SIEMENS

Ingenuity for life

Pioneering SIRIUS hybrid industrial controls

Starting motors with SIRIUS

SIRIUS Hybrid

siemens.com/sirius-hybrid

Control perfection with SIRIUS industrial controls

SIRIUS, the most modern, complete and innovated range of industrial controls can be subdivided into four core areas. They provide a good overview of the full spectrum of products and their functions.

The most modern technology with a perfect design

The hybrid switching technology combines the best of relay and semiconductor switching technology: The devices switch electronically via the integrated power semiconductor, and then low-loss electromechanical bypass contacts take over the current flow during operation.

SIRIUS Control

- Contactors
- Motor starter protectors
- Overload relay
- Infeed system
- Load feeders
- Reversing contactor assemblies
- Star-delta (wye-delta) combinations
- Contactor relays

SIRIUS Command

- Pushbuttons and indicator lights
- Signaling columns
- Position and safety switches
- Cable-operated switches
- Foot switches
- Integrated signal lamps

SIRIUS Monitor

- Safety relays
- AS-Interface
- SIMOCODE
- Coupling/time/ monitoring relay
- Standstill and speed monitor

SIRIUS Hybrid

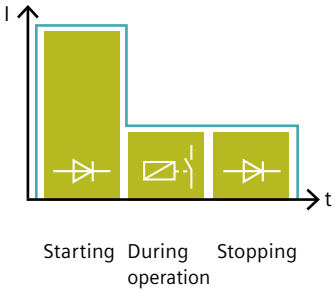
- 3RW soft starters
- 3RM1 motor starters
- ET 200SP motor starters
- 3RF Solid-state switching devices

The SIRIUS 3RW5 soft starter received the RedDot Design and the iF Design awards thanks to numerous factors, including its slim, coordinated and uniform design across all sizes.

Low-wear switching thanks to hybrid switching technology

The spectrum of the SIRIUS 3RW soft starters ranges from 2-phase controlled devices for standard applications all the way to high-performance 3-phase controlled equipment for demanding tasks. It covers all power ranges from 1.5 to 1200 kW and is therefore ideal for creating cost-optimized and suitable drive solutions for any application. At the same time, users benefit from substantial energy savings in operation. In the **3RW55 high performance range, the failsafe version** is unique. Thus, you are able to reduce costs due to space savings, and fewer components are required. For more information, see **www.siemens.com/IC10**. For heavy starting, please always use the STS (Simulation Tool for Soft Starters) when selecting; see page 5.

Reduced power losses in operation

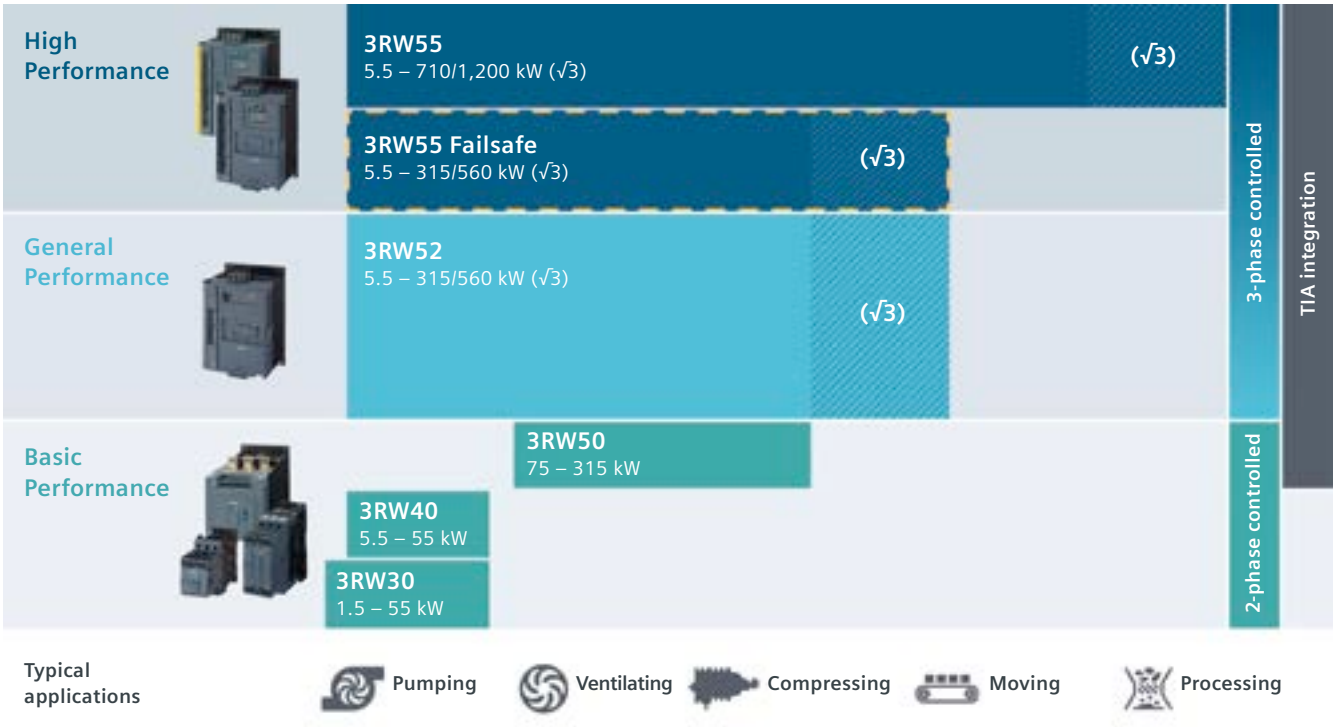


Conventional industrial controls result in wear to the mechanical switching contacts every time a system is switched on or off, albeit in very small increments. This is not the case with hybrid industrial controls, because the starting current is first engaged via electronic contact elements (Thyristor, Triac) and the mechanical contact elements are only engaged when the rated speed is reached. Thus, the mechanical components achieve a significantly higher switching service life.

Advantages at a glance

- Longer service lives for controls
- Economic advantages with increased switching cycles
- Lower energy costs and lower temperature rise in the control panel
- Prevention of current peaks and network voltage dips
- Low interference emission; smaller electrical voltage fluctuations in power systems (flicker)
- Reduced power losses in operation

SIRIUS 3RW soft starters at a glance

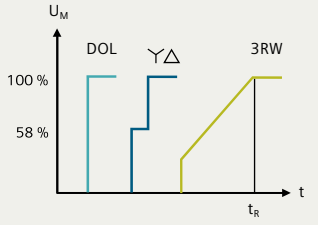


Good reasons for using soft starters

Motor voltage, current and torque effects differ considerably compared with those experienced in direct-on-line or star-delta (wye-delta) starting: Soft increase of the motor voltage, limited motor current and flat motor torque provide considerable advantages.

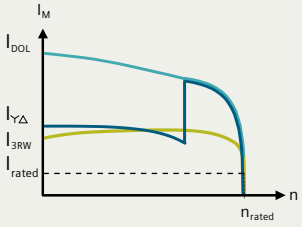
- Lower mechanical wear of the drive train due to limitation of the starting current/torque
- Protection of the network voltage from excessive starting peaks by reduced current consumption

Motor voltage



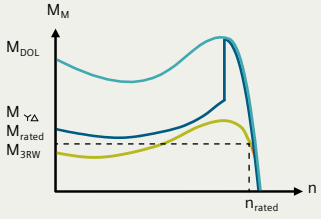
DOL: Direct-on-line starting
Y△: Star-delta (wye-delta) starting
3RW: Soft start
U_M: Motor voltage
I_M: Motor current

Motor current



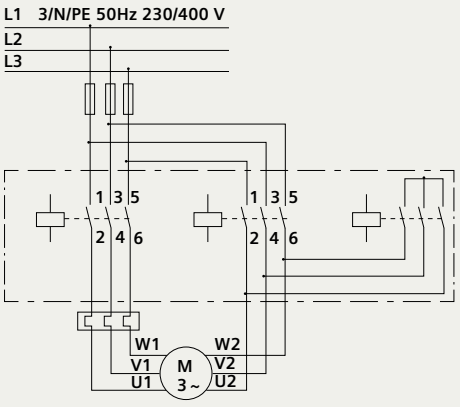
M_M: Motor torque
t: Time
t_R: Ramp time
n: Speed
Rated: Rated values

Motor torque

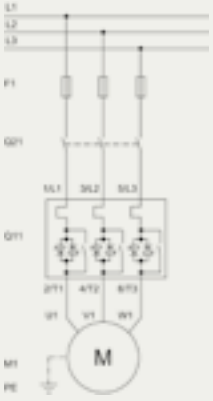


- Considerable savings on wiring in the control panel compared with a contactor assembly for star-delta (wye-delta) starting

Circuit diagram for star-delta (wye-delta) starter



Circuit diagram for soft starter



Advantages at a glance

- Minimum power loss due to integrated bypass contacts after successful startup
- No additional heat generation
- Low maintenance costs
- Compact design and low capital investment costs compared with frequency converters
- Substantial space savings in the control panel compared with a contactor assembly for star-delta (wye-delta) starting

Simply the cleverer choice for many applications

There is no general answer to whether a soft starter or frequency converter is the optimum solution. The decisive factors are the application itself and its specific boundary conditions such as mechanical load, cost efficiency, compliance with standards, reliability, energy efficiency balance, etc.

Added value due to soft starter

While, for applications with variable speeds, the use of a frequency converter is recommended, soft starters are always the first choice when the application does not require variable speed.

In this case, as a low-cost and low-maintenance drive solution that does not need extensive accessories, soft starters offer a whole range of advantages:

Advantages of a soft starter at a glance

Lower capital investment costs

Space savings thanks to compact design

Low maintenance costs

No additional heat generation

Easy to wire

Reduced energy losses during operation due to bypass contacts

EMC-optimized for less interference from unwanted electrical or electromagnetic effects

Selection of the right 3RW soft starter – engineering made easy

Specifying motor and load data results in the correct soft starter. For easy selection of the correctly dimensioned soft starter, two selection tools are available free of charge:

STS = **S**imulation **T**ool for **S**oft Starters as an application-specific selection guide; **www.siemens.com/sts**

TST= **T**IA **S**election **T**ool as a configurator; **www.siemens.com/tstcloud**

More information on these tools is available in Siemens Industry Online Support at **www.siemens.com/sios** (keywords STS and TIA Selection Tool).

Digital product data for all common engineering tools make engineering simple.

SIRIUS 3RW30

The SIRIUS 3RW30 soft starter for easy starting conditions

- Two-phase controlled
- Motors up to 55 kW at 400 V (max. 600 V AC)
- No smooth ramp-down (except 3RW3003)
- Very compact for space saving in the control panel
- Optimum adaptation to the drive task by individual potentiometers for starting voltage (40 ... 100%), startup time up to 20 s
- Modern hybrid switching technology

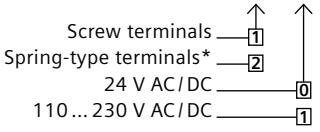
SIRIUS 3RW30 soft starters

Rated operational voltage U_e	Rated operational current I_e at 40 °C	Rated power of three-phase motors at rated operational voltage U_e		Size	Article No.
V	A	kW at 230 V	kW at 400 V		
Soft starters for easy starting and runout conditions and high switching frequency					
200 ... 400	3	0.55	1.1	22.5 mm	3RW3003-☐CB5 4
Soft starters for three-phase asynchronous motors (without smooth ramp-down)					
200 ... 480	3.6	0.75	1.5	S00	3RW3013-☐BB☐4
	6.5	1.5	3	S00	3RW3014-☐BB☐4
	9	2.2	4	S00	3RW3016-☐BB☐4
	12.5	3	5.5	S00	3RW3017-☐BB☐4
	17.6	4	7.5	S00	3RW3018-☐BB☐4
	25	5.5	11	S0	3RW3026-☐BB☐4
	32	7.5	15	S0	3RW3027-☐BB☐4
	38	11	18.5	S0	3RW3028-☐BB☐4
	45	11	22	S2	3RW3036-☐BB☐4
	63	18.5	30	S2	3RW3037-☐BB☐4
	72	22	37	S2	3RW3038-☐BB☐4
Size S0	80	22	45	S3	3RW3046-☐BB☐4
	106	30	55	S3	3RW3047-☐BB☐4

☐ = Article No. supplement for connection types:

☐ = Article No. supplement for rated control supply voltage U_s:

* Main connection from size S2: Screw terminals



Dimensions W x H x D in mm		3RW300.	3RW301.	3RW302.	3RW303.	3RW304.
Screw terminals		22.5 x 100 x 120	45 x 95 x 151	45 x 125 x 151	55 x 144 x 168	70 x 160 x 186
Spring-type terminals		22.5 x 102 x 120	45 x 117 x 151	45 x 150 x 151	55 x 144 x 168	70 x 160 x 186

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 normal starting conditions (CLASS 10). For other starting conditions we recommend the Simulation Tool for Soft Starters (STS).

SIRIUS 3RW40

The SIRIUS 3RW40 soft starter for simple starting **and** stopping conditions (not only soft starting but also soft stopping 0 ... 20 s and settable current limitation)

- Two-phase controlled
- Motors up to 55 kW at 400 V (max. 600 V AC)
- Integrated intrinsic device protection prevents overload of the device
- Perfect protection due to integrated motor overload protection (Class 10, 15, 20) and optional thermistor motor protection (see footer), manual and remote reset as standard
- Modern hybrid switching technology

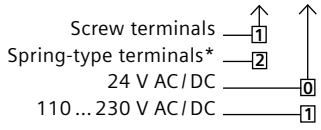
SIRIUS 3RW40 soft starters, Class 10

Rated operational voltage U_e	Rated operational current I_e at 40 °C	Rated power of three-phase motors at rated operational voltage U_e		Size	Article No.
V	A	kW at 230 V	kW at 400 V		
200 ... 480	12.5	3	5.5	S0	3RW4024-☐BB☐4
	25	5.5	11	S0	3RW4026-☐BB☐4
	32	7.5	15	S0	3RW4027-☐BB☐4
	38	11	18.5	S0	3RW4028-☐BB☐4
	45	11	22	S2	3RW4036-☐BB☐4
	63	18.5	30	S2	3RW4037-☐BB☐4
	72	22	37	S2	3RW4038-☐BB☐4
	80	22	45	S3	3RW4046-☐BB☐4
	106	30	55	S3	3RW4047-☐BB☐4

☐ = Article No. supplement for connection types:

☐ = Article No. supplement for rated control supply voltage U_s:

* Main connection from size S2: Screw terminals



Dimensions W x H x D in mm		3RW402.	3RW403.	3RW404.
Screw terminals		45 x 125 x 154	55 x 144 x 170	70 x 160 x 188
Spring-type terminals		45 x 150 x 154	55 x 144 x 170	70 x 160 x 188

The following versions can also be supplied:
- For rated operational voltage 400 ... 600 V
- Sizes S0 to S3 with integrated thermistor motor protection (for motor with ThermoClick sensor or PTC type A) with rated control supply voltage Us 24 V AC/DC

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 normal starting conditions (CLASS 10). For other starting conditions we recommend the Simulation Tool for Soft Starters (STS).

Optional accessories for SIRIUS 3RW30 and 3RW40

Optional accessories for 3RW30 and 3RW40 soft starters

Link module soft starter to motor starter protector*	Soft starter		Motor starter protector	Article No.
	Type	Size	Size	
	With screw terminals			
	3RW301.	S00	S00	3RA2921-1BA00
	3RW302.	S0	S00/S0	3RA2921-1BA00
	3RW402.			
	3RW3036.	S2	S2	3RA2931-1AA00
	3RW4036.			
	3RW3046.	S3	S3	3RA1941-1AA00
	3RW3047.			
	3RW4046.			
	3RW4047.			
	With spring-type terminals			
	3RW301.	S00	S00	3RA2911-2GA00
	3RW302.	S0	S0	3RA2921-2GA00
	3RW402.			

* Can be used in size S0 up to 32 A
In size S2 up to 65 A with DIN rail adapter for soft starter (article no.: 3RA2932-1CA00)
Can be used in size S3 with mounting plate only

Optional accessories for the 3RW40 soft starter

Fan*	Soft starter		Article No.
	Type	Size	
	3RW402.	S0	3RW4928-8VB00
	3RW403.	S2	3RW4947-8VB00
	3RW404.	S3	

* To increase switching frequency and for device mounting in positions different to the standard position

Optional/included accessories for the SIRIUS 3RW50, 3RW52 and 3RW55 soft starters

Version	Soft starter	Optional/inclusive	Article No.
Hinged cover			
Without cutout	3RW52	- / X	3RW5950-0GL20
	3RW55	X / -	
With cutout for HMI Standard	3RW52	X / -	3RW5950-0GL40
	3RW55	- / -	
With cutout for HMI High Feature	3RW52	X / -	3RW5950-0GL30
	3RW55	- / X	
HMI modules			
Standard	3RW50	X / -	3RW5980-0HS00
	3RW52	X / -	
	3RW55	- / -	
High Feature	3RW50	X / -	3RW5980-0HF00
	3RW52	X / -	
	3RW55	- / X	
Connecting cable **for door mounting**			
5.0 m, round	3RW50/52/55	Accessories required for door mounting; length can be selected as required	3RW5980-0HC60
2.5 m, round	3RW50/52/55		3UF7933-0BA00-0
1.0 m, round	3RW50/52/55		3UF7937-0BA00-0
0.5 m, round	3RW50/52/55		3UF7932-0BA00-0
Connecting cable for installation **in the device**			
0.1 m, flat	3RW52	Accessories required for installation in the device	3UF7931-0AA00-0
Communication modules			
PROFINET High Feature with integrated switch	3RW55	X / -	3RW5950-0CH00
PROFINET Standard	3RW50/52/55	X / -	3RW5980-0CS00
PROFIBUS	3RW50/52/55	X / -	3RW5980-0CP00
EtherNet/IP	3RW50/52/55	X / -	3RW5980-0CE00
Modbus RTU	3RW50/52/55	X / -	3RW5980-0CR00
Modbus TCP	3RW50/52/55	X / -	3RW5980-0CT00
COM connecting cable for mounting laterally on the device, 0.3 m	3RW50	Accessories required for lateral mounting	3RW5900-0CC00

Fan covers	Required quantity	Soft starter	Optional	Article No.
	1x	3RW50	X	3RW5985-0FC00
	1x	3RW5216/5217	X	3RW5983-0FC00
		3RW551	X	
	2x	3RW5226/5227	X	3RW5983-0FC00
		3RW523	X	
		3RW552/553	X	
	1x	3RW524	X	3RW5984-0FC00
		3RW554	X	

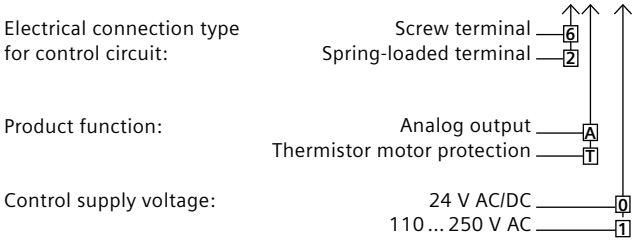
SIRIUS 3RW50

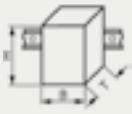
The SIRIUS 3RW50 soft starter as a compact solution for standard applications

- 2-phase controlled
- For drives from 75 to 315 kW at 400 V (max. 600 V AC)
- Soft starting and smooth ramp-down
- Current limitation and motor overload protection
- Optional HMI modules and communication modules (external connection)
- Optional analog output or thermistor motor protection
- Modern hybrid switching technology
- Small, compact design
- Parameter assignment by means of potentiometers
- Optional TIA integration

Soft starter as a compact solution for standard applications SIRIUS 3RW50, CLASS 10E, operating voltage 200 ... 480V

Rated voltage U_e	Rated current I_e at 40 °C	Rated power of three-phase motors at rated voltage U_e		Size	Article No.
V	A	kW at 230 V	kW at 400 V		
200 ... 480	143	37	75	S6	3RW5055-☐☐B☐4
	171	45	90	S6	3RW5056-☐☐B☐4
	210	55	110	S12	3RW5072-☐☐B☐4
	250	75	132	S12	3RW5073-☐☐B☐4
	315	90	160	S12	3RW5074-☐☐B☐4
	370	110	200	S12	3RW5075-☐☐B☐4
	470	132	250	S12	3RW5076-☐☐B☐4
	570	160	315	S12	3RW5077-☐☐B☐4



Mounting dimensions W x H x D in mm		3RW5055 / 3RW5056	3RW5072 / 3RW5073 / 3RW5074 / 3RW5075 / 3RW5076 / 3RW5077
Screw mounting		120 x 198 x 249	160 x 230 x 282

The following versions are also available:
• for rated operational voltage 200 ... 600 V

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).

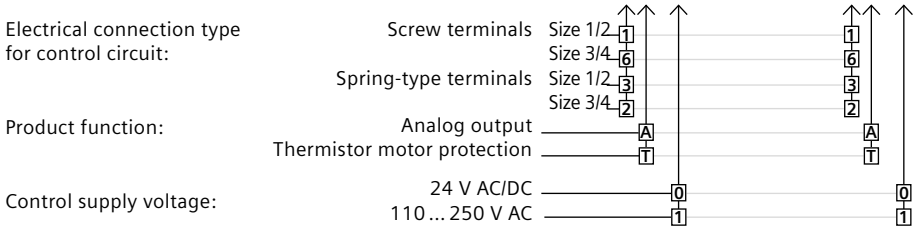
SIRIUS 3RW52

The SIRIUS 3RW52 soft starter as an ideal solution for normal starting and stopping

- Three-phase controlled
- For drives from 5.5 to 560 kW at 400 V (maximum 600 V AC)
- Soft starting and smooth ramp-down
- Current limiting and motor overload protection
- Soft Torque (optimizes the acceleration shortly before the rated speed is reached and ensures a constant decrease in speed for a smooth ramp-down and thus an improved pump stopping mode)
- Optional HMI modules
- Plug-in communication modules (PROFINET, PROFIBUS; EtherNet/IP, Modbus)
- Optional software for optimum integration in the TIA Portal
- Modern hybrid switching technology

SIRIUS 3RW52 soft starters for standard applications, Class 10A, operational voltage 200 ... 480 V

Rated current at 40°C in A		Rated power for three-phase motors		Size	Article No.	Article No.
Standard	√3	kW at 230 V	kW at 400 V		Inline circuit	Inside-delta circuit*
13	–	3	5.5	Size 1	3RW5213-□□C□4	–
18	–	4	7.5	Size 1	3RW5214-□□C□4	3RW5213-□□C□4
25	22.5	5.5	11	Size 1	3RW5215-□□C□4	3RW5213-□□C□4
32	31.5	7.5	15	Size 1	3RW5216-□□C□4	3RW5214-□□C□4
38	43.3	11	18.5	Size 1	3RW5217-□□C□4	3RW5215-□□C□4
47	55.4	11/15 (√3)	22	Size 2/Size 1 (√3)	3RW5224-□□C□4	3RW5216-□□C□4
63	65.8	18.5	30	Size 2/Size 1 (√3)	3RW5225-□□C□4	3RW5217-□□C□4
77	–	22	37	Size 2	3RW5226-□□C□4	3RW5224-□□C□4
93	81.4	22	45	Size 2	3RW5227-□□C□4	3RW5224-□□C□4
113	109	30	55	Size 3/Size 2 (√3)	3RW5234-□□C□4	3RW5225-□□C□4
143	133	37	75	Size 3/Size 2 (√3)	3RW5235-□□C□4	3RW5226-□□C□4
171	161	45	90	Size 3/Size 2 (√3)	3RW5236-□□C□4	3RW5227-□□C□4
210	196	55	110	Size 4/Size 3 (√3)	3RW5243-□□C□4	3RW5234-□□C□4
250	248	75	132	Size 4/Size 3 (√3)	3RW5244-□□C□4	3RW5235-□□C□4
315	296	90	160	Size 4/Size 3 (√3)	3RW5245-□□C□4	3RW5236-□□C□4
370	364	110	200	Size 4	3RW5246-□□C□4	3RW5243-□□C□4
470	433	132	250	Size 4	3RW5247-□□C□4	3RW5244-□□C□4
570	546	160	315	Size 4	3RW5248-□□C□4	3RW5245-□□C□4
–	641	200	355	Size 4	–	3RW5246-□□C□4
–	814	250	400	Size 4	–	3RW5247-□□C□4
–	987	315	560	Size 4	–	3RW5248-□□C□4



Dimensions W x H x D in mm		3RW521.	3RW522., 3RW523.	3RW524.
Screw fixing		170 x 275 x 152	185 x 306 x 203	210 x 393 x 203

The following versions are also available: for rated operational voltage 200 ... 600 V
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 normal starting conditions (CLASS 10). For other starting conditions we recommend the Simulation Tool for Soft Starters (STS).

SIRIUS 3RW55

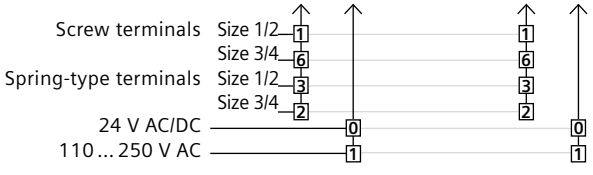
The SIRIUS 3RW55 soft starter as a perfect solution for difficult starting and stopping operations

- Three-phase controlled
- For drives from 5.5 to 1200 kW at 400 V (can be used in supply systems up to 690 V)
- Soft starting and stopping
- Current limiting and motor overload protection
- Pump stop and torque control
- Plug-in communication modules (PROFINET, PROFIBUS; Modbus)
- Automatic parameterization
- Removable HMI module with color display and slot for micro SD memory card
- Optional integration into the TIA Portal
- Modern hybrid industrial controls
- also available as failsafe version

Soft starter for difficult starting and stopping, SIRIUS 3RW55, Class 10E, operational voltage 200 ... 480 V

Rated current at 40°C in A		Rated power for three-phase motors		Size	Article No.	Article No.
Standard	√3	kW at 230 V	kW at 400 V		Inline circuit	Inside-delta circuit*
13	–	3	5.5	Size 1	3RW5513-☐HA☐4	–
18	–	4	7.5	Size 1	3RW5514-☐HA☐4	3RW5513-☐HA☐4
25	22.5	5.5	11	Size 1	3RW5515-☐HA☐4	3RW5513-☐HA☐4
32	31.5	7.5	15	Size 1	3RW5516-☐HA☐4	3RW5514-☐HA☐4
38	43.3	11	18.5	Size 1	3RW5517-☐HA☐4	3RW5515-☐HA☐4
47	55.4	11/15 (√3)	22	Size 2/Size 1 (√3)	3RW5524-☐HA☐4	3RW5516-☐HA☐4
63	65.8	18.5	30	Size 2/Size 1 (√3)	3RW5525-☐HA☐4	3RW5517-☐HA☐4
77	–	22	37	Size 2	3RW5526-☐HA☐4	3RW5524-☐HA☐4
93	81.4	22	45	Size 2	3RW5527-☐HA☐4	3RW5524-☐HA☐4
113	109	30	55	Size 3/Size 2 (√3)	3RW5534-☐HA☐4	3RW5525-☐HA☐4
143	133	37	75	Size 3/Size 2 (√3)	3RW5535-☐HA☐4	3RW5526-☐HA☐4
171	161	45	90	Size 3/Size 2 (√3)	3RW5536-☐HA☐4	3RW5527-☐HA☐4
210	196	55	110	Size 4/Size 3 (√3)	3RW5543-☐HA☐4	3RW5534-☐HA☐4
250	248	75	132	Size 4/Size 3 (√3)	3RW5544-☐HA☐4	3RW5535-☐HA☐4
315	296	90	160	Size 4/Size 3 (√3)	3RW5545-☐HA☐4	3RW5536-☐HA☐4
370	364	110	200	Size 4	3RW5546-☐HA☐4	3RW5543-☐HA☐4
470	433	132	250	Size 4	3RW5547-☐HA☐4	3RW5544-☐HA☐4
570	546	160	315	Size 4	3RW5548-☐HA☐4	3RW5545-☐HA☐4
–	641	200	355	Size 4	–	3RW5546-☐HA☐4
–	814	250	400	Size 4	–	3RW5547-☐HA☐4
–	987	315	560	Size 4	–	3RW5548-☐HA☐4

Electrical connection type for control circuit:



Control supply voltage:

Dimensions W x H x D in mm		3RW551.	3RW552., 3RW553.	3RW554.
Screw fixing		170 x 275 x 152	185 x 306 x 203	210 x 393 x 203

Devices with higher output in size 5 and the following versions are also available: for rated operational voltage 200 ... 600 V (3RW551) and 200 ... 690 V (3RW552, 3RW553 and 3RW554).
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 normal starting conditions (CLASS 10). For other starting conditions we recommend the Simulation Tool for Soft Starters (STS).

SIRIUS 3RW55 Failsafe

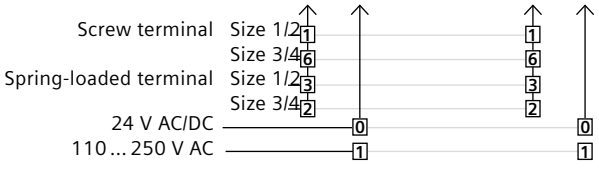
Integrated Safe Torque Off function (STO)

The SIRIUS 3RW55 Failsafe soft starter with an integrated fail-safe digital input as a perfect solution for difficult starting and ramp-down procedures

- 3-phase controlled
- For drives from 5.5 to 560 kW
- Soft starting and smooth ramp-down
- Fail-safe disconnection up to SIL3, PL e / STO
- Pump stop and torque control
- Plug-in communication modules (PROFINET, PROFIBUS; EtherNet/IP, Modbus)
- Automatic parameter assignment
- Removable HMI module with color display and slot for micro SD memory card
- Optional TIA Portal integration
- Modern hybrid industrial controls

Soft starter with integrated fail-safe digital input SIRIUS 3RW55 Failsafe, Class 10E, operating voltage 200...480 V

Rated current at 40 °C in A		Rated power for three-phase motors		Size	Article No.	Article No.
Standard	√3	kW at 230 V	kW at 400 V		Standard circuit	Inside-delta circuit
13	-	3	5.5	Size 1	3RW5513-☐HF☐4	–
18	-	4	7.5	Size 1	3RW5514-☐HF☐4	–
25	22.5	5.5	11	Size 1	3RW5515-☐HF☐4	3RW5513-☐HF☐4
32	31.5	7.5	15	Size 1	3RW5516-☐HF☐4	3RW5514-☐HF☐4
38	43.3	11	18.5	Size 1	3RW5517-☐HF☐4	3RW5515-☐HF☐4
47	55.4	11/15 (√3)	22	Size 2/Size 1 (√3)	3RW5524-☐HF☐4	3RW5516-☐HF☐4
63	65.8	18.5	30	Size 2/Size 1 (√3)	3RW5525-☐HF☐4	3RW5517-☐HF☐4
77	-	22	37	Size 2	3RW5526-☐HF☐4	–
93	81.4	22	45	Size 2	3RW5527-☐HF☐4	3RW5524-☐HF☐4
113	109	30	55	Size 3/Size 2 (√3)	3RW5534-☐HF☐4	3RW5525-☐HF☐4
143	133	37	75	Size 3/Size 2 (√3)	3RW5535-☐HF☐4	3RW5526-☐HF☐4
171	161	45	90	Size 3/Size 2 (√3)	3RW5536-☐HF☐4	3RW5527-☐HF☐4
210	196	55	110	Size 4/Size 3 (√3)	3RW5543-☐HF☐4	3RW5534-☐HF☐4
250	248	75	132	Size 4/Size 3 (√3)	3RW5544-☐HF☐4	3RW5535-☐HF☐4
315	296	90	160	Size 4/Size 3 (√3)	3RW5545-☐HF☐4	3RW5536-☐HF☐4
370	364	110	200	Size 4	3RW5546-☐HF☐4	3RW5543-☐HF☐4
470	433	132	250	Size 4	3RW5547-☐HF☐4	3RW5544-☐HF☐4
570	546	160	315	Size 4	3RW5548-☐HF☐4	3RW5545-☐HF☐4
-	641	200	355	Size 4	–	3RW5546-☐HF☐4
-	814	250	400	Size 4	–	3RW5547-☐HF☐4
-	987	315	560	Size 4	–	3RW5548-☐HF☐4



Mounting dimensions WxHxD in mm		3RW551.	3RW552., 3RW553.	3RW554.
Screw mounting		170 x 275 x 152	185 x 306 x 203	210 x 393 x 203

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).

Soft starter instead of star-delta
Less is more when it comes to benefits

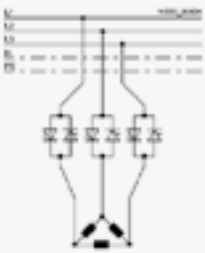
Star-delta combinations (also known as wye-delta starters) are a traditional solution for preventing unpleasant side effects when starting motors, such as voltage dips in the grid and strong transient torques in the mechanical system. Modern hybrid switching solutions can also master these challenges as well as provide additional functionality, resulting in additional advantages.

- Use modern hybrid industrial controls for less wear of the switching contacts, because the starting current is first engaged via the electronic contact elements (Thyristor, Triac) and the mechanical contact elements are only engaged when the rated speed is reached
- More functions than star-delta (wye-delta) circuits: soft and reduced-current starting, soft ramp-down, etc.
- Only one device and thus, significantly less wiring and ordering costs and efforts; less space required
- Considerably more flexible and more powerful, because of the precise setting options for the starting conditions

Use of a SIRIUS 3RW52 and 3RW55 soft starter in standard or inside-delta circuit

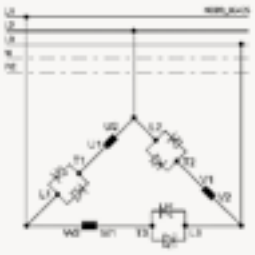
When considering replacing a star-delta (wye-delta) combination with a soft starter, the question of whether to use standard wiring or inside-delta wiring automatically arises. Therefore, when selecting a 3-phase controlled soft starter, the two options of standard circuit or inside-delta circuit should always be checked (see selection tables on previous pages).

With an inside-delta circuit, the motor current which flows through the soft starter is reduced by the factor of √3, therefore a smaller soft starter can be selected. This reduces costs and the wiring setup can be used almost unchanged.



Inline circuit

- Easier wiring (3 wires)
- Compared with an inside-delta circuit, a larger soft starter must be selected



Inside-delta circuit

- More complicated wiring (6 wires, smaller conductor cross-section can be used than for an inline circuit)
- Star-delta (wye-delta) easily replaceable by inside-delta soft starter solution thanks to existing wiring
- Selection of a smaller soft starter at a lower price is possible because the motor current flowing through the soft starter is reduced by a factor of √3

3RM1 and ET 200SP motor starters

For starting one or more motors, the local conditions and the requirements of the application are very different. For that reason, Siemens offers other solutions to start motors using modern hybrid industrial controls, with all the advantages associated: 3RM1 motor starters, when space is at a premium, or ET 200SP motor starters for active communication with the controller, despite confined space.

You choose which solution is the most suitable.

- Both starters can be ordered as direct-on-line starters and reversing starters.
- You decide between spring-type or screw terminals.
- Even safety applications are no problem because both starters are also available as a failsafe version.

3RM1 motor starters

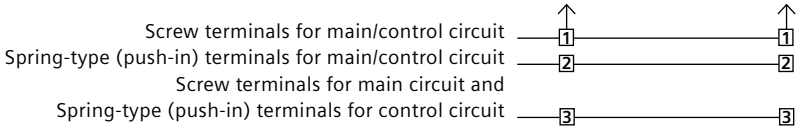
If every millimeter in the control panel counts, the 3RM1 motor starters with hybrid switching technology are the perfect solution for starting motors up to 3 kW (at 400 V).

- In a width of only 22.5 mm
- Relay contacts, power semiconductors and electronic overload relays (overload protection) in one device
- Available as direct-on-line and reversing starters
- Versions with safety-related shutdown up to SIL3/PL e
- Three-phase infeed system for easy, time-saving and safe infeed of two or more motor starters
- Wide setting range for reduction of variants
- Group configurations in the smallest possible space
- Replaceable terminals (screw and spring-type connections)
- Modern hybrid switching technology

Motor starter as a direct-on-line or reversing starter, with/without failsafe, dimensions in mm (W x H x D) 22.5 x 100 x 141.6

Rating for three-phase motor at 400 V in kW	Setting range for electronic overload in A	Control supply voltage in V		Article No.	
		at DC	at 50/60 Hz AC	3RM1 direct-on-line starter	3RM1 reversing starter
0...0.12	0.1...0.5	24	–	3RM1001-☐AA04	3RM1201-☐AA04
0.09...0.75	0.4...2	24	–	3RM1002-☐AA04	3RM1202-☐AA04
0.55...3	1.6...7	24	–	3RM1007-☐AA04	3RM1207-☐AA04
0...0.12	0.1...0.5	110	110...230	3RM1001-☐AA14	3RM1201-☐AA14
0.09...0.75	0.4...2	110	110...230	3RM1002-☐AA14	3RM1202-☐AA14
0.55...3	1.6...7	110	110...230	3RM1007-☐AA14	3RM1207-☐AA14
				Failsafe	
0...0.12	0.1...0.5	24	–	3RM1101-☐AA04	3RM1301-☐AA04
0.09...0.75	0.4...2	24	–	3RM1102-☐AA04	3RM1302-☐AA04
0.55...3	1.6...7	24	–	3RM1107-☐AA04	3RM1307-☐AA04
0...0.12	0.1...0.5	110	110...230	3RM1101-☐AA14	3RM1301-☐AA14
0.09...0.75	0.4...2	110	110...230	3RM1102-☐AA14	3RM1302-☐AA14
0.55...3	1.6...7	110	110...230	3RM1107-☐AA14	3RM1307-☐AA14

Type of electrical connection:



Optional accessories for the 3RM1 motor starter

Version	Article No.
Device connector for 3RM1, 24 V DC	3ZY1212-2EA00
Device terminating connector for 3RM1, 24 V DC	3ZY1212-2FA00
Three-phase infeed system for 3RM1 with screw terminals	
Three-phase infeed terminal	3RM1920-1AA
Three-phase busbar for 2 motor starters	3RM1910-1AA
Three-phase busbar for 3 motor starters	3RM1910-1BA
Three-phase busbar for 5 motor starters	3RM1910-1DA
Covers for 3 connection tags of the three-phase busbars	3RM1910-6AA

ET 200SP motor starters

The SIMATIC ET 200SP motor starter completes the distributed I/O system. With transmission of current values (energy management) and further analysis and diagnostics data (alarm status display), it offers a variety of options for plant monitoring and optimization.

- Only 30 mm module width
- Controlling, switching, starting and monitoring in the ET 200SP system
- Switching and protecting 1 and 3-phase loads up to 5.5 kW in five wide setting ranges
- Integrated short-circuit and overload protection
- Fast maintenance thanks to automatic parameter uploading
- Spring-loaded terminal (push-in)
- Toolless connection system
- One ordering unit always consists of a motor starter with a BaseUnit
- Connect main and supply voltage only once, i.e.: side-by-side modules are automatically connected
- Unplugging/plugging possible while system is energized and the ET 200SP station is running
- Modern hybrid switching technology

Motor Starter ET 200SP, dimensions in mm (W x H x D) 30 x 142 x 150

Max. current carrying capacity at startup in A	Setting range for electronic overload in A	Electronic overload protection at 400 V up to (kW)	Article No.	
			Direct-on-line starter	Reversing starters
4	0.1...0.4	0.09	3RK1308-0☐ A00-0CP0	3RK1308-0☐ A00-0CP0
10	0.3...1	0.25	3RK1308-0☐ B00-0CP0	3RK1308-0☐ B00-0CP0
30	0.9...3	1.1	3RK1308-0☐ C00-0CP0	3RK1308-0☐ C00-0CP0
90	2.8...9	4	3RK1308-0☐ D00-0CP0	3RK1308-0☐ D00-0CP0
100	4...12	5.5	3RK1308-0☐ E00-0CP0	3RK1308-0☐ E00-0CP0
			Standard A, Failsafe C	Standard B, Failsafe D

BaseUnits, operating voltage rated value up to 500 V, dimensions in mm (W x H x D) 30 x 215 x 75

BaseUnits version [1]	Operating voltage of the AC infeed in V	Supply voltage of the DC infeed in V	Article No.
With AC/DC infeed (standard)	500	24	3RK1908-0AP00-0AP0
Without infeed (standard)	–	–	3RK1908-0AP00-0DP0
With AC infeed, with F-DI infeed (Failsafe)	500	–	3RK1908-0AP00-0GP0
Without AC/DC infeed, with F-DI forwarding (Failsafe)	–	–	3RK1908-0AP00-0JP0

[1] The voltage is looped through from BaseUnits with infeed to downstream BaseUnits without infeed.

BaseUnits for empty modules upstream of the first motor starter (for interference-proof operation)

Version	Article No.
Light, opening a new potential group	6ES7193-6BP00-0DA0
Dark, looping through the potential group	6ES7193-6BP00-0BA0
Cover for empty modules, 15 mm	6ES7133-6CV15-1AM0

Optional accessories

Version	Article No.
Control Module 3DI/LC (push-in terminal, control supply voltage for DC rated value 20.4 ... 28.8 V), dimensions in mm (W x H x D) 30 x 54.5 x 42.3	3RK1908-1AA00-0BP0
Fans (already incl. at 12 A)	3RW4928-8VB00
Additional mechanical mounting, bag of 5 items	3RK1908-1EA00-1BP0

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Security notes
Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Products and solutions from Siemens constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the Internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

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To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under
https://www.siemens.com/industrialsecurity.

SIRIUS 3RW30	
3RW3003-1CB54	SIRIUS soft starter 22.5mm 3 A, 1.1 kW/400 V, 40 °C 200-400 V AC, 24-230 V AC/DC Screw terminals
3RW3003-2CB54	SIRIUS soft starter 22.5mm 3 A, 1.1 kW/400 V, 40 °C 200-400 V AC, 24-230 V AC/DC spring-type terminals
3RW3013-1BB04	SIRIUS soft starter S00 3.6 A, 1.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3013-1BB14	SIRIUS soft starter S00 3.6 A, 1.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3013-2BB04	SIRIUS soft starter S00 3.6 A, 1.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Spring-type terminals
3RW3013-2BB14	SIRIUS soft starter S00 3.6 A, 1.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3014-1BB04	SIRIUS soft starter S00 6.5 A, 3 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3014-1BB14	SIRIUS soft starter S00 6.5 A, 3 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3014-2BB04	SIRIUS soft starter S00 6.5 A, 3 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Spring-type terminals
3RW3014-2BB14	SIRIUS soft starter S00 6.5 A, 3 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3016-1BB04	SIRIUS soft starter S00 9 A, 4 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3016-1BB14	SIRIUS soft starter S00 9 A, 4 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3016-2BB04	SIRIUS soft starter S00 9 A, 4 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Spring-type terminals
3RW3016-2BB14	SIRIUS soft starter S00 9 A, 4 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3017-1BB04	SIRIUS soft starter S00 12.5 A, 5.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3017-1BB14	SIRIUS soft starter S00 12.5 A, 5.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3017-2BB04	SIRIUS soft starter S00 12.5 A, 5.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Spring-type terminals
3RW3017-2BB14	SIRIUS soft starter S00 12.5 A, 5.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3018-1BB04	SIRIUS soft starter S00 17.6 A, 7.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3018-1BB14	SIRIUS soft starter S00 17.6 A, 7.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3018-2BB04	SIRIUS soft starter S00 17.6 A, 7.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Spring-type terminals
3RW3018-2BB14	SIRIUS soft starter S00 17.6 A, 7.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3026-1BB04	SIRIUS soft starter S0 25 A, 11 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3026-1BB14	SIRIUS soft starter S0 25 A, 11 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3026-2BB04	SIRIUS soft starter S0 25 A, 11 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3026-2BB14	SIRIUS soft starter S0 25 A, 11 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3027-1BB04	SIRIUS soft starter S0 32 A, 15 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3027-1BB14	SIRIUS soft starter S0 32 A, 15 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3027-2BB04	SIRIUS soft starter S0 32 A, 15 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3027-2BB14	SIRIUS soft starter S0 32 A, 15 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3028-1BB04	SIRIUS soft starter S0 38 A, 18.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3028-1BB14	SIRIUS soft starter S0 38 A, 18.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3028-2BB04	SIRIUS soft starter S0 38 A, 18.5 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3028-2BB14	SIRIUS soft starter S0 38 A, 18.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3036-1BB04	SIRIUS soft starter S2 45 A, 22 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3036-1BB14	SIRIUS soft starter S2 45 A, 22 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3036-2BB04	SIRIUS soft starter S2 45 A, 22 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3036-2BB14	SIRIUS soft starter S2 45 A, 22 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3037-1BB04	SIRIUS soft starter S2 63 A, 30 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3037-1BB14	SIRIUS soft starter S2 63 A, 30 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3037-2BB04	SIRIUS soft starter S2 63 A, 30 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3037-2BB14	SIRIUS soft starter S2 63 A, 30 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3038-1BB04	SIRIUS soft starter S2 72 A, 37 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3038-1BB14	SIRIUS soft starter S2 72 A, 37 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3038-2BB04	SIRIUS soft starter S2 72 A, 37 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3038-2BB14	SIRIUS soft starter S2 72 A, 37 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3046-1BB04	SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3046-1BB14	SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3046-2BB04	SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3046-2BB14	SIRIUS soft starter S3 80 A, 45 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals
3RW3047-1BB04	SIRIUS soft starter S3 106 A, 55 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC Screw terminals
3RW3047-1BB14	SIRIUS soft starter S3 106 A, 55 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC Screw terminals
3RW3047-2BB04	SIRIUS soft starter S3 106 A, 55 kW/400 V, 40 °C 200-480 V AC, 24 V AC/DC spring-type terminals
3RW3047-2BB14	SIRIUS soft starter S3 106 A, 55 kW/400 V, 40 °C 200-480 V AC, 110-230 V AC/DC spring-type terminals