



power contactor, AC-3e/AC-3, 40 A, 18.5 kW / 400 V, 4-pole, 24 V AC, 50/60 Hz, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal

|                          |           |
|--------------------------|-----------|
| product brand name       | SIRIUS    |
| product designation      | contactor |
| product type designation | 3RT25     |

### General technical data

|                                                                                                       |                             |
|-------------------------------------------------------------------------------------------------------|-----------------------------|
| size of contactor                                                                                     | S2                          |
| product extension                                                                                     |                             |
| • function module for communication                                                                   | No                          |
| • auxiliary switch                                                                                    | Yes                         |
| 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                                                                                               | 11.8g / 5 ms, 7.4g / 10 ms  |
| shock resistance with sine pulse                                                                      |                             |
| • at AC                                                                                               | 18.5g / 5 ms, 11.6g / 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)                                                                         | 10/01/2014                  |

### Ambient conditions

|                                                                |                |
|----------------------------------------------------------------|----------------|
| installation altitude at height above sea level maximum        | 2 000 m        |
| ambient temperature                                            |                |
| • during operation                                             | -40 ... +70 °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

|                                          |   |
|------------------------------------------|---|
| number of poles for main current circuit | 4 |
| number of NO contacts for main contacts  | 2 |
| number of NC contacts for main contacts  | 2 |
| operational current                      |   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at AC-1 up to 690 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> <li>— at ambient temperature 60 °C rated value</li> </ul> </li> <li>• at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> <li>— per NO contact rated value</li> <li>— per NC contact rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 60 A<br>55 A                                                                                                                                                                                                                                                                                                  |
| minimum cross-section in main circuit at maximum AC-1 rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 35 A<br>35 A<br>16 mm <sup>2</sup>                                                                                                                                                                                                                                                                            |
| <b>operational current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• <b>at 1 current path at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> </ul> </li> <li>• <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> </ul> </li> <li>• <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V per NC contact rated value</li> <li>— at 24 V per NO contact rated value</li> <li>— at 110 V per NC contact rated value</li> <li>— at 110 V per NO contact rated value</li> <li>— at 220 V per NC contact rated value</li> <li>— at 220 V per NO contact rated value</li> <li>— at 440 V per NC contact rated value</li> <li>— at 440 V per NO contact rated value</li> </ul> </li> <li>• <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V per NC contact rated value</li> <li>— at 24 V per NO contact rated value</li> <li>— at 110 V per NC contact rated value</li> <li>— at 110 V per NO contact rated value</li> <li>— at 220 V per NC contact rated value</li> <li>— at 220 V per NO contact rated value</li> <li>— at 440 V per NC contact rated value</li> <li>— at 440 V per NO contact rated value</li> </ul> </li> </ul> | 55 A<br>4.5 A<br>1 A<br>0.4 A<br><br>55 A<br>45 A<br>5 A<br>1 A<br><br>35 A<br>35 A<br>1.25 A<br>2.5 A<br>0.5 A<br>1 A<br>0.045 A<br>0.1 A<br><br>55 A<br>55 A<br>12.5 A<br>25 A<br>2.5 A<br>5 A<br>0.135 A<br>0.27 A                                                                                         |
| operating power at AC-2 at AC-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• at 230 V per NC contact rated value</li> <li>• at 230 V per NO contact rated value</li> <li>• at 400 V per NC contact rated value</li> <li>• at 400 V per NO contact rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 11 kW<br>11 kW<br>18.5 kW<br>18.5 kW                                                                                                                                                                                                                                                                          |
| <b>short-time withstand current in cold operating state up to 40 °C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 546 A; Use minimum cross-section acc. to AC-1 rated value<br>443 A; Use minimum cross-section acc. to AC-1 rated value<br>334 A; Use minimum cross-section acc. to AC-1 rated value<br>241 A; Use minimum cross-section acc. to AC-1 rated value<br>196 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4 W                                                                                                                                                                                                                                                                                                           |
| <b>no-load switching frequency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5 000 1/h                                                                                                                                                                                                                                                                                                     |
| <b>operating frequency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 200 1/h                                                                                                                                                                                                                                                                                                     |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                               |
| <b>type of voltage of the control supply voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | AC                                                                                                                                                                                                                                                                                                            |
| <b>control supply voltage at AC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 24 V                                                                                                                                                                                                                                                                                                          |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.8 ... 1.1                                                                                                                                                                                                                                                                                                   |
| <b>apparent pick-up power of magnet coil at AC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 190 VA                                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 190 VA                                                                                                                                                                                                                                                                                                        |

|                                                                  |              |
|------------------------------------------------------------------|--------------|
| <b>inductive power factor with closing power of the coil</b>     | 0.72         |
| • at 50 Hz                                                       | 0.72         |
| <b>apparent holding power of magnet coil at AC</b>               | 16 VA        |
| • at 50 Hz                                                       | 16 VA        |
| <b>inductive power factor with the holding power of the coil</b> | 0.37         |
| • at 50 Hz                                                       | 0.37         |
| <b>closing delay</b>                                             |              |
| • at AC                                                          | 10 ... 80 ms |
| <b>opening delay</b>                                             |              |
| • at AC                                                          | 10 ... 18 ms |
| <b>arcing time</b>                                               | 10 ... 20 ms |
| <b>control version of the switch operating mechanism</b>         | AC           |

#### Auxiliary circuit

|                                                                    |                                                 |
|--------------------------------------------------------------------|-------------------------------------------------|
| number of NC contacts for auxiliary contacts instantaneous contact | 1                                               |
| number of NO contacts for auxiliary contacts instantaneous contact | 1                                               |
| 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                                              | 10 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>yielded mechanical performance [hp]</b>                  |             |
| • for 3-phase AC motor at 460/480 V rated value             | 20 hp       |
| <b>contact rating of auxiliary contacts according to UL</b> | A600 / P600 |

#### Short-circuit protection

|                                                                 |                           |
|-----------------------------------------------------------------|---------------------------|
| <b>design of the fuse link</b>                                  |                           |
| • for short-circuit protection of the main circuit              |                           |
| — with type of coordination 1 required                          | gG: 125 A (690 V, 100 kA) |
| — with type of assignment 2 required                            | gG: 63A (690V, 100kA)     |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 10 A             |

#### Installation/ mounting/ dimensions

|                              |                                                                                                                                      |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>     | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>fastening method</b>      | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022                                                             |
| • side-by-side mounting      | Yes                                                                                                                                  |
| <b>height</b>                | 114 mm                                                                                                                               |
| <b>width</b>                 | 75 mm                                                                                                                                |
| <b>depth</b>                 | 130 mm                                                                                                                               |
| <b>required spacing</b>      |                                                                                                                                      |
| • with side-by-side mounting |                                                                                                                                      |
| — forwards                   | 0 mm                                                                                                                                 |

|                      |       |
|----------------------|-------|
| — backwards          | 0 mm  |
| — upwards            | 0 mm  |
| — downwards          | 0 mm  |
| — at the side        | 0 mm  |
| • for grounded parts |       |
| — forwards           | 0 mm  |
| — backwards          | 0 mm  |
| — upwards            | 50 mm |
| — at the side        | 10 mm |
| — downwards          | 50 mm |
| • for live parts     |       |
| — forwards           | 0 mm  |
| — backwards          | 0 mm  |
| — upwards            | 50 mm |
| — downwards          | 50 mm |
| — at the side        | 10 mm |

## Connections/ Terminals

### type of electrical connection

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

screw-type terminals  
screw-type terminals  
Screw-type terminals  
Screw-type terminals

type of connectable conductor cross-sections for main contacts

- solid
- solid or stranded
- finely stranded with core end processing

2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)  
2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)  
2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)

### type of connectable conductor cross-sections

- for auxiliary contacts
  - solid
  - solid or stranded
  - finely stranded with core end processing
- at AWG cables for auxiliary contacts

2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)  
2x (20 ... 16), 2x (18 ... 14)  
18 ... 1

AWG number as coded connectable conductor cross section for main contacts

## Safety related data

### product function

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

Yes  
No

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

## 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



Marine / Shipping

other

Railway

Dangerous Good



[Confirmation](#)

[Vibration and Shock](#)

[Transport Information](#)

## 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=3RT2535-1AB00>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2535-1AB00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1AB00>

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

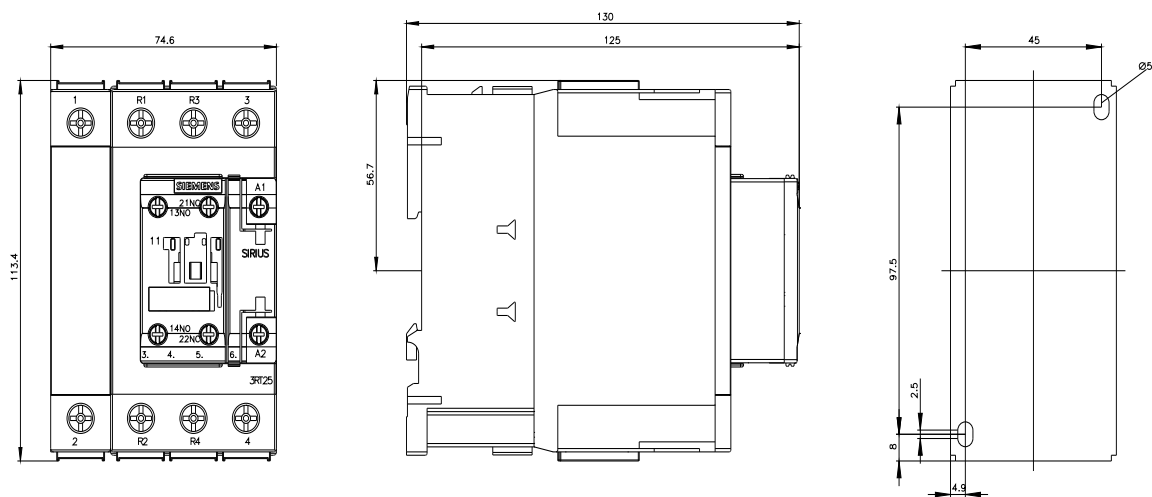
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2535-1AB00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2535-1AB00&lang=en)

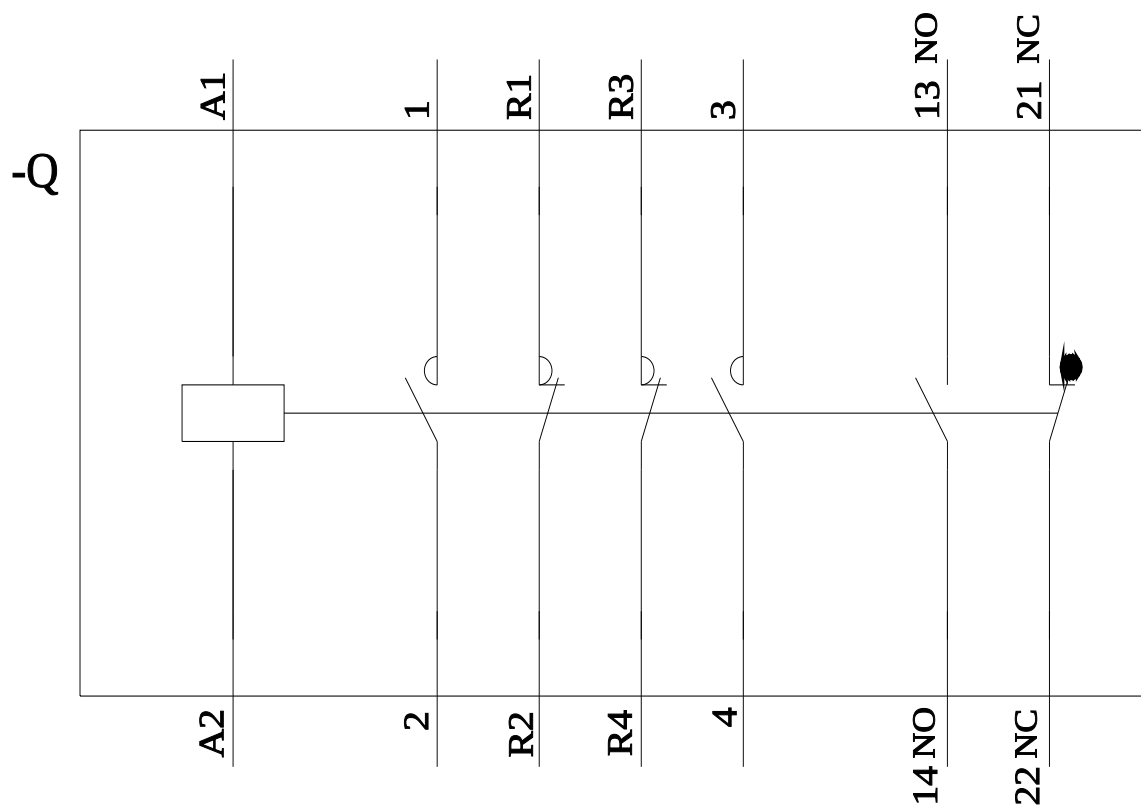
### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1AB00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2535-1AB00&objecttype=14&gridview=view1>





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