

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

Industry Mall, see www.siemens.com/product?3RW52

TIA Selection Tool Cloud (TST Cloud), see <https://www.siemens.com/tstcloud/?node=3rw52>

Industry Online Support (SIOS) topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>

SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>

SIRIUS 3RW Soft Starter block library for SIMATIC PCS 7, see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/109770336>

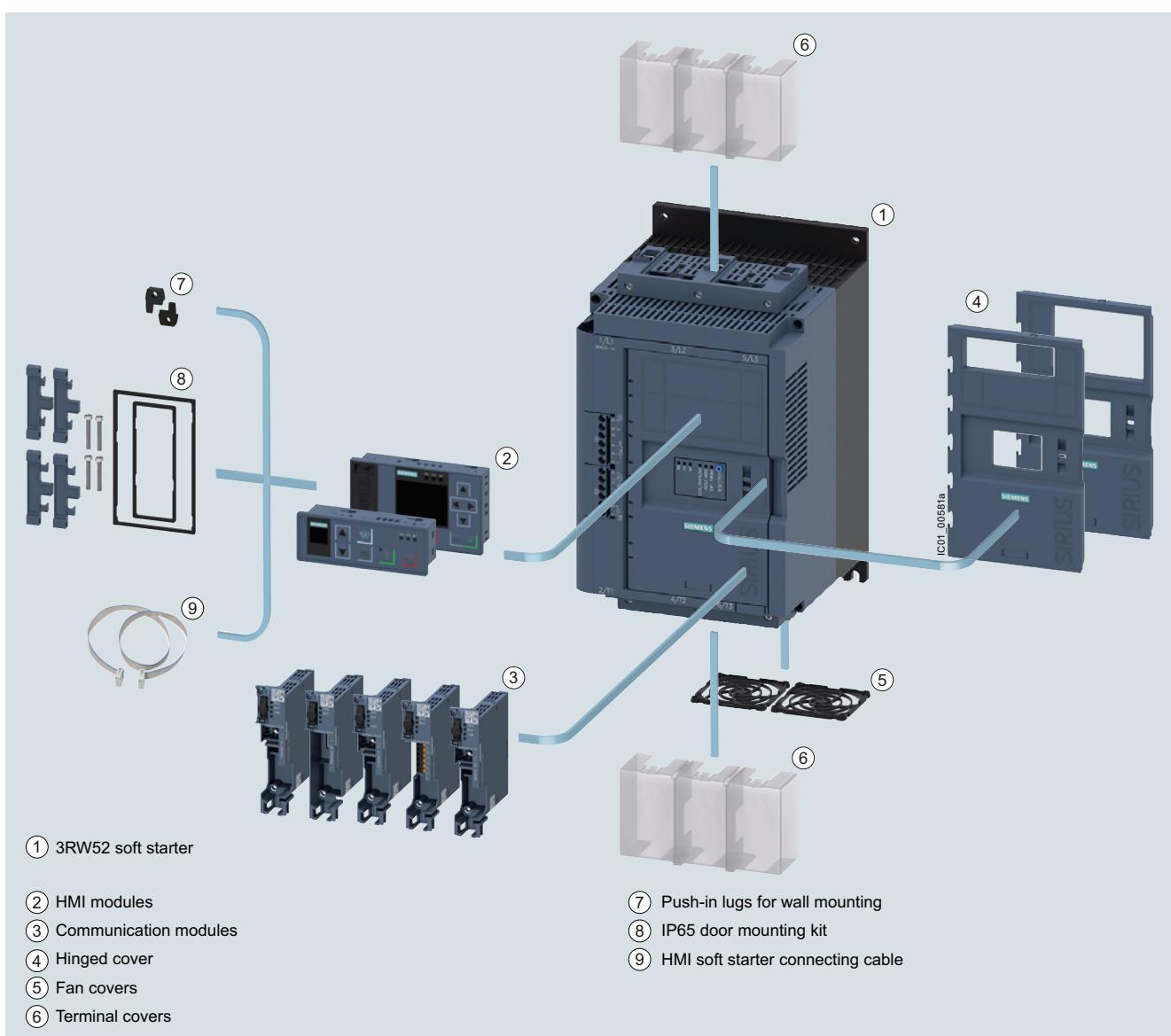


SIRIUS 3RW52 soft starters device family

SIRIUS 3RW52 General Performance soft starters are the ideal solution for standard applications. With ideal 3-phase motor control, they cover the performance range from 5.5 kW to 560 kW (at 400 V).

Optional HMI modules, plug-in communication modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW52 soft starters offer efficient switching for long-term, energy-saving use.

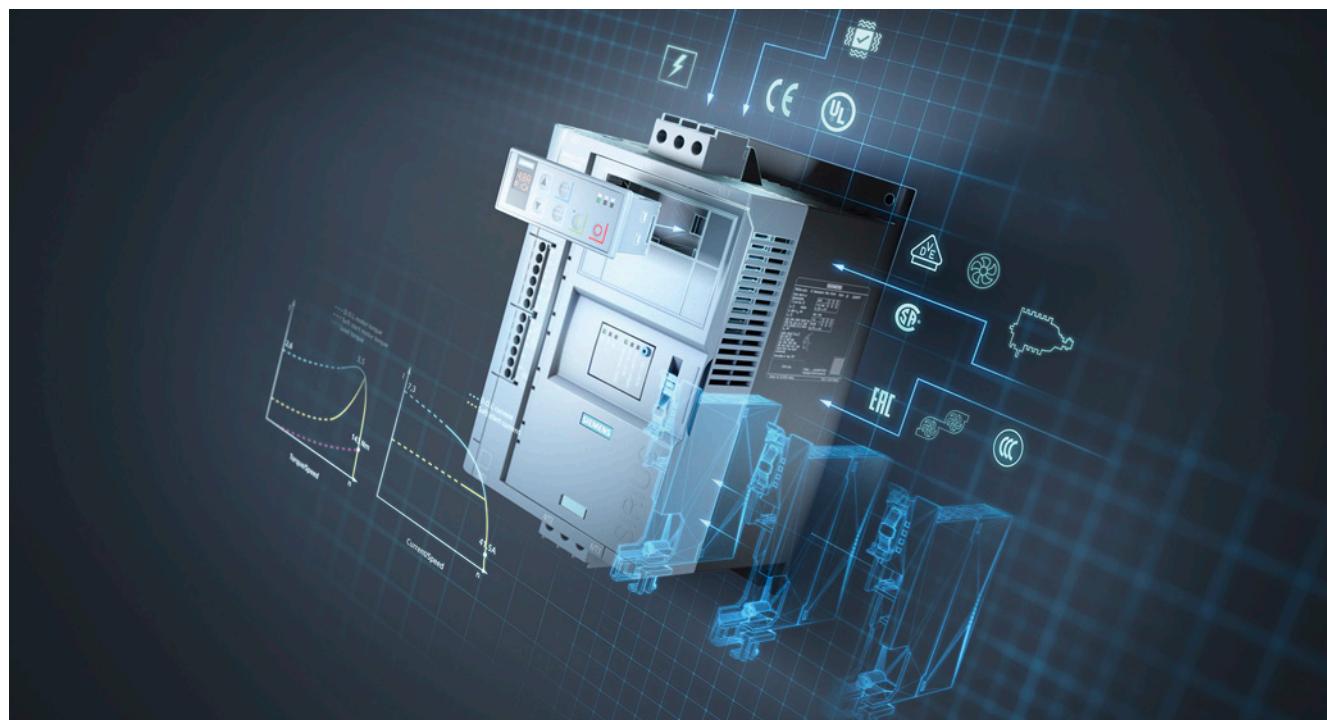


SIRIUS 3RW52 General Performance soft starter with accessories (see page 6/70), for expansion with HMI module or communication module

Switching devices – Soft starters and solid-state switching devices

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3RW52 soft starters > General data**Benefits**

| Product characteristics / function | Performance features / benefits |
|--|---|
| Hybrid switching technology and 3-phase motor control | Minimum power loss and optimum/symmetrical motor control |
| TIA integration – communication modules and HMI modules optional | Efficient configuration and maximum flexibility in automation engineering |
| Soft Torque | Reduced mechanical loading and optimum pump stop |
| Parameterization using potentiometers | Simple and fast commissioning |
| Wide range for control supply and main voltage | Low variance, high system availability even with weak supply networks |

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Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25100/td>
 Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753751>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25100/faq>
 Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

| | | | | | |
|---|---|---|---|---|---|
| Type | 3RW5213 3RW5214 3RW5215 | 3RW5216 3RW5217 | 3RW5224 3RW5225 | 3RW5226 3RW5227 3RW5234 3RW5235 3RW5236 | 3RW5243 3RW5244 3RW5245 3RW5246 3RW5247 3RW5248 |
| Installation/fixing/dimensions | | | | | |
| Width x height x depth | mm | 170 x 275 x 152 | 185 x 306 x 203 | 210 x 393 x 203 | |
| Type of mounting | | | | | |
| Mounting position | For vertical mounting surface can be rotated +/- 10° and tilted forward or backward | For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward | For vertical mounting surface can be rotated +/- 10° and tilted forward or backward | For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward | For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward |
| Distance to be maintained with side-by-side mounting | | | | | |
| • Above | mm 100 | | | | |
| • At the side | mm 5 | | | | |
| • Below | mm 75 | | | | |
| Maximum installation altitude above sea level¹⁾ | | | | | |
| Degree of protection IP on the front acc. to IEC 60529 | IP20 | IP00 (IP20 with cover) | | | |
| Touch protection on the front acc. to IEC 60529 | Finger-safe for vertical touching from the front | Finger-safe for vertical touching from the front with cover | | | |
| Ambient conditions | | | | | |
| Ambient temperature | | | | | |
| • During operation ²⁾ | °C -25 ... +60 | | | | |
| • During storage and transport | °C -40 ... +80 | | | | |
| Environmental category according to IEC 60721 | | | | | |
| • During operation | 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 | | | | |
| • During storage | 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4 | | | | |
| • During transport | 2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m) | | | | |

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

²⁾ Note derating above 40 °C.

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| Type | 3RW52...C0. | 3RW52...C1. |
|--|-------------|--------------|
| Control circuit/control | | |
| Control supply voltage | | |
| • At AC/DC | V | 24/24 |
| • At AC | V | -- |
| • Relative negative tolerance/relative positive tolerance with AC | % | -20/20 |
| • Relative negative tolerance/relative positive tolerance with DC | % | -20/20 |
| Frequency of the control supply voltage | | Hz 50 ... 60 |
| • Relative negative tolerance/relative positive tolerance | % | -10/10 |
| Type of overvoltage protection | | |
| Type of short-circuit protection for control circuit¹⁾ | | |
| Fuse 4 A gG ($I_{cu} = 1 \text{ kA}$), fuse 6 A quick-response ($I_{cu} = 1 \text{ kA}$), MCB C1 ($I_{cu} = 600 \text{ A}$), MCB C6 ($I_{cu} = 300 \text{ A}$) | | |

¹⁾ Not included in scope of supply

| Type | 3RW52...C4 | 3RW52...C5 |
|--|------------|-----------------------|
| Power electronics | | |
| Operational voltage, rated value | | |
| • Relative negative tolerance/relative positive tolerance | V % | 200 ... 480 -15/10 |
| Operational voltage for inside-delta circuit, rated value | | V 200 ... 480 |
| • Relative negative tolerance/relative positive tolerance | % | -15/10 |
| Operating frequency | | Hz 50 ... 60 |
| • Relative negative tolerance/relative positive tolerance | % | -10/10 |
| Minimum load [% of I_M]¹⁾ | | % 15 |
| Maximum cable length between soft starter and motor | | m 800 |

¹⁾ Relative to the smallest adjustable I_e .

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| Type | | 3RW5213 | 3RW5214 | 3RW5215 | 3RW5216 | 3RW5217 |
|--|------------|--------------|--------------|--------------|----------------|----------------|
| Rated operational current I_e | A | 13 | 18 | 25 | 32 | 38 |
| Power electronics | | | | | | |
| Load rating with rated operational current I_e | | | | | | |
| IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a | | 13/11.5/10.5 | 18/15.9/13.8 | 25/22.3/19.6 | 32/28.4/26 | 38/33.5/30.5 |
| Permissible rated motor current and starts/h | | | | | | |
| Normal starting (CLASS 10A) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 13/11.5/10.5 | 18/15.9/13.8 | 25/22.3/19.6 | 32/28.4/26 | 38/33.5/30.5 |
| • 300% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 43 18 | 43 18 | 43 18 | 43 18 | 43 18 |
| • 350% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 28 10 | 28 10 | 28 10 | 28 10 | 28 10 |
| Normal starting (CLASS 10E) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 13/11.5/10.5 | 18/15.9/13.8 | 25/22.3/19.6 | 32/28.4/26 | 38/33.5/30.5 |
| • 300% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 21 8 | 21 8 | 21 8 | 21 8 | 21 8 |
| • 350% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 13 4 | 13 4 | 13 4 | 13 4 | 13 4 |
| Heavy starting (CLASS 20E) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 13/11.5/10.5 | 18/15.9/13.8 | 25/22.3/19.6 | 29.6/27.2/23.6 | 33.5/30.5/27.5 |
| • 300% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 10 4 | 10 4 | 10 4 | 10 4 | 10 4 |
| • 350% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 7 2.5 | 7 2.5 | 7 2.5 | 7 2.5 | 7 2.5 |
| Adjustable rated motor current I_M | | | | | | |
| • Minimum/maximum | A | 5.5/13 | 7.5/18 | 11.5/25 | 14/32 | 15.5/38 |
| • Minimum/maximum in inside-delta circuits | A | 9.5/22.5 | 13/31.2 | 19.9/43.3 | 24.2/55.4 | 26.8/65.8 |

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| Type | | 3RW5224 | 3RW5225 | 3RW5226 | 3RW5227 |
|--|------------|--------------|--------------|----------|--------------|
| Rated operational current I_e | A | 47 | 63 | 77 | 93 |
| Power electronics | | | | | |
| Load rating with rated operational current I_e | | | | | |
| IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a | | 47/41.6/36.2 | 63/55.5/50.5 | 77/68/62 | 93/82.5/75.5 |
| Permissible rated motor current and starts/h | | | | | |
| Normal starting (CLASS 10A) | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 47/41.6/36.2 | 63/55.5/50.5 | 77/68/62 | 93/82.5/75.5 |
| • 300% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 43 18 | 43 18 | 43 18 | 43 18 |
| • 350% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 28 10 | 28 10 | 28 10 | 28 10 |
| Normal starting (CLASS 10E) | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 47/41.6/36.2 | 63/55.5/50.5 | 77/68/62 | 93/82.5/75.5 |
| • 300% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 21 8 | 21 8 | 21 8 | 21 8 |
| • 350% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 13 4 | 13 4 | 13 4 | 13 4 |
| Heavy starting (CLASS 20E) | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 47/41.6/36.2 | 63/55.5/50.5 | 65/59/53 | 93/82.5/75.5 |
| • 300% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 10 4 | 10 3 | 10 4 | 10 4 |
| • 350% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 7 2 | 4 0 | 7 2.5 | 7 2.5 |
| Adjustable rated motor current I_M | | | | | |
| • Minimum/maximum | A | 20/47 | 25.5/63 | 32/77 | 40.5/93 |
| • Minimum/maximum in inside-delta circuits | A | 34.6/81.4 | 44.2/109 | 55.4/133 | 70.1/161 |

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| Type | | 3RW5234 | 3RW5235 | 3RW5236 |
|--|------------|------------|-------------|-------------|
| Rated operational current I_e | A | 113 | 143 | 171 |
| Power electronics | | | | |
| Load rating with rated operational current I_e | | | | |
| IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a | A | 113/101/89 | 143/128/118 | 171/153/141 |
| Permissible rated motor current and starts/h | | | | |
| Normal starting (CLASS 10A) | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 113/101/89 | 143/128/118 | 171/153/141 |
| • 300% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 43 18 | 43 18 | 43 18 |
| • 350% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 28 10 | 27 8 | 20 4 |
| Normal starting (CLASS 10E) | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 113/101/89 | 139/127/116 | 158/146/129 |
| • 300% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 21 8 | 21 8 | 21 8 |
| • 350% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 13 4 | 12 1 | 12 1 |
| Heavy starting (CLASS 20E) | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 109/97/85 | 113/103/93 | 129/117/105 |
| • 300% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 10 4 | 10 4 | 10 4 |
| • 350% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 7 2.5 | 7 2.5 | 7 2.5 |
| Adjustable rated motor current I_M | | | | |
| • Minimum/maximum | A | 53/113 | 68/143 | 81/171 |
| • Minimum/maximum in inside-delta circuits | A | 91.8/196 | 118/248 | 140/296 |

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| Type | | 3RW5243 | 3RW5244 | 3RW5245 | 3RW5246 | 3RW5247 | 3RW5248 |
|--|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Rated operational current I_e | A | 210 | 250 | 315 | 370 | 470 | 570 |
| Power electronics | | | | | | | |
| Load rating with rated operational current I_e | | | | | | | |
| IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a | | 210/186/170 | 250/220/200 | 315/279/255 | 370/328/300 | 470/416/380 | 570/504/460 |
| Permissible rated motor current and starts/h | | | | | | | |
| Normal starting (CLASS 10A) | | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 210/186/170 | 250/220/200 | 315/279/255 | 370/328/300 | 470/416/380 | 570/504/460 |
| • 300% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 43 18 | 43 18 | 43 14 | 43 18 | 30 11 | 20 6 |
| • 350% I_M - Start-up time 5 s - Start-up time 10 s | 1/h 1/h | 28 5 | 28 10 | 16 4 | 28 10 | 17 5 | 9 1 |
| Normal starting (CLASS 10E) | | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 197/184/170 | 250/220/200 | 279/255/231 | 370/328/300 | 398/362/326 | 460/416/372 |
| • 300% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 21 8 | 21 8 | 21 8 | 21 8 | 21 8 | 18 7 |
| • 350% I_M - Start-up time 10 s - Start-up time 20 s | 1/h 1/h | 12 1 | 13 4 | 12 3 | 13 4 | 13 4 | 11 2 |
| Heavy starting (CLASS 20E) | | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 162/146/130 | 200/180/160 | 195/171/147 | 258/230/202 | 272/236/218 | 284/262/240 |
| • 300% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 10 4 | 10 4 | 10 4 | 10 4 | 10 4 | 10 4 |
| • 350% I_M - Start-up time 20 s - Start-up time 40 s | 1/h 1/h | 7 2.5 | 7 2.5 | 7 2.5 | 7 2.5 | 7 2.5 | 7 2.5 |
| Adjustable rated motor current I_M | | | | | | | |
| • Minimum/maximum | A | 90/210 | 100/250 | 135/315 | 160/370 | 200/470 | 240/570 |
| • Minimum/maximum in inside-delta circuits | A | 156/364 | 173/433 | 234/546 | 277/641 | 346/814 | 416/987 |

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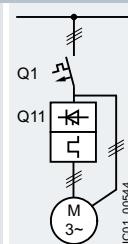
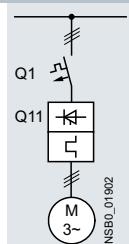
3RW52 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors or 3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10,
short-circuit breaking capacity I_q in kA, [see table](#)

Note:

For general recommendations for constructing motor feeders
with soft starters, [see page 6/11](#).



| Soft starters | Motor starter protectors | | | | Motor starter protectors | | | | | | | |
|---------------------------------|--------------------------|-------|--------------------|----|--------------------------|------|-----------------------------|-------|--------------------|----|-------|----|
| | for 400 V systems | | for 500 V systems | | for 400 V systems | | for 500 V systems | | | | | |
| Q11 | Q1 | I_q | Type | Q1 | I_q | Type | Q1 | I_q | Type | Q1 | I_q | kA |
| Type of coordination "1" | T_{OC} 1 | | | | | | Inside-delta circuit | | | | | |
| 3RW5213 | 3RV2032-4TA10 | 65 | 3RV2032-4TA10 | 18 | 3RV2032-4DA10 | 65 | 3RV2032-4DA10 | 18 | | | | |
| 3RW5214 | 3RV2032-4DA10 | 65 | 3RV2032-4DA10 | 15 | 3RV2032-4EA10 | 65 | 3RV2032-4EA10 | 15 | | | | |
| 3RW5215 | 3RV2032-4EA10 | 65 | 3RV2032-4EA10 | 15 | 3RV2032-4VA10 | 65 | 3RV2032-4VA10 | 15 | | | | |
| 3RW5216 | 3RV2032-4VA10 | 65 | 3RV2032-4VA10 | 10 | 3RV2032-4JA10 | 65 | 3RV2032-4JA10 | 10 | | | | |
| 3RW5217 | 3RV2032-4WA10 | 65 | 3RV2032-4WA10 | 10 | 3RV2032-4RA10 | 65 | 3RV2032-4RA10 | 10 | | | | |
| 3RW5224 | 3RV2032-4JA10 | 65 | 3RV2032-4JA10 | 10 | 3RV2032-4RA10 | 65 | 3RV2032-4RA10 | 10 | | | | |
| 3RW5225 | 3VA2163-7MN32-0AA0 | | 3VA2163-7MN32-0AA0 | 20 | 3VA2110-7MN32-0AA0 | 65 | 3VA2110-7MN32-0AA0 | 20 | | | | |
| 3RW5226 | 3VA2110-7MN32-0AA0 | 65 | 3VA2110-7MN32-0AA0 | 20 | 3VA2216-7MN32-0AA0 | 65 | 3VA2216-7MN32-0AA0 | 20 | | | | |
| 3RW5227 | 3VA2216-7MN32-0AA0 | 15 | 3VA2216-7MN32-0AA0 | 10 | 3VA2220-7MN32-0AA0 | 15 | 3VA2220-7MN32-0AA0 | 10 | | | | |
| 3RW5234 | 3VA2216-7MN32-0AA0 | 65 | -- | -- | 3VA2220-7MN32-0AA0 | 65 | -- | -- | | | | |
| 3RW5235 | 3VA2220-7MN32-0AA0 | 65 | -- | -- | 3VA2325-7MN32-0AA0 | 65 | -- | -- | | | | |
| 3RW5236 | 3VA2325-7MN32-0AA0 | 30 | 3VA2325-7MN32-0AA0 | 10 | 3VA2440-7MN32-0AA0 | 30 | 3VA2440-7MN32-0AA0 | 10 | | | | |
| 3RW5243 | 3VA2325-7MN32-0AA0 | 65 | 3VA2325-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | | | | |
| 3RW5244 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2450-7MN32-0AA0 | 65 | 3VA2450-7MN32-0AA0 | 65 | | | | |
| 3RW5245 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | | |
| 3RW5246 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | | |
| 3RW5247 | 3VA2450-7MN32-0AA0 | 65 | 3VA2450-7MN32-0AA0 | 65 | 3VA2450-7MN32-0AA0 | 65 | 3VA2510-6HN32-0AA0 | 65 | 3VA2510-6HN32-0AA0 | 65 | | |
| 3RW5248 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 | 3VA2510-6HN32-0AA0 | 65 | 3VA2510-6HN32-0AA0 | 65 | | |

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

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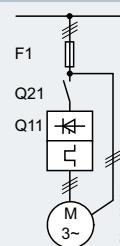
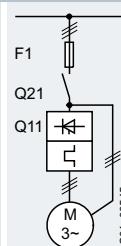
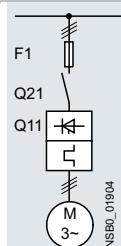
3RW52 soft starters > General data**Motor feeders according to IEC with 3NA3 fuses**

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/11.



| Soft starters | gG class fuse | Line contactor (optional) | | gG class fuse | Line contactor (optional) | | for systems up to 480 V in the supply cable | for systems up to 600 V in the supply cable | for systems up to 480 V in the delta | for systems up to 600 V in the delta |
|---------------------------------|-------------------------|----------------------------------|-------------------------|----------------------|----------------------------------|-----------------------------|--|--|---|---|
| | for systems up to 600 V | for systems up to 480 V | for systems up to 600 V | | F1 | Q21 | | | | |
| Q11 Type | F1 Type | Q21 Type | Q21 Type | F1 Type | Q21 Type | Q21 Type | Q21 Type | Q21 Type | Q21 Type | Q21 Type |
| Type of coordination "1" | Inline circuit | | | | | Inside-delta circuit | | | | |
| 3RW5213 | 3NA3820-6 | 3RT2025 | 3RT2025 | 3NA3820-6 | 3RT2027 | 3RT2035 | 3RT2025 | 3RT2025 | 3RT2025 | 3RT2025 |
| 3RW5214 | 3NA3820-6 | 3RT2026 | 3RT2027 | 3NA3820-6 | 3RT2027 | 3RT2037 | 3RT2026 | 3RT2027 | 3RT2026 | 3RT2027 |
| 3RW5215 | 3NA3822-6 | 3RT2027 | 3RT2037 | 3NA3822-6 | 3RT2036 | 3RT2037 | 3RT2027 | 3RT2037 | 3RT2027 | 3RT2037 |
| 3RW5216 | 3NA3824-6 | 3RT2035 | 3RT2037 | 3NA3824-6 | 3RT2037 | 3RT2038 | 3RT2035 | 3RT2037 | 3RT2035 | 3RT2037 |
| 3RW5217 | 3NA3824-6 | 3RT2035 | 3RT2037 | 3NA3824-6 | 3RT2038 | 3RT2046 | 3RT2035 | 3RT2037 | 3RT2035 | 3RT2037 |
| 3RW5224 | 3NA3824-6 | 3RT2036 | 3RT2037 | 3NA3824-6 | 3RT2046 | 3RT2047 | 3RT2036 | 3RT2037 | 3RT2036 | 3RT2037 |
| 3RW5225 | 3NA3830-6 | 3RT2037 | 3RT2046 | 3NA3830-6 | 3RT2047 | 3RT1054 | 3RT2037 | 3RT2046 | 3RT2037 | 3RT2046 |
| 3RW5226 | 3NA3132-6 | 3RT2038 | 3RT2046 | 3NA3132-6 | 3RT1055 | 3RT1055 | 3RT2038 | 3RT2046 | 3RT2038 | 3RT2046 |
| 3RW5227 | 3NA3136-6 | 3RT2046 | 3RT2047 | 3NA3136-6 | 3RT1056 | 3RT1056 | 3RT2046 | 3RT2047 | 3RT2046 | 3RT2047 |
| 3RW5234 | 3NA3244-6 | 3RT1054 | 3RT1054 | 3NA3244-6 | 3RT1064 | 3RT1064 | 3RT1054 | 3RT1054 | 3RT1054 | 3RT1054 |
| 3RW5235 | 3NA3244-6 | 3RT1055 | 3RT1055 | 3NA3244-6 | 3RT1065 | 3RT1065 | 3RT1055 | 3RT1055 | 3RT1055 | 3RT1055 |
| 3RW5236 | 3NA3365-6 | 3RT1056 | 3RT1064 | 3NA3365-6 | 3RT1066 | 3RT1075 | 3RT1056 | 3RT1056 | 3RT1056 | 3RT1064 |
| 3RW5243 | 2 x 3NA3354-6 | 3RT1064 | 3RT1064 | 2 x 3NA3354-6 | 3RT1075 | 3RT1075 | 3RT1064 | 3RT1064 | 3RT1064 | 3RT1064 |
| 3RW5244 | 2 x 3NA3354-6 | 3RT1065 | 3RT1065 | 2 x 3NA3354-6 | 3RT1076 | 3RT1076 | 3RT1065 | 3RT1065 | 3RT1065 | 3RT1065 |
| 3RW5245 | 2 x 3NA3365-6 | 3RT1075 | 3RT1075 | 2 x 3NA3365-6 | 3TF68 | 3TF68 | 3RT1075 | 3RT1075 | 3RT1075 | 3RT1075 |
| 3RW5246 | 2 x 3NA3365-6 | 3RT1075 | 3RT1075 | 2 x 3NA3365-6 | 3TF69 | 3TF69 | 3RT1075 | 3RT1075 | 3RT1075 | 3RT1075 |
| 3RW5247 | 2 x 3NA3365-6 | 3RT1076 | 3RT1276 | 2 x 3NA3365-6 | 3TF69 | 3TF69 | 3RT1076 | 3RT1076 | 3RT1076 | 3RT1276 |
| 3RW5248 | 2 x 3NA3365-6 | 3TF68 | 3TF68 | 2 x 3NA3365-6 | -- | -- | 3TF68 | 3TF68 | 3TF68 | 3TF68 |

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

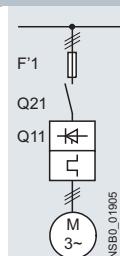
Motor feeders according to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/11.



| Soft starters | gR class fuse | Line contactor (optional) | |
|---------------------------------|---------------------------------------|--|--|
| Q11 | for systems up to 600 V F1 Type | for systems up to 480 V Q21 Type | for systems up to 600 V Q21 Type |
| Type of coordination "2" | | | |
| 3RW5213 | 3NE1815-0 | 3RT2025 | 3RT2025 |
| 3RW5214 | 3NE1802-0 | 3RT2026 | 3RT2027 |
| 3RW5215 | 3NE1817-0 | 3RT2027 | 3RT2037 |
| 3RW5216 | 3NE1818-0 | 3RT2035 | 3RT2037 |
| 3RW5217 | 3NE1820-0 | 3RT2035 | 3RT2037 |
| 3RW5224 | 3NE1021-2 | 3RT2036 | 3RT2037 |
| 3RW5225 | 3NE1022-0 | 3RT2037 | 3RT2046 |
| 3RW5226 | 3NE1224-0 | 3RT2038 | 3RT2046 |
| 3RW5227 | 3NE1224-0 | 3RT2046 | 3RT2047 |
| 3RW5234 | 3NE1225-0 | 3RT1054 | 3RT1054 |
| 3RW5235 | 3NE1227-0 | 3RT1055 | 3RT1055 |
| 3RW5236 | 3NE1230-0 | 3RT1056 | 3RT1064 |
| 3RW5243 | 3NE1230-2 ¹⁾ | 3RT1064 | 3RT1064 |
| 3RW5244 | 3NE1331-0 | 3RT1065 | 3RT1065 |
| 3RW5245 | 3NE1334-2 | 3RT1075 | 3RT1075 |
| 3RW5246 | 3NE1334-2 | 3RT1075 | 3RT1075 |
| 3RW5247 | 3NE1436-2 | 3RT1076 | 3RT1276 |
| 3RW5248 | 3NE1437-2 | 3TF68 | 3TF68 |

¹⁾ For systems up to 500 V.

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/65).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

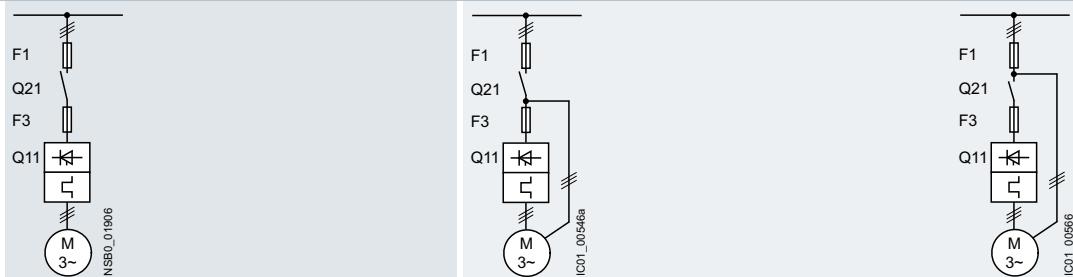
3RW52 soft starters > General data**Motor feeders according to IEC with fuses 3NE8 / 3NE4 / 3NE3**

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/11.



| Soft starters | gG class fuse | aR class fuse | Line contactor (optional) | | gG class fuse | aR class fuse | Line contactor (optional) | | | |
|--------------------------|--|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|---|---|--------------------------------------|--------------------------------------|
| | for systems up to 600 V | for systems up to 500 V | for systems up to 480 V | for systems up to 600 V | for systems up to 600 V | for systems up to 600 V | for systems up to 480 V in the supply cable | for systems up to 600 V in the supply cable | for systems up to 480 V in the delta | for systems up to 600 V in the delta |
| Q11 | F1 | F3 | Q21 | Q21 | F1 | F3 | Q21 | Q21 | Q21 | Q21 |
| Type | Type | Type | Type | Type | Type | Type | Type | Type | Type | Type |
| Type of coordination "2" | Inline circuit Inside-delta circuit | | | | | | | | | |
| 3RW5213 | 3NA3820-6 | 3NE8017-1 | 3RT2025 | 3RT2025 | 3NA3820-6 | 3NE8017-1 | 3RT2027 | 3RT2035 | 3RT2025 | 3RT2025 |
| 3RW5214 | 3NA3820-6 | 3NE8020-1 | 3RT2026 | 3RT2027 | 3NA3820-6 | 3NE8020-1 | 3RT2027 | 3RT2037 | 3RT2026 | 3RT2027 |
| 3RW5215 | 3NA3822-6 | 3NE8021-1 | 3RT2027 | 3RT2037 | 3NA3822-6 | 3NE8021-1 | 3RT2036 | 3RT2037 | 3RT2027 | 3RT2037 |
| 3RW5216 | 3NA3824-6 | 3NE8022-1 | 3RT2035 | 3RT2037 | 3NA3824-6 | 3NE8022-1 | 3RT2037 | 3RT2038 | 3RT2035 | 3RT2037 |
| 3RW5217 | 3NA3824-6 | 3NE8024-1 | 3RT2035 | 3RT2037 | 3NA3824-6 | 3NE8024-1 | 3RT2038 | 3RT2046 | 3RT2035 | 3RT2037 |
| 3RW5224 | 3NA3824-6 | 3NE8024-1 | 3RT2036 | 3RT2037 | 3NA3824-6 | 3NE8024-1 | 3RT2046 | 3RT2047 | 3RT2036 | 3RT2037 |
| 3RW5225 | 3NA3830-6 | 3NE8024-1 | 3RT2037 | 3RT2046 | 3NA3830-6 | 3NE8024-1 | 3RT2047 | 3RT1054 | 3RT2037 | 3RT2046 |
| 3RW5226 | 3NA3132-6 | 3NE8024-1 | 3RT2038 | 3RT2046 | 3NA3132-6 | 3NE8024-1 | 3RT1055 | 3RT1055 | 3RT2038 | 3RT2046 |
| 3RW5227 | 3NA3136-6 | 3NE4124 | 3RT2046 | 3RT2047 | 3NA3136-6 | 3NE4124 | 3RT1056 | 3RT1056 | 3RT2046 | 3RT2047 |
| 3RW5234 | 3NA3244-6 | 3NE3332-0B | 3RT1054 | 3RT1054 | 3NA3244-6 | 3NE3332-0B | 3RT1064 | 3RT1064 | 3RT1054 | 3RT1054 |
| 3RW5235 | 3NA3244-6 | 3NE3334-0B | 3RT1055 | 3RT1055 | 3NA3244-6 | 3NE3334-0B | 3RT1065 | 3RT1065 | 3RT1055 | 3RT1055 |
| 3RW5236 | 3NA3365-6 | 3NE3335 | 3RT1056 | 3RT1064 | 3NA3365-6 | 3NE3335 | 3RT1066 | 3RT1075 | 3RT1056 | 3RT1064 |
| 3RW5243 | 2 x 3NA3354-6 | 3NE3333 | 3RT1064 | 3RT1064 | 2 x 3NA3354-6 | 3NE3333 | 3RT1075 | 3RT1075 | 3RT1064 | 3RT1064 |
| 3RW5244 | 2 x 3NA3354-6 | 3NE3336 | 3RT1065 | 3RT1065 | 2 x 3NA3354-6 | 3NE3336 | 3RT1076 | 3RT1076 | 3RT1065 | 3RT1065 |
| 3RW5245 | 2 x 3NA3365-6 | 3NE3336 | 3RT1075 | 3RT1075 | 2 x 3NA3365-6 | 3NE3336 | 3TF68 | 3TF68 | 3RT1075 | 3RT1075 |
| 3RW5246 | 2 x 3NA3365-6 | 3NE3336 | 3RT1075 | 3RT1075 | 2 x 3NA3365-6 | 3NE3336 | 3TF69 | 3TF69 | 3RT1075 | 3RT1075 |
| 3RW5247 | 2 x 3NA3365-6 | 3NE3340-8 | 3RT1076 | 3RT1276 | 2 x 3NA3365-6 | 3NE3340-8 | 3TF69 | 3TF69 | 3RT1076 | 3RT1276 |
| 3RW5248 | 2 x 3NA3365-6 | 3NE3340-8 | 3TF68 | 3TF68 | 2 x 3NA3365-6 | 3NE3340-8 | -- | -- | 3TF68 | 3TF68 |

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3RV2 motor starter protectors or 3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/62). In these cases, optional line contactors can be dispensed with.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Inline circuit **IE3/IE4 ready**

Selection and ordering data

For normal starting (CLASS 10A)



3RW521.



3RW522.



3RW523.



3RW524.

| Operational current | At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|----------|-------------|----------|---------------------|--------------|--------------|------------------------------------|--------------|---|----------------------|------------------|-------------|--------------|-------------------|-----|----|
| | At 230 V | At 400 V | At 500 V | Operational current | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | A | hp | hp | hp | hp | d | | |
| Operational voltage 200 ... 480 V | | | | | | | | | | | | | | | | |
| 13 | 3 | 5.5 | -- | 11.5 | 2 | 3 | 7.5 | -- | 5 | 3RW5213-□□C□4 | | 1 | 1 unit | 42S | | |
| 18 | 4 | 7.5 | -- | 15.9 | 3 | 5 | 10 | -- | 5 | 3RW5214-□□C□4 | | 1 | 1 unit | 42S | | |
| 25 | 5.5 | 11 | -- | 22.3 | 5 | 7.5 | 15 | -- | 5 | 3RW5215-□□C□4 | | 1 | 1 unit | 42S | | |
| 32 | 7.5 | 15 | -- | 28.4 | 7.5 | 10 | 20 | -- | 5 | 3RW5216-□□C□4 | | 1 | 1 unit | 42S | | |
| 38 | 11 | 18.5 | -- | 33.5 | 10 | 10 | 20 | -- | 5 | 3RW5217-□□C□4 | | 1 | 1 unit | 42S | | |
| 47 | 11 | 22 | -- | 41.6 | 10 | 10 | 30 | -- | 5 | 3RW5224-□□C□4 | | 1 | 1 unit | 42S | | |
| 63 | 18.5 | 30 | -- | 55.5 | 15 | 20 | 40 | -- | 5 | 3RW5225-□□C□4 | | 1 | 1 unit | 42S | | |
| 77 | 22 | 37 | -- | 68 | 20 | 25 | 50 | -- | 5 | 3RW5226-□□C□4 | | 1 | 1 unit | 42S | | |
| 93 | 22 | 45 | -- | 82.5 | 25 | 30 | 60 | -- | 5 | 3RW5227-□□C□4 | | 1 | 1 unit | 42S | | |

Type of electrical connection for the control circuit

Screw terminals

Spring-loaded terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC



¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 480 V:
Standard delivery time SD = 1 day (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

| Operational current | At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|----------|------------|----------|---------------------|--------------|--------------|------------------------------------|--------------|---|----------------------|------------------|-------------|--------------|-------------------|-----|----|
| | At 230 V | At 400 V | At 500 V | Operational current | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | A | hp | hp | hp | hp | d | | |
| Operational voltage 200 ... 480 V | | | | | | | | | | | | | | | | |
| 113 | 30 | 55 | -- | 101 | 30 | 30 | 75 | -- | 5 | 3RW5234-□□C□4 | | 1 | 1 unit | 42S | | |
| 143 | 37 | 75 | -- | 128 | 40 | 40 | 100 | -- | 5 | 3RW5235-□□C□4 | | 1 | 1 unit | 42S | | |
| 171 | 45 | 90 | -- | 153 | 50 | 50 | 100 | -- | 5 | 3RW5236-□□C□4 | | 1 | 1 unit | 42S | | |
| 210 | 55 | 110 | -- | 186 | 60 | 60 | 150 | -- | 5 | 3RW5243-□□C□4 | | 1 | 1 unit | 42S | | |
| 250 | 75 | 132 | -- | 220 | 60 | 75 | 150 | -- | 5 | 3RW5244-□□C□4 | | 1 | 1 unit | 42S | | |
| 315 | 90 | 160 | -- | 279 | 75 | 100 | 200 | -- | 5 | 3RW5245-□□C□4 | | 1 | 1 unit | 42S | | |
| 370 | 110 | 200 | -- | 328 | 100 | 125 | 250 | -- | 5 | 3RW5246-□□C□4 | | 1 | 1 unit | 42S | | |
| 470 | 132 | 250 | -- | 416 | 150 | 150 | 350 | -- | 5 | 3RW5247-□□C□4 | | 1 | 1 unit | 42S | | |
| 570 | 160 | 315 | -- | 504 | 150 | 200 | 400 | -- | 5 | 3RW5248-□□C□4 | | 1 | 1 unit | 42S | | |



Type of electrical connection for the control circuit

Spring-loaded terminals

Screw terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 480 V:
Standard delivery time SD = 1 day (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

IE3/IE4 ready **3RW52 soft starters > Inline circuit**

For normal starting (CLASS 10A)



3RW521.



3RW522.



3RW523.



3RW524.

| At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|-------------|----------|---------------------|---|------------------------------------|------------|----|----|------------------|----------------------|--------------|-------------------|-----|----|
| Operational current | Operating power for three-phase motors | | | Operational current | At 200/208 V At 220/230 V At 460/480 V At 575/600 V | | | | d | | | | | | |
| | At 230 V | At 400 V | At 500 V | | A | hp | hp | hp | hp | | | | | | |
| Operational voltage 200 ... 600 V | | | | | | | | | | | | | | | |
| 13 | 3 | 5.5 | 7.5 | 11.5 | 2 | 3 | 7.5 | 10 | 5 | | 3RW5213-□□C□5 | 1 | 1 unit | 42S | |
| 18 | 4 | 7.5 | 11 | 15.9 | 3 | 5 | 10 | 10 | 5 | | 3RW5214-□□C□5 | 1 | 1 unit | 42S | |
| 25 | 5.5 | 11 | 15 | 22.3 | 5 | 7.5 | 15 | 20 | 5 | | 3RW5215-□□C□5 | 1 | 1 unit | 42S | |
| 32 | 7.5 | 15 | 18.5 | 28.4 | 7.5 | 10 | 20 | 25 | 5 | | 3RW5216-□□C□5 | 1 | 1 unit | 42S | |
| 38 | 11 | 18.5 | 22 | 33.5 | 10 | 10 | 20 | 30 | 5 | | 3RW5217-□□C□5 | 1 | 1 unit | 42S | |
| 47 | 11 | 22 | 30 | 41.6 | 10 | 10 | 30 | 40 | 5 | | 3RW5224-□□C□5 | 1 | 1 unit | 42S | |
| 63 | 18.5 | 30 | 37 | 55.5 | 15 | 20 | 40 | 50 | 5 | | 3RW5225-□□C□5 | 1 | 1 unit | 42S | |
| 77 | 22 | 37 | 45 | 68 | 20 | 25 | 50 | 60 | 5 | | 3RW5226-□□C□5 | 1 | 1 unit | 42S | |
| 93 | 22 | 45 | 55 | 82.5 | 25 | 30 | 60 | 75 | 5 | | 3RW5227-□□C□5 | 1 | 1 unit | 42S | |

Type of electrical connection for the control circuit

Screw terminals

Spring-loaded terminals

**Product function**

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 600 V:
Standard delivery time SD = 2 days (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

| At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|------------|----------|---------------------|---|------------------------------------|------------|-----|----|------------------|----------------------|--------------|-------------------|-----|----|
| Operational current | Operating power for three-phase motors | | | Operational current | At 200/208 V At 220/230 V At 460/480 V At 575/600 V | | | | d | | | | | | |
| | At 230 V | At 400 V | At 500 V | | A | hp | hp | hp | hp | | | | | | |
| Operational voltage 200 ... 600 V | | | | | | | | | | | | | | | |
| 113 | 30 | 55 | 75 | 101 | 30 | 30 | 75 | 100 | 5 | | 3RW5234-□□C□5 | 1 | 1 unit | 42S | |
| 143 | 37 | 75 | 90 | 128 | 40 | 40 | 100 | 125 | 5 | | 3RW5235-□□C□5 | 1 | 1 unit | 42S | |
| 171 | 45 | 90 | 110 | 153 | 50 | 50 | 100 | 150 | 5 | | 3RW5236-□□C□5 | 1 | 1 unit | 42S | |
| 210 | 55 | 110 | 132 | 186 | 60 | 60 | 150 | 150 | 5 | | 3RW5243-□□C□5 | 1 | 1 unit | 42S | |
| 250 | 75 | 132 | 160 | 220 | 60 | 75 | 150 | 200 | 5 | | 3RW5244-□□C□5 | 1 | 1 unit | 42S | |
| 315 | 90 | 160 | 200 | 279 | 75 | 100 | 200 | 250 | 5 | | 3RW5245-□□C□5 | 1 | 1 unit | 42S | |
| 370 | 110 | 200 | 250 | 328 | 100 | 125 | 250 | 300 | 5 | | 3RW5246-□□C□5 | 1 | 1 unit | 42S | |
| 470 | 132 | 250 | 315 | 416 | 150 | 150 | 350 | 450 | 5 | | 3RW5247-□□C□5 | 1 | 1 unit | 42S | |
| 570 | 160 | 315 | 355 | 504 | 150 | 200 | 400 | 500 | 5 | | 3RW5248-□□C□5 | 1 | 1 unit | 42S | |

Type of electrical connection for the control circuit

Spring-loaded terminals

Screw terminals

**Product function**

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 600 V:
Standard delivery time SD = 2 days (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Inside-delta circuit IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10A)



| Operational current | At 40 °C for inside-delta circuit | | | At 50 °C for inside-delta circuit | | | Rating [hp] for three-phase motors | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|-------------|----|-----------------------------------|--------------|--------------|------------------------------------|------------------|-------------|----------------------|-------------------|--------|-----|
| | Operating power for three-phase motors | | | Operational current | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | | | | | |
| A | kW | kW | kW | A | hp | hp | hp | hp | d | | | | |
| Operational voltage 200 ... 480 V | | | | | | | | | | | | | |
| 22.5 | 5.5 | 11 | -- | 19.9 | 5 | 5 | 10 | -- | 5 | 3RW5213-□□C□4 | 1 | 1 unit | 42S |
| 31.5 | 7.5 | 15 | -- | 28 | 7.5 | 7.5 | 20 | -- | 5 | 3RW5214-□□C□4 | 1 | 1 unit | 42S |
| 43.3 | 11 | 18.5 | -- | 39 | 10 | 10 | 25 | -- | 5 | 3RW5215-□□C□4 | 1 | 1 unit | 42S |
| 55.4 | 15 | 22 | -- | 49 | 15 | 15 | 30 | -- | 5 | 3RW5216-□□C□4 | 1 | 1 unit | 42S |
| 65.8 | 18.5 | 30 | -- | 58 | 15 | 20 | 40 | -- | 5 | 3RW5217-□□C□4 | 1 | 1 unit | 42S |
| 81.4 | 22 | 45 | -- | 72 | 20 | 25 | 50 | -- | 5 | 3RW5224-□□C□4 | 1 | 1 unit | 42S |
| 109 | 30 | 55 | -- | 96 | 30 | 30 | 75 | -- | 5 | 3RW5225-□□C□4 | 1 | 1 unit | 42S |
| 133 | 37 | 75 | -- | 118 | 30 | 40 | 75 | -- | 5 | 3RW5226-□□C□4 | 1 | 1 unit | 42S |
| 161 | 45 | 90 | -- | 143 | 40 | 50 | 100 | -- | 5 | 3RW5227-□□C□4 | 1 | 1 unit | 42S |

Type of electrical connection for the control circuit

Screw terminals

Spring-loaded terminals



Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC



¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 480 V:

Standard delivery time SD = 1 day (d).

Note:

For the constraints for the motor outputs specified here, see page 6/8.

| Operational current | At 40 °C for inside-delta circuit | | | At 50 °C for inside-delta circuit | | | Rating [hp] for three-phase motors | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|------------|----|-----------------------------------|--------------|--------------|------------------------------------|------------------|-------------|----------------------|-------------------|--------|-----|
| | Operating power for three-phase motors | | | Operational current | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | | | | | |
| A | kW | kW | kW | A | hp | hp | hp | hp | d | | | | |
| Operational voltage 200 ... 480 V | | | | | | | | | | | | | |
| 196 | 55 | 110 | -- | 175 | 50 | 60 | 125 | -- | 5 | 3RW5234-□□C□4 | 1 | 1 unit | 42S |
| 248 | 75 | 132 | -- | 222 | 75 | 75 | 150 | -- | 5 | 3RW5235-□□C□4 | 1 | 1 unit | 42S |
| 296 | 90 | 160 | -- | 265 | 75 | 100 | 200 | -- | 5 | 3RW5236-□□C□4 | 1 | 1 unit | 42S |
| 364 | 110 | 200 | -- | 322 | 100 | 125 | 250 | -- | 5 | 3RW5243-□□C□4 | 1 | 1 unit | 42S |
| 433 | 132 | 250 | -- | 381 | 125 | 150 | 300 | -- | 5 | 3RW5244-□□C□4 | 1 | 1 unit | 42S |
| 546 | 160 | 315 | -- | 483 | 150 | 200 | 400 | -- | 5 | 3RW5245-□□C□4 | 1 | 1 unit | 42S |
| 641 | 200 | 355 | -- | 568 | 200 | 200 | 450 | -- | 5 | 3RW5246-□□C□4 | 1 | 1 unit | 42S |
| 814 | 250 | 400 | -- | 721 | 250 | 250 | 600 | -- | 5 | 3RW5247-□□C□4 | 1 | 1 unit | 42S |
| 987 | 315 | 560 | -- | 873 | 300 | 350 | 750 | -- | 5 | 3RW5248-□□C□4 | 1 | 1 unit | 42S |

Type of electrical connection for the control circuit

Spring-loaded terminals

Screw terminals



Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC



¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 480 V:

Standard delivery time SD = 1 day (d).

Note:

For the constraints for the motor outputs specified here, see page 6/8.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

IE3/IE4 ready 3RW52 soft starters > Inside-delta circuit

For normal starting (CLASS 10A)



3RW521.



3RW522.



3RW523.



3RW524.

| Operational current | At 40 °C for inside-delta circuit | | | At 50 °C for inside-delta circuit | | | Rating [hp] for three-phase motors | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|---------------------|----------|-----------------------------------|----------|--------------|------------------------------------|------------------|--------------|----------------------|-------------------|--------|-----|
| | Operating power for three-phase motors | Operational current | At 230 V | At 400 V | At 500 V | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | | | | |
| A | kW | kW | kW | A | hp | hp | hp | hp | d | | | | |
| Operational voltage 200 ... 600 V | | | | | | | | | | | | | |
| 22.5 | 5.5 | 11 | 15 | 19.9 | 5 | 5 | 10 | 15 | 5 | 3RW5213-□□C□5 | 1 | 1 unit | 42S |
| 31.5 | 7.5 | 15 | 18.5 | 28 | 7.5 | 7.5 | 20 | 25 | 5 | 3RW5214-□□C□5 | 1 | 1 unit | 42S |
| 43.3 | 11 | 18.5 | 22 | 39 | 10 | 10 | 25 | 30 | 5 | 3RW5215-□□C□5 | 1 | 1 unit | 42S |
| 55.4 | 15 | 22 | 30 | 49 | 15 | 15 | 30 | 40 | 5 | 3RW5216-□□C□5 | 1 | 1 unit | 42S |
| 65.8 | 18.5 | 30 | 37 | 58 | 15 | 20 | 40 | 50 | 5 | 3RW5217-□□C□5 | 1 | 1 unit | 42S |
| 81.4 | 22 | 45 | 45 | 72 | 20 | 25 | 50 | 60 | 5 | 3RW5224-□□C□5 | 1 | 1 unit | 42S |
| 109 | 30 | 55 | 55 | 96 | 30 | 30 | 75 | 75 | 5 | 3RW5225-□□C□5 | 1 | 1 unit | 42S |
| 133 | 37 | 75 | 90 | 118 | 30 | 40 | 75 | 100 | 5 | 3RW5226-□□C□5 | 1 | 1 unit | 42S |
| 161 | 45 | 90 | 110 | 143 | 40 | 50 | 100 | 125 | 5 | 3RW5227-□□C□5 | 1 | 1 unit | 42S |

Type of electrical connection for the control circuit

Screw terminals

Spring-loaded terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC



¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 600 V:
Standard delivery time SD = 2 days (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

| Operational current | At 40 °C for inside-delta circuit | | | At 50 °C for inside-delta circuit | | | Rating [hp] for three-phase motors | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|--|--|---------------------|----------|-----------------------------------|----------|--------------|------------------------------------|------------------|--------------|----------------------|-------------------|--------|-----|
| | Operating power for three-phase motors | Operational current | At 230 V | At 400 V | At 500 V | At 200/208 V | At 220/230 V | At 460/480 V | At 575/600 V | | | | |
| A | kW | kW | kW | A | hp | hp | hp | hp | d | | | | |
| Operational voltage 200 ... 600 V | | | | | | | | | | | | | |
| 196 | 55 | 110 | 132 | 175 | 50 | 60 | 125 | 150 | 5 | 3RW5234-□□C□5 | 1 | 1 unit | 42S |
| 248 | 75 | 132 | 160 | 222 | 75 | 75 | 150 | 200 | 5 | 3RW5235-□□C□5 | 1 | 1 unit | 42S |
| 296 | 90 | 160 | 200 | 265 | 75 | 100 | 200 | 250 | 5 | 3RW5236-□□C□5 | 1 | 1 unit | 42S |
| 364 | 110 | 200 | 250 | 322 | 100 | 125 | 250 | 300 | 5 | 3RW5243-□□C□5 | 1 | 1 unit | 42S |
| 433 | 132 | 250 | 315 | 381 | 125 | 150 | 300 | 350 | 5 | 3RW5244-□□C□5 | 1 | 1 unit | 42S |
| 546 | 160 | 315 | 355 | 483 | 150 | 200 | 400 | 500 | 5 | 3RW5245-□□C□5 | 1 | 1 unit | 42S |
| 641 | 200 | 355 | 450 | 568 | 200 | 200 | 450 | 600 | 5 | 3RW5246-□□C□5 | 1 | 1 unit | 42S |
| 814 | 250 | 400 | 500 | 721 | 250 | 250 | 600 | 800 | 5 | 3RW5247-□□C□5 | 1 | 1 unit | 42S |
| 987 | 315 | 560 | 630 | 873 | 300 | 350 | 750 | 950 | 5 | 3RW5248-□□C□5 | 1 | 1 unit | 42S |

**Type of electrical connection for the control circuit**

Spring-loaded terminals

Screw terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

¹⁾ 3RW52 soft starter with screw terminals for operational voltage up to 600 V:
Standard delivery time SD = 2 days (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

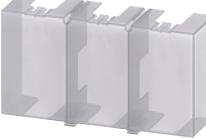
Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Accessories

Selection and ordering data

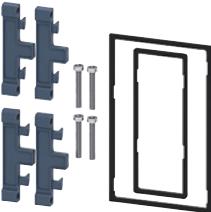
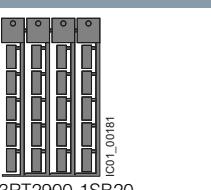
| | Product designation | Manufacturer's Article No. of the soft starter | Type of product | Application | SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|-----------------------------|--|---|-------------|----|----------------------|--------------|-------------------|--------|-----|
| | | | | | d | | | | | |
| Fan covers | | | | | | | | | | |
|  | Fan cover | 3RW5216/17 (1x), -- 3RW5226/27 (2x), 3RW523 (2x) | -- | -- | ► | 3RW5983-0FC00 | | 1 | 1 unit | 42S |
| 3RW5983-0FC00 | | 3RW524 (1x) | -- | -- | ► | 3RW5984-0FC00 | | 1 | 1 unit | 42S |
| Terminal covers | | | | | | | | | | |
|  | Terminal cover | 3RW522 (2x), 3RW523 (2x) | -- | -- | ► | 3RW5983-0TC20 | | 1 | 1 unit | 42S |
| 3RW5983-0TC20 | | 3RW524 (2x) | -- | -- | ► | 3RW5984-0TC20 | | 1 | 1 unit | 42S |
|  | | | | | | | | | | |
| 3RW5984-0TC20 | | | | | | | | | | |
| Enclosure components | | | | | | | | | | |
|  | Hinged cover | 3RW52 | With cutout for High Feature HMI module | -- | ► | 3RW5950-0GL30 | | 1 | 1 unit | 42S |
| 3RW5950-0GL30 | | | | | | | | | | |
|  | | | With cutout for Standard HMI module | -- | ► | 3RW5950-0GL40 | | 1 | 1 unit | 42S |
| 3RW5950-0GL40 | | | | | | | | | | |
| Communication modules | | | | | | | | | | |
|  | Communication module | 3RW52 | PROFINET Standard | -- | ► | 3RW5980-0CS00 | | 1 | 1 unit | 42S |
| 3RW5980-0CS00 | | | PROFIBUS | -- | ► | 3RW5980-0CP00 | | 1 | 1 unit | 42S |
| | | | EtherNet/IP | -- | ► | 3RW5980-0CE00 | | 1 | 1 unit | 42S |
|  | | | | | | | | | | |
| 3RW5980-0CR00 | | | Modbus RTU | -- | ► | 3RW5980-0CR00 | | 1 | 1 unit | 42S |
| | | | Modbus TCP | -- | ► | 3RW5980-OCT00 | | 1 | 1 unit | 42S |

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
General Performance soft starters

3RW52 soft starters > Accessories

| Product designation | Manufacturer's Article No. of the soft starter | Type of product | Application | SD d | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|--|-----------------|--|---|--|--------------|-------------------|-----|---------------|
| HMI modules | | | | | | | | | |
|  | HMI module 3RW52 | | High Feature -- | ► | 3RW5980-0HF00 | | | 1 | 1 unit 42S |
| 3RW5980-0HF00 | | | | | | | | | |
|  | | | Standard -- | ► | 3RW5980-0HS00 | | | 1 | 1 unit 42S |
| 3RW5980-0HS00 | | | | | | | | | |
|  | IP65 door mounting kit for HMI modules | 3RW52 | IP65 | For HMI modules ► | 3RW5980-0HD00 | | | 1 | 1 unit 42S |
| 3RW5980-0HD00 | | | | | | | | | |
| Connecting cables | | | | | | | | | |
|  | HMI connecting cable | 3RW52 | 5 m, round 2.5 m, round 1.0 m, round 0.5 m, round | For door mounting ► | 3RW5980-0HC60 ► 3UF7933-0BA00-0 ► 3UF7937-0BA00-0 ► 3UF7932-0BA00-0 | | | 1 | 1 unit 42S |
| 3UF7933-0BA00-0 | | | | | | | | | |
|  | | | 0.1 m, flat | For mounting in the device ► | 3UF7931-0AA00-0 | | | 1 | 1 unit 42J |
| 3UF7931-0AA00-0 | | | | | | | | | |
| Further accessories | | | | | | | | | |
|  | Push-in lugs -- for wall mounting | | Two lugs are required per device | For HMI modules and communication modules 2 | 3ZY1311-0AA00 | | | 1 | 10 units 41L |
| 3ZY1311-0AA00 | | | | | | | | | |
| Blank labels | | | | | | | | | |
|  | Unit labeling plates ¹⁾ -- | | 20 mm x 7 mm, titanium gray | For SIRIUS devices 20 | 3RT2900-1SB20 | | | 100 | 340 units 41B |
| 3RT2900-1SB20 | | | | | | | | | |

¹⁾ PC labeling systems for individual inscription of unit labeling plates are available from: murrplastik Systemtechnik GmbH (see page 16/16).

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

Industry Mall, see www.siemens.com/product?3RW50

TIA Selection Tool Cloud (TST Cloud), see <https://www.siemens.com/tstcloud/?node=3rw50>

Industry Online Support (SIOS) topic page, see <https://support.industry.siemens.com/cs/ww/en/view/109747404>

Simulation Tool for Soft Starters (STS), see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/view/101494917>

SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or <https://support.industry.siemens.com/cs/ww/en/ps/24230/dl>

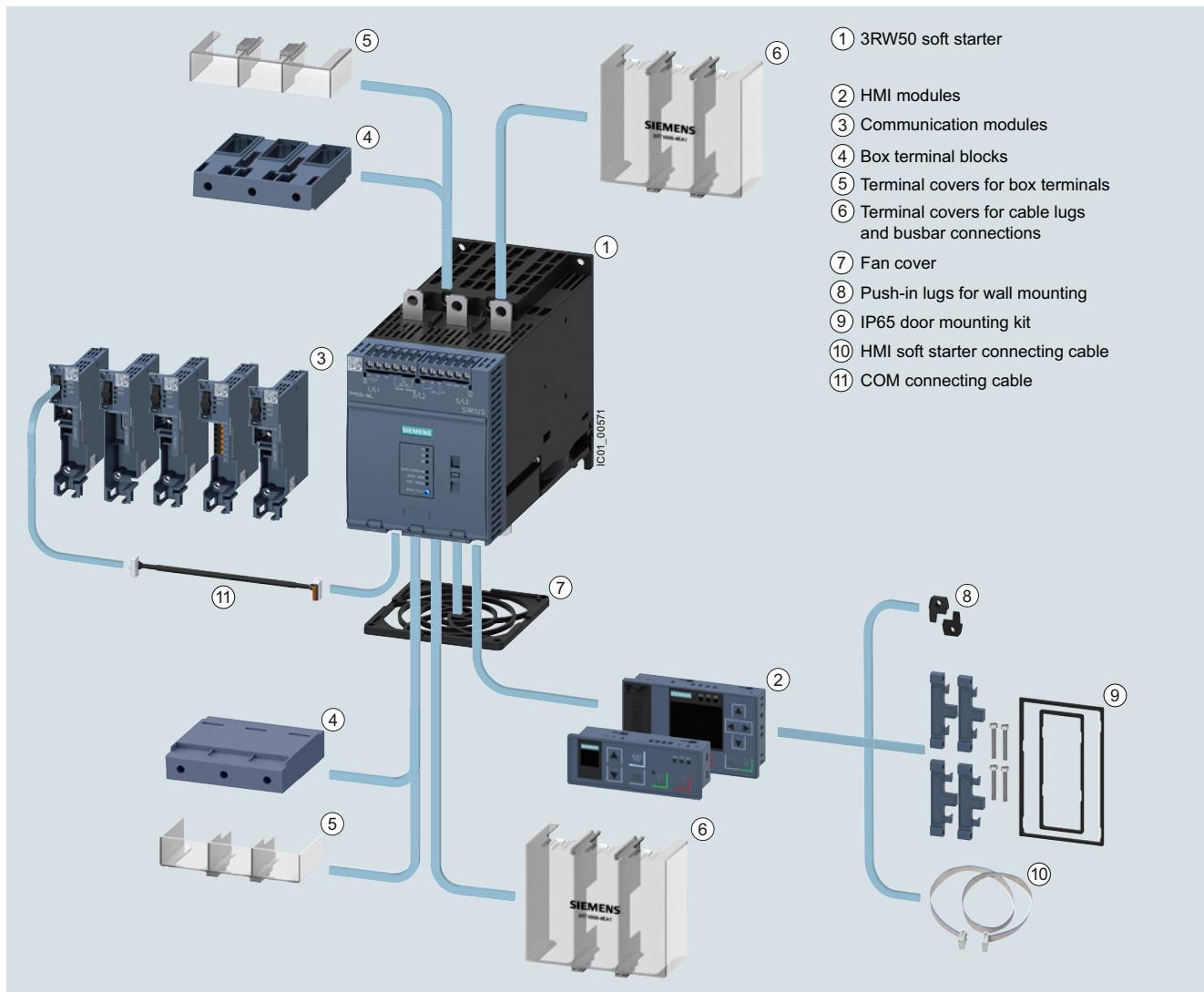


SIRIUS 3RW50 Basic Performance soft starters are the compact solution for standard applications. With 2-phase motor control, they cover the performance range from 75 to 315 kW (at 400 V).

Optional HMI modules for installation in the control cabinet door, laterally mountable communication modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW50 soft starters offer efficient switching for long-term, energy-saving use.

SIRIUS 3RW50 soft starters device family

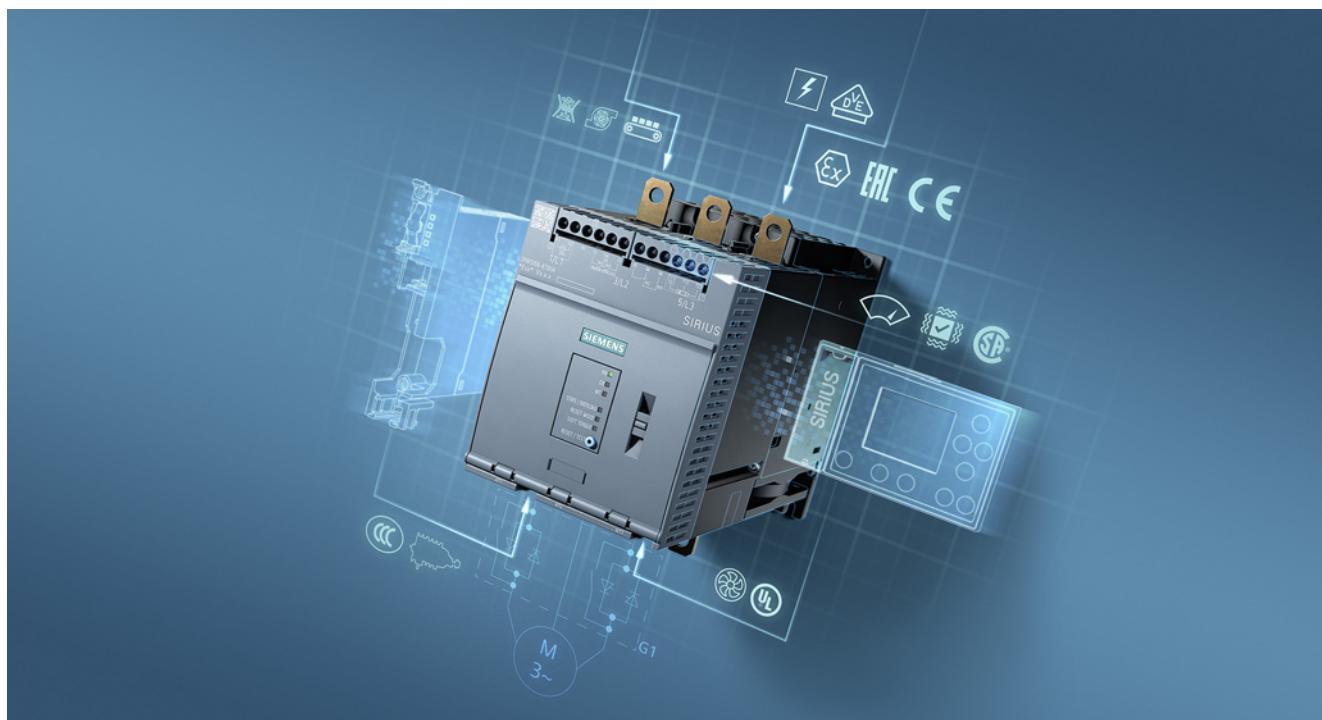


SIRIUS 3RW50 Basic Performance soft starter with accessories (see page 6/81), for expansion with HMI module or communication module

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data**Benefits**

| Product characteristics / function | Performance features / benefits |
|--|--|
| Hybrid switching technology and 2-phase motor control | Minimum power loss and optimized motor control by avoiding DC components |
| Small and compact design | Space-saving, clearly arranged control panel layout |
| TIA integration – communication modules and HMI modules optional | Efficient configuration and maximum flexibility in automation engineering |
| Motor overload and intrinsic device protection without additional wiring | Adjustable trip classes, integrated diagnostic functions |
| Soft Torque | Reduced mechanical loading and optimum pump stop |
| Parameterization using potentiometers | Simple and fast commissioning |
| Wide range for control supply and main voltage | Low variance, high system availability even with weak supply networks |
| Certified according to ATEX/IECEx directive | Suitable for the starting of explosion-proof motors with "increased safety" type of protection |

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

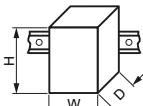
3RW50 soft starters > General data

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/25252/td>
 Equipment Manual, see
<https://support.industry.siemens.com/cs/ww/en/view/109753705>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/25252/faq>
 Simulation Tool for Soft Starters (STS), see page 6/9 or
<https://support.industry.siemens.com/cs/ww/en/view/101494917>

| | | |
|---|---|--|
| Type | 3RW5055 3RW5056 | 3RW5072 3RW5073 3RW5074 3RW5075 3RW5076 3RW5077 |
| Installation/fixing/dimensions | | |
| Width x height x depth |  mm 120 x 198 x 249 | 160 x 230 x 282 |
| Type of mounting | Screw fixing | |
| Mounting position | For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward | |
| Distance to be maintained with side-by-side mounting | | |
| • Above | mm 100 | |
| • At the side | mm 5 | |
| • Below | mm 75 | |
| Maximum installation altitude above sea level ¹⁾ | m 5 000 | |
| Degree of protection IP on the front acc. to IEC 60529 | IP00 (IP20 with cover) | |
| Touch protection on the front acc. to IEC 60529 | Finger-safe for vertical touching from the front with cover | |
| Ambient conditions | | |
| Ambient temperature | | |
| • During operation ²⁾ | °C -25 ... +60 | |
| • During storage and transport | °C -40 ... +80 | |
| Environmental category according to IEC 60721 | | |
| • During operation | 3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 | |
| • During storage | 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4 | |
| • During transport | 2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m) | |
| 1) ¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8. | 2) ²⁾ Note derating above 40 °C. | |
| Type | 3RW50...-..B0. | 3RW50...-..B1. |
| Control circuit/control | | |
| Control supply voltage | | |
| • At AC/DC, rated value | V 24/24 | --/-- |
| • At AC | V -- | 110 ... 250 |
| • Relative negative tolerance/relative positive tolerance with AC | % -20/20 | -15/10 |
| • Relative negative tolerance/relative positive tolerance with DC | % -20/20 | --/-- |
| Frequency of the control supply voltage | Hz 50 ... 60 | |
| • Relative negative tolerance/relative positive tolerance | % -10/10 | |
| Type of overvoltage protection | Varistors | |
| Type of short-circuit protection for control circuit ¹⁾ | Fuse 4 A gG ($I_{cu} = 1$ kA), fuse 6 A quick-response ($I_{cu} = 1$ kA), MCB C1 ($I_{cu} = 600$ A), MCB C6 ($I_{cu} = 300$ A) | |

1) Not included in scope of supply

| | | |
|---|----------------|----------------|
| Type | 3RW50...-..B.4 | 3RW50...-..B.5 |
| Power electronics | | |
| Operational voltage, rated value | V 200 ... 480 | 200 ... 600 |
| • Relative negative tolerance/relative positive tolerance | % -15/10 | |
| Operating frequency, rated value | Hz 50 ... 60 | |
| • Relative negative tolerance/relative positive tolerance | % -10/10 | |
| Minimum load [% of I_M] ¹⁾ | % 15 | |
| Maximum cable length between soft starter and motor | m 800 | |

1) Relative to the smallest adjustable I_e .

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

| Type | 3RW5055 | 3RW5056 |
|--|-------------|-------------|
| Rated operational current I_e | A 143 | 171 |
| Power electronics | | |
| Load rating with rated operational current I_e IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a | 143/128/118 | 171/153/141 |

Permissible rated motor current and starts/h**Normal starting (CLASS 10A)**

| | | | |
|--|-----|-------------|-------------|
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 143/128/118 | 171/153/141 |
| • 300% I_M - Start-up time 5 s | 1/h | 43 | 43 |
| - Start-up time 10 s | 1/h | 18 | 18 |
| • 350% I_M - Start-up time 5 s | 1/h | 28 | 28 |
| - Start-up time 10 s | 1/h | 10 | 9 |

Normal starting (CLASS 10E)

| | | | |
|--|-----|-------------|-------------|
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 143/128/118 | 171/153/141 |
| • 300% I_M - Start-up time 10 s | 1/h | 21 | 21 |
| - Start-up time 20 s | 1/h | 8 | 8 |
| • 350% I_M - Start-up time 10 s | 1/h | 12 | 9 |
| - Start-up time 20 s | 1/h | 4 | -- |

Heavy starting (CLASS 20E)

| | | | |
|--|-----|-----------|-------------|
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 108/98/88 | 135/123/111 |
| • 300% I_M - Start-up time 20 s | 1/h | 10 | 10 |
| - Start-up time 40 s | 1/h | 4 | 4 |
| • 350% I_M - Start-up time 20 s | 1/h | 7 | 7 |
| - Start-up time 40 s | 1/h | 2.5 | 2.5 |

Adjustable rated motor current I_M

| | | | |
|-------------------|---|--------|--------|
| • Minimum/maximum | A | 68/143 | 81/117 |
|-------------------|---|--------|--------|

| Type | 3RW5072 | 3RW5073 | 3RW5074 | 3RW5075 | 3RW5076 | 3RW5077 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Rated operational current I_e | A 210 | 250 | 315 | 370 | 470 | 570 |
| Power electronics | | | | | | |
| Load rating with rated operational current I_e IEC + UL/CSA, individual mounting at 40/50/60 °C, A AC-53a | 210/186/170 | 250/220/200 | 315/279/255 | 370/328/300 | 470/416/380 | 570/504/460 |
| Permissible rated motor current and starts/h | | | | | | |
| Normal starting (CLASS 10A) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 210/186/170 | 250/220/200 | 315/279/255 | 370/328/300 | 470/416/380 |
| • 300% I_M - Start-up time 5 s | 1/h | 43 | 43 | 43 | 43 | 28 |
| - Start-up time 10 s | 1/h | 18 | 18 | 18 | 18 | 11 |
| • 350% I_M - Start-up time 5 s | 1/h | 28 | 28 | 28 | 28 | 16 |
| - Start-up time 10 s | 1/h | 8 | 10 | 10 | 10 | 4 |
| Normal starting (CLASS 10E) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 210/186/170 | 250/220/200 | 315/279/255 | 370/328/300 | 470/416/380 |
| • 300% I_M - Start-up time 10 s | 1/h | 21 | 21 | 21 | 20 | 21 |
| - Start-up time 20 s | 1/h | 8 | 8 | 8 | 7 | 8 |
| • 350% I_M - Start-up time 10 s | 1/h | 8 | 13 | 12 | 12 | 13 |
| - Start-up time 20 s | 1/h | -- | 4 | 4 | 2 | 4 |
| Heavy starting (CLASS 20E) | | | | | | |
| Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated | A | 162/146/130 | 200/180/160 | 219/195/171 | 258/230/202 | 272/254/218 |
| • 300% I_M - Start-up time 20 s | 1/h | 10 | 10 | 10 | 10 | 10 |
| - Start-up time 40 s | 1/h | 4 | 4 | 4 | 4 | 4 |
| • 350% I_M - Start-up time 20 s | 1/h | 7 | 7 | 7 | 7 | 7 |
| - Start-up time 40 s | 1/h | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Adjustable rated motor current I_M | | | | | | |
| • Minimum/maximum | A | 90/210 | 100/250 | 135/315 | 160/370 | 200/470 |
| | | | | | | 240/570 |

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

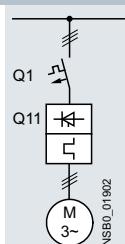
3RW50 soft starters > General data

Motor feeders according to IEC with 3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10,
short-circuit breaking capacity I_q in kA, [see table](#)

Note:

For general recommendations for constructing motor feeders
with soft starters, [see page 6/11](#).



| Soft starters | Motor starter protectors | | | |
|--------------------------|--------------------------|-------------|--------------------|-------------|
| | for 400 V systems | | for 500 V systems | |
| Type | Q1 | I_q kA | Type | I_q kA |
| Type of coordination "1" | Inline circuit | | | |
| 3RW5055 | 3VA2220-7MN32-0AA0 | 20 | 3VA2220-7MN32-0AA0 | 20 |
| 3RW5056 | 3VA2220-7MN32-0AA0 | 20 | 3VA2220-7MN32-0AA0 | 20 |
| 3RW5072 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 |
| 3RW5073 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 |
| 3RW5074 | 3VA2440-7MN32-0AA0 | 65 | 3VA2440-7MN32-0AA0 | 65 |
| 3RW5075 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 |
| 3RW5076 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 |
| 3RW5077 | 3VA2580-6HN32-0AA0 | 65 | 3VA2580-6HN32-0AA0 | 65 |

Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified circuit breakers; the specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

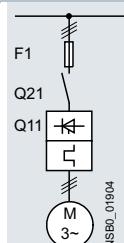
3RW50 soft starters > General data***Motor feeders according to IEC with 3NA3 fuses***

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1",
short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/11.



| Soft starters | gG class fuse | Line contactor (optional) | |
|---------------------------------|------------------------------------|---------------------------|-------------------------|
| | for systems up to 600 V | for systems up to 480 V | for systems up to 600 V |
| Q11 | F1 | Q21 | Q21 |
| Type | Type | Type | Type |
| Type of coordination "1" | TcC 1 Inline circuit | | |
| 3RW5055 | 3NA3244-6 | 3RT1055 | 3RT1055 |
| 3RW5056 | 3NA3244-6 | 3RT1056 | 3RT1064 |
| 3RW5072 | 2 x 3NA3354-6 | 3RT1064 | 3RT1064 |
| 3RW5073 | 2 x 3NA3354-6 | 3RT1065 | 3RT1065 |
| 3RW5074 | 2 x 3NA3365-6 | 3RT1075 | 3RT1075 |
| 3RW5075 | 2 x 3NA3365-6 | 3RT1075 | 3RT1075 |
| 3RW5076 | 2 x 3NA3365-6 | 3RT1076 | 3RT1076 |
| 3RW5077 | 2 x 3NA3365-6 | 3TF68 | 3TF68 |

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

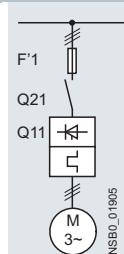
Motor feeders according to IEC with 3NE1 SITOR fuses

gR class full-range fuses for semiconductor protection, cable and line protection

Type of coordination "2", short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/11.



| Soft starters | gR class fuse | Line contactor (optional) | |
|---------------------------------|-------------------------------|--------------------------------|--------------------------------|
| Q11 | for systems up to 600 V F1 | for systems up to 480 V Q21 | for systems up to 600 V Q21 |
| Type | Type | Type | Type |
| Type of coordination "2" | Inline circuit | | |
| 3RW5055 | 3NE1227-0 | 3RT1055 | 3RT1055 |
| 3RW5056 | 3NE1230-0 | 3RT1056 | 3RT1064 |
| 3RW5072 | 3NE1230-2 | 3RT1064 | 3RT1064 |
| 3RW5073 | 3NE1331-0 | 3RT1065 | 3RT1065 |
| 3RW5074 | 3NE1333-2 | 3RT1075 | 3RT1075 |
| 3RW5075 | 3NE1334-2 | 3RT1075 | 3RT1075 |
| 3RW5076 | 3NE1436-2 | 3RT1076 | 3RT1076 |
| 3RW5077 | 3NE1437-2 | 3TF68 | 3TF68 |

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters
Basic Performance soft starters

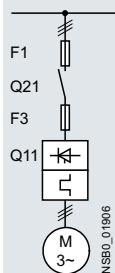
3RW50 soft starters > General data**Motor feeders according to IEC with 3NE3 fuses**

aR class partial-range fuses for semiconductor protection

Type of coordination "2",
short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, [see page 6/11](#).



| Soft starters | gG class fuse for systems up to 600 V | aR class fuse for systems up to 600 V | Line contactor (optional) | |
|---------------------------------|---|---|--|--|
| Q11 Type | F1 Type | F3 Type | for systems up to 480 V Q21 Type | for systems up to 600 V Q21 Type |
| Type of coordination "2" | | | | |
| 3RW5055 | 3NA3244-6 | 3NE3334-0B | 3RT1055 | 3RT1055 |
| 3RW5056 | 3NA3244-6 | 3NE3335 | 3RT1056 | 3RT1064 |
| 3RW5072 | 2 x 3NA3354-6 | 3NE3333 | 3RT1064 | 3RT1064 |
| 3RW5073 | 2 x 3NA3354-6 | 3NE3335 | 3RT1065 | 3RT1065 |
| 3RW5074 | 2 x 3NA3365-6 | 3NE3335 | 3RT1075 | 3RT1075 |
| 3RW5075 | 2 x 3NA3365-6 | 3NE3336 | 3RT1075 | 3RT1075 |
| 3RW5076 | 2 x 3NA3365-6 | 3NE3340-8 | 3RT1076 | 3RT1076 |
| 3RW5077 | 2 x 3NA3365-6 | 3NE3340-8 | 3TF68 | 3TF68 |

Note:

The specified short-circuit breaking capacities I_q in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the gG class full-range fuses for cable and line protection 3NA3 (F1), 3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity ([see page 6/76](#)). In these cases, optional line contactors can be dispensed with.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > Inline circuit IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10E)



3RW5055



3RW5075

| Operational current | At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | Size | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG | | | | | | |
|--|--|------------|----------|---------------------|-----|-----|---|----|-----|----|----------------------|------------------|-------------|--------------|-------------------|-----|----|--|--|--|--|--|--|
| | Operating power for three-phase motors | | | Operational current | | | At 200/208 V At 220/230 V At 460/480 V At 575/600 V | | | | | | | | | | | | | | | | |
| | At 230 V | At 400 V | At 500 V | A | kW | kW | kW | A | hp | hp | hp | | | | | | | | | | | | |
| Operational voltage 200 ... 480 V | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | 37 | 75 | -- | 128 | 40 | 40 | 100 | -- | S6 | 5 | 3RW5055-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 171 | 45 | 90 | -- | 153 | 50 | 50 | 100 | -- | S6 | 5 | 3RW5056-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 210 | 55 | 110 | -- | 186 | 60 | 60 | 150 | -- | S12 | 5 | 3RW5072-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 250 | 75 | 132 | -- | 220 | 60 | 75 | 150 | -- | S12 | 5 | 3RW5073-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 315 | 90 | 160 | -- | 279 | 75 | 100 | 200 | -- | S12 | 5 | 3RW5074-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 370 | 110 | 200 | -- | 328 | 100 | 125 | 250 | -- | S12 | 5 | 3RW5075-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 470 | 132 | 250 | -- | 416 | 150 | 150 | 350 | -- | S12 | 5 | 3RW5076-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |
| 570 | 160 | 315 | -- | 504 | 150 | 200 | 400 | -- | S12 | 5 | 3RW5077-□□B□4 | | 1 | 1 unit | 42S | | | | | | | | |

Type of electrical connection for the control circuit

Spring-loaded terminals
Screw terminals

Product function

Analog output
Thermistor motor protection

Control supply voltage

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



¹⁾ 3RW50 soft starter with screw terminals for operational voltage up to 480 V:
Standard delivery time SD = 1 day (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

| Operational current | At 40 °C | | | At 50 °C | | | Rating [hp] for three-phase motors | | | | Size | SD ¹⁾ | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG | | | | | | |
|--|--|------------|----------|---------------------|-----|-----|---|-----|-----|----|----------------------|------------------|-------------|--------------|-------------------|-----|----|--|--|--|--|--|--|
| | Operating power for three-phase motors | | | Operational current | | | At 200/208 V At 220/230 V At 460/480 V At 575/600 V | | | | | | | | | | | | | | | | |
| | At 230 V | At 400 V | At 500 V | A | kW | kW | kW | A | hp | hp | hp | | | | | | | | | | | | |
| Operational voltage 200 ... 600 V | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | 37 | 75 | 90 | 128 | 40 | 40 | 100 | 125 | S6 | 5 | 3RW5055-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 171 | 45 | 90 | 110 | 153 | 50 | 50 | 100 | 150 | S6 | 5 | 3RW5056-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 210 | 55 | 110 | 132 | 186 | 60 | 60 | 150 | 150 | S12 | 5 | 3RW5072-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 250 | 75 | 132 | 160 | 220 | 60 | 75 | 150 | 200 | S12 | 5 | 3RW5073-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 315 | 90 | 160 | 200 | 279 | 75 | 100 | 200 | 250 | S12 | 5 | 3RW5074-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 370 | 110 | 200 | 250 | 328 | 100 | 125 | 250 | 300 | S12 | 5 | 3RW5075-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 470 | 132 | 250 | 315 | 416 | 150 | 150 | 350 | 450 | S12 | 2 | 3RW5076-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |
| 570 | 160 | 315 | 355 | 504 | 150 | 200 | 400 | 500 | S12 | 5 | 3RW5077-□□B□5 | | 1 | 1 unit | 42S | | | | | | | | |



Type of electrical connection for the control circuit

Spring-loaded terminals
Screw terminals

Product function

Analog output
Thermistor motor protection

Control supply voltage

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

¹⁾ 3RW50 soft starter with screw terminals for operational voltage up to 600 V:
Standard delivery time SD = 2 days (d).

Note:

For the constraints for the motor outputs specified here,
see page 6/8.

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > Accessories**Selection and ordering data**

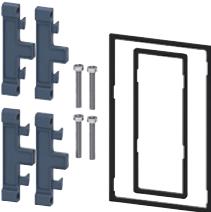
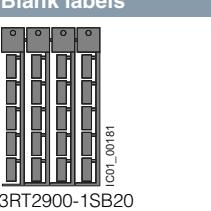
| Product designation | Manufacturer's Article No. of the soft starter | Type of product | Application | SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|--|-----------------|--|----|---|--------------|-------------------|--------|-----|
| | | | | d | | | | | |
| Fan covers | | | | | | | | | |
|  | Fan cover 3RW5985-0FC00 | 3RW50 (1x) | -- | -- | ► 3RW5985-0FC00 | 1 | 1 unit | 42S | |
| Box terminal block | | | | | | | | | |
|  | Box terminal block for round and ribbon cables 3RT1956-4G | 3RW505 (2x) | Up to 70 mm ² Up to 120 mm ² | -- | ► 3RT1955-4G 3RT1956-4G | 1 | 1 unit | 41B | |
| | | 3RW507 (2x) | Up to 240 mm ² (with auxiliary conductor connection) | -- | ► 3RT1966-4G | 1 | 1 unit | 41B | |
| Terminal covers | | | | | | | | | |
|  | Covers for box terminals 3RT1956-4EA2 | 3RW505 (2x) | -- | -- | ► 3RT1956-4EA2 | 1 | 1 unit | 41B | |
| | | 3RW507 (2x) | -- | -- | 5 | 3RT1966-4EA2 | 1 | 1 unit | 41B |
|  | Covers for cable lugs and busbar connections 3RT1956-4EA1 | 3RW505 (2x) | -- | -- | ► 3RT1956-4EA1 | 1 | 1 unit | 41B | |
| | | 3RW507 (2x) | -- | -- | 5 | 3RT1966-4EA1 | 1 | 1 unit | 41B |
| Communication modules | | | | | | | | | |
|  | Communication module 3RW5980-0CS00 | 3RW50 | PROFINET Standard PROFIBUS EtherNet/IP Modbus RTU Modbus TCP | -- | ► 3RW5980-0CS00 3RW5980-0CP00 3RW5980-0CE00 3RW5980-0CR00 3RW5980-OCT00 | 1 | 1 unit | 42S | |
|  | COM connecting cable For mounting laterally on the device 3RW5900-0CC00 | 3RW50 | 0.3 m, round | -- | ► 3RW5900-0CC00 | 1 | 1 unit | 42S | |

Switching devices – Soft starters and solid-state switching devices

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > Accessories

| | Product designation | Manufacturer's Article No. of the soft starter | Type of product | Application SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG | |
|---|---|--|--|---|--|----------------------|-------------------|--------|-----------|-----|
| HMI modules | | | | | | | | | | |
|  | HMI module | 3RW50 | High Feature | -- | ► 3RW5980-0HF00 | | 1 | 1 unit | 42S | |
| 3RW5980-0HF00 | | | | | | | | | | |
|  | | | Standard | -- | ► 3RW5980-0HS00 | | 1 | 1 unit | 42S | |
| 3RW5980-0HS00 | | | | | | | | | | |
|  | IP65 door mounting kit for HMI modules | 3RW50 | IP65 | For HMI modules | ► 3RW5980-0HD00 | | 1 | 1 unit | 42S | |
| 3RW5980-0HD00 | | | | | | | | | | |
| Connecting cables | | | | | | | | | | |
|  | HMI connecting cable | 3RW50 | 5 m, round 2.5 m, round 1.0 m, round 0.5 m, round | For door mounting | ► 3RW5980-0HC60 ► 3UF7933-0BA00-0 ► 3UF7937-0BA00-0 ► 3UF7932-0BA00-0 | | 1 | 1 unit | 42S | |
| 3UF7933-0BA00-0 | | | | | | | 1 | 1 unit | 42J | |
| | | | | | | | 1 | 1 unit | 42J | |
| | | | | | | | 1 | 1 unit | 42J | |
| Further accessories | | | | | | | | | | |
|  | Push-in lugs for wall mounting | -- | Two lugs are required per device | For HMI modules and communication modules | 2 | 3ZY1311-0AA00 | | 1 | 10 units | 41L |
| 3ZY1311-0AA00 | | | | | | | | | | |
| Blank labels | | | | | | | | | | |
|  | Unit labeling plates¹⁾ | -- | 20 mm x 7 mm, titanium gray | For SIRIUS devices | 20 | 3RT2900-1SB20 | | 100 | 340 units | 41B |
| 3RT2900-1SB20 | | | | | | | | | | |

¹⁾ PC labeling systems for individual inscription of unit labeling plates are available from: murplastik Systemtechnik GmbH (see page 16/16).