

SIEMENS



SIRIUS
Hybrid

STARTING MOTORS WITH SIRIUS

Pioneering **SIRIUS** hybrid industrial controls

[siemens.com/siriushybrid](https://www.siemens.com/siriushybrid)

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



Motor starter selection tool

With just a few clicks to the perfect solution

[siemens.com/motorstart-help](https://www.siemens.com/motorstart-help)



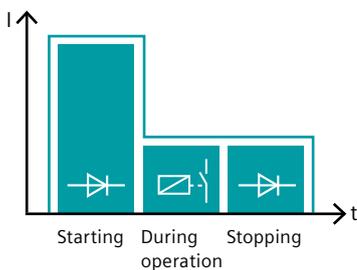
The SIRIUS 3RW5 soft starter received the RedDot Design and the iF Design awards thanks to numerous factors, including its slim, coordinated and uniform design across all sizes.

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

| | | | | | |
|---------------------|--|---|----------------|--------------------|-----------------|
| High Performance | | 3RW55 5.5 – 710 / 1,200 kW ($\sqrt{3}$) | ($\sqrt{3}$) | 3-phase controlled | TIA integration |
| | | 3RW55 Failsafe 5.5 – 315 / 560 kW ($\sqrt{3}$) | ($\sqrt{3}$) | | |
| General Performance | | 3RW52 5.5 – 315 / 560 kW ($\sqrt{3}$) | ($\sqrt{3}$) | | |
| Basic Performance | | 3RW50 75 – 315 kW | | 2-phase controlled | |
| | | 3RW40 5.5 – 55 kW | | | |
| | | 3RW30 1.5 – 55 kW | | | |

Typical applications



Pumping



Ventilating



Compressing



Moving

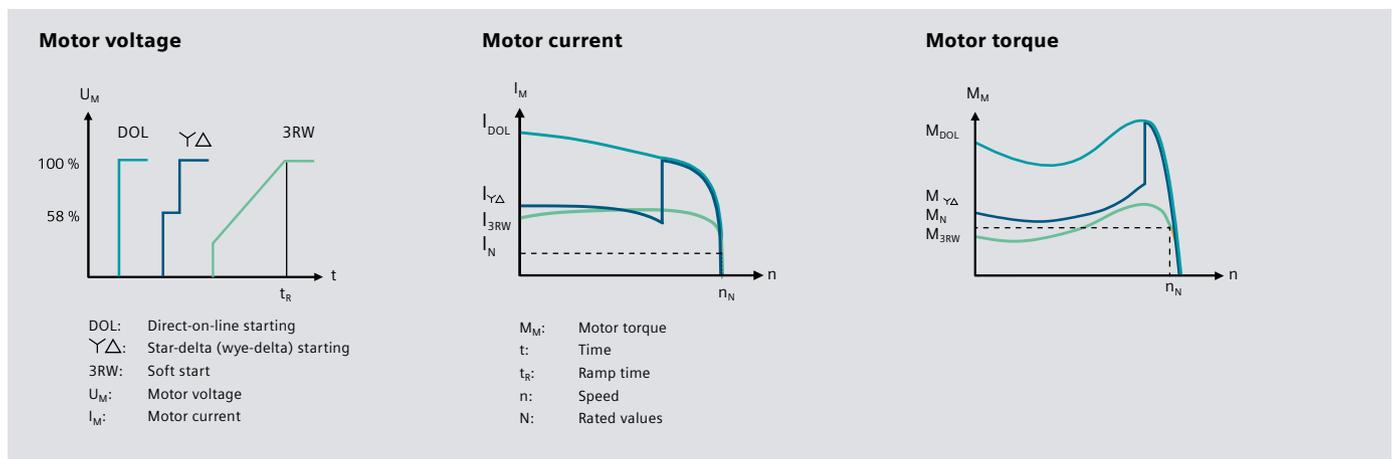


Processing

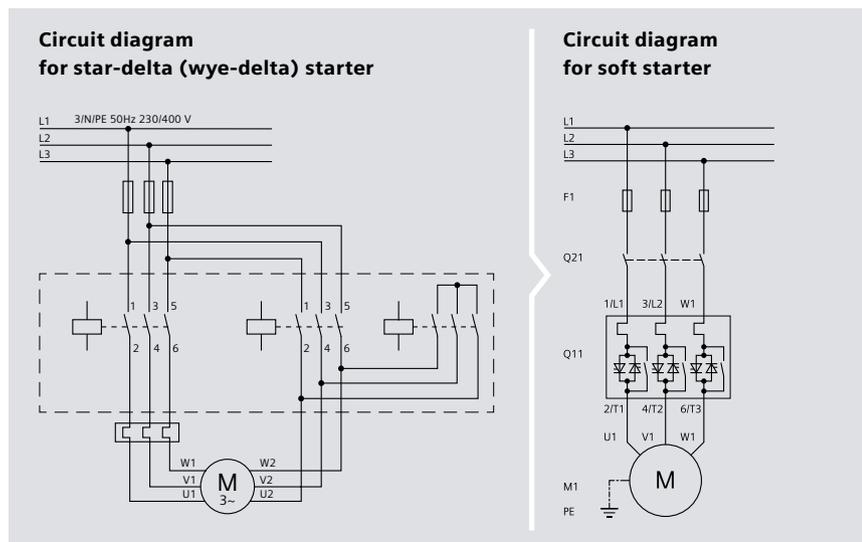
Good reasons for using soft starters

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.

- Schonung der Mechanik des Antriebsstrangs durch Begrenzung des Einschaltstroms/-moments
- Schutz des Netzes vor zu hohen Einschaltspitzen durch reduzierte Stromaufnahme



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



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.

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 = Simulation Tool for Soft Starters as an application-specific selection guide;
www.siemens.com/sts

TST= TIA Selection Tool 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.

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.

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

| 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. |
|--|--|--|-------------|------|-----------------|
| | | kW at 230 V | kW at 400 V | | |
| V | A | | | | |
| 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 |
| | 80 | 22 | 45 | S3 | 3RW3046-□ BB□ 4 |
| | 106 | 30 | 55 | S3 | 3RW3047-□ BB□ 4 |

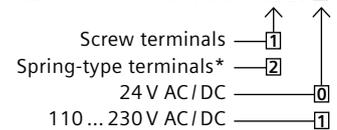


Size S0

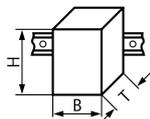
□ = Article No. supplement for connection types:

□ = Article No. supplement for rated control supply voltage U_c :

* 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, Class 10

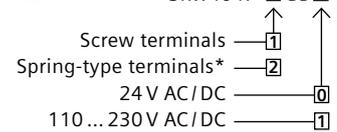
| Rated operational voltage U _e V | Rated operational current I _e at 40 °C A | Rated power of three-phase motors at rated operational voltage U _e kW at 230 V | | Size | Article No. |
|---|--|--|-------------|------|----------------|
| | | kW at 230 V | kW at 400 V | | |
| 200... 480 | 12.5 | 3 | 5.5 | 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 |



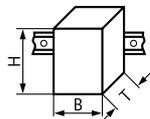
□ = Article No. supplement for connection types:

□ = 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:

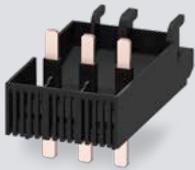
- For rated operational voltage 400... 600 V
- Sizes S0 to S3 with integrated thermistor motor protection (for motor with ThermoClick sensor or PTC type A) with rated control supply voltage U_s 24 V AC/DC

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).

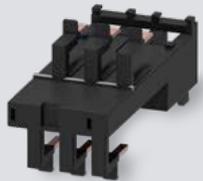
Optional accessories

Optional accessories for 3RW30 and 3RW40 soft starters

Link module soft starter to motor starter protector*



| Soft starter | | Motor starter | | 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. | | | | |
| 3RW3047. | S3 | S3 | | 3RA1941-1AA00 |
| 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

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



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

Optional/included accessories



| 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-OHS00 |
| | 3RW52 | X / - | |
| | 3RW55 | - / - | |
| High Feature | 3RW50 | X / - | 3RW5980-OHF00 |
| | 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-OHC60 |
| 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 switc | 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 | |

BASIC PERFORMANCE SOFT STARTER

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 400V (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

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

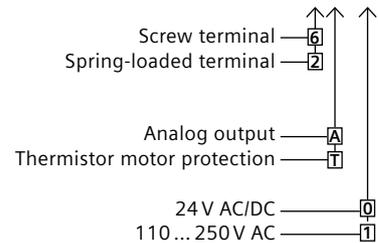
| Rated voltage U_e | Rated current I_e at 40 °C | Rated power of three-phase motors at rated voltage U_e | | Size | Article No. |
|---------------------|------------------------------|--|--------------|------|----------------|
| | | kW bei 230 V | kW bei 400 V | | |
| 200 ... 480 | 143 | 37 | 75 | S6 | 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 |



Electrical connection type for control circuit:

Product function:

Control supply voltage:

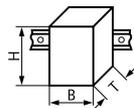


Mounting dimensions W x H x D in mm

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).

GENERAL PERFORMANCE SOFT STARTER

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. Inline circuit | Article No. Inside-delta* |
|-----------------------------|------------|------------------------------------|-------------|--------------------------------|-------------------------------|------------------------------|
| Standard | $\sqrt{3}$ | kW at 230 V | kW at 400 V | | | |
| 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 ($\sqrt{3}$) | 22 | Size 2 / Size 1 ($\sqrt{3}$) | 3RW5224-□□C□ 4 | 3RW5216-□□C□ 4 |
| 63 | 65.8 | 18,5 | 30 | Size 2 / Size 1 ($\sqrt{3}$) | 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 ($\sqrt{3}$) | 3RW5234-□□C□ 4 | 3RW5225-□□C□ 4 |
| 143 | 133 | 37 | 75 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5235-□□C□ 4 | 3RW5226-□□C□ 4 |
| 171 | 161 | 45 | 90 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5236-□□C□ 4 | 3RW5227-□□C□ 4 |
| 210 | 196 | 55 | 110 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5243-□□C□ 4 | 3RW5234-□□C□ 4 |
| 250 | 248 | 75 | 132 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5244-□□C□ 4 | 3RW5235-□□C□ 4 |
| 315 | 296 | 90 | 160 | Size 4 / Size 3 ($\sqrt{3}$) | 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 |

Electrical connection type for control circuit:

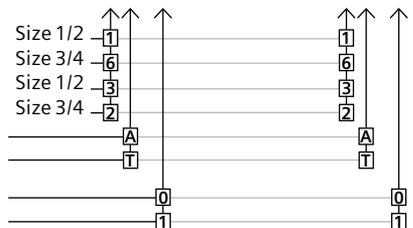
Product function:

Control supply voltage:

Screw terminals
Spring-type terminals

Analog output
Thermistor motor protection

24 V AC/DC
110 ... 250 V AC



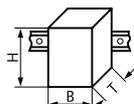
Dimensions W x H x D in mm

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

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

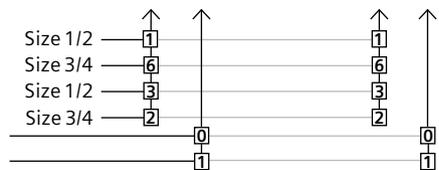
| Rated current at 40°C in A | | Rated power for three-phase motors | | Size | Article No. Inline circuit | Article No. Inside-delta* |
|----------------------------|------------|------------------------------------|-------------|--------------------------------|-------------------------------|------------------------------|
| Standard | $\sqrt{3}$ | kW at 230 V | kW at 400 V | | | |
| 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 ($\sqrt{3}$) | 22 | Size 2 / Size 1 ($\sqrt{3}$) | 3RW5524-□ HA□ 4 | 3RW5516-□ HA□ 4 |
| 63 | 65.8 | 18.5 | 30 | Size 2 / Size 1 ($\sqrt{3}$) | 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 ($\sqrt{3}$) | 3RW5534-□ HA□ 4 | 3RW5525-□ HA□ 4 |
| 143 | 133 | 37 | 75 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5535-□ HA□ 4 | 3RW5526-□ HA□ 4 |
| 171 | 161 | 45 | 90 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5536-□ HA□ 4 | 3RW5527-□ HA□ 4 |
| 210 | 196 | 55 | 110 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5543-□ HA□ 4 | 3RW5534-□ HA□ 4 |
| 250 | 248 | 75 | 132 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5544-□ HA□ 4 | 3RW5535-□ HA□ 4 |
| 315 | 296 | 90 | 160 | Size 4 / Size 3 ($\sqrt{3}$) | 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:

Screw terminals
Spring-type terminals

24 V AC/DC
110 ... 250 V AC



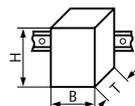
Dimensions W x H x D in mm

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).

HIGH PERFORMANCE SOFT STARTER

SIRIUS 3RW55

Failsafe

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

Integrated function (STO)

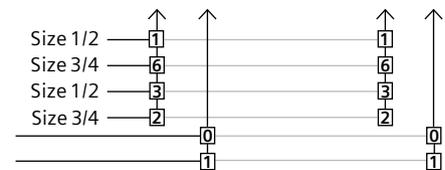
SIRIUS 3RW55 Failsafe with integrated fail-safe digital input CLASS 10E, operating voltage 200...480 V

| Rated current at 40°C in A | | Rated power for three-phase motors | | Size | Article No. Standard circuit | Article No. Inside-delta |
|----------------------------|------------|------------------------------------|-------------|--------------------------------|---------------------------------|-----------------------------|
| Standard | $\sqrt{3}$ | kW at 230 V | kW at 400 V | | | |
| 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 ($\sqrt{3}$) | 22 | Size 2 / Size 1 ($\sqrt{3}$) | 3RW5524-□ HF□ 4 | 3RW5516-□ HF□ 4 |
| 63 | 65.8 | 18,5 | 30 | Size 2 / Size 1 ($\sqrt{3}$) | 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 ($\sqrt{3}$) | 3RW5534-□ HF□ 4 | 3RW5525-□ HF□ 4 |
| 143 | 133 | 37 | 75 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5535-□ HF□ 4 | 3RW5526-□ HF□ 4 |
| 171 | 161 | 45 | 90 | Size 3 / Size 2 ($\sqrt{3}$) | 3RW5536-□ HF□ 4 | 3RW5527-□ HF□ 4 |
| 210 | 196 | 55 | 110 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5543-□ HF□ 4 | 3RW5534-□ HF□ 4 |
| 250 | 248 | 75 | 132 | Size 4 / Size 3 ($\sqrt{3}$) | 3RW5544-□ HF□ 4 | 3RW5535-□ HF□ 4 |
| 315 | 296 | 90 | 160 | Size 4 / Size 3 ($\sqrt{3}$) | 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 |

Electrical connection type for control circuit:

Control supply voltage:

Screw terminals
Spring-type terminals
24 V AC/DC
110 ... 250 V AC



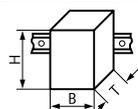
Mounting dimensions WxHxD in mm

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).

Less is more when it comes to benefits

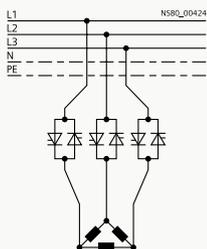
Star-delta combinations (also known as wye-delta starters) are a traditional solution for preventing unpleasant side effects when starting motors, such as voltage dips in the grid and strong transient torques in the mechanical system. Modern hybrid switching solutions can also master these challenges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

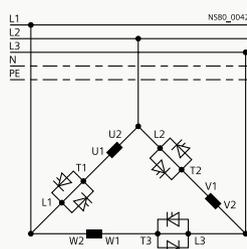
When considering replacing a star-delta (wye-delta) combination with a soft starter, the question of whether to use standard wiring or inside-delta wiring automatically arises. Therefore, when selecting a 3-phase controlled soft starter, the two options of standard circuit or inside-delta circuit should 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 $\sqrt{3}$, 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 $\sqrt{3}$

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 | a6t AC, 50 / 60Hz | 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:

| | | |
|--|---|---|
| Screw terminals for main/control circuit | 1 | 1 |
| Spring-type (push-in) terminals for main/control circuit | 2 | 2 |
| Screw terminals for main circuit and Spring-type (push-in) terminals for control circuit | 3 | 3 |

Optional accessories for the 3RM1 motor starter

| Version | Article No. |
|--|---------------|
| Geräteverbinder / Geräteabschlussverbinder | |
| 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) 30x142x150

| 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-OCPO | 3RK1308-0□ A00-OCPO |
| 10 | 0.3...1 | 0.25 | 3RK1308-0□ B00-OCPO | 3RK1308-0□ B00-OCPO |
| 30 | 0.9...3 | 1.1 | 3RK1308-0□ C00-OCPO | 3RK1308-0□ C00-OCPO |
| 90 | 2.8...9 | 4 | 3RK1308-0□ D00-OCPO | 3RK1308-0□ D00-OCPO |
| 100 | 4...12 | 5.5 | 3RK1308-0□ E00-OCPO | 3RK1308-0□ E00-OCPO |
| | | | Standard <input type="checkbox"/> A Failsafe <input type="checkbox"/> C | Standard <input type="checkbox"/> B Failsafe <input type="checkbox"/> 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) | – | – | 3RK1908-0AP00-0DPO |
| With AC infeed, with F-DI infeed (Failsafe) | 500 | – | 3RK1908-0AP00-0GPO |
| Without AC/DC infeed, with F-DI forwarding (Failsafe) | – | – | 3RK1908-0AP00-0JPO |

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 | 3RK1908-1AA00-0BPO |
| Fans (already incl. at 12 A) | 3RW4928-8VB00 |
| Additional mechanical mounting, bag of 5 items | 3RK1908-1EA00-1BP0 |

**Published by
Siemens AG**

Smart Infrastructure
Electrical Products
Werner-von-Siemens-Str. 48-50
92224 Amber
Germany

**For the U.S. published by
Siemens Industry Inc.**

100 Technology Drive
Alpharetta, GA 30005
United States
Article No.: SIEP-810001-00-7600
Dispo 18101 WS 04203.0
Printed in Germany

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract. Subject to change without prior notice.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.

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.

For additional information on industrial security measures that can be implemented, please visit:

www.siemens.com/industrialsecurity

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they become available, and that only the latest product versions are used. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

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

You can find technical information and support at www.siemens.com/SIOS or in the Industry Online Support App.



available for Android and iOS

