

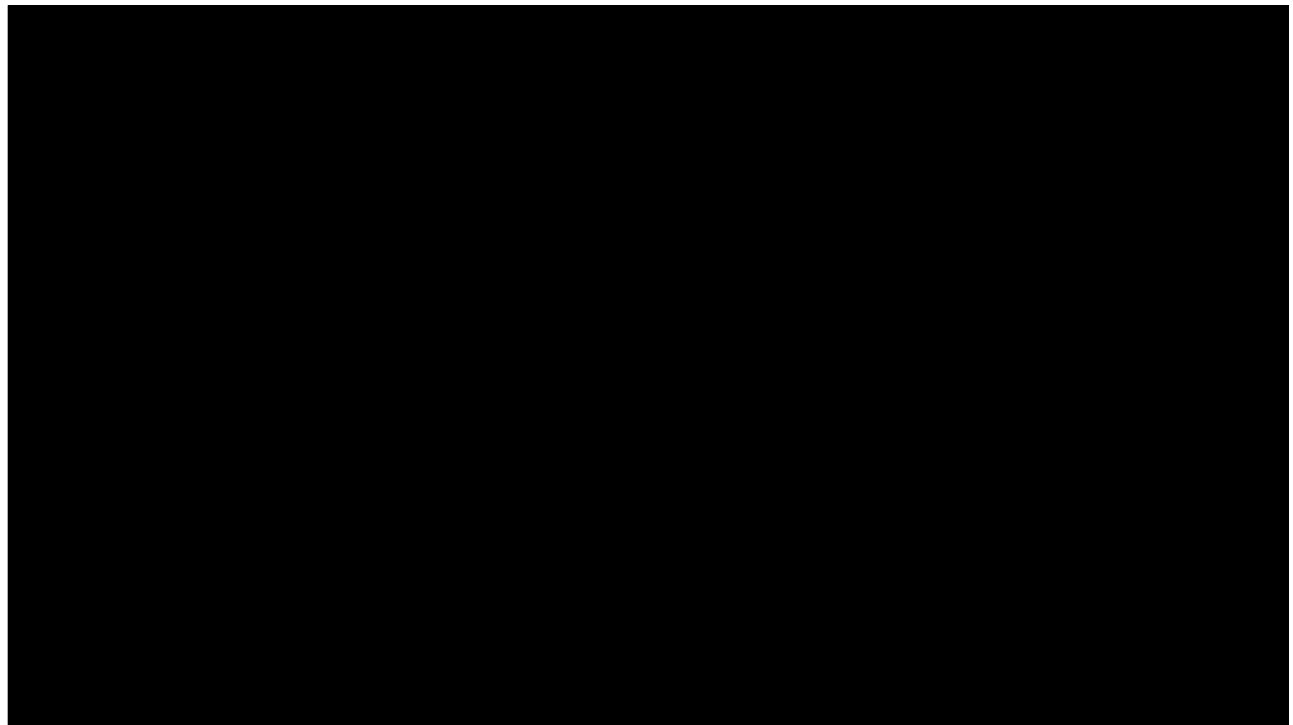
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SIRIUS 3RW5 Soft Starters

As versatile as your application

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1



2

Autoparameterization

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Customer benefits

- ▶ Reduced complexity and parameterization time during commissioning
- ▶ The soft starter has a self-teaching function that selects the parameters in a way, so that the starting current of the application is maintained as low as possible in order to reach the desired ramp up time and guaranteeing a successful start.
- ▶ In case that the load characteristics change, the soft starter detects this during start up and the parameters are adjusted accordingly.

How to use it

- ▶ After setting up the language, date and time during the first power up, you can directly continue with the autoparameterization and activate it.
- ▶ Alternatively: Parameters → Soft starter → Parameter set 1 → Autoparameterization
- ▶ You can choose to enter only the desired starting time of the application or also an additional (optional) current limiting value.
- ▶ This function remains active, so that the best soft starter settings are guaranteed for the starting procedure.
- ▶ The autoparameterization has no effect in the stopping parameters. These settings need to be addressed by the user as a normal parameterization.



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3

4

Pump cleaning*

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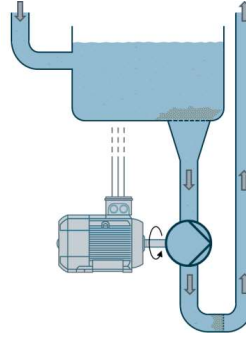
Customer benefits

- ▶ Enables the user to do maintenance and cleaning procedures in pumping systems:
 - ▶ Debris, tissue paper and other solids collect themselves in the impellers of the pumps, especially in sump pumps. These can be cleaned / removed with the pump cleaning function.
- ▶ The soft starter initiates a cleaning function, where the soft starter starts the motor forward for a couple of seconds and then the direction of rotation is changed to a backwards operation also for a couple of seconds. This process is then repeated several times (user defined).
- ▶ The application runs then normally and maintenance costs can be saved.

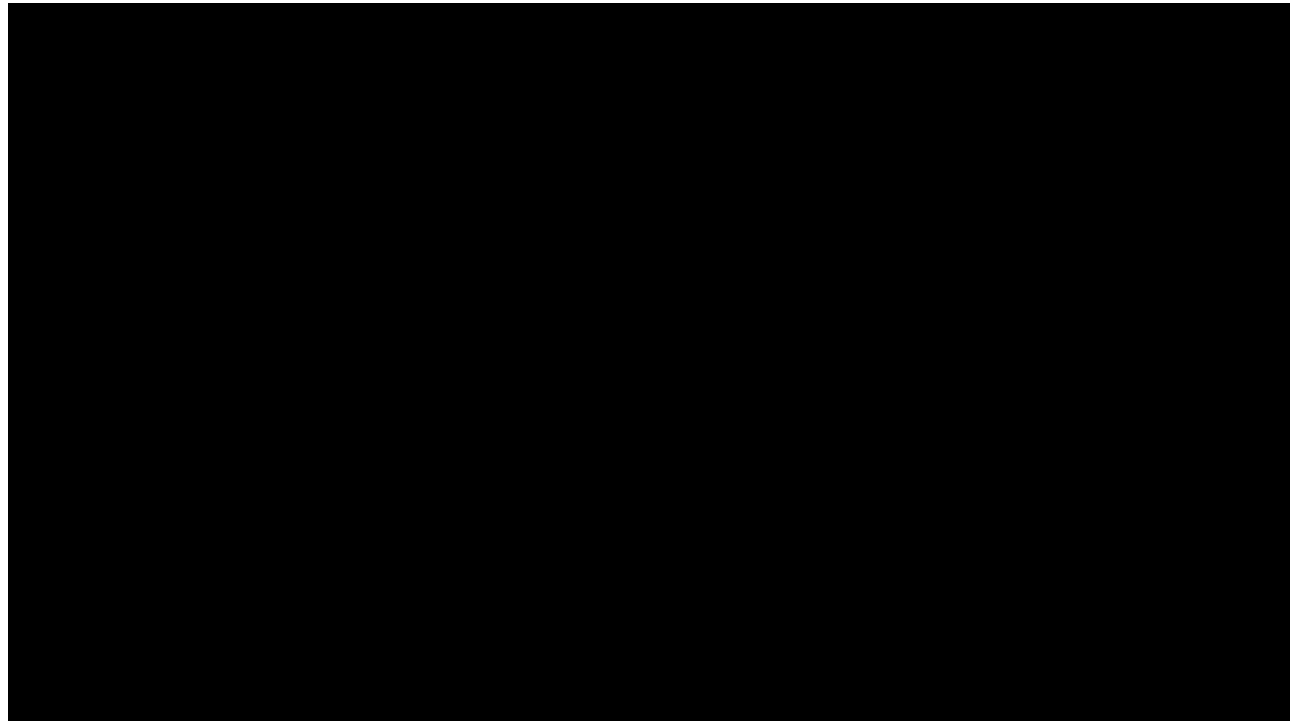
How to use it

- ▶ You find the pump cleaning function as part of the condition monitoring functions.
- ▶ The user defines the number of cycles (1x forward + 1x backward) and the time of a half cycle.
- ▶ The same starting parameters of the soft starter for normal operation can be used for the pump cleaning function. If others are required, for example a stronger start, a second parameter set can be used.
- ▶ No additional hardware is required, since the backwards motion is done with the creep speed function ($\sim 1/3$ of the torque). However, a stronger version (full torque) of the pump cleaning can be used when combining it with the reversing operation (reversing contactors required). See next slide.
- ▶ The user requires only to give a "start pump cleaning" command, everything else is done by the soft starter.

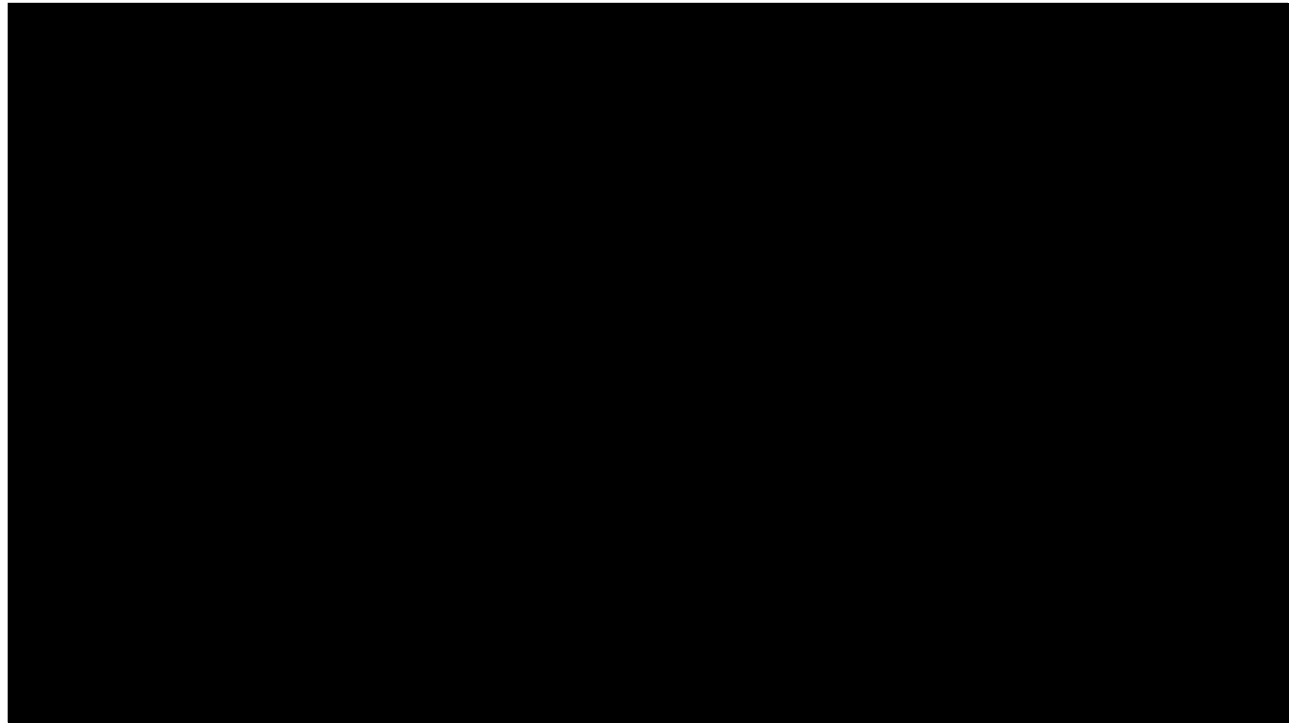
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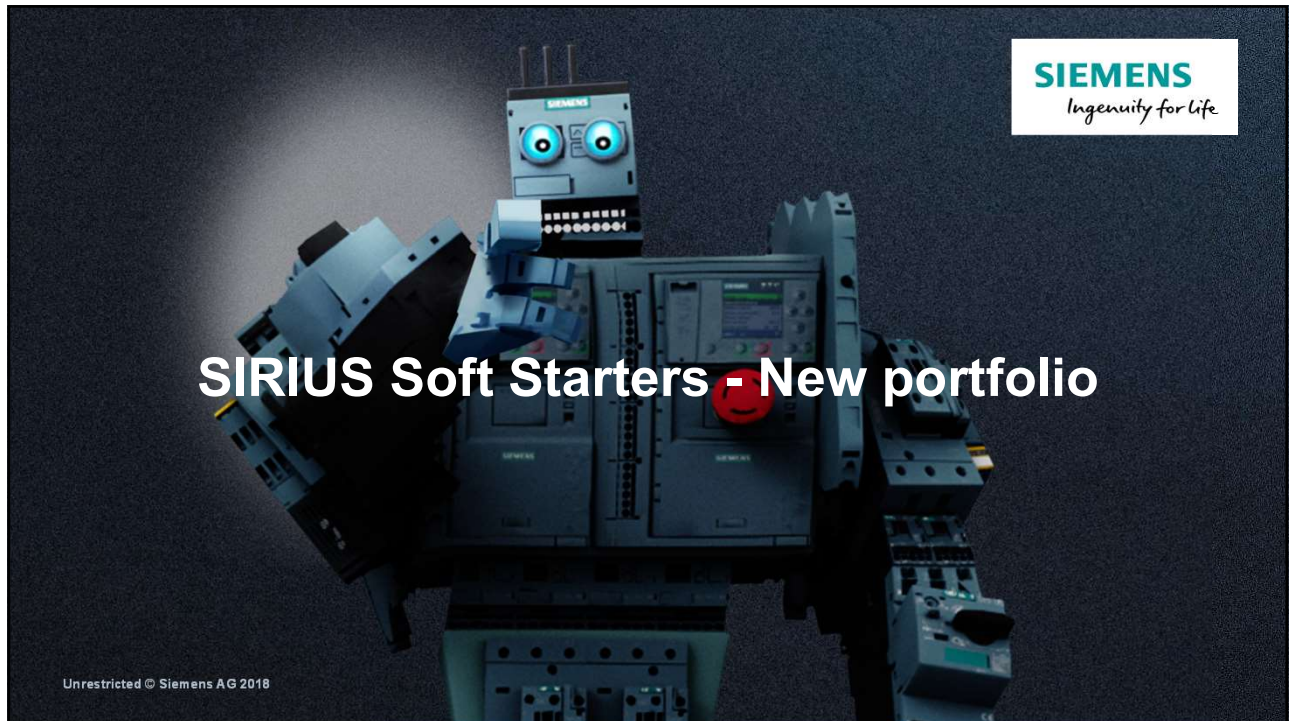
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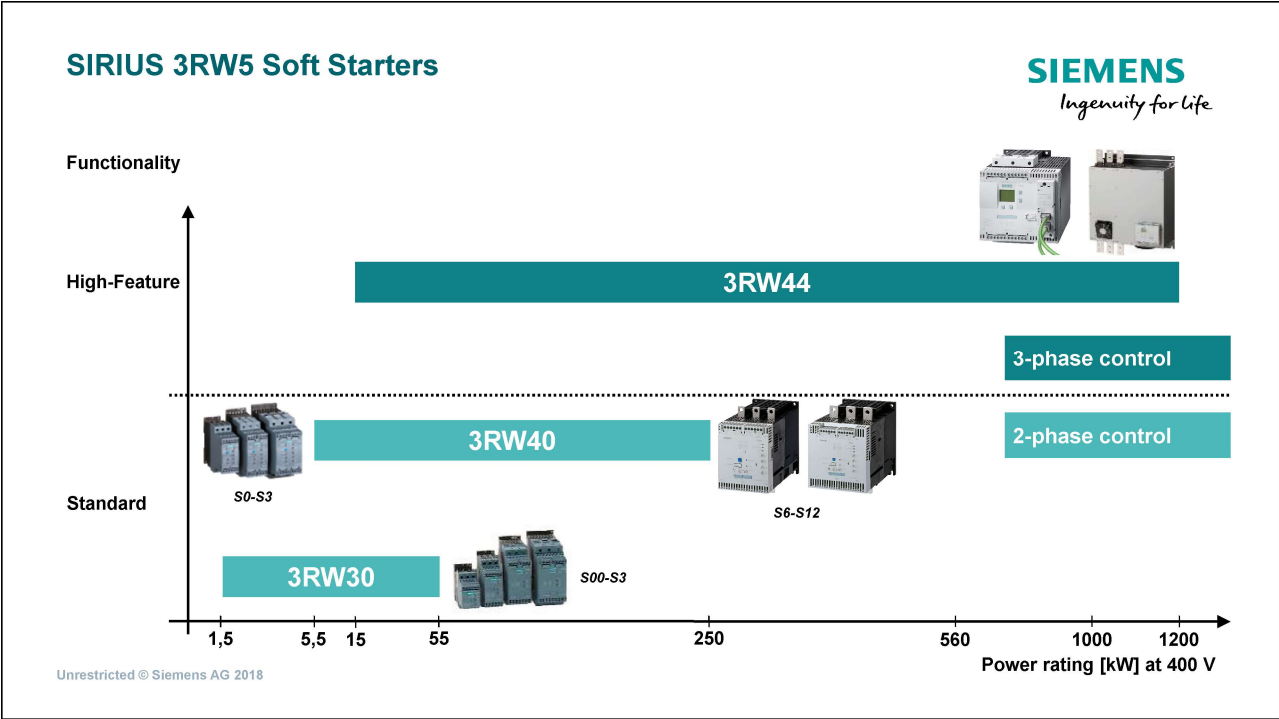
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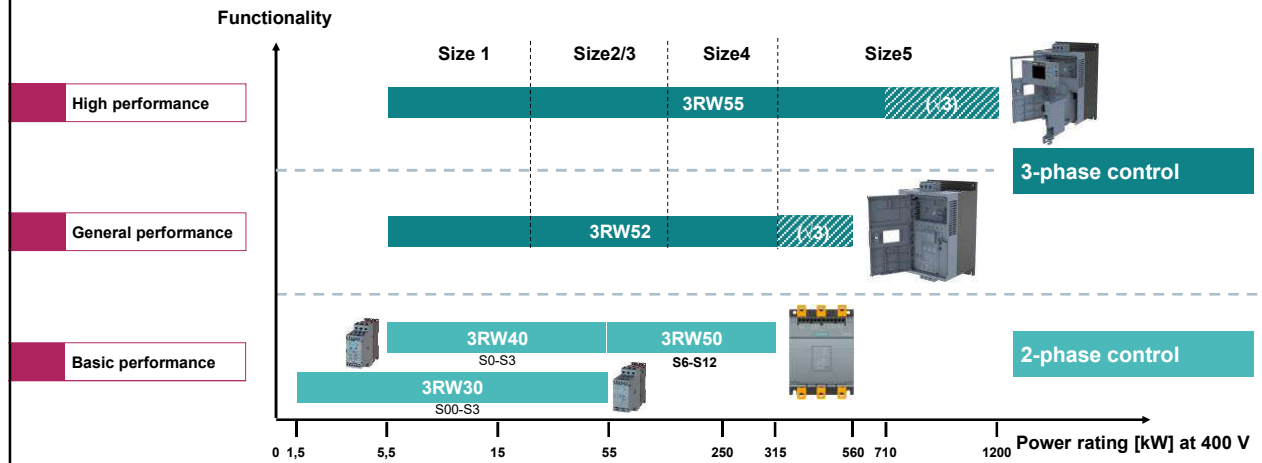
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10

SIRIUS 3RW5 Soft Starters in the future Our portfolio will be complete

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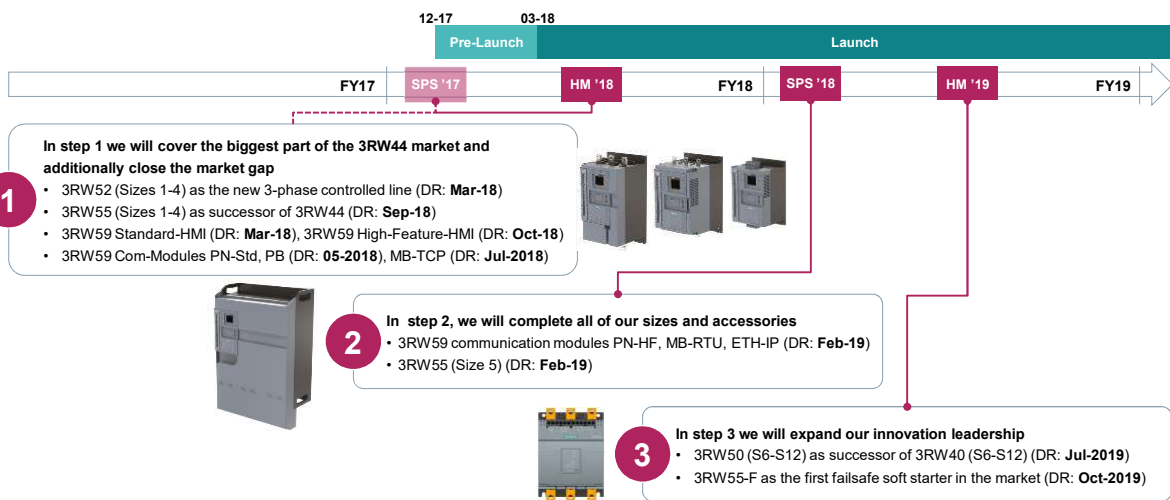


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Market introduction in 3 steps

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1) SPS fair in Nuremberg; 2) HM fair in Hannover

12



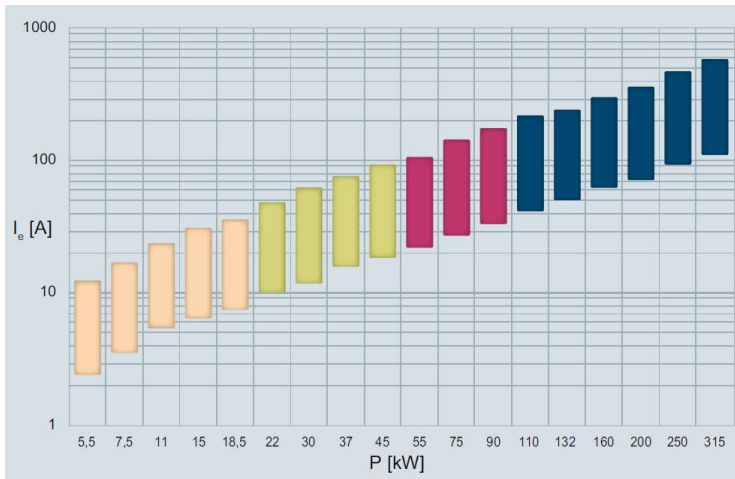
13



14

SIRIUS 3RW5 Soft Starters Current and power ratings (400 V standard connection)

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- Size 1
- Size 2
- Size 3
- Size 4

I_e Rated motor current
P Rated motor power

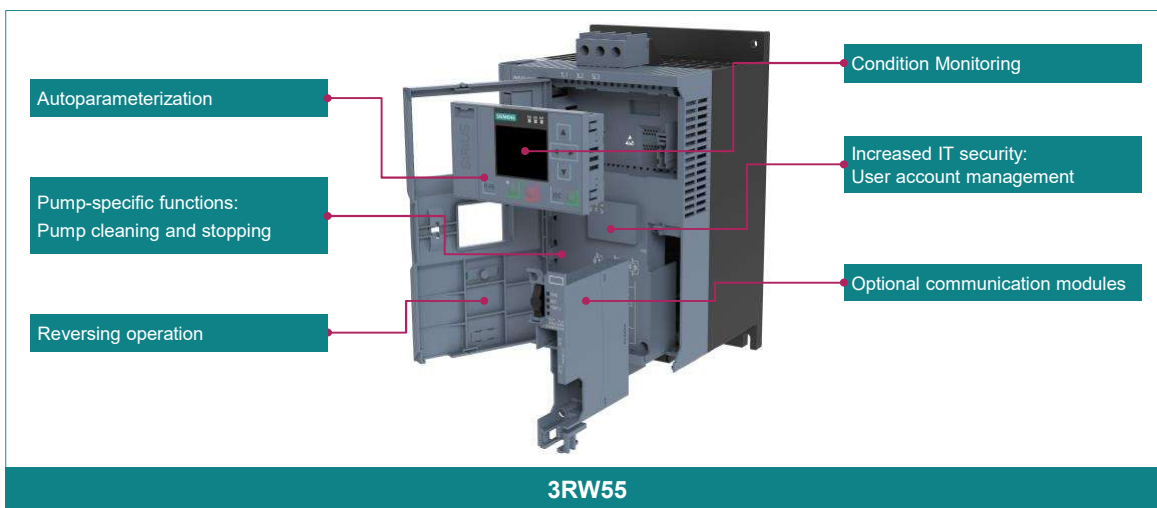
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15

3RW55

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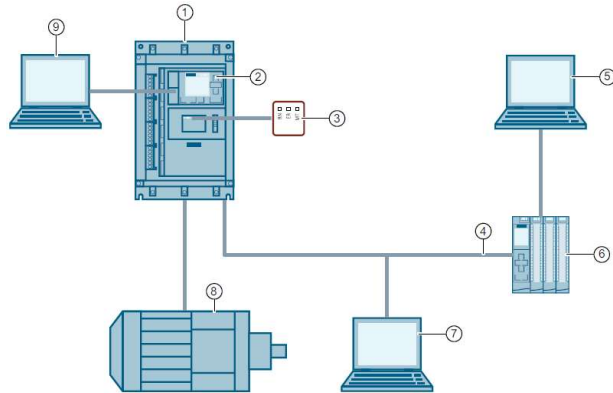


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SIRIUS 3RW55 Soft Starters Interaction interfaces

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- ① SIRIUS 3RW55 soft starter
- ② 3RW5 HMI High Feature
- ③ LED display on 3RW55 soft starter
- ④ Fieldbus (via optional 3RW5 communication module)
- ⑤ PC or programming device with configuration software of the controller (e.g. STEP 7)
- ⑥ Programmable logic controller (e.g. SIMATIC S7-1500)
- ⑦ PC with SIRIUS Soft Starter ES (TIA Portal) Premium via 3RW5 communication module
- ⑧ Motor
- ⑨ PC with SIRIUS Soft Starter ES (TIA Portal) via local interface at 3RW5 HMI High Feature

| | 3RW5 HMI High Feature | SIRIUS Soft Starter ES (TIA Portal) ¹⁾ | Fieldbus via communication module | 3RW55 soft starter |
|----------------------|-----------------------|---|-----------------------------------|--------------------|
| Monitoring | ✓ | ✓ | ✓ (via user program) | LEDs |
| Diagnostics | ✓ | ✓ | ✓ | LEDs |
| Control | ✓ | ✓ | ✓ | Via input IN |
| Parameter assignment | ✓ | ✓ | ✓ | - |







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17

SIRIUS 3RW5 Soft Starters Communication and HMI modules

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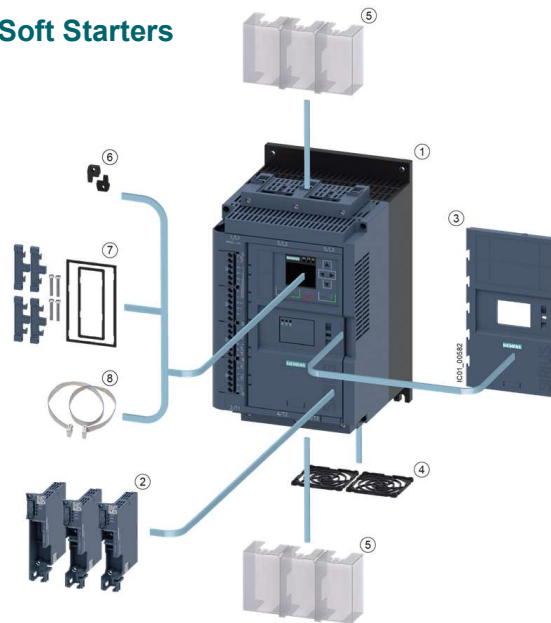
| | | | | |
|----------------------|---|--|--|---|
| Communication |  |  |  |  |
| | PROFINET-HF (switched Ethernet) | PROFINET-Std, EtherNet/IP, Modbus-TCP | PROFIBUS | Modbus-RTU |
| |  |  | | |
| | High-feature HMI | Standard HMI | | |

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SIRIUS 3RW55 Soft Starters Accessories

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- ① 3RW52 soft starter
- ② Communication modules
- ③ Hinged lids
- ④ Fan covers
- ⑤ Connection covers
- ⑥ Push-in lugs for wall mounting
- ⑦ Door-mounting kit IP65
- ⑧ Connection cable

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SIRIUS 3RW55 Soft Starters High performance

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Top highlights



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| Feature / Function | Benefit |
|---|---|
| Autoparameterization | ▶ Easy and adaptive commissioning even in changing load profiles |
| Hybrid technology and 3-phase motor control | ▶ Minimal heat dissipation and symmetric/optimal motor control |
| TIA-Integration – communication module, operator panel optional | ▶ Efficient engineering and highest flexibility in many automation fields |
| Operator panel with color display, local Ethernet interface, micro-SD | ▶ High flexibility in user-interface and intuitive menu structure |
| Pump stopping and Soft Torque | ▶ Reduced mechanical stress and optimal pump stopping |

20



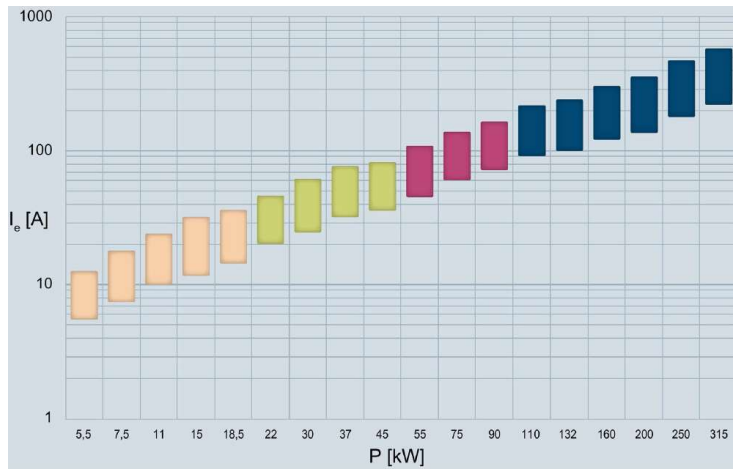
21



22

SIRIUS 3RW5 Soft Starters Current and power ratings (400 V standard circuit)

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- Size 1
 - Size 2
 - Size 3
 - Size 4
- I_e Rated operational current
P Rated power

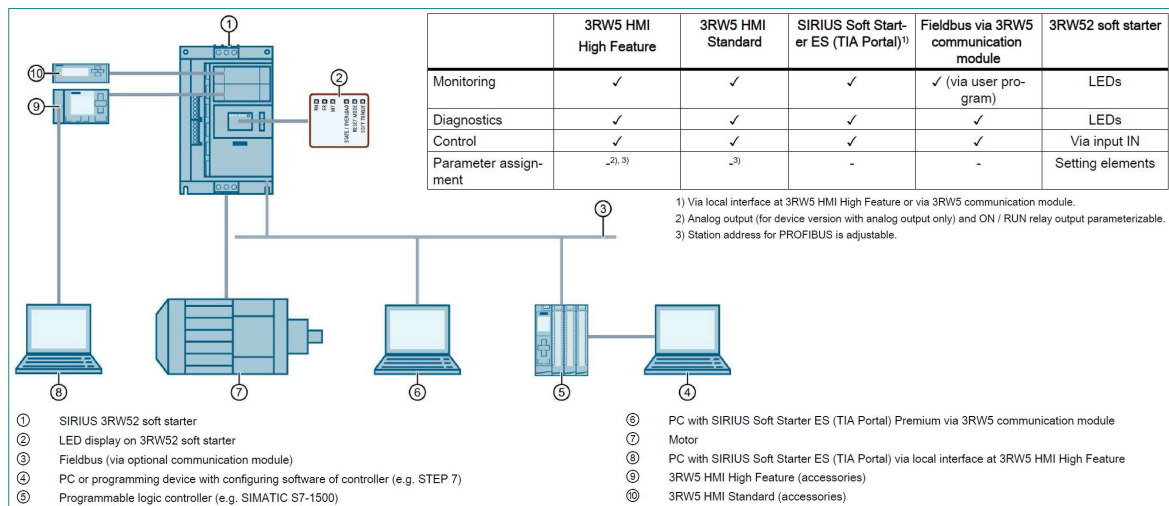


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SIRIUS 3RW52 Soft Starters Interaction interfaces

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24

SIRIUS 3RW52 Soft Starters

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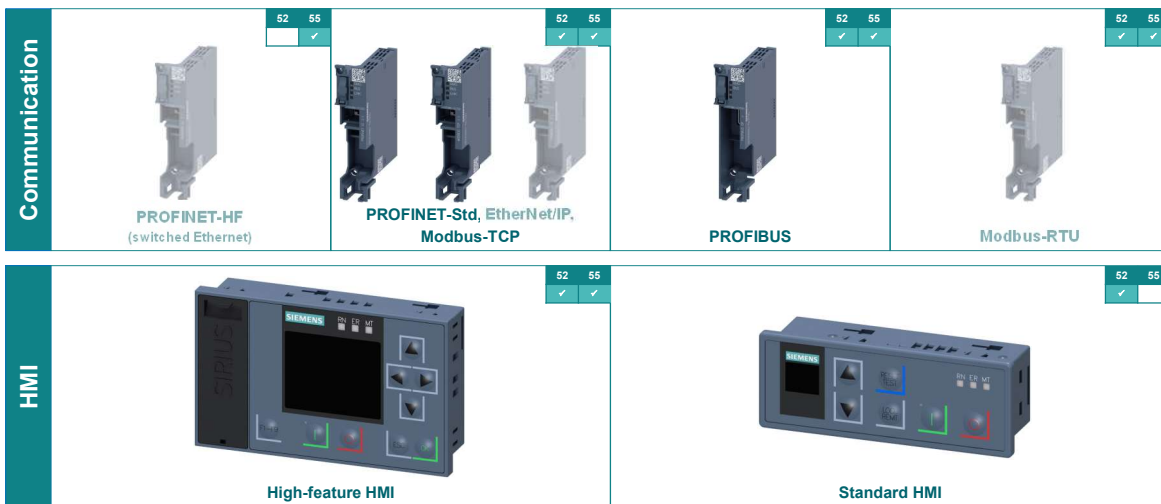
3RW52

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SIRIUS 3RW5 Soft Starters Communication and HMI modules

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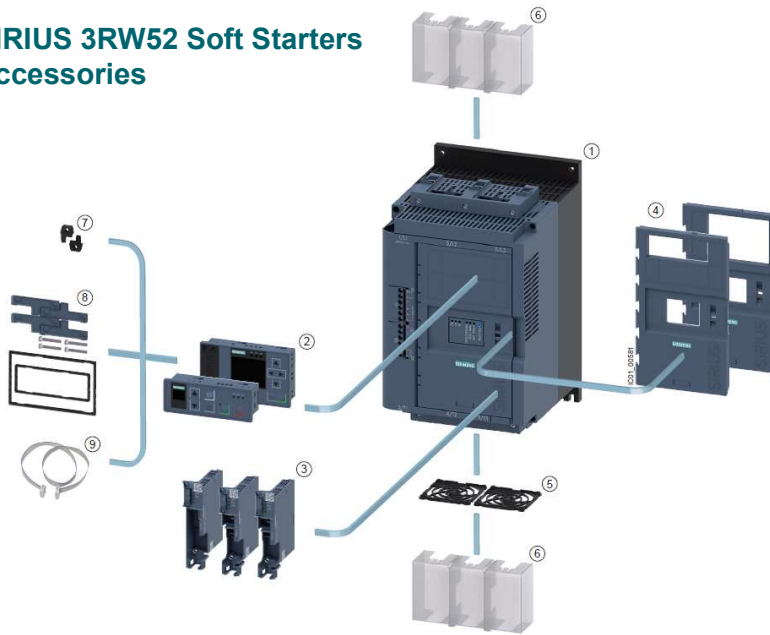


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SIRIUS 3RW52 Soft Starters Accessories

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- ① 3RW52 soft starter
- ② HMI modules
- ③ Communication modules
- ④ Hinged lids
- ⑤ Fan covers
- ⑥ Connection covers
- ⑦ Push-in lugs for wall mounting
- ⑧ Door-mounting kit IP65
- ⑨ Connection cable

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SIRIUS 3RW52 Soft Starters General performance

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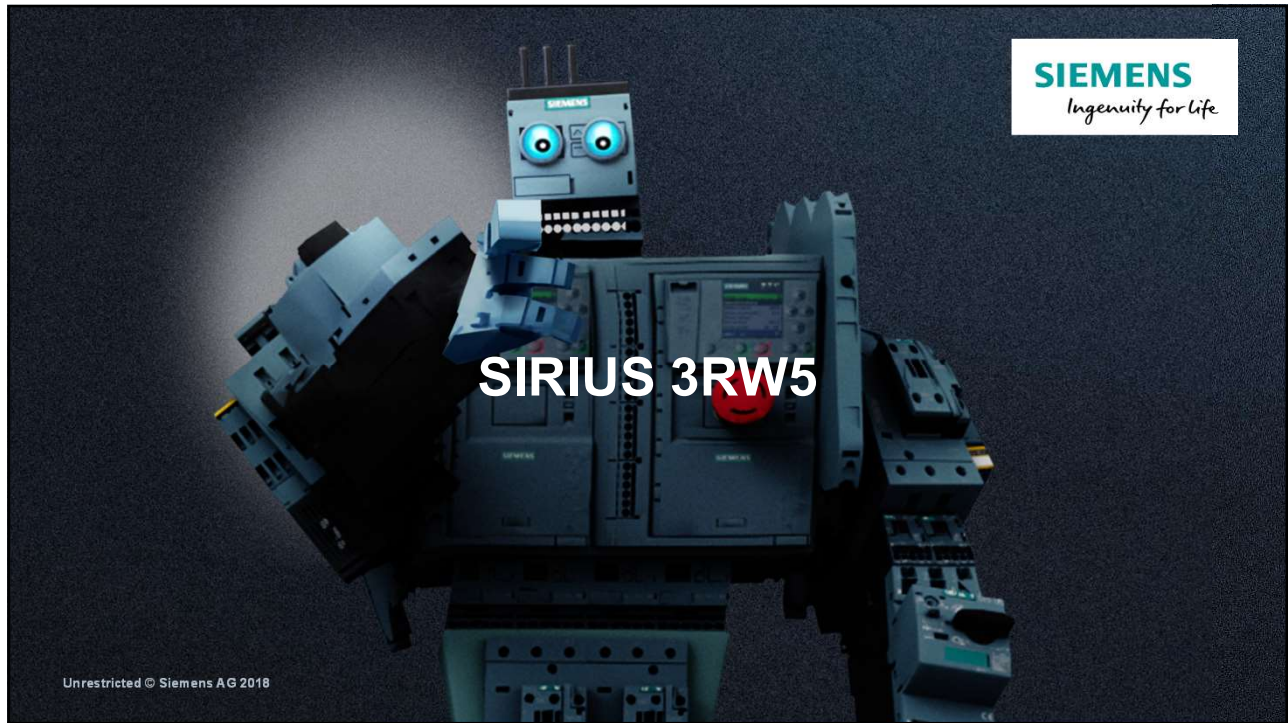
Top highlights



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

28



29

SIRIUS 3RW5 Soft Starters As versatile as your application

| | | | | | |
|--|---------|----------|---|---|--|
| <p>Heavy loads (CLASS 30E) ramp-up time 1 ... 360s</p> <p style="text-align: center;"></p> | High | Products | <p>3RW55 (5.5 ... 1.200 kW)</p> <p style="text-align: right;">(√3)</p> <p style="text-align: center;"></p> | <p>3-phase controlled TIA integration</p> <p>↑</p> <p>↓</p> | |
| <p>Heavy loads (CLASS 20E)</p> | General | | <p>3RW52 (5.5 ... 560 kW)</p> <p style="text-align: right;">(√3)</p> <p style="text-align: center;"></p> | | |
| <p>Standard loads (CLASS 10E) ramp-up time 1 ... 20s</p> <p style="text-align: center;"></p> | Basic | | <p>3RW40 (5.5 ... 55 kW)</p> <p style="text-align: center;"></p> | | |
| | | | <p>3RW30 (1.5 ... 55 kW)</p> <p style="text-align: center;"></p> | | |
| | | | <p>3RW50 (55 ... 315 kW)</p> <p style="text-align: center;"></p> | | |

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30

SIRIUS 3RW Soft Starters – As versatile as your applications key message portfolio

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Engineered with TIA Portal

| | | | | | | |
|--|----------|-------------|--------------------------------|----------------------------------|---------------------------------|--|
| Autoparameterization | Products | 3RW55 | Basic Performance 1.5 - 315 kW | General Performance 5.5 - 560 kW | High Performance 5.5 - 1,200 kW | |
| Condition Monitoring | | 3RW52 | | | | |
| Torque Control | | 3RW30/40/50 | | | | |
| Braking | | | | | | |
| Slow speed and reversing | | | | | | |
| Soft Torque | | | | | | |
| HMI and Communication module as accessories | | | | | | |
| Analogue Output ² 0..10 V or 4..20 mA | | | | | | |
| Electronic and thermal ² motor protection | | | | | | |
| Voltage Ramp and Current Limitation ¹ | | | | | | |
| | | | | | | |
| | | | | | | |

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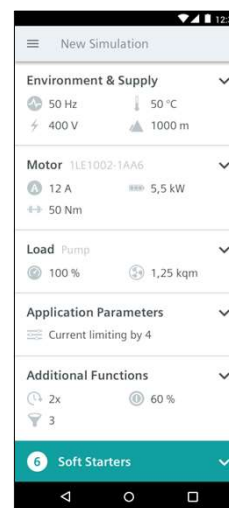
31

Simulation Tool for Soft Starters STS is well accepted... ... and is continuously improved!

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SIRIUS STS - Desktop and App version

- ▶ App with same scope as the Desktop version
- ▶ Complete integration of 3RW5
- ▶ Supported operating systems:
Desktop: Windows 7, 8.1 and 10
App: iOS and Android
- ▶ App suitable for smartphone and Sales Pad



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Seite 32

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32

Hands-On with SIRIUS 3RW5 Soft Starters

Spare parts: control units, power semiconductor modules, printed-circuit boards, etc.

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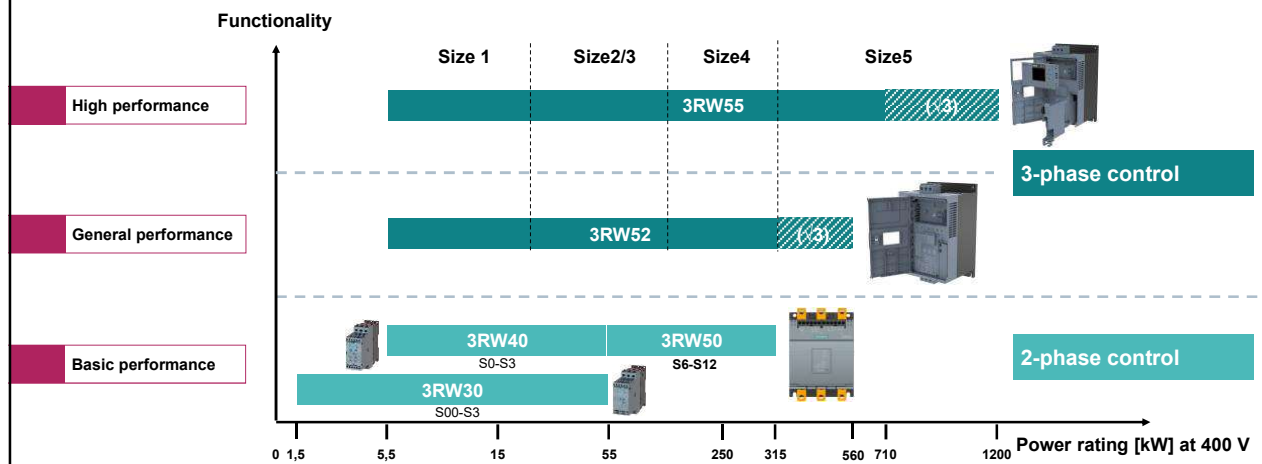
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SIRIUS 3RW5 Soft Starters in the future Our portfolio will be complete

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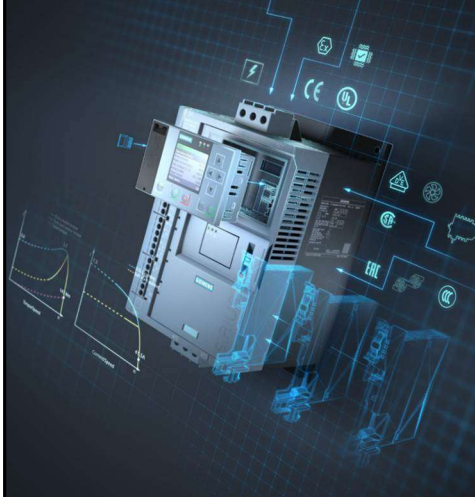


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34

Thank you for your attention

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Huynh Tan Thanh (Mr.)

Electrical & control products

Siemens Vietnam Limited

33 Le Duan St., Ben Nghe ward, District 1, HCMC

E-mail: huynh-tan.thanh@siemens.com