e\ max}$ = 32 A (at 400 V, 50/60 Hz)		18.5 kW = 3RT10 35 $I_{e\ max}$ = 40 A (at 400 V, 50/60 Hz)		22 kW = 3RT10 36 $I_{e\ max}$ = 50 A (at 400 V, 50/60 Hz)		Circuit-breaker for type of coordination "2"[1] at I_q = 50 kA / 400 V, 50/60 Hz
		gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	gL/gG	BS88	
A		A	A	A	A	A	A	A	A	A	A	A	A	
5.5 ... 8	3RU11 36-1HB0	125	125	125	125	125	125	25	25	25	25	25	25	–
7 ... 10	3RU11 36-1JB0	125	125	125	125	125	125	32	32	32	32	32	32	–
9 ... 12.5	3RU11 36-1KB0	125	125	125	125	125	125	35	35	35	35	35	35	–
11 ... 16	3RU11 36-4AB0	125	125	125	125	125	125	40	40	40	40	40	40	–
14 ... 20	3RU11 36-4BB0	125	125	125	125	125	125	50	50	50	50	50	50	–
18 ... 25	3RU11 36-4DB0	125	125	125	125	125	125	63	63	63	63	63	63	3RV13 31-4DC10
22 ... 32	3RU11 36-4EB0	125	125	125	125	125	125	63	63	63	63	80	80	3RV13 31-4EC10
28 ... 40	3RU11 36-4FB0	125	125	125	125	125	125	63	63	63	63	80	80	3RV13 31-4FC10
36 ... 45	3RU11 26-4GB0	–	–	125	125	125	125	–	–	63	80	80	80	3RV13 31-4GC10
40 ... 50	3RU11 26-4HB0	–	–	–	–	160	160	–	–	–	–	80	80	3RV13 31-4HC10

1) Type of coordination and short-circuit protection according to EN 60947-4-1:
Type of coordination 1: In the short-circuit case, the contactor or starter must not put equipment or personnel at risk. They do not have to be suitable for further operation (without repair and the replacement of parts).

Type of coordination 2: In the short-circuit case, the contactor or starter must not put equipment or personnel at risk. This must be capable of further operation. There is a danger of contact welding.

SIRIUS direct-on-line starters

Selection and ordering data

Size	Rated data utilization category AC-2/AC-3 T_u: up to 35 °C Operating current I_e at 400 V A	Output of induction motors at 400 V/50 Hz kW	Rated control supply voltage U_s	DT	Screw-type connection Order No.	PS*	Weight per PU approx. kg
Direct-on-line starters including contactor							
S00	12	5.5	230 V, 50/60 Hz	B	**3RE10 10-8XC17-0AP0**	1 unit	0.514
			400 V, 50/60 Hz	B	**3RE10 10-8XC17-0AV0**	1 unit	0.520
S0	17	7.5	230 V, 50 Hz	B	**3RE10 20-8XC25-0AP0**	1 unit	0.834
			400 V, 50 Hz	B	**3RE10 20-8XC25-0AV0**	1 unit	0.814
	25	11	230 V, 50 Hz	B	**3RE10 20-8XC26-0AP0**	1 unit	0.827
			400 V, 50 Hz	B	**3RE10 20-8XC26-0AV0**	1 unit	0.810

3RE10 10

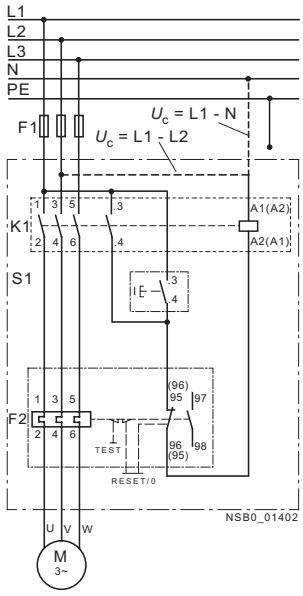
6

Circuit diagrams

Circuit diagrams

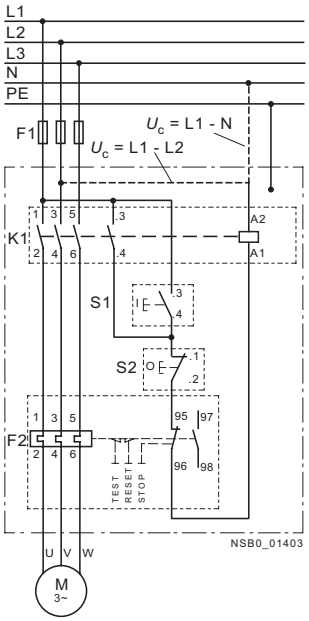
Direct-on-line starter, size S00/S0

3RE10 10
3RE10 20
3RE19 13-1CB1 (see accessories page 6/92)
3RE19 23-1CB2 (see accessories page 6/92)



Direct-on-line starter, size S2

3RE19 33-1CB3 (see accessories page 6/92)



*** This quantity or a multiple thereof can be ordered.**

Selection and ordering data

Size	Rated data utilization category AC-2/AC-3 T_u: up to 35 °C		Rated control supply voltage U_s	DT	Screw-type connection	PS*	Weight per PU approx.
	Operating current I_e at 400 V	Output of induction motors at 400 V/50 Hz			Order No.		
	A	kW					kg
Reversing starters including contactor assembly							
S00	12	5.5	230 V, 50/60 Hz	B	**3RE13 10-8XC17-0AP0**	1 unit	0.997
			400 V, 50/60 Hz	B	**3RE13 10-8XC17-0AV0**	1 unit	2.450

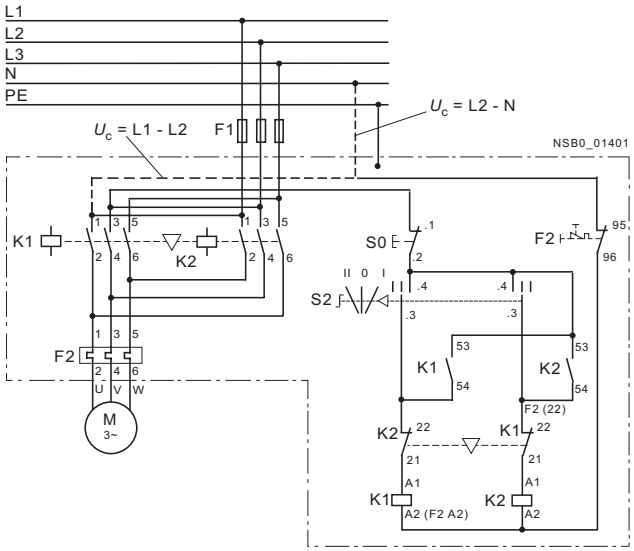
3RE13 10

Circuit diagrams

Circuit diagrams

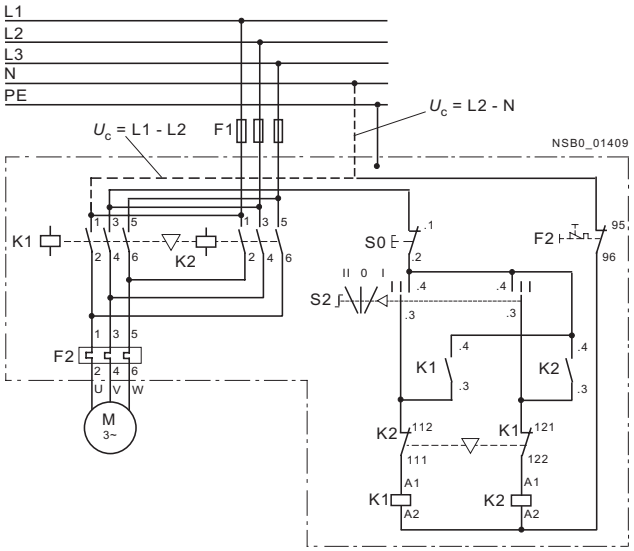
Reversing starter, size S00

3RE13 10
3RE19 13-2CB3 (see accessories page 6/92)



Reversing starter, size S0

3RE19 13-2CB3 (see accessories page 6/92)



6

Accessories for enclosed starters

Selection and ordering data

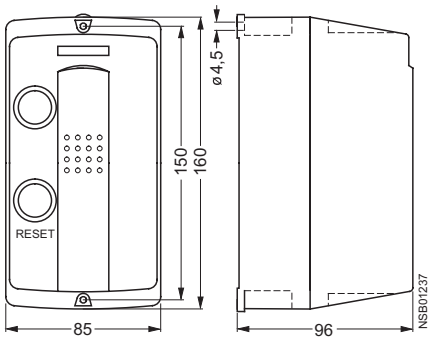
	Version		For contactor overload relay size	DT	Order No.	PS*	Weight per PU approx.
							kg
	Enclosure for direct-on-line starter						
 3RE19 23-1CB2	**Molded-plastic enclosure**	IP65 degree of protection, with PE/ground terminal, with actuating elements, with metric cable gland	S00	B	**3RE19 13-1CB1**	1 unit	0.317
		IP65 degree of protection, with N and PE/ground terminal, with actuating elements, with metric cable gland	S0	B	**3RE19 23-1CB2**	1 unit	0.454
		IP65 degree of protection, with N and PE/ground terminal, with actuating elements, with metric cable gland	S2	B	**3RE19 33-1CB3**	1 unit	0.997
	Enclosure for reversing starter						
 3RE19 23-2CB3	**Molded-plastic enclosure**	IP65 degree of protection, with N and PE/ground terminal, with actuating elements, with metric cable gland	S00/S0	B	**3RE19 13-2CB3**	1 unit	1.020

*** This quantity or a multiple thereof can be ordered.**

Dimension drawings

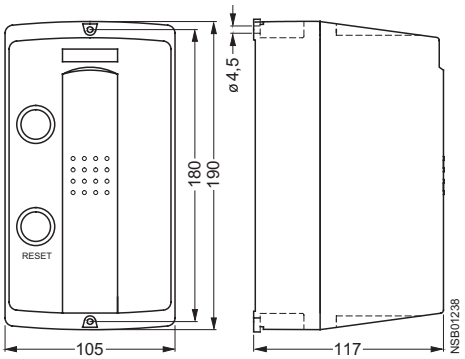
Direct-on-line starter, size S00

3RE10 10
3RE19 13-1CB1
metric cable gland M25



Direct-on-line starter, size S0

3RE10 20
3RE19 23-1CB2
metric cable gland M25

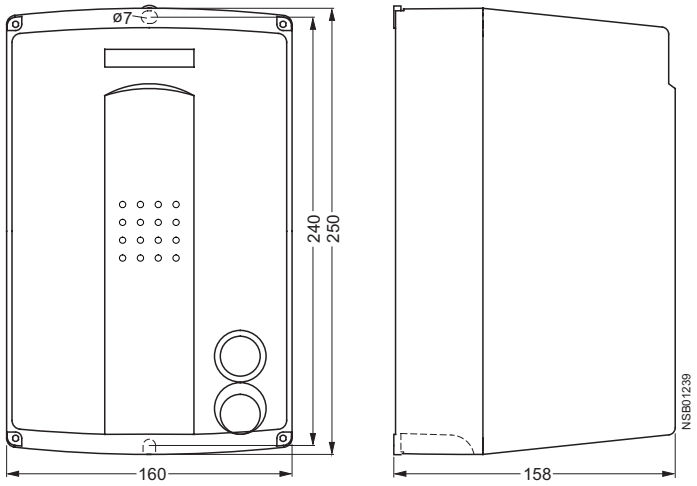


Direct-on-line starter, size S2

3RE19 33-1CB3

Reversing starter, size S00/S0

3RE13 10, 3RE19 13-2CB3
Metric cable gland M32



General data

Benefits

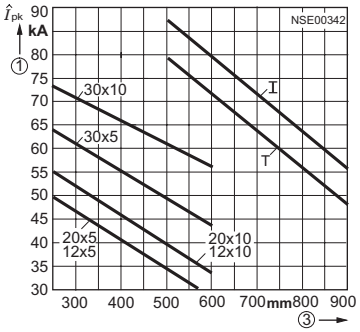
Mechanical fixing and electrical connection in a single work process, less incoming wiring and savings in busbar terminals as well as dual use of the busbar compartment all result in a noticeable reduction in costs as compared with conventional mounting in the switchgear and control cabinets. The advantages are clear especially in the case of numerous outgoing feeders in the same power range.

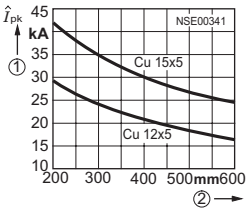
During operation, the advantages are the clear arrangement and the quick and easy replacement of single units or complete assemblies. Adapters and switching device holders completely cover the busbar systems and are finger-safe and therefore provide a high degree of plant safety.

Area of application

Current-limiting (protection) devices such as fuse switch disconnectors and circuit-breakers as well as complete load feeders that can be directly mounted on standard rails are the norm today.

Characteristics





① Peak current I_{pk}
② Spacing for 3VX4 busbar holder
③ Spacing for 8US1 busbar holder

Technical specifications

System components

Rated operating voltage U_e	up to AC 690 V (50/60 Hz)
Rated insulation voltage U_i	AC 1 000 V
Short-circuit strength	
of 8US1 busbar adapter	Current limiting due to associated circuit-breaker / load feeders up to 50 kA
of the busbar systems	See characteristics
Material of the busbar holder, adapter and 8US1 switching device holder	Glass-fiber reinforced polyamide
Color	RAL 7035, light grey
Thermal stability	
of the busbar holder, adapter and 8US1 switching device holder	120° C
of the AWG connecting cables	105° C
of the cover profiles and end covers	70° C
Approvals	
Busbar holder, adapter, switching device holder and terminals	, ,

Selection and ordering data

for copper busbars to DIN 46433. 12 mm wide, 5 mm thick and 10 mm	Busbar adapter	Number of mounting rails (35 mm)	Rated current	Connecting cable	Adapter length	Adapter width	Rated voltage	DT	Order No.	PS*	Weight per PU approx.
			A	AWG	mm	mm	V				kg
 Direct start load feeder	**for SIRIUS**										
	Size S00/S0										
	Circuit-breaker	1	25	12	121	45	690	▶	**8US10 51-5DJ07**	1 unit	0.106
	Circuit-breaker + lateral auxiliary switch	1	25	12	121	55	690	▶	**8US10 61-5DJ07**	1 unit	0.119
	Contactor + overload relay	1	25	12	139	45	690	▶	**8US10 51-5DK07**	1 unit	0.164
	Direct start load feeder	1	25	12	182	45	690	▶	**8US10 51-5DM07**	1 unit	0.184
	Reversing load feeder Adapter	1	25	12	182	45	690	▶	**8US10 51-5DM07**	1 unit	0.184
	+ switching device holder	1	–	–	182	45	–	▶	**+8US10 50-5AM00**	1 unit	0.182
	+ connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**+8US19 98-1AA00**	100 units	0.051
 Reversing duty load feeder	**Size S00 – Cage Clamp**										
	Direct start load feeder	1	12.5	14	182	45	690	▶	**8US10 51-5CM47**	1 unit	0.193
	Size S2										
	Circuit-breaker	1	56	8	139	55	690	▶	**8US10 61-5FK08**	1 unit	0.231
	Circuit-breaker + lateral auxiliary switch	1	56	8	139	55	690	▶	**8US10 61-5FK08**	1 unit	0.231
	Contactor + overload relay	1	56	8	182	55	690	▶	**8US10 61-5FM08**	1 unit	0.278
	Direct start load feeder	1	56	8	242	55	690	▶	**8US10 61-5FP08**	1 unit	0.308
	Reversing load feeder Adapter	1	56	8	242	55	690	▶	**8US10 61-5FP08**	1 unit	0.308
	+ switching device holder[1]	–	–	–	242	55	–	▶	**+8US10 60-5AP00**	1 unit	0.244
	+ connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**+8US19 98-1AA00**	100 units	0.051
	Size S3										
	Circuit-breaker	–	100	rails	182	70	up to 460[2]	▶	**8US11 11-4SM00**	1 unit	0.541
	Circuit-breaker	–	100	4	182	70	480 to 690[3]	▶	**8US10 11-4TM00**	1 unit	0.478
 8US10 50–5RM07	**with terminals (top) for any equipment**										
	1.5 mm² up to 4 mm²	1	25	–	139	45	690	A	**8US10 50-5RK07**	1 unit	0.149
	1.5 mm² up to 4 mm²	1	25	–	182	45	690	A	**8US10 50-5RM07**	1 unit	0.177
	16 mm² (top) and 35 mm² (below). Can be used simultaneously as infeed and outgoing feeder.	1	80	–	139	54	690	A	**8US10 60-5AK00**	1 unit	0.295
	Switching device holders for lateral mounting on busbar adapter Identical lengths										
	Switching device holder	1	–	–	139	45	–	A	**8US10 50-5AK00**	1 unit	0.149
	Switching device holder	1	–	–	139	55	–	A	**8US10 60-5AK08**	1 unit	0.162
	Switching device holder	1	–	–	182	45	–	▶	**8US10 50-5AM00**	1 unit	0.182
	Switching device holder	1	–	–	182	55	–	▶	**8US10 60-5AM00**	1 unit	0.197
	Switching device holder	–	–	–	242	55	–	▶	**8US10 60-5AP00**	1 unit	0.244
	Connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**8US19 98-1AA00**	100 units	0.051
 8US10 605AM00	**Lateral modules for widening busbar adapters and switching device holders of identical lengths**										
	Side module	–	–	–	139	13.5	–	A	**8US19 98-2BK00**	4 units	0.023
	Side module	–	–	–	182	13.5	–	A	**8US19 98-2BM00**	4 units	0.036

1) Spacer and fixing screw for reversing contactor are included in the scope of supply.

2) ≤ 400 V max. 50 kA, 100 V up to 460 V max. 25 kA.

3) 460 V up to 525 V max. 30 kA, 525 V up to 690 V max. 12 kA.

4) Note short-circuit strength of the busbar system. Short-circuit strength >50 kA on request.

*** This quantity or a multiple thereof can be ordered.**

60 mm system

Selection and ordering data

for copper busbars to DIN 46433. 12 mm to 30 mm wide, 5 mm and 10 mm deep as well as for T and double-T special profile	Busbar adapter	Number of mounting rails (35 mm)	Rated current	Connecting cable	Adapter length	Adapter width	Rated voltage	DT	Order No.	PS*	Weight per PU approx.
			A	AWG	mm	mm	V				kg
	for SIRIUS										
 Direct start load feeder	**Size S00/S0**										
	Circuit-breaker	1	25	12	182	45	690	▶	**8US12 51-5DM07**	1 unit	0.183
	Contactor + overload relay	1	25	12	182	45	690	▶	**8US12 51-5DM07**	1 unit	0.183
	Direct start load feeder	1	25	12	182	45	690	▶	**8US12 51-5DM07**	1 unit	0.183
	Reversing load feeder Adapter	1	25	12	182	45	690	▶	**8US12 51-5DM07**	1 unit	0.183
	+ switching device holder	1	–	–	182	45	–	▶	**+8US12 50-5AM00**	1 unit	0.158
	+ connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**+8US19 98-1AA00**	100 units	0.051
	Size S00 – Cage Clamp										
	Direct start load feeder	1	12.5	14	182	45	690	▶	**8US12 51-5CM47**	1 unit	0.190
 Reversing duty load feeder	**Size S2**										
	Circuit-breaker	1	56	8	182	55	690	▶	**8US12 61-5FM08**	1 unit	0.263
	Contactor + overload relay	1	56	8	182	55	690	▶	**8US12 61-5FM08**	1 unit	0.263
	Direct start load feeder	1	56	8	242	55	690	▶	**8US12 61-5FP08**	1 unit	0.292
	Reversing load feeder Adapter	1	56	8	242	55	690	▶	**8US12 61-5FP08**	1 unit	0.292
	+ switching device holder[1])	–	–	–	242	55	–	▶	**+8US12 60-5AP00**	1 unit	0.243
	+ connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**+8US19 98-1AA00**	100 units	0.051
	Size S3										
	Circuit-breaker	–	100	rails	182	70	up to 460[2])	▶	**8US11 11-4SM00**	1 unit	0.541
	Circuit-breaker	–	100	4	182	72	480 up to 690[3])	A	**8US12 11-4TM00**	1 unit	0.498
	with terminals (top) for any equipment										
 8US12 50–5RM07	1.5 mm² up to 4 mm²	1	25	–	182	45	690	A	**8US12 50-5RM07**	1 unit	0.174
	Switching device holders for lateral mounting on busbar adapter identical lengths										
 8US12 505AM00	Switching device holder	1	–	–	182	45	–	▶	**8US12 50-5AM00**	1 unit	0.158
	Switching device holder	1	–	–	182	55	–	▶	**8US12 60-5AM00**	1 unit	0.202
	Switching device holder	–	–	–	242	55	–	▶	**8US12 60-5AP00**	1 unit	0.243
	Connecting wedge (2 units required for mounting) (packing with 100 units)	–	–	–	–	–	–	▶	**8US19 98-1AA00**	100 units	0.051
	Lateral modules for widening busbar adapters and switching device holders of identical lengths										
	Side module	–	–	–	182	13.5	–	A	**8US19 98-2BM00**	4 units	0.036

1) Spacer and fixing screw for reversing contactor are included in the scope of supply.

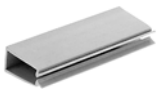
2) ≤ 400 V max. 50 kA, 400 V up to 460 V max. 25 kA.

3) 460 V up to 525 V max. 30 kA, 525 V up to 690 V max. 12 kA.

*** This quantity or a multiple thereof can be ordered.**

Selection and ordering data

Description			DT	Order No.	PS*	Weight per PU approx.
						kg
Busbar holders						
40 mm system						
End holder and intermediate holder for flat copper profile 12 mm × 5 mm to 12 mm × 10 mm						
With fixing inside (5-pole)	L1–L3 + N + PE/ground/N		A	**8US19 03-5AA00**	1 unit	0.137
With fixing inside (3-pole) (1 set = 2 busbar holders including inlay parts for bar thickness 5 mm, lateral covering cap finger-safe)			A	**8US19 03–3AB00**	1 unit	On requ.
60 mm system						
End holder and intermediate holder for flat copper profile 12 mm × 5 mm to 30 mm × 10 mm						
With fixing outside (3-pole)	L1–L3		A	**8US19 23-2AA00**	10 units	0.214
With fixing inside (3-pole)	L1–L3		A	**8US19 23-3AA00**	10 units	0.200
With fixing inside (4-pole)	L1–L3 + PE/ground/N		A	**8US19 23-4AA00**	10 units	0.269
N/PE/ground busbar holder for flat copper profile 12 mm × 5 mm to 20 mm × 10 mm as well as 25 mm × 5 mm und 30 mm × 5 mm						
Mounting on 8US19 23-2AA00 or free-standing			A	**5SH3 506**	1 unit	0.070
Double-T profile						
End and intermediate holder (3-pole) with rail cover finger-safe (1 set = 2 busbar holders + end covers finger-safe)	L1–L3	(1 set = 2 units)	A	**8US19 43-3AA00**	1 set	1.310
End covers for 60 mm busbar system						
For covering free busbar ends						
For 8US19 23-2AA00 (3-pole)	L1–L3		A	**8US19 22-1AC00**	10 units	0.020
For 8US19 23-3AA00 (3-pole)	L1–L3		A	**8US19 22-1AC00**	10 units	0.020
For 8US19 23-4AA00 (4-pole)	L1–L3 + PE/ground/N	(1 set = 2 units)	A	**8US19 22-1AB00**	5 units	0.055
Copper busbars (flat copper bar, approx. 2 m long, bare, acc. to EN 12167)						
12 mm × 5 mm			B	**8WC5 023**	1 unit	1.100
20 mm × 5 mm			B	**8WC5 026**	1 unit	1.780
25 mm × 5 mm			B	**8WC5 031**	1 unit	2.240
30 mm × 5 mm			B	**8WC5 033**	1 unit	2.680
40 mm × 5 mm			B	**8WC5 035**	1 unit	3.560
50 mm × 5 mm			B	**8WC5 037**	1 unit	4.460
20 mm × 10 mm			B	**8WC5 028**	1 unit	3.200
30 mm × 10 mm			B	**8WC5 034**	1 unit	5.360
40 mm × 10 mm			B	**8WC5 036**	1 unit	7.120
50 mm × 10 mm			B	**8WC5 038**	1 unit	8.900
60 mm × 10 mm			B	**8WC5 040**	1 unit	10.700
80 mm × 10 mm			B	**8WC5 041**	1 unit	14.200
100 mm × 10 mm			B	**8WC5 042**	1 unit	17.800
6 mm × 6 mm			B	**8WC5 020**	1 unit	0.640
20 mm × 8 mm			B	**8WC5 027**	1 unit	2.840
Copper busbars (special profile, approx. 2.4 m long, tinned)						
Double-T profile	720 mm^2		A	**8US19 48-2AA00**	1 unit	15.300
Shaped covers for busbars						
12 mm × 5 mm	1000 mm long		C	**8GR5 010**	1 m	0.043
20 mm × 5 mm	1000 mm long		A	**8US19 22-2AA00**	10 units	0.156
25 mm × 5 mm	1000 mm long		A	**8US19 22-2AA00**	10 units	0.156
30 mm × 5 mm	1000 mm long		A	**8US19 22-2AA00**	10 units	0.156
20 mm × 10 mm	1000 mm long		A	**8US19 22-2BA00**	10 units	0.105
30 mm × 10 mm	1000 mm long		A	**8US19 22-2BA00**	10 units	0.105
Cover profiles for 40 mm busbar system (3-pole, complete)						
12 mm × 5 mm	55 mm breit		A	**8US19 02-3AA00**	1 unit	0.014
12 mm × 5 mm	430 mm wide		A	**8US19 02-4AA00**	1 unit	0.117
12 mm × 10 mm	55 mm breit		A	**8US19 02-3AA00**	1 unit	0.014
12 mm × 10 mm	430 mm wide		A	**8US19 02-4AA00**	1 unit	0.117
Infeeds for 60 mm busbar system						
Supply terminal plate with cover (35 mm^2 to 120 mm^2, 3-pole)	200 mm long	84 mm wide	A	**8US19 21-1AA00**	1 unit	0.607
Outgoing module for PE/ground/N Connecting module for 4-pole (PE/ground/N) up to 16 mm an adapter/switching device holder can be mounted	242 mm long	18 mm wide	A	**8US12 00-0AA00**	1 unit	0.142



* This quantity or a multiple thereof can be ordered.

Accessories

Description		Conductor cross-section	DT	Order No.	PS*	Weight per PU approx.
						kg
Supply terminals for circular conductor						
5 mm busbar thickness						
from 12 mm × 5 mm to 30 mm × 5 mm		1.5 ... 16 mm²	▶	**8US19 21-2AA00**	100 units	0.021
		4 ... 35 mm²	▶	**8US19 21-2AB00**	50 units	0.046
		16 ... 70 mm²	▶	**8US19 21-2AD00**	50 units	0.072
		16 ... 120 mm²	▶	**8US19 21-2AC00**	50 units	0.107
from 20 mm × 5 mm to 30 mm × 5 mm		95 ... 185 mm²	▶	**8US19 41-2AA01**	6 units	0.315
		150 ... 300 mm²	▶	**8US19 41-2AA02**	3 units	0.425
10 mm busbar thickness as well as T and double-T profile						
from 12 mm × 10 mm to 30 mm × 10 mm		1.5 ... 16 mm²	▶	**8US19 21-2BA00**	100 units	0.022
		4 ... 35 mm²	▶	**8US19 21-2BB00**	50 units	0.048
		16 ... 70 mm²	▶	**8US19 21-2BD00**	50 units	0.074
		16 ...120 mm²	▶	**8US19 21-2BC00**	50 units	0.109
from 20 mm × 10 mm to 30 mm × 10 mm		95 ... 185 mm²	▶	**8US19 41-2AA01**	6 units	0.315
		150 ... 300 mm²	▶	**8US19 41-2AA02**	3 units	0.425
Covering caps for supply terminals for circular conductors (fixed to busbars)						
40 mm system						
for supply terminals up to 120 mm²	200 mm long	84 mm wide	▶	**8US19 22-1GA00**	10 units	0.126
60 mm system						
for supply terminals up to 120 mm²	200 mm long	84 mm wide	▶	**8US19 22-1GA00**	10 units	0.126
for supply terminals up to 300 mm²	200 mm long	270 mm wide	▶	**8US19 22-1GA02**	1 unit	0.696
Supply terminals for cable lugs, copper bars or laminated copper bands						
10 mm busbar thickness as well as T and double-T profile						
for cable lugs up to 240 mm²	(M 10 threaded pin)		A	**8US19 41-2AC00**	6 units	0.368
for 20 mm × 5 mm bis 30 mm × 10 mm			A	**8US19 41-2BB00**	6 units	0.307
for 2 × 40 mm × 10 mm			A	**8US19 41-2BA00**	3 units	0.824
Extension/connection terminals						
for 2 butted rails[1])	12 mm × 5 mm	(1 set = 2 units)	A	**8JK3 201**	1 set	0.100
for T and double-T profile		(1 terminal per clamping point)	A	**8US19 41-2BF00**	3 units	1.130
Accessories for busbar adapter and switching device holder						
Mounting rail (35 mm) – plastic						
including fixing screws		45 mm wide	A	**8US19 98-7CA15**	10 units	0.085
(1 pack = 10 off)		55 mm wide	A	**8US19 98-7CA16**	10 units	0.100
		72 mm wide	A	**8US19 98-4AA00**	10 units	0.143
		110 mm wide	A	**8US19 98-7CA10**	10 units	0.219
Mounting rail (35 mm) – metal						
including fixing screws		55 mm wide		**8US19 98-7CA26**		
(1 pack = 10 off)						
Plug-in holder (for vertical mounting on a busbar)						
Fixes the circuit-breaker on the mounting rail[2])			A	**8US19 98-1DA00**	20 units	0.018
(for SIRIUS size S00/S0)						
(1 packing = 20 units)						
Screw holder						
enables the load feeder to be screwed on			B	**8US19 98-1CA00**	20 units	0.054
(for SIRIUS size S00/S0)						
(1 packing = 20 units)						
Spacer						
Fixes the load feeder on the busbar adapter			▶	**8US19 98-1BA00**	100 units	0.071
(for SIRIUS size S00/S0)						
(1 packing = 100 units)						
Link wedges						
For mechanical connection of adapter and switching device holder			▶	**8US19 98-1AA00**	100 units	0.051
(2 units per assembly are required)						
(1 packing = 100 pieces)						
Outgoing terminal rails for busbar adapter						
Plug-type terminal (including carrier for mounting on busbar adapter and switching device holder)						
3 × 2.5 mm² (400 V) and 4 × 1.5 mm² (250 V)	91 mm long	45 mm wide	A	**8US19 98-8AM07**	1 unit	0.061
7 × 2.5 mm² (400 V)	91 mm long	54 mm wide	C	**8US19 98-8AA10**	1 unit	0.072

1) The clamp web must be made by the customer.

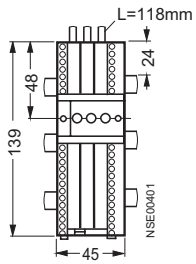
2) For 45 mm and 55 mm mounting rail.

*** This quantity or a multiple thereof can be ordered.**

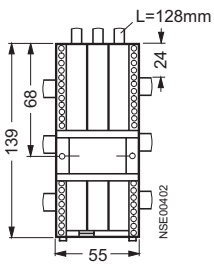
Dimension drawings

40 mm system

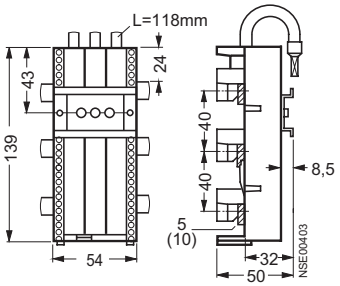
8US10 51–5DK07



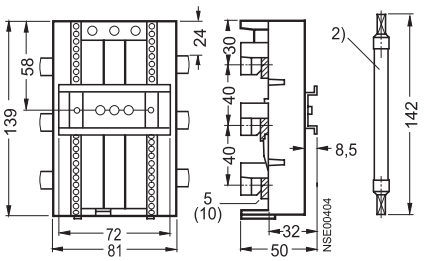
8US10 61–5FK08



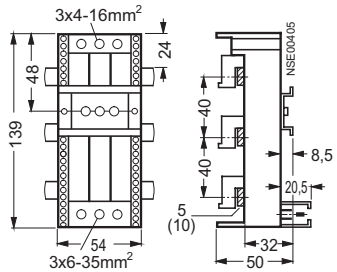
8US10 61–5NK00



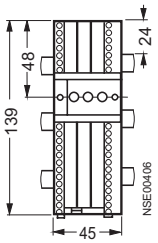
8US10 71–5MK00



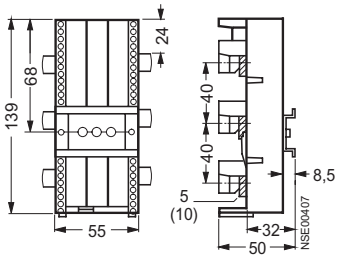
8US10 60–5AK00



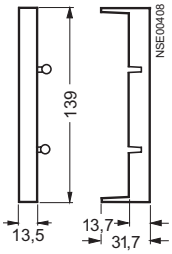
8US10 50–5AK00



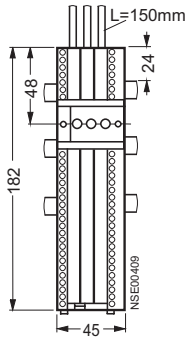
8US10 60–5AK08



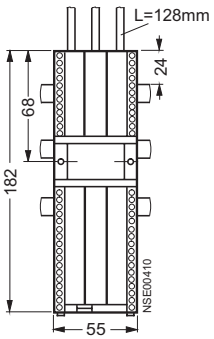
8US19 98–2BK00



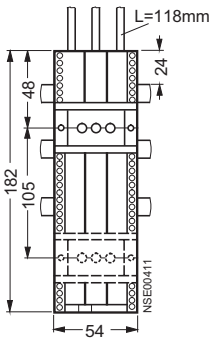
8US10 515DM07



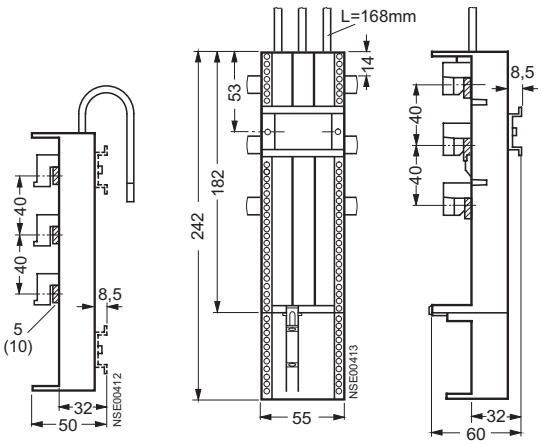
8US10 61–5FM08



8US10 61–5NA00,
8US10 61–6NA00



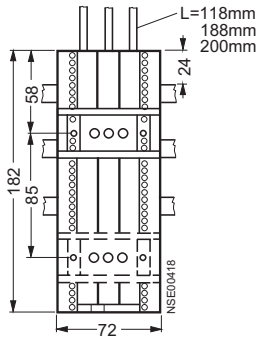
8US10 615FP08



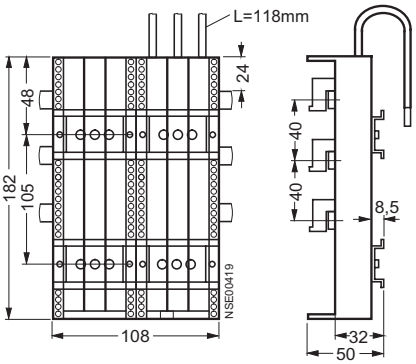
2) Cable A, 3 units supplied loose.

Project planning aids

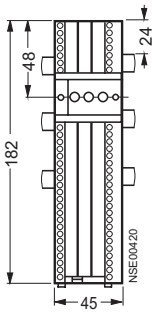
8US10 11–5NE00,
8US10 71–2NA20,
8US10 71–6MA20



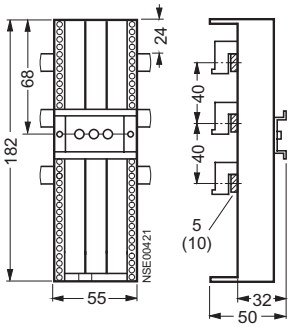
8US10 81–6NA00



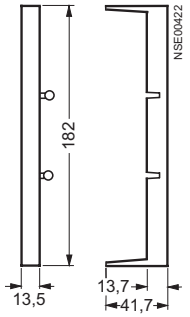
8US10 505AM00



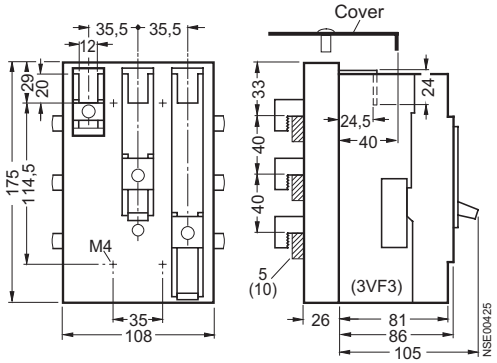
8US10 605AM00



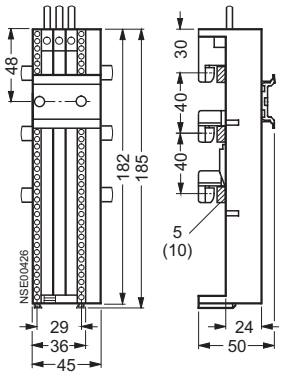
8US19 982BM00



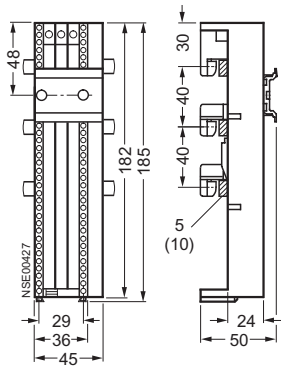
8US10 11–4SB00
with 3VF3



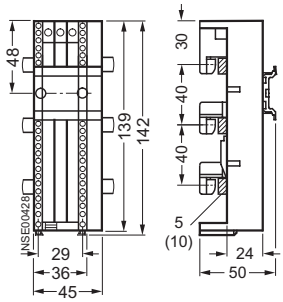
8US10 515CM47



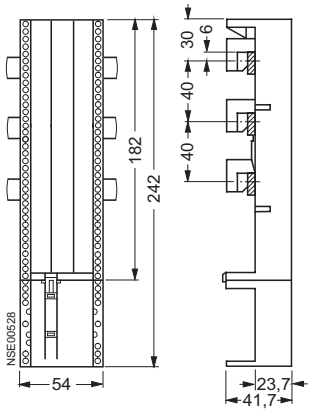
8US10 50–5RM07



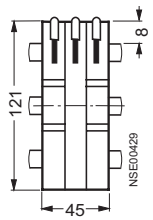
8US10 50–5RK07



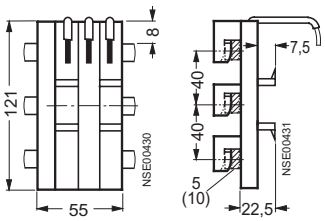
8US10 50–5AP00



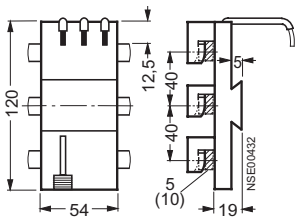
8US10 51–5DJ07



8US10 61–5DJ07



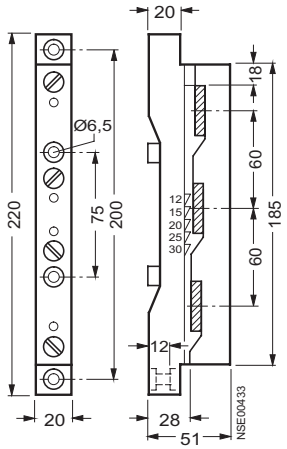
3VU91 35–0AA00



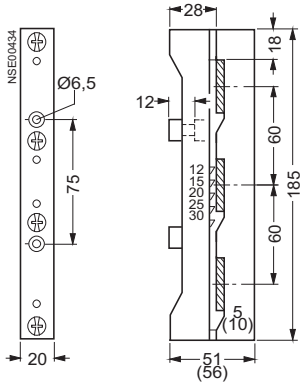
For terminals and further accessories, see 60 mm system.

60 mm system

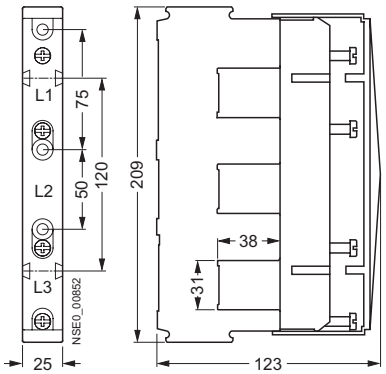
8US19 23–2AA00



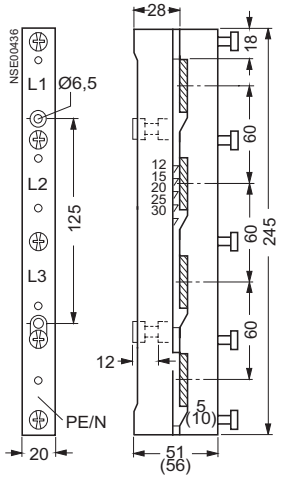
8US19 23–3AA00



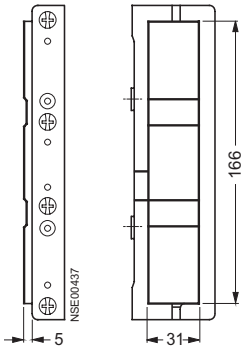
8US19 43–1AA00, 8US19 43–2AA00



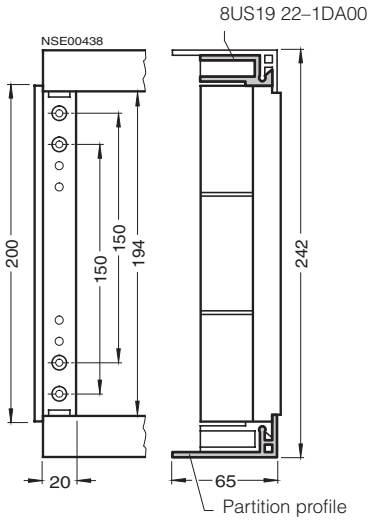
8US19 23–4AA00



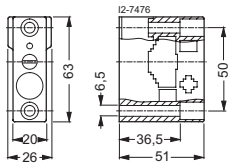
8US19 22–1AC00 with 8US19 23–3AA00



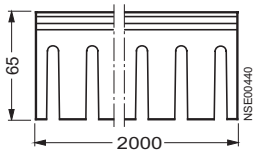
8US19 22–1BA00 with 8US19 22–1DA00 and partition profile



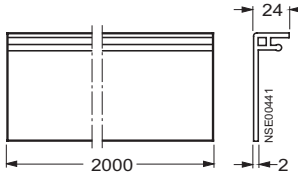
5SH3 506



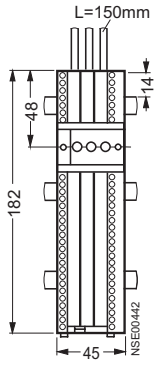
8US19 22–1EA00



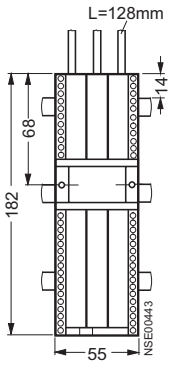
8US19 22–1FA00



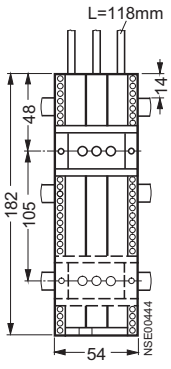
8US12 515DM07



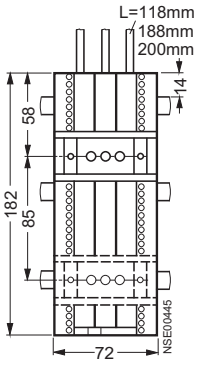
8US12 61–5FM08



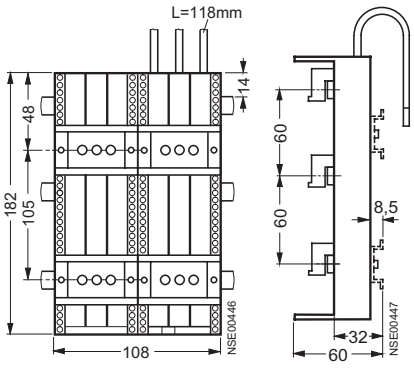
8US12 61–5NA00
8US12 61–6NA00



8US12 11–5NE00
8US12 71–2NA20
8US12 71–6MA20

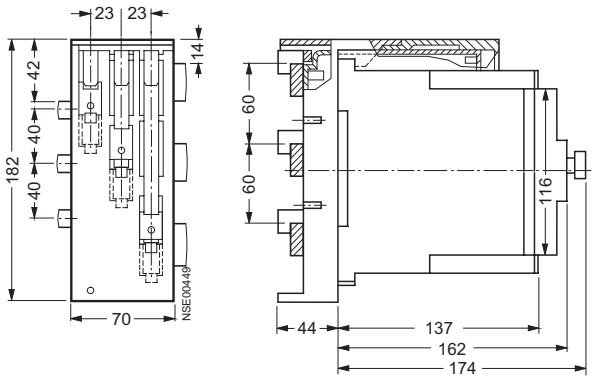


8US12 81–6NA00

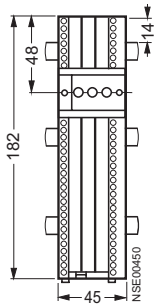


Project planning aids

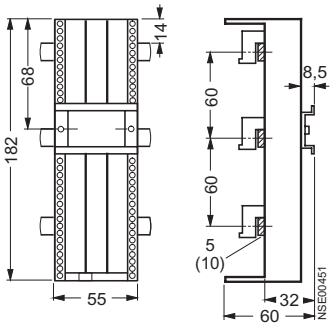
8US11 11–4SM00



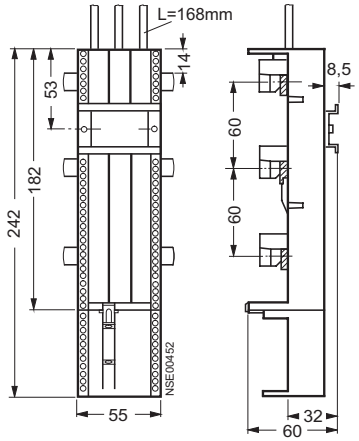
8US12 505AM00



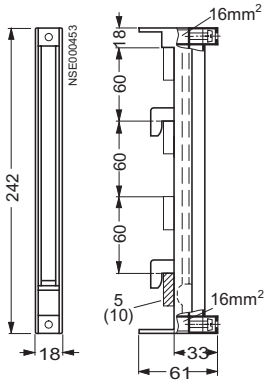
8US12 605AM00



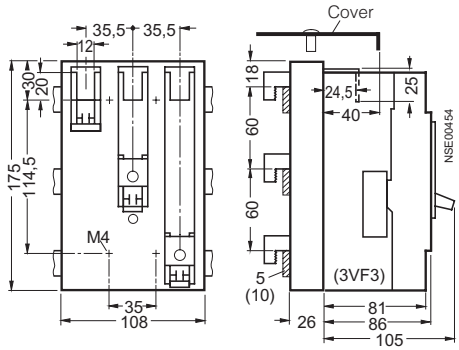
8US12 60–5AP00
8US12 61–5FP08



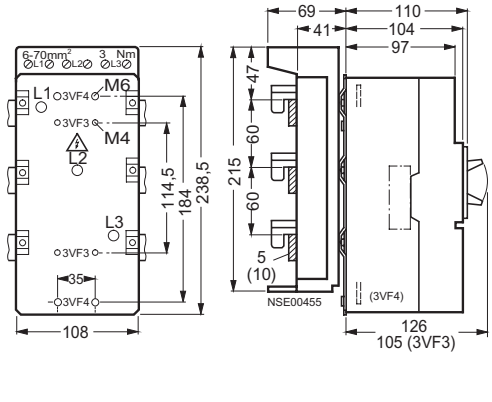
8US12 00–0AA00



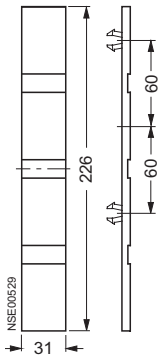
8US12 11–4SB00
with 3VF3



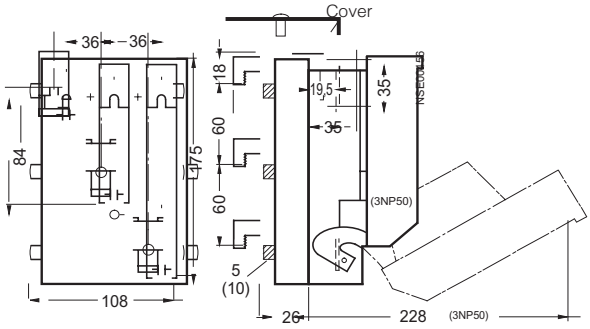
8US12 10–4AA04
with 3VF4[1])



8US19 22–1AB00

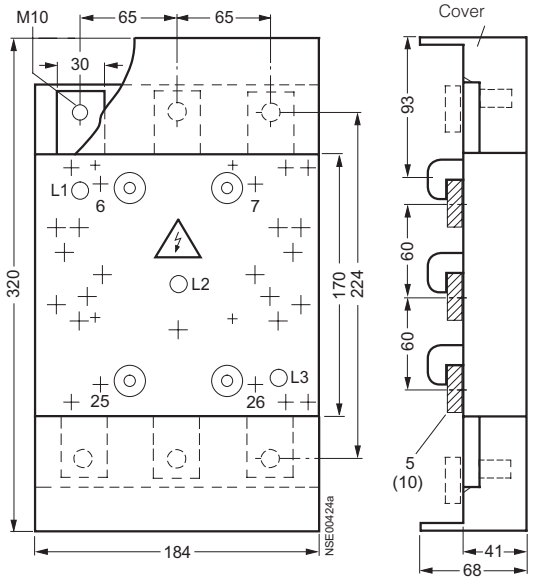


8US12 91–4SB00[2])
with 3NP50

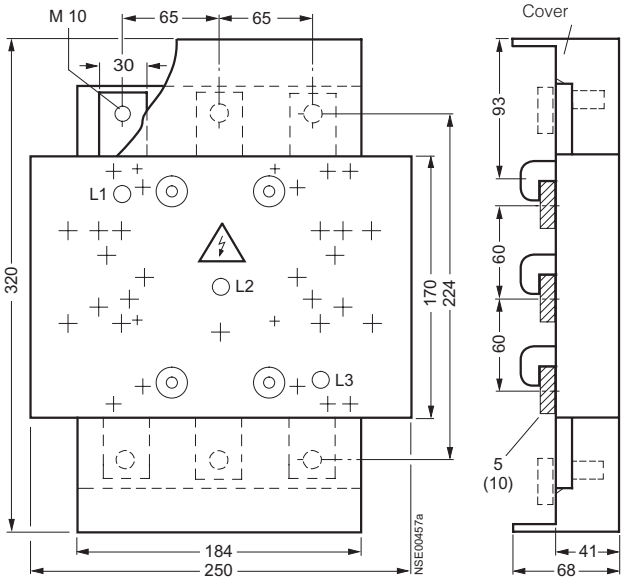


1) 3VF4 is flush with the top of the adapter and covers the terminal screws.
2) Note the dimensions of the device (width).

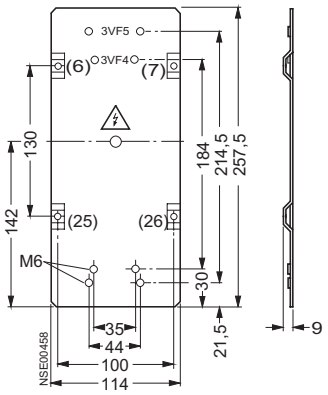
8US12 10–4AF00



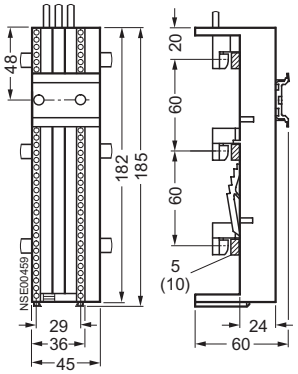
8US12 10–4AG00



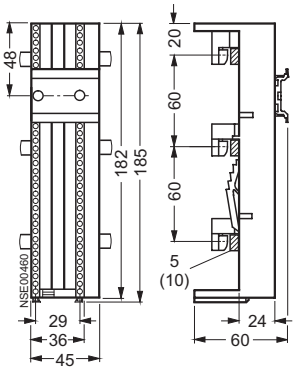
8US19 27–4AF00



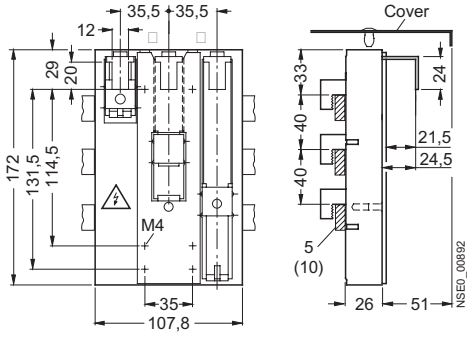
8US12 515CM47



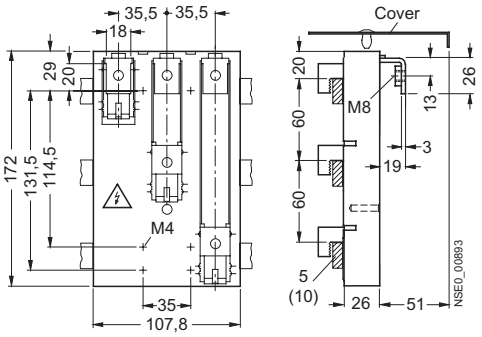
8US12 50–5RM07



8US10 11–4SL01



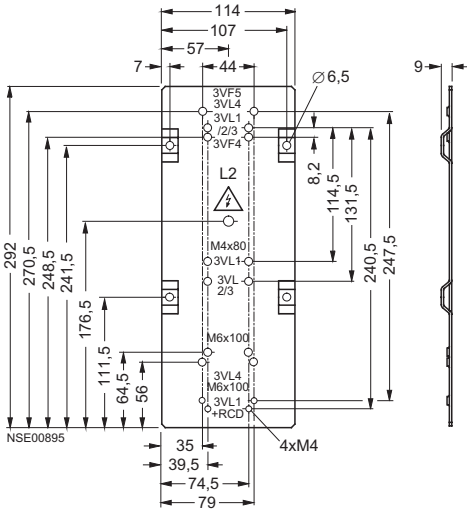
8US12 11–4SL00



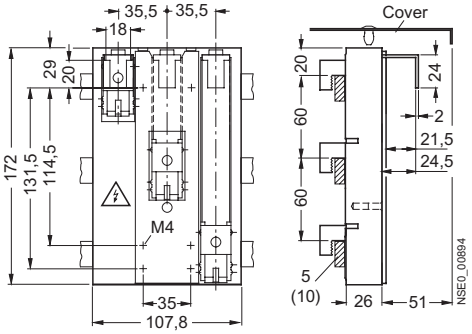
6

Project planning aids

8US12 11–4SL01



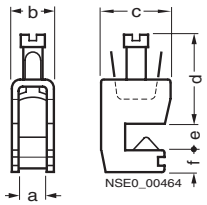
8US19 27–4AF01



6

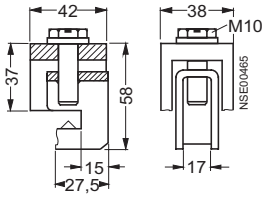
Accessories for 40 mm and 60 mm system

8US19 21–2..00

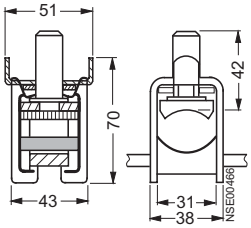


Type	a	b	c	d	e	f
8US19 21–2AA00	7.5	11.5	22.5	25	5	10
8US19 21–2AB00	10.5	15.5	29	35	5	10
8US19 21–2AC00	17	23.5	36	55	5	12
8US19 21–2AD00	14.5	20.5	32	42	5	12
8US19 21–2BA00	7.5	11.5	22.5	25	10	10
8US19 21–2BB00	10.5	15.5	29	35	10	10
8US19 21–2BC00	17	23.5	36	55	10	12
8US19 21–2BD00	14.5	20.5	32	42	10	12

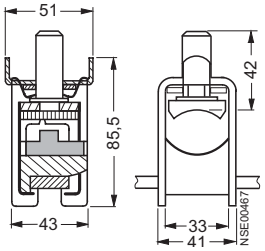
8US19 41–2AC00



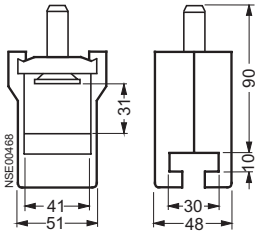
8US19 41–2AA01
8US19 41–2BB00



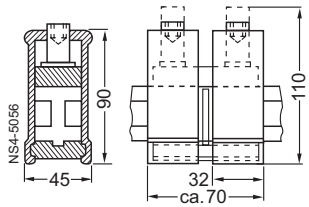
8US19 41–2AA02



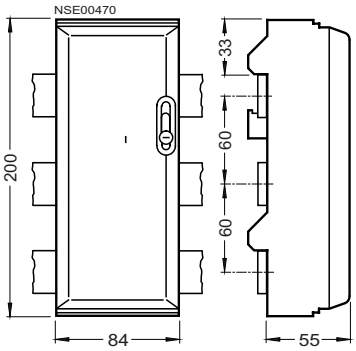
8US19 41–2BA00



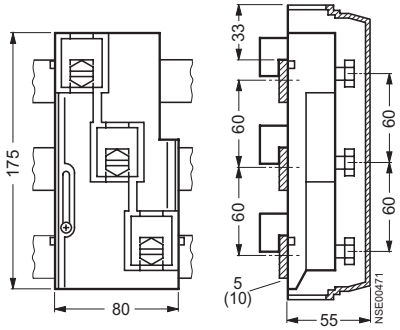
8US19 41–2BF00



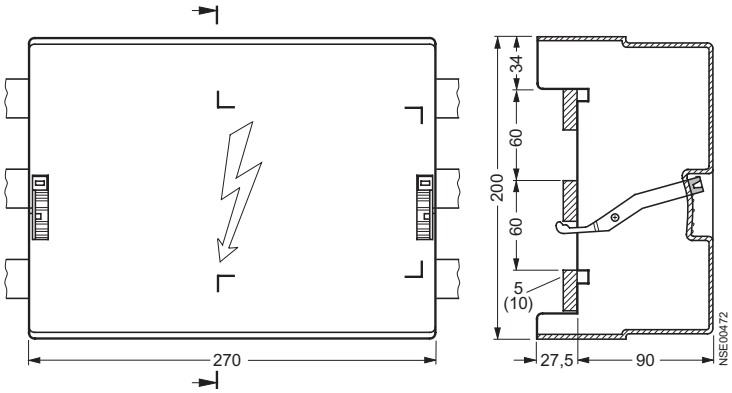
8US19 22–1GA00



8US19 21–1AA00

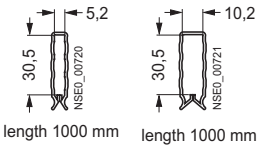


8US19 22–1GA02



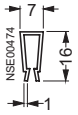
Project planning aids

8US19 22–2AA00
8US19 22–2BA00

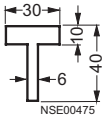


length 1000 mm length 1000 mm

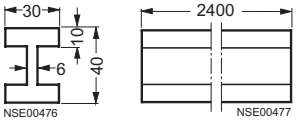
8GR5 010



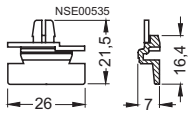
8US19 48–1AA00



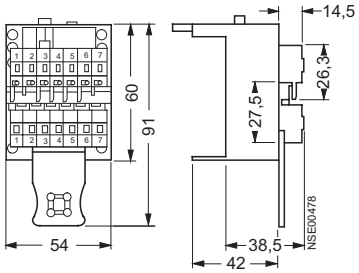
8US19 48–2AA00



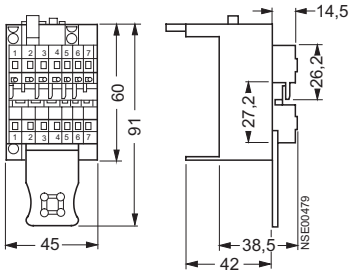
8US19 98–1DA00



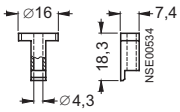
8US19 98–8AA10



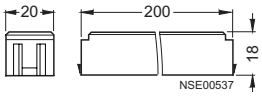
8US19 988AM07



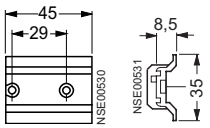
8US19 981CA00



8US19 22–1CA00



8US19 987CA15



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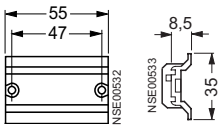

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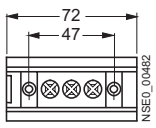

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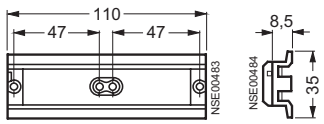

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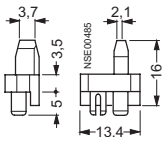
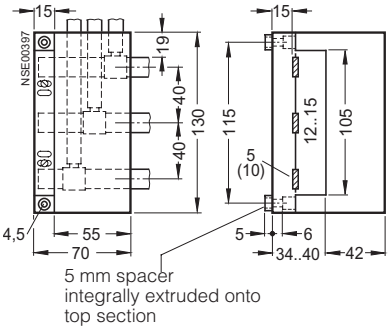
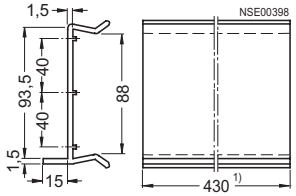


3VX4 280–2R with 3VX4 280–2S



8US19 02–3AA00[1], **8US19 02–4AA00**



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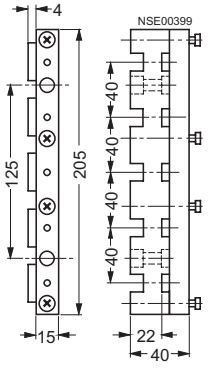

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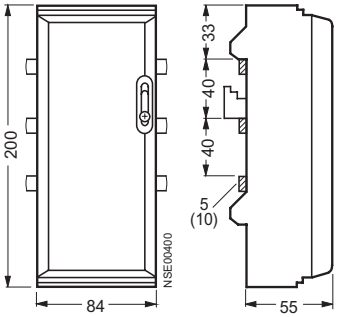

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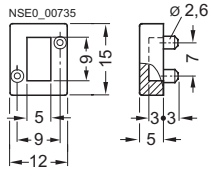

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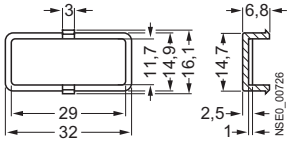

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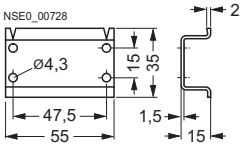

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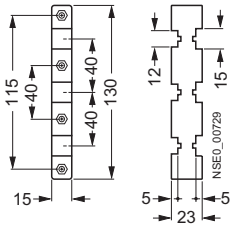

1) 8US19 02–3AA00: 54 mm wide