



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: 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                                       | 5.4 W   |
| • at AC in hot operating state per pole                              | 1.8 W   |
| • without load current share typical                                 | 3.5 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 (Date)</b>                                 | 05/01/2012  |
| <b>SVHC substance name</b>   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7<br>Lead titanium zirconium oxide - 12626-81-2<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 |
| <b>Weight</b>  | 1.48 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  |

|   |                            |
|---|----------------------------|
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>                              | -55 ... +80 °C             |
| <ul style="list-style-type: none"> <li>• during transport</li> </ul>                            | -55 ... +80 °C             |
| 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  |                            |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                        | 15 kW                      |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                        | 11 kW                      |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                        | 11 kW                      |
| operating voltage at AC-3 rated value maximum   | 690 V                      |
| operational current   |                            |
| <ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> </ul>                  | 32 A                       |
| <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>                | 32 A                       |
| <ul style="list-style-type: none"> <li>• at AC-43</li> </ul>                                    |                            |
| <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>                        | 29 A                       |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>                        | 17.6 A                     |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>                        | 12.8 A                     |
| operating power   |                            |
| <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>                | 15 kW                      |
| <ul style="list-style-type: none"> <li>• at AC-43</li> </ul>                                    |                            |
| <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>                        | 15 000 W                   |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>                        | 11 000 W                   |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>                        | 11 000 W                   |
| no-load switching frequency   | 3 600 1/h                  |
| operating frequency   |                            |
| <ul style="list-style-type: none"> <li>• at AC-41 according to IEC 60947-6-2 maximum</li> </ul> | 750 1/h                    |
| <ul style="list-style-type: none"> <li>• at AC-43 according to IEC 60947-6-2 maximum</li> </ul> | 250 1/h                    |
| <b>Control circuit/ Control</b>   |                            |
| type of voltage   | AC/DC                      |
| control supply voltage 1 at AC  |                            |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>                        | 24 V                       |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                    | 24 ... 24 V                |
| <ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>                        | 24 V                       |
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                                    | 24 V                       |
| control supply voltage frequency  |                            |
| <ul style="list-style-type: none"> <li>• 1 rated value</li> </ul>                               | 50 Hz                      |
| <ul style="list-style-type: none"> <li>• 2 rated value</li> </ul>                               | 60 Hz                      |
| control supply voltage 1 at DC rated value  | 24 V                       |
| control supply voltage 1 at DC  | 24 ... 24 V                |
| holding power   |                            |
| <ul style="list-style-type: none"> <li>• at AC maximum</li> </ul>                               | 3.5 W                      |
| <ul style="list-style-type: none"> <li>• at DC maximum</li> </ul>                               | 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> )                            |                            |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                        | 53 kA                      |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                        | 1 kA                       |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                        | 1 kA                       |

| 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> </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  |
| Short-circuit protection   |  |
| <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   |
| Installation/ mounting/ dimensions   |  |
| <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   |
| Connections/ Terminals   |  |
| <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>plug-in without 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 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (2.5 ... 6 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</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>for AWG cables for auxiliary contacts</li> </ul>   | 0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (20 ... 14) |
| Safety related data  |  |
| <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  |
| IEC 61508  |  |
| T1 value for proof test interval or service life according to IEC 61508  | 20 a   |
| Electrical Safety  |  |
| <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  |
| Communication/ Protocol  |  |
| <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   |
| Electromagnetic compatibility  |  |
| <b>conducted interference</b>  |  |
| <ul style="list-style-type: none"> <li>due to burst according to IEC 61000-4-4</li> </ul>  | 4 kV main contacts, 2 kV auxiliary contacts  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <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> | 4 kV main contacts, 2 kV auxiliary contacts<br>2 kV main contacts, 1 kV auxiliary contacts<br><br>0.15-80Mhz at 10V |
| <b>field-based interference according to IEC 61000-4-3</b>   | 10 V/m  |
| <b>electrostatic discharge according to IEC 61000-4-2</b>  | 8 kV  |
| <b>conducted HF interference emissions according to CISPR11</b>  | 150 kHz ... 30 MHz Class A  |
| <b>field-bound HF interference emission according to CISPR11</b>   | 30 ... 1000 MHz Class A   |

### Supply voltage

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

### Display

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

### Approvals Certificates

|                          |     |
|--------------------------|-----|
| General Product Approval | EMV |
|--------------------------|-----|



|                   |                   |                      |       |                 |
|-------------------|-------------------|----------------------|-------|-----------------|
| Functional Safety | Test Certificates | Maritime application | other | Dangerous goods |
|-------------------|-------------------|----------------------|-------|-----------------|



[Type Test Certificates/Test Report](#)



[Confirmation](#)

[Transport Information](#)

### Environment

[Environmental Confirmations](#)

### 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=3RA6120-1EB34>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1EB34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB34>

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

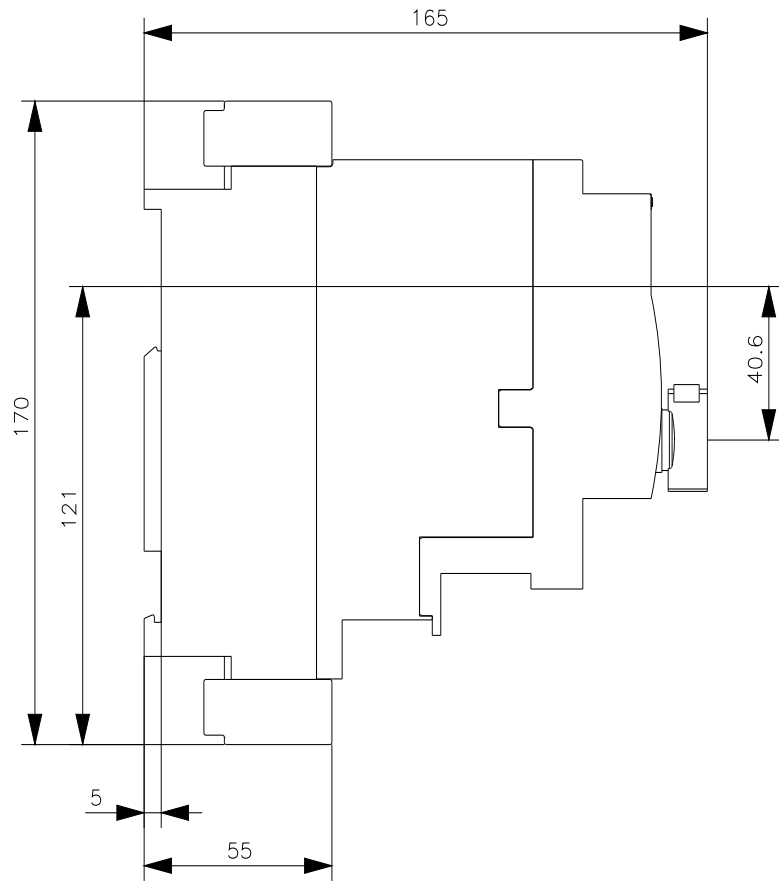
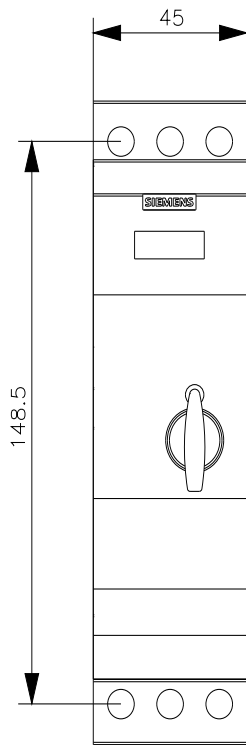
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1EB34&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1EB34&lang=en)

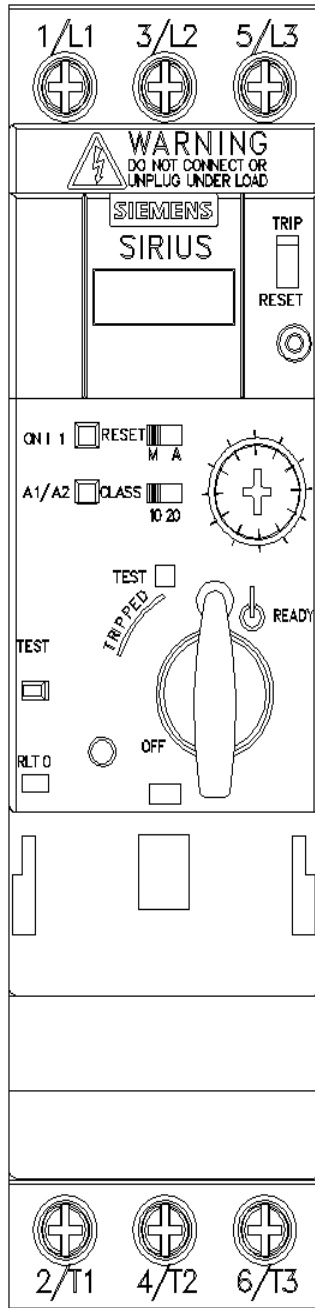
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1EB34/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1EB34&objectype=14&gridview=view1>







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