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## Data sheet 3RA6120-1BB32



SIRIUS Compact load feeder DOL starter 690 V 24 V AC/DC 50...60 Hz 0.32...1.25 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 | 0.1 W |
| ● at AC in hot operating state per pole | 0.03 W |
| ● without load current share typical | 2.9 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/s2 (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/s²; 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** | continous operation according to IEC 60947-6-2 |
| **reference code according to IEC 81346-2** | Q |
| **Substance Prohibitance (day/month/year)** | 05/01/2012 |
| **SVHC substance name** | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<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 |
| **Net Weight** | 1.366 kg |
| **Ambient conditions** | |
| installation altitude at height above sea level maximum | 2 000 m |


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| **ambient temperature** | |
| ● during operation | -20 ... +60 °C |
| ● during storage | -55 ... +80 °C |
| ● 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** | 0.32 ... 1.25 A |
| **formula for making capacity limit current** | 38.4 x Ie |
| **formula for limit current breaking capacity** | 32 x Ie |
| **yielded mechanical performance for 4-pole AC motor** | |
| ● at 400 V rated value | 0.37 kW |
| ● at 500 V rated value | 0.55 kW |
| ● at 690 V rated value | 0.75 kW |
| operating voltage at AC-3 rated value maximum | 690 V |
| **operational current** | |
| ● at AC at 400 V rated value | 1.25 A |
| ● at AC-3 at 400 V rated value | 1.25 A |
| ● at AC-43 | |
| — at 400 V rated value | 1.1 A |
| — at 500 V rated value | 1.2 A |
| — at 690 V rated value | 1.1 A |
| **operating power** | |
| ● at AC-3 at 400 V rated value | 0.37 kW |
| ● at AC-43 | |
| — at 400 V rated value | 370 W |
| — at 500 V rated value | 550 W |
| — at 690 V rated value | 750 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 |
| **Control circuit/ Control** | |
| **type of voltage** | AC/DC |
| **control supply voltage 1 at AC** | |
| ● at 50 Hz rated value | 24 V |
| ● at 50 Hz | 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 V |
| **holding power** | |
| ● at AC maximum | 2.8 W |
| ● at DC maximum | 2.9 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 (Ics)** | |


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|---|---|
| ● at 400 V rated value | 53 kA |
| ● at 500 V rated value | 3 kA |
| ● at 690 V rated value | 3 kA |
| **UL/CSA ratings** | |
| **full-load current (FLA) for 3-phase AC motor** | |
| ● at 480 V rated value | 1.25 A |
| ● at 600 V rated value | 1.25 A |
| yielded mechanical performance [hp] for 3-phase AC motor | |
| ● at 460/480 V rated value | 0.5 hp |
| ● at 575/600 V rated value | 0.5 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** | |
| ● for short-circuit protection of the auxiliary switch required | fuse gL/gG: 10 A |
| ● for short-circuit protection of the signaling switch of the short-circuit release required | 6A gL/gG/400V |
| ● for short-circuit protection of the signaling switch of the overload release required | 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** | |
| ● for main current circuit | screw-type terminals |
| ● for auxiliary and control circuit | screw-type terminals |
| type of connectable conductor cross-sections for main contacts | |
| ● solid | 2x (1.5 ... 6 mm²), 1x 10 mm² |
| ● finely stranded with core end processing | 2x (1.5 ... 6 mm²) |
| **type of connectable conductor cross-sections** | |
| ● for auxiliary contacts | |
| — solid | 0.5 ... 4 mm², 2x (0.5 ... 2.5 mm²) |
| — finely stranded with core end processing | 0.5 ... 2.5 mm², 2x (0.5 ... 1.5 mm²) |
| ● for AWG cables for auxiliary contacts | 2x (20 ... 14) |
| **Safety related data** | |
| **proportion of dangerous failures** | |
| **● with low demand rate according to SN 31920** | 40 % |
| **● with high demand rate according to SN 31920** | 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** | |
| ● AS-Interface protocol | No |


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|---|---|
| ● IO-Link protocol | No |
| product function control circuit interface with IO link | No |
| **Electromagnetic compatibility** | |
| **conducted interference** | |
| ● due to burst according to IEC 61000-4-4 | 4 kV main contacts, 2 kV auxiliary contacts |
| ● due to conductor-earth surge according to IEC 61000-4-5 | 4 kV main contacts, 2 kV auxiliary contacts |
| ● due to conductor-conductor surge according to IEC 61000-4-5 | 2 kV main contacts, 1 kV auxiliary contacts |
| ● 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 |
| **Supply voltage** | |
| **Supply voltage required Auxiliary voltage** | No |
| **Display** | |
| **number of LEDs** | 2 |
| **Approvals Certificates** | |

| Environment | General Product Approval | | | | |
|---|---|---|---|---|---|
| Environmental Confirmations | CCC | cULus | UL | EAC | CE EG-Konf. |

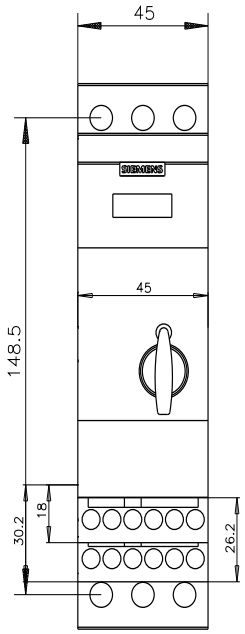
| General Product Approval | EMV | Functional Saftey | Test Certificates | other | |
|---|---|---|---|---|---|
| UKCA | RCM | Type Examination Certificate | Type Test Certificates/Test Report | Confirmation | Confirmation |

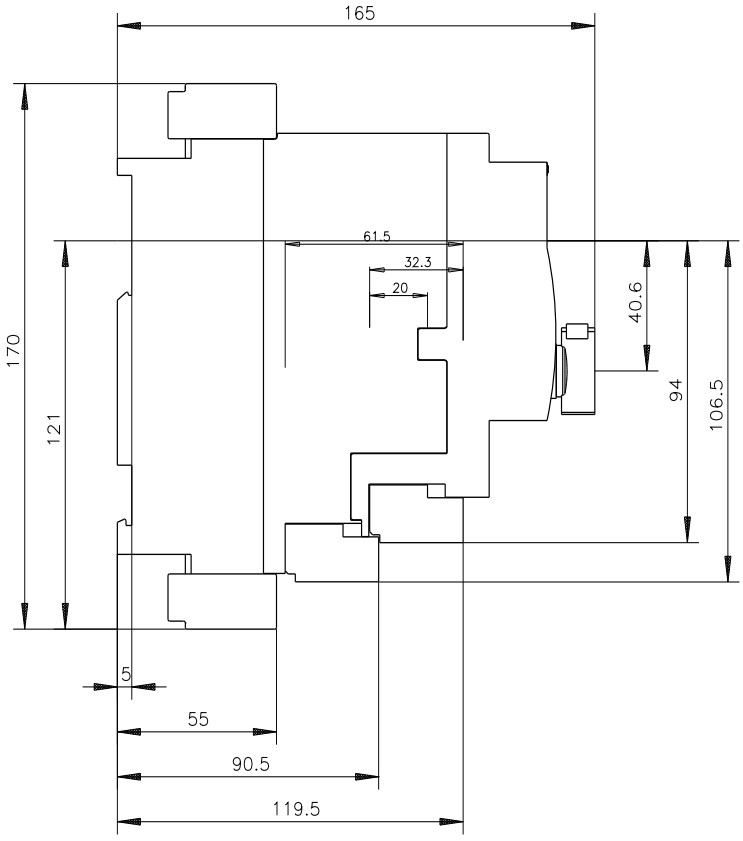
| other | Dangerous goods |
|---|---|
| 产品合格 QC PASS | Transport Information |

**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=3RA6120-1BB32
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1BB32
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1BB32&lang=en
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1BB32
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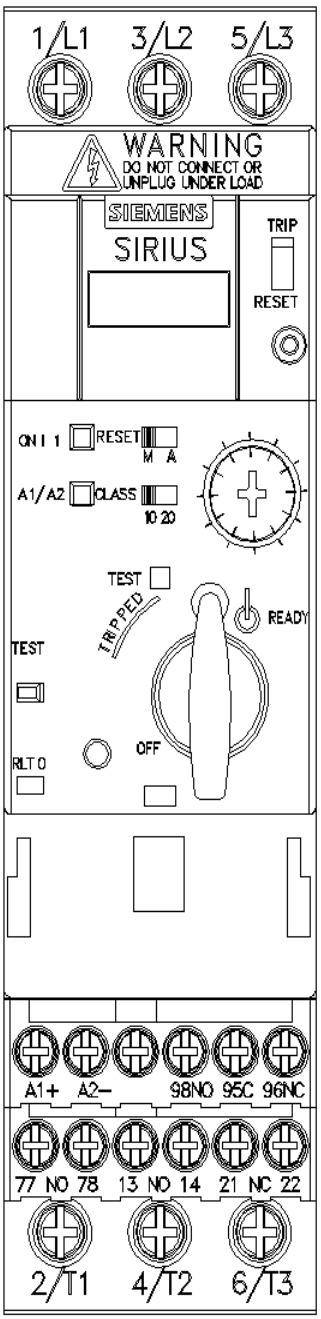

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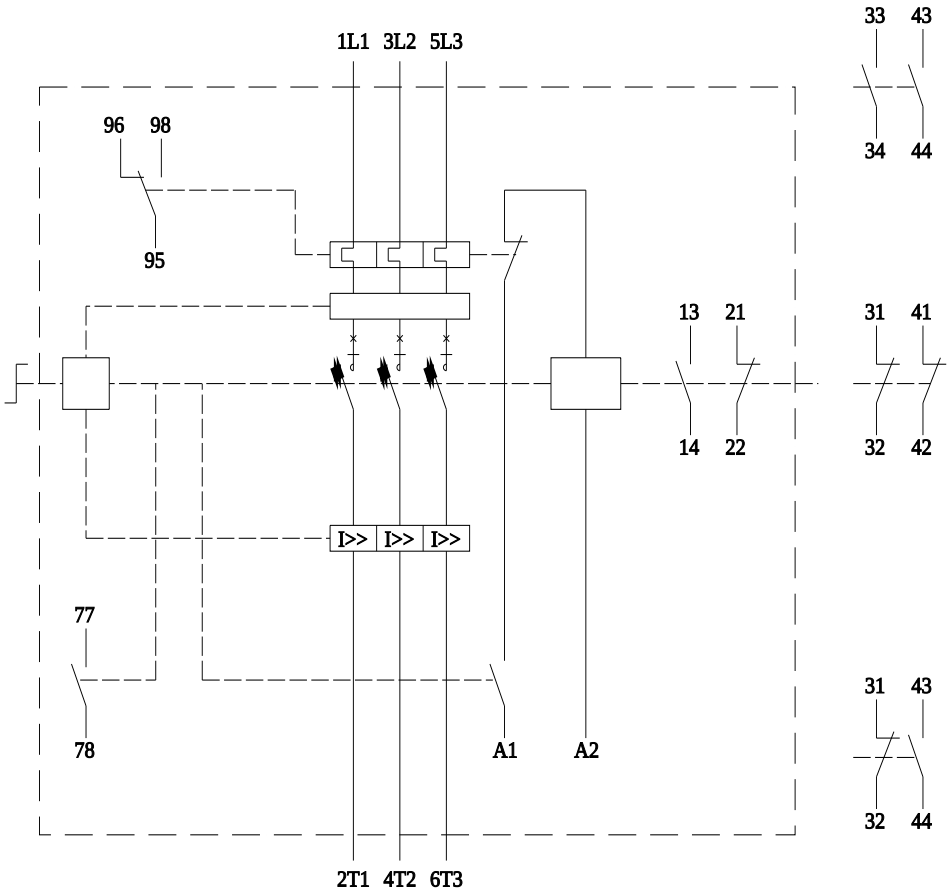


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