

# 3RW Soft Starters

## General data

### Overview

The advantages of the SIRIUS soft starters at a glance:

- Soft starting and smooth ramp-down<sup>1)</sup>
- Stepless starting
- Reduction of current peaks
- Avoidance of mains voltage fluctuations during starting
- Reduced load on the power supply network
- Reduction of the mechanical load in the operating mechanism
- Considerable space savings and reduced wiring compared with conventional starters
- Maintenance-free switching
- Very easy handling
- Fits perfectly in the SIRIUS modular system



		SIRIUS 3RW30 Standard applications	SIRIUS 3RW40 Standard applications	SIRIUS 3RW44 High-Feature applications
<b>Rated current up to 40 °C</b>	A	3 ... 106	12.5 ... 432	29 ... 1214
<b>Rated operational voltage</b>	V	200 ... 480	200 ... 600	200 ... 690
<b>Motor rating at 400 V</b>				
• Inline circuit	kW	1.5 ... 55	5.5 ... 250	15 ... 710
• Inside-delta circuit	kW	--	--	22 ... 1200
<b>Ambient temperature</b>	°C	-25 ... +60	-25 ... +60	0 ... +60
<b>Soft starting/ramp-down</b>		✓ <sup>1)</sup>	✓	✓
<b>Voltage ramp</b>		✓	✓	✓
<b>Starting/stopping voltage</b>	%	40 ... 100	40 ... 100	20 ... 100
<b>Starting and ramp-down time</b>	s	0 ... 20	0 ... 20	1 ... 360
<b>Torque control</b>		--	--	✓
<b>Starting/stopping torque</b>	%	--	--	20 ... 100
<b>Torque limit</b>	%	--	--	20 ... 200
<b>Ramp time</b>	s	--	--	1 ... 360
<b>Integral bypass contact system</b>		✓	✓	✓
<b>Intrinsic device protection</b>		--	✓	✓
<b>Motor overload protection</b>		--	✓	✓
<b>Thermistor motor protection</b>		--	✓ <sup>2)</sup>	✓
<b>Integrated remote RESET</b>		--	✓ <sup>3)</sup>	✓
<b>Adjustable current limiting</b>		--	✓	✓
<b>Inside-delta circuit</b>		--	--	✓
<b>Breakaway pulse</b>		--	--	✓
<b>Creep speed in both directions of rotation</b>		--	--	✓
<b>Pump ramp-down</b>		--	--	✓ <sup>4)</sup>
<b>DC braking</b>		--	--	✓ <sup>4) 5)</sup>
<b>Combined braking</b>		--	--	✓ <sup>4) 5)</sup>
<b>Motor heating</b>		--	--	✓
<b>Communication</b>		--	--	with PROFIBUS DP (optional)
<b>External display and operator module</b>		--	--	(optional)
<b>Operating measured value display</b>		--	--	✓
<b>Error logbook</b>		--	--	✓
<b>Event list</b>		--	--	✓
<b>Slave pointer function</b>		--	--	✓
<b>Trace function</b>		--	--	✓ <sup>6)</sup>
<b>Programmable control inputs and outputs</b>		--	--	✓
<b>Number of parameter sets</b>		1	1	3
<b>Parameterization software (Soft Starter ES)</b>		--	--	✓
<b>Power semiconductors (thyristors)</b>		2 controlled phases	2 controlled phases	3 controlled phases
<b>Screw terminals</b>		✓	✓	✓
<b>Spring-loaded terminals</b>		✓	✓	✓
<b>UL/CSA</b>		✓	✓	✓
<b>CE marking</b>		✓	✓	✓
<b>Soft starting under heavy starting conditions</b>		--	--	✓ <sup>4)</sup>

#### Configuring support

Win-Soft Starter, electronic selection slider ruler, Technical Assistance ++49 911 895 5900

✓ Function is available; -- Function is not available.

<sup>1)</sup> Only soft starting available for 3RW30.

<sup>2)</sup> Optional up to size S3 (device variant).

<sup>3)</sup> Available for 3RW40 2.. to 3RW40 4.; optional for 3RW40 5.. and 3RW40 7..

<sup>4)</sup> Calculate soft starter and motor with size allowance where required.

<sup>5)</sup> Not possible in inside-delta circuit.

<sup>6)</sup> Trace function with Soft Starter ES software.

More information can be found on the Internet at

<http://www.siemens.com/softstarter>

**Overview**

The SIRIUS 3RW30 soft starters reduce the motor voltage through variable phase control and increase it in ramp-like mode from a selectable starting voltage up to mains voltage. During starting, these devices limit the torque as well as the current and prevent the shocks which arise during direct starts or wye-delta starts. In this way, mechanical loads and mains voltage dips can be reliably reduced.

Soft starting reduces the stress on the connected equipment and results in lower wear and therefore longer periods of trouble-free production. The selectable start value means that the soft starters can be adjusted individually to the requirements of the application in question and unlike wye-delta starters are not restricted to two-stage starting with fixed voltage ratios.

The SIRIUS 3RW30 soft starters are characterized above all by their small space requirements. Integrated bypass contacts mean that no power loss has to be taken into the bargain at the power semiconductors (thyristors) after the motor has started up. This cuts down on heat losses, enabling a more compact design and making external bypass circuits superfluous.

Various versions of the SIRIUS 3RW30 soft starters are available:

- Standard version for fixed-speed three-phase motors, sizes S00, S0, S2 and S3, with integrated bypass contact system
- Version for fixed-speed three-phase motors in a 22.5 mm enclosure without bypass

Soft starters rated up to 55 kW (at 400 V) for standard applications in three-phase networks are available. Extremely small sizes, low power losses and simple start-up are just three of the many advantages of this soft starter.

**Application**

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

Due to two-phase control, the current is kept at minimum values in all three phases throughout the entire starting time. Due to continuous voltage influencing, current and torque peaks, which are unavoidable in the case of wye-delta starters, for instance, do not occur.

**Application areas**

- Pumps
- Heat pumps
- Hydraulic pumps
- Presses
- Conveyors
- Roller conveyors
- Screw conveyors