

SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 3...12 A  
IP20 Connection main circuit: Spring-type terminal Connection auxiliary circuit:  
plug-in, without terminals

|  |   |
|--|---|
| <b>product brand name</b>  | SIRIUS  |
| <b>product designation</b>   | compact starter   |
| <b>design of the product</b>   | direct starter  |
| <b>product type designation</b>  | 3RA61   |
| <b>General technical data</b>  |   |
| product function control circuit interface to parallel wiring                              | Yes   |
| product extension auxiliary switch   | Yes   |
| <b>power loss [W] for rated value of the current</b>                                       |   |
| • at AC in hot operating state   | 1.8 W   |
| • at AC in hot operating state per pole  | 0.6 W   |
| • without load current share typical   | 2.9 W   |
| <b>insulation voltage rated value</b>  | 690 V   |
| <b>degree of pollution</b>   | 3   |
| <b>surge voltage resistance rated value</b>  | 6 000 V   |
| <b>maximum permissible voltage for protective separation</b>                               |   |
| • between main and auxiliary circuit   | 400 V   |
| • between auxiliary and auxiliary circuit  | 250 V   |
| • between control and auxiliary circuit  | 300 V   |
| <b>degree of protection NEMA rating</b>  | other   |
| <b>shock resistance</b>  | a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes  |
| <b>vibration resistance</b>  | f = 4 ... 5.8 Hz, d = 15 mm; f = 5.8 ... 500 Hz, a = 20 m/s <sup>2</sup> ; 10 cycles  |
| <b>mechanical service life (operating cycles)</b>  |   |
| • of the main contacts typical   | 10 000 000  |
| • of auxiliary contacts typical  | 10 000 000  |
| • of the signaling contacts typical  | 10 000 000  |
| <b>electrical endurance (operating cycles) of auxiliary contacts</b>                       |   |
| • at DC-13 at 6 A at 24 V typical  | 30 000  |
| • at AC-15 at 6 A at 230 V typical   | 200 000   |
| <b>type of coordination</b>  | continuous operation according to IEC 60947-6-2   |
| <b>reference code according to IEC 81346-2</b>   | Q   |
| <b>Substance Prohibitance (day/month/year)</b>   | 05/01/2012  |
| <b>SVHC substance name</b>   | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329) CAS-No. 3147-75-9<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 |
| <b>Net Weight</b>  | 1.539 kg  |
| <b>Ambient conditions</b>  |   |
| installation altitude at height above sea level maximum                                    | 2 000 m   |
| <b>ambient temperature</b>   |   |
| • during operation   | -20 ... +60 °C  |
| • during storage   | -55 ... +80 °C  |
| • during transport   | -55 ... +80 °C  |
| relative humidity during operation   | 10 ... 90 %   |
| <b>Main circuit</b>  |   |
| <b>number of poles for main current circuit</b>  | 3   |
| <b>adjustable current response value current of the current-dependent overload release</b> | 3 ... 12 A  |

|   |                            |
|---|----------------------------|
| <b>formula for making capacity limit current</b>                                      | 12 x I <sub>e</sub>        |
| <b>formula for limit current breaking capacity</b>                                    | 10 x I <sub>e</sub>        |
| <b>yielded mechanical performance for 4-pole AC motor</b>                             |                            |
| • at 400 V rated value  | 5.5 kW                     |
| • at 500 V rated value  | 5.5 kW                     |
| • at 690 V rated value  | 7.5 kW                     |
| operating voltage at AC-3 rated value maximum   | 690 V                      |
| <b>operational current</b>  |                            |
| • at AC at 400 V rated value  | 12 A                       |
| • at AC-3 at 400 V rated value  | 12 A                       |
| • at AC-43  |                            |
| — at 400 V rated value  | 11.5 A                     |
| — at 500 V rated value  | 12.4 A                     |
| — at 690 V rated value  | 8.9 A                      |
| <b>operating power</b>  |                            |
| • at AC-3 at 400 V rated value  | 5.5 kW                     |
| • at AC-43  |                            |
| — at 400 V rated value  | 5 500 W                    |
| — at 500 V rated value  | 5 500 W                    |
| — at 690 V rated value  | 7 500 W                    |
| <b>no-load switching frequency</b>  | 3 600 1/h                  |
| <b>operating frequency</b>  |                            |
| • at AC-41 according to IEC 60947-6-2 maximum   | 750 1/h                    |
| • at AC-43 according to IEC 60947-6-2 maximum   | 250 1/h                    |
| <b>Control circuit/ Control</b>   |                            |
| <b>type of voltage</b>  | AC/DC                      |
| <b>control supply voltage 1 at AC</b>   |                            |
| • at 50 Hz rated value  | 24 V                       |
| • at 50 Hz  | 24 V                       |
| • at 60 Hz rated value  | 24 V                       |
| • at 60 Hz  | 24 V                       |
| <b>control supply voltage frequency</b>   |                            |
| • 1 rated value   | 50 Hz                      |
| • 2 rated value   | 60 Hz                      |
| <b>control supply voltage 1 at DC rated value</b>                                     | 24 V                       |
| <b>control supply voltage 1 at DC</b>   | 24 V                       |
| <b>holding power</b>  |                            |
| • at AC maximum   | 2.8 W                      |
| • at DC maximum   | 2.9 W                      |
| <b>Auxiliary circuit</b>  |                            |
| <b>number of NC contacts for auxiliary contacts</b>                                   | 1                          |
| <b>number of NO contacts for auxiliary contacts</b>                                   | 1                          |
| number of NO contacts of instantaneous short-circuit trip unit for signaling contact  | 1                          |
| number of CO contacts of the current-dependent overload release for signaling contact | 1                          |
| <b>operational current of auxiliary contacts at AC-12 maximum</b>                     | 10 A                       |
| operational current of auxiliary contacts at DC-13 at 250 V                           | 0.27 A                     |
| <b>Protective and monitoring functions</b>  |                            |
| <b>trip class</b>   | CLASS 10 and 20 adjustable |
| <b>operating short-circuit current breaking capacity (I<sub>cs</sub>)</b>             |                            |
| • at 400 V rated value  | 53 kA                      |
| • at 500 V rated value  | 3 kA                       |
| • at 690 V rated value  | 3 kA                       |
| <b>UL/CSA ratings</b>   |                            |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                   |                            |
| • at 480 V rated value  | 12 A                       |
| • at 600 V rated value  | 12 A                       |
| yielded mechanical performance [hp] 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>   | <p>3 hp</p> <p>3 hp</p> <p>7.5 hp</p> <p>10 hp</p>  |
| <b>contact rating of auxiliary contacts according to UL</b>  | contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300   |
| <b>Short-circuit protection</b>  |   |
| <b>product function short circuit protection</b>   | Yes   |
| <b>design of short-circuit protection</b>  | electromagnetic   |
| <b>design of the fuse link</b>   |   |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> <li>• for short-circuit protection of the signaling switch of the short-circuit release required</li> <li>• for short-circuit protection of the signaling switch of the overload release required</li> </ul> | <p>fuse gL/gG: 10 A</p> <p>6A gL/gG/400V</p> <p>4A gL/gG/400V</p>   |
| <b>Installation/ mounting/ dimensions</b>  |   |
| <b>mounting position</b>   | any   |
| <b>mounting position recommended</b>   | vertical, on horizontal standard DIN rail   |
| <b>fastening method</b>  | screw and snap-on mounting  |
| <b>height</b>  | 191 mm  |
| <b>width</b>   | 45 mm   |
| <b>depth</b>   | 165 mm  |
| <b>Connections/ Terminals</b>  |   |
| <b>product component removable terminal for main circuit</b>   | Yes   |
| <b>product component removable terminal for auxiliary and control circuit</b>  | Yes   |
| <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> </ul>  | <p>spring-loaded terminals</p> <p>plug-in without terminals</p>   |
| type of connectable conductor cross-sections for main contacts   |   |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> </ul>   | <p>2x (1.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></p> <p>2x (1.5 ... 6 mm<sup>2</sup>)</p> <p>2x (1.5 ... 6 mm<sup>2</sup>)</p>          |
| <b>type of connectable conductor cross-sections</b>  |   |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— 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>                        | <p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (24 ... 16)</p> |
| <b>Safety related data</b>   |   |
| <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>  | <p>40 %</p> <p>50 %</p>   |
| <b>B10 value with high demand rate according to SN 31920</b>   | 3 000 000   |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>   | 100 FIT   |
| <b>IEC 61508</b>   |   |
| T1 value for proof test interval or service life according to IEC 61508  | 20 a  |
| <b>Electrical Safety</b>   |   |
| <b>protection class IP on the front according to IEC 60529</b>   | IP20  |
| <b>touch protection on the front according to IEC 60529</b>  | finger-safe   |
| <b>Communication/ Protocol</b>   |   |
| <b>product function bus communication</b>  | No  |
| <b>protocol is supported</b>   |   |
| <ul style="list-style-type: none"> <li>• AS-Interface protocol</li> <li>• IO-Link protocol</li> </ul>  | <p>No</p> <p>No</p>   |
| product function control circuit interface with IO link  | No  |
| <b>Electromagnetic compatibility</b>   |   |
| <b>conducted interference</b>  |   |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> <li>• due to high-frequency radiation according to IEC 61000-4-6</li> </ul> | <p>4 kV main contacts, 2 kV auxiliary contacts</p> <p>4 kV main contacts, 2 kV auxiliary contacts</p> <p>2 kV main contacts, 1 kV auxiliary contacts</p> <p>0.15-80MHz at 10V</p> |
| field-based interference according to IEC 61000-4-3   | 10 V/m  |
| electrostatic discharge according to IEC 61000-4-2  | 8 kV  |
| conducted HF interference emissions according to CISPR11  | 150 kHz ... 30 MHz Class A  |
| field-bound HF interference emission according to CISPR11   | 30 ... 1000 MHz Class A   |

**Supply voltage**

|   |    |
|---|----|
| Supply voltage required Auxiliary voltage | No |
|---|----|

**Display**

|                |   |
|----------------|---|
| number of LEDs | 2 |
|----------------|---|

**Approvals Certificates**

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

[Environmental Conformations](#)



|                          |     |                   |                   |                      |       |
|--------------------------|-----|-------------------|-------------------|----------------------|-------|
| General Product Approval | EMV | Functional Safety | Test Certificates | Maritime application | other |
|--------------------------|-----|-------------------|-------------------|----------------------|-------|



[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)



[Confirmation](#)

|       |                 |
|-------|-----------------|
| other | Dangerous goods |
|-------|-----------------|

[Confirmation](#)



[Transport Information](#)

**Further information**

Information on the packaging

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

Information for data generation and storage

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

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RA6120-2DB34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2DB34>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-2DB34&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-2DB34&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-2DB34>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="HAUPT"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>)

last modified:

4/4/2026