



vacuum contactor AC-3e/AC-3 300 A, 160 kW / 400 V, 3-pole, Uc: 440-480 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC  
main circuit: busbar control and auxiliary circuit: screw terminal

|                          |                  |
|--------------------------|------------------|
| product brand name       | SIRIUS           |
| product designation      | Vacuum contactor |
| product type designation | 3RT12            |

### General technical data

|                                                                                                       |                            |
|-------------------------------------------------------------------------------------------------------|----------------------------|
| size of contactor                                                                                     | S10                        |
| 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                                                                        | 42 W                       |
| • at AC in hot operating state per pole                                                               | 14 W                       |
| • without load current share typical                                                                  | 8.2 W                      |
| insulation voltage                                                                                    |                            |
| • of main circuit with degree of pollution 3 rated value                                              | 1 000 V                    |
| • of auxiliary circuit with degree of pollution 3 rated value                                         | 500 V                      |
| surge voltage resistance                                                                              |                            |
| • of main circuit rated value                                                                         | 8 kV                       |
| • of auxiliary circuit rated value                                                                    | 6 kV                       |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 690 V                      |
| shock resistance at rectangular impulse                                                               |                            |
| • at AC                                                                                               | 8,5g / 5 ms, 4,2g / 10 ms  |
| • at DC                                                                                               | 8,5g / 5 ms, 4,2g / 10 ms  |
| shock resistance with sine pulse                                                                      |                            |
| • at AC                                                                                               | 13,4g / 5 ms, 6,5g / 10 ms |
| • at DC                                                                                               | 13,4g / 5 ms, 6,5g / 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 Prohibition (Date)                                                                          | 05/01/2012                 |

### Ambient conditions

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

## Main circuit

|                                                                        |                     |
|------------------------------------------------------------------------|---------------------|
| <b>number of poles for main current circuit</b>                        | 3                   |
| <b>number of NO contacts for main contacts</b>                         | 3                   |
| <b>operating voltage</b>                                               |                     |
| • at AC-3 rated value maximum                                          | 1 000 V             |
| • at AC-3e rated value maximum                                         | 1 000 V             |
| <b>operational current</b>                                             |                     |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value            | 330 A               |
| • at AC-1                                                              |                     |
| — up to 690 V at ambient temperature 40 °C rated value                 | 330 A               |
| — up to 690 V at ambient temperature 60 °C rated value                 | 300 A               |
| — up to 1000 V at ambient temperature 40 °C rated value                | 330 A               |
| — up to 1000 V at ambient temperature 60 °C rated value                | 300 A               |
| • at AC-3                                                              |                     |
| — at 400 V rated value                                                 | 300 A               |
| — at 500 V rated value                                                 | 300 A               |
| — at 690 V rated value                                                 | 300 A               |
| — at 1000 V rated value                                                | 300 A               |
| • at AC-3e                                                             |                     |
| — at 400 V rated value                                                 | 300 A               |
| — at 500 V rated value                                                 | 300 A               |
| — at 690 V rated value                                                 | 300 A               |
| — at 1000 V rated value                                                | 300 A               |
| • at AC-4 at 400 V rated value                                         | 280 A               |
| • at AC-6a                                                             |                     |
| — up to 230 V for current peak value n=20 rated value                  | 300 A               |
| — up to 400 V for current peak value n=20 rated value                  | 300 A               |
| — up to 500 V for current peak value n=20 rated value                  | 300 A               |
| — up to 690 V for current peak value n=20 rated value                  | 300 A               |
| — up to 1000 V for current peak value n=20 rated value                 | 300 A               |
| • at AC-6a                                                             |                     |
| — up to 230 V for current peak value n=30 rated value                  | 209 A               |
| — up to 400 V for current peak value n=30 rated value                  | 209 A               |
| — up to 500 V for current peak value n=30 rated value                  | 209 A               |
| — up to 690 V for current peak value n=30 rated value                  | 209 A               |
| — up to 1000 V for current peak value n=30 rated value                 | 209 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 185 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |                     |
| • at 400 V rated value                                                 | 140 A               |
| • at 690 V rated value                                                 | 140 A               |
| <b>operating power</b>                                                 |                     |
| • at AC-3                                                              |                     |
| — at 230 V rated value                                                 | 90 kW               |
| — at 400 V rated value                                                 | 160 kW              |
| — at 500 V rated value                                                 | 200 kW              |
| — at 690 V rated value                                                 | 250 kW              |
| — at 1000 V rated value                                                | 400 kW              |
| • at AC-3e                                                             |                     |
| — at 230 V rated value                                                 | 90 kW               |
| — at 400 V rated value                                                 | 160 kW              |

|                                                                                       |               |
|---------------------------------------------------------------------------------------|---------------|
| — at 500 V rated value                                                                | 200 kW        |
| — at 690 V rated value                                                                | 250 kW        |
| — at 1000 V rated value                                                               | 400 kW        |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>                    |               |
| • at 400 V rated value                                                                | 79 kW         |
| • at 690 V rated value                                                                | 138 kW        |
| <b>operating apparent power at AC-6a</b>                                              |               |
| • up to 230 V for current peak value n=20 rated value                                 | 120 000 kVA   |
| • up to 400 V for current peak value n=20 rated value                                 | 200 000 VA    |
| • up to 500 V for current peak value n=20 rated value                                 | 260 000 VA    |
| • up to 690 V for current peak value n=20 rated value                                 | 350 000 VA    |
| • up to 1000 V for current peak value n=20 rated value                                | 520 000 VA    |
| <b>operating apparent power at AC-6a</b>                                              |               |
| • up to 230 V for current peak value n=30 rated value                                 | 80 000 VA     |
| • up to 400 V for current peak value n=30 rated value                                 | 140 000 VA    |
| • up to 500 V for current peak value n=30 rated value                                 | 180 000 VA    |
| • up to 690 V for current peak value n=30 rated value                                 | 250 000 VA    |
| • up to 1000 V for current peak value n=30 rated value                                | 360 000 VA    |
| <b>no-load switching frequency</b>                                                    |               |
| • at AC                                                                               | 2 000 1/h     |
| • at DC                                                                               | 2 000 1/h     |
| <b>operating frequency</b>                                                            |               |
| • at AC-1 maximum                                                                     | 750 1/h       |
| • at AC-2 maximum                                                                     | 250 1/h       |
| • at AC-3 maximum                                                                     | 750 1/h       |
| • at AC-3e maximum                                                                    | 750 1/h       |
| • at AC-4 maximum                                                                     | 250 1/h       |
| <b>Control circuit/ Control</b>                                                       |               |
| <b>type of voltage of the control supply voltage</b>                                  | AC/DC         |
| <b>control supply voltage at AC</b>                                                   |               |
| • at 50 Hz rated value                                                                | 440 ... 480 V |
| • at 60 Hz rated value                                                                | 440 ... 480 V |
| <b>control supply voltage at DC</b>                                                   |               |
| • rated value                                                                         | 440 ... 480 V |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |               |
| • initial value                                                                       | 0.8           |
| • full-scale value                                                                    | 1.1           |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |               |
| • at 50 Hz                                                                            | 0.8 ... 1.1   |
| • at 60 Hz                                                                            | 0.8 ... 1.1   |
| <b>design of the surge suppressor</b>                                                 | with varistor |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |               |
| • at 50 Hz                                                                            | 590 VA        |
| • at 60 Hz                                                                            | 590 VA        |
| <b>inductive power factor with closing power of the coil</b>                          |               |
| • at 50 Hz                                                                            | 0.9           |
| • at 60 Hz                                                                            | 0.9           |
| <b>apparent holding power of magnet coil at AC</b>                                    |               |
| • at 50 Hz                                                                            | 6.1 VA        |
| • at 60 Hz                                                                            | 6.1 VA        |
| <b>inductive power factor with the holding power of the coil</b>                      |               |
| • at 50 Hz                                                                            | 0.9           |
| • at 60 Hz                                                                            | 0.9           |
| <b>closing power of magnet coil at DC</b>                                             | 700 W         |
| <b>holding power of magnet coil at DC</b>                                             | 8.2 W         |
| <b>closing delay</b>                                                                  |               |
| • at AC                                                                               | 30 ... 95 ms  |
| • at DC                                                                               | 30 ... 95 ms  |
| <b>opening delay</b>                                                                  |               |

|                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>                                                                                                                                                                                                                                            | 40 ... 80 ms                                                                                                                                                                    |
| <b>arcing time</b>                                                                                                                                                                                                                                                                                                    | 40 ... 80 ms                                                                                                                                                                    |
| <b>control version of the switch operating mechanism</b>                                                                                                                                                                                                                                                              | 10 ... 15 ms                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                       | Standard A1 - A2                                                                                                                                                                |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                 |
| number of NC contacts for auxiliary contacts                                                                                                                                                                                                                                                                          | 2                                                                                                                                                                               |
| instantaneous contact                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                 |
| number of NO contacts for auxiliary contacts                                                                                                                                                                                                                                                                          | 2                                                                                                                                                                               |
| instantaneous contact                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                 |
| operational current at AC-12 maximum                                                                                                                                                                                                                                                                                  | 10 A                                                                                                                                                                            |
| <b>operational current at AC-15</b>                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> </ul>                                                                                                                                                                                                                                              | 6 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                                                                                                                                                                                                                                              | 3 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                                                                                                                                                                                                                                              | 2 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                                                                                                                                                                                                                                              | 1 A                                                                                                                                                                             |
| <b>operational current at DC-12</b>                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>                                                                                                                                                                                                                                               | 10 A                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>                                                                                                                                                                                                                                               | 6 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>                                                                                                                                                                                                                                               | 6 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>                                                                                                                                                                                                                                              | 3 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>                                                                                                                                                                                                                                              | 2 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>                                                                                                                                                                                                                                              | 1 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                              | 0.15 A                                                                                                                                                                          |
| <b>operational current at DC-13</b>                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>                                                                                                                                                                                                                                               | 10 A                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>                                                                                                                                                                                                                                               | 2 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>                                                                                                                                                                                                                                               | 2 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>                                                                                                                                                                                                                                              | 1 A                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>                                                                                                                                                                                                                                              | 0.9 A                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>                                                                                                                                                                                                                                              | 0.3 A                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                              | 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>full-load current (FLA) for 3-phase AC motor</b>                                                                                                                                                                                                                                                                   |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> </ul>                                                                                                                                                                                                                                              | 302 A                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                              | 289 A                                                                                                                                                                           |
| <b>yielded mechanical performance [hp]</b>                                                                                                                                                                                                                                                                            |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul>                                                    | 100 hp<br>125 hp<br>250 hp<br>300 hp                                                                                                                                            |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                           | A600 / Q600                                                                                                                                                                     |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                 |
| <b>design of the fuse link</b>                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul> | gG: 500 A (690 V, 100 kA)<br>gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)<br>gG: 10 A (500 V, 1 kA)                                          |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                             |                                                                                                                                                                                 |
| <b>mounting position</b>                                                                                                                                                                                                                                                                                              | +/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                               | screw fixing                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>                                                                                                                                                                                                                                             | Yes                                                                                                                                                                             |
| <b>height</b>                                                                                                                                                                                                                                                                                                         | 210 mm                                                                                                                                                                          |
| <b>width</b>                                                                                                                                                                                                                                                                                                          | 145 mm                                                                                                                                                                          |
| <b>depth</b>                                                                                                                                                                                                                                                                                                          | 206 mm                                                                                                                                                                          |
| <b>required spacing</b>                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> </ul> </li> </ul>                                                                                                                                                       | 20 mm<br>10 mm                                                                                                                                                                  |

|                      |       |
|----------------------|-------|
| — downwards          | 10 mm |
| — at the side        | 0 mm  |
| • for grounded parts |       |
| — forwards           | 20 mm |
| — upwards            | 10 mm |
| — at the side        | 10 mm |
| — downwards          | 10 mm |
| • for live parts     |       |
| — forwards           | 20 mm |
| — upwards            | 10 mm |
| — downwards          | 10 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

Connection bar  
screw-type terminals  
Screw-type terminals  
Screw-type terminals

### width of connection bar

25 mm

### thickness of connection bar

6 mm

### diameter of holes

11 mm

### number of holes

1

### type of connectable conductor cross-sections

- at AWG cables for main contacts

2/0 ... 500 kcmil

### connectable conductor cross-section for main contacts

- stranded

70 ... 240 mm<sup>2</sup>

### connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

0.5 ... 4 mm<sup>2</sup>  
0.5 ... 2.5 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>), max. 2x (0.75 ... 4 mm<sup>2</sup>)  
2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), max. 2x (0.75 ... 4 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), 1x 12

### AWG number as coded connectable conductor cross section

- for auxiliary contacts

18 ... 14

## Safety related data

### product function

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

Yes  
No

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

20 y

### protection class IP on the front according to IEC 60529

IP00; IP20 with box terminal/cover

### touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front with box terminal/cover

### suitability for use

- safety-related switching OFF

Yes

## Certificates/ approvals

### General Product Approval



[Confirmation](#)



[KC](#)



| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)



EG-Konf.



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

## Marine / Shipping

other



[Confirmation](#)

other

Railway

[Miscellaneous](#)

[Confirmation](#)

[Vibration and Shock](#)

[Special Test Certificate](#)

## Further information

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=3RT1266-6AR36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1266-6AR36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AR36>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1266-6AR36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1266-6AR36&lang=en)

Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1266-6AR36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1266-6AR36&objecttype=14&gridview=view1>



