



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 230 V AC, 50 Hz, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, removable auxiliary switch

|                          |                 |
|--------------------------|-----------------|
| product brand name       | SIRIUS          |
| product designation      | Power contactor |
| product type designation | 3RT2            |

### General technical data

|                                                                                                       |                            |
|-------------------------------------------------------------------------------------------------------|----------------------------|
| size of contactor                                                                                     | S0                         |
| product extension                                                                                     |                            |
| • function module for communication                                                                   | No                         |
| • auxiliary switch                                                                                    | No                         |
| power loss [W] for rated value of the current                                                         |                            |
| • at AC in hot operating state                                                                        | 6.3 W                      |
| • at AC in hot operating state per pole                                                               | 2.3 W                      |
| • without load current share typical                                                                  | 9.8 W                      |
| insulation voltage                                                                                    |                            |
| • of main circuit with degree of pollution 3 rated value                                              | 690 V                      |
| • of auxiliary circuit with degree of pollution 3 rated value                                         | 690 V                      |
| surge voltage resistance                                                                              |                            |
| • of main circuit rated value                                                                         | 6 kV                       |
| • of auxiliary circuit rated value                                                                    | 6 kV                       |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 400 V                      |
| shock resistance at rectangular impulse                                                               |                            |
| • at AC                                                                                               | 8,3g / 5 ms, 5,3g / 10 ms  |
| shock resistance with sine pulse                                                                      |                            |
| • at AC                                                                                               | 13,5g / 5 ms, 8,3g / 10 ms |
| mechanical service life (operating cycles)                                                            |                            |
| • of contactor typical                                                                                | 10 000 000                 |
| • of the contactor with added electronically optimized auxiliary switch block typical                 | 5 000 000                  |
| • of the contactor with added auxiliary switch block typical                                          | 10 000 000                 |
| reference code according to IEC 81346-2                                                               | Q                          |
| Substance Prohibitance (Date)                                                                         | 10/01/2009                 |

### Ambient conditions

|                                                                |                |
|----------------------------------------------------------------|----------------|
| installation altitude at height above sea level maximum        | 2 000 m        |
| ambient temperature                                            |                |
| • during operation                                             | -25 ... +60 °C |
| • during storage                                               | -55 ... +80 °C |
| relative humidity minimum                                      | 10 %           |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 %           |

### Main circuit

|                                                                        |                    |
|------------------------------------------------------------------------|--------------------|
| <b>number of poles for main current circuit</b>                        | 3                  |
| <b>number of NO contacts for main contacts</b>                         | 3                  |
| <b>operating voltage</b>                                               |                    |
| • at AC-3 rated value maximum                                          | 690 V              |
| • at AC-3e rated value maximum                                         | 690 V              |
| <b>operational current</b>                                             |                    |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value            | 50 A               |
| • at AC-1                                                              |                    |
| — up to 690 V at ambient temperature 40 °C rated value                 | 50 A               |
| — up to 690 V at ambient temperature 60 °C rated value                 | 42 A               |
| • at AC-3                                                              |                    |
| — at 400 V rated value                                                 | 32 A               |
| — at 500 V rated value                                                 | 32 A               |
| — at 690 V rated value                                                 | 21 A               |
| • at AC-3e                                                             |                    |
| — at 400 V rated value                                                 | 32 A               |
| — at 500 V rated value                                                 | 32 A               |
| — at 690 V rated value                                                 | 21 A               |
| • at AC-4 at 400 V rated value                                         | 22 A               |
| • at AC-5a up to 690 V rated value                                     | 44 A               |
| • at AC-5b up to 400 V rated value                                     | 26.5 A             |
| • at AC-6a                                                             |                    |
| — up to 230 V for current peak value n=20 rated value                  | 30.8 A             |
| — up to 400 V for current peak value n=20 rated value                  | 30.8 A             |
| — up to 500 V for current peak value n=20 rated value                  | 27 A               |
| — up to 690 V for current peak value n=20 rated value                  | 21 A               |
| • at AC-6a                                                             |                    |
| — up to 230 V for current peak value n=30 rated value                  | 20.5 A             |
| — up to 400 V for current peak value n=30 rated value                  | 20.5 A             |
| — up to 500 V for current peak value n=30 rated value                  | 18 A               |
| — up to 690 V for current peak value n=30 rated value                  | 18 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 10 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value                                                 | 12 A               |
| • at 690 V rated value                                                 | 12 A               |
| <b>operational current</b>                                             |                    |
| • <b>at 1 current path at DC-1</b>                                     |                    |
| — at 24 V rated value                                                  | 35 A               |
| — at 60 V rated value                                                  | 20 A               |
| — at 110 V rated value                                                 | 4.5 A              |
| — at 220 V rated value                                                 | 1 A                |
| — at 440 V rated value                                                 | 0.4 A              |
| — at 600 V rated value                                                 | 0.25 A             |
| • <b>with 2 current paths in series at DC-1</b>                        |                    |
| — at 24 V rated value                                                  | 35 A               |
| — at 60 V rated value                                                  | 35 A               |
| — at 110 V rated value                                                 | 35 A               |
| — at 220 V rated value                                                 | 5 A                |
| — at 440 V rated value                                                 | 1 A                |
| — at 600 V rated value                                                 | 0.8 A              |
| • <b>with 3 current paths in series at DC-1</b>                        |                    |
| — at 24 V rated value                                                  | 35 A               |
| — at 60 V rated value                                                  | 35 A               |

|                                                                         |                                                           |
|-------------------------------------------------------------------------|-----------------------------------------------------------|
| — at 110 V rated value                                                  | 35 A                                                      |
| — at 220 V rated value                                                  | 35 A                                                      |
| — at 440 V rated value                                                  | 2.9 A                                                     |
| — at 600 V rated value                                                  | 1.4 A                                                     |
| ● <b>at 1 current path at DC-3 at DC-5</b>                              |                                                           |
| — at 24 V rated value                                                   | 20 A                                                      |
| — at 60 V rated value                                                   | 5 A                                                       |
| — at 220 V rated value                                                  | 1 A                                                       |
| — at 440 V rated value                                                  | 0.09 A                                                    |
| — at 600 V rated value                                                  | 0.06 A                                                    |
| ● <b>with 2 current paths in series at DC-3 at DC-5</b>                 |                                                           |
| — at 24 V rated value                                                   | 35 A                                                      |
| — at 60 V rated value                                                   | 35 A                                                      |
| — at 110 V rated value                                                  | 15 A                                                      |
| — at 220 V rated value                                                  | 3 A                                                       |
| — at 440 V rated value                                                  | 0.27 A                                                    |
| — at 600 V rated value                                                  | 0.16 A                                                    |
| ● <b>with 3 current paths in series at DC-3 at DC-5</b>                 |                                                           |
| — at 24 V rated value                                                   | 35 A                                                      |
| — at 60 V rated value                                                   | 35 A                                                      |
| — at 110 V rated value                                                  | 35 A                                                      |
| — at 220 V rated value                                                  | 10 A                                                      |
| — at 440 V rated value                                                  | 0.6 A                                                     |
| — at 600 V rated value                                                  | 0.6 A                                                     |
| <b>operating power</b>                                                  |                                                           |
| ● at AC-3                                                               |                                                           |
| — at 230 V rated value                                                  | 7.5 kW                                                    |
| — at 400 V rated value                                                  | 15 kW                                                     |
| — at 500 V rated value                                                  | 15 kW                                                     |
| — at 690 V rated value                                                  | 18.5 kW                                                   |
| ● at AC-3e                                                              |                                                           |
| — at 230 V rated value                                                  | 7.5 kW                                                    |
| — at 400 V rated value                                                  | 15 kW                                                     |
| — at 500 V rated value                                                  | 15 kW                                                     |
| — at 690 V rated value                                                  | 18.5 kW                                                   |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>      |                                                           |
| ● at 400 V rated value                                                  | 6 kW                                                      |
| ● at 690 V rated value                                                  | 10.3 kW                                                   |
| <b>operating apparent power at AC-6a</b>                                |                                                           |
| ● up to 230 V for current peak value n=20 rated value                   | 12.2 kVA                                                  |
| ● up to 400 V for current peak value n=20 rated value                   | 21.3 kVA                                                  |
| ● up to 500 V for current peak value n=20 rated value                   | 23.3 kVA                                                  |
| ● up to 690 V for current peak value n=20 rated value                   | 25 kVA                                                    |
| <b>operating apparent power at AC-6a</b>                                |                                                           |
| ● up to 230 V for current peak value n=30 rated value                   | 8.1 kVA                                                   |
| ● up to 400 V for current peak value n=30 rated value                   | 14.2 kVA                                                  |
| ● up to 500 V for current peak value n=30 rated value                   | 15.5 kVA                                                  |
| ● up to 690 V for current peak value n=30 rated value                   | 21.5 kVA                                                  |
| <b>short-time withstand current in cold operating state up to 40 °C</b> |                                                           |
| ● limited to 1 s switching at zero current maximum                      | 499 A; Use minimum cross-section acc. to AC-1 rated value |
| ● limited to 5 s switching at zero current maximum                      | 341 A; Use minimum cross-section acc. to AC-1 rated value |
| ● limited to 10 s switching at zero current maximum                     | 260 A; Use minimum cross-section acc. to AC-1 rated value |
| ● limited to 30 s switching at zero current maximum                     | 199 A; Use minimum cross-section acc. to AC-1 rated value |
| ● limited to 60 s switching at zero current maximum                     | 162 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b>                                      |                                                           |
| ● at AC                                                                 | 5 000 1/h                                                 |
| <b>operating frequency</b>                                              |                                                           |
| ● at AC-1 maximum                                                       | 1 000 1/h                                                 |
| ● at AC-2 maximum                                                       | 750 1/h                                                   |
| ● at AC-3 maximum                                                       | 750 1/h                                                   |
| ● at AC-3e maximum                                                      | 750 1/h                                                   |
| ● at AC-4 maximum                                                       | 250 1/h                                                   |

| Control circuit/ Control                                                              |                                                 |
|---------------------------------------------------------------------------------------|-------------------------------------------------|
| <b>type of voltage of the control supply voltage</b>                                  | AC                                              |
| <b>control supply voltage at AC</b>                                                   |                                                 |
| • at 50 Hz rated value                                                                | 230 V                                           |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |                                                 |
| • at 50 Hz                                                                            | 0.8 ... 1.1                                     |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |                                                 |
| • at 50 Hz                                                                            | 77 VA                                           |
| <b>inductive power factor with closing power of the coil</b>                          |                                                 |
| • at 50 Hz                                                                            | 0.82                                            |
| <b>apparent holding power of magnet coil at AC</b>                                    |                                                 |
| • at 50 Hz                                                                            | 9.8 VA                                          |
| <b>inductive power factor with the holding power of the coil</b>                      |                                                 |
| • at 50 Hz                                                                            | 0.25                                            |
| <b>closing delay</b>                                                                  |                                                 |
| • at AC                                                                               | 8 ... 40 ms                                     |
| <b>opening delay</b>                                                                  |                                                 |
| • at AC                                                                               | 4 ... 16 ms                                     |
| <b>arcing time</b>                                                                    | 10 ... 10 ms                                    |
| <b>control version of the switch operating mechanism</b>                              | Standard A1 - A2                                |
| Auxiliary circuit                                                                     |                                                 |
| number of NC contacts for auxiliary contacts instantaneous contact                    | 2                                               |
| number of NO contacts for auxiliary contacts instantaneous contact                    | 2                                               |
| operational current at AC-12 maximum                                                  | 10 A                                            |
| <b>operational current at AC-15</b>                                                   |                                                 |
| • at 230 V rated value                                                                | 6 A                                             |
| • at 400 V rated value                                                                | 3 A                                             |
| • at 500 V rated value                                                                | 2 A                                             |
| • at 690 V rated value                                                                | 1 A                                             |
| <b>operational current at DC-12</b>                                                   |                                                 |
| • at 24 V rated value                                                                 | 10 A                                            |
| • at 48 V rated value                                                                 | 6 A                                             |
| • at 60 V rated value                                                                 | 6 A                                             |
| • at 110 V rated value                                                                | 3 A                                             |
| • at 125 V rated value                                                                | 2 A                                             |
| • at 220 V rated value                                                                | 1 A                                             |
| • at 600 V rated value                                                                | 0.15 A                                          |
| <b>operational current at DC-13</b>                                                   |                                                 |
| • at 24 V rated value                                                                 | 6 A                                             |
| • at 48 V rated value                                                                 | 2 A                                             |
| • at 60 V rated value                                                                 | 2 A                                             |
| • at 110 V rated value                                                                | 1 A                                             |
| • at 125 V rated value                                                                | 0.9 A                                           |
| • at 220 V rated value                                                                | 0.3 A                                           |
| • at 600 V rated value                                                                | 0.1 A                                           |
| <b>contact reliability of auxiliary contacts</b>                                      | 1 faulty switching per 100 million (17 V, 1 mA) |
| UL/CSA ratings                                                                        |                                                 |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                   |                                                 |
| • at 480 V rated value                                                                | 27 A                                            |
| • at 600 V rated value                                                                | 27 A                                            |
| <b>yielded mechanical performance [hp]</b>                                            |                                                 |
| • for single-phase AC motor                                                           |                                                 |
| — at 110/120 V rated value                                                            | 2 hp                                            |
| — at 230 V rated value                                                                | 5 hp                                            |
| • for 3-phase AC motor                                                                |                                                 |
| — at 200/208 V rated value                                                            | 10 hp                                           |
| — at 220/230 V rated value                                                            | 10 hp                                           |
| — at 460/480 V rated value                                                            | 20 hp                                           |
| — at 575/600 V rated value                                                            | 25 hp                                           |
| <b>contact rating of auxiliary contacts according to UL</b>                           | A600 / Q600                                     |

## Short-circuit protection

### design of the fuse link

- for short-circuit protection of the main circuit
  - with type of coordination 1 required
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)  
gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)  
gG: 10 A (500 V, 1 kA)

## Installation/ mounting/ dimensions

### mounting position

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface

### fastening method

screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715

- side-by-side mounting

Yes

### height

102 mm

### width

45 mm

### depth

144 mm

### required spacing

- with side-by-side mounting
  - forwards
  - upwards
  - downwards
  - at the side
- for grounded parts
  - forwards
  - upwards
  - at the side
  - downwards
- for live parts
  - forwards
  - upwards
  - downwards
  - at the side

10 mm

10 mm

10 mm

0 mm

10 mm

10 mm

6 mm

10 mm

10 mm

10 mm

10 mm

6 mm

## Connections/ Terminals

### type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

spring-loaded terminals  
spring-loaded terminals  
Spring-type terminals  
Spring-type terminals

type of connectable conductor cross-sections for main contacts

- solid
- solid or stranded
- finely stranded with core end processing
- finely stranded without core end processing

2x (1 ... 10 mm<sup>2</sup>)

2x (1 ... 10 mm<sup>2</sup>)

2x (1 ... 6 mm<sup>2</sup>)

2x (1 ... 6 mm<sup>2</sup>)

### connectable conductor cross-section for main contacts

- solid
- stranded
- finely stranded with core end processing
- finely stranded without core end processing

1 ... 10 mm<sup>2</sup>

1 ... 10 mm<sup>2</sup>

1 ... 6 mm<sup>2</sup>

1 ... 6 mm<sup>2</sup>

### connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing
- finely stranded without core end processing

0.5 ... 2.5 mm<sup>2</sup>

0.5 ... 1.5 mm<sup>2</sup>

0.5 ... 2.5 mm<sup>2</sup>

### type of connectable conductor cross-sections

- for auxiliary contacts
  - solid or stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG cables for auxiliary contacts

2x (0.5 ... 2.5 mm<sup>2</sup>)

2x (0.5 ... 1.5 mm<sup>2</sup>)

2x (0.5 ... 2.5 mm<sup>2</sup>)

2x (20 ... 14)

### AWG number as coded connectable conductor cross section

- for main contacts
- for auxiliary contacts

18 ... 8  
20 ... 14

#### Safety related data

##### product function

- mirror contact according to IEC 60947-4-1
- positively driven operation according to IEC 60947-5-1

Yes  
No

B10 value with high demand rate according to SN 31920

450 000

##### proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

40 %  
73 %

failure rate [FIT] with low demand rate according to SN 31920

100 FIT

T1 value for proof test interval or service life according to IEC 61508

20 a

protection class IP on the front according to IEC 60529

IP20

touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

##### suitability for use

- safety-related switching OFF

Yes

#### Certificates/ approvals

##### General Product Approval



[Confirmation](#)



[KC](#)



EMC

Functional  
Safety/Safety of  
Machinery

Declaration of Conformity

Test Certificates



[Type Examination  
Certificate](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

#### Marine / Shipping



ABS



BUREAU  
VERITAS



DNV



LRS



PRS



RINA

#### Marine / Shipping

other

Railway



RMRS

[Confirmation](#)



VDE

[Confirmation](#)

[Vibration and Shock](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2027-2AP04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2AP04>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2AP04>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

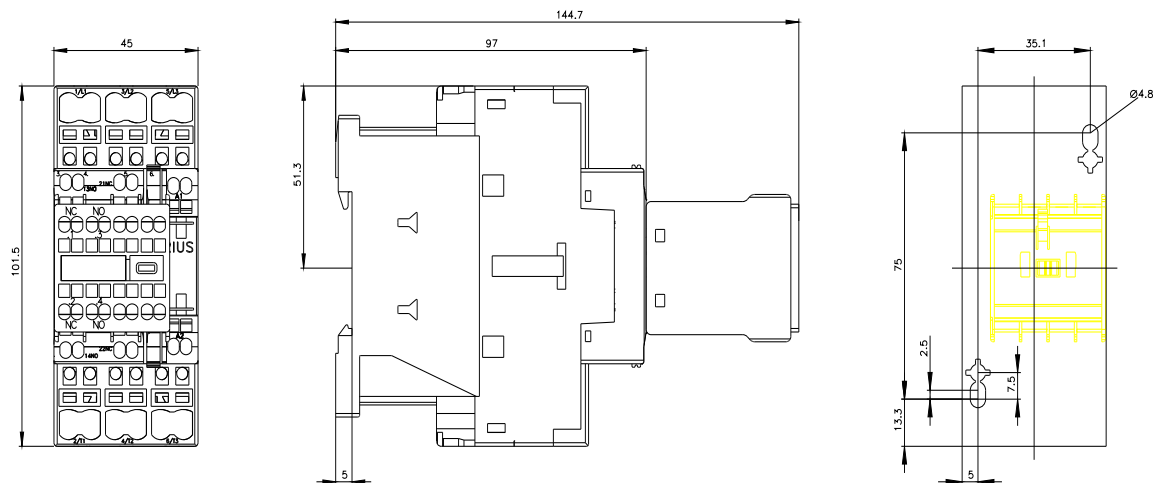
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2027-2AP04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2AP04&lang=en)

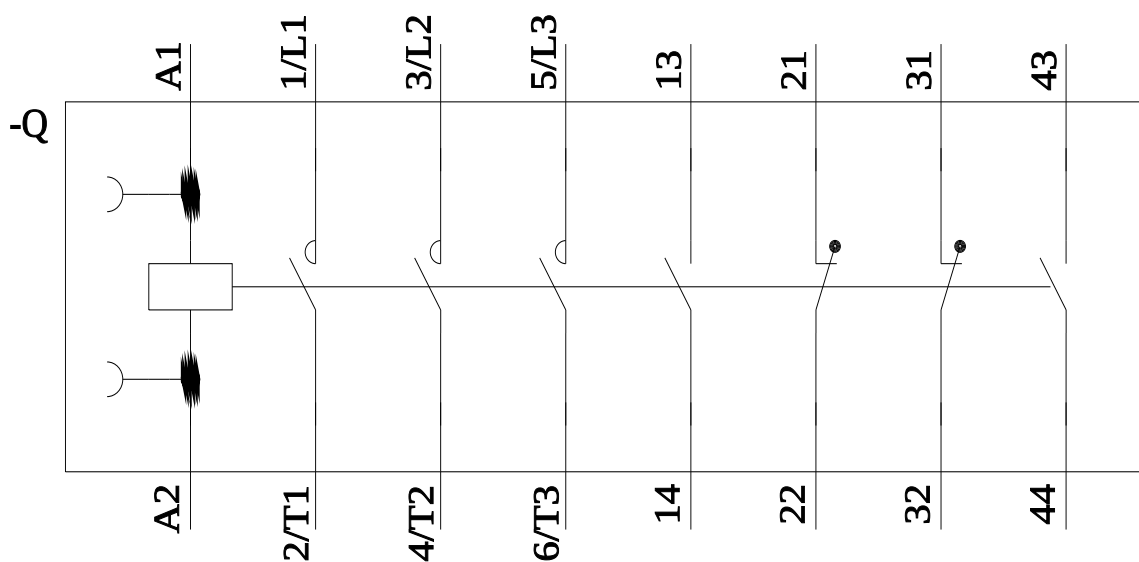
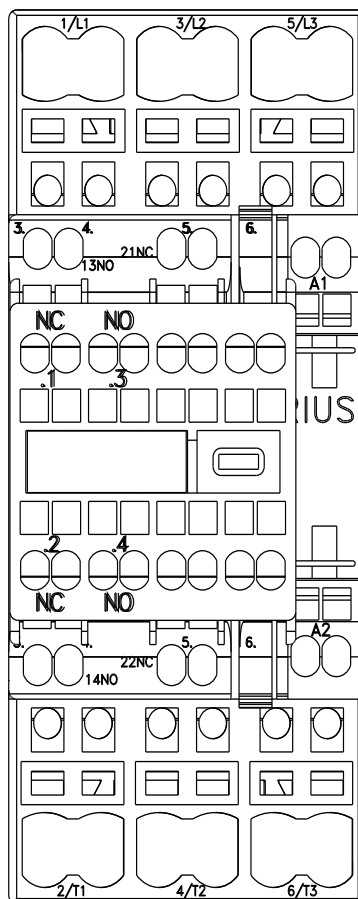
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2AP04/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2AP04&objecttype=14&gridview=view1>





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