

Switching devices – Soft starters and solid-state switching devices

**Price groups**

PG 41B, 41C, 41E, 41L, 42G, 42J, 42N, 42S, 53W

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(TIA Portal) **NEW**14/9 **SIRIUS 3RW soft starter block library for**
SIMATIC PCS 7 **NEW**14/27 **SIRIUS Sim** **NEW****Solid-state switching devices**
for resistive/inductive loadsSIRIUS 3RF3 solid-state relays and
solid-state contactors **NEW**

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devices for switching resistive
DC loads **NEW**6/169 SIRIUS 3RF5 DC solid-state switching
devices, 1-pole, 22.5 mm**SIRIUS 3RF34 solid-state switching**
devices for switching motorsSolid-state contactors

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contactors, 3-pole6/182 **Accessories** **NEW**Note:

Products with our Siemens EcoTech label are marked in the catalog with this symbol:



See

www.siemens.com/sirius/SiemensEcoTech

Switching devices – Soft starters and solid-state switching devices

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

SiePortal, see www.siemens.com/product_catalog_siep?3RW

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Sirius3rwFolder

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or

<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Conversion tool, see www.siemens.com/conversion-tool



3RW55



3RW55 Failsafe



3RW52



3RW50



3RW40



3RW30

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3RW soft starters

High Performance soft starters

3RW55 soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- Removable HMI module with color display, local interface and slot for a micro SD memory card
- Extended protection functions
- Up to 1 200 kW at 400 V (can be used in supply systems up to 690 V)
- Automatic parameterization for simple commissioning and reliability even under changing load conditions
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Pump stop for reduced mechanical loading and optimum pump stop control
- ATEX/IECEX certification
- System redundancy S2 (with PROFINET High-Feature communications module)

3RW55...-HA..

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3RW55 Failsafe soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- Removable HMI module with color display, local interface and slot for a micro SD memory card
- Extended protection functions
- Up to 560 kW at 400 V (can be used in supply systems up to 480 V)
- SIL 1/PL c/STO without additional components
- SIL 3/PL e/STO with additional contactor and safety relay
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Pump stop for reduced mechanical loading and optimum pump stop control
- ATEX/IECEX certification
- System redundancy S2 (with PROFINET High-Feature communications module)

3RW55...-HF..

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General Performance soft starters

3RW52 soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- HMI modules optional
- Soft starting and stopping
- Current limiting
- Motor overload protection (optionally with thermistor motor protection)
- Analog output (optional)
- Up to 560 kW at 400 V (can be used in supply systems up to 600 V)
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Soft Torque for reduced mechanical loading and optimum pump stop
- Parameterization using potentiometers

3RW52

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3RW55



3RW55 Failsafe



3RW52



3RW50



3RW40



3RW30

Article No.

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3RW soft starters

Basic Performance soft starters

3RW50 soft starters

- TIA integration optional
- Communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- HMI modules optional
- Soft starting and stopping
- Current limiting
- Motor overload protection (optionally with thermistor motor protection)
- Analog output (optional)
- Up to 315 kW at 400 V (can be used in supply systems up to 600 V)
- Hybrid switching technology for minimum power loss and 2-phase motor control
- Soft Torque for reduced mechanical loading and optimum pump stop
- Parameterization using potentiometers
- ATEX/IECEx certification

3RW50

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3RW40 soft starters

- Soft starting and stopping
- Current limiting
- Motor overload protection (optionally with thermistor motor protection)
- Up to 55 kW at 400 V (can be used in supply systems up to 600 V)
- Hybrid switching technology for minimum power loss and 2-phase motor control
- ATEX certification

3RW40

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3RW30 soft starters

- Soft starting with voltage ramp
- Up to 55 kW at 400 V (can be used in supply systems up to 480 V)

3RW30

6/101

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



Decision support tool for motor start

By asking some short questions about the application, this tool provides the optimum individual drive solution.

Based on this approach, you are taken to the correct product configurator where you can select suitable products, see www.siemens.com/motorstart-guide.

Switching devices – Soft starters and solid-state switching devices

Introduction

More information

SiePortal, see www.siemens.com/product_catalog_siep?3RF
 Online configurator, see www.siemens.com/sirius/configurators

Conversion tool, see www.siemens.com/conversion-tool



3RF31

3RF30

3RF22

3RF33

3RF24

3RF39

3RF51

3RF53

3RF34..-B...
(motor)

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SIRIUS solid-state switching devices for resistive/inductive loads

Solid-state relays

- Widths 22.5 and 45 mm
- Compact and space-saving design
- Versions for "zero-point switching" and "instantaneous switching"
- Mounting on existing cooling surfaces

3RF31	6/128
3RF30	6/133
3RF22	6/149

Solid-state contactors

- Complete units comprising a solid-state relay and an optimized heat sink, "ready to use"
- Compact and space-saving design
- Versions for resistive loads "zero-point switching" and inductive loads "instantaneous switching"
- Special version "short-circuit-proof with B MCB"

3RF33	6/137
3RF24	6/153

Function modules

For extending the functionality of the 3RF31 1-pole solid-state relays and 3RF33 solid-state contactors for many different applications

Converters

- For converting an analog input signal into an on/off ratio; can also be used on 3RF22 and 3RF24 3-phase switching devices

3RF3900-0EA18	6/162
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Load monitoring

- Monitoring one or more loads (partial loads)

3RF39..-0FA08, 3RF39.0-0GA1.	6/163
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Heating current monitoring

- Monitoring one or more loads (partial loads); Remote Teach

3RF39..-0JA1.	6/164
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Power controllers

- For setting the current by means of a solid-state switching device depending on a setpoint value set by the power controller. There is a choice of full-wave control and generalized phase control

3RF39..-0KA1.	6/165
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Power regulators

- For regulating the current by means of a solid-state switching device, depending on a setpoint value set by the power regulator. Closed-loop control: full-wave control or generalized phase control

3RF39.0-0HA1.	6/167
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SIRIUS 3RF5 solid-state switching devices for switching resistive DC loads

DC solid-state switching devices

Solid-state relays

- Mounting on existing cooling surfaces
- Compact and space-saving design with 22.5 mm width

3RF51	6/169
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Solid-state contactors

- Complete units comprising a solid-state relay and an optimized heat sink, "ready to use"
- Compact and space-saving design with 22.5 mm width

3RF53	6/169
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SIRIUS 3RF34 solid-state switching devices for switching motors

Solid-state contactors

Solid-state contactors

- Complete units in the insulated enclosure with optimized heat sink, "ready to use"

3RF34..-BB..	6/178
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Solid-state reversing contactors

- Compact and space-saving design
- Version for motors, "instantaneous switching"

3RF34..-BD..	6/180
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Use of SIRIUS 3RF34..-B... solid-state switching devices in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS 3RF34..-B... solid-state switching devices for switching motors in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see [Equipment Manual](#).

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

Overview

More information

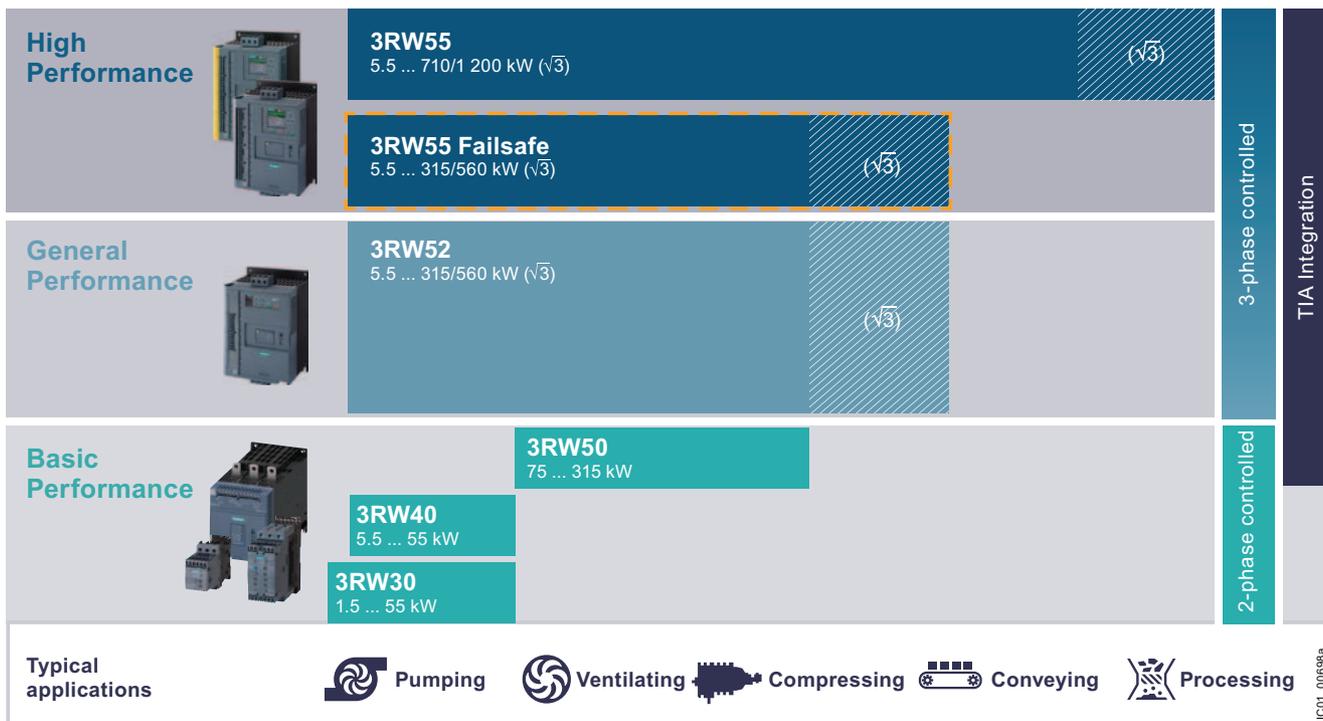
Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Sirius3rwFolder
 SiePortal topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>
 SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>
 Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide
 Conversion tool, see www.siemens.com/conversion-tool



Video: Soft starter teaser

SIRIUS 3RW soft starters – as versatile as your application



SIRIUS 3RW soft starters

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data



Applications	High Performance 3RW55/3RW55-F	General Performance 3RW52	Basic Performance		
			3RW50	3RW40	3RW30

Selection aid for soft starters

Normal starting (Class 10)

Pumps	●	●	●	●	●
Pumps with special pump stop (to prevent water hammer)	●	○	○		
Heat pumps	●	●	●	●	●
Hydraulic pumps	●	●	●	●	○
Presses	●	●	●	●	○
Conveyor belts	●	●	●	●	○
Roller conveyors	●	●	●	●	○
Screw conveyors	●	●	●	●	○
Escalators	●	●	●	●	
Piston compressors	●	●	●	●	
Screw compressors	●	●	●	●	
Small fans ¹⁾	●	●	●	●	
Centrifugal blowers	●	●	●	●	
Bow thrusters	●	●	●	●	

Heavy starting (Class 20)

Agitators	●	○	○	○	
Extruders	●	○	○	○	
Turning machines	●	○	○	○	
Milling machines	●	○	○	○	

Heavy starting (Class 30)

Large fans ²⁾	●				
Circular saws/bandsaws	●				
Centrifuges	●				
Mills	●				
Crushers	●				

- Recommended soft starter
- Possible soft starter

- 1) The mass inertia of the fan is <math>< 10</math> times the mass inertia of the motor.
- 2) The mass inertia of the fan is ≥ 10 times the mass inertia of the motor.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data



Applications	High Performance		General Performance	Basic Performance			
	3RW55	3RW55-F	3RW52	3RW50	3RW40	3RW30	
SIRIUS soft starters							
General technical specifications							
Operational current at 40 °C	A	13 ... 2 217	13 ... 987	13 ... 987	143 ... 570	12.5 ... 106	3 ... 106
Operational voltage	V	200 ... 690 ¹⁾	200 ... 480	200 ... 600	200 ... 600	200 ... 600	200 ... 480
Operating power for three-phase motors							
• At 400 V, at 40 °C							
- Standard (inline) circuit	kW	5.5 ... 710	5.5 ... 315	5.5 ... 315	75 ... 315	5.5 ... 55	1.5 ... 55
- Inside-delta circuit	kW	11 ... 1 200	11 ... 560	11 ... 560	--	--	--
• At 460/480 V at 50 °C							
- Standard (inline) circuit	hp	7.5 ... 1 000	7.5 ... 400	7.5 ... 400	100 ... 400	7.5 ... 75	1.5 ... 75
- Inside-delta circuit	hp	10 ... 1 700	10 ... 750	10 ... 750	--	--	--
Ambient temperature²⁾	°C	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60	-25 ... +60
Soft starting/stopping		✓	✓	✓	✓	✓	✓ ³⁾
Voltage ramp		✓	✓	✓	✓	✓	✓
Starting voltage	%	20 ... 100	20 ... 100	30 ... 100	30 ... 100	40 ... 100	40 ... 100
Ramp-up and ramp-down time	s	0 ... 360	0 ... 360	0 ... 20	0 ... 20	0 ... 20	0 ... 20 ³⁾
Pump stop (torque control)⁴⁾		✓	✓	--	--	--	--
• Starting torque	%	10 ... 100	10 ... 100	--	--	--	--
• Torque limit	%	20 ... 200	20 ... 200	--	--	--	--
Soft Torque (torque limit)		--	--	✓	✓	--	--
Integral bypass contact system		✓	✓	✓	✓	✓	✓
Intrinsic device protection		✓	✓	✓	✓	✓	--
Motor overload protection		✓ ⁵⁾	✓ ⁵⁾	✓	✓ ⁵⁾	✓ ⁵⁾	--
Thermistor motor protection evaluation		✓	✓	✓ ⁶⁾	✓ ⁶⁾	✓ ⁶⁾	--
Analog output		✓	✓	✓ ⁶⁾	✓ ⁶⁾	--	--
Remote RESET		✓	✓	✓	✓	✓	--
Adjustable current limiting		✓	✓	✓	✓	✓	--
Inside-delta circuit¹⁾		✓	✓	✓	--	--	--
Breakaway pulse		✓	✓	--	--	--	--
Automatic parameterization		✓	✓	--	--	--	--
Pump cleaning		✓	✓	--	--	--	--
Condition monitoring		✓	✓	--	--	--	--
User account administration⁷⁾		✓	✓	--	--	--	--
Creep speed in both directions of rotation		✓	--	--	--	--	--
Reversing operation		✓	✓	--	--	--	--
Reversing DC braking⁴⁾⁸⁾		✓	--	--	--	--	--
DC braking⁴⁾⁸⁾		✓	--	--	--	--	--
Dynamic DC braking⁴⁾⁸⁾		✓	--	--	--	--	--
Motor heating		✓	--	--	--	--	--
Communication function⁹⁾		✓	✓	✓	✓	--	--
HMI module installable in the control cabinet door		✓	✓	✓ ⁹⁾	✓ ⁹⁾	--	--
Operating measured value display		✓	✓	✓ ⁹⁾	✓ ⁹⁾	--	--
Logbooks		✓	✓	✓ ⁹⁾	✓ ⁹⁾	--	--
Statistical data and min/max pointer function		✓	✓	✓ ⁹⁾	✓ ⁹⁾	--	--
Trace function⁷⁾		✓	✓	--	--	--	--
Programmable control inputs and outputs		✓	✓	--	--	--	--
Number of parameter sets		3	3	1	1	1	1
Configurable via software⁷⁾		✓	✓	--	--	--	--
Number of controlled phases		3	3	3	2	2	2
Heavy starting Class 30⁴⁾		✓	✓	--	--	--	--

✓ Function available

-- Function not available

1) Inside-delta circuit only up to operational voltage 600 V.

2) Observe derating above 40 °C.

3) Only soft starting available for 3RW30.

4) Calculate soft starter and motor with overdimension where required.

5) When using the motor overload protection according to ATEX/IECEx, an upstream contactor may be required, see page 6/13.

6) Special device versions only.

7) With Soft Starter ES software (TIA Portal).

8) Not possible in inside-delta circuit.

9) Only in conjunction with special accessories.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

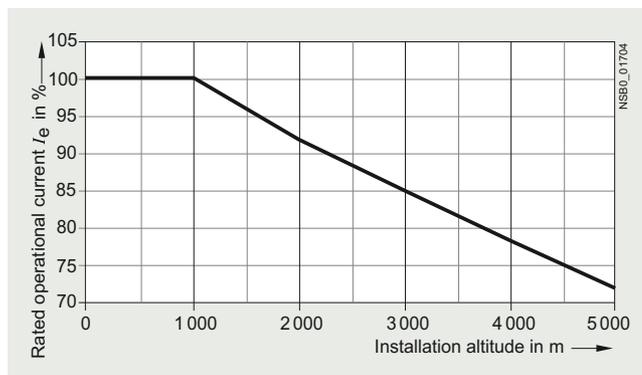
Constraints

The 3RW soft starters should always be designed on the basis of the required rated operational current of the motor.

The motor ratings listed in the selection and ordering data are rough guide values and designed for basic starting conditions (Class 10). For other starting conditions, we recommend the [Simulation Tool for Soft Starters \(STS\)](#).

Motor rating data in kW and hp are based on IEC 60947-4-1.

At an installation altitude above 2 000 m, the max. permissible operational voltage is reduced to 480 V.



Installation altitude for SIRIUS 3RW soft starters

The selection and ordering data were determined for the following constraints (stand-alone installation without auxiliary fan)



Applications		High Performance	General Performance	Basic Performance	
SIRIUS soft starters		3RW55/3RW55-F	3RW52	3RW50	3RW40
					3RW30
Constraints					
Maximum starting time	s	20	10		3
Maximum starting current in % of motor current	I_e	300			
Maximum number of starts per hour	1/h	5			20

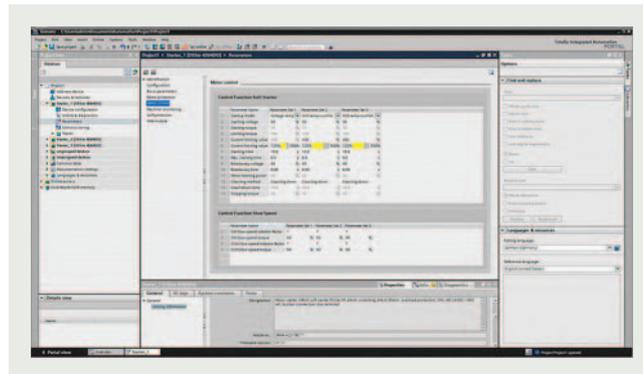
Simulation Tool for Soft Starters (STS) (see page 14/4)

Easy input of motor and load data

The Simulation Tool for Soft Starters (STS) provides a convenient means of designing soft starters using a simple, quick and easy-to-use interface. Entering the motor and load data will simulate the application and prompt suggestions for suitable soft starters.

- Simple, quick and user-friendly interface
- Detailed and up-to-date Siemens motor database, including IE3 and IE4 motors
- Simulation of heavy starting up to Class 30
- Update-capable (e.g. motors, load types, functions)
- Fast simulations with minimum input data
- Immediate, graphical curve charts of start operations with limit values
- Table view of suitable soft starters for the application

The [Simulation Tool for Soft Starters \(STS\)](#) is available as a free download for Windows and as an app (for Android and iOS).

SIRIUS Soft Starter ES (TIA Portal) (see page 14/5 onwards)

Easy and clearly arranged parameter setting of the SIRIUS 3RW55 soft starter with SIRIUS Soft Starter ES (TIA Portal)

The [SIRIUS Soft Starter ES \(TIA Portal\)](#) software permits quick and easy parameterization, monitoring and diagnostics of SIRIUS 3RW5 soft starters for service purposes.

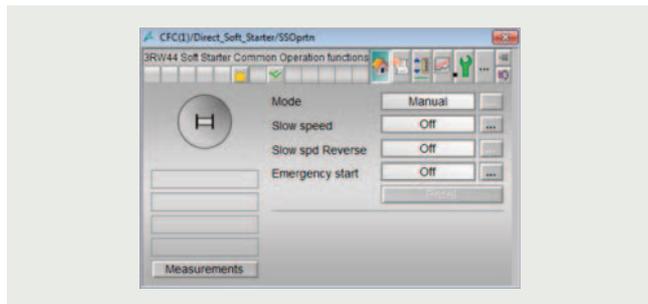
- Transparent setting of the device functions and their parameters – online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (only in the Professional software version)
- Time savings through shorter commissioning times
- Fast, low-cost licensing using a simple licensing procedure (also available online)

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

SIRIUS 3RW soft starter block library for SIMATIC PCS 7
(see page 14/8 onwards)

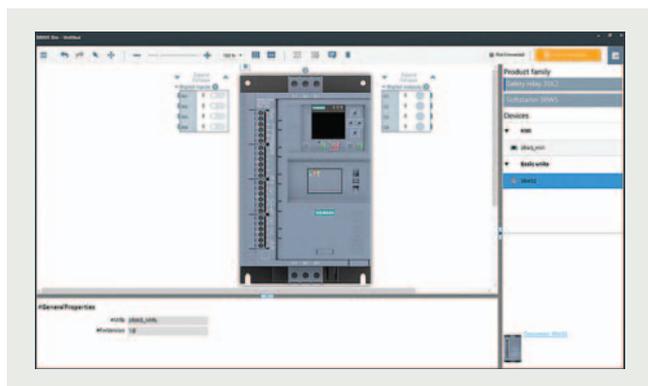


Faceplate of the motor block

The **SIRIUS 3RW soft starter PCS 7 block library** can be used for simple and convenient integration of SIRIUS 3RW52 and 3RW55 soft starters into the SIMATIC PCS 7 process control system.

The SIRIUS 3RW soft starter block library for PCS 7 contains the diagnostics and driver blocks that correspond to the SIMATIC PCS 7 diagnostics and driver concept as well as the elements (symbols and faceplates) required for operator control and process monitoring.

SIRIUS Sim (see page 14/27 onwards)



SIRIUS Sim 3RW55

The SIRIUS simulation tool can be used to quickly and easily test functions and configurations in an office environment. These configurations can then be loaded directly into real devices.

SIRIUS Sim integrates the SIRIUS 3RW55 and SIRIUS 3RW55 Failsafe soft starters with the following features:

- Complete parameterization of the SIRIUS 3RW55 High Performance and SIRIUS 3RW55 Failsafe soft starters
- Complete navigation with the same menu structure as on the HMI
- Optional storage of the parameterization on a micro SD memory card for transfer to the real soft starter
- Simulation of startup and shutdown, including operating phases
- Simulation of different fault states
- Interface between SIRIUS Sim from V2.5 and the simulation tool for soft starters (STS) from V6. This allows users to transfer the soft starter devices recommended in STS and their parameters directly into SIRIUS Sim and simulate them in a virtual environment.

SIRIUS Sim is available as a free download.

SIRIUS 3RW55 and 3RW55 Failsafe system redundancy S2 with PROFINET High-Feature communications module
(see pages 6/37 and 6/53)



PROFINET High-Feature communications module 3RW5950-0CH00

The PROFINET High-Feature communications module for the SIRIUS 3RW55 and SIRIUS 3RW55 Failsafe soft starters supports the S2 system redundancy mechanisms of PROFINET IO from firmware version 3.0 and can therefore be operated directly on fault-tolerant systems, such as SIMATIC S7-400H and S7-1500H. As such, 3RW55 and 3RW55 Failsafe soft starters can provide decisive added value also for the field level of plants in which plant availability and control system redundancy are priorities.

Switching devices – Soft starters and solid-state switching devices

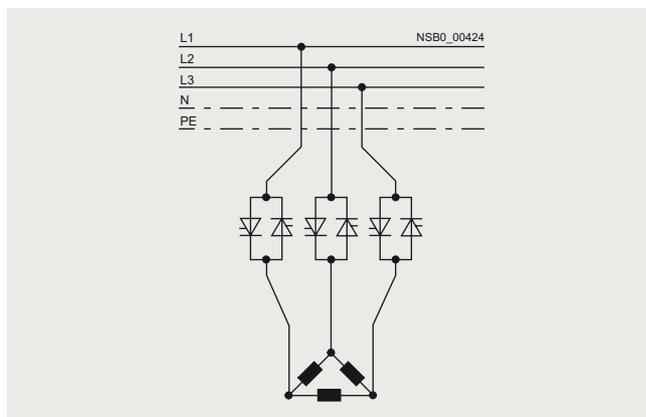
SIRIUS 3RW soft starters

General data

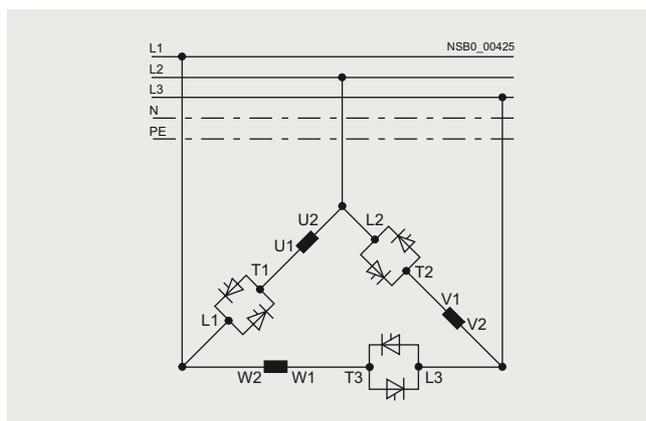
Circuit concept

3-phase controlled SIRIUS 3RW soft starters can be operated in two different connection methods:

- **Standard (inline) circuit**
The controls for isolating and protecting the motor are simply connected in series with the soft starter. The motor is connected to the soft starter with three cables.
- **Inside-delta circuit**
The wiring is similar to that of star-delta (wye-delta) starters. The phases of the soft starter are connected in series with the individual motor windings. The soft starter then only has to carry the phase current, amounting to about 58% of the rated motor current (conductor current).

Comparison of the connection methods

Standard (inline) circuit: Rated current I_e corresponds to the rated motor current I_n , three cables to the motor



Inside-delta circuit: Rated current I_e corresponds to approx. 58% of the rated motor current I_n , six cables to the motor (as for star-delta (wye-delta) starters)

Which circuit?

Using the standard (inline) circuit involves the lowest wiring outlay. If the soft starter to motor connections are long, this circuit is preferable.

The wiring complexity is twice as high when using the inside-delta circuit, but a smaller device can be used with the same rating. Thanks to the choice of operating mode between the standard (inline) circuit and inside-delta circuit, it is always possible to select the most favorable solution.

The braking function is possible only in the standard (inline) circuit. The inside-delta circuit cannot be used in 690 V line supplies.

Configuration

The solid-state 3RW soft starters are designed for normal starting. In case of heavy starting or increased starting frequency, a larger unit must be selected. The 3RW50 and 3RW52 soft starters may be used in isolated supply networks (IT systems) up to 600 V AC and the 3RW55 soft starters even up to 690 V.

For long starting times it is recommended to have a PTC thermistor or temperature switch in the motor. This also applies for the ramp-down modes torque control, pump stop and DC braking, because during the ramp-down time in these modes, an additional current loading applies in contrast to free ramp-down.

No capacitive elements are permitted in the motor feeder between the SIRIUS 3RW soft starter and the motor (e.g. no reactive power compensation equipment). In addition, neither static systems for reactive power compensation nor dynamic PFC (Power Factor Correction) must be operated in parallel during starting and stopping of the soft starter. This is important to prevent faults arising on the compensation equipment and/or the soft starter.

All elements of the main circuit (such as fuses and switching devices) should be dimensioned for direct-on-line starting, following the local short-circuit conditions. Fuses and switching devices must be ordered separately. The harmonic component load of the starting current must be taken into consideration for the selection of motor starter protectors/circuit breakers (selection of release). Please observe the maximum switching frequencies specified in the technical specifications.

Notes:

When three-phase motors are switched on, voltage drops occur as a rule on starters of all types (direct-on-line starters, star-delta (wye-delta) starters, soft starters). The infeed transformer must always be dimensioned such that the voltage dip when starting the motor remains within the permissible tolerance. If the infeed transformer is dimensioned with only a small margin, it is best for the control voltage to be supplied from a separate circuit (independently of the main voltage) in order to avoid the potential switching off of the soft starter.

For dimensioning soft starters, we recommend our Simulation Tool for Soft Starters (STS), see page 6/9 or our Technical Support, www.siemens.com/support-request.

Recommended parameters for the initial commissioning of our SIRIUS 3RW soft starters are listed in every report of our Simulation Tool for Soft Starters (STS). In addition, our High Performance soft starters provide support by means of their commissioning wizards.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

Motor feeders with soft starters

The type of coordination according to which the motor feeder with soft starter is mounted depends on the application-specific requirements. Normally, fuseless mounting (combination of motor starter protector/circuit breaker and soft starter) is sufficient.

If type of coordination "2" is to be fulfilled, then semiconductor fuses must be fitted in the motor feeder.

ToC 1 Type of coordination "1" according to IEC 60947-4-1: After a short-circuit incident, the unit is defective and therefore unsuitable for further use (protection of persons and system guaranteed).

ToC 2 Type of coordination "2" according to IEC 60947-4-1: After a short-circuit incident the unit is suitable for further use (protection of persons and system guaranteed).

The type of coordination refers to soft starters in combination with the stipulated protective device (motor starter protector/circuit breaker, fuse), not to any additional components in the feeder.

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

Feeder tests and results

To keep the scope of feeder tests with SIRIUS 3RW soft starters within economically reasonable limits, tests were conducted with feeder components (motor starter protectors/circuit breakers, fuses) that cover the greatest number of use cases (different soft starter versions depending on, for example, line voltage, connection method, or necessary overdimensioning). For the combined tests that were conducted, the values for the short-circuit breaking capacity I_q in kA were determined and documented.

If the short-circuit breaking capacity is the same, of course, smaller motor starter protectors/circuit breakers or fuses can also be used for the selected soft starter provided the dimensioning of the short-circuit components is suitable for the connected three-phase motor and the line protection for the cables used. For type of coordination "2" (with semiconductor protection), it is also necessary to compare the characteristics because the protection function would no longer be completely ensured if too small a fuse were selected. If the soft starter does not have a motor protection function, the motor protection must also be dimensioned appropriately.

Setting the motor current

If circuit breakers with an overload release are used (e.g. SIRIUS 3RV20 motor starter protector), we recommend activating the motor protection function of the SIRIUS 3RW soft starter to protect the motor and setting the soft starter to the rated operational current I_e of the motor. We recommend setting the motor starter protector/circuit breaker in such a way that it provides line protection but does not usually trip before the soft starter when a motor overload occurs.

Line protection and motor protection

Line protection and motor protection are not ensured in all operating cases, depending on:

- How the motor feeder is constructed (e.g. with fuses or motor starter protectors/circuit breakers)
- Whether the SIRIUS 3RW soft starters are operated within the specification relevant for the tests (IEC 60947-4-2)
- Or whether the documented constraints (see page 6/8) have been observed

There are operating states of the thyristors (caused, for example, by high starting frequencies or heavy starting) that do not permit an overload to be disconnected by the SIRIUS 3RW soft starter. These cases are very rare but can not be ruled out in all cases.

In accordance with IEC 60947-4-2, the SIRIUS 3RW soft starters are dimensioned and checked for operation with up to 8 times the rated operational current I_e . For currents larger than this, reliable disconnection of an overcurrent by the SIRIUS 3RW soft starter is not ensured. Such large overcurrents have to be disconnected by a switching device at a higher level (e.g. by a circuit breaker or a fuse in conjunction with an optional line contactor).

Motor protection by the SIRIUS 3RW soft starter is ensured for currents up to 8 times the rated operational current I_e in any case. Line protection is covered by the upstream motor starter protector/circuit breaker or fuse. These motor feeder components must be dimensioned accordingly and the cable cross-sections must be chosen to match.

Line protection

Line protection in motor feeders with soft starters is always covered by a fuse or a motor starter protector/circuit breaker both in case of an overload and in case of a short circuit. The motor starter protector/circuit breaker must have an overload release. That is the case for motor starter protectors (e.g. SIRIUS 3RV20).

Circuit breakers without an overload release (e.g. SIRIUS 3RV23 motor starter protectors) must not be used because they do not provide overload protection. The feeder tests for these were therefore not performed. If the motor feeder with SIRIUS 3RW soft starters is configured without a fuse, motor starter protectors must be used that ensure tripping on an overload in all cases.

Motor protection

If fuses are used to provide protection against overload and short circuit of the cables, the motor is protected by the SIRIUS 3RW soft starter. If the constraints (simple starting conditions Class 10, listed maximum values for starting current, starting time and number of starts per hour) of page 6/8 are observed, the motor feeders can be configured according to IEC as described in the section about soft starters (an optional line contactor is not required). If these preconditions are met, the SIRIUS 3RW soft starters are able to trip on overloads to protect the motor in any case.

In other starting conditions and on heavy starting, the following must be considered:

Trip classes

Tested fuseless switchgear assemblies comprising SIRIUS 3RW soft starters and motor starter protectors only comply with Class 10.

To configure tested motor feeders, for example, for Class 20 or Class 30, fuses must be used together with SIRIUS 3RW soft starters.

Line contactor

In applications with high starting frequencies or heavy starting as of Class 20, we recommend combining fuses with the use of an upstream line contactor so that a motor overload is disconnected by the fault signaling contact of the soft starter in any case (that is, even in rare cases in which disconnection by the SIRIUS 3RW soft starter is no longer possible due to the operating state of the thyristors).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

ATEX/IECEX – certified motor overload protectionAmbient temperature during operation

The SIRIUS 3RW soft starters are approved for operation in a temperature range of -25 to +60 °C.

Please take into account derating of the rated operational current for ambient temperatures above 40 °C.

For more information, see [Equipment Manuals and the technical product data sheet of the selected soft starter](#).

Trip class (electronic overload protection)

The motor and cables must be dimensioned for the selected trip class.

The rated data of the soft starters refer to normal starting (Class 10). For heavy starting (> Class 10), the soft starter may need to be oversized as only a rated motor current that is lower than the soft starter rated current can be set.

Short-circuit protection

The SIRIUS 3RW soft starter does not have short-circuit protection. Short-circuit protection must be ensured.

Line protection

Avoid impermissibly high cable surface temperatures by correctly dimensioning the cross-sections.

The cable cross-section must be adequately dimensioned.

Line contactor or additional undervoltage release on the motor starter protector/circuit breaker

In many ATEX/IECEX applications no additional measures (e.g. the use of a line contactor) are necessary with regard to the motor feeder configuration.

The operation of the selected soft starter may, depending on the amplitude of the line voltage and the type of motor connection (standard (inline) circuit or inside-delta circuit), result in the loss of the certified motor overload protection according to ATEX/IECEX if one of the two remedial measures listed below is not implemented.

Remedial measures

- An additional line contactor in the main circuit
- An additional undervoltage release for a motor feeder configuration with a motor starter protector/circuit breaker

The line contactor or the undervoltage release are connected to error outputs 95, 96 and 98 of the selected soft starter.

Note:

For ATEX/IECEX applications, the accompanying information on parameterization and commissioning must be observed in the ATEX/IECEX chapters of the [Equipment Manual](#) for the selected soft starter.

Article number scheme

Product versions	Article number	
Device type	High Performance soft starters	3RW55 □ □ – □ □ □ □ □ □
	General Performance soft starters	3RW52 □ □ – □ □ □ □ □ □
	Basic Performance soft starters	3RW50 □ □ – □ □ □ □ □ □
		3RW40 □ □ – □ □ □ □ □ □
	3RW30 □ □ – □ □ □ □ □ □	
Size/rated operational current I_e	e.g. 15 = 25 A in size S1	□ □
Connection type	e.g. 1 = screw terminal	□
Soft starter functionality	e.g. AC = with bypass and analog output, 3-phase controlled	□ □
Rated control supply voltage U_s	e.g. 0 = 24 V AC/DC	□
Rated operational voltage U_e	e.g. 4 = 200 ... 480 V AC	□
Example		3RW52 1 5 – 1 A C 0 4

Note:

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

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General data

Benefits

Can be flexibly deployed in many applications

Strong portfolio: wide range of matching products

- The right hardware for all requirements, soft starters for tasks ranging from simple to demanding starting in Basic, General and High Performance versions
- Extensive portfolio for individual expansion: Optional HMIs for installation in the device or mounting on the control cabinet door
- Communication via PROFINET, PROFIBUS, EtherNet/IP and Modbus
- Design enclosure with removable terminals, space-saving thanks to compact design and rugged thanks to coated printed circuit boards
- Sustainable product design (EcoTech-certified)
- Can be used worldwide thanks to numerous certificates and approvals: IEC, UL, CSA, CCC, ATEX/IECEX, shipbuilding

Intelligent operation: concentrated, application-specific functionality

- Can be used in a wide variety of applications: Pumping, ventilating, compressing, conveying and processing
- Integrated, self-learning automatic parameterization depending on motor starting conditions
- Application-specific functionality such as pump cleaning and pump stop
- Condition monitoring: Current and power monitoring with warning and alarm limits, starting time monitoring

Efficient switching: hybrid switching technology on board

- Energy-efficient switching and mechanical protection of the drive train thanks to soft starters with hybrid switching technology
- Low-wear switching extends the service life of the devices
- Soft starting prevents current peaks, thereby increasing the network stability
- Protection against disturbances in the application: Mechanical protection for the drive train

Ready for a digital future: data available whenever and wherever needed

- Support from tools and data during engineering
- Simulation Tool for Soft Starters for support during product selection
- Very simple, standardized commissioning and configuration via Soft Starter ES in TIA Portal
- Integration in the automation system via communication links
- Data availability and analysis: Large volumes of data at any time and anywhere, even in Insights Hub

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

SiePortal, see www.siemens.com/product_catalog_siep?3RW55

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw55

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or

<https://support.industry.siemens.com/cs/ww/en/view/101494917>

SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>

SIRIUS 3RW soft starter block library for SIMATIC PCS 7, see page 6/10 or <https://support.industry.siemens.com/cs/ww/en/view/109770336>

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

SIRIUS Sim, see page 6/10 or

<https://support.industry.siemens.com/cs/ww/en/view/109763750>

Conversion tool, see www.siemens.com/conversion-tool

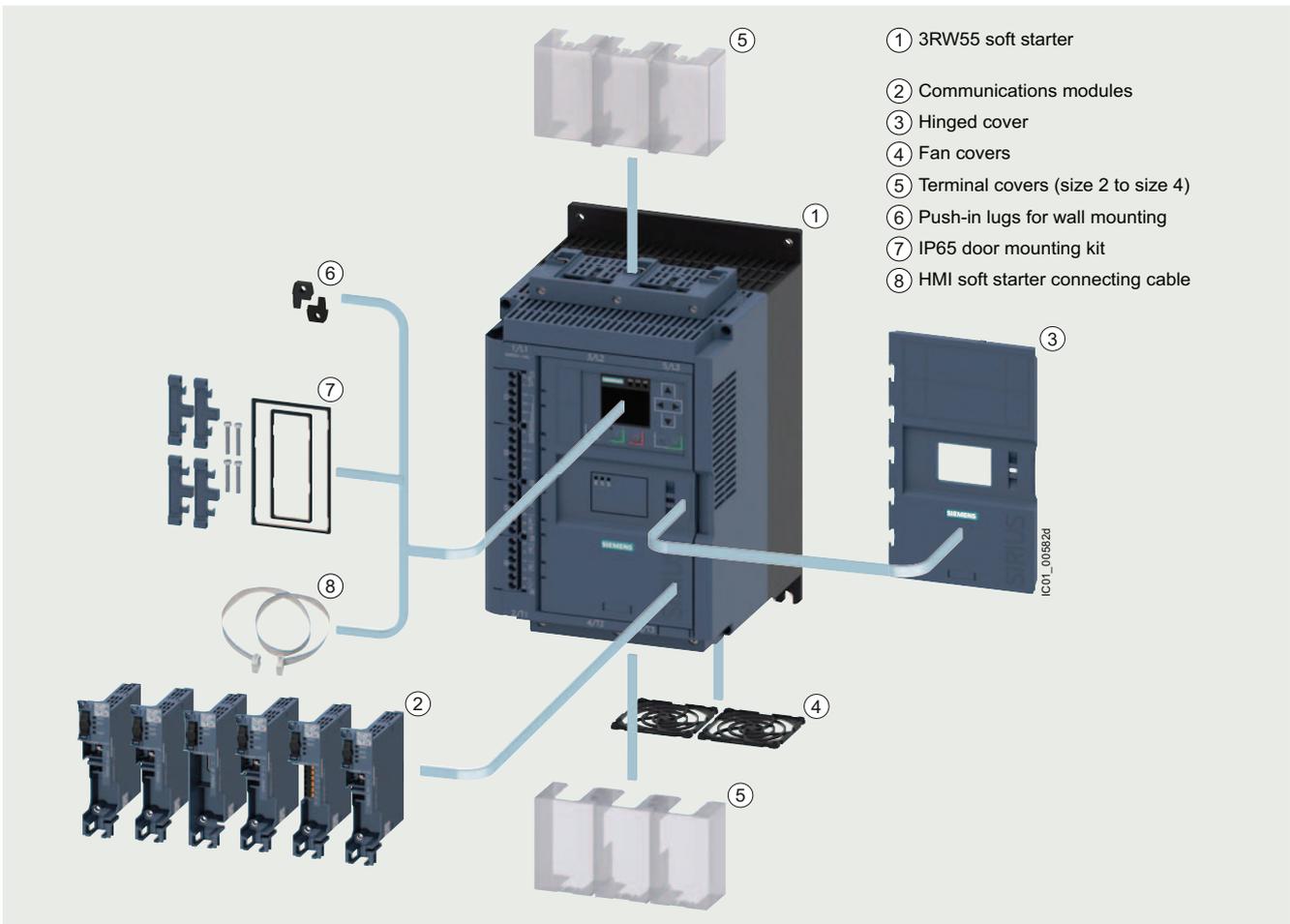


SIRIUS 3RW55 soft starters device family

Equipped with the utmost functionality, the SIRIUS 3RW55 High Performance soft starters confidently handle even difficult starting and stopping operations. Thanks to innovative torque control, the device can be used for drives with an output of between 5.5 kW and 1 200 kW (at 400 V).

The functions have been specially designed to offer maximum user friendliness. The HMI (with color display, local interface and a slot for micro SD memory card) and plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW55 soft starters offer efficient switching for long-term, energy-saving use.



SIRIUS 3RW55 High Performance soft starter with accessories (see page 6/37 onwards)

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Automatic parameterization	Extremely easy commissioning and reliability even under changing load conditions
Hybrid switching technology and 3-phase motor control	Minimum power loss and optimum/symmetrical motor control
TIA integration – communications modules optional	Efficient configuration and maximum flexibility in automation engineering
Removable HMI with color display, local interface, slot for micro SD memory card	Maximum flexibility with regard to user interface and intuitive menu guidance
Pump stop and torque control	Reduced mechanical loading and optimum pump stop control
Certified according to ATEX/IECEX Directive	Suitable for the starting of explosion-proof motors
System redundancy S2	Simple and straight-forward integration into fault-tolerant automation systems
Direct integration in Insights Hub via the OPC UA server	Worldwide data availability for optimal plant operation

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25099/td>
Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753752>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25099/faq>
Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Article number

3RW551.

3RW552., 3RW553.

3RW554.

3RW555.

-.HA.4

-.HA.5

-.HA.4

-.HA.6

-.HA.4

-.HA.6

-.HA.4

-.HA.6

Installation/fixing/dimensions

Width x height x depth

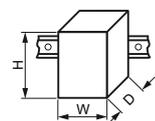
mm

170 x 275 x 152

185 x 306 x 203

210 x 393 x 203

478 x 764 x 241



Type of mounting

Screw fixing

Mounting position

Vertical (can be rotated +/- 90° and tilted +/- 22.5° forward or backward)

Distance to be maintained with side-by-side mounting

- Above mm 100
- At the side mm 5
- Below mm 75

Installation altitude at height above sea level, maximum¹⁾

m

5 000

2 000

5 000

2 000

5 000

2 000

Degree of protection IP on the front according to IEC 60529

IP20

IP00; IP20 with cover

IP00

Touch protection on the front according to IEC 60529

Finger-safe for vertical touching from the front

Finger-safe for vertical touching from the front with cover

--

Ambient conditions

Ambient temperature

- During operation²⁾ °C -25 ... +60
- During storage and transport °C -40 ... +80 -25 ... +80 -40 ... +80

Environmental category according to IEC 60721

- During operation 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
- During storage 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
- During transport 2K2, 2C1, 2S1, 2M2 (max. height of fall 0,3 m)

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

²⁾ Observe derating above 40 °C.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Article number	3RW55...-HA0.	3RW55...-HA1.
Control circuit/control		
Control supply voltage		
• At AC/DC	V 24/24	--/--
• At AC	V --	110 ... 250
• Relative negative tolerance/relative positive tolerance with AC	% -20/20	-15/10
• Relative negative tolerance/relative positive tolerance with DC	% -20/20	--/--
Frequency of the control supply voltage		
• Relative negative tolerance/relative positive tolerance	Hz 50 ... 60	
	% -10/10	
Type of overvoltage protection		
Varistors		
Type of short-circuit protection for control circuit¹⁾		
Fuse 4 A gG ($I_{cu} = 1$ kA), fuse 6 A quick-response ($I_{cu} = 1$ kA), MCB C1 ($I_{cu} = 600$ A), MCB C6 ($I_{cu} = 300$ A)		

¹⁾ Not included in scope of supply.

Article number	3RW551...-HA.4	3RW552...-HA.4 3RW553...-HA.4 3RW554...-HA.4 3RW555...-HA.4	3RW551...-HA.5	3RW552...-HA.6 3RW553...-HA.6 3RW554...-HA.6 3RW555...-HA.6
Power electronics				
Operational voltage	V 200 ... 480		200 ... 600	200 ... 690
• Relative negative tolerance/relative positive tolerance	% -15/10			
Operational voltage for inside-delta circuit	V 200 ... 480		200 ... 600	
• Relative negative tolerance/relative positive tolerance	% -15/10			
Operating frequency	Hz 50 ... 60			
• Relative negative tolerance/relative positive tolerance	% -10/10			
Blocking voltage of thyristor, maximum	V 1 600	1 400	1 600	1 800
Minimum load [%]¹⁾	% 10			
Maximum cable length between soft starter and motor	m 800			

¹⁾ Relative to set I_e .

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Type		3RW5513	3RW5514	3RW5515	3RW5516	3RW5517
Rated operational current I_e	A	13	18	25	32	38
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
Permissible rated motor current and starts/h						
Normal starting (Class 10A)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 5 s	1/h	43	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18	18
• 350% I_M						
- Startup time 5 s	1/h	28	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10	10
Normal starting (Class 10E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 10 s	1/h	21	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8	8
• 350% I_M						
- Startup time 10 s	1/h	13	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4	4
Heavy starting (Class 20E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I_M						
- Startup time 20 s	1/h	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4
• 350% I_M						
- Startup time 20 s	1/h	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	26/23.6/21.2	29/26/23
• 300% I_M						
- Startup time 30 s	1/h	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3
• 350% I_M						
- Startup time 30 s	1/h	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M						
• Minimum/maximum	A	2.5/13	3.5/18	5/25	6.5/32	7.5/38
• Minimum/maximum in inside-delta circuits	A	4.3/22.5	6.1/31.1	8.7/43.3	11.3/55.4	13/65.8

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Type		3RW5521	3RW5524	3RW5525	3RW5526	3RW5527
Rated operational current I_e	A	25	47	63	77	93
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
Permissible rated motor current and starts/h						
Normal starting (Class 10A)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M						
- Startup time 5 s	1/h	43	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18	18
• 350% I_M						
- Startup time 5 s	1/h	28	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10	10
Normal starting (Class 10E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M						
- Startup time 10 s	1/h	21	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8	8
• 350% I_M						
- Startup time 10 s	1/h	13	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4	4
Heavy starting (Class 20E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M						
- Startup time 20 s	1/h	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4
• 350% I_M						
- Startup time 20 s	1/h	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	25/22.3/19.6	43.4/38/34.4	53/48/43	68/62/56	82.5/75.5/65
• 300% I_M						
- Startup time 30 s	1/h	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3
• 350% I_M						
- Startup time 30 s	1/h	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M						
• Minimum/maximum	A	5/25	10/47	13/63	16/77	19/93
• Minimum/maximum in inside-delta circuits	A	8.7/43.3	17.3/81.4	22.5/109	27.7/133	32.9/161

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Type		3RW5534	3RW5535	3RW5536
Rated operational current I_e	A	113	143	171
Power electronics				
Load rating with rated operational current I_e				
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	113/101/89	143/128/118	171/153/141
Permissible rated motor current and starts/h				
Normal starting (Class 10A)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	143/128/118	171/153/141
• 300% I_M				
- Startup time 5 s	1/h	43	43	43
- Startup time 10 s	1/h	18	18	18
• 350% I_M				
- Startup time 5 s	1/h	28	28	28
- Startup time 10 s	1/h	10	10	10
Normal starting (Class 10E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	143/128/118	171/153/141
• 300% I_M				
- Startup time 10 s	1/h	21	21	21
- Startup time 20 s	1/h	8	8	8
• 350% I_M				
- Startup time 10 s	1/h	13	13	13
- Startup time 20 s	1/h	4	4	4
Heavy starting (Class 20E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	109/97/85	128/113/103	141/129/117
• 300% I_M				
- Startup time 20 s	1/h	10	10	10
- Startup time 40 s	1/h	4	4	4
• 350% I_M				
- Startup time 20 s	1/h	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5
Heavy starting (Class 30E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	89/81/74	108/98/88	117/105/93
• 300% I_M				
- Startup time 30 s	1/h	7	7	7
- Startup time 60 s	1/h	3	3	3
• 350% I_M				
- Startup time 30 s	1/h	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8
Adjustable rated motor current I_M				
• Minimum/maximum	A	23/113	29/143	34/171
• Minimum/maximum in inside-delta circuits	A	39.8/195	50.2/247	58.9/296

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Type		3RW5543	3RW5544	3RW5545	3RW5546	3RW5547	3RW5548
Rated operational current I_e	A	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current I_e							
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts/h							
Normal starting (Class 10A)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I_M							
- Startup time 5 s	1/h	43	43	43	43	40	20
- Startup time 10 s	1/h	18	18	18	18	17	6
• 350% I_M							
- Startup time 5 s	1/h	28	28	28	28	26	9
- Startup time 10 s	1/h	10	10	10	10	10	1
Normal starting (Class 10E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	551/490/445
• 300% I_M							
- Startup time 10 s	1/h	21	21	21	21	17	8
- Startup time 20 s	1/h	8	8	8	8	6	1
• 350% I_M							
- Startup time 10 s	1/h	13	13	13	13	10	2
- Startup time 20 s	1/h	4	4	4	4	2	--
Heavy starting (Class 20E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	162/146/130	200/180/160	231/207/183	258/230/202	272/254/236	284/262/240
• 300% I_M							
- Startup time 20 s	1/h	10	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4	4
• 350% I_M							
- Startup time 20 s	1/h	7	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	138/122/106	160/140/120	183/159/135	202/174/160	210/190/170	220/200/180
• 300% I_M							
- Startup time 30 s	1/h	7	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3	3
• 350% I_M							
- Startup time 30 s	1/h	4	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M							
• Minimum/maximum	A	42/210	50/250	63/315	74/370	94/470	114/570
• Minimum/maximum in inside-delta circuits	A	72.7/363	86.6/433	109.1/545	128.2/640	162.8/814	197.5/987

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Type		3RW5552	3RW5553	3RW5554	3RW5556	3RW5558
Rated operational current I_e	A	630	720	840	1 100	1 280
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		630/561/510	720/641/580	840/748/670	1 100/979/890	1 280/1 139/1 030
Permissible rated motor current and starts/h						
Normal starting (Class 10A)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	630/561/510	720/641/580	840/748/670	1 100/979/890	1 280/1 139/1 030
• 300% I_M						
- Startup time 5 s	1/h	43	43	42	43	32
- Startup time 10 s	1/h	18	18	18	18	12
• 350% I_M						
- Startup time 5 s	1/h	28	28	25	27	17
- Startup time 10 s	1/h	10	10	10	9	4
Normal starting (Class 10E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	630/561/510	720/641/580	840/748/670	1 100/979/890	1 225/1 130/1 030
• 300% I_M						
- Startup time 10 s	1/h	21	21	19	18	15
- Startup time 20 s	1/h	8	8	7	7	5
• 350% I_M						
- Startup time 10 s	1/h	13	13	10	9	1
- Startup time 20 s	1/h	4	4	2	2	1
Heavy starting (Class 20E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	500/450/400	520/470/420	570/520/470	920/840/760	980/900/810
• 300% I_M						
- Startup time 20 s	1/h	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4
• 350% I_M						
- Startup time 20 s	1/h	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	380/340/300	400/360/320	420/380/340	740/670/600	790/720/650
• 300% I_M						
- Startup time 30 s	1/h	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3
• 350% I_M						
- Startup time 30 s	1/h	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M						
• Minimum/maximum	A	114/630	144/720	168/840	220/1 100	258/1 280
• Minimum/maximum in inside-delta circuits	A	197.5/987	249.4/1 247	291/1 454	381.1/1 905	446.9/2 217

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", Class 10,
short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

Soft starters	Motor starter protectors/circuit breakers for 400 V systems				Motor starter protectors/circuit breakers for 500 V systems			
	Q11 Type	I_q kA	Q1 Type	I_q kA	Q11 Type	I_q kA	Q1 Type	I_q kA
Type of coordination "1"	Standard (inline) circuit				Inside-delta circuit			
3RW5513	3RV2032-4TA10	65	3RV2032-4TA10	18	3RV2032-4DA10	65	3RV2032-4DA10	18
3RW5514	3RV2032-4DA10	65	3RV2032-4DA10	15	3RV2032-4EA10	65	3RV2032-4EA10	15
3RW5515	3RV2032-4EA10	65	3RV2032-4EA10	15	3RV2032-4VA10	65	3RV2032-4VA10	15
3RW5516	3RV2032-4VA10	65	3RV2032-4VA10	10	3RV2032-4JA10	65	3RV2032-4JA10	10
3RW5517	3RV2032-4WA10	65	3RV2032-4WA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5521	--	--	--	--	--	--	--	--
3RW5522	3RV2032-4JA10	65	3RV2032-4JA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5525	3VA2163-7MN32-0AA0	65	3VA2163-7MN32-0AA0	20	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20
3RW5526	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20	3VA2216-7MN32-0AA0	65	3VA2216-7MN32-0AA0	20
3RW5527	3VA2216-7MN32-0AA0	15	3VA2216-7MN32-0AA0	10	3VA2220-7MN32-0AA0	15	3VA2220-7MN32-0AA0	10
3RW5534	3VA2216-7MN32-0AA0	65	--	--	3VA2220-7MN32-0AA0	65	--	--
3RW5535	3VA2220-7MN32-0AA0	65	--	--	3VA2325-7MN32-0AA0	65	--	--
3RW5536	3VA2325-7MN32-0AA0	30	3VA2325-7MN32-0AA0	10	3VA2440-7MN32-0AA0	30	3VA2440-7MN32-0AA0	10
3RW5543	3VA2325-7MN32-0AA0	65	3VA2325-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5544	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65
3RW5545	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5546	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5547	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65
3RW5548	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65
3RW5552	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2716-7AB05-0AA0	65	3VA2716-7AB05-0AA0	65
3RW5553	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2716-7AB05-0AA0	65	3VA2716-7AB05-0AA0	65
3RW5554	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2716-7AB05-0AA0	65	3VA2716-7AB05-0AA0	65
3RW5556	3VA2716-7AB05-0AA0	65	3VA2716-7AB05-0AA0	65	--	--	--	--
3RW5558	3VA2716-7AB05-0AA0	65	3VA2716-7AB05-0AA0	65	--	--	--	--

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

When using braking functions, the use of fuses is recommended to avoid the risk of false tripping of 3VA circuit breakers with electronic motor protection function during braking.

In motor feeder tests with soft starters conducted in 690 V systems, demonstrable short-circuit breaking capacities could only be achieved using fuses ($I_q > 5$ to 10 kA).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$ Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

Soft starters	Standard (inline) circuit			Inside-delta circuit					
	gG class fuse	Line contactor (optional)		gG class fuse	Line contactor (optional)		gG class fuse	Line contactor (optional)	
Q11 Type	F1 Type	Q21 Type	Q21 Type	F1 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type
	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V	for systems up to 600 V	for systems up to 480 V in the supply cable	for systems up to 600 V in the supply cable	for systems up to 480 V in the delta	for systems up to 600 V in the delta	
Type of coordination "1"	Standard (inline) circuit			Inside-delta circuit					
3RW5513	3NA3820-6	3RT2025	3RT2025	3NA3820-6	3RT2027	3RT2035	3RT2025	3RT2025	3RT2025
3RW5514	3NA3820-6	3RT2026	3RT2027	3NA3820-6	3RT2027	3RT2037	3RT2026	3RT2027	3RT2027
3RW5515	3NA3822-6	3RT2027	3RT2037	3NA3822-6	3RT2036	3RT2037	3RT2027	3RT2037	3RT2037
3RW5516	3NA3824-6	3RT2035	3RT2037	3NA3824-6	3RT2037	3RT2038	3RT2035	3RT2037	3RT2037
3RW5517	3NA3824-6	3RT2035	3RT2037	3NA3824-6	3RT2038	3RT2046	3RT2035	3RT2037	3RT2037
3RW5521	3NA3824-6	3RT2027	3RT2037	3NA3824-6	3RT2036	3RT2037	3RT2027	3RT2037	3RT2037
3RW5524	3NA3824-6	3RT2036	3RT2037	3NA3824-6	3RT2046	3RT2047	3RT2036	3RT2037	3RT2037
3RW5525	3NA3830-6	3RT2037	3RT2046	3NA3830-6	3RT2047	3RT2054	3RT2037	3RT2046	3RT2046
3RW5526	3NA3132-6	3RT2038	3RT2046	3NA3132-6	3RT1055	3RT1055	3RT2038	3RT2046	3RT2046
3RW5527	3NA3136-6	3RT2046	3RT2047	3NA3136-6	3RT1056	3RT1056	3RT2046	3RT2047	3RT2047
3RW5534	3NA3244-6	3RT1054	3RT1054	3NA3244-6	3RT1064	3RT1064	3RT1054	3RT1054	3RT1054
3RW5535	3NA3244-6	3RT1055	3RT1055	3NA3244-6	3RT1065	3RT1065	3RT1055	3RT1055	3RT1055
3RW5536	3NA3365-6	3RT1056	3RT1064	3NA3365-6	3RT1066	3RT1075	3RT1056	3RT1064	3RT1064
3RW5543	2 x 3NA3354-6	3RT1064	3RT1064	2 x 3NA3354-6	3RT1075	3RT1075	3RT1064	3RT1064	3RT1064
3RW5544	2 x 3NA3354-6	3RT1065	3RT1065	2 x 3NA3354-6	3RT1076	3RT1076	3RT1065	3RT1065	3RT1065
3RW5545	2 x 3NA3365-6	3RT1075	3RT1075	2 x 3NA3365-6	3TF68	3TF68	3RT1075	3RT1075	3RT1075
3RW5546	2 x 3NA3365-6	3RT1075	3RT1075	2 x 3NA3365-6	3TF69	3TF69	3RT1075	3RT1075	3RT1075
3RW5547	2 x 3NA3365-6	3RT1076	3RT1276	2 x 3NA3365-6	3TF69	3TF69	3RT1076	3RT1276	3RT1276
3RW5548	2 x 3NA3365-6	3TF68	3TF68	2 x 3NA3365-6	--	--	3TF68	3TF68	3TF68
3RW5552	2 x 3NA3365-6	3TF68	3TF69	--	--	--	3TF68	3TF69	3TF69
3RW5553	2 x 3NA3365-6	3TF69	3TF69	--	--	--	3TF69	3TF69	3TF69
3RW5554	2 x 3NA3365-6	--	--	--	--	--	--	--	--
3RW5556	3 x 3NA3365-6	--	--	--	--	--	--	--	--
3RW5558	3 x 3NA3365-6	--	--	--	--	--	--	--	--

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to 600 V.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

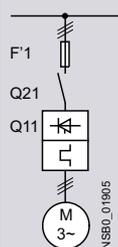
Motor feeders according to IEC with 3NE1/3NB3 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gR/gS class fuse	Line contactor (optional)	
	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V
Q11	F'1	Q21	Q21
Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit		
	<small>ToC 2</small>		
3RW5513	3NE1815-0	3RT2025	3RT2025
3RW5514	3NE1802-0	3RT2026	3RT2027
3RW5515	3NE1817-0	3RT2027	3RT2037
3RW5516	3NE1818-0	3RT2035	3RT2037
3RW5517	3NE1820-0	3RT2035	3RT2037
3RW5521	3NE1817-0	3RT2027	3RT2037
3RW5524	3NE1021-2	3RT2036	3RT2037
3RW5525	3NE1022-0	3RT2037	3RT2046
3RW5526	3NE1224-0	3RT2038	3RT2046
3RW5527	3NE1224-0	3RT2046	3RT2047
3RW5534	3NE1225-0	3RT1054	3RT1054
3RW5535	3NE1227-0	3RT1055	3RT1055
3RW5536	3NE1230-0	3RT1056	3RT1064
3RW5543	3NE1230-2 ¹⁾	3RT1064	3RT1064
3RW5544	3NE1331-0	3RT1065	3RT1065
3RW5545	3NE1334-2	3RT1075	3RT1075
3RW5546	3NE1334-2	3RT1075	3RT1075
3RW5547	3NE1436-2	3RT1076	3RT1276
3RW5548	3NE1437-2	3TF68	3TF68
3RW5552	3NB3350-1KK26	3TF68	3TF69
3RW5553	3NB3351-1KK26	3TF69	3TF69
3RW5554	3NB3351-1KK26	--	--
3RW5556	3NB3354-1KK26	--	--
3RW5558	3NB3357-1KK26	--	--

¹⁾ For systems up to 500 V.

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" ([see page 6/27](#)).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

Motor feeders according to IEC with 3NE8/3NE3/3NC3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q1} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders
with soft starters, see page 6/12.

Soft starters	Standard (inline) circuit				Inside-delta circuit							
	gG class fuse	aR class fuse	Line contactor (optional)		gG class fuse	aR class fuse	Line contactor (optional)					
Q11 Type	for systems up to 690 V	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V	for systems up to 600 V	for systems up to 600 V	for systems up to 480 V in the supply cable	for systems up to 600 V in the supply cable	for systems up to 480 V in the delta	for systems up to 600 V in the delta		
Type of coordination "2"	Standard (inline) circuit				Inside-delta circuit							
3RW5513	3NA3820-6	3NE8017-1	3RT2025	3RT2025	3NA3820-6	3NE8017-1	3RT2027	3RT2035	3RT2025	3RT2025		
3RW5514	3NA3820-6	3NE8020-1	3RT2026	3RT2027	3NA3820-6	3NE8020-1	3RT2027	3RT2037	3RT2026	3RT2027		
3RW5515	3NA3822-6	3NE8021-1	3RT2027	3RT2037	3NA3822-6	3NE8021-1	3RT2036	3RT2037	3RT2027	3RT2037		
3RW5516	3NA3824-6	3NE8022-1	3RT2035	3RT2037	3NA3824-6	3NE8022-1	3RT2037	3RT2038	3RT2035	3RT2037		
3RW5517	3NA3824-6	3NE8024-1	3RT2035	3RT2037	3NA3824-6	3NE8024-1	3RT2038	3RT2046	3RT2035	3RT2037		
3RW5521	3NA3824-6	3NE8021-1	3RT2027	3RT2037	3NA3824-6	3NE8021-1	3RT2036	3RT2037	3RT2027	3RT2037		
3RW5524	3NA3824-6	3NE8024-1	3RT2036	3RT2037	3NA3824-6	3NE8024-1	3RT2046	3RT2047	3RT2036	3RT2037		
3RW5525	3NA3830-6	3NE3227	3RT2037	3RT2046	3NA3830-6	3NE3227	3RT2047	3RT1054	3RT2037	3RT2046		
3RW5526	3NA3132-6	3NE3227	3RT2038	3RT2046	3NA3132-6	3NE3227	3RT1055	3RT1055	3RT2038	3RT2046		
3RW5527	3NA3136-6	3NE3227	3RT2046	3RT2047	3NA3136-6	3NE3227	3RT1056	3RT1056	3RT2046	3RT2047		
3RW5534	3NA3244-6	3NE3231	3RT1054	3RT1054	3NA3244-6	3NE3231	3RT1064	3RT1064	3RT1054	3RT1054		
3RW5535	3NA3244-6	3NE3233	3RT1055	3RT1055	3NA3244-6	3NE3233	3RT1065	3RT1065	3RT1055	3RT1055		
3RW5536	3NA3365-6	3NE3334-0B	3RT1056	3RT1064	3NA3365-6	3NE3334-0B	3RT1066	3RT1075	3RT1056	3RT1064		
3RW5543	2 x 3NA3354-6	3NE3333	3RT1064	3RT1064	2 x 3NA3354-6	3NE3333	3RT1075	3RT1075	3RT1064	3RT1064		
3RW5544	2 x 3NA3354-6	3NE3335	3RT1065	3RT1065	2 x 3NA3354-6	3NE3335	3RT1076	3RT1076	3RT1065	3RT1065		
3RW5545	2 x 3NA3365-6	3NE3336	3RT1075	3RT1075	2 x 3NA3365-6	3NE3336	3TF68	3TF68	3RT1075	3RT1075		
3RW5546	2 x 3NA3365-6	3NE3340-8	3RT1075	3RT1075	2 x 3NA3365-6	3NE3340-8	3TF69	3TF69	3RT1075	3RT1075		
3RW5547	2 x 3NA3365-6	3NE3340-8	3RT1076	3RT1276	2 x 3NA3365-6	3NE3340-8	3TF69	3TF69	3RT1076	3RT1276		
3RW5548	2 x 3NA3365-6	3NC3342-1U	3TF68	3TF68	2 x 3NA3365-6	3NC3342-1U	--	--	3TF68	3TF68		
3RW5552	2 x 3NA3365-6	3NC3343-1U	3TF68	3TF69	--	3NC3343-1U	--	--	3TF68	3TF69		
3RW5553	2 x 3NA3365-6	3NC3343-1U	3TF69	3TF69	--	3NC3343-1U	--	--	3TF69	3TF69		
3RW5554	2 x 3NA3365-6	3NC3343-1U	--	--	--	3NC3343-1U	--	--	--	--		
3RW5556	3 x 3NA3365-6	3 x 3NE3340-8	--	--	--	3 x 3NE3340-8	--	--	--	--		
3RW5558	3 x 3NA3365-6	3 x 3NE3340-8	--	--	--	3 x 3NE3340-8	--	--	--	--		

Note:

The specified short-circuit breaking capacities I_{q1} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/24). In these cases, optional line contactors can be dispensed with.

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to 600 V.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Reversing operation with reversing contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Suggested circuit, see 3RW55 Equipment Manual, Appendix A.3)

Soft starters	Reversing contactor assembly		Reversing contactor	
	for systems up to 480 V	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V
Q11	Q21/Q22	Q21/Q22	Q21/Q22	Q21/Q22
Type	Type	Type	Type	Type
3RW5513	3RA2325	3RA2325	3RT2025	3RT2025
3RW5514	3RA2326	3RA2327	3RT2026	3RT2027
3RW5515	3RA2327	3RA2337	3RT2027	3RT2037
3RW5516	3RA2335	3RA2337	3RT2035	3RT2037
3RW5517	3RA2335	3RA2337	3RT2035	3RT2037
3RW5521	3RA2327	3RA2337	3RT2027	3RT2037
3RW5524	3RA2336	3RA2337	3RT2036	3RT2037
3RW5525	3RA2337	3RA2346	3RT2037	3RT2046
3RW5526	3RA2338	3RA2346	3RT2038	3RT2046
3RW5527	3RA2346	3RA2347	3RT2046	3RT2047
3RW5534	--	--	3RT1054	3RT1054
3RW5535	--	--	3RT1055	3RT1055
3RW5536	--	--	3RT1056	3RT1064
3RW5543	--	--	3RT1064	3RT1064
3RW5544	--	--	3RT1065	3RT1065
3RW5545	--	--	3RT1075	3RT1075
3RW5546	--	--	3RT1075	3RT1075
3RW5547	--	--	3RT1076	3RT1276
3RW5548	--	--	3TF68	3TF68
3RW5552	--	--	3TF68	3TF69
3RW5553	--	--	3TF69	3TF69
3RW5554	--	--	--	--
3RW5556	--	--	--	--
3RW5558	--	--	--	--

DC braking with braking contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Suggested circuit, see 3RW55 Equipment Manual, Appendix A.3)

Soft starters	DC braking contactor	DC braking contactor assembly		DC braking contactor assembly	
	for systems up to 400 V with 2 NC contacts + 2 NO contacts parallel	for systems up to 480 V with 3 NO contacts parallel	for systems up to 480 V with 3 NO contacts parallel	for systems up to 690 V with 3 NO contacts parallel	for systems up to 690 V with 3 NO contacts parallel
Q11	Q93	Q91	Q92	Q91	Q92
Type	Type	Type	Type	Type	Type
3RW5513	3RT2517	3RT2015	3RT2016	3RT2015	3RT2016
3RW5514	3RT2518	3RT2015	3RT2017	3RT2015	3RT2023
3RW5515	3RT2526	3RT2015	3RT2025	3RT2015	3RT2025
3RW5516	3RT2526	3RT2015	3RT2025	3RT2015	3RT2027
3RW5517	3RT2535	3RT2015	3RT2027	3RT2015	3RT2027
3RW5521	3RT2526	3RT2015	3RT2025	3RT2015	3RT2025
3RW5524	3RT2535	3RT2016	3RT2027	3RT2016	3RT2035
3RW5525	--	3RT2024	3RT2027	3RT2024	3RT2037
3RW5526	--	3RT2025	3RT2035	3RT2025	3RT2037
3RW5527	--	3RT2027	3RT2036	3RT2027	3RT2037
3RW5534	--	3RT2035	3RT2037	3RT2035	3RT2038
3RW5535	--	3RT2036	3RT2038	3RT2036	3RT2046
3RW5536	--	3RT2037	3RT2046	3RT2037	3RT2047
3RW5543	--	3RT2045	3RT2047	3RT2045	3RT1054
3RW5544	--	3RT2045	3RT1055	3RT2045	3RT1055
3RW5545	--	3RT2446	3RT1056	3RT2446	3RT1056
3RW5546	--	3RT1055	3RT1056	3RT1055	3RT1064
3RW5547	--	3RT1456	3RT1065	3RT1456	3RT1065
3RW5548	--	3RT1456	3RT1066	3RT1456	3RT1075
3RW5552	--	3RT1065	3RT1075	3RT1065	3RT1075
3RW5553	--	3RT1065	3RT1075	3RT1065	3RT1075
3RW5554	--	3RT1466	3RT1076	3RT1466	3RT1076
3RW5556	--	3RT1476	3TF68	3RT1476	3TF68
3RW5558	--	3RT1476	3TF69	3RT1476	3TF69

Selection and ordering data

For normal starting (Class 10E)

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



At 40 °C					At 50 °C				Screw terminals (only for control circuit)	Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors				Operational current	Operating power [hp] for three-phase motors					
A	at 230 V	at 400 V	at 500 V	at 690 V	A	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V	Article No.	Price per PU
						hp	hp	hp	hp		

Operational voltage 200 ... 480 V

Control supply voltage 24 V AC/DC

13	3	5.5	--	--	11.5	2	3	7.5	--	3RW5513-1HA04	3RW5513-3HA04
18	4	7.5	--	--	15.9	3	5	10	--	3RW5514-1HA04	3RW5514-3HA04
25	5.5	11	--	--	22.3	5	7.5	15	--	3RW5515-1HA04	3RW5515-3HA04
32	7.5	15	--	--	28.4	7.5	10	20	--	3RW5516-1HA04	3RW5516-3HA04
38	11	18.5	--	--	33.5	10	10	20	--	3RW5517-1HA04	3RW5517-3HA04
47	11	22	--	--	41.6	10	10	30	--	3RW5524-1HA04	3RW5524-3HA04
63	18.5	30	--	--	55.5	15	20	40	--	3RW5525-1HA04	3RW5525-3HA04
77	22	37	--	--	68	20	25	50	--	3RW5526-1HA04	3RW5526-3HA04
93	22	45	--	--	82.5	25	30	60	--	3RW5527-1HA04	3RW5527-3HA04
113	30	55	--	--	101	30	30	75	--	3RW5534-6HA04	3RW5534-2HA04
143	37	75	--	--	128	40	40	100	--	3RW5535-6HA04	3RW5535-2HA04
171	45	90	--	--	153	50	50	100	--	3RW5536-6HA04	3RW5536-2HA04
210	55	110	--	--	186	60	60	150	--	3RW5543-6HA04	3RW5543-2HA04
250	75	132	--	--	220	60	75	150	--	3RW5544-6HA04	3RW5544-2HA04
315	90	160	--	--	279	75	100	200	--	3RW5545-6HA04	3RW5545-2HA04
370	110	200	--	--	328	100	125	250	--	3RW5546-6HA04	3RW5546-2HA04
470	132	250	--	--	416	150	150	350	--	3RW5547-6HA04	3RW5547-2HA04
570	160	315	--	--	504	150	200	400	--	3RW5548-6HA04	3RW5548-2HA04
630	200	355	--	--	561	200	200	450	--	3RW5552-6HA04	3RW5552-2HA04
720	200	400	--	--	641	200	250	500	--	3RW5553-6HA04	3RW5553-2HA04
840	250	450	--	--	748	250	300	600	--	3RW5554-6HA04	3RW5554-2HA04
1 100	315	560	--	--	979	350	400	850	--	3RW5556-6HA04	3RW5556-2HA04
1 280	400	710	--	--	1 139	400	450	1 000	--	3RW5558-6HA04	3RW5558-2HA04

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters



3RW55 soft starters > Standard (inline) circuit **IE3/IE4 ready**

For normal starting (Class 10E)

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



3RW551.-3HA14

3RW552.-1HA14

3RW553.-2HA14

3RW554.-6HA14

3RW555.-2HA14

At 40 °C					At 50 °C					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors				Operational current	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V	at 690 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
A	kW	kW	kW	kW	A	hp	hp	hp	hp				

Operational voltage 200 ... 480 V

Control supply voltage 110 ... 250 V AC													
13	3	5.5	--	--	11.5	2	3	7.5	--	3RW5513-1HA14		3RW5513-3HA14	
18	4	7.5	--	--	15.9	3	5	10	--	3RW5514-1HA14		3RW5514-3HA14	
25	5.5	11	--	--	22.3	5	7.5	15	--	3RW5515-1HA14		3RW5515-3HA14	
32	7.5	15	--	--	28.4	7.5	10	20	--	3RW5516-1HA14		3RW5516-3HA14	
38	11	18.5	--	--	33.5	10	10	20	--	3RW5517-1HA14		3RW5517-3HA14	
47	11	22	--	--	41.6	10	10	30	--	3RW5524-1HA14		3RW5524-3HA14	
63	18.5	30	--	--	55.5	15	20	40	--	3RW5525-1HA14		3RW5525-3HA14	
77	22	37	--	--	68	20	25	50	--	3RW5526-1HA14		3RW5526-3HA14	
93	22	45	--	--	82.5	25	30	60	--	3RW5527-1HA14		3RW5527-3HA14	
113	30	55	--	--	101	30	30	75	--	3RW5534-6HA14		3RW5534-2HA14	
143	37	75	--	--	128	40	40	100	--	3RW5535-6HA14		3RW5535-2HA14	
171	45	90	--	--	153	50	50	100	--	3RW5536-6HA14		3RW5536-2HA14	
210	55	110	--	--	186	60	60	150	--	3RW5543-6HA14		3RW5543-2HA14	
250	75	132	--	--	220	60	75	150	--	3RW5544-6HA14		3RW5544-2HA14	
315	90	160	--	--	279	75	100	200	--	3RW5545-6HA14		3RW5545-2HA14	
370	110	200	--	--	328	100	125	250	--	3RW5546-6HA14		3RW5546-2HA14	
470	132	250	--	--	416	150	150	350	--	3RW5547-6HA14		3RW5547-2HA14	
570	160	315	--	--	504	150	200	400	--	3RW5548-6HA14		3RW5548-2HA14	
630	200	355	--	--	561	200	200	450	--	3RW5552-6HA14		3RW5552-2HA14	
720	200	400	--	--	641	200	250	500	--	3RW5553-6HA14		3RW5553-2HA14	
840	250	450	--	--	748	250	300	600	--	3RW5554-6HA14		3RW5554-2HA14	
1 100	315	560	--	--	979	350	400	850	--	3RW5556-6HA14		3RW5556-2HA14	
1 280	400	710	--	--	1 139	400	450	1 000	--	3RW5558-6HA14		3RW5558-2HA14	

Note:

For the constraints for the motor outputs specified here, see page 6/8.

6

For normal starting (Class 10E)

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



3RW551.-1HA.5



3RW551.-3HA.5

At 40 °C					At 50 °C					Screw terminals (only for control circuit) 		Spring-loaded terminals (only for control circuit) 	
Operational current A	Operating power for three-phase motors				Operational current A	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V	at 690 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
Operational voltage 200 ... 600 V													
Control supply voltage 24 V AC/DC													
13	3	5.5	7.5	--	11.5	2	3	7.5	10	3RW5513-1HA05 3RW5514-1HA05 3RW5515-1HA05 3RW5516-1HA05 3RW5517-1HA05	3RW5513-3HA05 3RW5514-3HA05 3RW5515-3HA05 3RW5516-3HA05 3RW5517-3HA05		
18	4	7.5	11	--	15.9	3	5	10	10				
25	5.5	11	15	--	22.3	5	7.5	15	20				
32	7.5	15	18.5	--	28.4	7.5	10	20	25				
38	11	18.5	22	--	33.5	10	10	20	30				
Control supply voltage 110 ... 250 V AC													
13	3	5.5	7.5	--	11.5	2	3	7.5	10	3RW5513-1HA15 3RW5514-1HA15 3RW5515-1HA15 3RW5516-1HA15 3RW5517-1HA15	3RW5513-3HA15 3RW5514-3HA15 3RW5515-3HA15 3RW5516-3HA15 3RW5517-3HA15		
18	4	7.5	11	--	15.9	3	5	10	10				
25	5.5	11	15	--	22.3	5	7.5	15	20				
32	7.5	15	18.5	--	28.4	7.5	10	20	25				
38	11	18.5	22	--	33.5	10	10	20	30				

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters



3RW55 soft starters > Standard (inline) circuit **IE3/IE4 ready**

For normal starting (Class 10E)

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



3RW552.-1HA.6



3RW553.-2HA.6



3RW554.-6HA.6



3RW555.-2HA.6

At 40 °C					At 50 °C					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors				Operational current A	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V	at 690 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
	kW	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 690 V

Control supply voltage 24 V AC/DC

25	5.5	11	15	22	22.3	5	7.5	15	20	3RW5521-1HA06	3RW5521-3HA06
47	11	22	30	45	41.6	10	10	30	40	3RW5524-1HA06	3RW5524-3HA06
63	18.5	30	37	55	55.5	15	20	40	50	3RW5525-1HA06	3RW5525-3HA06
77	22	37	45	75	68	20	25	50	60	3RW5526-1HA06	3RW5526-3HA06
93	22	45	55	90	82.5	25	30	60	75	3RW5527-1HA06	3RW5527-3HA06
113	30	55	75	110	101	30	30	75	100	3RW5534-6HA06	3RW5534-2HA06
143	37	75	90	132	128	40	40	100	125	3RW5535-6HA06	3RW5535-2HA06
171	45	90	110	160	153	50	50	100	150	3RW5536-6HA06	3RW5536-2HA06
210	55	110	132	200	186	60	60	150	150	3RW5543-6HA06	3RW5543-2HA06
250	75	132	160	250	220	60	75	150	200	3RW5544-6HA06	3RW5544-2HA06
315	90	160	200	315	279	75	100	200	250	3RW5545-6HA06	3RW5545-2HA06
370	110	200	250	355	328	100	125	250	300	3RW5546-6HA06	3RW5546-2HA06
470	132	250	315	400	416	150	150	350	450	3RW5547-6HA06	3RW5547-2HA06
570	160	315	355	560	504	150	200	400	500	3RW5548-6HA06	3RW5548-2HA06
630	200	355	400	630	561	200	200	450	600	3RW5552-6HA06	3RW5552-2HA06
720	200	400	500	710	641	200	250	500	700	3RW5553-6HA06	3RW5553-2HA06
840	250	450	560	800	748	250	300	600	800	3RW5554-6HA06	3RW5554-2HA06
1 100	315	560	710	1 000	979	350	400	850	1 100	3RW5556-6HA06	3RW5556-2HA06
1 280	400	710	900	1 200	1 139	400	450	1 000	1 250	3RW5558-6HA06	3RW5558-2HA06

Control supply voltage 110 ... 250 V AC

25	5.5	11	15	22	22.3	5	7.5	15	20	3RW5521-1HA16	3RW5521-3HA16
47	11	22	30	45	41.6	10	10	30	40	3RW5524-1HA16	3RW5524-3HA16
63	18.5	30	37	55	55.5	15	20	40	50	3RW5525-1HA16	3RW5525-3HA16
77	22	37	45	75	68	20	25	50	60	3RW5526-1HA16	3RW5526-3HA16
93	22	45	55	90	82.5	25	30	60	75	3RW5527-1HA16	3RW5527-3HA16
113	30	55	75	110	101	30	30	75	100	3RW5534-6HA16	3RW5534-2HA16
143	37	75	90	132	128	40	40	100	125	3RW5535-6HA16	3RW5535-2HA16
171	45	90	110	160	153	50	50	100	150	3RW5536-6HA16	3RW5536-2HA16
210	55	110	132	200	186	60	60	150	150	3RW5543-6HA16	3RW5543-2HA16
250	75	132	160	250	220	60	75	150	200	3RW5544-6HA16	3RW5544-2HA16
315	90	160	200	315	279	75	100	200	250	3RW5545-6HA16	3RW5545-2HA16
370	110	200	250	355	328	100	125	250	300	3RW5546-6HA16	3RW5546-2HA16
470	132	250	315	400	416	150	150	350	450	3RW5547-6HA16	3RW5547-2HA16
570	160	315	355	560	504	150	200	400	500	3RW5548-6HA16	3RW5548-2HA16
630	200	355	400	630	561	200	200	450	600	3RW5552-6HA16	3RW5552-2HA16
720	200	400	500	710	641	200	250	500	700	3RW5553-6HA16	3RW5553-2HA16
840	250	450	560	800	748	250	300	600	800	3RW5554-6HA16	3RW5554-2HA16
1 100	315	560	710	1 000	979	350	400	850	1 100	3RW5556-6HA16	3RW5556-2HA16
1 280	400	710	900	1 200	1 139	400	450	1 000	1 250	3RW5558-6HA16	3RW5558-2HA16

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Selection and ordering data

For normal starting (Class 10E)

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



3RW551.-3HA04



3RW552.-1HA04



3RW553.-2HA04



3RW554.-6HA04



3RW555.-2HA04

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit			
Operational current at	Operating power for three-phase motors			Operational current at	Operating power [hp] for three-phase motors		
	230 V	at 400 V	at 500 V		200/ 208 V	at 220/ 230 V	at 460/ 480 V
A	kW	kW	kW	A	hp	hp	hp

Screw terminals
(only for control circuit) 

Article No. Price per PU

Spring-loaded terminals
(only for control circuit) 

Article No. Price per PU

Operational voltage 200 ... 480 V

Control supply voltage 24 V AC/DC

22.5	5.5	11	--	19.9	5	5	10	--	3RW5513-1HA04	3RW5513-3HA04
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5514-1HA04	3RW5514-3HA04
43.3	11	18.5	--	39	10	10	25	--	3RW5515-1HA04	3RW5515-3HA04
55.4	15	22	--	49	15	15	30	--	3RW5516-1HA04	3RW5516-3HA04
65.8	18.5	30	--	58	15	20	40	--	3RW5517-1HA04	3RW5517-3HA04
81.4	22	45	--	72	20	25	50	--	3RW5524-1HA04	3RW5524-3HA04
109	30	55	--	96	30	30	75	--	3RW5525-1HA04	3RW5525-3HA04
133	37	75	--	118	30	40	75	--	3RW5526-1HA04	3RW5526-3HA04
161	45	90	--	143	40	50	100	--	3RW5527-1HA04	3RW5527-3HA04
196	55	110	--	175	50	60	125	--	3RW5534-6HA04	3RW5534-2HA04
248	75	132	--	222	75	75	150	--	3RW5535-6HA04	3RW5535-2HA04
296	90	160	--	265	75	100	200	--	3RW5536-6HA04	3RW5536-2HA04
364	110	200	--	322	100	125	250	--	3RW5543-6HA04	3RW5543-2HA04
433	132	250	--	381	125	150	300	--	3RW5544-6HA04	3RW5544-2HA04
546	160	315	--	483	150	200	400	--	3RW5545-6HA04	3RW5545-2HA04
641	200	355	--	568	200	200	450	--	3RW5546-6HA04	3RW5546-2HA04
814	250	400	--	721	250	250	600	--	3RW5547-6HA04	3RW5547-2HA04
987	315	560	--	873	300	350	750	--	3RW5548-6HA04	3RW5548-2HA04
1 091	355	630	--	972	350	400	850	--	3RW5552-6HA04	3RW5552-2HA04
1 247	400	710	--	1 110	400	450	950	--	3RW5553-6HA04	3RW5553-2HA04
1 454	450	800	--	1 295	450	550	1 150	--	3RW5554-6HA04	3RW5554-2HA04
1 905	560	1 000	--	1 695	600	700	1 500	--	3RW5556-6HA04	3RW5556-2HA04
2 217	710	1 200	--	1 973	700	850	1 700	--	3RW5558-6HA04	3RW5558-2HA04

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters



3RW55 soft starters > Inside-delta circuit **IE3/IE4 ready**

For normal starting (Class 10E)

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



3RW551.-3HA14

3RW552.-1HA14

3RW553.-2HA14

3RW554.-6HA14

3RW555.-2HA14

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V				
A	kW	kW	kW	A	hp	hp	hp				

Operational voltage 200 ... 480 V

Control supply voltage 110 ... 250 V AC

22.5	5.5	11	--	19.9	5	5	10	--	3RW5513-1HA14	3RW5513-3HA14
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5514-1HA14	3RW5514-3HA14
43.3	11	18.5	--	39	10	10	25	--	3RW5515-1HA14	3RW5515-3HA14
55.4	15	22	--	49	15	15	30	--	3RW5516-1HA14	3RW5516-3HA14
65.8	18.5	30	--	58	15	20	40	--	3RW5517-1HA14	3RW5517-3HA14
81.4	22	45	--	72	20	25	50	--	3RW5524-1HA14	3RW5524-3HA14
109	30	55	--	96	30	30	75	--	3RW5525-1HA14	3RW5525-3HA14
133	37	75	--	118	30	40	75	--	3RW5526-1HA14	3RW5526-3HA14
161	45	90	--	143	40	50	100	--	3RW5527-1HA14	3RW5527-3HA14
196	55	110	--	175	50	60	125	--	3RW5534-6HA14	3RW5534-2HA14
248	75	132	--	222	75	75	150	--	3RW5535-6HA14	3RW5535-2HA14
296	90	160	--	265	75	100	200	--	3RW5536-6HA14	3RW5536-2HA14
364	110	200	--	322	100	125	250	--	3RW5543-6HA14	3RW5543-2HA14
433	132	250	--	381	125	150	300	--	3RW5544-6HA14	3RW5544-2HA14
546	160	315	--	483	150	200	400	--	3RW5545-6HA14	3RW5545-2HA14
641	200	355	--	568	200	200	450	--	3RW5546-6HA14	3RW5546-2HA14
814	250	400	--	721	250	250	600	--	3RW5547-6HA14	3RW5547-2HA14
987	315	560	--	873	300	350	750	--	3RW5548-6HA14	3RW5548-2HA14
1 091	355	630	--	972	350	400	850	--	3RW5552-6HA14	3RW5552-2HA14
1 247	400	710	--	1 110	400	450	950	--	3RW5553-6HA14	3RW5553-2HA14
1 454	450	800	--	1 295	450	550	1 150	--	3RW5554-6HA14	3RW5554-2HA14
1 905	560	1 000	--	1 695	600	700	1 500	--	3RW5556-6HA14	3RW5556-2HA14
2 217	710	1 200	--	1 973	700	850	1 700	--	3RW5558-6HA14	3RW5558-2HA14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

6



Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

IE3/IE4 ready 3RW55 soft starters > Inside-delta circuit

For normal starting (Class 10E)

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



At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V				
	kW	kW	kW		hp	hp	hp				

Operational voltage 200 ... 600 V

Control supply voltage 24 V AC/DC

22.5	5.5	11	15	19.9	5	5	10	15	3RW5513-1HA05	3RW5513-3HA05
31.5	7.5	15	18.5	28	7.5	7.5	20	25	3RW5514-1HA05	3RW5514-3HA05
43.3	11	18.5	22	39	10	10	25	30	3RW5515-1HA05	3RW5515-3HA05
55.4	15	22	30	49	15	15	30	40	3RW5516-1HA05	3RW5516-3HA05
65.8	18.5	30	37	58	15	20	40	50	3RW5517-1HA05	3RW5517-3HA05
43.3	11	18.5	22	39	10	10	25	30	3RW5521-1HA06	3RW5521-3HA06
81.4	22	45	45	72	20	25	50	60	3RW5524-1HA06	3RW5524-3HA06
109	30	55	55	96	30	30	75	75	3RW5525-1HA06	3RW5525-3HA06
133	37	75	90	118	30	40	75	100	3RW5526-1HA06	3RW5526-3HA06
161	45	90	110	143	40	50	100	125	3RW5527-1HA06	3RW5527-3HA06
196	55	110	132	175	50	60	125	150	3RW5534-6HA06	3RW5534-2HA06
248	75	132	160	222	75	75	150	200	3RW5535-6HA06	3RW5535-2HA06
296	90	160	200	265	75	100	200	250	3RW5536-6HA06	3RW5536-2HA06
364	110	200	250	322	100	125	250	300	3RW5543-6HA06	3RW5543-2HA06
433	132	250	315	381	125	150	300	350	3RW5544-6HA06	3RW5544-2HA06
546	160	315	355	483	150	200	400	500	3RW5545-6HA06	3RW5545-2HA06
641	200	355	450	568	200	200	450	600	3RW5546-6HA06	3RW5546-2HA06
814	250	400	500	721	250	250	600	800	3RW5547-6HA06	3RW5547-2HA06
987	315	560	630	873	300	350	750	950	3RW5548-6HA06	3RW5548-2HA06
1 091	355	630	710	972	350	400	850	1 050	3RW5552-6HA06	3RW5552-2HA06
1 247	400	710	800	1 110	400	450	950	1 250	3RW5553-6HA06	3RW5553-2HA06
1 454	450	800	900	1 295	450	550	1 150	1 450	3RW5554-6HA06	3RW5554-2HA06
1 905	560	1 000	1 200	1 695	600	700	1 500	1 900	3RW5556-6HA06	3RW5556-2HA06
2 217	710	1 200	1 500	1 973	700	850	1 700	2 200	3RW5558-6HA06	3RW5558-2HA06

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters



3RW55 soft starters > Inside-delta circuit **IE3/IE4 ready**

For normal starting (Class 10E)

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



3RW551.-3HA1.

3RW552.-1HA1.

3RW553.-2HA1.

3RW554.-6HA1.

3RW555.-2HA1.

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)		
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 600 V

Control supply voltage 110 ... 250 V AC

22.5	5.5	11	15	19.9	5	5	10	15	3RW5513-1HA15	3RW5513-3HA15
31.5	7.5	15	18.5	28	7.5	7.5	20	25	3RW5514-1HA15	3RW5514-3HA15
43.3	11	18.5	22	39	10	10	25	30	3RW5515-1HA15	3RW5515-3HA15
55.4	15	22	30	49	15	15	30	40	3RW5516-1HA15	3RW5516-3HA15
65.8	18.5	30	37	58	15	20	40	50	3RW5517-1HA15	3RW5517-3HA15
43.3	11	18.5	22	39	10	10	25	30	3RW5521-1HA16	3RW5521-3HA16
81.4	22	45	45	72	20	25	50	60	3RW5524-1HA16	3RW5524-3HA16
109	30	55	55	96	30	30	75	75	3RW5525-1HA16	3RW5525-3HA16
133	37	75	90	118	30	40	75	100	3RW5526-1HA16	3RW5526-3HA16
161	45	90	110	143	40	50	100	125	3RW5527-1HA16	3RW5527-3HA16
196	55	110	132	175	50	60	125	150	3RW5534-6HA16	3RW5534-2HA16
248	75	132	160	222	75	75	150	200	3RW5535-6HA16	3RW5535-2HA16
296	90	160	200	265	75	100	200	250	3RW5536-6HA16	3RW5536-2HA16
364	110	200	250	322	100	125	250	300	3RW5543-6HA16	3RW5543-2HA16
433	132	250	315	381	125	150	300	350	3RW5544-6HA16	3RW5544-2HA16
546	160	315	355	483	150	200	400	500	3RW5545-6HA16	3RW5545-2HA16
641	200	355	450	568	200	200	450	600	3RW5546-6HA16	3RW5546-2HA16
814	250	400	500	721	250	250	600	800	3RW5547-6HA16	3RW5547-2HA16
987	315	560	630	873	300	350	750	950	3RW5548-6HA16	3RW5548-2HA16
1 091	355	630	710	972	350	400	850	1 050	3RW5552-6HA16	3RW5552-2HA16
1 247	400	710	800	1 110	400	450	950	1 250	3RW5553-6HA16	3RW5553-2HA16
1 454	450	800	900	1 295	450	550	1 150	1 450	3RW5554-6HA16	3RW5554-2HA16
1 905	560	1 000	1 200	1 695	600	700	1 500	1 900	3RW5556-6HA16	3RW5556-2HA16
2 217	710	1 200	1 500	1 973	700	850	1 700	2 200	3RW5558-6HA16	3RW5558-2HA16

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > Accessories

Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers								
 3RW5983-0FC00	Fan cover	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)	--	--	3RW5983-0FC00	1	1 unit	42S
		3RW554 (1x)	--	--	3RW5984-0FC00	1	1 unit	42S
		3RW555 (3x)	--	--	3RW5985-0FC00	1	1 unit	42S
Terminal covers								
 3RW5983-0TC20	Terminal cover	3RW552 (2x), 3RW553 (2x)	--	--	3RW5983-0TC20	1	1 unit	42S
		3RW554 (2x)	--	--	3RW5984-0TC20	1	1 unit	42S
 3RW5984-0TC20								
Enclosure components								
 3RW5950-0GL20	Hinged cover	3RW55	Without cutout	--	3RW5950-0GL20	1	1 unit	42S
Communications modules								
 3RW5980-0CS00	Communications module¹⁾	3RW55	PROFINET High-Feature with integral switch	--	3RW5950-0CH00	1	1 unit	42S
			PROFINET Standard	--	3RW5980-0CS00	1	1 unit	42S
 3RW5980-0CE00			PROFIBUS	--	3RW5980-0CP00	1	1 unit	42S
			EtherNet/IP	--	3RW5980-0CE00	1	1 unit	42S
 3RW5980-0CR00			Modbus RTU	--	3RW5980-0CR00	1	1 unit	42S
			Modbus TCP	--	3RW5980-0CT00	1	1 unit	42S

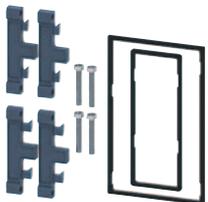
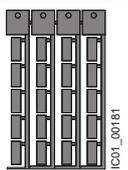
¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > Accessories

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
HMI modules									
	IP65 door mounting kit for HMI modules	3RW55	IP65	For HMI modules	3RW5980-0HD00		1	1 unit	42S
3RW5980-0HD00									
Connecting cables									
	HMI connecting cable	3RW55	5 m, round	For door mounting	3RW5980-0HC60		1	1 unit	42S
			2.5 m, round		3UF7933-0BA00-0		1	1 unit	42J
3UF793-0BA00-0			1.0 m, round		3UF7937-0BA00-0		1	1 unit	42J
			0.5 m, round		3UF7932-0BA00-0		1	1 unit	42J
Further accessories									
	Push-in lugs for wall mounting	--	Two lugs are required per device	For HMI modules and communications modules	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00									
Blank labels									
	Unit labeling plates¹⁾	--	20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20		100	340 units	41B
3RT2900-1SB20									

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW55Failsafe
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw55
 SiePortal topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>
 Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>

SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>
 Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide
 SIRIUS Sim, see page 6/10 or <https://support.industry.siemens.com/cs/ww/en/view/109763750>
 Conversion tool, see www.siemens.com/conversion-tool



Video: Animation 3RW5 Failsafe soft starter

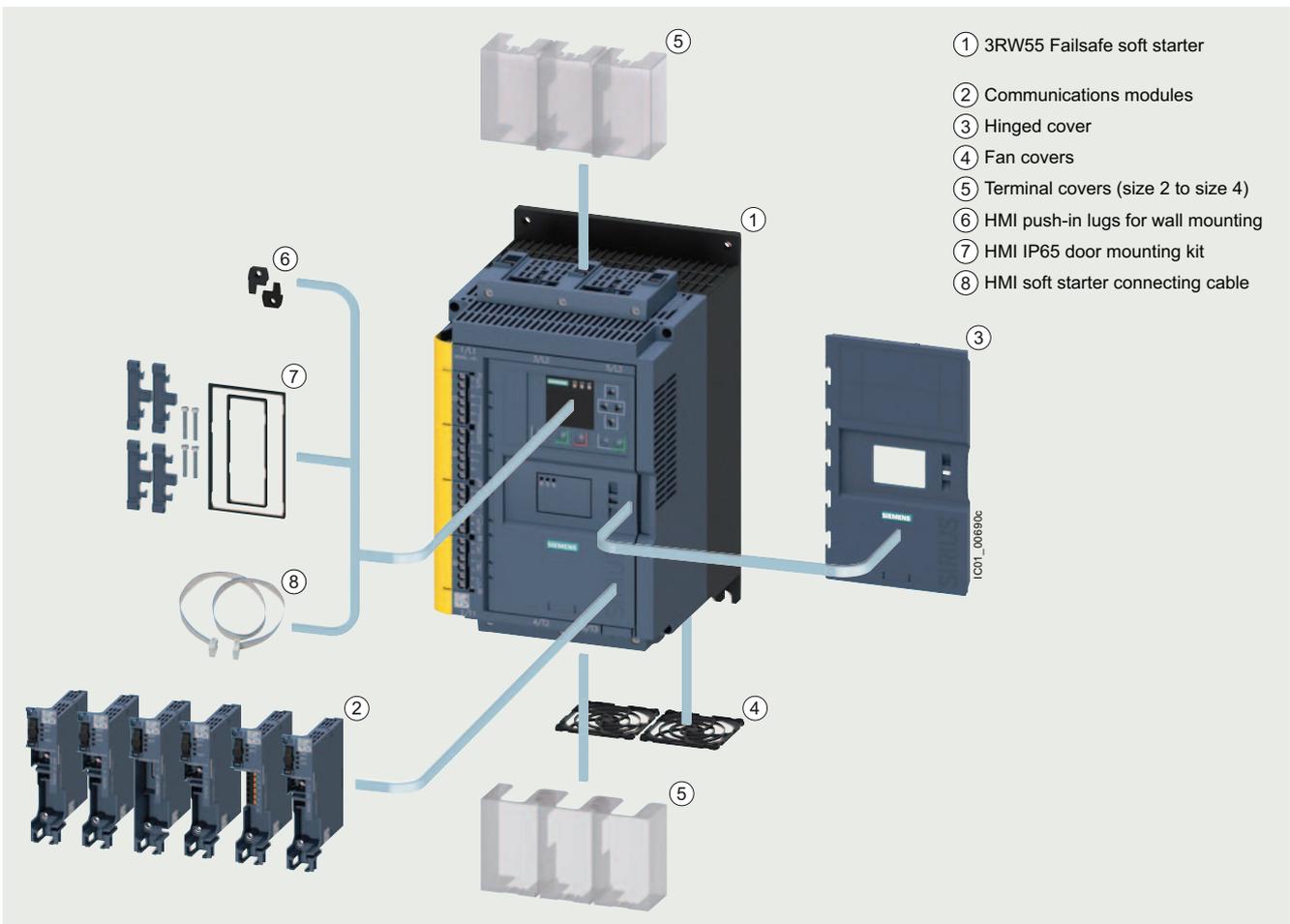


SIRIUS 3RW55 Failsafe soft starters device family

Equipped with the utmost functionality, the SIRIUS 3RW55 Failsafe High Performance soft starters confidently handle even difficult starting and stopping operations. Thanks to innovative torque control, the device can be used for drives with an output of between 5.5 kW and 560 kW (at 400 V).

The innovative 3RW55 Failsafe soft starter features an integrated fail-safe digital input for directly connecting the EMERGENCY STOP, and thus covers SIL 1 STO applications. The HMI (with color display, local interface and a slot for micro SD memory card) and plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) ensure maximum flexibility.

With their modern hybrid switching technology, the 3RW55 Failsafe soft starters offer efficient switching for long-term, energy-saving use.



SIRIUS 3RW55 Failsafe High Performance soft starter with accessories (see page 6/53 onwards)

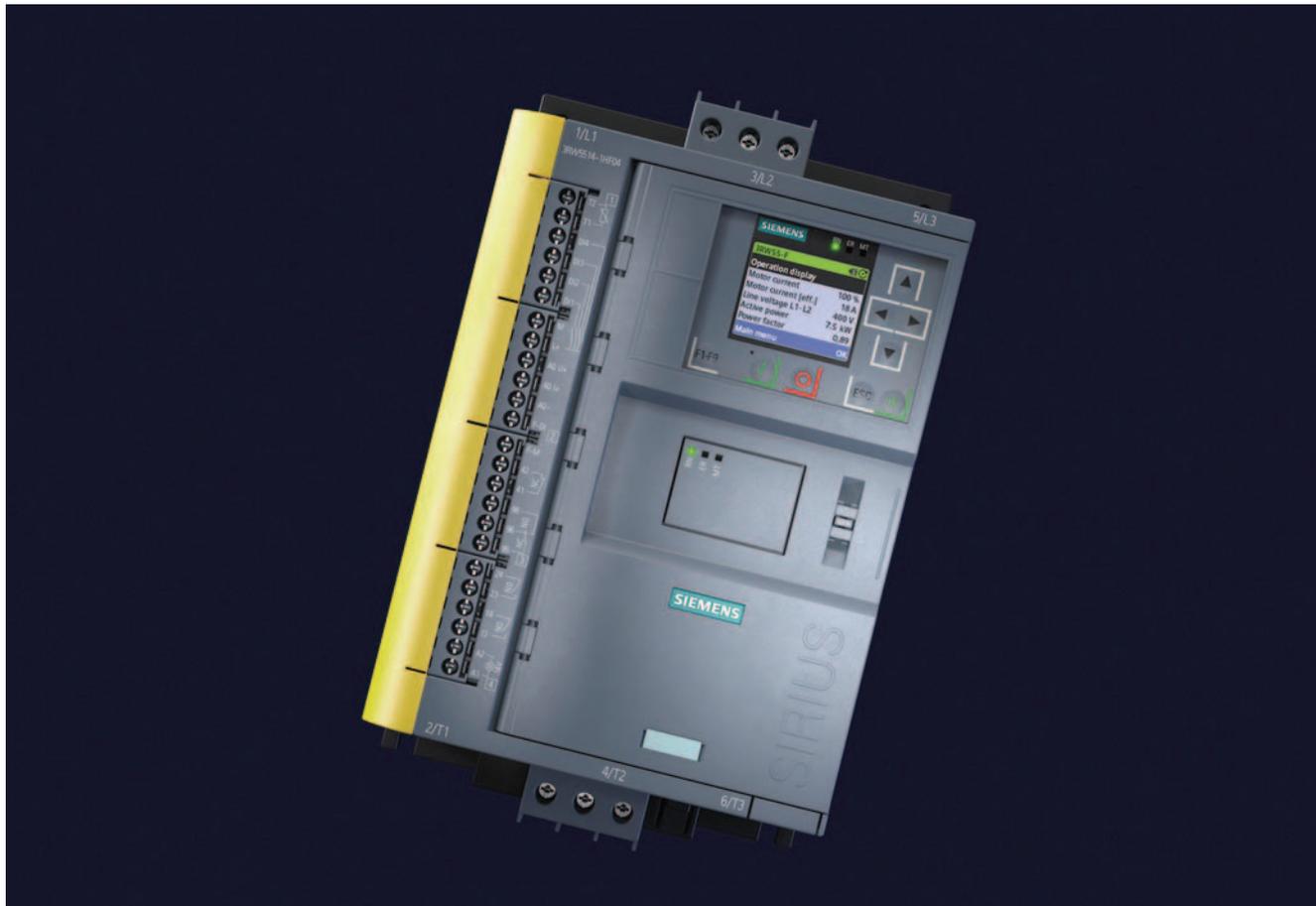
Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Benefits



Product characteristics/function

Automatic parameterization

Hybrid switching technology and 3-phase motor control

TIA integration – communications modules optional

Removable HMI with color display, local interface, slot for micro SD memory card

Pump stop and torque control

Certified according to ATEX/IECEX Directive

Fail-safe disconnection up to SIL 3/PL e/STO

System redundancy S2

Direct integration in Insights Hub via the OPC UA server

Performance features/benefits

Extremely easy commissioning and reliability even under changing load conditions

Minimum power loss and optimum/symmetrical motor control

Efficient configuration and maximum flexibility in automation engineering

Maximum flexibility with regard to user interface and intuitive menu guidance

Reduced mechanical loading and optimum pump stop control

Suitable for the starting of explosion-proof motors

Reduced costs and space requirements thanks to direct wiring of the EMERGENCY-STOP mushroom pushbutton to the soft starter for SIL 1/PL c

Simple and straight-forward integration into fault-tolerant automation systems

Worldwide data availability for optimal plant operation

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Technical specifications

More information

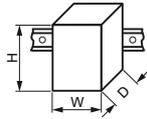
Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25776/td>
Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753752>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25776/faq>
Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Article number	3RW551.-.HF.4	3RW552.-.HF.4 3RW553.-.HF.4	3RW554.-.HF.4
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Installation/fixing/dimensions

Width x height x depth



mm	170 x 275 x 152	185 x 306 x 203	210 x 393 x 203
----	-----------------	-----------------	-----------------

Type of mounting	Screw fixing		
Mounting position	Vertical (can be rotated +/- 90° and tilted +/- 22.5° forward or backward)		
Distance to be maintained with side-by-side mounting			
• Above	mm	100	
• At the side	mm	5	
• Below	mm	75	
Installation altitude at height above sea level, maximum¹⁾	m	2 000	
Degree of protection IP on the front according to IEC 60529		IP20	IP00; IP20 with cover
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching from the front	Finger-safe for vertical touching from the front with cover

Ambient conditions

Ambient temperature			
• During operation ²⁾	°C	-25 ... +60	
• During storage and transport	°C	-40 ... +80	
Environmental category according to IEC 60721			
• During operation	3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6		
• During storage	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4		
• During transport	2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m)		

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

²⁾ Observe derating above 40 °C.

Article number	3RW55.-.HF04	3RW55.-.HF14
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Control circuit/control

Control supply voltage			
• At AC/DC	V	24/24	--/--
• At AC	V	--	110 ... 250
Relative negative tolerance/relative positive tolerance of the control supply voltage			
• At AC	%	-20/20	-15/10
• At DC	%	-20/20	--/--
Frequency of the control supply voltage	Hz	50 ... 60	
• Relative negative tolerance/relative positive tolerance	%	-10/10	
Type of overvoltage protection	Varistors		
Type of short-circuit protection for control circuit¹⁾	Fuse 4 A gG ($I_{cu} = 1$ kA), fuse 6 A quick-response ($I_{cu} = 1$ kA), MCB C1 ($I_{cu} = 600$ A), MCB C6 ($I_{cu} = 300$ A)		

¹⁾ Not included in scope of supply.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Article number	3RW551.-.HF.4	3RW552.-.HF.4 3RW553.-.HF.4 3RW554.-.HF.4
Power electronics		
Operational voltage	V	200 ... 480
• Relative negative tolerance/relative positive tolerance	%	-15/10
Operational voltage for inside-delta circuit	V	200 ... 480
• Relative negative tolerance/relative positive tolerance	%	-15/10
Operating frequency	Hz	50 ... 60
• Relative negative tolerance/relative positive tolerance	%	-10/10
Blocking voltage of thyristor, maximum	V	1 600
Minimum load [%]¹⁾	%	10
Maximum cable length between soft starter and motor	m	800

1) Relative to set I_e .

Type	3RW5513	3RW5514	3RW5515	3RW5516	3RW5517	
Rated operational current I_e	A	13	18	25	32	38
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	25/22.3/19.6	38/33.5/30.5
Permissible rated motor current and starts/h						
Normal starting (Class 10A)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 5 s	1/h	43	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18	18
• 350% I_M						
- Startup time 5 s	1/h	28	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10	10
Normal starting (Class 10E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 10 s	1/h	21	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8	8
• 350% I_M						
- Startup time 10 s	1/h	13	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4	4
Heavy starting (Class 20E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I_M						
- Startup time 20 s	1/h	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4
• 350% I_M						
- Startup time 20 s	1/h	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	26/23.6/21.2	29/26/23
• 300% I_M						
- Startup time 30 s	1/h	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3
• 350% I_M						
- Startup time 30 s	1/h	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M						
• Minimum/maximum	A	2.5/13	3.5/18	5/25	6.5/32	7.5/38
• Minimum/maximum in inside-delta circuits	A	4.3/22.5	6.1/31.1	8.7/43.3	11.3/55.4	13/65.8

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Type		3RW5524	3RW5525	3RW5526	3RW5527
Rated operational current I_e	A	47	63	77	93
Power electronics					
Load rating with rated operational current I_e					
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
Permissible rated motor current and starts/h					
Normal starting (Class 10A)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M					
- Startup time 5 s	1/h	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18
• 350% I_M					
- Startup time 5 s	1/h	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10
Normal starting (Class 10E)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M					
- Startup time 10 s	1/h	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8
• 350% I_M					
- Startup time 10 s	1/h	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4
Heavy starting (Class 20E)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M					
- Startup time 20 s	1/h	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4
• 350% I_M					
- Startup time 20 s	1/h	7	7	7	7
- Startup time 40 s	1/h	2.5	0	0	0
Heavy starting (Class 30E)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	43.4/38/34.4	53/48/43	68/62/56	82.5/75.5/65
• 300% I_M					
- Startup time 30 s	1/h	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3
• 350% I_M					
- Startup time 30 s	1/h	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M					
• Minimum/maximum	A	10/47	13/63	16/77	19/93
• Minimum/maximum in inside-delta circuits	A	17.3/81.4	22.5/109	27.7/133	32.9/161

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Type		3RW5534	3RW5535	3RW5536
Rated operational current I_e	A	113	143	171
Power electronics				
Load rating with rated operational current I_e				
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	113/101/89	143/128/118	171/153/141
Permissible rated motor current and starts/h				
Normal starting (Class 10A)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	143/128/118	171/153/141
• 300% I_M				
- Startup time 5 s	1/h	43	43	35
- Startup time 10 s	1/h	18	18	13
• 350% I_M				
- Startup time 5 s	1/h	28	17	10
- Startup time 10 s	1/h	10	4	0
Normal starting (Class 10E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	143/128/118	171/153/141
• 300% I_M				
- Startup time 10 s	1/h	21	21	14
- Startup time 20 s	1/h	8	7	4
• 350% I_M				
- Startup time 10 s	1/h	13	4	0
- Startup time 20 s	1/h	4	0	0
Heavy starting (Class 20E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	109/97/85	128/113/103	141/129/117
• 300% I_M				
- Startup time 20 s	1/h	10	10	10
- Startup time 40 s	1/h	4	4	4
• 350% I_M				
- Startup time 20 s	1/h	7	6	6
- Startup time 40 s	1/h	0	0	0
Heavy starting (Class 30E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	89/81/74	108/98/88	117/105/93
• 300% I_M				
- Startup time 30 s	1/h	7	7	7
- Startup time 60 s	1/h	3	3	3
• 350% I_M				
- Startup time 30 s	1/h	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8
Adjustable rated motor current I_M				
• Minimum/maximum	A	23/113	29/143	34/171
• Minimum/maximum in inside-delta circuits	A	39.8/195	50.2/247	58.9/296

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Type		3RW5543	3RW5544	3RW5545	3RW5546	3RW5547	3RW5548
Rated operational current I_e	A	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current I_e							
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts/h							
Normal starting (Class 10A)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I_M							
- Startup time 5 s	1/h	43	43	38	43	32	13
- Startup time 10 s	1/h	13	18	14	18	13	3
• 350% I_M							
- Startup time 5 s	1/h	14	28	19	28	19	4
- Startup time 10 s	1/h	0	10	5	10	6	0.4
Normal starting (Class 10E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	551/490/445
• 300% I_M							
- Startup time 10 s	1/h	13	21	14	20	13	5
- Startup time 20 s	1/h	2	8	4	8	3	--
• 350% I_M							
- Startup time 10 s	1/h	0	13	5	12	6	1
- Startup time 20 s	1/h	0	4	0	3	0.4	--
Heavy starting (Class 20E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	162/146/130	200/180/160	231/207/183	258/230/202	272/254/236	284/262/240
• 300% I_M							
- Startup time 20 s	1/h	10	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4	4
• 350% I_M							
- Startup time 20 s	1/h	7	7	7	7	7	7
- Startup time 40 s	1/h	2	2.5	2.5	2.5	2.5	2.5
Heavy starting (Class 30E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	138/122/106	160/140/120	183/159/135	202/174/160	210/190/170	220/200/180
• 300% I_M							
- Startup time 30 s	1/h	7	7	7	7	7	7
- Startup time 60 s	1/h	3	3	3	3	3	3
• 350% I_M							
- Startup time 30 s	1/h	4	4	4	4	4	4
- Startup time 60 s	1/h	1.8	1.8	1.8	1.8	1.8	1.8
Adjustable rated motor current I_M							
• Minimum/maximum	A	42/210	50/250	63/315	74/370	94/470	114/570
• Minimum/maximum in inside-delta circuits	A	72.7/363	86.6/433	109.1/545	128.2/640	162.8/814	197.5/987

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", Class 10,
short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders
with soft starters, see page 6/12.

Soft starters	Motor starter protectors/circuit breakers for 400 V systems				Motor starter protectors/circuit breakers for 480 V systems			
	Q11 Type	I_q kA	Q1 Type	I_q kA	Q11 Type	I_q kA	Q1 Type	I_q kA
Type of coordination "1"	Standard (inline) circuit				Inside-delta circuit			
3RW5513	3RV2032-4TA10	65	3RV2032-4TA10	18	3RV2032-4DA10	65	3RV2032-4DA10	18
3RW5514	3RV2032-4DA10	65	3RV2032-4DA10	15	3RV2032-4EA10	65	3RV2032-4EA10	15
3RW5515	3RV2032-4EA10	65	3RV2032-4EA10	15	3RV2032-4VA10	65	3RV2032-4VA10	15
3RW5516	3RV2032-4VA10	65	3RV2032-4VA10	10	3RV2032-4JA10	65	3RV2032-4JA10	10
3RW5517	3RV2032-4WA10	65	3RV2032-4WA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5524	3RV2032-4JA10	65	3RV2032-4JA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5525	3VA2163-7MN32-0AA0	65	3VA2163-7MN32-0AA0	20	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20
3RW5526	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20	3VA2216-7MN32-0AA0	65	3VA2216-7MN32-0AA0	20
3RW5527	3VA2216-7MN32-0AA0	15	3VA2216-7MN32-0AA0	10	3VA2220-7MN32-0AA0	15	3VA2220-7MN32-0AA0	10
3RW5534	3VA2216-7MN32-0AA0	65	--	--	3VA2220-7MN32-0AA0	65	--	--
3RW5535	3VA2220-7MN32-0AA0	65	--	--	3VA2325-7MN32-0AA0	65	--	--
3RW5536	3VA2325-7MN32-0AA0	30	3VA2325-7MN32-0AA0	10	3VA2440-7MN32-0AA0	30	3VA2440-7MN32-0AA0	10
3RW5543	3VA2325-7MN32-0AA0	65	3VA2325-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5544	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65
3RW5545	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5546	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5547	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65
3RW5548	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

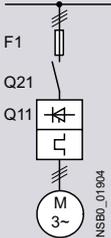
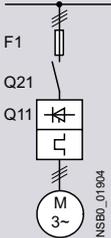
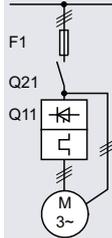
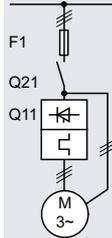
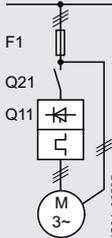
SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_q = 65$ kA**Note:**For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).

					
Soft starters	gG class fuse for systems up to 480 V	Line contactor (optional) for systems up to 480 V	gG class fuse for systems up to 480 V	Line contactor (optional) for systems up to 480 V in the supply cable	Line contactor (optional) for systems up to 480 V in the delta
Q11 Type	F1 Type	Q21 Type	F1 Type	Q21 Type	Q21 Type
Type of coordination "1"	Standard (inline) circuit		Inside-delta circuit		
3RW5513	3NA3820-6	3RT2025	3NA3820-6	3RT2027	3RT2025
3RW5514	3NA3820-6	3RT2026	3NA3820-6	3RT2027	3RT2026
3RW5515	3NA3822-6	3RT2027	3NA3822-6	3RT2036	3RT2027
3RW5516	3NA3824-6	3RT2035	3NA3824-6	3RT2037	3RT2035
3RW5517	3NA3824-6	3RT2035	3NA3824-6	3RT2038	3RT2035
3RW5524	3NA3824-6	3RT2036	3NA3824-6	3RT2046	3RT2036
3RW5525	3NA3830-6	3RT2037	3NA3830-6	3RT2047	3RT2037
3RW5526	3NA3132-6	3RT2038	3NA3132-6	3RT1055	3RT2038
3RW5527	3NA3136-6	3RT2046	3NA3136-6	3RT1056	3RT2046
3RW5534	3NA3244-6	3RT1054	3NA3244-6	3RT1064	3RT1054
3RW5535	3NA3244-6	3RT1055	3NA3244-6	3RT1065	3RT1055
3RW5536	3NA3365-6	3RT1056	3NA3365-6	3RT1066	3RT1056
3RW5543	2 x 3NA3354-6	3RT1064	2 x 3NA3354-6	3RT1075	3RT1064
3RW5544	2 x 3NA3354-6	3RT1065	2 x 3NA3354-6	3RT1076	3RT1065
3RW5545	2 x 3NA3365-6	3RT1075	2 x 3NA3365-6	3TF68	3RT1075
3RW5546	2 x 3NA3365-6	3RT1075	2 x 3NA3365-6	3TF69	3RT1075
3RW5547	2 x 3NA3365-6	3RT1076	2 x 3NA3365-6	3TF69	3RT1076
3RW5548	2 x 3NA3365-6	3TF68	2 x 3NA3365-6	--	3TF68

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

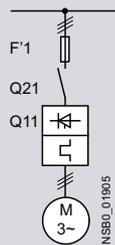
Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gR/gS class fuse	Line contactor (optional)
Q11 Type	for systems up to 480 V F'1 Type	for systems up to 480 V Q21 Type
Type of coordination "2"	Standard (inline) circuit ToC 2	
3RW5513	3NE1815-0	3RT2025
3RW5514	3NE1802-0	3RT2026
3RW5515	3NE1817-0	3RT2027
3RW5516	3NE1818-0	3RT2035
3RW5517	3NE1820-0	3RT2035
3RW5524	3NE1021-2	3RT2036
3RW5525	3NE1022-0	3RT2037
3RW5526	3NE1224-0	3RT2038
3RW5527	3NE1224-0	3RT2046
3RW5534	3NE1225-0	3RT1054
3RW5535	3NE1227-0	3RT1055
3RW5536	3NE1230-0	3RT1056
3RW5543	3NE1230-2	3RT1064
3RW5544	3NE1331-0	3RT1065
3RW5545	3NE1334-2	3RT1075
3RW5546	3NE1334-2	3RT1075
3RW5547	3NE1436-2	3RT1076
3RW5548	3NE1437-2	3TF68

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" ([see page 6/49](#)).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

Motor feeders according to IEC with 3NE8/3NE3/3NC3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q1} = 65 \text{ kA}$ Note:For general recommendations for constructing motor feeders
with soft starters, [see page 6/12](#).

Soft starters	Standard (inline) circuit			Inside-delta circuit			
	gG class fuse for systems up to 480 V	aR class fuse for systems up to 480 V	Line contactor (optional) for systems up to 480 V	gG class fuse for systems up to 480 V	aR class fuse for systems up to 480 V	Line contactor (optional) for systems up to 480 V in the supply cable	Line contactor (optional) for systems up to 480 V in the delta cable
Q11 Type	F1 Type	F3 Type	Q21 Type	F1 Type	F3 Type	Q21 Type	Q21 Type
Type of coordination "2"	Standard (inline) circuit			Inside-delta circuit			
3RW5513	3NA3820-6	3NE8017-1	3RT2025	3NA3820-6	3NE8017-1	3RT2027	3RT2025
3RW5514	3NA3820-6	3NE8020-1	3RT2026	3NA3820-6	3NE8020-1	3RT2027	3RT2026
3RW5515	3NA3822-6	3NE8021-1	3RT2027	3NA3822-6	3NE8021-1	3RT2036	3RT2027
3RW5516	3NA3824-6	3NE8022-1	3RT2035	3NA3824-6	3NE8022-1	3RT2037	3RT2035
3RW5517	3NA3824-6	3NE8024-1	3RT2035	3NA3824-6	3NE8024-1	3RT2038	3RT2035
3RW5524	3NA3824-6	3NE8024-1	3RT2036	3NA3824-6	3NE8024-1	3RT2046	3RT2036
3RW5525	3NA3830-6	3NE3227	3RT2037	3NA3830-6	3NE3227	3RT2047	3RT2037
3RW5526	3NA3132-6	3NE3227	3RT2038	3NA3132-6	3NE3227	3RT1055	3RT2038
3RW5527	3NA3136-6	3NE3227	3RT2046	3NA3136-6	3NE3227	3RT1056	3RT2046
3RW5534	3NA3244-6	3NE3231	3RT1054	3NA3244-6	3NE3231	3RT1064	3RT1054
3RW5535	3NA3244-6	3NE3233	3RT1055	3NA3244-6	3NE3233	3RT1065	3RT1055
3RW5536	3NA3365-6	3NE3334-0B	3RT1056	3NA3365-6	3NE3334-0B	3RT1066	3RT1056
3RW5543	2 x 3NA3354-6	3NE3333	3RT1064	2 x 3NA3354-6	3NE3333	3RT1075	3RT1064
3RW5544	2 x 3NA3354-6	3NE3335	3RT1065	2 x 3NA3354-6	3NE3335	3RT1076	3RT1065
3RW5545	2 x 3NA3365-6	3NE3336	3RT1075	2 x 3NA3365-6	3NE3336	3TF68	3RT1075
3RW5546	2 x 3NA3365-6	3NE3340-8	3RT1075	2 x 3NA3365-6	3NE3340-8	3TF69	3RT1075
3RW5547	2 x 3NA3365-6	3NE3340-8	3RT1076	2 x 3NA3365-6	3NE3340-8	3TF69	3RT1076
3RW5548	2 x 3NA3365-6	3NC3342-1U	3TF68	2 x 3NA3365-6	3NC3342-1U	--	3TF68

Note:

The specified short-circuit breaking capacities I_{q1} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity ([see page 6/46](#)). In these cases, optional line contactors can be dispensed with.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Reversing operation with reversing contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Suggested circuit, see 3RW55 Equipment Manual, Appendix A.3)

Soft starters	Reversing contactor assembly for systems up to 480 V	Reversing contactor for systems up to 480 V
Q11 Type	Q21/Q22 Type	Q21/Q22 Type
3RW5513	3RA2325	3RT2025
3RW5514	3RA2326	3RT2026
3RW5515	3RA2327	3RT2027
3RW5516	3RA2335	3RT2035
3RW5517	3RA2335	3RT2035
3RW5524	3RA2336	3RT2036
3RW5525	3RA2337	3RT2037
3RW5526	3RA2338	3RT2038
3RW5527	3RA2346	3RT2046
3RW5534	--	3RT1054
3RW5535	--	3RT1055
3RW5536	--	3RT1056
3RW5543	--	3RT1064
3RW5544	--	3RT1065
3RW5545	--	3RT1075
3RW5546	--	3RT1075
3RW5547	--	3RT1076
3RW5548	--	3TF68

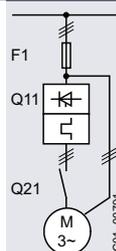
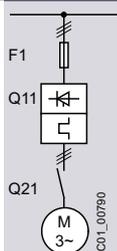
Redundant contactors for applications > SIL 1/PL c

For applications with a Safety Integrity Level > SIL 1 or a Performance Level > PL c in connection with the 3RW55 Failsafe soft starter, a redundant contactor is required.

Note:

For more details about safe disconnection according to IEC 62061 (SIL) or ISO 13849-1 (PL), see [FAQ article](#).

Soft starters	Standard (inline) circuit for systems up to 480 V according to IEC 62061 (SIL) or ISO 13849-1 (PL)	Inside-delta circuit for systems up to 480 V according to IEC 62061 (SIL) or ISO 13849-1 (PL)
Q11 Type	Q21 Type	Q21 Type
3RW5513	3RT2027	3RT2027
3RW5514	3RT2035	3RT2035
3RW5515	3RT2036	3RT2036
3RW5516	3RT2037	3RT2037
3RW5517	3RT2038	3RT2038
3RW5524	3RT2046	3RT2046
3RW5525	3RT1055	3RT1055
3RW5526	3RT1056	3RT1056
3RW5527	3RT1064	3RT1064
3RW5534	3RT1065	3RT1065
3RW5535	3RT1066	3RT1066
3RW5536	3RT1075	3RT1075
3RW5543	3RT1076	3RT1076
3RW5544	3RT1076	3RT1076
3RW5545	3TF68	3TF68
3RW5546	3TF69	3TF69
3RW5547	--	--
3RW5548	--	--



Selection and ordering data

For normal starting (Class 10E)

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



3RW551.-1HF.4



3RW552.-3HF.4



3RW553.-6HF.4



3RW554.-2HF.4

At 40 °C			At 50 °C			Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors		Operational current A	Operating power [hp] for three-phase motors		Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V		at 200/208 V	at 220/230 V				
	kW	kW		hp	hp				

Operational voltage 200 ... 480 V

Control supply voltage 24 V AC/DC

13	3	5.5	11.5	2	3	7.5	3RW5513-1HF04	3RW5513-3HF04
18	4	7.5	15.9	3	5	10	3RW5514-1HF04	3RW5514-3HF04
25	5.5	11	22.3	5	7.5	15	3RW5515-1HF04	3RW5515-3HF04
32	7.5	15	28.4	7.5	10	20	3RW5516-1HF04	3RW5516-3HF04
38	11	18.5	33.5	10	10	20	3RW5517-1HF04	3RW5517-3HF04
47	11	22	41.6	10	10	30	3RW5524-1HF04	3RW5524-3HF04
63	18.5	30	55.5	15	20	40	3RW5525-1HF04	3RW5525-3HF04
77	22	37	68	20	25	50	3RW5526-1HF04	3RW5526-3HF04
93	22	45	82.5	25	30	60	3RW5527-1HF04	3RW5527-3HF04
113	30	55	101	30	30	75	3RW5534-6HF04	3RW5534-2HF04
143	37	75	128	40	40	100	3RW5535-6HF04	3RW5535-2HF04
171	45	90	153	50	50	100	3RW5536-6HF04	3RW5536-2HF04
210	55	110	186	60	60	150	3RW5543-6HF04	3RW5543-2HF04
250	75	132	220	60	75	150	3RW5544-6HF04	3RW5544-2HF04
315	90	160	279	75	100	200	3RW5545-6HF04	3RW5545-2HF04
370	110	200	328	100	125	250	3RW5546-6HF04	3RW5546-2HF04
470	132	250	416	150	150	350	3RW5547-6HF04	3RW5547-2HF04
570	160	315	504	150	200	400	3RW5548-6HF04	3RW5548-2HF04

Control supply voltage 110 ... 250 V AC

13	3	5.5	11.5	2	3	7.5	3RW5513-1HF14	3RW5513-3HF14
18	4	7.5	15.9	3	5	10	3RW5514-1HF14	3RW5514-3HF14
25	5.5	11	22.3	5	7.5	15	3RW5515-1HF14	3RW5515-3HF14
32	7.5	15	28.4	7.5	10	20	3RW5516-1HF14	3RW5516-3HF14
38	11	18.5	33.5	10	10	20	3RW5517-1HF14	3RW5517-3HF14
47	11	22	41.6	10	10	30	3RW5524-1HF14	3RW5524-3HF14
63	18.5	30	55.5	15	20	40	3RW5525-1HF14	3RW5525-3HF14
77	22	37	68	20	25	50	3RW5526-1HF14	3RW5526-3HF14
93	22	45	82.5	25	30	60	3RW5527-1HF14	3RW5527-3HF14
113	30	55	101	30	30	75	3RW5534-6HF14	3RW5534-2HF14
143	37	75	128	40	40	100	3RW5535-6HF14	3RW5535-2HF14
171	45	90	153	50	50	100	3RW5536-6HF14	3RW5536-2HF14
210	55	110	186	60	60	150	3RW5543-6HF14	3RW5543-2HF14
250	75	132	220	60	75	150	3RW5544-6HF14	3RW5544-2HF14
315	90	160	279	75	100	200	3RW5545-6HF14	3RW5545-2HF14
370	110	200	328	100	125	250	3RW5546-6HF14	3RW5546-2HF14
470	132	250	416	150	150	350	3RW5547-6HF14	3RW5547-2HF14
570	160	315	504	150	200	400	3RW5548-6HF14	3RW5548-2HF14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters



3RW55 Failsafe soft starters > Inside-delta circuit **IE3/IE4 ready**

Selection and ordering data

For normal starting (Class 10E)

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



3RW551.-1HF.4



3RW552.-3HF.4



3RW553.-6HF.4



3RW554.-2HF.4

At 40 °C for inside-delta circuit			At 50 °C for inside-delta circuit			Screw terminals (only for control circuit)	Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors at		Operational current A	Operating power [hp] for three-phase motors at				Article No.
	230 V	at 400 V		200/208 V	at 220/230 V	at 460/480 V	Article No.	
22.5	5.5	11	19.9	5	5	10	3RW5513-1HF04	3RW5513-3HF04
31.5	7.5	15	28	7.5	7.5	20	3RW5514-1HF04	3RW5514-3HF04
43.3	11	18.5	39	10	10	25	3RW5515-1HF04	3RW5515-3HF04
55.4	15	22	49	15	15	30	3RW5516-1HF04	3RW5516-3HF04
65.8	18.5	30	58	15	20	40	3RW5517-1HF04	3RW5517-3HF04
81.4	22	45	72	20	25	50	3RW5524-1HF04	3RW5524-3HF04
109	30	55	96	30	30	75	3RW5525-1HF04	3RW5525-3HF04
133	37	75	118	30	40	75	3RW5526-1HF04	3RW5526-3HF04
161	45	90	143	40	50	100	3RW5527-1HF04	3RW5527-3HF04
196	55	110	175	50	60	125	3RW5534-6HF04	3RW5534-2HF04
248	75	132	222	75	75	150	3RW5535-6HF04	3RW5535-2HF04
296	90	160	265	75	100	200	3RW5536-6HF04	3RW5536-2HF04
364	110	200	322	100	125	250	3RW5543-6HF04	3RW5543-2HF04
433	132	250	381	125	150	300	3RW5544-6HF04	3RW5544-2HF04
546	160	315	483	150	200	400	3RW5545-6HF04	3RW5545-2HF04
641	200	355	568	200	200	450	3RW5546-6HF04	3RW5546-2HF04
814	250	400	721	250	250	600	3RW5547-6HF04	3RW5547-2HF04
987	315	560	873	300	350	750	3RW5548-6HF04	3RW5548-2HF04

Operational voltage 200 ... 480 V

Control supply voltage 24 V AC/DC

22.5	5.5	11	19.9	5	5	10	3RW5513-1HF04	3RW5513-3HF04
31.5	7.5	15	28	7.5	7.5	20	3RW5514-1HF04	3RW5514-3HF04
43.3	11	18.5	39	10	10	25	3RW5515-1HF04	3RW5515-3HF04
55.4	15	22	49	15	15	30	3RW5516-1HF04	3RW5516-3HF04
65.8	18.5	30	58	15	20	40	3RW5517-1HF04	3RW5517-3HF04
81.4	22	45	72	20	25	50	3RW5524-1HF04	3RW5524-3HF04
109	30	55	96	30	30	75	3RW5525-1HF04	3RW5525-3HF04
133	37	75	118	30	40	75	3RW5526-1HF04	3RW5526-3HF04
161	45	90	143	40	50	100	3RW5527-1HF04	3RW5527-3HF04
196	55	110	175	50	60	125	3RW5534-6HF04	3RW5534-2HF04
248	75	132	222	75	75	150	3RW5535-6HF04	3RW5535-2HF04
296	90	160	265	75	100	200	3RW5536-6HF04	3RW5536-2HF04
364	110	200	322	100	125	250	3RW5543-6HF04	3RW5543-2HF04
433	132	250	381	125	150	300	3RW5544-6HF04	3RW5544-2HF04
546	160	315	483	150	200	400	3RW5545-6HF04	3RW5545-2HF04
641	200	355	568	200	200	450	3RW5546-6HF04	3RW5546-2HF04
814	250	400	721	250	250	600	3RW5547-6HF04	3RW5547-2HF04
987	315	560	873	300	350	750	3RW5548-6HF04	3RW5548-2HF04

Control supply voltage 110 ... 250 V AC

22.5	5.5	11	19.9	5	5	10	3RW5513-1HF14	3RW5513-3HF14
31.5	7.5	15	28	7.5	7.5	20	3RW5514-1HF14	3RW5514-3HF14
43.3	11	18.5	39	10	10	25	3RW5515-1HF14	3RW5515-3HF14
55.4	15	22	49	15	15	30	3RW5516-1HF14	3RW5516-3HF14
65.8	18.5	30	58	15	20	40	3RW5517-1HF14	3RW5517-3HF14
81.4	22	45	72	20	25	50	3RW5524-1HF14	3RW5524-3HF14
109	30	55	96	30	30	75	3RW5525-1HF14	3RW5525-3HF14
133	37	75	118	30	40	75	3RW5526-1HF14	3RW5526-3HF14
161	45	90	143	40	50	100	3RW5527-1HF14	3RW5527-3HF14
196	55	110	175	50	60	125	3RW5534-6HF14	3RW5534-2HF14
248	75	132	222	75	75	150	3RW5535-6HF14	3RW5535-2HF14
296	90	160	265	75	100	200	3RW5536-6HF14	3RW5536-2HF14
364	110	200	322	100	125	250	3RW5543-6HF14	3RW5543-2HF14
433	132	250	381	125	150	300	3RW5544-6HF14	3RW5544-2HF14
546	160	315	483	150	200	400	3RW5545-6HF14	3RW5545-2HF14
641	200	355	568	200	200	450	3RW5546-6HF14	3RW5546-2HF14
814	250	400	721	250	250	600	3RW5547-6HF14	3RW5547-2HF14
987	315	560	873	300	350	750	3RW5548-6HF14	3RW5548-2HF14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > Accessories

Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Fan covers									
	Fan cover	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)	--	--	3RW5983-0FC00		1	1 unit	42S
		3RW554 (1x)	--	--	3RW5984-0FC00		1	1 unit	42S
Terminal covers									
	Terminal cover	3RW552 (2x), 3RW553 (2x)	--	--	3RW5983-0TC20		1	1 unit	42S
		3RW554 (2x)	--	--	3RW5984-0TC20		1	1 unit	42S
Enclosure components									
	Hinged cover	3RW55	Without cutout	--	3RW5950-0GL20		1	1 unit	42S
Communications modules									
	Communications module¹⁾	3RW55	PROFINET High-Feature with integral switch	--	3RW5950-0CH00		1	1 unit	42S
			PROFINET Standard	--	3RW5980-0CS00		1	1 unit	42S
			PROFIBUS	--	3RW5980-0CP00		1	1 unit	42S
			EtherNet/IP	--	3RW5980-0CE00		1	1 unit	42S
			Modbus RTU	--	3RW5980-0CR00		1	1 unit	42S
			Modbus TCP	--	3RW5980-0CT00		1	1 unit	42S
									

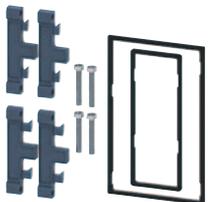
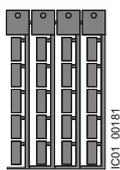
¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > Accessories

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules								
 <p>3RW5980-0HD00</p>	IP65 door mounting kit for HMI modules	3RW55	IP65	For HMI modules	3RW5980-0HD00	1	1 unit	42S
Connecting cables								
 <p>3UF793.-0BA00-0</p>	HMI connecting cable	3RW55	5 m, round 2.5 m, round 1.0 m, round 0.5 m, round	For door mounting	3RW5980-0HC60 3UF7933-0BA00-0 3UF7937-0BA00-0 3UF7932-0BA00-0	1	1 unit	42S 42J 42J 42J
Further accessories								
 <p>3ZY1311-0AA00</p>	Push-in lugs for wall mounting	--	Two lugs are required per device	For HMI modules and communications modules	3ZY1311-0AA00	1	10 units	41L
Blank labels								
 <p>3RT2900-1SB20</p>	Unit labeling plates¹⁾	--	20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20	100	340 units	41B

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW52
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw52
 SiePortal topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>
 Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>

SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>
 SIRIUS 3RW soft starter block library for SIMATIC PCS 7, see page 6/10 or <https://support.industry.siemens.com/cs/ww/en/view/109770336>
 Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide
 Conversion tool, see www.siemens.com/conversion-tool

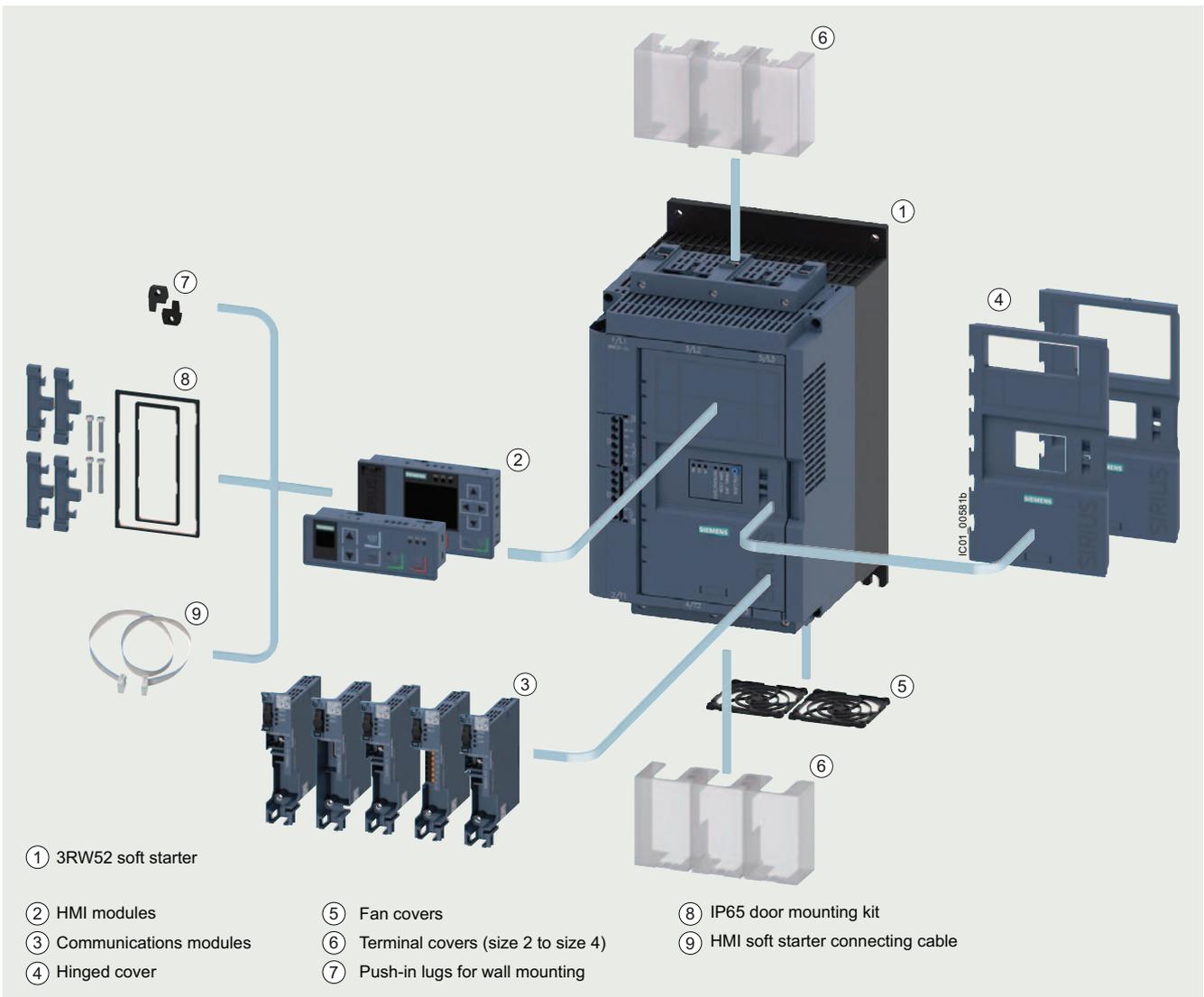


SIRIUS 3RW52 soft starters device family

SIRIUS 3RW52 General Performance soft starters are the ideal solution for standard applications. With ideal 3-phase motor control, they cover the performance range from 5.5 kW to 560 kW (at 400 V).

Optional HMI modules, plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW52 soft starters offer efficient switching for long-term, energy-saving use.



SIRIUS 3RW52 General Performance soft starter with accessories (see page 6/75 onwards), for expansion with HMI module or communications module

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Benefits



Product characteristics/function

Hybrid switching technology and 3-phase motor control

TIA integration – communications modules and HMI modules optional

Soft Torque

Parameterization using potentiometers

Wide range for control supply and main voltage

Performance features/benefits

Minimum power loss and optimum/symmetrical motor control

Efficient configuration and maximum flexibility in automation engineering

Reduced mechanical loading and optimum pump stop

Simple and fast commissioning

Low variance, high system availability even with weak supply networks

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > General data

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25100/td>
Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753751>

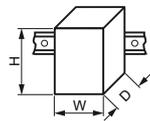
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25100/faq>
Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Article number

3RW5213
3RW5214
3RW52153RW5216
3RW52173RW5224
3RW52253RW5226
3RW5227
3RW5234
3RW5235
3RW52363RW5243
3RW5244
3RW5245
3RW5246
3RW5247
3RW5248

Installation/fixing/dimensions

Width x height x depth



mm

170 x 275 x 152

185 x 306 x 203

210 x 393 x 203

Type of mounting

Screw fixing

Mounting position

For vertical mounting surface can be rotated +/- 10° and tilted forward or backward

For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward

For vertical mounting surface can be rotated +/- 10° and tilted forward or backward

For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward

Distance to be maintained with side-by-side mounting

- Above mm 100
- At the side mm 5
- Below mm 75

Installation altitude at height above sea level, maximum¹⁾ m 5 000

Degree of protection IP on the front according to IEC 60529

IP20

IP00; IP20 with cover

Touch protection on the front according to IEC 60529

Finger-safe for vertical touching from the front

Finger-safe for vertical touching from the front with cover

Ambient conditions

Ambient temperature

- During operation²⁾ °C -25 ... +60
- During storage and transport °C -40 ... +80

Environmental category according to IEC 60721

- During operation 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
- During storage 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
- During transport 2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m)

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

²⁾ Observe derating above 40 °C.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Article number	3RW52...C0.		3RW52...C1.	
Control circuit/control				
Control supply voltage				
• At AC/DC	V	24/24	--/--	
• At AC	V	--	110 ... 250	
• Relative negative tolerance/relative positive tolerance with AC	%	-20/20	-15/10	
• Relative negative tolerance/relative positive tolerance with DC	%	-20/20	--/--	
Frequency of the control supply voltage				
• Relative negative tolerance/relative positive tolerance	Hz	50 ... 60		
	%	-10/10		
Type of overvoltage protection				
Varistors				
Type of short-circuit protection for control circuit¹⁾				
Fuse 4 A gG ($I_{cu} = 1$ kA), fuse 6 A quick-response ($I_{cu} = 1$ kA), MCB C1 ($I_{cu} = 600$ A), MCB C6 ($I_{cu} = 300$ A)				

¹⁾ Not included in scope of supply.

Article number	3RW521...C.4 3RW524...C.4		3RW522...C.4 3RW523...C.4		3RW521...C.5 3RW524...C.5		3RW522...C.5 3RW523...C.5	
Power electronics								
Operational voltage								
• Relative negative tolerance/relative positive tolerance	V	200 ... 480		200 ... 600				
	%	-15/10						
Operational voltage for inside-delta circuit								
• Relative negative tolerance/relative positive tolerance	V	200 ... 480		200 ... 600				
	%	-15/10						
Operating frequency								
• Relative negative tolerance/relative positive tolerance	Hz	50 ... 60						
	%	-10/10						
Blocking voltage of thyristor, maximum								
	V	1 600	1 400	1 600	1 800			
Minimum load [%]¹⁾								
	%	15						
Maximum cable length between soft starter and motor								
	m	800						

¹⁾ Relative to the smallest adjustable I_e .

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > General data

Type		3RW5213	3RW5214	3RW5215	3RW5216	3RW5217
Rated operational current I_e	A	13	18	25	32	38
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
Permissible rated motor current and starts/h						
Normal starting (Class 10A)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 5 s	1/h	43	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18	18
• 350% I_M						
- Startup time 5 s	1/h	28	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10	10
Normal starting (Class 10E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I_M						
- Startup time 10 s	1/h	21	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8	8
• 350% I_M						
- Startup time 10 s	1/h	13	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4	4
Heavy starting (Class 20E)						
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I_M						
- Startup time 20 s	1/h	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4
• 350% I_M						
- Startup time 20 s	1/h	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5
Adjustable rated motor current I_M						
• Minimum/maximum	A	5.5/13	7.5/18	11.5/25	14/32	15.5/38
• Minimum/maximum in inside-delta circuits	A	9.5/22.5	13/31.2	19.9/43.3	24.2/55.4	26.8/65.8

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Type		3RW5224	3RW5225	3RW5226	3RW5227
Rated operational current I_e	A	47	63	77	93
Power electronics					
Load rating with rated operational current I_e					
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
Permissible rated motor current and starts/h					
Normal starting (Class 10A)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M					
- Startup time 5 s	1/h	43	43	43	43
- Startup time 10 s	1/h	18	18	18	18
• 350% I_M					
- Startup time 5 s	1/h	28	28	28	28
- Startup time 10 s	1/h	10	10	10	10
Normal starting (Class 10E)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I_M					
- Startup time 10 s	1/h	21	21	21	21
- Startup time 20 s	1/h	8	8	8	8
• 350% I_M					
- Startup time 10 s	1/h	13	13	13	13
- Startup time 20 s	1/h	4	4	4	4
Heavy starting (Class 20E)					
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	47/41.6/36.2	63/55.5/50.5	65/59/53	93/82.5/75.5
• 300% I_M					
- Startup time 20 s	1/h	10	10	10	10
- Startup time 40 s	1/h	4	3	4	4
• 350% I_M					
- Startup time 20 s	1/h	7	4	7	7
- Startup time 40 s	1/h	2	0	2.5	2.5
Adjustable rated motor current I_M					
• Minimum/maximum	A	20/47	25.5/63	32/77	40.5/93
• Minimum/maximum in inside-delta circuits	A	34.6/81.4	44.2/109	55.4/133	70.1/161

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > General data

Type		3RW5234	3RW5235	3RW5236
Rated operational current I_e	A	113	143	171
Power electronics				
Load rating with rated operational current I_e				
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	113/101/89	143/128/118	171/153/141
Permissible rated motor current and starts/h				
Normal starting (Class 10A)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	143/128/118	171/153/141
• 300% I_M				
- Startup time 5 s	1/h	43	43	43
- Startup time 10 s	1/h	18	18	18
• 350% I_M				
- Startup time 5 s	1/h	28	27	20
- Startup time 10 s	1/h	10	8	4
Normal starting (Class 10E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	113/101/89	139/127/116	158/146/129
• 300% I_M				
- Startup time 10 s	1/h	21	21	21
- Startup time 20 s	1/h	8	8	8
• 350% I_M				
- Startup time 10 s	1/h	13	12	12
- Startup time 20 s	1/h	4	1	1
Heavy starting (Class 20E)				
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	109/97/85	113/103/93	129/117/105
• 300% I_M				
- Startup time 20 s	1/h	10	10	10
- Startup time 40 s	1/h	4	4	4
• 350% I_M				
- Startup time 20 s	1/h	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5
Adjustable rated motor current I_M				
• Minimum/maximum	A	53/113	68/143	81/171
• Minimum/maximum in inside-delta circuits	A	91.8/196	118/248	140/296

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Type		3RW5243	3RW5244	3RW5245	3RW5246	3RW5247	3RW5248
Rated operational current I_e	A	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current I_e							
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts/h							
Normal starting (Class 10A)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I_M							
- Startup time 5 s	1/h	43	43	43	43	30	20
- Startup time 10 s	1/h	18	18	14	18	11	6
• 350% I_M							
- Startup time 5 s	1/h	28	28	16	28	17	9
- Startup time 10 s	1/h	5	10	4	10	5	1
Normal starting (Class 10E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	197/184/170	250/220/200	279/255/231	370/328/300	398/362/326	460/416/372
• 300% I_M							
- Startup time 10 s	1/h	21	21	21	21	21	18
- Startup time 20 s	1/h	8	8	8	8	8	7
• 350% I_M							
- Startup time 10 s	1/h	12	13	12	13	13	11
- Startup time 20 s	1/h	1	4	3	4	4	2
Heavy starting (Class 20E)							
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	A	162/146/130	200/180/160	195/171/147	258/230/202	272/236/218	284/262/240
• 300% I_M							
- Startup time 20 s	1/h	10	10	10	10	10	10
- Startup time 40 s	1/h	4	4	4	4	4	4
• 350% I_M							
- Startup time 20 s	1/h	7	7	7	7	7	7
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5	2.5
Adjustable rated motor current I_M							
• Minimum/maximum	A	90/210	100/250	135/315	160/370	200/470	240/570
• Minimum/maximum in inside-delta circuits	A	156/364	173/433	234/546	277/641	346/814	416/987

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", Class 10, short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

Soft starters	Motor starter protectors/circuit breakers for 400 V systems				Motor starter protectors/circuit breakers for 500 V systems			
	Q11 Type	I_q kA	Q1 Type	I_q kA	Q11 Type	I_q kA	Q1 Type	I_q kA
Type of coordination "1" ^{10C1}	Standard (inline) circuit				Inside-delta circuit			
	3RW5213	3RV2032-4TA10	65	3RV2032-4TA10	18	3RV2032-4DA10	65	3RV2032-4DA10
3RW5214	3RV2032-4DA10	65	3RV2032-4DA10	15	3RV2032-4EA10	65	3RV2032-4EA10	15
3RW5215	3RV2032-4EA10	65	3RV2032-4EA10	15	3RV2032-4VA10	65	3RV2032-4VA10	15
3RW5216	3RV2032-4VA10	65	3RV2032-4VA10	10	3RV2032-4JA10	65	3RV2032-4JA10	10
3RW5217	3RV2032-4WA10	65	3RV2032-4WA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5224	3RV2032-4JA10	65	3RV2032-4JA10	10	3RV2032-4RA10	65	3RV2032-4RA10	10
3RW5225	3VA2163-7MN32-0AA0	65	3VA2163-7MN32-0AA0	20	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20
3RW5226	3VA2110-7MN32-0AA0	65	3VA2110-7MN32-0AA0	20	3VA2216-7MN32-0AA0	65	3VA2216-7MN32-0AA0	20
3RW5227	3VA2216-7MN32-0AA0	15	3VA2216-7MN32-0AA0	10	3VA2220-7MN32-0AA0	15	3VA2220-7MN32-0AA0	10
3RW5234	3VA2216-7MN32-0AA0	65	--	--	3VA2220-7MN32-0AA0	65	--	--
3RW5235	3VA2220-7MN32-0AA0	65	--	--	3VA2325-7MN32-0AA0	65	--	--
3RW5236	3VA2325-7MN32-0AA0	30	3VA2325-7MN32-0AA0	10	3VA2440-7MN32-0AA0	30	3VA2440-7MN32-0AA0	10
3RW5243	3VA2325-7MN32-0AA0	65	3VA2325-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5244	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65
3RW5245	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5246	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5247	3VA2450-7MN32-0AA0	65	3VA2450-7MN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65
3RW5248	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65	3VA2510-6HN32-0AA0	65

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.



Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

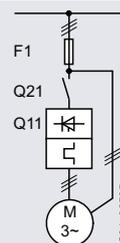
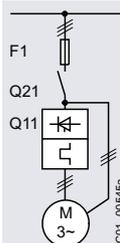
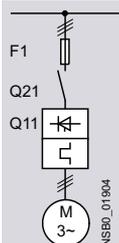
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gG class fuse			Line contactor (optional)			gG class fuse			Line contactor (optional)			
	for systems up to 600 V			for systems up to 480 V		for systems up to 600 V	for systems up to 480 V in the supply cable		for systems up to 600 V in the supply cable	for systems up to 480 V in the delta		for systems up to 600 V in the delta	
Q11 Type	F1 Type	Q21 Type	Q21 Type	F1 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type	Q21 Type		
Type of coordination "1" 1	Standard (inline) circuit						Inside-delta circuit						
3RW5213	3NA3820-6	3RT2025	3RT2025	3NA3820-6	3RT2027	3RT2035	3RT2025	3RT2025	3NA3820-6	3RT2027	3RT2037	3RT2025	3RT2025
3RW5214	3NA3820-6	3RT2026	3RT2027	3NA3820-6	3RT2027	3RT2037	3RT2026	3RT2027	3NA3820-6	3RT2036	3RT2037	3RT2026	3RT2027
3RW5215	3NA3822-6	3RT2027	3RT2037	3NA3822-6	3RT2036	3RT2037	3RT2027	3RT2037	3NA3822-6	3RT2037	3RT2037	3RT2027	3RT2037
3RW5216	3NA3824-6	3RT2035	3RT2037	3NA3824-6	3RT2037	3RT2037	3RT2035	3RT2037	3NA3824-6	3RT2037	3RT2037	3RT2035	3RT2037
3RW5217	3NA3824-6	3RT2035	3RT2037	3NA3824-6	3RT2038	3RT2046	3RT2035	3RT2037	3NA3824-6	3RT2038	3RT2046	3RT2035	3RT2037
3RW5224	3NA3824-6	3RT2036	3RT2037	3NA3824-6	3RT2046	3RT2047	3RT2036	3RT2037	3NA3824-6	3RT2046	3RT2047	3RT2036	3RT2037
3RW5225	3NA3830-6	3RT2037	3RT2046	3NA3830-6	3RT2047	3RT1054	3RT2037	3RT2046	3NA3830-6	3RT1054	3RT1055	3RT2037	3RT2046
3RW5226	3NA3132-6	3RT2038	3RT2046	3NA3132-6	3RT1055	3RT1056	3RT2038	3RT2046	3NA3132-6	3RT1055	3RT1056	3RT2038	3RT2046
3RW5227	3NA3136-6	3RT2046	3RT2047	3NA3136-6	3RT1056	3RT1064	3RT2046	3RT2047	3NA3136-6	3RT1056	3RT1064	3RT2046	3RT2047
3RW5234	3NA3244-6	3RT1054	3RT1054	3NA3244-6	3RT1064	3RT1066	3RT1054	3RT1054	3NA3244-6	3RT1064	3RT1066	3RT1054	3RT1054
3RW5235	3NA3244-6	3RT1055	3RT1055	3NA3244-6	3RT1065	3RT1075	3RT1055	3RT1055	3NA3244-6	3RT1065	3RT1075	3RT1055	3RT1055
3RW5236	3NA3365-6	3RT1056	3RT1064	3NA3365-6	3RT1066	--	3RT1056	3RT1064	3NA3365-6	3RT1066	--	3RT1056	3RT1064
3RW5243	2 x 3NA3354-6	3RT1064	3RT1064	2 x 3NA3354-6	3RT1075	3RT1075	3RT1064	3RT1064	2 x 3NA3354-6	3RT1075	3RT1075	3RT1064	3RT1064
3RW5244	2 x 3NA3354-6	3RT1065	3RT1065	2 x 3NA3354-6	3RT1076	3RT1076	3RT1065	3RT1065	2 x 3NA3354-6	3RT1076	3RT1076	3RT1065	3RT1065
3RW5245	2 x 3NA3365-6	3RT1075	3RT1075	2 x 3NA3365-6	3TF68	3TF68	3RT1075	3RT1075	2 x 3NA3365-6	3TF68	3TF68	3RT1075	3RT1075
3RW5246	2 x 3NA3365-6	3RT1075	3RT1075	2 x 3NA3365-6	3TF69	3TF69	3RT1075	3RT1075	2 x 3NA3365-6	3TF69	3TF69	3RT1075	3RT1075
3RW5247	2 x 3NA3365-6	3RT1076	3RT1276	2 x 3NA3365-6	3TF69	3TF69	3RT1076	3RT1076	2 x 3NA3365-6	3TF69	3TF69	3RT1076	3RT1276
3RW5248	2 x 3NA3365-6	3TF68	3TF68	2 x 3NA3365-6	--	--	3TF68	3TF68	2 x 3NA3365-6	--	--	3TF68	3TF68

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

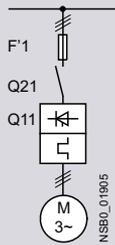
3RW52 soft starters > General data

Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2",
short-circuit breaking capacity $I_{cs} = 65 \text{ kA}$ **Note:**

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gR/gS class fuse	Line contactor (optional)	
Q11	for systems up to 600 V	for systems up to 480 V	for systems up to 600 V
Type	F'1	Q21	Q21
Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit		
3RW5213	3NE1815-0	3RT2025	3RT2025
3RW5214	3NE1802-0	3RT2026	3RT2027
3RW5215	3NE1817-0	3RT2027	3RT2037
3RW5216	3NE1818-0	3RT2035	3RT2037
3RW5217	3NE1820-0	3RT2035	3RT2037
3RW5224	3NE1021-2	3RT2036	3RT2037
3RW5225	3NE1022-0	3RT2037	3RT2046
3RW5226	3NE1224-0	3RT2038	3RT2046
3RW5227	3NE1224-0	3RT2046	3RT2047
3RW5234	3NE1225-0	3RT1054	3RT1054
3RW5235	3NE1227-0	3RT1055	3RT1055
3RW5236	3NE1230-0	3RT1056	3RT1064
3RW5243	3NE1230-2 ¹⁾	3RT1064	3RT1064
3RW5244	3NE1331-0	3RT1065	3RT1065
3RW5245	3NE1334-2	3RT1075	3RT1075
3RW5246	3NE1334-2	3RT1075	3RT1075
3RW5247	3NE1436-2	3RT1076	3RT1276
3RW5248	3NE1437-2	3TF68	3TF68

1) For systems up to 500 V.

Note:

The specified short-circuit breaking capacities I_{cs} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/66).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

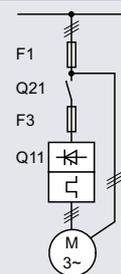
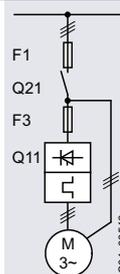
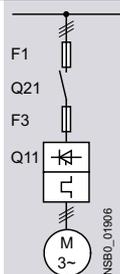
Motor feeders according to IEC with 3NE8/3NE4/3NE3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	Standard (inline) circuit				Inside-delta circuit					
	gG class fuse	aR class fuse	Line contactor (optional)		gG class fuse	aR class fuse	Line contactor (optional)			
Q11 Type	for systems up to 600 V	for systems up to 500 V	for systems up to 480 V	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 480 V in the supply cable	for systems up to 600 V in the supply cable	for systems up to 480 V in the delta	for systems up to 600 V in the delta
Type of coordination "2"	F1	F3	Q21	Q21	F1	F3	Q21	Q21	Q21	Q21
Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type
3RW5213	3NA3820-6	3NE8017-1	3RT2025	3RT2025	3NA3820-6	3NE8017-1	3RT2027	3RT2035	3RT2025	3RT2025
3RW5214	3NA3820-6	3NE8020-1	3RT2026	3RT2027	3NA3820-6	3NE8020-1	3RT2027	3RT2037	3RT2026	3RT2027
3RW5215	3NA3822-6	3NE8021-1	3RT2027	3RT2037	3NA3822-6	3NE8021-1	3RT2036	3RT2037	3RT2027	3RT2037
3RW5216	3NA3824-6	3NE8022-1	3RT2035	3RT2037	3NA3824-6	3NE8022-1	3RT2037	3RT2038	3RT2035	3RT2037
3RW5217	3NA3824-6	3NE8024-1	3RT2035	3RT2037	3NA3824-6	3NE8024-1	3RT2038	3RT2046	3RT2035	3RT2037
3RW5224	3NA3824-6	3NE8024-1	3RT2036	3RT2037	3NA3824-6	3NE8024-1	3RT2046	3RT2047	3RT2036	3RT2037
3RW5225	3NA3830-6	3NE8024-1	3RT2037	3RT2046	3NA3830-6	3NE8024-1	3RT2047	3RT1054	3RT2037	3RT2046
3RW5226	3NA3132-6	3NE8024-1	3RT2038	3RT2046	3NA3132-6	3NE8024-1	3RT1055	3RT1055	3RT2038	3RT2046
3RW5227	3NA3136-6	3NE4124	3RT2046	3RT2047	3NA3136-6	3NE4124	3RT1056	3RT1056	3RT2046	3RT2047
3RW5234	3NA3244-6	3NE3332-0B	3RT1054	3RT1054	3NA3244-6	3NE3332-0B	3RT1064	3RT1064	3RT1054	3RT1054
3RW5235	3NA3244-6	3NE3334-0B	3RT1055	3RT1055	3NA3244-6	3NE3334-0B	3RT1065	3RT1065	3RT1055	3RT1055
3RW5236	3NA3365-6	3NE3335	3RT1056	3RT1064	3NA3365-6	3NE3335	3RT1066	3RT1075	3RT1056	3RT1064
3RW5243	2 x 3NA3354-6	3NE3333	3RT1064	3RT1064	2 x 3NA3354-6	3NE3333	3RT1075	3RT1075	3RT1064	3RT1064
3RW5244	2 x 3NA3354-6	3NE3336	3RT1065	3RT1065	2 x 3NA3354-6	3NE3336	3RT1076	3RT1076	3RT1065	3RT1065
3RW5245	2 x 3NA3365-6	3NE3336	3RT1075	3RT1075	2 x 3NA3365-6	3NE3336	3TF68	3TF68	3RT1075	3RT1075
3RW5246	2 x 3NA3365-6	3NE3336	3RT1075	3RT1075	2 x 3NA3365-6	3NE3336	3TF69	3TF69	3RT1075	3RT1075
3RW5247	2 x 3NA3365-6	3NE3340-8	3RT1076	3RT1276	2 x 3NA3365-6	3NE3340-8	3TF69	3TF69	3RT1076	3RT1276
3RW5248	2 x 3NA3365-6	3NE3340-8	3TF68	3TF68	2 x 3NA3365-6	3NE3340-8	--	--	3TF68	3TF68

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/63). In these cases, optional line contactors can be dispensed with.

Selection and ordering data

For normal starting (Class 10A)

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



3RW521-1AC.4



3RW522-3AC.4



3RW523-6AC.4



3RW524-2AC.4

At 40 °C				At 50 °C				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/ 208 V	at 220/ 230 V	at 460/ 480 V				
13	3	5.5	--	11.5	2	3	7.5	3RW5213-1AC04		3RW5213-3AC04	
18	4	7.5	--	15.9	3	5	10	3RW5214-1AC04		3RW5214-3AC04	
25	5.5	11	--	22.3	5	7.5	15	3RW5215-1AC04		3RW5215-3AC04	
32	7.5	15	--	28.4	7.5	10	20	3RW5216-1AC04		3RW5216-3AC04	
38	11	18.5	--	33.5	10	10	20	3RW5217-1AC04		3RW5217-3AC04	
47	11	22	--	41.6	10	10	30	3RW5224-1AC04		3RW5224-3AC04	
63	18.5	30	--	55.5	15	20	40	3RW5225-1AC04		3RW5225-3AC04	
77	22	37	--	68	20	25	50	3RW5226-1AC04		3RW5226-3AC04	
93	22	45	--	82.5	25	30	60	3RW5227-1AC04		3RW5227-3AC04	
113	30	55	--	101	30	30	75	3RW5234-6AC04		3RW5234-2AC04	
143	37	75	--	128	40	40	100	3RW5235-6AC04		3RW5235-2AC04	
171	45	90	--	153	50	50	100	3RW5236-6AC04		3RW5236-2AC04	
210	55	110	--	186	60	60	150	3RW5243-6AC04		3RW5243-2AC04	
250	75	132	--	220	60	75	150	3RW5244-6AC04		3RW5244-2AC04	
315	90	160	--	279	75	100	200	3RW5245-6AC04		3RW5245-2AC04	
370	110	200	--	328	100	125	250	3RW5246-6AC04		3RW5246-2AC04	
470	132	250	--	416	150	150	350	3RW5247-6AC04		3RW5247-2AC04	
570	160	315	--	504	150	200	400	3RW5248-6AC04		3RW5248-2AC04	

Operational voltage 200 ... 480 V

Analog output

Control supply voltage 24 V AC/DC

13	3	5.5	--	11.5	2	3	7.5	--	3RW5213-1AC04		3RW5213-3AC04
18	4	7.5	--	15.9	3	5	10	--	3RW5214-1AC04		3RW5214-3AC04
25	5.5	11	--	22.3	5	7.5	15	--	3RW5215-1AC04		3RW5215-3AC04
32	7.5	15	--	28.4	7.5	10	20	--	3RW5216-1AC04		3RW5216-3AC04
38	11	18.5	--	33.5	10	10	20	--	3RW5217-1AC04		3RW5217-3AC04
47	11	22	--	41.6	10	10	30	--	3RW5224-1AC04		3RW5224-3AC04
63	18.5	30	--	55.5	15	20	40	--	3RW5225-1AC04		3RW5225-3AC04
77	22	37	--	68	20	25	50	--	3RW5226-1AC04		3RW5226-3AC04
93	22	45	--	82.5	25	30	60	--	3RW5227-1AC04		3RW5227-3AC04
113	30	55	--	101	30	30	75	--	3RW5234-6AC04		3RW5234-2AC04
143	37	75	--	128	40	40	100	--	3RW5235-6AC04		3RW5235-2AC04
171	45	90	--	153	50	50	100	--	3RW5236-6AC04		3RW5236-2AC04
210	55	110	--	186	60	60	150	--	3RW5243-6AC04		3RW5243-2AC04
250	75	132	--	220	60	75	150	--	3RW5244-6AC04		3RW5244-2AC04
315	90	160	--	279	75	100	200	--	3RW5245-6AC04		3RW5245-2AC04
370	110	200	--	328	100	125	250	--	3RW5246-6AC04		3RW5246-2AC04
470	132	250	--	416	150	150	350	--	3RW5247-6AC04		3RW5247-2AC04
570	160	315	--	504	150	200	400	--	3RW5248-6AC04		3RW5248-2AC04

Control supply voltage 110 ... 250 V AC

13	3	5.5	--	11.5	2	3	7.5	--	3RW5213-1AC14		3RW5213-3AC14
18	4	7.5	--	15.9	3	5	10	--	3RW5214-1AC14		3RW5214-3AC14
25	5.5	11	--	22.3	5	7.5	15	--	3RW5215-1AC14		3RW5215-3AC14
32	7.5	15	--	28.4	7.5	10	20	--	3RW5216-1AC14		3RW5216-3AC14
38	11	18.5	--	33.5	10	10	20	--	3RW5217-1AC14		3RW5217-3AC14
47	11	22	--	41.6	10	10	30	--	3RW5224-1AC14		3RW5224-3AC14
63	18.5	30	--	55.5	15	20	40	--	3RW5225-1AC14		3RW5225-3AC14
77	22	37	--	68	20	25	50	--	3RW5226-1AC14		3RW5226-3AC14
93	22	45	--	82.5	25	30	60	--	3RW5227-1AC14		3RW5227-3AC14
113	30	55	--	101	30	30	75	--	3RW5234-6AC14		3RW5234-2AC14
143	37	75	--	128	40	40	100	--	3RW5235-6AC14		3RW5235-2AC14
171	45	90	--	153	50	50	100	--	3RW5236-6AC14		3RW5236-2AC14
210	55	110	--	186	60	60	150	--	3RW5243-6AC14		3RW5243-2AC14
250	75	132	--	220	60	75	150	--	3RW5244-6AC14		3RW5244-2AC14
315	90	160	--	279	75	100	200	--	3RW5245-6AC14		3RW5245-2AC14
370	110	200	--	328	100	125	250	--	3RW5246-6AC14		3RW5246-2AC14
470	132	250	--	416	150	150	350	--	3RW5247-6AC14		3RW5247-2AC14
570	160	315	--	504	150	200	400	--	3RW5248-6AC14		3RW5248-2AC14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Standard (inline) circuit **IE3/IE4 ready****For normal starting (Class 10A)**

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



3RW521.-1TC.4



3RW522.-3TC.4



3RW523.-6TC.4



3RW524.-2TC.4

At 40 °C				At 50 °C					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors at			Operational current A	Operating power [hp] for three-phase motors at				Article No.	Price per PU	Article No.	Price per PU
	230 V	400 V	500 V		200/ 208 V	220/ 230 V	460/ 480 V	460/ 480 V				
	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 480 V
Thermistor motor protection

Control supply voltage 24 V AC/DC

13	3	5.5	--	11.5	2	3	7.5	--	3RW5213-1TC04	3RW5213-3TC04
18	4	7.5	--	15.9	3	5	10	--	3RW5214-1TC04	3RW5214-3TC04
25	5.5	11	--	22.3	5	7.5	15	--	3RW5215-1TC04	3RW5215-3TC04
32	7.5	15	--	28.4	7.5	10	20	--	3RW5216-1TC04	3RW5216-3TC04
38	11	18.5	--	33.5	10	10	20	--	3RW5217-1TC04	3RW5217-3TC04
47	11	22	--	41.6	10	10	30	--	3RW5224-1TC04	3RW5224-3TC04
63	18.5	30	--	55.5	15	20	40	--	3RW5225-1TC04	3RW5225-3TC04
77	22	37	--	68	20	25	50	--	3RW5226-1TC04	3RW5226-3TC04
93	22	45	--	82.5	25	30	60	--	3RW5227-1TC04	3RW5227-3TC04
113	30	55	--	101	30	30	75	--	3RW5234-6TC04	3RW5234-2TC04
143	37	75	--	128	40	40	100	--	3RW5235-6TC04	3RW5235-2TC04
171	45	90	--	153	50	50	100	--	3RW5236-6TC04	3RW5236-2TC04
210	55	110	--	186	60	60	150	--	3RW5243-6TC04	3RW5243-2TC04
250	75	132	--	220	60	75	150	--	3RW5244-6TC04	3RW5244-2TC04
315	90	160	--	279	75	100	200	--	3RW5245-6TC04	3RW5245-2TC04
370	110	200	--	328	100	125	250	--	3RW5246-6TC04	3RW5246-2TC04
470	132	250	--	416	150	150	350	--	3RW5247-6TC04	3RW5247-2TC04
570	160	315	--	504	150	200	400	--	3RW5248-6TC04	3RW5248-2TC04

Control supply voltage 110 ... 250 V AC

13	3	5.5	--	11.5	2	3	7.5	--	3RW5213-1TC14	3RW5213-3TC14
18	4	7.5	--	15.9	3	5	10	--	3RW5214-1TC14	3RW5214-3TC14
25	5.5	11	--	22.3	5	7.5	15	--	3RW5215-1TC14	3RW5215-3TC14
32	7.5	15	--	28.4	7.5	10	20	--	3RW5216-1TC14	3RW5216-3TC14
38	11	18.5	--	33.5	10	10	20	--	3RW5217-1TC14	3RW5217-3TC14
47	11	22	--	41.6	10	10	30	--	3RW5224-1TC14	3RW5224-3TC14
63	18.5	30	--	55.5	15	20	40	--	3RW5225-1TC14	3RW5225-3TC14
77	22	37	--	68	20	25	50	--	3RW5226-1TC14	3RW5226-3TC14
93	22	45	--	82.5	25	30	60	--	3RW5227-1TC14	3RW5227-3TC14
113	30	55	--	101	30	30	75	--	3RW5234-6TC14	3RW5234-2TC14
143	37	75	--	128	40	40	100	--	3RW5235-6TC14	3RW5235-2TC14
171	45	90	--	153	50	50	100	--	3RW5236-6TC14	3RW5236-2TC14
210	55	110	--	186	60	60	150	--	3RW5243-6TC14	3RW5243-2TC14
250	75	132	--	220	60	75	150	--	3RW5244-6TC14	3RW5244-2TC14
315	90	160	--	279	75	100	200	--	3RW5245-6TC14	3RW5245-2TC14
370	110	200	--	328	100	125	250	--	3RW5246-6TC14	3RW5246-2TC14
470	132	250	--	416	150	150	350	--	3RW5247-6TC14	3RW5247-2TC14
570	160	315	--	504	150	200	400	--	3RW5248-6TC14	3RW5248-2TC14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

For normal starting (Class 10A)

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



3RW521.-1AC.5



3RW522.-3AC.5



3RW523.-6AC.5



3RW524.-2AC.5

At 40 °C				At 50 °C				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V				
	kW	kW	kW		hp	hp	hp				

Operational voltage 200 ... 600 V

Analog output

Control supply voltage 24 V AC/DC

13	3	5.5	7.5	11.5	2	3	7.5	10	3RW5213-1AC05	3RW5213-3AC05
18	4	7.5	11	15.9	3	5	10	10	3RW5214-1AC05	3RW5214-3AC05
25	5.5	11	15	22.3	5	7.5	15	20	3RW5215-1AC05	3RW5215-3AC05
32	7.5	15	18.5	28.4	7.5	10	20	25	3RW5216-1AC05	3RW5216-3AC05
38	11	18.5	22	33.5	10	10	20	30	3RW5217-1AC05	3RW5217-3AC05
47	11	22	30	41.6	10	10	30	40	3RW5224-1AC05	3RW5224-3AC05
63	18.5	30	37	55.5	15	20	40	50	3RW5225-1AC05	3RW5225-3AC05
77	22	37	45	68	20	25	50	60	3RW5226-1AC05	3RW5226-3AC05
93	22	45	55	82.5	25	30	60	75	3RW5227-1AC05	3RW5227-3AC05
113	30	55	75	101	30	30	75	100	3RW5234-6AC05	3RW5234-2AC05
143	37	75	90	128	40	40	100	125	3RW5235-6AC05	3RW5235-2AC05
171	45	90	110	153	50	50	100	150	3RW5236-6AC05	3RW5236-2AC05
210	55	110	132	186	60	60	150	150	3RW5243-6AC05	3RW5243-2AC05
250	75	132	160	220	60	75	150	200	3RW5244-6AC05	3RW5244-2AC05
315	90	160	200	279	75	100	200	250	3RW5245-6AC05	3RW5245-2AC05
370	110	200	250	328	100	125	250	300	3RW5246-6AC05	3RW5246-2AC05
470	132	250	315	416	150	150	350	450	3RW5247-6AC05	3RW5247-2AC05
570	160	315	355	504	150	200	400	500	3RW5248-6AC05	3RW5248-2AC05

Control supply voltage 110 ... 250 V AC

13	3	5.5	7.5	11.5	2	3	7.5	10	3RW5213-1AC15	3RW5213-3AC15
18	4	7.5	11	15.9	3	5	10	10	3RW5214-1AC15	3RW5214-3AC15
25	5.5	11	15	22.3	5	7.5	15	20	3RW5215-1AC15	3RW5215-3AC15
32	7.5	15	18.5	28.4	7.5	10	20	25	3RW5216-1AC15	3RW5216-3AC15
38	11	18.5	22	33.5	10	10	20	30	3RW5217-1AC15	3RW5217-3AC15
47	11	22	30	41.6	10	10	30	40	3RW5224-1AC15	3RW5224-3AC15
63	18.5	30	37	55.5	15	20	40	50	3RW5225-1AC15	3RW5225-3AC15
77	22	37	45	68	20	25	50	60	3RW5226-1AC15	3RW5226-3AC15
93	22	45	55	82.5	25	30	60	75	3RW5227-1AC15	3RW5227-3AC15
113	30	55	75	101	30	30	75	100	3RW5234-6AC15	3RW5234-2AC15
143	37	75	90	128	40	40	100	125	3RW5235-6AC15	3RW5235-2AC15
171	45	90	110	153	50	50	100	150	3RW5236-6AC15	3RW5236-2AC15
210	55	110	132	186	60	60	150	150	3RW5243-6AC15	3RW5243-2AC15
250	75	132	160	220	60	75	150	200	3RW5244-6AC15	3RW5244-2AC15
315	90	160	200	279	75	100	200	250	3RW5245-6AC15	3RW5245-2AC15
370	110	200	250	328	100	125	250	300	3RW5246-6AC15	3RW5246-2AC15
470	132	250	315	416	150	150	350	450	3RW5247-6AC15	3RW5247-2AC15
570	160	315	355	504	150	200	400	500	3RW5248-6AC15	3RW5248-2AC15

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters



3RW52 soft starters > Standard (inline) circuit **IE3/IE4 ready**

For normal starting (Class 10A)

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



3RW521.-1TC.5

3RW522.-3TC.5

3RW523.-6TC.5

3RW524.-2TC.5

At 40 °C				At 50 °C					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors at			Operational current A	Operating power [hp] for three-phase motors at				Article No.	Price per PU	Article No.	Price per PU
	230 V	400 V	500 V		200/208 V	220/230 V	460/480 V	575/600 V				
	kW	kW	kW	A	hp	hp	hp	hp				

Operational voltage 200 ... 600 V
Thermistor motor protection

Control supply voltage 24 V AC/DC												
13	3	5.5	7.5	11.5	2	3	7.5	10	3RW5213-1TC05		3RW5213-3TC05	
18	4	7.5	11	15.9	3	5	10	10	3RW5214-1TC05		3RW5214-3TC05	
25	5.5	11	15	22.3	5	7.5	15	20	3RW5215-1TC05		3RW5215-3TC05	
32	7.5	15	18.5	28.4	7.5	10	20	25	3RW5216-1TC05		3RW5216-3TC05	
38	11	18.5	22	33.5	10	10	20	30	3RW5217-1TC05		3RW5217-3TC05	
47	11	22	30	41.6	10	10	30	40	3RW5224-1TC05		3RW5224-3TC05	
63	18.5	30	37	55.5	15	20	40	50	3RW5225-1TC05		3RW5225-3TC05	
77	22	37	45	68	20	25	50	60	3RW5226-1TC05		3RW5226-3TC05	
93	22	45	55	82.5	25	30	60	75	3RW5227-1TC05		3RW5227-3TC05	
113	30	55	75	101	30	30	75	100	3RW5234-6TC05		3RW5234-2TC05	
143	37	75	90	128	40	40	100	125	3RW5235-6TC05		3RW5235-2TC05	
171	45	90	110	153	50	50	100	150	3RW5236-6TC05		3RW5236-2TC05	
210	55	110	132	186	60	60	150	150	3RW5243-6TC05		3RW5243-2TC05	
250	75	132	160	220	60	75	150	200	3RW5244-6TC05		3RW5244-2TC05	
315	90	160	200	279	75	100	200	250	3RW5245-6TC05		3RW5245-2TC05	
370	110	200	250	328	100	125	250	300	3RW5246-6TC05		3RW5246-2TC05	
470	132	250	315	416	150	150	350	450	3RW5247-6TC05		3RW5247-2TC05	
570	160	315	355	504	150	200	400	500	3RW5248-6TC05		3RW5248-2TC05	
Control supply voltage 110 ... 250 V AC												
13	3	5.5	7.5	11.5	2	3	7.5	10	3RW5213-1TC15		3RW5213-3TC15	
18	4	7.5	11	15.9	3	5	10	10	3RW5214-1TC15		3RW5214-3TC15	
25	5.5	11	15	22.3	5	7.5	15	20	3RW5215-1TC15		3RW5215-3TC15	
32	7.5	15	18.5	28.4	7.5	10	20	25	3RW5216-1TC15		3RW5216-3TC15	
38	11	18.5	22	33.5	10	10	20	30	3RW5217-1TC15		3RW5217-3TC15	
47	11	22	30	41.6	10	10	30	40	3RW5224-1TC15		3RW5224-3TC15	
63	18.5	30	37	55.5	15	20	40	50	3RW5225-1TC15		3RW5225-3TC15	
77	22	37	45	68	20	25	50	60	3RW5226-1TC15		3RW5226-3TC15	
93	22	45	55	82.5	25	30	60	75	3RW5227-1AC15		3RW5227-3TC15	
113	30	55	75	101	30	30	75	100	3RW5234-6TC15		3RW5234-2TC15	
143	37	75	90	128	40	40	100	125	3RW5235-6TC15		3RW5235-2TC15	
171	45	90	110	153	50	50	100	150	3RW5236-6TC15		3RW5236-2TC15	
210	55	110	132	186	60	60	150	150	3RW5243-6TC15		3RW5243-2TC15	
250	75	132	160	220	60	75	150	200	3RW5244-6TC15		3RW5244-2TC15	
315	90	160	200	279	75	100	200	250	3RW5245-6TC15		3RW5245-2TC15	
370	110	200	250	328	100	125	250	300	3RW5246-6TC15		3RW5246-2TC15	
470	132	250	315	416	150	150	350	450	3RW5247-6TC15		3RW5247-2TC15	
570	160	315	355	504	150	200	400	500	3RW5248-6TC15		3RW5248-2TC15	

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Selection and ordering data

For normal starting (Class 10A)

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



3RW521-1AC.4



3RW522-3AC.4



3RW523-6AC.4



3RW524-2AC.4

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit				Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V				
A	kW	kW	kW	A	hp	hp	hp	hp			

Operational voltage 200 ... 480 V

Analog output

Control supply voltage 24 V AC/DC

22.5	5.5	11	--	19.9	5	5	10	--	3RW5213-1AC04	3RW5213-3AC04
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5214-1AC04	3RW5214-3AC04
43.3	11	18.5	--	39	10	10	25	--	3RW5215-1AC04	3RW5215-3AC04
55.4	15	22	--	49	15	15	30	--	3RW5216-1AC04	3RW5216-3AC04
65.8	18.5	30	--	58	15	20	40	--	3RW5217-1AC04	3RW5217-3AC04
81.4	22	45	--	72	20	25	50	--	3RW5224-1AC04	3RW5224-3AC04
109	30	55	--	96	30	30	75	--	3RW5225-1AC04	3RW5225-3AC04
133	37	75	--	118	30	40	75	--	3RW5226-1AC04	3RW5226-3AC04
161	45	90	--	143	40	50	100	--	3RW5227-1AC04	3RW5227-3AC04
196	55	110	--	175	50	60	125	--	3RW5234-6AC04	3RW5234-2AC04
248	75	132	--	222	75	75	150	--	3RW5235-6AC04	3RW5235-2AC04
296	90	160	--	265	75	100	200	--	3RW5236-6AC04	3RW5236-2AC04
364	110	200	--	322	100	125	250	--	3RW5243-6AC04	3RW5243-2AC04
433	132	250	--	381	125	150	300	--	3RW5244-6AC04	3RW5244-2AC04
546	160	315	--	483	150	200	400	--	3RW5245-6AC04	3RW5245-2AC04
641	200	355	--	568	200	200	450	--	3RW5246-6AC04	3RW5246-2AC04
814	250	400	--	721	250	250	600	--	3RW5247-6AC04	3RW5247-2AC04
987	315	560	--	873	300	350	750	--	3RW5248-6AC04	3RW5248-2AC04

Control supply voltage 110 ... 250 V AC

22.5	5.5	11	--	19.9	5	5	10	--	3RW5213-1AC14	3RW5213-3AC14
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5214-1AC14	3RW5214-3AC14
43.3	11	18.5	--	39	10	10	25	--	3RW5215-1AC14	3RW5215-3AC14
55.4	15	22	--	49	15	15	30	--	3RW5216-1AC14	3RW5216-3AC14
65.8	18.5	30	--	58	15	20	40	--	3RW5217-1AC14	3RW5217-3AC14
81.4	22	45	--	72	20	25	50	--	3RW5224-1AC14	3RW5224-3AC14
109	30	55	--	96	30	30	75	--	3RW5225-1AC14	3RW5225-3AC14
133	37	75	--	118	30	40	75	--	3RW5226-1AC14	3RW5226-3AC14
161	45	90	--	143	40	50	100	--	3RW5227-1AC14	3RW5227-3AC14
196	55	110	--	175	50	60	125	--	3RW5234-6AC14	3RW5234-2AC14
248	75	132	--	222	75	75	150	--	3RW5235-6AC14	3RW5235-2AC14
296	90	160	--	265	75	100	200	--	3RW5236-6AC14	3RW5236-2AC14
364	110	200	--	322	100	125	250	--	3RW5243-6AC14	3RW5243-2AC14
433	132	250	--	381	125	150	300	--	3RW5244-6AC14	3RW5244-2AC14
546	160	315	--	483	150	200	400	--	3RW5245-6AC14	3RW5245-2AC14
641	200	355	--	568	200	200	450	--	3RW5246-6AC14	3RW5246-2AC14
814	250	400	--	721	250	250	600	--	3RW5247-6AC14	3RW5247-2AC14
987	315	560	--	873	300	350	750	--	3RW5248-6AC14	3RW5248-2AC14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters



3RW52 soft starters > Inside-delta circuit **IE3/IE4 ready**

For normal starting (Class 10A)

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



At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 480 V
Thermistor motor protection

Control supply voltage 24 V AC/DC												
22.5	5.5	11	--	19.9	5	5	10	--	3RW5213-1TC04	3RW5213-3TC04		
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5214-1TC04	3RW5214-3TC04		
43.3	11	18.5	--	39	10	10	25	--	3RW5215-1TC04	3RW5215-3TC04		
55.4	15	22	--	49	15	15	30	--	3RW5216-1TC04	3RW5216-3TC04		
65.8	18.5	30	--	58	15	20	40	--	3RW5217-1TC04	3RW5217-3TC04		
81.4	22	45	--	72	20	25	50	--	3RW5224-1TC04	3RW5224-3TC04		
109	30	55	--	96	30	30	75	--	3RW5225-1TC04	3RW5225-3TC04		
133	37	75	--	118	30	40	75	--	3RW5226-1TC04	3RW5226-3TC04		
161	45	90	--	143	40	50	100	--	3RW5227-1TC04	3RW5227-3TC04		
196	55	110	--	175	50	60	125	--	3RW5234-6TC04	3RW5234-2TC04		
248	75	132	--	222	75	75	150	--	3RW5235-6TC04	3RW5235-2TC04		
296	90	160	--	265	75	100	200	--	3RW5236-6TC04	3RW5236-2TC04		
364	110	200	--	322	100	125	250	--	3RW5243-6TC04	3RW5243-2TC04		
433	132	250	--	381	125	150	300	--	3RW5244-6TC04	3RW5244-2TC04		
546	160	315	--	483	150	200	400	--	3RW5245-6TC04	3RW5245-2TC04		
641	200	355	--	568	200	200	450	--	3RW5246-6TC04	3RW5246-2TC04		
814	250	400	--	721	250	250	600	--	3RW5247-6TC04	3RW5247-2TC04		
987	315	560	--	873	300	350	750	--	3RW5248-6TC04	3RW5248-2TC04		
Control supply voltage 110 ... 250 V AC												
22.5	5.5	11	--	19.9	5	5	10	--	3RW5213-1TC14	3RW5213-3TC14		
31.5	7.5	15	--	28	7.5	7.5	20	--	3RW5214-1TC14	3RW5214-3TC14		
43.3	11	18.5	--	39	10	10	25	--	3RW5215-1TC14	3RW5215-3TC14		
55.4	15	22	--	49	15	15	30	--	3RW5216-1TC14	3RW5216-3TC14		
65.8	18.5	30	--	58	15	20	40	--	3RW5217-1TC14	3RW5217-3TC14		
81.4	22	45	--	72	20	25	50	--	3RW5224-1TC14	3RW5224-3TC14		
109	30	55	--	96	30	30	75	--	3RW5225-1TC14	3RW5225-3TC14		
133	37	75	--	118	30	40	75	--	3RW5226-1TC14	3RW5226-3TC14		
161	45	90	--	143	40	50	100	--	3RW5227-1TC14	3RW5227-3TC14		
196	55	110	--	175	50	60	125	--	3RW5234-6TC14	3RW5234-2TC14		
248	75	132	--	222	75	75	150	--	3RW5235-6TC14	3RW5235-2TC14		
296	90	160	--	265	75	100	200	--	3RW5236-6TC14	3RW5236-2TC14		
364	110	200	--	322	100	125	250	--	3RW5243-6TC14	3RW5243-2TC14		
433	132	250	--	381	125	150	300	--	3RW5244-6TC14	3RW5244-2TC14		
546	160	315	--	483	150	200	400	--	3RW5245-6TC14	3RW5245-2TC14		
641	200	355	--	568	200	200	450	--	3RW5246-6TC14	3RW5246-2TC14		
814	250	400	--	721	250	250	600	--	3RW5247-6TC14	3RW5247-2TC14		
987	315	560	--	873	300	350	750	--	3RW5248-6TC14	3RW5248-2TC14		

Note:

For the constraints for the motor outputs specified here, see page 6/8.

For normal starting (Class 10A)

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



3RW521.-1AC.5



3RW522.-3AC.5



3RW523.-6AC.5



3RW524.-2AC.5

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
A	kW	kW	kW	A	hp	hp	hp	hp				

Operational voltage 200 ... 600 V
Analog output

Control supply voltage 24 V AC/DC

22.5	5.5	11	15	19.9	5	5	10	15	3RW5213-1AC05	3RW5213-3AC05
31.5	7.5	15	18.5	28	7.5	7.5	20	25	3RW5214-1AC05	3RW5214-3AC05
43.3	11	18.5	22	39	10	10	25	30	3RW5215-1AC05	3RW5215-3AC05
55.4	15	22	30	49	15	15	30	40	3RW5216-1AC05	3RW5216-3AC05
65.8	18.5	30	37	58	15	20	40	50	3RW5217-1AC05	3RW5217-3AC05
81.4	22	45	45	72	20	25	50	60	3RW5224-1AC05	3RW5224-3AC05
109	30	55	55	96	30	30	75	75	3RW5225-1AC05	3RW5225-3AC05
133	37	75	90	118	30	40	75	100	3RW5226-1AC05	3RW5226-3AC05
161	45	90	110	143	40	50	100	125	3RW5227-1AC05	3RW5227-3AC05
196	55	110	132	175	50	60	125	150	3RW5234-6AC05	3RW5234-2AC05
248	75	132	160	222	75	75	150	200	3RW5235-6AC05	3RW5235-2AC05
296	90	160	200	265	75	100	200	250	3RW5236-6AC05	3RW5236-2AC05
364	110	200	250	322	100	125	250	300	3RW5243-6AC05	3RW5243-2AC05
433	132	250	315	381	125	150	300	350	3RW5244-6AC05	3RW5244-2AC05
546	160	315	355	483	150	200	400	500	3RW5245-6AC05	3RW5245-2AC05
641	200	355	450	568	200	200	450	600	3RW5246-6AC05	3RW5246-2AC05
814	250	400	500	721	250	250	600	800	3RW5247-6AC05	3RW5247-2AC05
987	315	560	630	873	300	350	750	950	3RW5248-6AC05	3RW5248-2AC05

Control supply voltage 110 ... 250 V AC

22.5	5.5	11	15	19.9	5	5	10	15	3RW5213-1AC15	3RW5213-3AC15
31.5	7.5	15	18.5	28	7.5	7.5	20	25	3RW5214-1AC15	3RW5214-3AC15
43.3	11	18.5	22	39	10	10	25	30	3RW5215-1AC15	3RW5215-3AC15
55.4	15	22	30	49	15	15	30	40	3RW5216-1AC15	3RW5216-3AC15
65.8	18.5	30	37	58	15	20	40	50	3RW5217-1AC15	3RW5217-3AC15
81.4	22	45	45	72	20	25	50	60	3RW5224-1AC15	3RW5224-3AC15
109	30	55	55	96	30	30	75	75	3RW5225-1AC15	3RW5225-3AC15
133	37	75	90	118	30	40	75	100	3RW5226-1AC15	3RW5226-3AC15
161	45	90	110	143	40	50	100	125	3RW5227-1AC15	3RW5227-3AC15
196	55	110	132	175	50	60	125	150	3RW5234-6AC15	3RW5234-2AC15
248	75	132	160	222	75	75	150	200	3RW5235-6AC15	3RW5235-2AC15
296	90	160	200	265	75	100	200	250	3RW5236-6AC15	3RW5236-2AC15
364	110	200	250	322	100	125	250	300	3RW5243-6AC15	3RW5243-2AC15
433	132	250	315	381	125	150	300	350	3RW5244-6AC15	3RW5244-2AC15
546	160	315	355	483	150	200	400	500	3RW5245-6AC15	3RW5245-2AC15
641	200	355	450	568	200	200	450	600	3RW5246-6AC15	3RW5246-2AC15
814	250	400	500	721	250	250	600	800	3RW5247-6AC15	3RW5247-2AC15
987	315	560	630	873	300	350	750	950	3RW5248-6AC15	3RW5248-2AC15

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters



3RW52 soft starters > Inside-delta circuit **IE3/IE4 ready**

For normal starting (Class 10A)

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



3RW521.-1TC.5

3RW522.-3TC.5

3RW523.-6TC.5

3RW524.-2TC.5

At 40 °C for inside-delta circuit				At 50 °C for inside-delta circuit					Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 600 V
Thermistor motor protection

Control supply voltage 24 V AC/DC												
22.5	5.5	11	15	19.9	5	5	10	15		3RW5213-1TC05		3RW5213-3TC05
31.5	7.5	15	18.5	28	7.5	7.5	20	25		3RW5214-1TC05		3RW5214-3TC05
43.3	11	18.5	22	39	10	10	25	30		3RW5215-1TC05		3RW5215-3TC05
55.4	15	22	30	49	15	15	30	40		3RW5216-1TC05		3RW5216-3TC05
65.8	18.5	30	37	58	15	20	40	50		3RW5217-1TC05		3RW5217-3TC05
81.4	22	45	45	72	20	25	50	60		3RW5224-1TC05		3RW5224-3TC05
109	30	55	55	96	30	30	75	75		3RW5225-1TC05		3RW5225-3TC05
133	37	75	90	118	30	40	75	100		3RW5226-1TC05		3RW5226-3TC05
161	45	90	110	143	40	50	100	125		3RW5227-1TC05		3RW5227-3TC05
196	55	110	132	175	50	60	125	150		3RW5234-6TC05		3RW5234-2TC05
248	75	132	160	222	75	75	150	200		3RW5235-6TC05		3RW5235-2TC05
296	90	160	200	265	75	100	200	250		3RW5236-6TC05		3RW5236-2TC05
364	110	200	250	322	100	125	250	300		3RW5243-6TC05		3RW5243-2TC05
433	132	250	315	381	125	150	300	350		3RW5244-6TC05		3RW5244-2TC05
546	160	315	355	483	150	200	400	500		3RW5245-6TC05		3RW5245-2TC05
641	200	355	450	568	200	200	450	600		3RW5246-6TC05		3RW5246-2TC05
814	250	400	500	721	250	250	600	800		3RW5247-6TC05		3RW5247-2TC05
987	315	560	630	873	300	350	750	950		3RW5248-6TC05		3RW5248-2TC05
Control supply voltage 110 ... 250 V AC												
22.5	5.5	11	15	19.9	5	5	10	15		3RW5213-1TC15		3RW5213-3TC15
31.5	7.5	15	18.5	28	7.5	7.5	20	25		3RW5214-1TC15		3RW5214-3TC15
43.3	11	18.5	22	39	10	10	25	30		3RW5215-1TC15		3RW5215-3TC15
55.4	15	22	30	49	15	15	30	40		3RW5216-1TC15		3RW5216-3TC15
65.8	18.5	30	37	58	15	20	40	50		3RW5217-1TC15		3RW5217-3TC15
81.4	22	45	45	72	20	25	50	60		3RW5224-1TC15		3RW5224-3TC15
109	30	55	55	96	30	30	75	75		3RW5225-1TC15		3RW5225-3TC15
133	37	75	90	118	30	40	75	100		3RW5226-1TC15		3RW5226-3TC15
161	45	90	110	143	40	50	100	125		3RW5227-1AC15		3RW5227-3TC15
196	55	110	132	175	50	60	125	150		3RW5234-6TC15		3RW5234-2TC15
248	75	132	160	222	75	75	150	200		3RW5235-6TC15		3RW5235-2TC15
296	90	160	200	265	75	100	200	250		3RW5236-6TC15		3RW5236-2TC15
364	110	200	250	322	100	125	250	300		3RW5243-6TC15		3RW5243-2TC15
433	132	250	315	381	125	150	300	350		3RW5244-6TC15		3RW5244-2TC15
546	160	315	355	483	150	200	400	500		3RW5245-6TC15		3RW5245-2TC15
641	200	355	450	568	200	200	450	600		3RW5246-6TC15		3RW5246-2TC15
814	250	400	500	721	250	250	600	800		3RW5247-6TC15		3RW5247-2TC15
987	315	560	630	873	300	350	750	950		3RW5248-6TC15		3RW5248-2TC15

Note:

For the constraints for the motor outputs specified here, see page 6/8.

6

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > Accessories

Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Fan covers									
	Fan cover	3RW5216/17 (1x), 3RW5226/27 (2x), 3RW523 (2x)	--	--	3RW5983-0FC00		1	1 unit	42S
		3RW524 (1x)	--	--	3RW5984-0FC00		1	1 unit	42S
3RW5983-0FC00									
Terminal covers									
	Terminal cover	3RW522 (2x), 3RW523 (2x)	--	--	3RW5983-0TC20		1	1 unit	42S
		3RW524 (2x)	--	--	3RW5984-0TC20		1	1 unit	42S
3RW5983-0TC20									
									
3RW5984-0TC20									
Enclosure components									
	Hinged cover	3RW52	With cutout for High-Feature HMI module	--	3RW5950-0GL30		1	1 unit	42S
			With cutout for Standard HMI module	--	3RW5950-0GL40		1	1 unit	42S
3RW5950-0GL30									
3RW5950-0GL40									
Communications modules									
	Communications module¹⁾	3RW52	PROFINET Standard	--	3RW5980-0CS00		1	1 unit	42S
			PROFIBUS	--	3RW5980-0CP00		1	1 unit	42S
			EtherNet/IP	--	3RW5980-0CE00		1	1 unit	42S
3RW5980-0CS00									
			Modbus RTU	--	3RW5980-0CR00		1	1 unit	42S
			Modbus TCP	--	3RW5980-0CT00		1	1 unit	42S
3RW5980-0CR00									

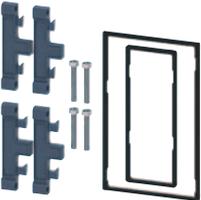
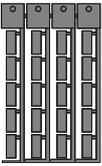
¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Accessories

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules								
	HMI module	3RW52	High-Feature --	3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00			Standard --	3RW5980-0HS00		1	1 unit	42S
								
3RW5980-0HS00								
	IP65 door mounting kit for HMI modules	3RW52	IP65	For HMI modules	3RW5980-0HD00	1	1 unit	42S
3RW5980-0HD00								
Connecting cables								
	HMI connecting cable	3RW52	5 m, round	For door mounting	3RW5980-0HC60	1	1 unit	42S
3UF793.-0BA00-0			2.5 m, round		3UF7933-0BA00-0	1	1 unit	42J
			1.0 m, round		3UF7937-0BA00-0	1	1 unit	42J
			0.5 m, round		3UF7932-0BA00-0	1	1 unit	42J
			0.1 m, flat	For mounting in the device	3UF7931-0AA00-0	1	1 unit	42J
3UF7931-0AA00-0								
Further accessories								
	Push-in lugs for wall mounting	--	Two lugs are required per device	For HMI modules and communications modules	3ZY1311-0AA00	1	10 units	41L
3ZY1311-0AA00								
Blank labels								
	Unit labeling plates¹⁾	--	20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20	100	340 units	41B
3RT2900-1SB20								

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW50 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW50
 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw50
 SiePortal topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>
 SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>
 Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide
 Conversion tool, see www.siemens.com/conversion-tool

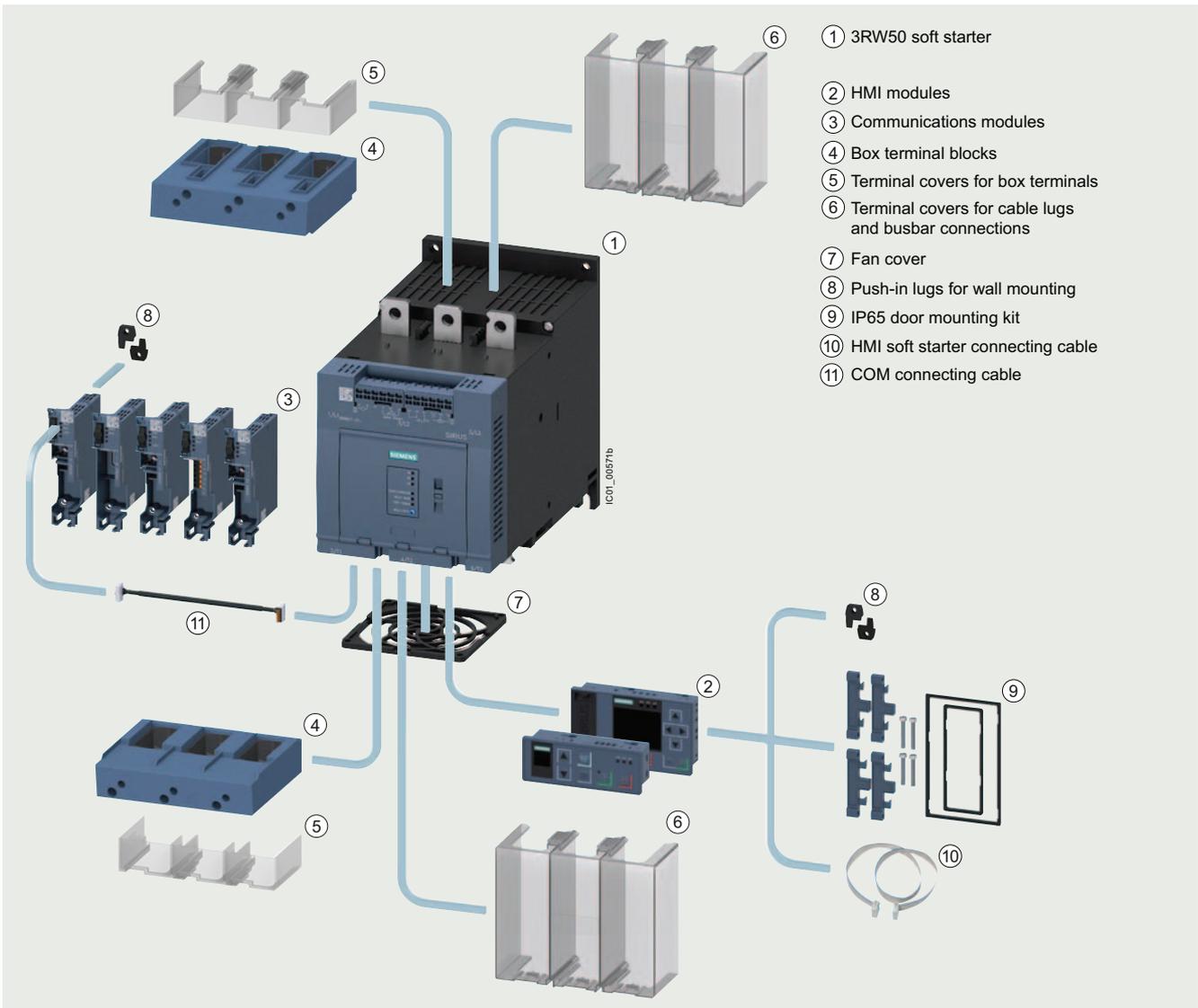


SIRIUS 3RW50 Basic Performance soft starters are the compact solution for standard applications. They have 2-phase motor control and cover the performance range from 75 to 315 kW (at 400 V).

Optional HMI modules for installation in the control cabinet door, laterally mountable communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW50 soft starters offer efficient switching for long-term, energy-saving use.

SIRIUS 3RW50 soft starters device family



SIRIUS 3RW50 Basic Performance soft starter with accessories (see page 6/87 onwards), for expansion with HMI module or communications module

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Hybrid switching technology and 2-phase motor control	Minimum power loss and optimized motor control by avoiding DC components
Small and compact design	Space-saving, clearly arranged control panel layout
TIA integration – communications modules and HMI modules optional	Efficient configuration and maximum flexibility in automation engineering
Motor overload and intrinsic device protection without additional wiring	Adjustable trip classes, integrated diagnostics functions
Soft Torque	Reduced mechanical loading and optimum pump stop
Parameterization using potentiometers	Simple and fast commissioning
Wide range for control supply and main voltage	Low variance, high system availability even with weak supply networks
Certified according to ATEX/IECEx Directive	Suitable for the starting of explosion-proof motors with "increased safety" type of protection

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW50 soft starters > General data

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25252/td>
Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753750>

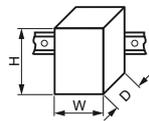
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25252/faq>
Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Article number

3RW5055
3RW50563RW5072
3RW5073
3RW5074
3RW5075
3RW5076
3RW5077

Installation/fixing/dimensions

Width x height x depth



mm

120 x 198 x 249

160 x 230 x 282

Type of mounting

Screw fixing

Mounting position

For vertical mounting surface can be rotated +/- 90°,
for vertical mounting surface can be tilted +/- 22.5° forward or backward

Distance to be maintained with side-by-side mounting

- Above mm 100
- At the side mm 5
- Below mm 75

Installation altitude at height above sea level, maximum¹⁾

m 5 000

Degree of protection IP on the front according to IEC 60529

IP00; IP20 with cover

Touch protection on the front according to IEC 60529

Finger-safe for vertical touching from the front with cover

Ambient conditions

Ambient temperature

- During operation²⁾ °C -25 ... +60
- During storage and transport °C -40 ... +80

Environmental category according to IEC 60721

- During operation 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
- During storage 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
- During transport 2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m)

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.²⁾ Observe derating above 40 °C.

Article number

3RW50...B0.

3RW50...B1.

Control circuit/control

Control supply voltage

- At AC/DC V 24/24 --/--
- At AC V -- 110 ... 250
- Relative negative tolerance/relative positive tolerance with AC % -20/20 -15/10
- Relative negative tolerance/relative positive tolerance with DC % -20/20 --/--

Frequency of the control supply voltage

Hz 50 ... 60

- Relative negative tolerance/relative positive tolerance % -10/10

Type of overvoltage protection

Varistors

Type of short-circuit protection for control circuit¹⁾Fuse 4 A gG ($I_{cu} = 1$ kA), fuse 6 A quick-response ($I_{cu} = 1$ kA),
MCB C1 ($I_{cu} = 600$ A), MCB C6 ($I_{cu} = 300$ A)¹⁾ Not included in scope of supply.

Article number

3RW505...B.4

3RW507...B.4

3RW505...B.5

3RW507...B.5

Power electronics

Operational voltage

V 200 ... 480

200 ... 600

- Relative negative tolerance/relative positive tolerance % -15/10

Operating frequency

Hz 50 ... 60

- Relative negative tolerance/relative positive tolerance % -10/10

Blocking voltage of thyristor, maximum

V 1 400

1 600

1 800

1 600

Minimum load [%]¹⁾

% 15

Maximum cable length between soft starter and motor

m 800

¹⁾ Relative to the smallest adjustable I_e .

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

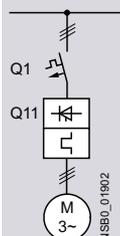
Type		3RW5055	3RW5056					
Rated operational current I_e	A	143	171					
Power electronics								
Load rating with rated operational current I_e								
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		143/128/118	171/153/141					
Permissible rated motor current and starts/h								
Normal starting (Class 10A)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	143/128/118	171/153/141				
• 300% I_M								
- Startup time 5 s	1/h	43	43					
- Startup time 10 s	1/h	18	18					
• 350% I_M								
- Startup time 5 s	1/h	28	28					
- Startup time 10 s	1/h	10	9					
Normal starting (Class 10E)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	143/128/118	171/153/141				
• 300% I_M								
- Startup time 10 s	1/h	21	21					
- Startup time 20 s	1/h	8	8					
• 350% I_M								
- Startup time 10 s	1/h	12	9					
- Startup time 20 s	1/h	4	--					
Heavy starting (Class 20E)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	108/98/88	135/123/111				
• 300% I_M								
- Startup time 20 s	1/h	10	10					
- Startup time 40 s	1/h	4	4					
• 350% I_M								
- Startup time 20 s	1/h	7	7					
- Startup time 40 s	1/h	2.5	2.5					
Adjustable rated motor current I_M								
• Minimum/maximum		A	68/143	81/117				
Type		3RW5072	3RW5073	3RW5074	3RW5075	3RW5076	3RW5077	
Rated operational current I_e	A	210	250	315	370	470	570	
Power electronics								
Load rating with rated operational current I_e								
IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a		210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460	
Permissible rated motor current and starts/h								
Normal starting (Class 10A)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I_M								
- Startup time 5 s	1/h	43	43	43	43	43	28	
- Startup time 10 s	1/h	18	18	18	18	18	11	
• 350% I_M								
- Startup time 5 s	1/h	28	28	28	28	28	16	
- Startup time 10 s	1/h	8	10	10	10	10	4	
Normal starting (Class 10E)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I_M								
- Startup time 10 s	1/h	21	21	21	21	20	21	
- Startup time 20 s	1/h	8	8	8	8	7	8	
• 350% I_M								
- Startup time 10 s	1/h	8	13	12	13	12	13	
- Startup time 20 s	1/h	--	4	4	4	2	4	
Heavy starting (Class 20E)								
Rated motor current I_M ; $T_u = 40/50/60$ °C ON period = 70%; motor protection activated		A	162/146/130	200/180/160	219/195/171	258/230/202	272/254/218	284/262/240
• 300% I_M								
- Startup time 20 s	1/h	10	10	10	10	10	10	
- Startup time 40 s	1/h	4	4	4	4	4	4	
• 350% I_M								
- Startup time 20 s	1/h	7	7	7	7	7	7	
- Startup time 40 s	1/h	2.5	2.5	2.5	2.5	2.5	2.5	
Adjustable rated motor current I_M								
• Minimum/maximum		A	90/210	100/250	135/315	160/370	200/470	240/570

Motor feeders according to IEC with 3VA circuit breakers (without semiconductor protection)

Type of coordination "1", Class 10,
short-circuit breaking capacity I_q in kA, [see table](#)

Note:

For general recommendations for constructing motor feeders
with soft starters, [see page 6/12](#).



Soft starters	Circuit breakers			
	for 400 V systems		for 500 V systems	
Q11 Type	Q1 Type	I_q kA	Q1 Type	I_q kA
Type of coordination "1"	Standard (inline) circuit			
3RW5055	3VA2220-7MN32-0AA0	20	3VA2220-7MN32-0AA0	20
3RW5056	3VA2220-7MN32-0AA0	20	3VA2220-7MN32-0AA0	20
3RW5072	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5073	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5074	3VA2440-7MN32-0AA0	65	3VA2440-7MN32-0AA0	65
3RW5075	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5076	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65
3RW5077	3VA2580-6HN32-0AA0	65	3VA2580-6HN32-0AA0	65

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

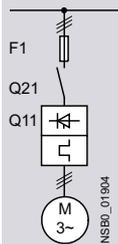
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_{cs} = 65$ kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gG class fuse			Line contactor (optional)		
	for systems up to 600 V			for systems up to 480 V		for systems up to 600 V
Q11	F1			Q21		Q21
Type	Type			Type		Type
Type of coordination "1"	Standard (inline) circuit Toc 1					
3RW5055	3NA3244-6	3RT1055	3RT1055			
3RW5056	3NA3244-6	3RT1056	3RT1064			
3RW5072	2 x 3NA3354-6	3RT1064	3RT1064			
3RW5073	2 x 3NA3354-6	3RT1065	3RT1065			
3RW5074	2 x 3NA3365-6	3RT1075	3RT1075			
3RW5075	2 x 3NA3365-6	3RT1075	3RT1075			
3RW5076	2 x 3NA3365-6	3RT1076	3RT1076			
3RW5077	2 x 3NA3365-6	3TF68	3TF68			

Note:

The specified short-circuit breaking capacities I_{cs} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

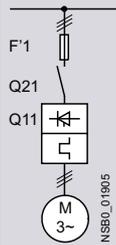
Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2",
short-circuit breaking capacity $I_{cs} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gR/gS class fuse	Line contactor (optional)	
	for systems up to 600 V	for systems up to 480 V	for systems up to 600 V
Q11	F'1	Q21	Q21
Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit		
3RW5055	3NE1227-0	3RT1055	3RT1055
3RW5056	3NE1230-0	3RT1056	3RT1064
3RW5072	3NE1230-2	3RT1064	3RT1064
3RW5073	3NE1331-0	3RT1065	3RT1065
3RW5074	3NE1333-2	3RT1075	3RT1075
3RW5075	3NE1334-2	3RT1075	3RT1075
3RW5076	3NE1436-2	3RT1076	3RT1076
3RW5077	3NE1437-2	3TF68	3TF68

Note:

The specified short-circuit breaking capacities I_{cs} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

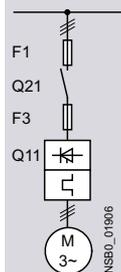
Motor feeders according to IEC with 3NE3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gG class fuse	aR class fuse	Line contactor (optional)	
	for systems up to 600 V	for systems up to 600 V	for systems up to 480 V	for systems up to 600 V
Q11	F1	F3	Q21	Q21
Type	Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit			
3RW5055	3NA3244-6	3NE3334-0B	3RT1055	3RT1055
3RW5056	3NA3244-6	3NE3335	3RT1056	3RT1064
3RW5072	2 x 3NA3354-6	3NE3333	3RT1064	3RT1064
3RW5073	2 x 3NA3354-6	3NE3335	3RT1065	3RT1065
3RW5074	2 x 3NA3365-6	3NE3335	3RT1075	3RT1075
3RW5075	2 x 3NA3365-6	3NE3336	3RT1075	3RT1075
3RW5076	2 x 3NA3365-6	3NE3340-8	3RT1076	3RT1076
3RW5077	2 x 3NA3365-6	3NE3340-8	3TF68	3TF68

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity ([see page 6/81](#)). In these cases, optional line contactors can be dispensed with.

Selection and ordering data

For normal starting (Class 10E)

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



3RW505.-6AB.4



3RW505.-2TB.4



3RW507.-6AB.4



3RW507.-2TB.4

At 40 °C				At 50 °C				Size	Screw terminals (only for control circuit)	Spring-loaded terminals (only for control circuit)	
Operational current A	Operating power for three-phase motors			Operational current A	Operating power [hp] for three-phase motors			Article No.	Price per PU	Article No.	Price per PU
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V				
	kW	kW	kW		hp	hp	hp				

Operational voltage 200 ... 480 V
Analog output

Control supply voltage 24 V AC/DC

143	37	75	--	128	40	40	100	--	S6	3RW5055-6AB04	3RW5055-2AB04
171	45	90	--	153	50	50	100	--	S6	3RW5056-6AB04	3RW5056-2AB04
210	55	110	--	186	60	60	150	--	S12	3RW5072-6AB04	3RW5072-2AB04
250	75	132	--	220	60	75	150	--	S12	3RW5073-6AB04	3RW5073-2AB04
315	90	160	--	279	75	100	200	--	S12	3RW5074-6AB04	3RW5074-2AB04
370	110	200	--	328	100	125	250	--	S12	3RW5075-6AB04	3RW5075-2AB04
470	132	250	--	416	150	150	350	--	S12	3RW5076-6AB04	3RW5076-2AB04
570	160	315	--	504	150	200	400	--	S12	3RW5077-6AB04	3RW5077-2AB04

Control supply voltage 110 ... 250 V AC

143	37	75	--	128	40	40	100	--	S6	3RW5055-6AB14	3RW5055-2AB14
171	45	90	--	153	50	50	100	--	S6	3RW5056-6AB14	3RW5056-2AB14
210	55	110	--	186	60	60	150	--	S12	3RW5072-6AB14	3RW5072-2AB14
250	75	132	--	220	60	75	150	--	S12	3RW5073-6AB14	3RW5073-2AB14
315	90	160	--	279	75	100	200	--	S12	3RW5074-6AB14	3RW5074-2AB14
370	110	200	--	328	100	125	250	--	S12	3RW5075-6AB14	3RW5075-2AB14
470	132	250	--	416	150	150	350	--	S12	3RW5076-6AB14	3RW5076-2AB14
570	160	315	--	504	150	200	400	--	S12	3RW5077-6AB14	3RW5077-2AB14

Operational voltage 200 ... 480 V
Thermistor motor protection

Control supply voltage 24 V AC/DC

143	37	75	--	128	40	40	100	--	S6	3RW5055-6TB04	3RW5055-2TB04
171	45	90	--	153	50	50	100	--	S6	3RW5056-6TB04	3RW5056-2TB04
210	55	110	--	186	60	60	150	--	S12	3RW5072-6TB04	3RW5072-2TB04
250	75	132	--	220	60	75	150	--	S12	3RW5073-6TB04	3RW5073-2TB04
315	90	160	--	279	75	100	200	--	S12	3RW5074-6TB04	3RW5074-2TB04
370	110	200	--	328	100	125	250	--	S12	3RW5075-6TB04	3RW5075-2TB04
470	132	250	--	416	150	150	350	--	S12	3RW5076-6TB04	3RW5076-2TB04
570	160	315	--	504	150	200	400	--	S12	3RW5077-6TB04	3RW5077-2TB04

Control supply voltage 110 ... 250 V AC

143	37	75	--	128	40	40	100	--	S6	3RW5055-6TB14	3RW5055-2TB14
171	45	90	--	153	50	50	100	--	S6	3RW5056-6TB14	3RW5056-2TB14
210	55	110	--	186	60	60	150	--	S12	3RW5072-6TB14	3RW5072-2TB14
250	75	132	--	220	60	75	150	--	S12	3RW5073-6TB14	3RW5073-2TB14
315	90	160	--	279	75	100	200	--	S12	3RW5074-6TB14	3RW5074-2TB14
370	110	200	--	328	100	125	250	--	S12	3RW5075-6TB14	3RW5075-2TB14
470	132	250	--	416	150	150	350	--	S12	3RW5076-6TB14	3RW5076-2TB14
570	160	315	--	504	150	200	400	--	S12	3RW5077-6TB14	3RW5077-2TB14

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters



3RW50 soft starters > Standard (inline) circuit **IE3/IE4 ready**

For normal starting (Class 10E)

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



3RW505.-6AB.5



3RW505.-2TB.5



3RW507.-6AB.5



3RW507.-2TB.5

At 40 °C				At 50 °C				Size	Screw terminals (only for control circuit)		Spring-loaded terminals (only for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
A	at 230 V	at 400 V	at 500 V	A	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
	kW	kW	kW		hp	hp	hp	hp				

Operational voltage 200 ... 600 V
Analog output

Control supply voltage 24 V AC/DC												
143	37	75	90	128	40	40	100	125	S6	3RW5055-6AB05		3RW5055-2AB05
171	45	90	110	153	50	50	100	150	S6	3RW5056-6AB05		3RW5056-2AB05
210	55	110	132	186	60	60	150	150	S12	3RW5072-6AB05		3RW5072-2AB05
250	75	132	160	220	60	75	150	200	S12	3RW5073-6AB05		3RW5073-2AB05
315	90	160	200	279	75	100	200	250	S12	3RW5074-6AB05		3RW5074-2AB05
370	110	200	250	328	100	125	250	300	S12	3RW5075-6AB05		3RW5075-2AB05
470	132	250	315	416	150	150	350	450	S12	3RW5076-6AB05		3RW5076-2AB05
570	160	315	355	504	150	200	400	500	S12	3RW5077-6AB05		3RW5077-2AB05

Control supply voltage 110 ... 250 V AC												
143	37	75	90	128	40	40	100	125	S6	3RW5055-6AB15		3RW5055-2AB15
171	45	90	110	153	50	50	100	150	S6	3RW5056-6AB15		3RW5056-2AB15
210	55	110	132	186	60	60	150	150	S12	3RW5072-6AB15		3RW5072-2AB15
250	75	132	160	220	60	75	150	200	S12	3RW5073-6AB15		3RW5073-2AB15
315	90	160	200	279	75	100	200	250	S12	3RW5074-6AB15		3RW5074-2AB15
370	110	200	250	328	100	125	250	300	S12	3RW5075-6AB15		3RW5075-2AB15
470	132	250	315	416	150	150	350	450	S12	3RW5076-6AB15		3RW5076-2AB15
570	160	315	355	504	150	200	400	500	S12	3RW5077-6AB15		3RW5077-2AB15

Operational voltage 200 ... 600 V
Thermistor motor protection

Control supply voltage 24 V AC/DC												
143	37	75	90	128	40	40	100	125	S6	3RW5055-6TB05		3RW5055-2TB05
171	45	90	110	153	50	50	100	150	S6	3RW5056-6TB05		3RW5056-2TB05
210	55	110	132	186	60	60	150	150	S12	3RW5072-6TB05		3RW5072-2TB05
250	75	132	160	220	60	75	150	200	S12	3RW5073-6TB05		3RW5073-2TB05
315	90	160	200	279	75	100	200	250	S12	3RW5074-6TB05		3RW5074-2TB05
370	110	200	250	328	100	125	250	300	S12	3RW5075-6TB05		3RW5075-2TB05
470	132	250	315	416	150	150	350	450	S12	3RW5076-6TB05		3RW5076-2TB05
570	160	315	355	504	150	200	400	500	S12	3RW5077-6TB05		3RW5077-2TB05

Control supply voltage 110 ... 250 V AC												
143	37	75	90	128	40	40	100	125	S6	3RW5055-6TB15		3RW5055-2TB15
171	45	90	110	153	50	50	100	150	S6	3RW5056-6TB15		3RW5056-2TB15
210	55	110	132	186	60	60	150	150	S12	3RW5072-6TB15		3RW5072-2TB15
250	75	132	160	220	60	75	150	200	S12	3RW5073-6TB15		3RW5073-2TB15
315	90	160	200	279	75	100	200	250	S12	3RW5074-6TB15		3RW5074-2TB15
370	110	200	250	328	100	125	250	300	S12	3RW5075-6TB15		3RW5075-2TB15
470	132	250	315	416	150	150	350	450	S12	3RW5076-6TB15		3RW5076-2TB15
570	160	315	355	504	150	200	400	500	S12	3RW5077-6TB15		3RW5077-2TB15

Note:

For the constraints for the motor outputs specified here, see page 6/8.

6

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW50 soft starters > Accessories

Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Fan covers									
	Fan cover	3RW50 (1x)	--	--	3RW5985-0FC00		1	1 unit 42S	
3RW5985-0FC00									
Box terminal blocks									
	Box terminal blocks for round and flat ribbon cables	3RW505 (2x)	Up to 70 mm ²	--	3RT1955-4G		1	1 unit 41B	
			Up to 120 mm ²	--	3RT1956-4G		1	1 unit 41B	
		3RW5072 (2x), 3RW5073 (2x), 3RW5074 (2x)	Up to 240 mm ² (with auxiliary conductor connection)	--	3RT1966-4G		1	1 unit 41B	
3RT1956-4G									
Terminal covers									
	Covers for box terminals	3RW505 (2x)	--	--	3RT1956-4EA2		1	1 unit 41B	
		3RW507 (2x)	--	--	3RT1966-4EA2		1	1 unit 41B	
3RT1956-4EA2									
	Covers for cable lugs and busbar connections	3RW505 (2x)	--	--	3RT1956-4EA1		1	1 unit 41B	
		3RW507 (2x)	--	--	3RT1966-4EA1		1	1 unit 41B	
3RT1966-4EA1									
Communications modules									
	Communications module¹⁾	3RW50	PROFINET Standard	--	3RW5980-0CS00		1	1 unit 42S	
			PROFIBUS		3RW5980-0CP00		1	1 unit 42S	
			EtherNet/IP		3RW5980-0CE00		1	1 unit 42S	
			Modbus RTU		3RW5980-0CR00		1	1 unit 42S	
			Modbus TCP		3RW5980-0CT00		1	1 unit 42S	
3RW5980-0CS00									
	COM connecting cable	3RW50	0.3 m, round	--	3RW5900-0CC00		1	1 unit 42S	
3RW5900-0CC00									
For mounting laterally on the device									

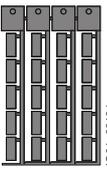
¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see [Equipment Manual for the relevant communications module](#).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > Accessories

Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules								
	HMI module	3RW50	High-Feature	--	3RW5980-0HF00		1	1 unit 42S
3RW5980-0HF00			Standard	--	3RW5980-0HS00		1	1 unit 42S
								
3RW5980-0HS00								
	IP65 door mounting kit for HMI modules	3RW50	IP65	For HMI modules	3RW5980-0HD00		1	1 unit 42S
3RW5980-0HD00								
Connecting cables								
	HMI connecting cable	3RW50	5 m, round	For door mounting	3RW5980-0HC60		1	1 unit 42S
			2.5 m, round		3UF7933-0BA00-0		1	1 unit 42J
			1.0 m, round		3UF7937-0BA00-0		1	1 unit 42J
			0.5 m, round		3UF7932-0BA00-0		1	1 unit 42J
3UF793.-0BA00-0								
Further accessories								
	Push-in lugs for wall mounting	--	Two lugs are required per device	For HMI modules and communications modules	3ZY1311-0AA00		1	10 units 41L
3ZY1311-0AA00								
Blank labels								
	Unit labeling plates¹⁾	--	20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20		100	340 units 41B
3RT2900-1SB20								

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW40

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw40
 Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>
 Conversion tool, see www.siemens.com/conversion-tool

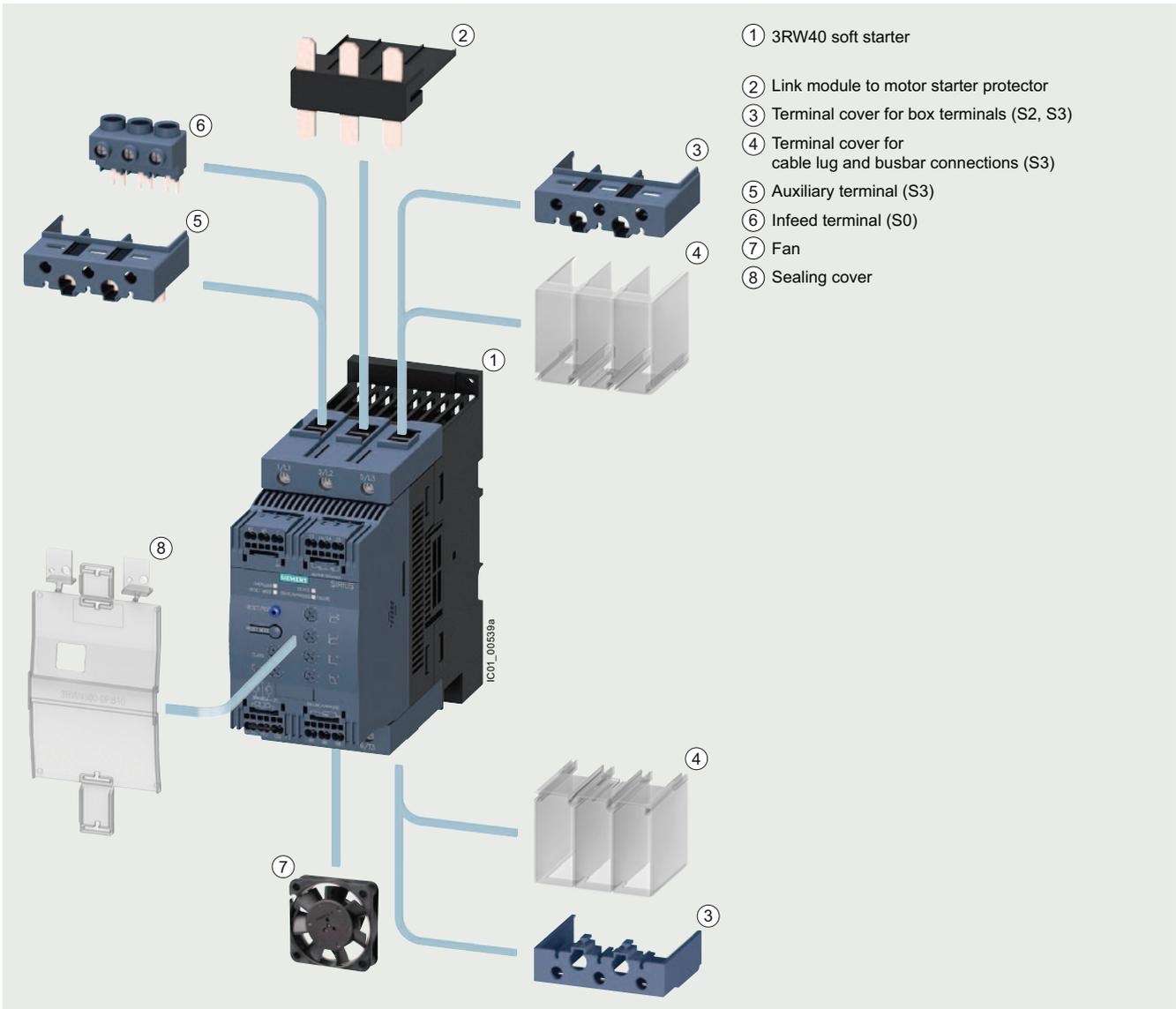


SIRIUS 3RW40 soft starter

The SIRIUS 3RW40 Basic Performance soft starters are suitable for soft starting and stopping of three-phase asynchronous motors.

Thanks to 2-phase control, not only is the current kept at minimum values in all three phases throughout the entire startup time, but disturbing direct current components are also eliminated. This not only enables the 2-phase starting of motors up to 55 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with star-delta (wye-delta) starters.

The SIRIUS 3RW40 soft starters are suitable for the starting of explosion-proof motors with "increased safety" type of protection EEx e according to ATEX Directive 94/9/EC.



SIRIUS 3RW40 Basic Performance soft starter with accessories (see page 6/99 onwards)

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

Benefits



3RW402.



3RW403.



3RW404.

Product characteristics/function	Performance features/benefits
Small and compact design	Space-saving, clearly arranged control panel layout
Motor overload and intrinsic device protection without additional wiring	Adjustable trip classes, integrated diagnostics functions
Integrated in the SIRIUS modular system	Link modules to motor starter protectors
Hybrid switching technology and 2-phase motor control	Minimum power loss and optimized motor control by avoiding DC components
Certified according to ATEX Directive 94/9/EC	Suitable for starting explosion-proof motors with "increased safety" type of protection EEx e
Optional thermistor motor protection	Full motor protection

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

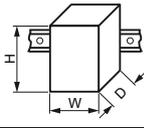
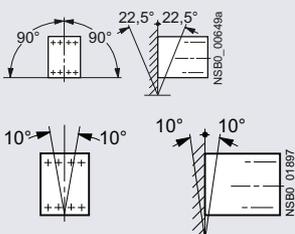
3RW40 soft starters > General data

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25251/td>
Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/38752095>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25251/faq>
Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

Type		3RW402.	3RW403.	3RW404.	
Installation/fixing/dimensions					
Width x height x depth		mm			
<ul style="list-style-type: none"> Screw terminals Spring-loaded terminals 		mm	45 x 125 x 154 45 x 150 x 154	55 x 144 x 170 55 x 144 x 170	70 x 160 x 188 70 x 160 x 188
Ambient temperature		°C	-25 ... +60		
<ul style="list-style-type: none"> During operation¹⁾ During storage 		°C	-40 ... +80		
Weight		kg	0.77	1.35	1.9
Permissible mounting position²⁾					
<ul style="list-style-type: none"> With auxiliary fan (for 3RW402. to 3RW404.) Without auxiliary fan (for 3RW402. to 3RW404.) 					
Installation type²⁾	Stand-alone installation				
Permissible installation altitude³⁾		m	5 000		
Degree of protection IP on the front according to IEC 60529			IP20		
Touch protection on the front according to IEC 60529			Finger-safe for vertical touching from the front		

¹⁾ Observe derating above 40 °C.

²⁾ In the case of deviations, please observe derating, see Equipment Manual in the chapter Configuration.

³⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

Type	Terminal	3RW402., 3RW403., 3RW404.		
Control circuit/control				
Rated values				
Rated control supply voltage	A1/A2	V	24 AC/DC	110 ... 230 AC/DC
<ul style="list-style-type: none"> Tolerance 		%	± 20	-15/+10
Rated frequency		Hz	50/60	
<ul style="list-style-type: none"> Tolerance 		%	± 10	
Power electronics				
Rated operational voltage		V AC	200 ... 480	400 ... 600
<ul style="list-style-type: none"> Tolerance 		%	-15/+10	
Rated frequency		Hz	50/60	
<ul style="list-style-type: none"> Tolerance 		%	± 10	
Blocking voltage of thyristor, maximum		V AC	1 600	
Uninterrupted duty at 40 °C (% of I_B)		%	115	
Minimum load (% of smallest adjustable rated motor current I_M)		%	20 (at least 2 A)	
Maximum cable length between soft starter and motor		m	300	

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

Type		3RW4024	3RW4026	3RW4027	3RW4028
Power electronics					
Load rating with rated operational current I_e					
• According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a	A	12.5/11/10	25.3/23/21	32.2/29/26	38/34/31
Smallest adjustable rated motor current I_M					
For the motor overload protection	A	5	10	17	23
Power loss					
• During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	2	8	13	19
• During starting with current limiting set to 300% I_M (40 °C)	W	68	188	220	256
Permissible rated motor current and starts per hour					
• For normal starting (Class 10) at 40/50 °C					
- Rated motor current $I_M^{(2)}$, startup time 3 s	A	12.5/11	25/23	32/29	38/34
- Starts per hour ³⁾	1/h	50/50	23/23	23/23	19/19
- Rated motor current $I_M^{(2)}$, startup time 4 s	A	12.5/11	25/23	32/29	38/34
- Starts per hour ³⁾	1/h	36/36	15/15	16/16	12/12
• For heavy starting (Class 20) at 40/50 °C					
- Rated motor current $I_M^{(2)}$, startup time 6 s	A	10/9	21/19	27/24	31/28
- Starts per hour ³⁾	1/h	47/47	21/21	20/20	18/18
- Rated motor current $I_M^{(2)}$, startup time 8 s	A	10/9	21/19	27/24	31/28
- Starts per hour ³⁾	1/h	34/34	15/15	14/14	13/13
¹⁾ Measurement at 60 °C according to UL/CSA not required. ²⁾ Current limiting on soft starter set to 300% I_M , $T_u = 40/50$ °C. Maximum adjustable rated motor current I_M dependent on Class setting. ³⁾ For intermittent duty S4 with ON period = 30%, $T_u = 40/50$ °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Equipment Manual in the chapter Configuration .					

Type		3RW4036	3RW4037	3RW4038	3RW4046	3RW4047
Power electronics						
Load rating with rated operational current I_e						
• According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a	A	45/42/39	63/58/53	72/62.1/60	80/73/66	106/98/90
Smallest adjustable rated motor current I_M						
For the motor overload protection	A	23	26	35	43	46
Power loss						
• During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	6	12	15	12	21
• During starting with current limiting set to 300% I_M (40 °C)	W	316	444	500	576	768
Permissible rated motor current and starts per hour						
• For normal starting (Class 10) at 40/50 °C						
- Rated motor current $I_M^{(2)}$, startup time 3 s	A	45/42	63/58	72/62	80/73	106/98
- Starts per hour ³⁾	1/h	38/38	23/23	22/22	22/22	15/15
- Rated motor current $I_M^{(2)}$, startup time 4 s	A	45/42	63/58	72/62	80/73	106/98
- Starts per hour ³⁾	1/h	26/26	15/15	15/15	15/15	10/10
• For heavy starting (Class 20) at 40/50 °C						
- Rated motor current $I_M^{(2)}$, startup time 6 s	A	38/34	46/42	50/46	64/58	77/70
- Starts per hour ³⁾	1/h	30/30	31/31	34/34	23/23	23/23
- Rated motor current $I_M^{(2)}$, startup time 8 s	A	38/34	46/42	50/46	64/58	77/70
- Starts per hour ³⁾	1/h	21/21	22/22	24/24	16/16	16/16
¹⁾ Measurement at 60 °C according to UL/CSA not required. ²⁾ Current limiting on soft starter set to 300% I_M , $T_u = 40/50$ °C. Maximum adjustable rated motor current I_M dependent on Class setting. ³⁾ For intermittent operation S4 with ON period = 30%, $T_u = 40/50$ °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Equipment Manual in the chapter Configuration .						

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors (without semiconductor protection)

Type of coordination "1", Class 10,
short-circuit breaking capacity I_q in kA, [see table](#)

Note:

For general recommendations for constructing motor feeders
with soft starters, [see page 6/12](#).

Soft starters	Motor starter protectors			
	for 400 V systems		for 500 V systems	
Q11	Q1	I_q	Q1	I_q
Type	Type	kA	Type	kA
Type of coordination "1"	Standard (inline) circuit			
3RW4024	3RV2021-4AA10	55	3RV2021-4AA10	10
3RW4026	3RV2021-4DA10	55	3RV2021-4DA10	10
3RW4027	3RV2021-4EA10	55	3RV2021-4EA10	10
3RW4028	3RV2021-4FA10	55	3RV2021-4FA10	10
3RW4036	3RV2031-4WA10	10	3RV2031-4WA10	10
3RW4037	3RV2031-4JA10	10	3RV2031-4JA10	5
3RW4038	3RV2031-4KA10	10	3RV2031-4KA10	5
3RW4046	3RV2041-4RA10	11	3RV2041-4YA10	5
3RW4047	3RV2041-4MA10	11	3RV2041-4MA10	5

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

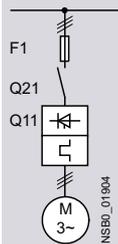
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gG class fuse		Line contactor (optional)	
	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Q11	F1	Q21	Q21	Q21
Type	Type	Type	Type	Type
Type of coordination "1"	Standard (inline) circuit 			
3RW4024	3NA3820-6	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
3RW4026	3NA3822-6	3RT2026	3RT2027	3RT2037
3RW4027	3NA3824-6	3RT2027	3RT2028	3RT2037
3RW4028	3NA3824-6	3RT2028	3RT2035	3RT2037
3RW4036	3NA3130-6	3RT2036	3RT2036	3RT2038
3RW4037	3NA3132-6	3RT2037	3RT2037	3RT2046
3RW4038	3NA3132-6	3RT2038	3RT2038	3RT2046
3RW4046	3NA3136-6	3RT2045	3RT2045	3RT2047
3RW4047	3NA3136-6	3RT2047	3RT2047	3RT1054

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

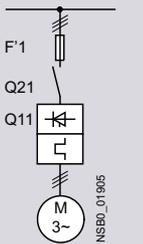
SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > General data

Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$ **Note:**For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).

Soft starters				
	gR/gS class fuse	Line contactor (optional)		
Q11	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Type	F'1	Q21	Q21	Q21
Type of coordination "2"	Standard (inline) circuit 			
3RW4024	3NE1814-0	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
3RW4026	3NE1803-0	3RT2026	3RT2027	3RT2037
3RW4027	3NE1020-2	3RT2027	3RT2028	3RT2037
3RW4028	3NE1020-2	3RT2028	3RT2035	3RT2037
3RW4036	3NE1020-2	3RT2036	3RT2036	3RT2038
3RW4037	3NE1820-0	3RT2037	3RT2037	3RT2046
3RW4038	3NE1820-0	3RT2038	3RT2038	3RT2046
3RW4046	3NE1021-0	3RT2045	3RT2045	3RT2047
3RW4047	3NE1022-0	3RT2047	3RT2047	3RT1054

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

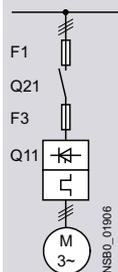
Motor feeders according to IEC with 3NE8/3NE4/3NE3/3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65$ kA

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gG class fuse		aR class fuse		Cylindrical fuse	Line contactor (optional)		
	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V		for systems up to 480 V	for systems up to 480 V	for systems up to 600 V
Q11 Type	F1 Type	F3 Type	F3 Type	F3 Type	F3 Type	Q21 Type	Q21 Type	Q21 Type
Type of coordination "2"	Standard (inline) circuit							
3RW4024	3NA3820-6	--	3NE4101	3NE8015-1	3NC2240	3RT2025	3RT2025/ 3RT2018 (in size S00)	3RT2025
3RW4026	3NA3822-6	--	3NE4102	3NE8017-1	3NC2263	3RT2026	3RT2027	3RT2037
3RW4027	3NA3824-6	--	3NE4118	3NE8018-1	3NC2280	3RT2027	3RT2028	3RT2037
3RW4028	3NA3824-6	--	3NE4118	3NE8020-1	3NC2280	3RT2028	3RT2035	3RT2037
3RW4036	3NA3130-6	--	3NE4120	3NE8020-1	3NC2280	3RT2036	3RT2036	3RT2038
3RW4037	3NA3132-6	--	3NE4121	3NE8021-1	--	3RT2037	3RT2037	3RT2046
3RW4038	3NA3132-6	3NE3221	--	3NE8022-1	--	3RT2038	3RT2038	3RT2046
3RW4046	3NA3136-6	3NE3222	--	3NE8022-1	--	3RT2045	3RT2045	3RT2047
3RW4047	3NA3136-6	3NE3224	--	3NE8024-1	--	3RT2047	3RT2047	3RT1054

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors can also be used, possibly with reduced short-circuit breaking capacity ([see page 6/93](#)). In these cases, optional line contactors can be dispensed with.

Selection and ordering data

For normal starting (Class 10)

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



3RW402.-2BB.4



3RW403.-1TB.4



3RW404.-2BB.4

At 40 °C				At 50 °C				Size	Screw terminals 	Spring-loaded terminals  (Size S2 or larger only available for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors						
A	at 230 V	at 400 V	at 500 V	A	at 200 V	at 230 V	at 460 V	at 575 V	Article No.	Price per PU	
Operational voltage 200 ... 480 V											
Control supply voltage 24 V AC/DC											
12.5	3	5.5	--	11	3	3	7.5	--	S0	3RW4024-1BB04	3RW4024-2BB04
25	5.5	11	--	23	5	5	15	--	S0	3RW4026-1BB04	3RW4026-2BB04
32	7.5	15	--	29	7.5	7.5	20	--	S0	3RW4027-1BB04	3RW4027-2BB04
38	11	18.5	--	34	10	10	25	--	S0	3RW4028-1BB04	3RW4028-2BB04
45	11	22	--	42	10	15	30	--	S2	3RW4036-1BB04	3RW4036-2BB04
63	18.5	30	--	58	15	20	40	--	S2	3RW4037-1BB04	3RW4037-2BB04
72	22	37	--	62	20	20	40	--	S2	3RW4038-1BB04	3RW4038-2BB04
80	22	45	--	73	20	25	50	--	S3	3RW4046-1BB04	3RW4046-2BB04
106	30	55	--	98	30	30	75	--	S3	3RW4047-1BB04	3RW4047-2BB04
Control supply voltage 110 ... 230 V AC/DC											
12.5	3	5.5	--	11	3	3	7.5	--	S0	3RW4024-1BB14	3RW4024-2BB14
25	5.5	11	--	23	5	5	15	--	S0	3RW4026-1BB14	3RW4026-2BB14
32	7.5	15	--	29	7.5	7.5	20	--	S0	3RW4027-1BB14	3RW4027-2BB14
38	11	18.5	--	34	10	10	25	--	S0	3RW4028-1BB14	3RW4028-2BB14
45	11	22	--	42	10	15	30	--	S2	3RW4036-1BB14	3RW4036-2BB14
63	18.5	30	--	58	15	20	40	--	S2	3RW4037-1BB14	3RW4037-2BB14
72	22	37	--	62	20	20	40	--	S2	3RW4038-1BB14	3RW4038-2BB14
80	22	45	--	73	20	25	50	--	S3	3RW4046-1BB14	3RW4046-2BB14
106	30	55	--	98	30	30	75	--	S3	3RW4047-1BB14	3RW4047-2BB14
Operational voltage 200 ... 480 V											
Thermistor motor protection											
Control supply voltage 24 V AC/DC											
12.5	3	5.5	--	11	3	3	7.5	--	S0	3RW4024-1TB04	3RW4024-2TB04
25	5.5	11	--	23	5	5	15	--	S0	3RW4026-1TB04	3RW4026-2TB04
32	7.5	15	--	29	7.5	7.5	20	--	S0	3RW4027-1TB04	3RW4027-2TB04
38	11	18.5	--	34	10	10	25	--	S0	3RW4028-1TB04	3RW4028-2TB04
45	11	22	--	42	10	15	30	--	S2	3RW4036-1TB04	3RW4036-2TB04
63	18.5	30	--	58	15	20	40	--	S2	3RW4037-1TB04	3RW4037-2TB04
72	22	37	--	62	20	20	40	--	S2	3RW4038-1TB04	3RW4038-2TB04
80	22	45	--	73	20	25	50	--	S3	3RW4046-1TB04	3RW4046-2TB04
106	30	55	--	98	30	30	75	--	S3	3RW4047-1TB04	3RW4047-2TB04

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > Standard (inline) circuit **IE3/IE4 ready****For normal starting (Class 10)**

PU (UNIT, SET, M) = 1

PS* = 1 unit

PG = 42G



3RW402.-2BB.5



3RW403.-1TB.5



3RW404.-2BB.5

At 40 °C				At 50 °C				Size	Screw terminals	Spring-loaded terminals (Size S2 or larger only available for control circuit)		
Operational current	Operating power for three-phase motors at			Operational current	Operating power [hp] for three-phase motors at							
	230 V	400 V	500 V		200 V	230 V	460 V	575 V	Article No.	Price per PU	Article No.	Price per PU
A	kW	kW	kW	A	hp	hp	hp	hp				

Operational voltage 400 ... 600 V**Control supply voltage 24 V AC/DC**

12.5	--	5.5	7.5	11	--	--	7.5	10	S0	3RW4024-1BB05	3RW4024-2BB05
25	--	11	15	23	--	--	15	20	S0	3RW4026-1BB05	3RW4026-2BB05
32	--	15	18.5	29	--	--	20	25	S0	3RW4027-1BB05	3RW4027-2BB05
38	--	18.5	22	34	--	--	25	30	S0	3RW4028-1BB05	3RW4028-2BB05
45	--	22	30	42	--	--	30	40	S2	3RW4036-1BB05	3RW4036-2BB05
63	--	30	37	58	--	--	40	50	S2	3RW4037-1BB05	3RW4037-2BB05
72	--	37	45	62	--	--	40	60	S2	3RW4038-1BB05	3RW4038-2BB05
80	--	45	55	73	--	--	50	60	S3	3RW4046-1BB05	3RW4046-2BB05
106	--	55	75	98	--	--	75	75	S3	3RW4047-1BB05	3RW4047-2BB05

Control supply voltage 110 ... 230 V AC/DC

12.5	--	5.5	7.5	11	--	--	7.5	10	S0	3RW4024-1BB15	3RW4024-2BB15
25	--	11	15	23	--	--	15	20	S0	3RW4026-1BB15	3RW4026-2BB15
32	--	15	18.5	29	--	--	20	25	S0	3RW4027-1BB15	3RW4027-2BB15
38	--	18.5	22	34	--	--	25	30	S0	3RW4028-1BB15	3RW4028-2BB15
45	--	22	30	42	--	--	30	40	S2	3RW4036-1BB15	3RW4036-2BB15
63	--	30	37	58	--	--	40	50	S2	3RW4037-1BB15	3RW4037-2BB15
72	--	37	45	62	--	--	40	60	S2	3RW4038-1BB15	3RW4038-2BB15
80	--	45	55	73	--	--	50	60	S3	3RW4046-1BB15	3RW4046-2BB15
106	--	55	75	98	--	--	75	75	S3	3RW4047-1BB15	3RW4047-2BB15

Operational voltage 400 ... 600 V**Thermistor motor protection****Control supply voltage 24 V AC/DC**

12.5	--	5.5	7.5	11	--	--	7.5	10	S0	3RW4024-1TB05	3RW4024-2TB05
25	--	11	15	23	--	--	15	20	S0	3RW4026-1TB05	3RW4026-2TB05
32	--	15	18.5	29	--	--	20	25	S0	3RW4027-1TB05	3RW4027-2TB05
38	--	18.5	22	34	--	--	25	30	S0	3RW4028-1TB05	3RW4028-2TB05
45	--	22	30	42	--	--	30	40	S2	3RW4036-1TB05	3RW4036-2TB05
63	--	30	37	58	--	--	40	50	S2	3RW4037-1TB05	3RW4037-2TB05
72	--	37	45	62	--	--	40	60	S2	3RW4038-1TB05	3RW4038-2TB05
80	--	45	55	73	--	--	50	60	S3	3RW4046-1TB05	3RW4046-2TB05
106	--	55	75	98	--	--	75	75	S3	3RW4047-1TB05	3RW4047-2TB05

Note:

For the constraints for the motor outputs specified here, see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > Accessories

Selection and ordering data

For soft starters		Conductor cross-section			Tightening torque	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	Size	solid or stranded	finely stranded with end sleeve	AWG cables, solid or stranded						

Type	Size	mm ²	mm ²	AWG	Nm
------	------	-----------------	-----------------	-----	----

3-phase infeed terminals



3RV2925-5AB

3RW402.	S0	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	3RV2925-5AB		1	1 unit	41E
---------	----	------------	------------	----------	---------	--------------------	--	---	--------	-----

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

Auxiliary conductor terminals



3RT2946-4F

Auxiliary conductor terminal, 3-pole

3RW404. S3 For connection of auxiliary and control cables (0.5 ... 2.5 mm²) to the main conductor terminals

3RW404.	S3		3RT2946-4F		1	1 unit	41B
---------	----	--	-------------------	--	---	--------	-----

Covers for soft starters



3RT2936-4EA2

Terminal covers for box terminals

3RW403. S2 Additional touch protection to be fitted at the box terminals
3RW404. S3 (two units required per device)

3RW403.	S2		3RT2936-4EA2		1	1 unit	41B
3RW404.	S3		3RT2946-4EA2		1	1 unit	41B



3RT1946-4EA1

Terminal cover for cable lugs and busbar connections

3RW404. S3 For complying with the voltage clearances and as touch protection if box terminal is removed (two units required per device)

3RW404.	S3		3RT1946-4EA1		1	1 unit	41B
---------	----	--	---------------------	--	---	--------	-----

Sealing cover

3RW402. to S0, S2, --
3RW404. S3



3RW4900-0PB10

3RW402. to 3RW404.	S0, S2, S3	--	3RW4900-0PB10		1	1 unit	42G
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Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > Accessories

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

DIN-rail adapters



3RA2932-1CA00

S2	S2	For mechanical fixing of motor starter protector and soft starter; for snapping onto DIN rail or for screw fixing Single-unit packaging	3RA2932-1CA00		1	1 unit	41B
----	----	---	----------------------	--	---	--------	-----

For soft starters	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	Size				

Fans (to increase switching frequency and for device mounting in positions different to the standard position)



3RW49...-8VB00

3RW402.	S0	3RW4928-8VB00	1	1 unit	42G
3RW403., 3RW404.	S2, S3	3RW4947-8VB00	1	1 unit	42G

For soft starters	Motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	Size	Size				

Link modules to motor starter protectors¹⁾



3RA2921-1BA00

• Screw terminals		Screw terminals				
3RW402.	S0	S00/S0	3RA2921-1BA00	1	1 unit	41B
3RW4036	S2	S2	3RA2931-1AA00	1	1 unit	41B
3RW404.	S3	S3	3RA1941-1AA00	1	1 unit	41B

• Spring-loaded terminals		Spring-loaded terminals				
3RW402.	S0	S0	3RA2921-2GA00	1	1 unit	41B



3RA2921-2GA00

- ¹⁾ Can be used in size S0 up to maximum 32 A.
Can be used in size S2 up to maximum 65 A in combination with 3RA2932-1CA00 DIN rail adapter (specially for soft starters).
Can be used in size S3 up to maximum 64 A and only with mounting plate.

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

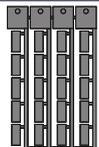
Tools for opening spring-loaded terminals in sizes S00 and S0



3RA2908-1A

Screwdriver For all SIRIUS devices with spring-loaded terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Spring-loaded terminals				
	3RA2908-1A		1	1 unit	41B

Blank labels



3RT2900-1SB20

Unit labeling plates¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
---	----------------------	--	-----	-----------	-----

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter
 SiePortal, see www.siemens.com/product_catalog_siep?3RW30

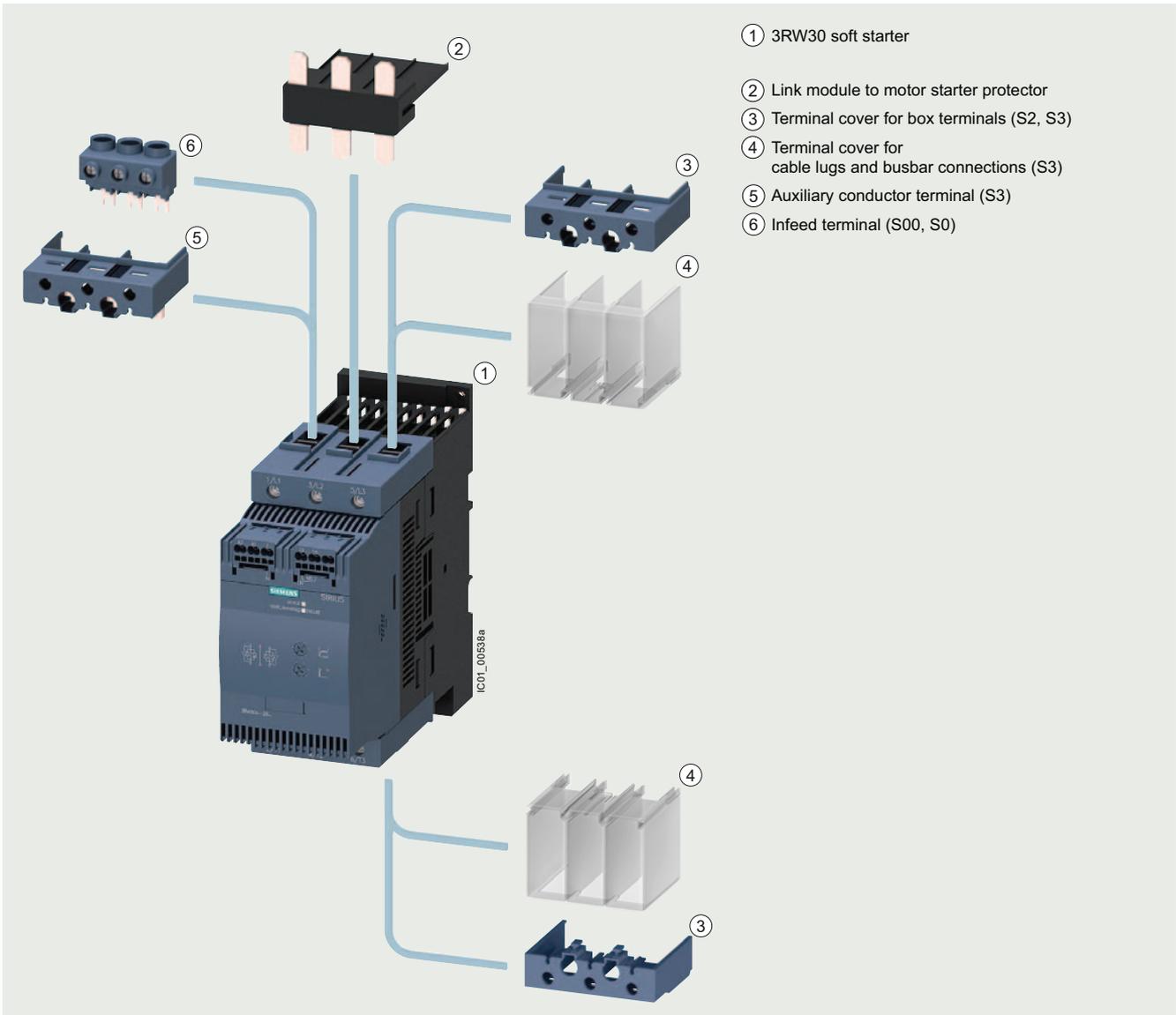
TIA Selection Tool Cloud (TST Cloud),
 see www.siemens.com/tstcloud/?node=3rw30
 Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>
 Conversion tool, see www.siemens.com/conversion-tool



SIRIUS 3RW30 soft starter

The SIRIUS 3RW30 Basic Performance soft starters are suitable for soft starting of three-phase asynchronous motors.

Thanks to 2-phase control, not only is the current kept at minimum values in all three phases throughout the entire startup time, but disturbing direct current components are also eliminated. This not only enables the 2-phase starting of motors up to 55 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with star-delta (wye-delta) starters.



- ① 3RW30 soft starter
- ② Link module to motor starter protector
- ③ Terminal cover for box terminals (S2, S3)
- ④ Terminal cover for cable lugs and busbar connections (S4)
- ⑤ Auxiliary conductor terminal (S3)
- ⑥ Infeed terminal (S00, S0)

SIRIUS 3RW30 Basic Performance soft starter with accessories (see page 6/110 onwards)

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

Benefits



3RW301.

3RW302.

3RW303.

3RW304.

Product characteristics/function

Small and compact design

Parameterization using potentiometers

Integrated in the SIRIUS modular system

Hybrid switching technology and 2-phase motor control

Performance features/benefits

Space-saving, clearly arranged control panel layout

Simple and fast commissioning

Link modules to motor starter protectors

Minimum power loss and optimized motor control by avoiding DC components

Technical specifications

More information

Equipment Manual, see <https://support.industry.siemens.com/cs/ww/en/view/38752095>
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16213/faq>

Catalog LV 10, see www.siemens.com/lv10

Type

3RW301.

3RW302.

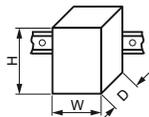
3RW303.

3RW304.

Installation/fixing/dimensions

Width x height x depth

- Screw terminals
- Spring-loaded terminals



mm
45 x 95 x 151
45 x 117 x 151

45 x 125 x 151
45 x 150 x 151

55 x 144 x 168
55 x 144 x 168

70 x 160 x 186
70 x 160 x 186

Ambient temperature

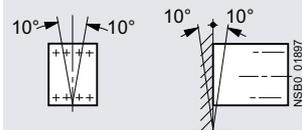
- During operation¹⁾
- During storage

°C
-25 ... +60
°C
-40 ... +80

Weight

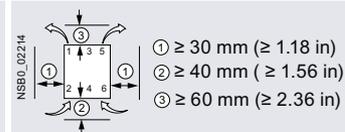
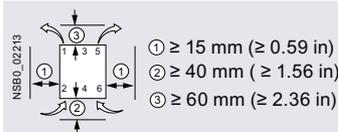
kg 0.58 0.69 1.20 1.71

Permissible mounting position²⁾ (auxiliary fan not possible)



Installation type²⁾

Stand-alone
installation



Permissible installation altitude³⁾

m 5 000

Degree of protection IP on the front according to IEC 60529

IP20

Touch protection on the front according to IEC 60529

Finger-safe for vertical touching from the front

¹⁾ Observe derating above 40 °C.

²⁾ In the case of deviations, please observe derating, see Equipment Manual in the chapter Configuration.

³⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

Type	Terminal	3RW301., 3RW302.		3RW303., 3RW304.	
Control circuit/control					
Rated values					
Rated control supply voltage	A1/A2	V	24 AC/DC	110 ... 230 AC/DC	24 AC/DC
• Tolerance		%	± 20	-15/+10	± 20
Rated frequency		Hz	50/60		110 ... 230 AC/DC
• Tolerance		%	± 10		-15/+10

Type		3RW301.	3RW302.	3RW303.	3RW304.
Power electronics					
Rated operational voltage		V AC	200 ... 480		
Tolerance		%	-15/+10		
Rated frequency		Hz	50/60		
Tolerance		%	± 10		
Uninterrupted duty at 40 °C (% of I_e)		%	115		
Minimum load (% of I_e)		%	10 (at least 1 A)		
Maximum cable length between soft starter and motor		m	300		

Type		3RW3013	3RW3014	3RW3016	3RW3017	3RW3018
Power electronics						
Load rating with rated operational current I_e						
• According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a	A	3.6/3.3/3	6.5/6/5.5	9/8/7	12.5/12/11	17.6/17/14
Power loss						
• During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	0.25	0.5	1	2	4
• During starting with 300% I_M (40 °C)	W	24	52	80	80	116
Permissible rated motor current and starts per hour						
• For normal starting (Class 10) at 40/50 °C						
- Rated motor current I_M ²⁾ , startup time 3 s	A	3.6/3.3	6.5/6.0	9/8	12.5/12.0	17.6/17.0
- Starts per hour ³⁾	1/h	200/150	87/60	50/50	85/70	62/46
- Rated motor current I_M ²⁾ , startup time 4 s	A	3.6/3.3	6.5/6.0	9/8	12.5/12.0	17.6/17.0
- Starts per hour ³⁾	1/h	150/100	64/46	35/35	62/47	45/32
Blocking voltage of thyristor, maximum	A	1 200			1 600	1 200

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ At 300% I_M , $T_u = 40/50$ °C.

³⁾ For intermittent operation S4 with ON period = 30%, $T_u = 40/50$ °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Type		3RW3026	3RW3027	3RW3028
Power electronics				
Load rating with rated operational current I_e				
• According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a	A	25.3/23/21	32.2/29/26	38/34/31
Power loss				
• During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	8	13	19
• During starting with 300% I_M (40 °C)	W	188	220	256
Permissible rated motor current and starts per hour				
• For normal starting (Class 10) at 40/50 °C				
- Rated motor current I_M ²⁾ , startup time 3 s	A	25/23	32/29	38/34
- Starts per hour ³⁾	1/h	23/23	23/23	19/19
- Rated motor current I_M ²⁾ , startup time 4 s	A	25/23	32/29	38/34
- Starts per hour ³⁾	1/h	15/15	16/16	12/12
Blocking voltage of thyristor, maximum	A	1 600		

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ At 300% I_M , $T_u = 40/50$ °C.

³⁾ For intermittent operation S4 with ON period = 30%, $T_u = 40/50$ °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency with deviating mounting position, direct mounting, side-by-side mounting, see Equipment Manual in the chapter Configuration.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

Type		3RW3036	3RW3037	3RW3038	3RW3046	3RW3047	
Power electronics							
Load rating with rated operational current I_e							
• According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a		A	45/42/39	65/58/53	72/62.1/60	80/73/66	106/98/90
Power loss							
• During operation after completed starting with uninterrupted rated operational current (40 °C) approx.		W	6	12	15	12	21
• During starting with 300% I_M (40 °C)		W	316	444	500	576	768
Permissible rated motor current and starts per hour							
• For normal starting (Class 10) at 40/50 °C							
- Rated motor current I_M ²⁾ , startup time 3 s		A	45/42	63/58	72/62	80/73	106/108
- Starts per hour ³⁾		1/h	38/38	23/23	22/22	22/22	15/15
- Rated motor current I_M ²⁾ , startup time 4 s		A	45/42	63/58	72/62	80/73	106/98
- Starts per hour ³⁾		1/h	26/26	15/15	15/15	15/15	10/10
Blocking voltage of thyristor, maximum		A	1 600				

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ At 300% I_M , $T_u = 40/50$ °C.

³⁾ For intermittent operation S4 with ON period = 30%, $T_u = 40/50$ °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors (without semiconductor protection)

Type of coordination "1", Class 10,
short-circuit breaking capacity I_q in kA, [see table](#)

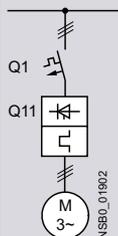
Note:

For general recommendations for constructing motor feeders
with soft starters, [see page 6/12](#).

Soft starters		Motor starter protectors	
Q11		for 400 V systems	
Type		Q1	I_q kA
Type of coordination "1"	I_{oc} 1	Standard (inline) circuit	
3RW3013		3RV2011-1FA10	5
3RW3014		3RV2011-1HA10	5
3RW3016		3RV2011-1JA10	5
3RW3017		3RV2011-1KA10	5
3RW3018		3RV2021-4BA10	5
3RW3026		3RV2021-4DA10	55
3RW3027		3RV2021-4EA10	55
3RW3028		3RV2021-4FA10	55
3RW3036		3RV2031-4WA10	10
3RW3037		3RV2031-4JA10	10
3RW3038		3RV2031-4KA10	10
3RW3046		3RV2041-4RA10	11
3RW3047		3RV2041-4MA10	11

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.



Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

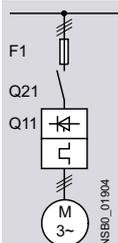
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_q = 65$ kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gG class fuse	Line contactor (optional)	
Q11 Type	for systems up to 480 V F1 Type	for systems up to 400 V Q21 Type	for systems up to 480 V Q21 Type
Type of coordination "1"	Standard (inline) circuit		
3RW3013	3NA3803-6	3RT2015	3RT2015
3RW3014	3NA3805-6	3RT2015	3RT2016
3RW3016	3NA3807-6	3RT2016	3RT2017
3RW3017	3NA3810-6	3RT2018	3RT2025
3RW3018	3NA3814-6	3RT2026	3RT2026
3RW3026	3NA3822-6	3RT2026	3RT2027
3RW3027	3NA3824-6	3RT2027	3RT2028
3RW3028	3NA3824-6	3RT2028	3RT2035
3RW3036	3NA3130-6	3RT2036	3RT2036
3RW3037	3NA3132-6	3RT2037	3RT2037
3RW3038	3NA3132-6	3RT2038	3RT2038
3RW3046	3NA3136-6	3RT2045	3RT2045
3RW3047	3NA3136-6	3RT2047	3RT2047

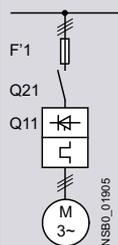
Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

Motor feeders according to IEC with 3NE1 SITOR fusesgR/gS class full-range fuses for semiconductor protection,
cable and line protection (gS)Type of coordination "2",
short-circuit breaking capacity $I_{q} = 65 \text{ kA}$ **Note:**For general recommendations for constructing motor feeders
with soft starters, [see page 6/12](#).

Soft starters	gR/gS class fuse	Line contactor (optional)	
	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V
Q11	F'1	Q21	Q21
Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit TOC 2		
3RW3013	3NE1813-0	3RT2015	3RT2015
3RW3014	3NE1813-0	3RT2015	3RT2016
3RW3016	3NE1813-0	3RT2016	3RT2017
3RW3017	3NE1813-0	3RT2018	3RT2025
3RW3018	3NE1814-0	3RT2026	3RT2026
3RW3026	3NE1803-0	3RT2026	3RT2027
3RW3027	3NE1020-2	3RT2027	3RT2028
3RW3028	3NE1020-2	3RT2028	3RT2035
3RW3036	3NE1020-2	3RT2036	3RT2036
3RW3037	3NE1820-0	3RT2037	3RT2037
3RW3038	3NE1820-0	3RT2038	3RT2038
3RW3046	3NE1021-0	3RT2045	3RT2045
3RW3047	3NE1022-0	3RT2047	3RT2047

Note:

The specified short-circuit breaking capacities I_{q} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

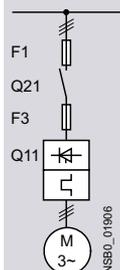
Motor feeders according to IEC with 3NE8/3NE4/3NE3/3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_{q1} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/12](#).



Soft starters	gG class fuse	aR class fuse		Cylindrical fuse		Line contactor (optional)	
	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V
Q11	F1	F3	F3	F3	F3	Q21	Q21
Type	Type	Type	Type	Type	Type	Type	Type
Type of coordination "2"	Standard (inline) circuit						
3RW3013	3NA3803-6	--	3NE4101	3NE8015-1	3NC2220	3RT2015	3RT2015
3RW3014	3NA3805-6	--	3NE4101	3NE8015-1	3NC2220	3RT2015	3RT2016
3RW3016	3NA3807-6	--	3NE4101	3NE8015-1	3NC2220	3RT2016	3RT2017
3RW3017	3NA3810-6	--	3NE4101	3NE8015-1	3NC2250	3RT2018	3RT2025
3RW3018	3NA3814-6	--	3NE4101	3NE8003-1	3NC2263	3RT2026	3RT2026
3RW3026	3NA3822-6	--	3NE4102	3NE8017-1	3NC2263	3RT2026	3RT2027
3RW3027	3NA3824-6	--	3NE4118	3NE8018-1	3NC2280	3RT2027	3RT2028
3RW3028	3NA3824-6	--	3NE4118	3NE8020-1	3NC2280	3RT2028	3RT2035
3RW3036	3NA3130-6	--	3NE4120	3NE8020-1	3NC2280	3RT2036	3RT2036
3RW3037	3NA3132-6	--	3NE4121	3NE8021-1	--	3RT2037	3RT2037
3RW3038	3NA3132-6	3NE3221	--	3NE8022-1	--	3RT2038	3RT2038
3RW3046	3NA3136-6	3NE3222	--	3NE8022-1	--	3RT2045	3RT2045
3RW3047	3NA3136-6	3NE3224	--	3NE8024-1	--	3RT2047	3RT2047

Note:

The specified short-circuit breaking capacities I_{q1} in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For Class 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors can also be used, possibly with reduced short-circuit breaking capacity ([see page 6/105](#)). In these cases, optional line contactors can be dispensed with.

Selection and ordering data

For simple starting conditions

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



3RW301.-1BB.4



3RW302.-2BB.4



3RW303.-1BB.4



3RW304.-2BB.4

At 40 °C				At 50 °C				Size	Screw terminals 		Spring-loaded terminals  (Size S2 or larger only available for control circuit)	
Operational current	Operating power for three-phase motors			Operational current	Operating power [hp] for three-phase motors				Article No.	Price per PU	Article No.	Price per PU
A	at 230 V	at 400 V	at 500 V	A	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V				
Operational voltage 200 ... 480 V												
Control supply voltage 24 V AC/DC												
3.6	0.75	1.5	--	3	0.5	0.5	1.5	--	S00	3RW3013-1BB04		3RW3013-2BB04
6.5	1.5	3	--	6	1	1	3	--	S00	3RW3014-1BB04		3RW3014-2BB04
9	2.2	4	--	8	2	2	5	--	S00	3RW3016-1BB04		3RW3016-2BB04
12.5	3	5.5	--	12	3	3	7.5	--	S00	3RW3017-1BB04		3RW3017-2BB04
17.6	4	7.5	--	17	3	3	10	--	S00	3RW3018-1BB04		3RW3018-2BB04
25	5.5	11	--	23	5	5	15	--	S0	3RW3026-1BB04		3RW3026-2BB04
32	7.5	15	--	29	7.5	7.5	20	--	S0	3RW3027-1BB04		3RW3027-2BB04
38	11	18.5	--	34	10	10	25	--	S0	3RW3028-1BB04		3RW3028-2BB04
45	11	22	--	42	10	15	30	--	S2	3RW3036-1BB04		3RW3036-2BB04
63	18.5	30	--	58	15	20	40	--	S2	3RW3037-1BB04		3RW3037-2BB04
72	22	37	--	62	20	20	40	--	S2	3RW3038-1BB04		3RW3038-2BB04
80	22	45	--	73	20	25	50	--	S3	3RW3046-1BB04		3RW3046-2BB04
106	30	55	--	98	30	30	75	--	S3	3RW3047-1BB04		3RW3047-2BB04
Control supply voltage 110 ... 230 V AC/DC												
3.6	0.75	1.5	--	3	0.5	0.5	1.5	--	S00	3RW3013-1BB14		3RW3013-2BB14
6.5	1.5	3	--	6	1	1	3	--	S00	3RW3014-1BB14		3RW3014-2BB14
9	2.2	4	--	8	2	2	5	--	S00	3RW3016-1BB14		3RW3016-2BB14
12.5	3	5.5	--	12	3	3	7.5	--	S00	3RW3017-1BB14		3RW3017-2BB14
17.6	4	7.5	--	17	3	3	10	--	S00	3RW3018-1BB14		3RW3018-2BB14
25	5.5	11	--	23	5	5	15	--	S0	3RW3026-1BB14		3RW3026-2BB14
32	7.5	15	--	29	7.5	7.5	20	--	S0	3RW3027-1BB14		3RW3027-2BB14
38	11	18.5	--	34	10	10	25	--	S0	3RW3028-1BB14		3RW3028-2BB14
45	11	22	--	42	10	15	30	--	S2	3RW3036-1BB14		3RW3036-2BB14
63	18.5	30	--	58	15	20	40	--	S2	3RW3037-1BB14		3RW3037-2BB14
72	22	37	--	62	20	20	40	--	S2	3RW3038-1BB14		3RW3038-2BB14
80	22	45	--	73	20	25	50	--	S3	3RW3046-1BB14		3RW3046-2BB14
106	30	55	--	98	30	30	75	--	S3	3RW3047-1BB14		3RW3047-2BB14

Note:

For the constraints for the motor outputs specified here, see [page 6/8](#).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > Accessories

Selection and ordering data

More information

Equipment Manual, see <https://support.industry.siemens.com/cs/ww/en/view/38752095>

Conductor cross-section		Tightening torque	For soft starters	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG		
solid or stranded	finely stranded with end sleeve								AWG cables, solid or stranded	Size
mm ²	mm ²	AWG	Nm							
3-phase infeed terminals										
	2.5 ... 25	2.5 ... 16	10 ... 4	3 ... 4	S00 (3RW301.), S0 (3RW302.)	3RV2925-5AB	1	1 unit	41E	
For soft starters				Article No.		Price per PU	PU (UNIT, SET, M)	PS*	PG	
Type		Size								
Auxiliary conductor terminals										
	Auxiliary conductor terminal, 3-pole									
3RT2946-4F	3RW304.	S3				3RT2946-4F	1	1 unit	41B	
Covers for soft starters										
	Terminal covers for box terminals			Additional touch protection to be fitted at the box terminals (two units required per device)						
3RT2936-4EA2	3RW303.	S2				3RT2936-4EA2	1	1 unit	41B	
	3RW304.	S3				3RT2946-4EA2	1	1 unit	41B	
	Terminal cover for cable lugs and busbar connections			For complying with the voltage clearances and as touch protection if box terminal is removed (two units required per device)						
3RT1946-4EA1	3RW304.	S3				3RT1946-4EA1	1	1 unit	41B	
For motor starter protectors		For soft starters	Version		Article No.		Price per PU	PU (UNIT, SET, M)	PS*	PG
Size		Size								
Mounting rails for mounting contactors for the customer assembly of 3RA21 load feeders with busbar adapters for 60 mm systems										
	--	S0	For the discrete configuration of direct-on-line starters, an additional mounting rail is needed for the contactor in addition to the existing mounting rail on the busbar adapter for the motor starter protector.							
8US1998-7CB45			For pushing onto the device adapter, including fixing screws		8US1998-7CB45		1	10 units	53W	
DIN-rail adapters										
	S2	S2	For mechanical fixing of motor starter protector and soft starter; for snapping onto DIN rail or for screw fixing							
3RA2932-1CA00			Single-unit packaging		3RA2932-1CA00		1	1 unit	41B	

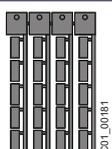
Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > Accessories

For soft starters		Motor starter protectors		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	Size	Size	Size					
Link modules to motor starter protectors¹⁾								
• Screw terminals				Screw terminals 				
	3RW301.	S00	S00	3RA2921-1BA00		1	1 unit	41B
	3RW302.	S0	S00/S0	3RA2921-1BA00		1	1 unit	41B
	3RW3036	S2	S2	3RA2931-1AA00		1	1 unit	41B
	3RW304.	S3	S3	3RA1941-1AA00		1	1 unit	41B
• Spring-loaded terminals				Spring-loaded terminals 				
	3RW301.	S00	S00	3RA2911-2GA00		1	1 unit	41B
	3RW302.	S0	S0	3RA2921-2GA00		1	1 unit	41B

- ¹⁾ Can be used in size S0 up to maximum 32 A.
Can be used in size S2 up to maximum 65 A in combination with 3RA2932-1CA00 DIN-rail adapter (specially for soft starters).
Can be used in size S3 up to maximum 64 A and only on a mounting plate.

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spring-loaded terminals in sizes S00 and S0					
	Screwdriver For all SIRIUS devices with spring-loaded terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		Spring-loaded terminals 		
3RA2908-1A	3RA2908-1A		1	1 unit	41B
Blank labels					
	Unit labeling plates¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray		3RT2900-1SB20		
3RT2900-1SB20			100	340 units	41B

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

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starterSiePortal, see www.siemens.com/product_catalog_siep?3RW

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

Selection and ordering data

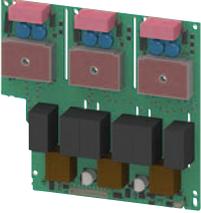
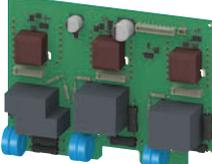
Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG		
Power semiconductor modules									
 3RW5952-0SF04	Power semiconductor modules	3RW5524-.HA.4 (3x)	480 V, 47 A	3RW5952-0SF04	1	1 unit	42S		
		3RW5525-.HA.4 (3x), 3RW5526-.HA.4 (3x)	480 V, 77 A	3RW5952-0SH04	1	1 unit	42S		
		3RW5527-.HA.4 (3x)	480 V, 93 A	3RW5952-0SJ04	1	1 unit	42S		
		3RW5534-.HA.4 (3x), 3RW5535-.HA.4 (3x)	480 V, 143 A	3RW5953-0SL04	1	1 unit	42S		
		3RW5536-.HA.4 (3x)	480 V, 171 A	3RW5953-0SM04	1	1 unit	42S		
		3RW5543-.HA.4 (3x)	480 V, 210 A	3RW5954-0SN04	1	1 unit	42S		
		3RW5544-.HA.4 (3x)	480 V, 250 A	3RW5954-0SP04	1	1 unit	42S		
		3RW5545-.HA.4 (3x), 3RW5546-.HA.4 (3x)	480 V, 370 A	3RW5954-0SR04	1	1 unit	42S		
		3RW5547-.HA.4 (3x), 3RW5548-.HA.4 (3x)	480 V, 570 A	3RW5954-0ST04	1	1 unit	42S		
		3RW5552-.HA.4 (3x)	480 V, 630 A	3RW5955-0SU04	1	1 unit	42S		
 3RW5953-0SM06		3RW5553-.HA.4 (3x)	480 V, 720 A	3RW5955-0SV04	1	1 unit	42S		
		3RW5554-.HA.4 (3x)	480 V, 840 A	3RW5955-0SW04	1	1 unit	42S		
		3RW5556-.HA.4 (3x)	480 V, 1 100 A	3RW5955-0SX04	1	1 unit	42S		
		3RW5558-.HA.4 (3x)	480 V, 1 280 A	3RW5955-0SY04	1	1 unit	42S		
		3RW5521-.HA.6 (3x), 3RW5524-.HA.6 (3x)	690 V, 47 A	3RW5952-0SF06	1	1 unit	42S		
		3RW5525-.HA.6 (3x), 3RW5526-.HA.6 (3x)	690 V, 77 A	3RW5952-0SH06	1	1 unit	42S		
		3RW5527-.HA.6 (3x)	690 V, 93 A	3RW5952-0SJ06	1	1 unit	42S		
		3RW5534-.HA.6 (3x), 3RW5535-.HA.6 (3x)	690 V, 143 A	3RW5953-0SL06	1	1 unit	42S		
		3RW5536-.HA.6 (3x)	690 V, 171 A	3RW5953-0SM06	1	1 unit	42S		
		3RW5543-.HA.6 (3x)	690 V, 210 A	3RW5954-0SN06	1	1 unit	42S		
 3RW5954-0ST06		3RW5544-.HA.6 (3x)	690 V, 250 A	3RW5954-0SP06	1	1 unit	42S		
		3RW5545-.HA.6 (3x), 3RW5546-.HA.6 (3x)	690 V, 370 A	3RW5954-0SR06	1	1 unit	42S		
		3RW5547-.HA.6 (3x), 3RW5548-.HA.6 (3x)	690 V, 570 A	3RW5954-0ST06	1	1 unit	42S		
		3RW5552-.HA.6 (3x)	690 V, 630 A	3RW5955-0SU06	1	1 unit	42S		
		3RW5553-.HA.6 (3x)	690 V, 720 A	3RW5955-0SV06	1	1 unit	42S		
		3RW5554-.HA.6 (3x)	690 V, 840 A	3RW5955-0SW06	1	1 unit	42S		
		3RW5556-.HA.6 (3x)	690 V, 1 100 A	3RW5955-0SX06	1	1 unit	42S		
		3RW5558-.HA.6 (3x)	690 V, 1 280 A	3RW5955-0SY06	1	1 unit	42S		
		Bypass units							
		 3RW5953-0BY00	Bypass units	3RW552-.HA..., 3RW553-.HA..	--	3RW5953-0BY00	1	1 unit	42S
3RW5543-.HA..., 3RW5544-.HA..., 3RW5545-.HA..	210 ... 315 A			3RW5954-0BP00	1	1 unit	42S		
3RW5546-.HA..., 3RW5547-.HA..., 3RW5548-.HA..	370 ... 570 A			3RW5954-0BT00	1	1 unit	42S		
3RW5552, 3RW5553, 3RW5554	630 ... 840 A			3RW5955-0BW00	1	1 unit	42S		
3RW5556, 3RW5558	1 100 A, 1 280 A			3RW5955-0BY00	1	1 unit	42S		

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Control units								
	Control units	3RW551...-HA0., 3RW552...-HA0., 3RW553...-HA0., 3RW554...-HA0.	24 V	3RW5950-1UY00	1	1 unit	42S	
		3RW555...-HA0.		3RW5955-1UY00	1	1 unit	42S	
		3RW551...-HA1., 3RW552...-HA1., 3RW553...-HA1., 3RW554...-HA1.	110 ... 250 V	3RW5950-1UY10	1	1 unit	42S	
		3RW555...-HA1.		3RW5955-1UY10	1	1 unit	42S	
3RW5950-1UY00	3RW555...-HA1.		3RW5955-1UY10	1	1 unit	42S		
Printed circuit boards								
	Printed circuit boards	3RW5513...-HA.4	480 V, 13 A	3RW5951-0PA04	1	1 unit	42S	
		3RW5514...-HA.4	480 V, 18 A	3RW5951-0PB04	1	1 unit	42S	
		3RW5515...-HA.4	480 V, 25 A	3RW5951-0PC04	1	1 unit	42S	
		3RW5516...-HA.4	480 V, 32 A	3RW5951-0PD04	1	1 unit	42S	
		3RW5517...-HA.4	480 V, 38 A	3RW5951-0PE04	1	1 unit	42S	
		3RW552...-HA.4, 3RW553...-HA.4	480 V	3RW5953-0PY04	1	1 unit	42S	
		3RW554...-HA.4	480 V	3RW5954-0PY04	1	1 unit	42S	
		3RW5513...-HA.5	600 V, 13 A	3RW5951-0PA05	1	1 unit	42S	
		3RW5514...-HA.5	600 V, 18 A	3RW5951-0PB05	1	1 unit	42S	
		3RW5515...-HA.5	600 V, 25 A	3RW5951-0PC05	1	1 unit	42S	
	Printed circuit boards	3RW5516...-HA.5	600 V, 32 A	3RW5951-0PD05	1	1 unit	42S	
		3RW5517...-HA.5	600 V, 38 A	3RW5951-0PE05	1	1 unit	42S	
		3RW552...-HA.6, 3RW553...-HA.6	690 V	3RW5953-0PY06	1	1 unit	42S	
		3RW554...-HA.6	690 V	3RW5954-0PY06	1	1 unit	42S	
		Firing printed circuit boards	3RW555...-HA.4	480 V	3RW5955-0PY14	1	1 unit	42S
			3RW555...-HA.6	690 V	3RW5955-0PY16	1	1 unit	42S
		TSE printed circuit boards	3RW555...-HA.4	480 V	3RW5955-0PY24	1	1 unit	42S
			3RW555...-HA.6	690 V	3RW5955-0PY26	1	1 unit	42S
		3RW5954-0PY06						
		Fans						
	Fans	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)	--	3RW5983-0FF00	1	1 unit	42S	
		3RW554 (1x)	--	3RW5984-0FF00	1	1 unit	42S	
		3RW555 (3x)	--	3RW5985-0FF00	1	1 unit	42S	
3RW5983-0FF00								
Terminals and terminal covers								
	Box terminal block	3RW552 (2x)	--	3RW5982-0TB00	1	1 unit	42S	
	Removable control terminals	• Screw terminals		Screw terminals				
		3RW551.-1H... (2x), 3RW552.-1H... (2x), 3RW553.-6H... (2x), 3RW554.-6H... (2x), 3RW555.-6H... (2x)	Contains 2 blocks each with 6 terminals	3RW5980-1TR00	1	1 unit	42S	
		• Spring-loaded terminals		Spring-loaded terminals				
		3RW551.-3H... (2x), 3RW552.-3H... (2x), 3RW553.-2H... (2x), 3RW554.-2H... (2x), 3RW555.-2H... (2x)	Contains 2 blocks each with 6 terminals	3RW5980-2TR00	1	1 unit	42S	
3RW5980-1TR00								
	Terminal cover	3RW555	--	3RW5955-0TC20	1	1 unit	42S	
3RW5955-0TC20								

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosure components							
 3RW5953-0GB00	Lower part of enclosures	3RW552.-.HA..	--	3RW5953-0GB00	1	1 unit	42S
		3RW553.-.HA..	--	3RW5954-0GB00	1	1 unit	42S
		3RW554.-.HA..	--				
 3RW5955-0GC00	Ventilation cover	3RW555 (3x)	--	3RW5955-0GC00	1	1 unit	42S
 3RW5950-0GD20	Cover for control cable duct	3RW55.-.HA..	Titanium gray	3RW5950-0GD20	1	1 unit	42S
 3RW5954-0GF00	Front cover	3RW554.-.HA..	--	3RW5954-0GF00	1	1 unit	42S
		3RW555	--	3RW5955-0GF00	1	1 unit	42S
 3RW5950-0GL30	Hinged cover	3RW55	With cutout for High-Feature HMI module	3RW5950-0GL30	1	1 unit	42S

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules							
	HMI module	3RW55	High-Feature	3RW5980-0HF00	1	1 unit	42S
3RW5980-0HF00							
	Interface cover	3RW55	--	3RW5980-0HL00	1	1 unit	42S
3RW5980-0HL00							
Connecting cables for installing the HMI module in the soft starter							
	Connecting cable	--	Length 0.1 m, flat	3UF7931-0AA00-0	1	1 unit	42J
3UF7931-0AA00-0							
Transport packaging							
	Transport packaging	3RW551	--	3RW5951-0VY00	1	1 unit	42S
		3RW552, 3RW553	--	3RW5953-0VY00	1	1 unit	42S
		3RW554	--	3RW5954-0VY00	1	1 unit	42S
		3RW555	--	3RW5955-0VY00	1	1 unit	42S
3RW5953-0VY00							

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Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55 Failsafe

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starterSiePortal, see www.siemens.com/product_catalog_siep?3RW

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fans							
	Fans	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)	--	3RW5983-0FF00	1	1 unit	42S
		3RW554 (1x)	--	3RW5984-0FF00	1	1 unit	42S
3RW5983-0FF00							
Terminals and terminal covers							
	Box terminal block	3RW552 (2x)	--	3RW5982-0TB00	1	1 unit	42S
3RW5982-0TB00							
	Removable control terminals	• Screw terminals		Screw terminals 			
		3RW551.-1H... (2x), 3RW552.-1H... (2x), 3RW553.-6H... (2x), 3RW554.-6H... (2x)	Contains 2 blocks each with 6 terminals	3RW5980-1TR00	1	1 unit	42S
		• Spring-loaded terminals		Spring-loaded terminals 			
		3RW551.-3H... (2x), 3RW552.-3H... (2x), 3RW553.-2H... (2x), 3RW554.-2H... (2x)	Contains 2 blocks each with 6 terminals	3RW5980-2TR00	1	1 unit	42S
3RW5980-1TR00							
Enclosure components							
	Cover for control cable duct	3RW55...-HF..	Yellow	3RW5950-0GD30	1	1 unit	42S
3RW5950-0GD30							
	Hinged cover	3RW55	With cutout for High-Feature HMI module	3RW5950-0GL30	1	1 unit	42S
3RW5950-0GL30							

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW55 Failsafe

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules							
	HMI module	3RW55	High-Feature	3RW5980-0HF00	1	1 unit	42S
3RW5980-0HF00							
	Interface cover	3RW55	--	3RW5980-0HL00	1	1 unit	42S
3RW5980-0HL00							
Connecting cables for installing the HMI module in the soft starter							
	Connecting cable	--	Length 0.1 m, flat	3UF7931-0AA00-0	1	1 unit	42J
3UF7931-0AA00-0							
Transport packaging							
	Transport packaging	3RW551	--	3RW5951-0VY00	1	1 unit	42S
		3RW552, 3RW553	--	3RW5953-0VY00	1	1 unit	42S
		3RW554	--	3RW5954-0VY00	1	1 unit	42S
3RW5953-0VY00							

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Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW52

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starterSiePortal, see www.siemens.com/product_catalog_siep?3RW

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

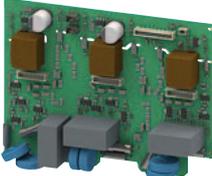
Selection and ordering data

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power semiconductor modules							
 3RW5952-0SF04	Power semiconductor modules	3RW5224-..C.4 (3x)	480 V, 47 A	3RW5952-0SF04	1	1 unit	42S
		3RW5225-..C.4 (3x), 3RW5226-..C.4 (3x)	480 V, 77 A	3RW5952-0SH04	1	1 unit	42S
		3RW5227-..C.4 (3x)	480 V, 93 A	3RW5952-0SJ04	1	1 unit	42S
		3RW5234-..C.4 (3x), 3RW5235-..C.4 (3x)	480 V, 143 A	3RW5953-0SL04	1	1 unit	42S
		3RW5236-..C.4 (3x)	480 V, 171 A	3RW5953-0SM04	1	1 unit	42S
		3RW5224-..C.5 (3x)	600 V, 47 A	3RW5952-0SF05	1	1 unit	42S
		3RW5225-..C.5 (3x), 3RW5226-..C.5 (3x)	600 V, 77 A	3RW5952-0SH05	1	1 unit	42S
		3RW5227-..C.5 (3x)	600 V, 93 A	3RW5952-0SJ05	1	1 unit	42S
		3RW5234-..C.5 (3x), 3RW5235-..C.5 (3x)	600 V, 143 A	3RW5953-0SL05	1	1 unit	42S
		3RW5236-..C.5 (3x)	600 V, 171 A	3RW5953-0SM05	1	1 unit	42S
 3RW5953-0SM05		3RW5243 (3x)	600 V, 210 A	3RW5924-0SN05	1	1 unit	42S
		3RW5244 (3x), 3RW5245 (3x)	600 V, 315 A	3RW5924-0SQ05	1	1 unit	42S
		3RW5246 (3x), 3RW5247 (3x)	600 V, 470 A	3RW5924-0SS05	1	1 unit	42S
		3RW5248 (3x)	600 V, 570 A	3RW5924-0ST05	1	1 unit	42S
 3RW5924-0ST05							
Bypass units							
 3RW5953-0BY00	Bypass units	3RW522, 3RW523	--	3RW5953-0BY00	1	1 unit	42S
		3RW5243, 3RW5244, 3RW5245	210 ... 315 A	3RW5954-0BP00	1	1 unit	42S
		3RW5246, 3RW5247, 3RW5248	370 ... 570 A	3RW5954-0BT00	1	1 unit	42S
Control units							
 3RW5920-1UA00	Control units	3RW52-..AC0.	24 V analog output	3RW5920-1UA00	1	1 unit	42S
		3RW52-..AC1.	110 ... 250 V analog output	3RW5920-1UA10	1	1 unit	42S
		3RW52-..TC0.	24 V thermistor input	3RW5920-1UT00	1	1 unit	42S
		3RW52-..TC1.	110 ... 250 V thermistor input	3RW5920-1UT10	1	1 unit	42S

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Spare parts

For 3RW52

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Printed circuit boards							
	Printed circuit boards	3RW5213-..C.4	480 V, 13 A	3RW5921-0PA04	1	1 unit	42S
		3RW5214-..C.4	480 V, 18 A	3RW5921-0PB04	1	1 unit	42S
		3RW5215-..C.4	480 V, 25 A	3RW5921-0PC04	1	1 unit	42S
		3RW5216-..C.4	480 V, 32 A	3RW5921-0PD04	1	1 unit	42S
		3RW5217-..C.4	480 V, 38 A	3RW5921-0PE04	1	1 unit	42S
		3RW522-..C.4, 3RW523-..C.4	480 V	3RW5923-0PY04	1	1 unit	42S
		3RW524-..C.4	480 V	3RW5924-0PY04	1	1 unit	42S
		3RW5213-..C.5	600 V, 13 A	3RW5921-0PA05	1	1 unit	42S
		3RW5214-..C.5	600 V, 18 A	3RW5921-0PB05	1	1 unit	42S
		3RW5215-..C.5	600 V, 25 A	3RW5921-0PC05	1	1 unit	42S
	3RW5216-..C.5	600 V, 32 A	3RW5921-0PD05	1	1 unit	42S	
	3RW5217-..C.5	600 V, 38 A	3RW5921-0PE05	1	1 unit	42S	
	3RW522-..C.5, 3RW523-..C.5	600 V	3RW5923-0PY05	1	1 unit	42S	
	3RW524-..C.5	600 V	3RW5924-0PY05	1	1 unit	42S	
Fans							
	Fan	3RW5216/17 (1x), 3RW5226/27 (2x), 3RW523 (2x)	--	3RW5983-0FF00	1	1 unit	42S
		3RW524 (1x)	--	3RW5984-0FF00	1	1 unit	42S
Terminals							
	Box terminal block	3RW522 (2x)	--	3RW5982-0TB00	1	1 unit	42S
		Removable control terminals	• Screw terminals		Screw terminals		
		3RW521-..1.C.., 3RW522-..1.C.., 3RW523-..6.C.., 3RW524-..6.C..	Contains 2 blocks each with 6 terminals	3RW5980-1TR00	1	1 unit	42S
		• Spring-loaded terminals		Spring-loaded terminals			
		3RW521-..3.C.., 3RW522-..3.C.., 3RW523-..2.C.., 3RW524-..2.C..	Contains 2 blocks each with 6 terminals	3RW5980-2TR00	1	1 unit	42S
Enclosure components							
	Lower part of enclosures	3RW522, 3RW523	--	3RW5953-0GB00	1	1 unit	42S
		3RW524	--	3RW5954-0GB00	1	1 unit	42S
	Cover for control cable duct	3RW52	Titanium gray	3RW5950-0GD20	1	1 unit	42S

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW52

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosure components							
 3RW5954-0GF00	Front cover	3RW524	--	3RW5954-0GF00	1	1 unit	42S
 3RW5950-0GL20	Hinged cover	3RW52	Without cutout	3RW5950-0GL20	1	1 unit	42S
Transport packaging							
 3RW5953-0VY00	Transport packaging	3RW521 3RW522, 3RW523 3RW524	-- -- --	3RW5951-0VY00 3RW5953-0VY00 3RW5954-0VY00	1 1 1	1 unit 1 unit 1 unit	42S 42S 42S

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Spare parts

For 3RW50

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starterSiePortal, see www.siemens.com/product_catalog_siep?3RW

SiePortal topic page, see

<https://support.industry.siemens.com/cs/ww/en/view/109747404>

Selection and ordering data

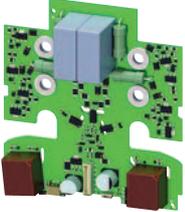
	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Power semiconductor modules									
	Power semiconductor modules	3RW505-...B.4 (2x)	480 V, 171 A	3RW5953-0SL04		1	1 unit	42S	
		3RW505-...B.5 (2x)	600 V, 171 A	3RW5953-0SL05		1	1 unit	42S	
		3RW5072 (2x)	600 V, 210 A	3RW5924-0SN05		1	1 unit	42S	
		3RW5073 (2x), 3RW5074 (2x)	600 V, 315 A	3RW5924-0SQ05		1	1 unit	42S	
		3RW5075 (2x), 3RW5076 (2x)	600 V, 470 A	3RW5924-0SS05		1	1 unit	42S	
		3RW5077 (2x)	600 V, 570 A	3RW5924-0ST05		1	1 unit	42S	
Bypass units									
	Bypass units	3RW505	--	3RW5905-0BY00		1	1 unit	42S	
		3RW5072, 3RW5073, 3RW5074	210 ... 315 A	3RW5907-0BQ00		1	1 unit	42S	
		3RW5075, 3RW5076, 3RW5077	370 ... 570 A	3RW5907-0BY00		1	1 unit	42S	
Control units									
	Control units	Analog output		3RW505-..AB0.	24 V	3RW5905-1UA00	1	1 unit	42S
				3RW505-..AB1.	110 ... 250 V	3RW5905-1UA10	1	1 unit	42S
				3RW507-..AB0.	24 V	3RW5907-1UA00	1	1 unit	42S
				3RW507-..AB1.	110 ... 250 V	3RW5907-1UA10	1	1 unit	42S
		Thermistor input		3RW505-..TB0.	24 V	3RW5905-1UT00	1	1 unit	42S
				3RW505-..TB1.	110 ... 250 V	3RW5905-1UT10	1	1 unit	42S
				3RW507-..TB0.	24 V	3RW5907-1UT00	1	1 unit	42S
		3RW507-..TB1.	110 ... 250 V	3RW5907-1UT10	1	1 unit	42S		

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Spare parts

For 3RW50

Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Printed circuit boards							
 3RW5905-0PY04	Printed circuit boards	3RW505...B.4	480 V	3RW5905-0PY04	1	1 unit	42S
		3RW507...B.4	480 V	3RW5907-0PY04	1	1 unit	42S
		3RW505...B.5	600 V	3RW5905-0PY05	1	1 unit	42S
		3RW507...B.5	600 V	3RW5907-0PY05	1	1 unit	42S
Fans							
 3RW5905-0FF00	Fans	3RW505 (1x)	--	3RW5905-0FF00	1	1 unit	42S
		3RW507 (1x)	--	3RW5907-0FF00	1	1 unit	42S
Terminals							
 3RW5980-1TR00	Removable control terminals	• Screw terminals		Screw terminals 	1	1 unit	42S
		3RW50...-6.B..	Contains 2 blocks each with 6 terminals	3RW5980-1TR00			
		• Spring-loaded terminals		Spring-loaded terminals 	1	1 unit	42S
	3RW50...-2.B..	Contains 2 blocks each with 6 terminals	3RW5980-2TR00				
Enclosure components							
 3RW5905-0GB00	Lower part of enclosures	3RW505	--	3RW5905-0GB00	1	1 unit	42S
		3RW507	--	3RW5907-0GB00	1	1 unit	42S
 3RW5900-0GL00	Hinged cover	3RW50	--	3RW5900-0GL00	1	1 unit	42S
Transport packaging							
 3RW5905-0VY00	Transport packaging	3RW505	--	3RW5905-0VY00	1	1 unit	42S
		3RW507	--	3RW5907-0VY00	1	1 unit	42S