



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 1...4 A  
 IP20 Connection main circuit: plug-in, without terminals Connection auxiliary circuit:  
 screw terminal

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| <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 W  |
| • at AC in hot operating state per pole                              | 0.33 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 assignment</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>Lead titanium zirconium oxide - 12626-81-2 |
| <b>Weight</b>  | 1.5 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>   |                            |
| number of poles for main current circuit  | 3                          |
| adjustable current response value current of the current-dependent overload release   | 1 ... 4 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  | 1.5 kW                     |
| • at 500 V rated value  | 2.2 kW                     |
| • at 690 V rated value  | 3 kW                       |
| operating voltage at AC-3 rated value maximum   | 690 V                      |
| operational current   |                            |
| • at AC at 400 V rated value  | 4 A                        |
| • at AC-3 at 400 V rated value  | 4 A                        |
| • at AC-43  |                            |
| — at 400 V rated value  | 3.6 A                      |
| — at 500 V rated value  | 3.9 A                      |
| — at 690 V rated value  | 3.8 A                      |
| operating power   |                            |
| • at AC-3 at 400 V rated value  | 1.5 kW                     |
| • at AC-43  |                            |
| — at 400 V rated value  | 1 500 W                    |
| — at 500 V rated value  | 2 200 W                    |
| — at 690 V rated value  | 3 000 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   | 2.8 W                      |
| • at DC maximum   | 2.9 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  | 3 kA                       |
| • at 690 V rated value  | 3 kA                       |
| <b>UL/CSA ratings</b>   |                            |
| full-load current (FLA) for 3-phase AC motor  |                            |

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| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 4 A<br>4 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>   | 0.75 hp<br>0.75 hp<br>2 hp<br>3 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>  | plug-in without 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 (1.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (1.5 ... 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) |
| <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>   | 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>  | 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> </ul>  | 4 kV main contacts, 2 kV auxiliary contacts  |

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| <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> | <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> |
| <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  |
| <b>Supply voltage</b>  |  |
| Supply voltage required Auxiliary voltage  | No   |
| <b>Display</b>   |  |
| number of LEDs   | 2  |
| <b>Approvals Certificates</b>  |  |
| General Product Approval   |  |



[Confirmation](#)



|              |                          |  |                          |
|--------------|--------------------------|--|--------------------------|
| <b>EMV</b>   | <b>Functional Safety</b> | <b>Test Certificates</b>                           | <b>Marine / Shipping</b> |
|              |                          | <a href="#">Type Test Certificates/Test Report</a> |                          |
| <b>other</b> | <b>Dangerous goods</b>   | <b>Environment</b>                                 |                          |

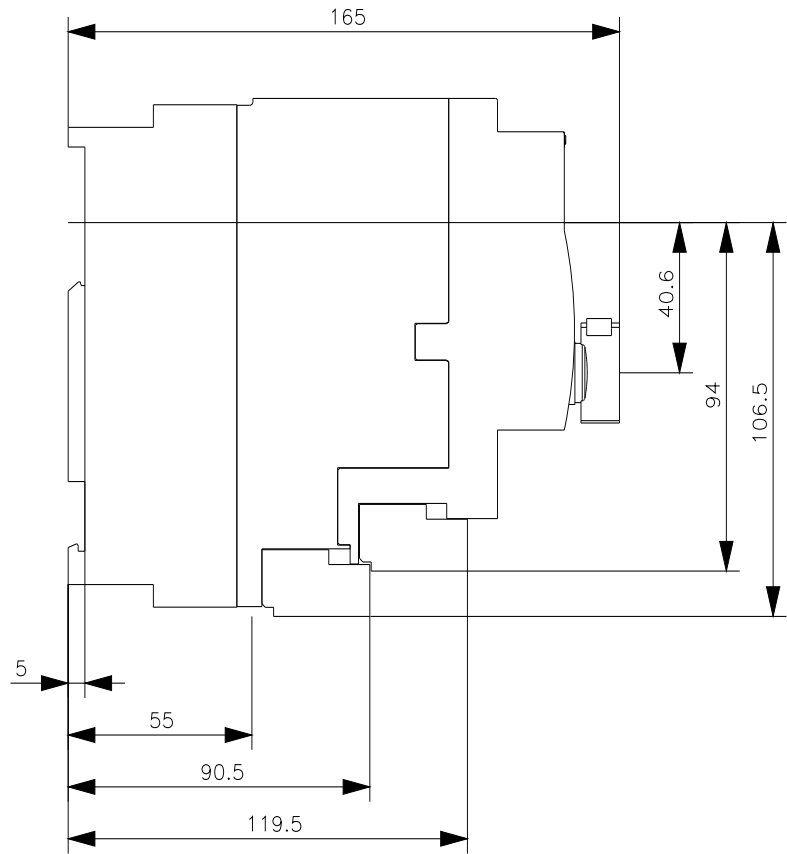
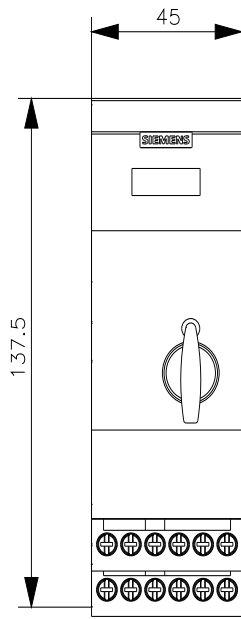
[Confirmation](#)

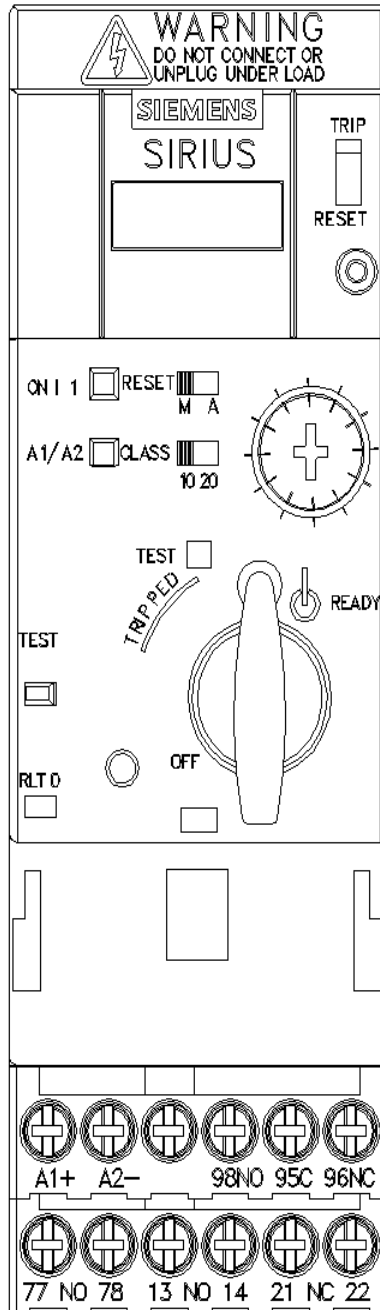
[Transport Information](#)

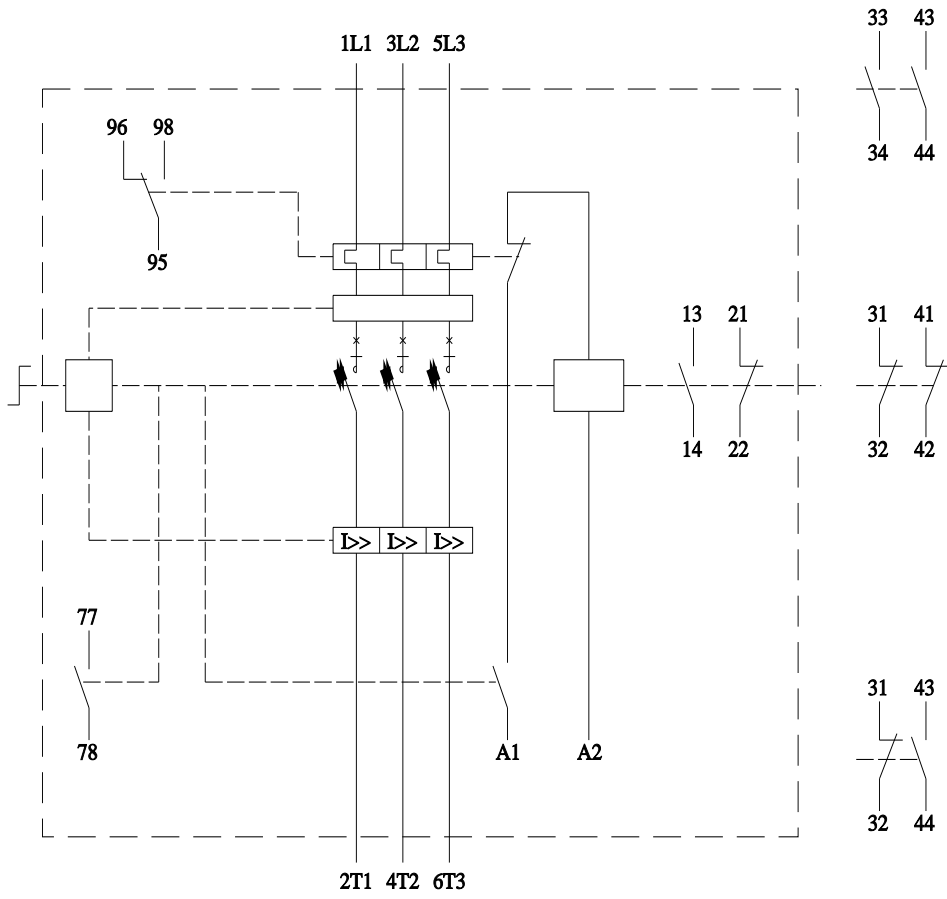
[Environmental Confirmations](#)

**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=3RA6120-1CB33>  
 Cax online generator  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1CB33>  
 Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CB33>  
 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6120-1CB33&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1CB33&lang=en)  
 Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CB33/char>  
 Further characteristics (e.g. electrical endurance, switching frequency)  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1CB33&objecttype=14&gridview=view1>







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