SIRIUS 3RW5 Soft Starters

As versatile as your application
SIRIUS 3RW Soft Starters matches the versatility of your individual challenges in fixed speed applications

<table>
<thead>
<tr>
<th>Pumping</th>
<th>Ventilating</th>
<th>Compressing</th>
<th>Conveying</th>
<th>Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water &amp; waste water sewage</td>
<td>Air conditioning</td>
<td>Air compressor</td>
<td>Conveyor belt in cement factory</td>
<td>Stone crusher in quarry</td>
</tr>
<tr>
<td>Cooling pump</td>
<td>Cooling Compressor</td>
<td>Cooling compressor</td>
<td>Conveyor belt in quarry</td>
<td>Agitator in chocloate factory</td>
</tr>
<tr>
<td>Hydraulic press</td>
<td>Tunnel ventilation</td>
<td>Compressor in biogas plant</td>
<td>Reamer in biogas plant</td>
<td>Centrifuge in card board recycling plant</td>
</tr>
</tbody>
</table>

Page 2
SIRIUS 3RW Soft Starters until today

Functionality

High-Feature

3RW44

3-phase controlled

Standard

3RW40

2-phase controlled

3RW30
The new SIRIUS 3RW5 Soft Starters
As versatile as your application
SIRIUS 3RW Soft Starters – As versatile as your application
New portfolio at a glance

- **Autoparameterization**: High
- **Condition Monitoring**: General
- **Torque Control**: Basic
- **Soft Torque**: Products
- **HMI and Communication modules**: 2-phase controlled
- **Analog-Output 0..10 V or 4..20 mA**: TIA integration
- **Current limitation**: Product
- **Electronic and Thermal Motor overload protection**: 2-phase controlled
- **Voltage ramp**: 3-phase controlled

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### Products

- **3RW55**
  - 5,5 ... 710/1.200* kW
- **3RW52**
  - 5,5 ... 315/560 kW
- **3RW40**
  - 5,5 ... 55 kW
  - 55 ... 250 kW
- **3RW30**
  - 1,5 ... 55 kW

*) in Step 2 with Size 5, 315/560 kW in Step 1)
## SIRIUS 3RW30/40 Soft Starters
### Basic performance

#### Top highlights

<table>
<thead>
<tr>
<th>Feature / Function</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage ramp and current limitation function</td>
<td>Protection of electric and mechanic</td>
</tr>
<tr>
<td>Hybrid-technology (integrated bypass contactor)</td>
<td>Less heat dissipation and temperature rise in the control cabinet, energy saving</td>
</tr>
<tr>
<td>Parameter assignment by only two parameters</td>
<td>Fast and easy commissioning</td>
</tr>
<tr>
<td>Compact design</td>
<td>Space and cost saving</td>
</tr>
<tr>
<td>Tested load feeder combinations possible with components from the SIRIUS modular system</td>
<td>Easy selection and design of electric components for motor control</td>
</tr>
</tbody>
</table>
### SIRIUS 3RW52 Soft Starters

#### General performance

#### Top highlights

<table>
<thead>
<tr>
<th>Feature / Function</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrid technology and 3-phase motor control</td>
<td>Minimal heat dissipation and symmetric/optimal motor control</td>
</tr>
<tr>
<td>TIA-Integration – communication module, operator panel optional</td>
<td>Efficient engineering and highest flexibility in many automation fields</td>
</tr>
<tr>
<td>Soft Torque</td>
<td>Reduced mechanical stress and optimal pump stopping</td>
</tr>
<tr>
<td>Parameterization via rotary knobs/potentiometers</td>
<td>Fast and easy commissioning</td>
</tr>
<tr>
<td>Wide range control and main voltage</td>
<td>Less variants, high availability in weak power grids</td>
</tr>
</tbody>
</table>
### SIRIUS 3RW55 Soft Starters

**High performance**

#### Top highlights

<table>
<thead>
<tr>
<th>Feature / Function</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoparameterization</td>
<td>Easy and adaptive commissioning even in changing load profiles</td>
</tr>
<tr>
<td>Hybrid technology and 3-phase motor control</td>
<td>Minimal heat dissipation and symmetric/optimal motor control</td>
</tr>
<tr>
<td>TIA-Integration – communication module optional, operator panel standard</td>
<td>Efficient engineering and highest flexibility in many automation fields</td>
</tr>
<tr>
<td>Operator panel with colored display, local ethernet, micro-SD</td>
<td>High flexibility in user-interface and intuitive menu structure</td>
</tr>
<tr>
<td>Torque Control, Pump stopping &amp; cleaning function</td>
<td>Reduced mechanical stress and optimal pump stopping</td>
</tr>
</tbody>
</table>
SIRIUS 3RW55 Soft Starters
Autoparameterization

Use-Cases

A The clueless commissioning engineer

B Changing load

Previously: Commissioning difficult and time consuming

Autoparameterization in 3RW55

What needs to be done?
Set rated motor current $I_e$
Set points:
- Type of load / application

How does it work?
Ramp-up time as control value
Continuous optimization of parameters with every single start (initially with default-parameter set)

What needs to be kept in mind?
Underdimensioning (Soft Starter and/or motor) and/or too high switching frequency causes tripping of motor overload or device self protection

Autoparameterization: Soft and smooth motor start guaranteed – perfect for constant and slightly changing load characteristics
SIRIUS 3RW59 Accessories

Communication

- PROFINET-HF (switched Ethernet)
- PROFINET-Std, EtherNet/IP, Modbus-TCP
- PROFIBUS
- Modbus-RTU

HMI

- HMI High-Feature
- HMI Standard
SIRIUS 3RW Soft Starters

3RW52

Depth < 205 mm

3RW55
## Product data overview

<table>
<thead>
<tr>
<th></th>
<th>3RW44</th>
<th>3RW52 (S1 - S4)</th>
<th>3RW55 (S1 - S4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rated current</strong></td>
<td>29-1280 A</td>
<td>11-570 A</td>
<td>11-570 A</td>
</tr>
<tr>
<td><strong>Main voltage</strong></td>
<td>200-480 V, 400-600 V, 400-690 V</td>
<td>200-480 V, 200-600 V</td>
<td>200-480 V, 200-690 V</td>
</tr>
<tr>
<td><strong>Bypass system</strong></td>
<td>Integrated (hybrid-technology)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of controlled phases</strong></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Connection type</strong></td>
<td>Standard, Inside Delta</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control voltage</strong></td>
<td>115 V AC, 230 V AC</td>
<td>24 V AC/DC 110 - 250 V AC</td>
<td></td>
</tr>
<tr>
<td><strong>Electronic motor overload protection</strong></td>
<td>CLASS 5, 10, 15, 20, 30</td>
<td>CLASS 10A, 10E, 20E</td>
<td>CLASS 10A, 10E, 20E, 30E</td>
</tr>
<tr>
<td><strong>Thermal motor overload protection</strong></td>
<td>PTC, Klixon, Thermoclick</td>
<td>PTC Typ A, Thermoclick (optional)</td>
<td>PTC Typ A, Thermoclick</td>
</tr>
<tr>
<td><strong>Analog Output</strong></td>
<td>---</td>
<td>0-10 V, 4-20 mA (optional)</td>
<td>0-10 V, 4-20 mA</td>
</tr>
<tr>
<td><strong>Protocol</strong></td>
<td>PB, PN-HF</td>
<td>PN-Std, PB, MB-TCP, PN-HF, ETH-IP, MB-RTU</td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>optional</td>
<td>optional</td>
<td></td>
</tr>
<tr>
<td><strong>Operator panel/display</strong></td>
<td>HMI</td>
<td>Standard- and High-Feature-HMI</td>
<td>High-Feature-HMI</td>
</tr>
<tr>
<td></td>
<td>optional for cabinet door</td>
<td>detachable/optional for cabinet door</td>
<td></td>
</tr>
<tr>
<td><strong>PCB coating</strong></td>
<td>all PCBs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Softstarters?
Or Drives - VFDs?
Questions, might be interesting for you and your customer

Critical Questions

1. Does the application need speed control once the motor is at speed?
2. Does the application need full torque at zero speed?
3. Does the application need precise starting and stopping times?

Importance for decision making

If Yes on 1 question
Go with SINAMICS

If No on all questions
Go with SIRIUS Soft Starters
Industrial Controls is the best solution in fixed speed applications.

- Power loss
- Heat
- Space
Space, space, space – Soft Starters are the most compact solution for motor starting in fixed speed applications

15 kW

3RW5 Size 1
V20
G120

90 kW

3RW5 Size 3
G120
The SIRIUS 3RW5 Soft Starters sets new standards in Digitalization in the Motor Starters market

**Digitalization**
- Condition Monitoring
- SIMATIC Energy Suite
- Digital Twin (Efficient Engineering)
- Simulation Tool

**Application specific functions**
- Auto parameterization
- Preventive Maintenance

**TIA Integration**
- Communication PROFINET, PROFIBUS, ...
- Simple and efficient Engineering

**Full Portfolio**
- From 5.5 kW up to 1200 kW
- 3 product lines: Basic, General and High Performance

**Efficiently Combined**
- Tested combinations (SIRIUS Modular System)
- Certificates for worldwide use

available
HMI 2018

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Thank you for your attention

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