



Load feeder fuseless, Direct-on-line starting 400 V AC, Size S0 27.0...32.0 A 24 V DC screw terminal for installation on standard mounting rail (also fulfills type of coordination 1) Type of coordination 2, I<sub>q</sub> = 150 kA 1 NO+1 NC (contactor)

|  |   |
|--|---|
| <b>product brand name</b>  | SIRIUS  |
| <b>product designation</b>   | Direct (on-line) starter  |
| <b>design of the product</b>   | for standard rail or screw mounting   |
| <b>product type designation</b>  | 3RA21   |
| <b>manufacturer's article number</b>   |   |
| <ul style="list-style-type: none"> <li>• of the supplied contactor</li> <li>• of the supplied circuit-breakers</li> <li>• of the supplied link module</li> </ul> | <a href="#">3RT2027-1BB40</a><br><a href="#">3RV2021-4EA10</a><br><a href="#">3RA2921-1BA00</a> |
| <b>General technical data</b>  |   |
| <b>size of the circuit-breaker</b>   | S0  |
| <b>size of load feeder</b>   | S0  |
| insulation voltage with degree of pollution 3 at AC rated value  | 690 V   |
| <b>surge voltage resistance rated value</b>  | 6 kV  |
| <b>degree of protection NEMA rating</b>  | other   |
| shock resistance according to IEC 60068-2-27   | 6g / 11 ms  |
| mechanical service life (switching cycles) of contactor typical  | 10 000 000  |
| <b>type of assignment</b>  | 2   |
| <b>type of protection according to ATEX directive 2014/34/EU</b>   | Ex II (2) GD  |
| certificate of suitability according to ATEX directive 2014/34/EU  | DMT 02 ATEX F 001   |
| <b>Substance Prohibition (Date)</b>  | 10/01/2009  |
| <b>Ambient conditions</b>  |   |
| <b>ambient temperature</b>   |   |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>                                       | -20 ... +60 °C<br>-50 ... +80 °C<br>-50 ... +80 °C  |
| <b>temperature compensation</b>  | -20 ... +60 °C  |
| relative humidity during operation   | 10 ... 95 %   |
| <b>Main circuit</b>  |   |
| <b>number of poles for main current circuit</b>  | 3   |
| <b>design of the switching contact</b>   | electromechanical   |
| <b>adjustable current response value current of the current-dependent overload release</b>   | 27 ... 32 A   |
| <b>operating voltage</b>   |   |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>   | 690 V<br>690 V  |
| <b>operating frequency rated value</b>   | 50 ... 60 Hz  |

|  |  |
|--|--|
| operational current at AC-3 at 400 V rated value   | 29 A   |
| operating power at AC-3  |  |
| • at 400 V rated value   | 15 000 W   |
| <b>Control circuit/ Control</b>  |  |
| <b>type of voltage of the control supply voltage</b>   | DC   |
| <b>control supply voltage at DC</b>  |  |
| • rated value  | 24 V   |
| • rated value  | 24 ... 24 V  |
| <b>holding power of magnet coil at DC</b>  | 5.9 W  |
| <b>Auxiliary circuit</b>   |  |
| <b>product extension auxiliary switch</b>  | Yes  |
| <b>Protective and monitoring functions</b>   |  |
| <b>trip class</b>  | CLASS 10   |
| <b>design of the overload release</b>  | thermal (bimetallic)   |
| <b>UL/CSA ratings</b>  |  |
| <b>full-load current (FLA) for 3-phase AC motor</b>  |  |
| • at 480 V rated value   | 14 A   |
| <b>yielded mechanical performance [hp]</b>   |  |
| • for 3-phase AC motor   |  |
| — at 220/230 V rated value   | 10 hp  |
| — at 460/480 V rated value   | 20 hp  |
| — at 575/600 V rated value   | 25 hp  |
| <b>Short-circuit protection</b>  |  |
| <b>product function short circuit protection</b>   | Yes  |
| <b>design of the short-circuit trip</b>  | magnetic   |
| <b>conditional short-circuit current (I<sub>q</sub>)</b>                                       |  |
| • at 400 V according to IEC 60947-4-1 rated value  | 150 000 A  |
| <b>Installation/ mounting/ dimensions</b>  |  |
| <b>mounting position</b>   | vertical   |
| <b>fastening method</b>  | screw and snap-on mounting onto 35 mm standard mounting rail |
| <b>height</b>  | 193 mm   |
| <b>width</b>   | 45 mm  |
| <b>depth</b>   | 107 mm   |
| <b>required spacing</b>  |  |
| • for grounded parts   |  |
| — forwards   | 20 mm  |
| — backwards  | 0 mm   |
| — upwards  | 50 mm  |
| — at the side  | 20 mm  |
| — downwards  | 10 mm  |
| • for live parts   |  |
| — forwards   | 20 mm  |
| — backwards  | 0 mm   |
| — upwards  | 50 mm  |
| — downwards  | 10 mm  |
| — at the side  | 20 mm  |
| <b>Connections/ Terminals</b>  |  |
| <b>type of electrical connection</b>   |  |
| • for main current circuit   | screw-type terminals   |
| • for auxiliary and control circuit  | screw-type terminals   |
| <b>type of connectable conductor cross-sections</b>  |  |
| • for main contacts  |  |
| — stranded   | 1 ... 10 mm <sup>2</sup> , 2x (2.5 ... 6 mm <sup>2</sup> )   |
| • at AWG cables for main contacts  | 2x (16 ... 12), 2x (14 ... 8)                                |
| connectable conductor cross-section for main contacts finely stranded with core end processing | 1 ... 6 mm <sup>2</sup>                                      |
| <b>Safety related data</b>   |  |
| B10 value with high demand rate according to SN 31920  | 1 000 000  |
| <b>proportion of dangerous failures</b>  |  |

|   |  |
|---|--|
| • with high demand rate according to SN 31920               | 73 %   |
| <b>touch protection on the front according to IEC 60529</b> | finger-safe, for vertical contact from the front |
| <b>Communication/ Protocol</b>                              |  |
| <b>protocol is supported</b>                                |  |
| • PROFINET IO protocol                                      | No   |
| • PROFIsafe protocol  | No   |
| protocol is supported AS-Interface protocol                 | No   |

**Certificates/ approvals**

|                                 |                                       |                                  |
|---------------------------------|---------------------------------------|----------------------------------|
| <b>General Product Approval</b> | <b>For use in hazardous locations</b> | <b>Declaration of Conformity</b> |
|---------------------------------|---------------------------------------|----------------------------------|



[Confirmation](#)

|                                  |                          |                          |
|----------------------------------|--------------------------|--------------------------|
| <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|----------------------------------|--------------------------|--------------------------|



[Type Test Certificates/Test Report](#)   [Special Test Certificate](#)

|                          |              |                |
|--------------------------|--------------|----------------|
| <b>Marine / Shipping</b> | <b>other</b> | <b>Railway</b> |
|--------------------------|--------------|----------------|



[Confirmation](#)   [Vibration and Shock](#)

**Dangerous Good**

[Transport Information](#)

**Further information**

- Information- and Downloadcenter (Catalogs, Brochures,...)  
<https://www.siemens.com/ic10>
- Industry Mall (Online ordering system)  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA2120-4EA27-0BB4>
- Cax online generator  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2120-4EA27-0BB4>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-4EA27-0BB4>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA2120-4EA27-0BB4&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2120-4EA27-0BB4&lang=en)
- Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-4EA27-0BB4/char>
- Further characteristics (e.g. electrical endurance, switching frequency)  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2120-4EA27-0BB4&objecttype=14&gridview=view1>

last modified: 2/16/2022