Switching Devices – Contactors and Contactor Assemblies – for Switching Motors

Introduction

~





| Size Type | | S2 3RT203 | | | | S3 3RT204 | | | |
|--|--------------------|---|---------------------------|-------------------|---------------------------------|------------------------------|------------------------------|-------------------|---------------------------------|
| 3RT20 contactors | | | | | | | | | |
| Type AC, DC operation | | 3RT2035 (p. 3/57, 3/66 | 3RT2036 | 3RT2037 | 3RT2038 | 3RT2045 (p. 3/58, 3/6 | 3RT2046 6, 3/69) | 3RT2047 | |
| AC-3 | | M I I I I | | | | M · · · · | | | |
| <i>I</i> _e /AC-3/400 ∨ | А | 40 | 50 | 65 | 80 | 80 | 95 | 110 | |
| 400 V | kW | 18.5 | 22 | 30 | 37 | 37 | 45 | 55 | |
| 230 V 690 V | kW kW | 11 22 | 15 22 | 18.5 37 | 22 45 | 22 55 | 22 75 | 30 90 | |
| 1 000 V | kW | | | | | 37 | 37 | 90 37 | |
| AC-4 (at $I_a = 6 \times I_e$) | | | | | | 1 | | | |
| 400 V 400 V (200 000 operating cycle | kW s) kW | 18.5 11.6 | 22 12.6 | 30 14.7 | 37 15.8 | 37 17.9 | 45 22 | 55 24.3 | |
| AC-1 (40 °C, ≤ 690 V) | | 1 | | | | | | | |
| Ie | Α | 60 | 70 | 80 | 90 | 125 | 130 | 130 | |
| Accessories for contactor | ſS | | | | | | | | |
| Auxiliary • On front switches • Lateral | | 3RH29, 3RA28 (p. 3/93 3/100) 3RH29 (p. 3/97) | | | 3RH29, 3RA28 3RH29 | | (p. 3/93 3/100) (p. 3/97) | | |
| Function modules• Direct-on-line • IO-Link, AS-In | | 3RA283. 3RA271AA | 00 | | (p. 3/105) (p. 3/106, 3/107) | 3RA283. 3RA271A | A00 | | (p. 3/105) (p. 3/106, 3/107) |
| Surge suppressors | | 3RT2936 | | | (p. 3/102, 3/103) | 3RT2936 ¹⁾ , | 3RT2946 | | (p. 3/102, 3/103) |
| Terminal covers | | 3RT2936-4E | A2 | | (p. 3/117) | 3RT2946-4E | A2 | | (p. 3/117) |
| 3RU2 and 3RB overload r | elays | | | | | | | | |
| 3RU thermal overload relays | | 3RU2136 | 11 80 A | | (p. 7/93) | 3RU2146 | 28 100 A | | (p. 7/93) |
| 3RB electronic overload relay | s | | | | | | | | |
| For standard applications | | 3RB3036, 3RB3133 | 12.5 80 A | (p | o. 7/105 7/107) | 3RB3046, 3RB3143 | 12.5 115 A | (| (p. 7/105 7/107) |
| For High-Feature applications | | 3RB22, 3RB with current | 23 and 3RB24 measuring | | (p. 7/128, 7/136) | | 23 and 3RB24 t measuring | | (p. 7/128, 7/136) |
| | | module 3RB | | | (p. 7/140) | module 3RE | | | (p. 7/140) |
| 3RV20 motor starter prote | ectors | | | | | | | | |
| Motor starter protectors | | 3RV2031, 3F | V2032 | 9.5 80 A | (p. 7/30) | 3RV2041, 3 | RV2042 | 28 100 A | A (p. 7/30) |
| Link modules | | 3RA2931 | | | (p. 7/56) | 3RA1941 | | | (p. 7/56) |
| 3RA23 reversing contacto | or asser | nblies | | | | 1 | | | |
| Complete units | Туре | 3RA2335 (p. 3/154) | 3RA2336 | 3RA2337 | 3RA2338 | 3RA2345 (p. 3/155) | 3RA2346 | 3RA2347 | |
| 400 V | kW | 18.5 | 22 | 30 | 37 | 37 | 45 | 55 | |
| Assembly kits/wiring modules | 5 | 3RA2933-2A | Α. | | (p. 3/109) | 3RA2943-2 | λ Α. | | (p. 3/109) |
| Function modules 3 | | 3RA271BA00 (p. 3/106) | | | 6) 3RA271BA00 (p. 3 | | | (p. 3/106) | |
| Mechanical interlocks | | 3RA2934-2B | | | (p. 3/113) | 3RA2934-2E | 3 | | (p. 3/113) |
| 3RA24 contactor assemble | lies for | star-delta (v | vye-delta) sta | arting | | | | | |
| Complete units | Туре | 3RA2434 (p. 3/171) | 3RA2435 | 3RA2436 | 3RA2437 | 3RA2444 (p. 3/172) | 3RA2445 | 3RA2446 | |
| 400 V | kW | 22/30 | 37 | 45 | 55 | 55 | 75 | 90 | |
| Assembly kits/wiring modules | | | | (p. 3/110) | | | | (p. 3/110) | |
| Function modules | | 3RA271CA | 00 | | (p. 3/106) | 3RA271C | A00 | | (p. 3/106) |
| From product version E03 on can be used for 3RT2.4 conta | | | | | lote: | 1 | | | |

¹⁾ From product version E03 onwards, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

General data

Overview

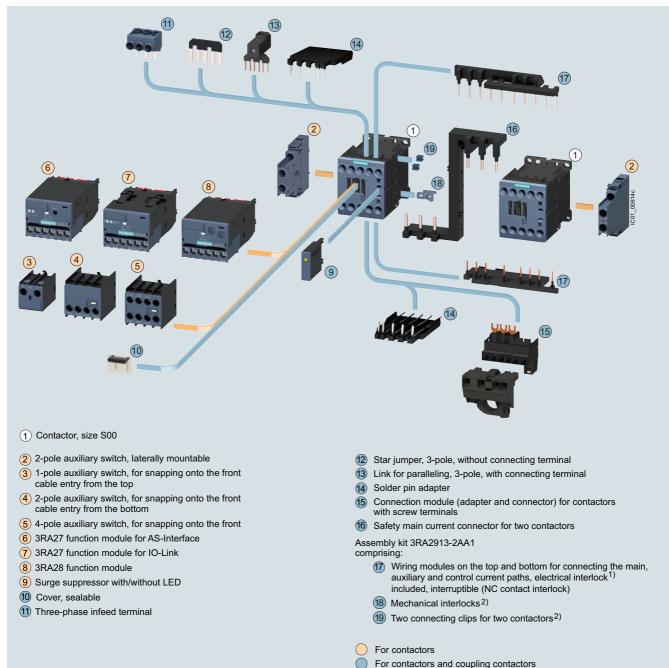
m

The SIRIUS family of controls

The SIRIUS modular system with its components for the switching, starting, protection and monitoring of motors and industrial systems stands for the fast, flexible and space-saving construction of control cabinets.

3RT2.1 contactors · Size S00 with mountable accessories

The figure shows the version with screw terminals



- 1) 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.
- ²⁾ The parts 18 and 19 can only be ordered together as 3RA2912-2H mechanical connectors.

Accessories and spare parts, see pages 3/75 to 3/124.

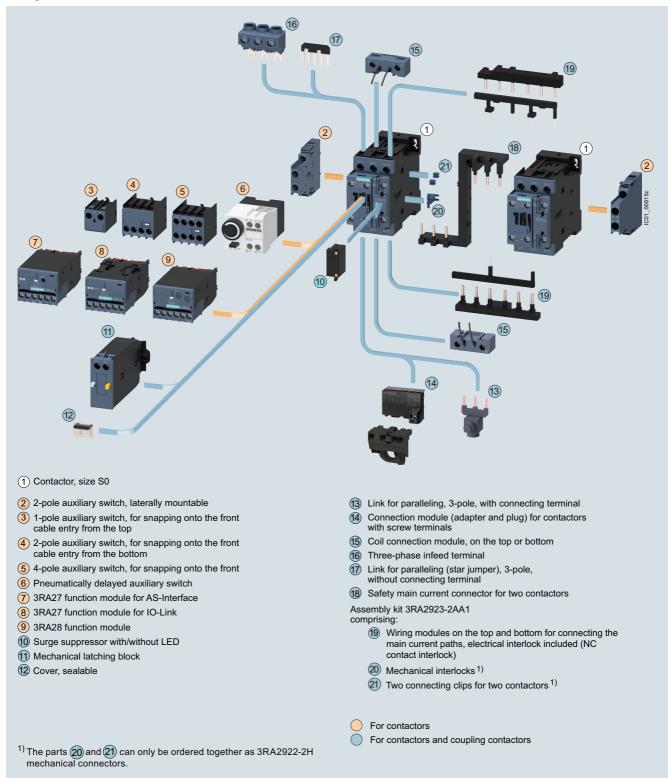
3/8 Siemens IC 10 · 2020

Power Contactors for Switching Motors

General data

3RT2.2 contactors · Size S0 with mountable accessories

The figure shows the version with screw terminals



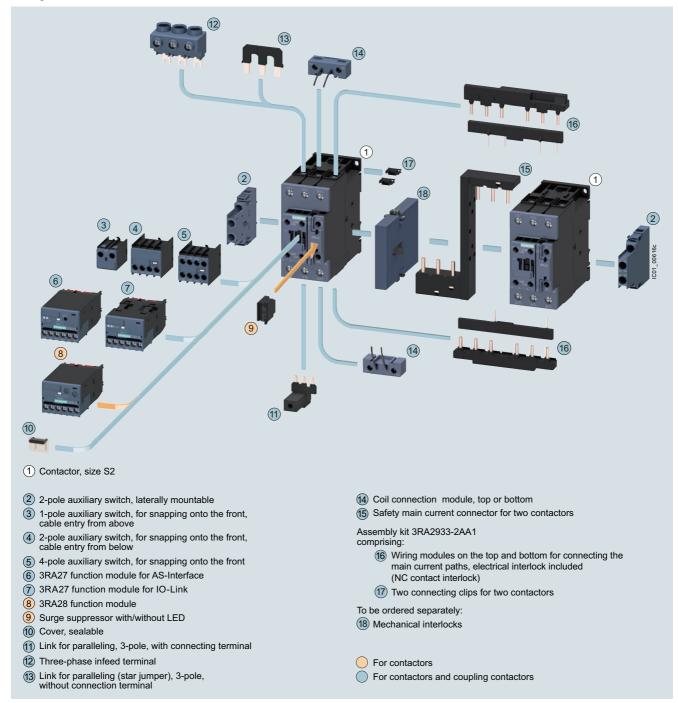
Accessories and spare parts, see pages 3/75 to 3/124.

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

General data

3RT2.3 contactors · Size S2 with mountable accessories

The figure shows the version with screw terminals



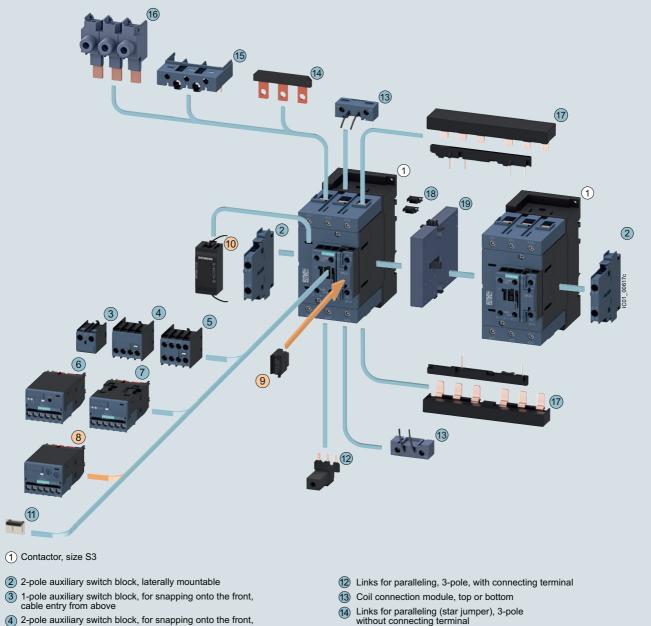
Accessories and spare parts, see pages 3/75 to 3/124.

Power Contactors for Switching Motors

General data

3RT2.4 contactors · Size S3 with mountable accessories

The figure shows the version with screw terminals



- (4) 2-pole auxiliary switch block, for snapping onto the front, cable entry from below
- (5) 4-pole auxiliary switch block, for snapping onto the front
- 6 3RA27 function module for AS-Interface
- (7) 3RA27 function module for IO-Link
- 8 3RA28 function module
- (9) Surge suppressor with/without LED
- (Varistor, diode assembly), can be plugged in on the front
- Surge suppressor without LED (RC element), can be plugged in on the front in the recesses on the left next to the connection block
- 1 Cover, sealable
- ¹⁾ 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

- 15 Auxiliary terminal, 3-pole
- 16 Single-phase infeed terminals (3 units)

Assembly kit 3RA2943-2AA1

comprising:

- 17 Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock1) included, interruptible (NC contact interlock)
- (18) Two connectors for two contactors

To be ordered separately:

(19) Mechanical interlock

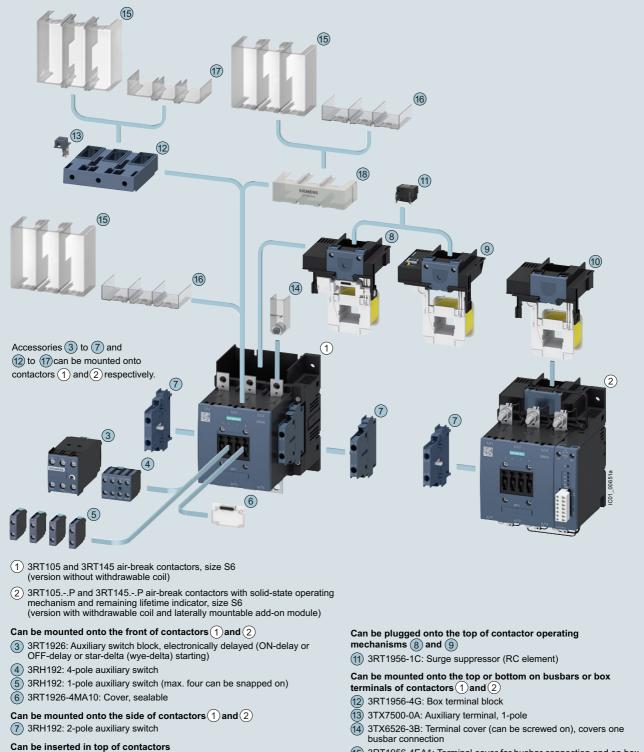
For contactors

For contactors and coupling contactors

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

General data

3RT105 and 3RT145 contactors · Size S6 with mountable accessories



- (15) 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
- (16) 3RT1956-4EA3: Terminal cover for busbar connection
- (17) 3RT1956-4EA2: Terminal cover on box terminal
- (18) 3RT1956-4EA4: Terminal cover for busbar connection, covers (15), (16) and (18) can be mounted

Accessories and spare parts, see pages 3/75 to 3/124.

(8) 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism

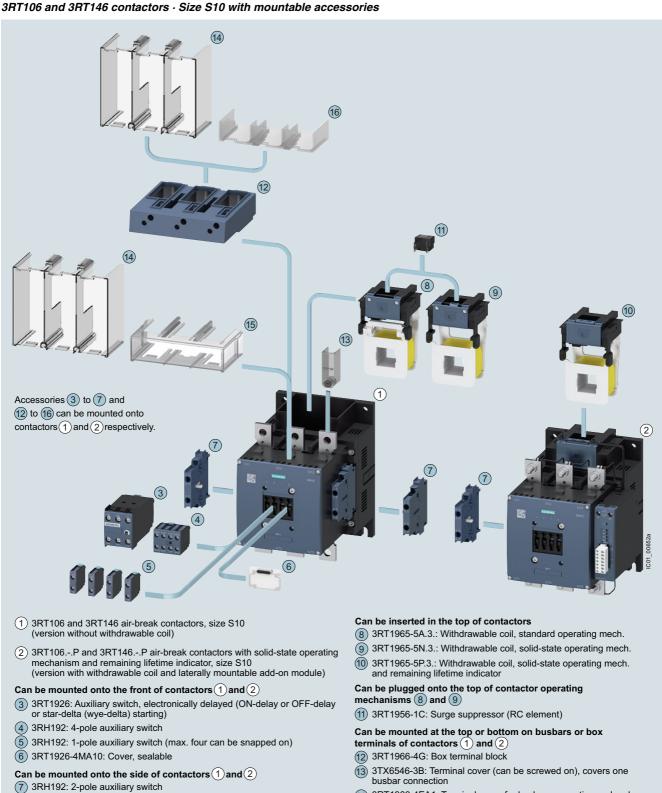
(9) 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism

(10) 3RT1955-5P.3.: Withdrawable coil, solid-state operating mechanism and

remaining lifetime indicator

Power Contactors for Switching Motors

General data



- (4) 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- (15) 3RT1966-4EA3: Terminal cover for busbar connection
- (16) 3RT1966-4EA2: Terminal cover on box terminal

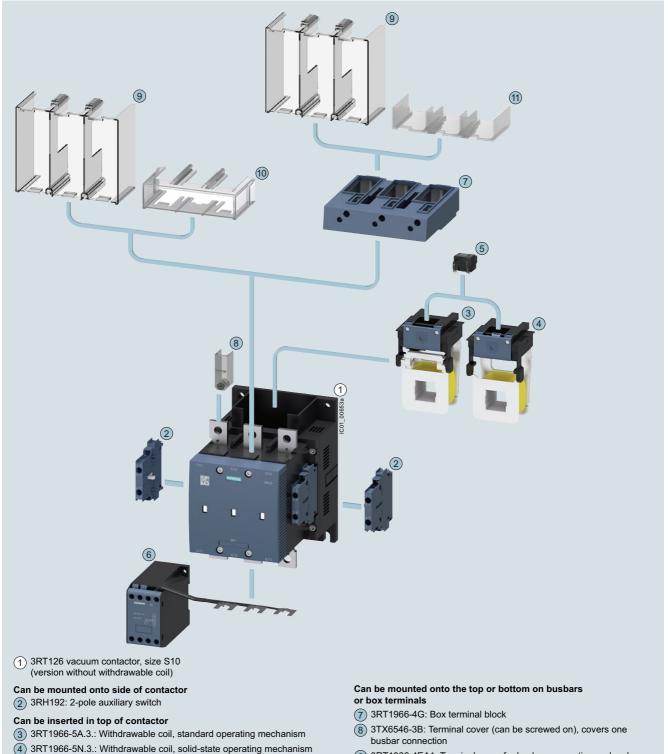
Accessories and spare parts, see pages 3/75 to 3/124.

Siemens IC 10 · 2020 3/13

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

General data

3RT126 vacuum contactors · Size S10 with mountable accessories



- (9) 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- (10) 3RT1966-4EA3: Terminal cover for busbar connection
- (11) 3RT1966-4EA2: Terminal cover on box terminal

3/14 Siemens IC 10 · 2020

3/137 to 3/140.

Can be plugged onto top of contactor operating mechanisms

(6) 3RT1966-1PV.: Main current path surge suppression module

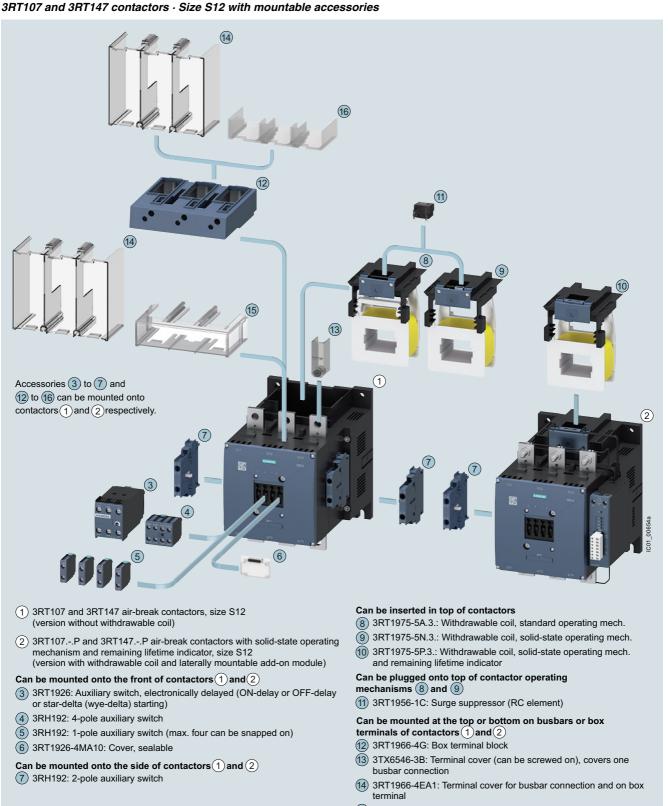
Accessories and spare parts, see pages 3/75 to 3/124 and

(5) 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

Power Contactors for Switching Motors

General data



- 15 3RT1966-4EA3: Terminal cover for busbar connection
- (16) 3RT1966-4EA2: Terminal cover on box terminal

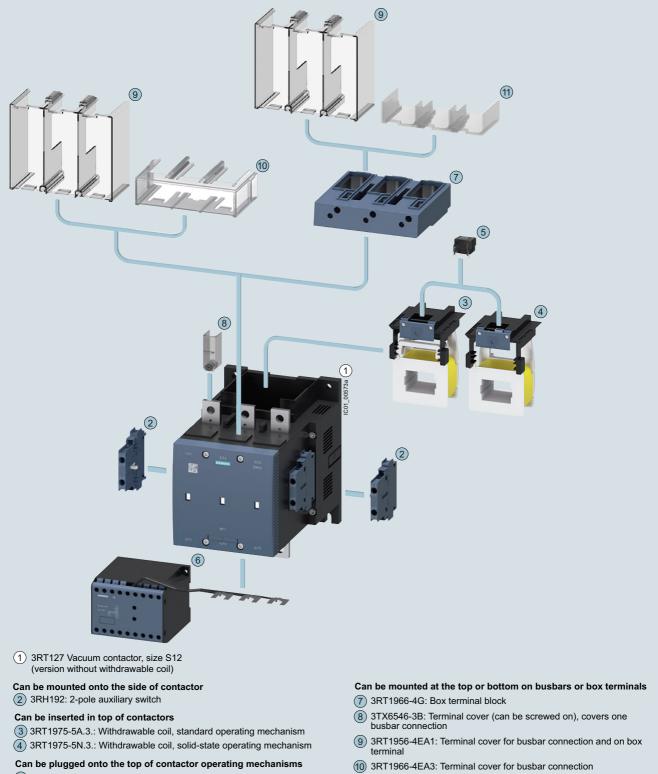
Accessories and spare parts, see pages 3/75 to 3/124.

Siemens IC 10 · 2020

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

General data

3RT127 vacuum contactors · Size S12 with mountable accessories



5 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

(6) 3RT1966-1PV.: Main current path surge suppression module

Accessories and spare parts, see pages 3/75 to 3/124 and 3/137 to 3/140.

(11) 3RT1966-4EA2: Terminal cover on box terminal

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors Power Contactors for Switching Motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

| Version | Size | Ratings of three-phase motors at 50 Hz and 400 V | Connection Screw terminals | methods Spring- loaded terminals | Туре | Page |
|--|----------|---|------------------------------------|---|------------------------------------|--------------|
| Power contactors for switching motors | | | | | | |
| AC operation | | | | | | |
| Basic unit | S00 | 3 7.5 | 1 | 1 | 3RT201A.0. | 3/54 |
| With permanently mounted auxiliary switch With permanently mounted auxiliary switch and varistor plugged into the front | | | √ √ | \$ \$ | 3RT201AP04-3MA0 3RT201CP04-3MA0 | 3/54 3/54 |
| Basic unit | S0 | 4 18.5 | 1 | 1 | 3RT202A.00 | 3/55 |
| With removable auxiliary switch With permanently mounted auxiliary switch and varistor plugged in | | | √ √ | \$ \$ | 3RT202A.04 3RT202CL24-3MA0 | 3/56 3/56 |
| Basic unit | S2 | 18.5 37 | 1 | ✓ | 3RT203A.00 | 3/57 |
| With removable auxiliary switch | | | 1 | | 3RT2031A.04 | 3/57 |
| With permanently mounted auxiliary switch and integrated coil circuit | | | 1 | 1 | 3RT203CL24-3MA0 | 3/57 |
| Basic unit | S3 | 37 55 | 1 | 1 | 3RT20A.00 | 3/58 |
| With removable auxiliary switch | | | <i>√</i> | | 3RT2041A.04 | 3/58 |
| With permanently mounted auxiliary switch and integrated coil circuit | | | 1 | | 3RT2041CL24-3MA0 | 3/58 |
| DC operation | | | | | | |
| Basic unit | S00 | 3 7.5 | 1 | 1 | 3RT201B.4. | 3/59 |
| With integrated coil circuit | | | 1 | 1 | 3RT201B4. | 3/59 |
| With permanently mounted auxiliary switch | | | <i>✓</i> | 1 | 3RT201BB44-3MA0 | 3/60 |
| • With permanently mounted auxiliary switch and integrated coil circuit | | | / | ✓ | 3RT201FB44-3MA0 | 3/60 |
| With voltage tap-off | 0.0 | | 1 | 1 | 3RT201BB40CC0 | 3/60 |
| Basic unit | SO | 4 18.5 | 1 | 1 | 3RT202B.40 | 3/63 |
| With coil circuit plugged into front With removable auxiliary switch | | | | 5 5 | 3RT202B40 3RT202BB44 | 3/63 3/63 |
| • With permanently mounted auxiliary switch and integrated coll circuit | | | <i>s</i> | <i>s</i> | 3RT202B44-3MA0 | 3/64 |
| With voltage tap-off | | | 1 | 1 | 3RT202BB40-0CC0 | 3/64 |
| DC operation for direct control by PLC (coupling re | elays) | | | | | |
| Basic unit | S00 | 3 5.5 | 1 | 1 | 3RT201B4. | 3/61 |
| Basic unit with integrated coil circuit | S00 | 3 5.5 | <i>✓</i> | 1 | 3RT201B4. | 3/61, 3 |
| | S0 | 4 15 | 1 | 1 | 3RT202KB40 | 3/65 |
| | S2 S3 | 18.5 37 37 and 45 | | 1 | 3RT203KB40 3RT204KB40 | 3/66 3/66 |
| AC/DC operation (50/60 Hz AC or DC) | 50 | | • | • | 011204.11040 | 0,00 |
| Basic unit with integrated coil circuit | S0 | 5.5 18.5 | 1 | 1 | 3RT202N.30 | 3/67 |
| Basic unit with integrated coil circuit | S2 | 18.5 37 | ✓ ✓ | · · | 3RT203N.30 | 3/68 |
| With removable auxiliary switch | | | <i>v</i> | | 3RT2031N.34 | 3/68 |
| With permanently mounted auxiliary switch | | | ✓ | 1 | 3RT203NB34-3MA0 | 3/68 |
| With voltage tap-off | | | 1 | 1 | 3RT203NB30-0CC0 | 3/68 |
| Basic unit with integrated coil circuit | S3 | 37 55 | 1 | 1 | 3RT204N.30 | 3/69 |
| With removable auxiliary switch With permanently mounted auxiliary switch | | | √ √ | ✓ | 3RT2041N.34 3RT204NB34-3MA0 | 3/69 3/69 |
| With permanently mounted advinary switch With voltage tap-off | | | v | ✓ ✓ | 3RT204NB30-0CC0 | 3/69 |
| Basic unit with integrated coil circuit Standard operating mechanism with economy circuit for AC and DC operation | S6 S12 | 55 250 | √ ¹⁾ | 1 | 3RT10A.36 | 3/70 |
| Solid-state operating mechanism with the option of control via a separate 24 V DC control signal input | | | | | | |
| Fail-safe control signal input for safety-related applications up to SIL CL 3 | S6 S12 | 55 250 | ✓ ¹⁾ | | 3RT10S.36 | 3/71 |
| Standard control signal input Standard control signal input, with remaining lifetime indicator (RLT) | | | ✓ ¹⁾ ✓ ¹⁾ | ✓ | 3RT10N.36 3RT10P.35 | 3/72 3/72 |

✓ Version possible

Main circuit: Busbar connection (optionally with box terminals),
 Auxiliary/control circuit: Screw terminals or spring-loaded terminals.

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors

Introduction







| | | | | | | 1 10 10 10 10 10 | |
|--|--|-------------------|---------------------------------------|-------------|---------------|----------------------------------|-------------------------------------|
| Size Type | S6 3RT105 | | S10 3RT1.6 | - | | S12 3RT1.7 | |
| 3RT10 contactors · 3RT12 vac | | | 51111.0 | | | 5111.7 | |
| Type AC, DC operation | 3RT1054 3RT1055 (p. 3/70 3/72) | 3RT1056 | 3RT1064 (p. 3/70 3/7 | 3RT1065 | 3RT1066 | 3RT1075 (p. 3/70 3/72) | 3RT1076 |
| Туре | | - | 3RT1264 | 3RT1265 | 3RT1266 | 3RT1275 | 3RT1276 |
| AC-3 | | | (p. 3/134) | | | (p. 3/134) | |
| <i>I_e/AC-3/400</i> V A | 115 150 | 185 | 225 | 265 | 300 | 400 | 500 |
| 400 V kW | 55 75 | 90 | 110 | 132 | 160 | 200 | 250 |
| 230 V kW 690 V 3RT10/3RT12 kW | 37 45 110 132 | 55 160 | 55 200 | 75 250 | 90 250 | 132 400 | 160 400/500 |
| 1 000 V 3RT10/3RT12 kW | 75 90 | 90 | 90/315 | 132/355 | 132/400 | 250/560 | 250/710 |
| AC-4 (at $I_a = 6 \times I_e$) | I | | 1 | | | 1 | |
| 400 V kW | 55 75 | 90 | 110 | 132 | 160 | 200 | 250 |
| 400 V 3RT10/3RT12 kW (200 000 operating cycles) | 29 38 | 45 | 54/78 | 66/93 | 71/112 | 84/140 | 98/161 |
| AC-1 (40 °C, ≤ 690 V) | 1 | | | | | | |
| I _e 3RT10/3RT12 A | 160 185 | 215 | 275/330 | 330 | 330 | 430/610 | 610 |
| 3RT14 AC-1 contactors | | | 1 | | | | |
| Туре | 3RT1456 | (p. 4/15, 4/16) | 3RT1466 | 3RT1467 (p | . 4/15, 4/16) | 3RT1476 | (p. 4/15, 4/16) |
| <i>I</i> _e /AC-1/40 °C/≤ 690 V A | 275 | | 400 | 500 | | 690 | |
| Accessories for contactors | | | | | | | |
| Auxiliary switches • On front • Lateral | 3RH19, 3RT1926 3RH19 | | | | | | (p. 3/96, 3/101) (p. 3/98, 3/99) |
| Surge suppressors | 3RT1956-1C (RC element) | | | | | | (p. 3/103) |
| Terminal covers | 3RT1956-4EA. | (p. 3/117) | 3RT1966-4E | ۹. | | | (p. 3/117) |
| Box terminal blocks | 3RT1955-4G, 3RT1956-4G | (p. 3/115) | 3RT1966-4G | | | | (p. 3/115) |
| 3RB2 overload relays | | | | | | | |
| 3RB electronic overload relays | | | | | | | |
| For standard applications | 3RB2056 50 200 A | (p. 7/117, 7/118) | 3RB2066 | 55 250 A c | or 160 630 | A | (p. 7/117, 7/118) |
| | 3RB2153 50 200 A | | 3RB2163 | 55 250 A c | | | (p. 7/119) |
| For High-Feature applications | 3RB22, 3RB23 and | (p. 7/128) | 3RB22, 3RB2 | 23 and | | | (p. 7/128) |
| | 3RB24 with current measuring | (p. 7/136) | 3RB24 with current | measuring n | nodule | | (p. 7/136) |
| | module 3RB2956-2TH2 | (p. 7/140) | | /H2 | | | (p. 7/140) |
| | 20 200 A | | | 63 630 A | | | |
| 3RV10 molded case motor sta | rter protectors | | 1 | | | | |
| Molded case motor starter protectors | 3RV1063 40 200 A | (p. 7/75) | 3RV1073 | 160 400 A | (p. 7/75) | 3RV1083 252 | . 630 A (p. 7/75) |
| Reversing contactor assembli | es ¹⁾ | | | | | | |
| Complete units Type | 1 | | | | | | |
| 400 V kW | 55 75 | 90 | 110 | 132 | 160 | 200 | 250 |
| Assembly kits/wiring modules | 3RA1953-2A | (p. 3/109) | 3RA1963-2A | | (p. 3/109) | 3RA1973-2A | (p. 3/109) |
| Mechanical interlocks | 3RA1954-2A | (p. 3/113) | | | | L | |
| Contactor assemblies for star | -delta (wye-delta) startin | 19 ¹⁾ | | | | | |
| Complete units Type | | | | | | | |
| 400 V kW | | | | | | | |
| Assembly kits/wiring modules | 3RA1953-2B | (p. 3/111) | 3RA1963-2B | | (p. 3/111) | 3RA1973-2B | (p. 3/111) |
| Contactor assemblies for custome Reversing contactor assemblies, Contactor assemblies for star-del to 3/179. | see pages 3/157 to 3/159, | ages 3/174 Sa | ote: afety charac oprovals", pa | | - contactor | s, see "Standa | rds and |

M

Siemens IC 10 · 2020

Switching Devices – Contactors and Contactor Assemblies – for Switching Motors

Introduction



| | | ١. |
|--|--|----|
| | | |
| | | |
| | | |

| Size | | 14 | | | |
|---|-----------------------------|---|-------------------|---|-------------------|
| Туре | | 3TF6 | | | |
| 3TF68/3TF69 vacuum co | ontact | ors | | | |
| Туре | | 3TF68 | | 3TF69 | |
| | | (p. 3/135, 3/136) | | (p. 3/135, 3/136) | |
| AC-3 | | | | | |
| I _e /AC-3/400 V | А | 630 | | 820 | |
| 400 V 230 V 690 V 1 000 V | kW kW kW kW | 335 200 600 600 | | 450 260 800 800 | |
| AC-4 (at $I_a = 6 \times I_e$) | | | | | |
| 400 V 400 V (200 000 operating cycles) | kW kW | 355 168 | | 400 191 | |
| AC-1 (40 °C, ≤ 690 V) | | | | | |
| Ie | Α | 700 | | 910 | |
| Accessories for contact | ors | | | | |
| Auxiliary switches | | | | | |
| Lateral | | 3TY7561 | | | (p. 3/137) |
| Surge suppressors | | 3TX7572 | | | (p. 3/138) |
| Terminal covers | | 3TX7686, 3TX7696 | | | (p. 3/138) |
| 3RB2 overload relays | | | | | |
| 3RB electronic overload rela | ays | | | | |
| For standard applications | - | 3RB2066, 55 250 A | (p. 7/117, 7/118) | 3RB22, 3RB23 and 3RB24 | (p. 7/128, 7/136) |
| | | 3RB2163 or 160 630 A | (p. 7/119) | with current measuring module 3RB2906-2.G1 | (p. 7/140) |
| For High-Feature applicatio | ns | | (p. 7/128, 7/136) | with 3UF series transformer | (p. 7/140) |
| i or riight oataro apphoato | 110 | with current measuring module 3RB2966-2WH2 | (p. 7/140) | up to 820 A | |
| | | 63 630 A | | 63 820 A | |
| 3RV10 molded case mot | tor sta | rter protectors | | | |
| Molded case motor starter protectors | | 3RV1083 252 630 A | | | (p. 7/75) |
| Reversing contactor ass | sembl | es | | | |
| Complete units | Туре | | | | |
| 400 V | kW | 335 | | | |
| Assembly kits/wiring modul | les | 3TX7680-1A | | | (Industry Mall) |
| Mechanical interlocks | | 3TX7686-1A | | | (Industry Mall) |
| Contactor assemblies for | or star | -delta (wye-delta) starting | | | |
| Complete units | Туре | - | | | |
| 400 V | kW | 630 | | | |
| Assembly kits/wiring modul | les | 3TX7680-1B | | | (Industry Mall) |
| Note: | | | | | |
| | | | | | |
| Safety characteristics for approvals" page 16/6 | conta | ctors, see "Standards and | | | |

approvals", page 16/6.