



power contactor, AC-3e/AC-3, 80 A, 37 kW / 400 V, 3-pole, 175-280 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S3

|                                                                                                              |                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>product brand name</b>                                                                                    | SIRIUS                                                                                                                              |
| <b>product designation</b>                                                                                   | Power contactor                                                                                                                     |
| <b>product type designation</b>                                                                              | 3RT2                                                                                                                                |
| <b>General technical data</b>                                                                                |                                                                                                                                     |
| <b>size of contactor</b>                                                                                     | S3                                                                                                                                  |
| <b>product extension</b>                                                                                     |                                                                                                                                     |
| • function module for communication                                                                          | No                                                                                                                                  |
| • auxiliary switch                                                                                           | Yes                                                                                                                                 |
| <b>power loss [W] for rated value of the current</b>                                                         |                                                                                                                                     |
| • at AC in hot operating state                                                                               | 15.9 W                                                                                                                              |
| • at AC in hot operating state per pole                                                                      | 5.3 W                                                                                                                               |
| • without load current share typical                                                                         | 1.8 W                                                                                                                               |
| <b>type of calculation of power loss depending on pole</b>                                                   | quadratic                                                                                                                           |
| <b>insulation voltage</b>                                                                                    |                                                                                                                                     |
| • of main circuit with degree of pollution 3 rated value                                                     | 1 000 V                                                                                                                             |
| • of auxiliary circuit with degree of pollution 3 rated value                                                | 690 V                                                                                                                               |
| <b>surge voltage resistance</b>                                                                              |                                                                                                                                     |
| • of main circuit rated value                                                                                | 8 kV                                                                                                                                |
| • of auxiliary circuit rated value                                                                           | 6 kV                                                                                                                                |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 690 V                                                                                                                               |
| <b>shock resistance at rectangular impulse</b>                                                               |                                                                                                                                     |
| • at AC                                                                                                      | 10.3g / 5 ms, 6. g / 10 ms                                                                                                          |
| • at DC                                                                                                      | 6.7 g / 5 ms, 4g / 10 ms                                                                                                            |
| <b>shock resistance with sine pulse</b>                                                                      |                                                                                                                                     |
| • at AC                                                                                                      | 16.3g / 5 ms, 10.g / 10 ms                                                                                                          |
| • at DC                                                                                                      | 10.6 g / 5 ms, 6.3 g / 10 ms                                                                                                        |
| <b>mechanical service life (operating cycles)</b>                                                            |                                                                                                                                     |
| • 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                                                                                                                          |
| <b>reference code according to IEC 81346-2</b>                                                               | Q                                                                                                                                   |
| <b>Substance Prohibitance (Date)</b>                                                                         | 03/01/2017                                                                                                                          |
| <b>SVHC substance name</b>                                                                                   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 |
| <b>Weight</b>                                                                                                | 1.82 kg                                                                                                                             |
| <b>Ambient conditions</b>                                                                                    |                                                                                                                                     |
| installation altitude at height above sea level maximum                                                      | 2 000 m                                                                                                                             |
| <b>ambient temperature</b>                                                                                   |                                                                                                                                     |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -25 ... +60 °C     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -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>Environmental footprint</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |
| Environmental Product Declaration (EPD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                |
| global warming potential [CO2 eq] total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 267 kg             |
| global warming potential [CO2 eq] during manufacturing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9.35 kg            |
| global warming potential [CO2 eq] during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 259 kg             |
| global warming potential [CO2 eq] after end of life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -1.55 kg           |
| <b>Main circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |
| <b>number of poles for main current circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                  |
| <b>number of NO contacts for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3                  |
| <b>operating voltage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |
| <ul style="list-style-type: none"> <li>at AC-3 rated value maximum</li> <li>at AC-3e rated value maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 000 V            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1 000 V            |
| <b>operational current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |
| <ul style="list-style-type: none"> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> <li>at AC-1 <ul style="list-style-type: none"> <li>up to 690 V at ambient temperature 40 °C rated value</li> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> <li>at AC-3 <ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> <li>at 1000 V rated value</li> </ul> </li> <li>at AC-3e <ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> <li>at 1000 V rated value</li> </ul> </li> <li>at AC-4 at 400 V rated value</li> <li>at AC-5a up to 690 V rated value</li> <li>at AC-5b up to 400 V rated value</li> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 230 V for current peak value n=20 rated value</li> <li>up to 400 V for current peak value n=20 rated value</li> <li>up to 500 V for current peak value n=20 rated value</li> <li>up to 690 V for current peak value n=20 rated value</li> </ul> </li> <li>at AC-6a <ul style="list-style-type: none"> <li>up to 230 V for current peak value n=30 rated value</li> <li>up to 400 V for current peak value n=30 rated value</li> <li>up to 500 V for current peak value n=30 rated value</li> <li>up to 690 V for current peak value n=30 rated value</li> </ul> </li> </ul> | 125 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 125 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 105 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 58 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 58 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 66 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 110 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 80 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 58 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 54 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 54 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 54 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 54 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 50 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |
| <ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 690 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 34 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24 A               |
| <b>operational current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |
| <ul style="list-style-type: none"> <li>at 1 current path at DC-1 <ul style="list-style-type: none"> <li>at 24 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 220 V rated value</li> <li>at 440 V rated value</li> <li>at 600 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 100 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 60 A               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9 A                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 A                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.6 A              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.4 A              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                     |
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| <ul style="list-style-type: none"> <li>● <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 3 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>● <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 60 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul> | <p>100 A<br/>100 A<br/>100 A<br/>10 A<br/>1.8 A<br/>1 A</p> <p>100 A<br/>100 A<br/>100 A<br/>80 A<br/>4.5 A<br/>2.6 A</p> <p>40 A<br/>6 A<br/>2.5 A<br/>1 A<br/>0.15 A<br/>0.06 A</p> <p>100 A<br/>100 A<br/>100 A<br/>7 A<br/>0.42 A<br/>0.16 A</p> <p>100 A<br/>100 A<br/>100 A<br/>35 A<br/>0.8 A<br/>0.35 A</p> |
| <p><b>operating power</b></p> <ul style="list-style-type: none"> <li>● at AC-2 at 400 V rated value</li> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> <li>● at AC-3e <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>37 kW<br/>22 kW<br/>37 kW<br/>45 kW<br/>55 kW<br/>37 kW</p> <p>22 kW<br/>37 kW<br/>45 kW<br/>55 kW<br/>37 kW</p>                                                                                                                                                                                                 |
| <p><b>operating power for approx. 200000 operating cycles at AC-4</b></p> <ul style="list-style-type: none"> <li>● at 400 V rated value</li> <li>● at 690 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>17.9 kW<br/>21.8 kW</p>                                                                                                                                                                                                                                                                                          |
| <p><b>operating apparent power at AC-6a</b></p> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=20 rated value</li> <li>● up to 400 V for current peak value n=20 rated value</li> <li>● up to 500 V for current peak value n=20 rated value</li> <li>● up to 690 V for current peak value n=20 rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>31 kVA<br/>55 kVA<br/>69 kVA<br/>69 kVA</p>                                                                                                                                                                                                                                                                      |
| <p><b>operating apparent power at AC-6a</b></p> <ul style="list-style-type: none"> <li>● up to 230 V for current peak value n=30 rated value</li> <li>● up to 400 V for current peak value n=30 rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>21.5 kVA<br/>37.4 kVA</p>                                                                                                                                                                                                                                                                                        |

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| <ul style="list-style-type: none"> <li>• up to 500 V for current peak value n=30 rated value</li> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>                                                                                                                                                                                                                                                          | 46.7 kVA<br>64.5 kVA                                                                                                                                                                                                                                                                                              |
| <b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul> | 1 500 A; Use minimum cross-section acc. to AC-1 rated value<br>1 186 A; Use minimum cross-section acc. to AC-1 rated value<br>851 A; Use minimum cross-section acc. to AC-1 rated value<br>538 A; Use minimum cross-section acc. to AC-1 rated value<br>423 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>                                                                                                                                                                                                                                                                                                                   | 1 000 1/h<br>1 000 1/h                                                                                                                                                                                                                                                                                            |
| <b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-3e <ul style="list-style-type: none"> <li>— maximum</li> </ul> </li> <li>• at AC-4 maximum</li> </ul>                                                                                                                                                                | 900 1/h<br>400 1/h<br>1 000 1/h<br>1 000 1/h<br>300 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> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>                                                                                                                                                                                                                                                                                    | 175 ... 280 V<br>175 ... 280 V                                                                                                                                                                                                                                                                                    |
| <b>control supply voltage at DC rated value</b>                                                                                                                                                                                                                                                                                                                                                                                 | 175 ... 280 V                                                                                                                                                                                                                                                                                                     |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> <ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>                                                                                                                                                                                                                                             | 0.8<br>1.1                                                                                                                                                                                                                                                                                                        |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                                          | 0.8 ... 1.1<br>0.8 ... 1.1                                                                                                                                                                                                                                                                                        |
| <b>design of the surge suppressor</b>                                                                                                                                                                                                                                                                                                                                                                                           | with varistor                                                                                                                                                                                                                                                                                                     |
| <b>inrush current peak</b>                                                                                                                                                                                                                                                                                                                                                                                                      | 65 A                                                                                                                                                                                                                                                                                                              |
| <b>duration of inrush current peak</b>                                                                                                                                                                                                                                                                                                                                                                                          | 5 µs                                                                                                                                                                                                                                                                                                              |
| <b>locked-rotor current mean value</b>                                                                                                                                                                                                                                                                                                                                                                                          | 0.44 A                                                                                                                                                                                                                                                                                                            |
| <b>locked-rotor current peak</b>                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 A                                                                                                                                                                                                                                                                                                             |
| <b>duration of locked-rotor current</b>                                                                                                                                                                                                                                                                                                                                                                                         | 150 ms                                                                                                                                                                                                                                                                                                            |
| <b>holding current mean value</b>                                                                                                                                                                                                                                                                                                                                                                                               | 10 mA                                                                                                                                                                                                                                                                                                             |
| <b>apparent pick-up power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                                                                             | 151 VA<br>151 VA                                                                                                                                                                                                                                                                                                  |
| <b>apparent holding power</b> <ul style="list-style-type: none"> <li>• at minimum rated control supply voltage at DC</li> <li>• at maximum rated control supply voltage at DC</li> </ul>                                                                                                                                                                                                                                        | 1.8 VA<br>1.8 VA                                                                                                                                                                                                                                                                                                  |
| <b>apparent holding power</b> <ul style="list-style-type: none"> <li>• at minimum rated control supply voltage at AC <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> <li>• at maximum rated control supply voltage at AC <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> </ul>                                                                    | 3.1 VA<br>3.1 VA<br>3.1 VA<br>3.1 VA                                                                                                                                                                                                                                                                              |
| <b>apparent holding power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                                                                             | 3.1 VA<br>3.1 VA                                                                                                                                                                                                                                                                                                  |
| <b>inductive power factor with the holding power of the coil</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                                                                                                                                               | 0.95<br>0.95                                                                                                                                                                                                                                                                                                      |
| <b>closing power of magnet coil at DC</b>                                                                                                                                                                                                                                                                                                                                                                                       | 76 W                                                                                                                                                                                                                                                                                                              |
| <b>holding power of magnet coil at DC</b>                                                                                                                                                                                                                                                                                                                                                                                       | 1.8 W                                                                                                                                                                                                                                                                                                             |
| <b>closing delay</b>                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                   |

|                                                                            |                  |
|----------------------------------------------------------------------------|------------------|
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul> | 50 ... 70 ms     |
| <b>opening delay</b>                                                       |                  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul> | 38 ... 57 ms     |
| <b>arcing time</b>                                                         | 10 ... 20 ms     |
| <b>control version of the switch operating mechanism</b>                   | Standard A1 - A2 |

#### Auxiliary circuit

|                                                                                                                                                                                                                                                                       |                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| number of NC contacts for auxiliary contacts instantaneous contact                                                                                                                                                                                                    | 1                                                    |
| number of NO contacts for auxiliary contacts instantaneous contact                                                                                                                                                                                                    | 1                                                    |
| operational current at AC-12 maximum                                                                                                                                                                                                                                  | 10 A                                                 |
| <b>operational current at AC-15</b>                                                                                                                                                                                                                                   |                                                      |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>                                                                                              | 6 A<br>3 A<br>2 A<br>1 A                             |
| <b>operational current at DC-12</b>                                                                                                                                                                                                                                   |                                                      |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul> | 10 A<br>6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A    |
| <b>operational current at DC-13</b>                                                                                                                                                                                                                                   |                                                      |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul> | 10 A<br>2 A<br>2 A<br>1 A<br>0.9 A<br>0.3 A<br>0.1 A |
| <b>contact reliability of auxiliary contacts</b>                                                                                                                                                                                                                      | 1 faulty switching per 100 million (17 V, 1 mA)      |

#### UL/CSA ratings

|                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>full-load current (FLA) for 3-phase AC motor</b>                                                                                                                                                                                                                                                                                                                                                                   |                                                     |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                              | 77 A<br>62 A                                        |
| <b>yielded mechanical performance [hp]</b>                                                                                                                                                                                                                                                                                                                                                                            |                                                     |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <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> | 7.5 hp<br>15 hp<br>25 hp<br>30 hp<br>60 hp<br>60 hp |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                                                                                           | A600 / P600                                         |

#### Short-circuit protection

|                                                                                                                                                                                                                                                                         |                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 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>                                                                                                                                                                                                                                          |                                                                                                            |
| <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> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul> | gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)<br>gG: 10 A (500 V, 1 kA) |

#### Installation/ mounting/ dimensions

|                                        |                                                                                                                                      |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>               | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| 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 60715                                                             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 140 mm |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 70 mm  |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 152 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 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>● for grounded parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>● for live parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> </ul> |        |

### 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>spring-loaded terminals<br>Spring-type terminals<br>Spring-type terminals                             |
| <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>— finely stranded with core end processing</li> </ul> </li> <li>● for AWG cables for main contacts</li> </ul>                                                                                               | 2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )<br>2x (10 ... 1/0), 1x (10 ... 2)                          |
| <b>connectable conductor cross-section for main contacts</b>                                                                                                                                                                                                                                                  |                                                                                                                               |
| <ul style="list-style-type: none"> <li>● solid</li> <li>● stranded</li> <li>● finely stranded with core end processing</li> </ul>                                                                                                                                                                             | 2.5 ... 16 mm <sup>2</sup><br>6 ... 70 mm <sup>2</sup><br>2.5 ... 50 mm <sup>2</sup>                                          |
| <b>connectable conductor cross-section for auxiliary contacts</b>                                                                                                                                                                                                                                             |                                                                                                                               |
| <ul style="list-style-type: none"> <li>● solid or stranded</li> <li>● finely stranded with core end processing</li> <li>● finely stranded without core end processing</li> </ul>                                                                                                                              | 0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup>                                     |
| <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 or stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>● for AWG cables for auxiliary contacts</li> </ul> | 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16) |
| <b>AWG number as coded connectable conductor cross section</b>                                                                                                                                                                                                                                                |                                                                                                                               |
| <ul style="list-style-type: none"> <li>● for main contacts</li> <li>● for auxiliary contacts</li> </ul>                                                                                                                                                                                                       | 10 ... 2<br>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> <li>● suitable for safety function</li> </ul> | Yes<br>No<br>Yes |
| suitability for use safety-related switching OFF                                                                                                                                                        | Yes              |
| <b>service life maximum</b>                                                                                                                                                                             | 20 a             |
| <b>test wear-related service life necessary</b>                                                                                                                                                         | Yes              |
| <b>proportion of dangerous failures</b>                                                                                                                                                                 |                  |
| <ul style="list-style-type: none"> <li>● with low demand rate according to SN 31920</li> <li>● with high demand rate according to SN 31920</li> </ul>                                                   | 40 %<br>73 %     |
| <b>B10 value with high demand rate according to SN 31920</b>                                                                                                                                            | 1 000 000        |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>                                                                                                                                    | 100 FIT          |

|                                                         |                                                  |
|---------------------------------------------------------|--------------------------------------------------|
| ISO 13849                                               |                                                  |
| device type according to ISO 13849-1                    | 3                                                |
| overdimensioning according to ISO 13849-2 necessary     | Yes                                              |
| IEC 61508                                               |                                                  |
| safety device type according to IEC 61508-2             | Type A                                           |
| Electrical Safety                                       |                                                  |
| protection class IP on the front according to IEC 60529 | IP20                                             |
| touch protection on the front according to IEC 60529    | finger-safe, for vertical contact from the front |

### Approvals Certificates

#### General Product Approval



EG-Konf.



UL

[KC](#)



|     |                   |                      |
|-----|-------------------|----------------------|
| EMV | Test Certificates | Maritime application |
|-----|-------------------|----------------------|



RCM

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



DNV



LRS

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



PRS



RINA



RMRS



[Confirmation](#)

[Special Test Certificate](#)

### Environment



[Environmental Confirmations](#)

### Further information

#### Information on the packaging

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

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

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

#### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2045-3NP30>

#### Cax online generator

<http://support.automation.siemens.com/WWW/CAXorder/default.aspx?lang=en&mlfb=3RT2045-3NP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2045-3NP30>

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

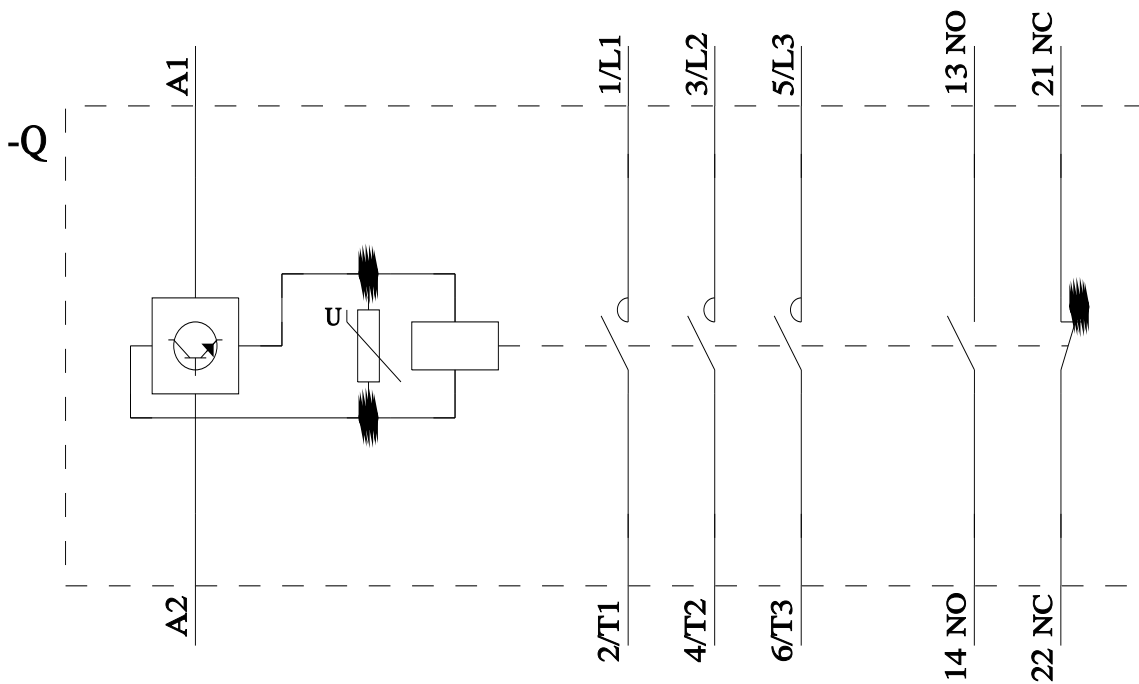
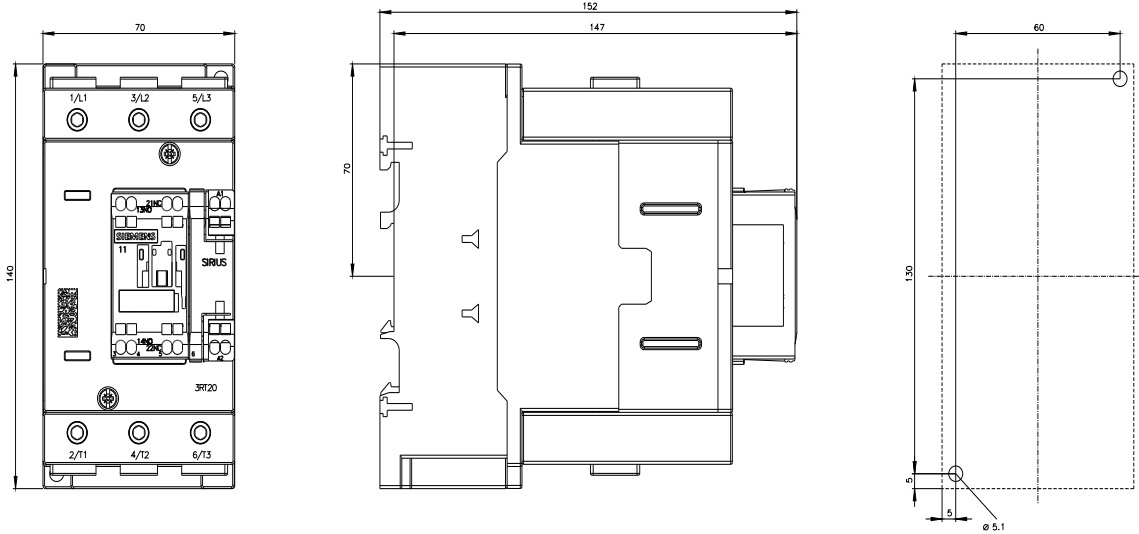
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2045-3NP30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2045-3NP30&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2045-3NP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2045-3NP30&objecttype=14&gridview=view1>



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4/17/2025

