



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 8...32 A  
IP20 Connection main circuit: screw terminal Connection auxiliary circuit: screw terminal

|   |  |
|---|--|
| product brand name  | SIRIUS   |
| product designation   | compact starter  |
| design of the product   | direct starter   |
| product type designation                                      | 3RA61  |
| <b>General technical data</b>                                 |  |
| product function control circuit interface to parallel wiring | Yes  |
| product extension auxiliary switch                            | Yes  |
| power loss [W] for rated value of the current                 |  |
| • at AC in hot operating state                                | 5.4 W  |
| • at AC in hot operating state per pole                       | 1.8 W  |
| • without load current share typical                          | 3.5 W  |
| insulation voltage rated value                                | 690 V  |
| degree of pollution   | 3  |
| surge voltage resistance rated value                          | 6 000 V  |
| maximum permissible voltage for protective separation         |  |
| • between main and auxiliary circuit                          | 400 V  |
| • between auxiliary and auxiliary circuit                     | 250 V  |
| • between control and auxiliary circuit                       | 300 V  |
| degree of protection NEMA rating                              | other  |
| shock resistance  | a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes   |
| vibration resistance  | f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles                         |
| mechanical service life (operating cycles)                    |  |
| • of the main contacts typical                                | 10 000 000   |
| • of auxiliary contacts typical                               | 10 000 000   |
| • of the signaling contacts typical                           | 10 000 000   |
| electrical endurance (operating cycles) of auxiliary contacts |  |
| • at DC-13 at 6 A at 24 V typical                             | 30 000   |
| • at AC-15 at 6 A at 230 V typical                            | 200 000  |
| type of assignment  | continuous operation according to IEC 60947-6-2  |
| reference code according to IEC 81346-2                       | Q  |
| Substance Prohibitance (Date)                                 | 05/01/2012   |
| SVHC substance name   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>Lead titanium zirconium oxide - 12626-81-2 |
| Weight  | 1.594 kg   |
| <b>Ambient conditions</b>                                     |  |
| installation altitude at height above sea level maximum       | 2 000 m  |
| ambient temperature   |  |
| • during operation  | -20 ... +60 °C   |
| • during storage  | -55 ... +80 °C   |
| • during transport  | -55 ... +80 °C   |

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|---|----------------------------|
| relative humidity during operation  | 10 ... 90 %                |
| <b>Main circuit</b>   |                            |
| number of poles for main current circuit  | 3                          |
| adjustable current response value current of the current-dependent overload release   | 8 ... 32 A                 |
| formula for making capacity limit current   | 12 x I <sub>e</sub>        |
| formula for limit current breaking capacity   | 10 x I <sub>e</sub>        |
| yielded mechanical performance for 4-pole AC motor                                    |                            |
| • at 400 V rated value  | 15 kW                      |
| • at 500 V rated value  | 11 kW                      |
| • at 690 V rated value  | 11 kW                      |
| operating voltage at AC-3 rated value maximum   | 690 V                      |
| operational current   |                            |
| • at AC at 400 V rated value  | 32 A                       |
| • at AC-3 at 400 V rated value  | 32 A                       |
| • at AC-43  |                            |
| — at 400 V rated value  | 29 A                       |
| — at 500 V rated value  | 17.6 A                     |
| — at 690 V rated value  | 12.8 A                     |
| operating power   |                            |
| • at AC-3 at 400 V rated value  | 15 kW                      |
| • at AC-43  |                            |
| — at 400 V rated value  | 15 000 W                   |
| — at 500 V rated value  | 11 000 W                   |
| — at 690 V rated value  | 11 000 W                   |
| no-load switching frequency   | 3 600 1/h                  |
| operating frequency   |                            |
| • 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>   |                            |
| type of voltage   | AC/DC                      |
| control supply voltage 1 at AC  |                            |
| • at 50 Hz rated value  | 24 V                       |
| • at 50 Hz  | 24 ... 24 V                |
| • at 60 Hz rated value  | 24 V                       |
| • at 60 Hz  | 24 V                       |
| control supply voltage frequency  |                            |
| • 1 rated value   | 50 Hz                      |
| • 2 rated value   | 60 Hz                      |
| control supply voltage 1 at DC rated value  | 24 V                       |
| control supply voltage 1 at DC  | 24 ... 24 V                |
| holding power   |                            |
| • at AC maximum   | 3.5 W                      |
| • at DC maximum   | 3.1 W                      |
| <b>Auxiliary circuit</b>  |                            |
| number of NC contacts for auxiliary contacts  | 1                          |
| number of NO contacts for auxiliary contacts  | 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                          |
| operational current of auxiliary contacts at AC-12 maximum                            | 10 A                       |
| operational current of auxiliary contacts at DC-13 at 250 V                           | 0.27 A                     |
| <b>Protective and monitoring functions</b>  |                            |
| trip class  | CLASS 10 and 20 adjustable |
| operating short-circuit current breaking capacity (I <sub>cs</sub> )                  |                            |
| • at 400 V rated value  | 53 kA                      |
| • at 500 V rated value  | 1 kA                       |
| • at 690 V rated value  | 1 kA                       |
| <b>UL/CSA ratings</b>   |                            |
| full-load current (FLA) for 3-phase AC motor  |                            |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> </ul>   | 32 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> </ul>   | 7.5 hp<br>10 hp<br>20 hp  |
| <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> | fuse gL/gG: 10 A<br>6A gL/gG/400V<br>4A gL/gG/400V  |
| <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>  | 170 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>  | screw-type terminals<br>screw-type terminals  |
| 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> </ul>  | 2x (2.5 ... 6 mm²), 1x 10 mm²<br>2x (2.5 ... 6 mm²)   |
| <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> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul>   | 0.5 ... 4 mm², 2x (0.5 ... 2.5 mm²)<br>0.5 ... 2.5 mm², 2x (0.5 ... 1.5 mm²)<br>2x (20 ... 14)  |
| <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>  | 40 %<br>50 %  |
| <b>B10 value with high demand rate according to SN 31920</b>   | 2 000 000   |
| <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>  | No<br>No  |
| 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</li> </ul>  | 4 kV main contacts, 2 kV auxiliary contacts<br>4 kV main contacts, 2 kV auxiliary contacts<br>2 kV main contacts, 1 kV auxiliary contacts |

|  |                            |
|--|----------------------------|
| 61000-4-5  |                            |
| • due to high-frequency radiation according to IEC 61000-4-6 | 0.15-80Mhz at 10V          |
| 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    |
| <b>Supply voltage</b>  |                            |
| Supply voltage required Auxiliary voltage                    | No                         |
| <b>Display</b>   |                            |
| number of LEDs   | 2                          |
| <b>Approvals Certificates</b>                                |                            |
| <b>General Product Approval</b>                              |                            |



EG-Konf.

[Confirmation](#)



CCC



UL



|     |                   |  |                   |
|-----|-------------------|--|-------------------|
| EMV | Functional Safety | Test Certificates                                  | Marine / Shipping |
|     |                   | <a href="#">Type Test Certificates/Test Report</a> |                   |
| RCM | VDE               |  |                   |
|     |                   |  |                   |

|                              |                                       |   |
|------------------------------|---------------------------------------|---|
| other                        | Dangerous goods                       | Environment                                 |
| <a href="#">Confirmation</a> | <a href="#">Transport Information</a> | <a href="#">Environmental Confirmations</a> |

#### 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=3RA6120-1EB32>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1EB32>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB32>

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

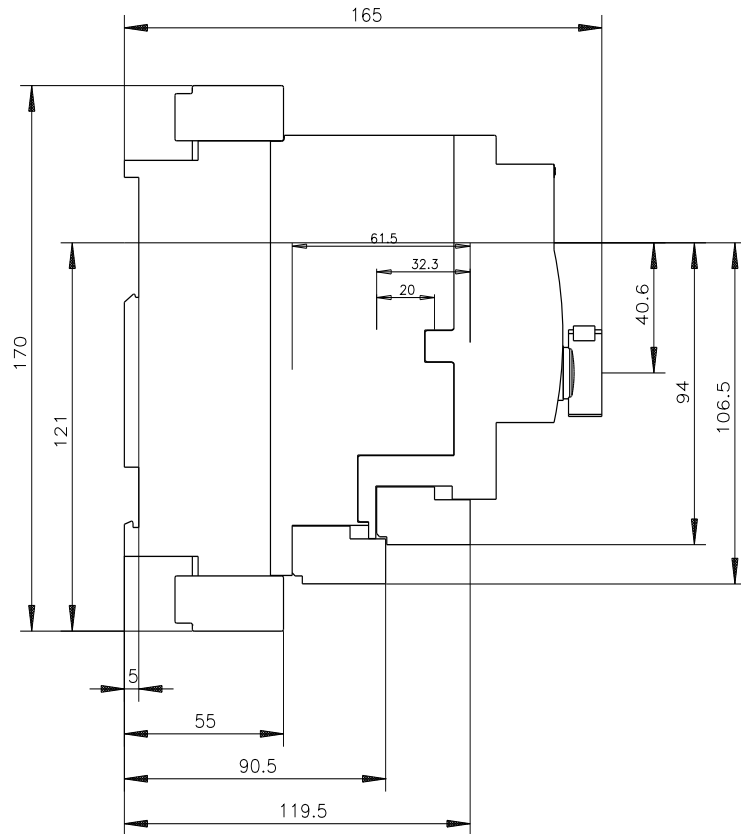
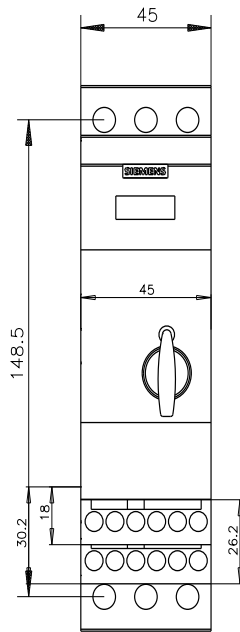
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1EB32&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1EB32&lang=en)

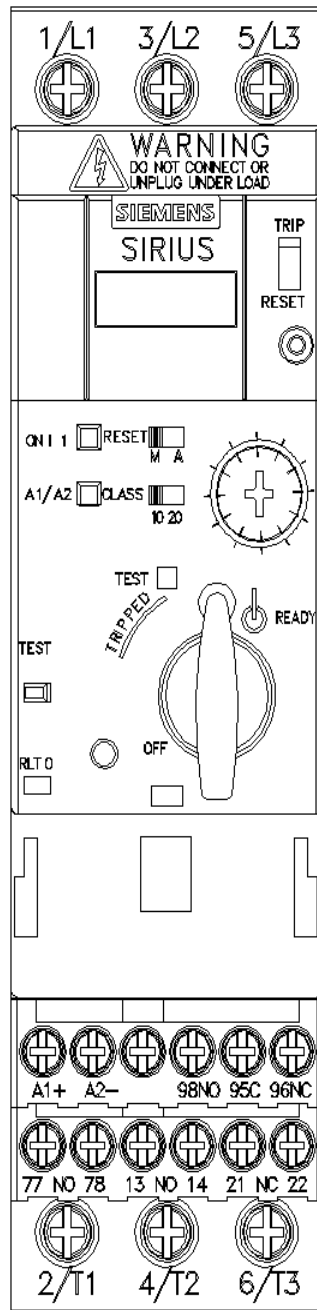
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB32/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1EB32&objecttype=14&gridview=view1>







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