



power contactor, AC-3, 41 A, 22 kW / 400 V, 4-pole, 175-280 V AC/DC, 50/60 Hz, with integrated varistor, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S2

|                                                                                                              |                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| product brand name                                                                                           | SIRIUS                                                                                                                                                                             |
| product designation                                                                                          | contactor                                                                                                                                                                          |
| product type designation                                                                                     | 3RT25                                                                                                                                                                              |
| <b>General technical data</b>                                                                                |                                                                                                                                                                                    |
| size of contactor                                                                                            | S2                                                                                                                                                                                 |
| product extension                                                                                            |                                                                                                                                                                                    |
| • function module for communication                                                                          | No                                                                                                                                                                                 |
| • auxiliary switch                                                                                           | Yes                                                                                                                                                                                |
| power loss [W] for rated value of the current                                                                |                                                                                                                                                                                    |
| • at AC in hot operating state per pole                                                                      | 4 W                                                                                                                                                                                |
| • without load current share typical                                                                         | 2.4 W                                                                                                                                                                              |
| type of calculation of power loss current-dependent                                                          | quadratic                                                                                                                                                                          |
| 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 protective separation between coil and main contacts according to EN 60947-1 | 400 V                                                                                                                                                                              |
| shock resistance at rectangular impulse                                                                      |                                                                                                                                                                                    |
| • at AC                                                                                                      | 7.7 g / 5 ms, 4.5 g / 10 ms                                                                                                                                                        |
| • at DC                                                                                                      | 7.7 g / 5 ms, 4.5 g / 10 ms                                                                                                                                                        |
| shock resistance with sine pulse                                                                             |                                                                                                                                                                                    |
| • at AC                                                                                                      | 12 g / 5 ms, 7 g / 10 ms                                                                                                                                                           |
| • at DC                                                                                                      | 12 g / 5 ms, 7 g / 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 (day/month/year)                                                                      | 10/01/2014                                                                                                                                                                         |
| SVHC substance name                                                                                          | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1 |
| Net Weight                                                                                                   | 1.135 kg                                                                                                                                                                           |
| <b>Ambient conditions</b>                                                                                    |                                                                                                                                                                                    |
| installation altitude at height above sea level maximum                                                      | 2 000 m                                                                                                                                                                            |

|                                                                         |                                                           |
|-------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>ambient temperature</b>                                              |                                                           |
| • during operation                                                      | -40 ... +70 °C                                            |
| • during storage                                                        | -55 ... +80 °C                                            |
| <b>relative humidity minimum</b>                                        | 10 %                                                      |
| <b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>   | 95 %                                                      |
| <b>Main circuit</b>                                                     |                                                           |
| <b>number of poles for main current circuit</b>                         | 4                                                         |
| <b>number of NO contacts for main contacts</b>                          | 2                                                         |
| <b>number of NC contacts for main contacts</b>                          | 2                                                         |
| <b>operational current</b>                                              |                                                           |
| • at AC-1 up to 690 V                                                   |                                                           |
| — at ambient temperature 40 °C rated value                              | 70 A                                                      |
| — at ambient temperature 60 °C rated value                              | 60 A                                                      |
| • at AC-2 at AC-3 at 400 V                                              |                                                           |
| — per NO contact rated value                                            | 41 A                                                      |
| — per NC contact rated value                                            | 41 A                                                      |
| minimum cross-section in main circuit at maximum AC-1 rated value       | 25 mm <sup>2</sup>                                        |
| <b>operational current</b>                                              |                                                           |
| • <b>at 1 current path at DC-1</b>                                      |                                                           |
| — at 24 V rated value                                                   | 60 A                                                      |
| — at 110 V rated value                                                  | 4.5 A                                                     |
| — at 220 V rated value                                                  | 1 A                                                       |
| — at 440 V rated value                                                  | 0.4 A                                                     |
| • <b>with 2 current paths in series at DC-1</b>                         |                                                           |
| — at 24 V rated value                                                   | 55 A                                                      |
| — at 110 V rated value                                                  | 45 A                                                      |
| — at 220 V rated value                                                  | 5 A                                                       |
| — at 440 V rated value                                                  | 1 A                                                       |
| • <b>at 1 current path at DC-3 at DC-5</b>                              |                                                           |
| — at 24 V per NC contact rated value                                    | 35 A                                                      |
| — at 24 V per NO contact rated value                                    | 35 A                                                      |
| — at 110 V per NC contact rated value                                   | 1.25 A                                                    |
| — at 110 V per NO contact rated value                                   | 2.5 A                                                     |
| — at 220 V per NC contact rated value                                   | 0.5 A                                                     |
| — at 220 V per NO contact rated value                                   | 1 A                                                       |
| — at 440 V per NC contact rated value                                   | 0.045 A                                                   |
| — at 440 V per NO contact rated value                                   | 0.1 A                                                     |
| • <b>with 2 current paths in series at DC-3 at DC-5</b>                 |                                                           |
| — at 24 V per NC contact rated value                                    | 55 A                                                      |
| — at 24 V per NO contact rated value                                    | 55 A                                                      |
| — at 110 V per NC contact rated value                                   | 12.5 A                                                    |
| — at 110 V per NO contact rated value                                   | 25 A                                                      |
| — at 220 V per NC contact rated value                                   | 2.5 A                                                     |
| — at 220 V per NO contact rated value                                   | 5 A                                                       |
| — at 440 V per NC contact rated value                                   | 0.135 A                                                   |
| — at 440 V per NO contact rated value                                   | 0.27 A                                                    |
| <b>operating power at AC-2 at AC-3</b>                                  |                                                           |
| • at 230 V per NC contact rated value                                   | 15 kW                                                     |
| • at 230 V per NO contact rated value                                   | 15 kW                                                     |
| • at 400 V per NC contact rated value                                   | 22 kW                                                     |
| • at 400 V per NO contact rated value                                   | 22 kW                                                     |
| <b>short-time withstand current in cold operating state up to 40 °C</b> |                                                           |
| • limited to 1 s switching at zero current maximum                      | 546 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 5 s switching at zero current maximum                      | 443 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum                     | 334 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 30 s switching at zero current maximum                     | 241 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 60 s switching at zero current maximum                     | 196 A; Use minimum cross-section acc. to AC-1 rated value |

|                                                                                           |               |
|-------------------------------------------------------------------------------------------|---------------|
| power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor  | 4 W           |
| power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor | 4 W           |
| no-load switching frequency                                                               |               |
| • at AC                                                                                   | 500 1/h       |
| • at DC                                                                                   | 500 1/h       |
| operating frequency                                                                       |               |
| • at AC-1 maximum                                                                         | 350 1/h       |
| <b>Control circuit/ Control</b>                                                           |               |
| type of voltage of the control supply voltage                                             | AC/DC         |
| control supply voltage at AC                                                              |               |
| • at 50 Hz rated value                                                                    | 175 ... 280 V |
| • at 60 Hz rated value                                                                    | 175 ... 280 V |
| control supply voltage at DC rated value                                                  | 175 ... 280 V |
| operating range factor control supply voltage rated value of magnet coil at DC            |               |
| • initial value                                                                           | 0.8           |
| • full-scale value                                                                        | 1.1           |
| operating range factor control supply voltage rated value of magnet coil at AC            |               |
| • at 50 Hz                                                                                | 0.8 ... 1.1   |
| • at 60 Hz                                                                                | 0.8 ... 1.1   |
| design of the surge suppressor                                                            | with varistor |
| inrush current peak                                                                       | 25 A          |
| duration of inrush current peak                                                           | 10 µs         |
| pickup current mean value                                                                 | 0.58 A        |
| pickup current peak                                                                       | 1.5 A         |
| duration of pickup current                                                                | 230 ms        |
| holding current mean value                                                                | 10 mA         |
| apparent pick-up power of magnet coil at AC                                               |               |
| • at 50 Hz                                                                                | 110 V·A       |
| • at 60 Hz                                                                                | 110 V·A       |
| inductive power factor with closing power of the coil                                     | 0.95          |
| • at 50 Hz                                                                                | 0.95          |
| • at 60 Hz                                                                                | 0.95          |
| apparent holding power of magnet coil at AC                                               |               |
| • at 50 Hz                                                                                | 2.5 V·A       |
| • at 60 Hz                                                                                | 2.5 V·A       |
| inductive power factor with the holding power of the coil                                 | 0.95          |
| • at 50 Hz                                                                                | 0.95          |
| • at 60 Hz                                                                                | 0.95          |
| closing power of magnet coil at DC                                                        | 70 W          |
| holding power of magnet coil at DC                                                        | 1.5 W         |
| closing delay                                                                             |               |
| • at AC                                                                                   | 30 ... 110 ms |
| • at DC                                                                                   | 30 ... 110 ms |
| opening delay                                                                             |               |
| • at AC                                                                                   | 30 ... 55 ms  |
| • at DC                                                                                   | 30 ... 55 ms  |
| arcing time                                                                               | 10 ... 20 ms  |
| control version of the switch operating mechanism                                         | UC            |
| residual current of the electronics for control with signal <0>                           |               |
| • at AC at 230 V maximum permissible                                                      | 20 A          |
| • at DC at 24 V maximum permissible                                                       | 20 A          |
| <b>Auxiliary circuit</b>                                                                  |               |
| number of NC contacts for auxiliary contacts instantaneous contact                        | 1             |
| number of NO contacts for auxiliary contacts instantaneous contact                        | 1             |

|                                                                                                           |                                                                                                                                      |
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| 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)                                                                                      |
| <b>UL/CSA ratings</b>                                                                                     |                                                                                                                                      |
| <b>yielded mechanical performance [hp]</b>                                                                |                                                                                                                                      |
| • for 3-phase AC motor at 460/480 V rated value                                                           | 25 hp                                                                                                                                |
| <b>contact rating of auxiliary contacts according to UL</b>                                               | A600 / P600                                                                                                                          |
| <b>Short-circuit protection</b>                                                                           |                                                                                                                                      |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V | C characteristic: 10 A; 0.4 kA                                                                                                       |
| <b>design of the fuse link</b>                                                                            |                                                                                                                                      |
| • for short-circuit protection of the main circuit                                                        |                                                                                                                                      |
| — with type of coordination 1 required                                                                    | gG: 160 A (690 V, 100 kA)                                                                                                            |
| — with type of coordination 2 required                                                                    | gG: 80 A (690 V, 100 kA)                                                                                                             |
| • for short-circuit protection of the auxiliary switch required                                           | gG: 10 A (690 V, 1 kA)                                                                                                               |
| <b>Installation/ mounting/ dimensions</b>                                                                 |                                                                                                                                      |
| <b>mounting position</b>                                                                                  | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| fastening method side-by-side mounting                                                                    | Yes                                                                                                                                  |
| <b>fastening method</b>                                                                                   | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022                                                             |
| <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

|                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>                                                                                     | screw-type terminals<br>screw-type terminals<br>Screw-type terminals<br>screw terminal                                                                                                                                                                    |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for main contacts</li> </ul>           | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )<br>2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )<br>2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )<br>2x (18 ... 2), 1x (18 ... 1)                        |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul> | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14) |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>                                                                                                                                                                                                                                            | 18 ... 1                                                                                                                                                                                                                                                  |
| <b>AWG number as coded connectable conductor cross section for auxiliary contacts</b>                                                                                                                                                                                                                                       | 20 ... 14                                                                                                                                                                                                                                                 |

#### Safety related data

|                                                                                                                                                                                         |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>product function</b> <ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul> | Yes<br>No |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|

|                                                                |                                                  |
|----------------------------------------------------------------|--------------------------------------------------|
| Electrical Safety                                              |                                                  |
| <b>protection class IP on the front according to IEC 60529</b> | IP20                                             |
| <b>touch protection on the front according to IEC 60529</b>    | finger-safe, for vertical contact from the front |

#### Approvals Certificates

|             |                          |  |  |
|-------------|--------------------------|--|--|
| Environment | General Product Approval |  |  |
|-------------|--------------------------|--|--|

[Environmental Confirmations](#)



|                          |     |                   |                      |
|--------------------------|-----|-------------------|----------------------|
| General Product Approval | EMV | Test Certificates | Maritime application |
|--------------------------|-----|-------------------|----------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



|                      |       |
|----------------------|-------|
| Maritime application | other |
|----------------------|-------|



[Confirmation](#)



|         |
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| Railway |
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[Special Test Certificate](#)

## Further information

### Information on the packaging

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

### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

### 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=3RT2536-1NP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2536-1NP30>

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

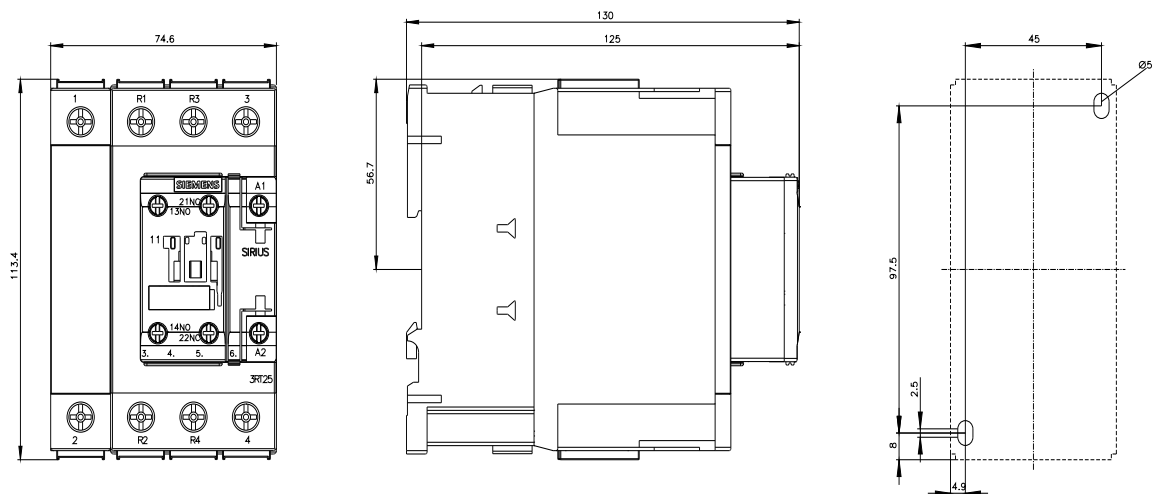
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2536-1NP30&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2536-1NP30&lang=en)

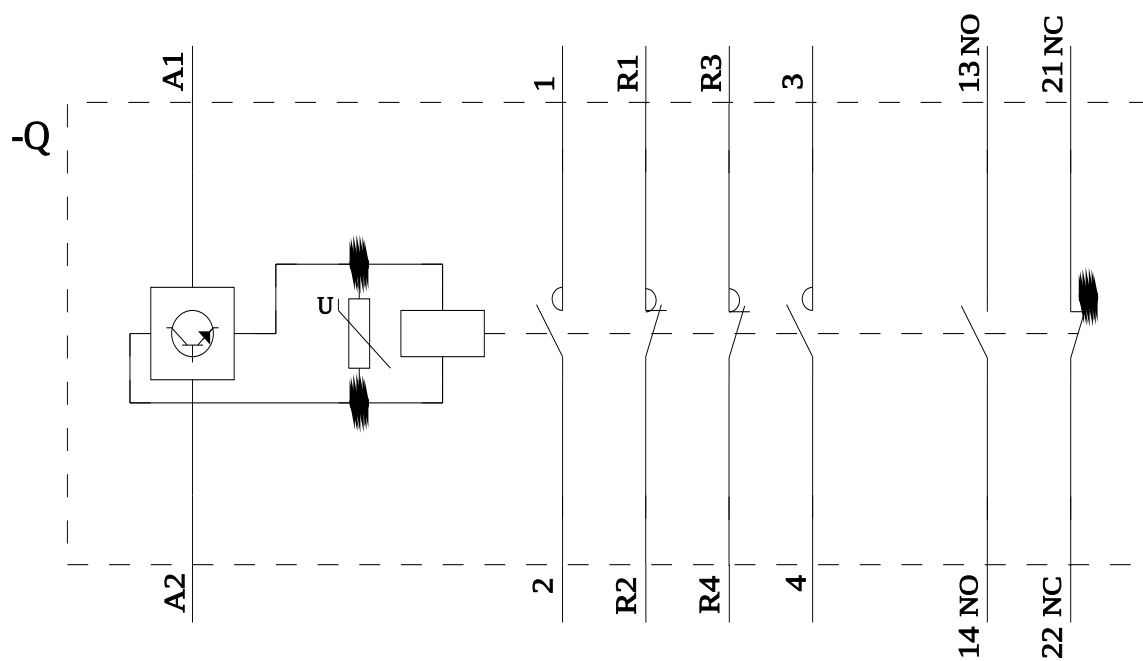
### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2536-1NP30>

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