



SIRIUS Compact load feeder DOL starter 690 V 110...240 V AC/DC 50...60 Hz
1...4 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 |
| General technical data | |
| 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 | 1 W |
| • at AC in hot operating state per pole | 0.33 W |
| • without load current share typical | 6 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 ² (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 ² ; 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 coordination | 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 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Lead titanium zirconium oxide - 12626-81-2 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 |
| Weight | 1.506 kg |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| • during operation | -20 ... +60 °C |

| | |
|--|----------------------------|
| <ul style="list-style-type: none"> • during storage | -55 ... +80 °C |
| <ul style="list-style-type: none"> • during transport | -55 ... +80 °C |
| relative humidity during operation | 10 ... 90 % |
| Main circuit | |
| 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 _e |
| formula for limit current breaking capacity | 10 x I _e |
| yielded mechanical performance for 4-pole AC motor | |
| <ul style="list-style-type: none"> • at 400 V rated value | 1.5 kW |
| <ul style="list-style-type: none"> • at 500 V rated value | 2.2 kW |
| <ul style="list-style-type: none"> • at 690 V rated value | 3 kW |
| operating voltage at AC-3 rated value maximum | 690 V |
| operational current | |
| <ul style="list-style-type: none"> • at AC at 400 V rated value | 4 A |
| <ul style="list-style-type: none"> • at AC-3 at 400 V rated value | 4 A |
| <ul style="list-style-type: none"> • at AC-43 <ul style="list-style-type: none"> — at 400 V rated value | 3.6 A |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 500 V rated value | 3.9 A |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 690 V rated value | 3.8 A |
| operating power | |
| <ul style="list-style-type: none"> • at AC-3 at 400 V rated value | 1.5 kW |
| <ul style="list-style-type: none"> • at AC-43 <ul style="list-style-type: none"> — at 400 V rated value | 1 500 W |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 500 V rated value | 2 200 W |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 690 V rated value | 3 000 W |
| no-load switching frequency | 3 600 1/h |
| operating frequency | |
| <ul style="list-style-type: none"> • at AC-41 according to IEC 60947-6-2 maximum | 750 1/h |
| <ul style="list-style-type: none"> • at AC-43 according to IEC 60947-6-2 maximum | 250 1/h |
| Control circuit/ Control | |
| type of voltage | AC/DC |
| control supply voltage 1 at AC | |
| <ul style="list-style-type: none"> • at 50 Hz rated value | 240 V |
| <ul style="list-style-type: none"> • at 50 Hz | 110 ... 240 V |
| <ul style="list-style-type: none"> • at 60 Hz | 110 ... 240 V |
| control supply voltage frequency | |
| <ul style="list-style-type: none"> • 1 rated value | 50 Hz |
| <ul style="list-style-type: none"> • 2 rated value | 60 Hz |
| control supply voltage 1 at DC rated value | 240 V |
| control supply voltage 1 at DC | 110 ... 240 V |
| holding power | |
| <ul style="list-style-type: none"> • at AC maximum | 6 W |
| <ul style="list-style-type: none"> • at DC maximum | 5.1 W |
| Auxiliary circuit | |
| 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 |
| Protective and monitoring functions | |
| trip class | CLASS 10 and 20 adjustable |
| operating short-circuit current breaking capacity (I_{cs}) | |
| <ul style="list-style-type: none"> • at 400 V rated value | 53 kA |
| <ul style="list-style-type: none"> • at 500 V rated value | 3 kA |
| <ul style="list-style-type: none"> • at 690 V rated value | 3 kA |
| UL/CSA ratings | |

| | |
|--|--|
| full-load current (FLA) for 3-phase AC motor | |
| <ul style="list-style-type: none"> at 480 V rated value at 600 V rated value | 4 A 4 A |
| yielded mechanical performance [hp] for 3-phase AC motor | |
| <ul style="list-style-type: none"> at 200/208 V rated value at 220/230 V rated value at 460/480 V rated value at 575/600 V rated value | 0.75 hp 0.75 hp 2 hp 3 hp |
| contact rating of auxiliary contacts according to UL | contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300 |
| Short-circuit protection | |
| product function short circuit protection | Yes |
| design of short-circuit protection | electromagnetic |
| design of the fuse link | |
| <ul style="list-style-type: none"> for short-circuit protection of the auxiliary switch required for short-circuit protection of the signaling switch of the short-circuit release required for short-circuit protection of the signaling switch of the overload release required | fuse gL/gG: 10 A 6A gL/gG/400V 4A gL/gG/400V |
| Installation/ mounting/ dimensions | |
| mounting position | any |
| mounting position recommended | vertical, on horizontal standard DIN rail |
| fastening method | screw and snap-on mounting |
| height | 170 mm |
| width | 45 mm |
| depth | 165 mm |
| Connections/ Terminals | |
| product component removable terminal for main circuit | Yes |
| product component removable terminal for auxiliary and control circuit | Yes |
| type of electrical connection | |
| <ul style="list-style-type: none"> for main current circuit for auxiliary and control circuit | screw-type terminals screw-type terminals |
| type of connectable conductor cross-sections for main contacts | |
| <ul style="list-style-type: none"> solid finely stranded with core end processing | 2x (1.5 ... 6 mm ²), 1x 10 mm ² 2x (1.5 ... 6 mm ²) |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> solid finely stranded with core end processing for AWG cables for auxiliary contacts | 0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²) 0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²) 2x (20 ... 14) |
| Safety related data | |
| proportion of dangerous failures | |
| <ul style="list-style-type: none"> with low demand rate according to SN 31920 with high demand rate according to SN 31920 | 40 % 50 % |
| B10 value with high demand rate according to SN 31920 | 3 000 000 |
| failure rate [FIT] with low demand rate according to SN 31920 | 100 FIT |
| IEC 61508 | |
| T1 value for proof test interval or service life according to IEC 61508 | 20 a |
| Electrical Safety | |
| protection class IP on the front according to IEC 60529 | IP20 |
| touch protection on the front according to IEC 60529 | finger-safe |
| Communication/ Protocol | |
| product function bus communication | No |
| protocol is supported | |
| <ul style="list-style-type: none"> AS-Interface protocol IO-Link protocol | No No |
| product function control circuit interface with IO link | No |
| Electromagnetic compatibility | |
| conducted interference | |

| | |
|---|--|
| <ul style="list-style-type: none"> • due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 • due to high-frequency radiation according to IEC 61000-4-6 | 4 kV main contacts, 2 kV auxiliary contacts 4 kV main contacts, 2 kV auxiliary contacts 2 kV main contacts, 1 kV auxiliary contacts 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 |
| Supply voltage | |
| Supply voltage required Auxiliary voltage | No |
| Display | |
| number of LEDs | 2 |
| Approvals Certificates | |
| General Product Approval | EMV |



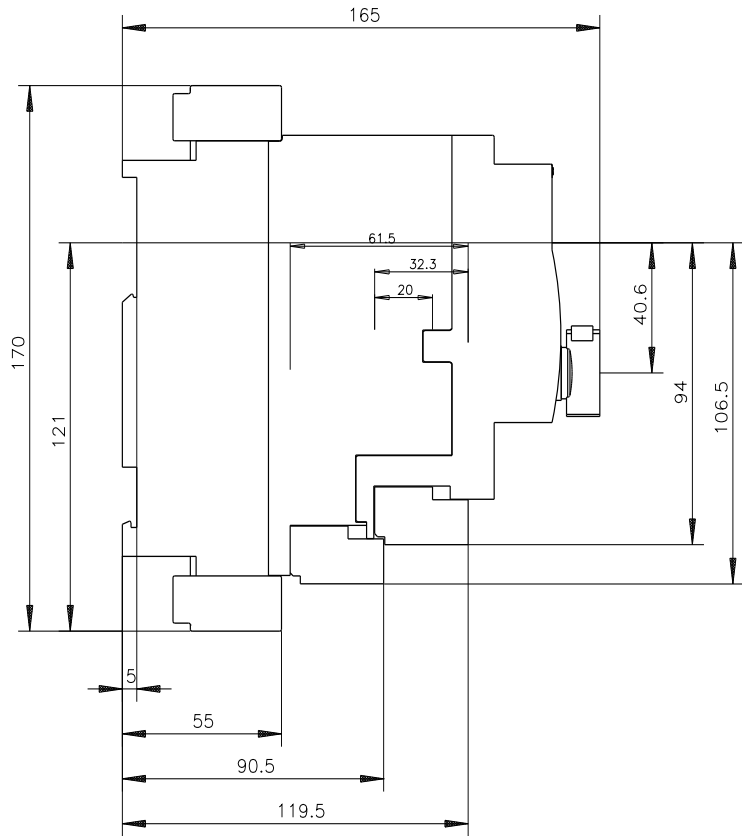
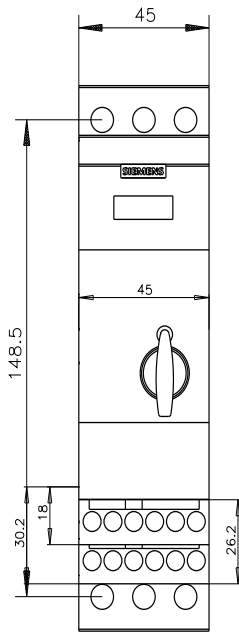
| | | | | |
|--|--|--|--|--|
| Functional Safety | Test Certificates | Maritime application | other | Dangerous goods |
|  | Type Test Certificates/Test Report |  |  | Confirmation Transport Information |

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=3RA6120-1CP32>
- Cax online generator
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1CP32>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CP32>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1CP32&lang=en
- Characteristic: Tripping characteristics, I²t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1CP32/char>
- Further characteristics (e.g. electrical endurance, switching frequency)
<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1CP32&objectype=14&gridview=view1>







last modified:

4/2/2025 