

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: plug-in, without terminals



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|--------------------------|-----------------|
| 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 |
| Power loss [W] for rated value of the current 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 safe isolation | |
| • between main and auxiliary circuit | 400 V |

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| <ul style="list-style-type: none"> • between auxiliary and auxiliary circuit | 250 V |
| <ul style="list-style-type: none"> • between control and auxiliary circuit | 300 V |
| <ul style="list-style-type: none"> • Protection class IP | IP20 |
| 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 (switching cycles) | |
| <ul style="list-style-type: none"> • of the main contacts typical | 10 000 000 |
| <ul style="list-style-type: none"> • of auxiliary contacts typical | 10 000 000 |
| <ul style="list-style-type: none"> • of the signaling contacts typical | 10 000 000 |
| Electrical endurance (switching cycles) of auxiliary contacts | |
| <ul style="list-style-type: none"> • at DC-13 at 6 A at 24 V typical | 30 000 |
| <ul style="list-style-type: none"> • at AC-15 at 6 A at 230 V typical | 200 000 |
| Type of assignment | continous operation according to IEC 60947-6-2 |
| Reference code acc. to DIN EN 81346-2 | Q |

Ambient conditions

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| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> • 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

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| Number of poles for main current circuit | 3 |
| adjustable pick-up value current of the current-dependent overload release | 0.32 ... 1.25 A |
| Formula for making capacity limit current | 38.4 x I _e |
| Formula for interruption capacity limit current | 32 x I _e |
| Mechanical power output for 4-pole AC motor | |
| <ul style="list-style-type: none"> • at 400 V rated value | 0.37 kW |
| <ul style="list-style-type: none"> • at 500 V rated value | 0.55 kW |
| <ul style="list-style-type: none"> • at 690 V rated value | 0.75 kW |
| Operating voltage | |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 690 V |
| Operating current | |
| <ul style="list-style-type: none"> • at AC at 400 V rated value | 1.25 A |
| <ul style="list-style-type: none"> • at AC-43 | |
| <ul style="list-style-type: none"> — at 400 V rated value | 1.1 A |
| <ul style="list-style-type: none"> — at 500 V rated value | 1.2 A |
| <ul style="list-style-type: none"> — at 690 V rated value | 1.1 A |

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| Operating power | |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value • at AC-43 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value | <p>370 W</p> <p>370 W</p> <p>550 W</p> <p>750 W</p> |
| No-load switching frequency | 3 600 1/h |
| Operating frequency | |
| <ul style="list-style-type: none"> • at AC-41 acc. to IEC 60947-6-2 maximum • at AC-43 acc. to IEC 60947-6-2 maximum | <p>750 1/h</p> <p>250 1/h</p> |

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| 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 • at 60 Hz rated value | <p>24 V</p> <p>24 V</p> |
| control supply voltage frequency | |
| <ul style="list-style-type: none"> • 1 rated value • 2 rated value | <p>50 Hz</p> <p>60 Hz</p> |
| Control supply voltage 1 | |
| <ul style="list-style-type: none"> • at DC rated value | 24 V |
| Holding power | |
| <ul style="list-style-type: none"> • at AC maximum • at DC maximum | <p>2.8 W</p> <p>2.9 W</p> |

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| Auxiliary circuit | |
| Number of NC contacts for auxiliary contacts | 1 |
| Number of NO contacts for auxiliary contacts | 1 |
| Number of NO contacts | |
| <ul style="list-style-type: none"> • of instantaneous short-circuit trip unit for signaling contact | 1 |
| Number of CO contacts | |
| <ul style="list-style-type: none"> • of the current-dependent overload release for signaling contact | 1 |
| Operating current of auxiliary contacts at AC-12 maximum | 10 A |
| <ul style="list-style-type: none"> • operating current of auxiliary contacts at DC-13 at 250 V | 0.27 A |

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| Protective and monitoring functions | |
| Trip class | CLASS 10 and 20 adjustable |
| Operational short-circuit current breaking capacity (Ics) | |
| <ul style="list-style-type: none"> • at 400 V | 53 kA |

- at 500 V rated value
- at 690 V rated value

3 kA

3 kA

UL/CSA ratings

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| Full-load current (FLA) for three-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | <p>1.25 A</p> <p>1.25 A</p> |
| Yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 460/480 V rated value — at 575/600 V rated value | <p>0.5 hp</p> <p>0.5 hp</p> |
| 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

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|--|---|
| 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 | <p>fuse gL/gG: 10 A</p> <p>6A gL/gG/400V</p> <p>4A gL/gG/400V</p> |

Installation/ mounting/ dimensions

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| <ul style="list-style-type: none"> • mounting position • Mounting position recommended | <p>any</p> <p>vertical, on horizontal standard mounting rail</p> |
| Mounting type | screw and snap-on mounting |
| Height | 170 mm |
| Width | 45 mm |
| Depth | 165 mm |

Connections/ Terminals

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| Product function | |
| <ul style="list-style-type: none"> • removable terminal for main circuit • removable terminal for auxiliary and control circuit | <p>Yes</p> <p>Yes</p> |
| <ul style="list-style-type: none"> • Type of electrical connection for main current circuit • Type of electrical connection for auxiliary and control current circuit | <p>screw-type terminals</p> <p>plug-in without terminals</p> |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing | <p>2x (1.5 ... 6 mm²), 1x 10 mm²</p> <p>2x (1.5 ... 6 mm²)</p> |

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| <ul style="list-style-type: none"> • at AWG conductors for main contacts | 2x (16 ... 10), 1x 8 |
| 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 • at AWG conductors 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

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| B10 value | |
| <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 | 3 000 000 |
| Proportion of dangerous failures | |
| <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 | 40 % 50 % |
| Failure rate [FIT] | |
| <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 | 100 FIT |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |

Communication/ Protocol

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|---|----------|
| 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

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| Conducted interference | |
| <ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to high-frequency radiation acc. 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-bound parasitic coupling acc. to IEC 61000-4-3 | 10 V/m |
| Electrostatic discharge acc. to IEC 61000-4-2 | 8 kV |
| Conducted HF-interference emissions acc. to CISPR11 | 150 kHz ... 30 MHz Class A |
| Field-bound HF-interference emission acc. to CISPR11 | 30 ... 1000 MHz Class A |

Supply voltage

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| Supply voltage required Auxiliary voltage | No |
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Display

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| number of LEDs | 2 |
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Certificates/ approvals

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|--------------------------|-----|---------------------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery |
|--------------------------|-----|---------------------------------------|



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|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



| | |
|-------------------|-------|
| Marine / Shipping | other |
|-------------------|-------|



[Confirmation](#)

Further information

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=3RA6120-1BB34>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6120-1BB34>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1BB34>

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

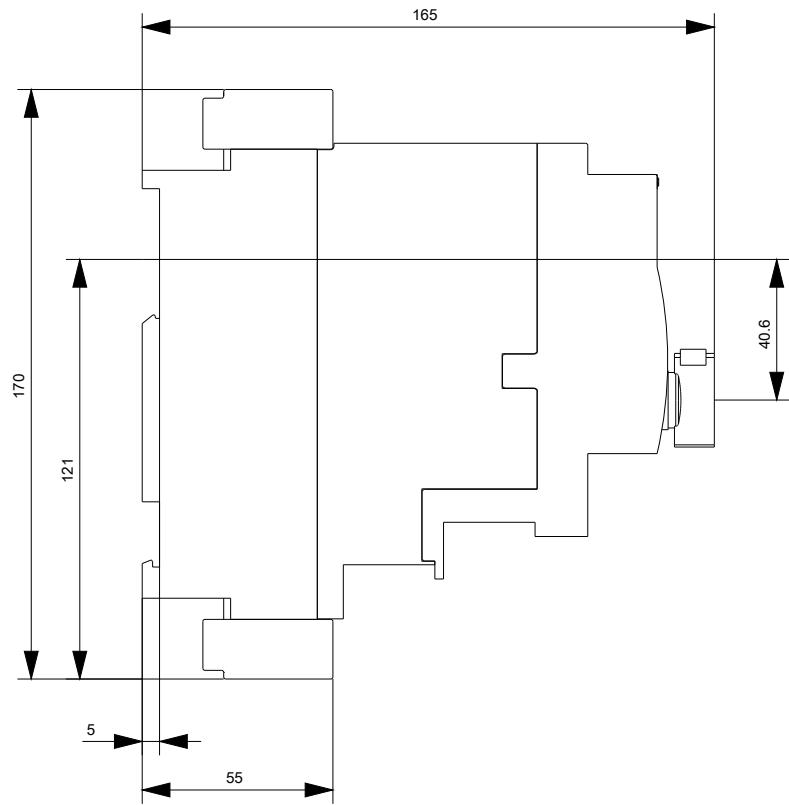
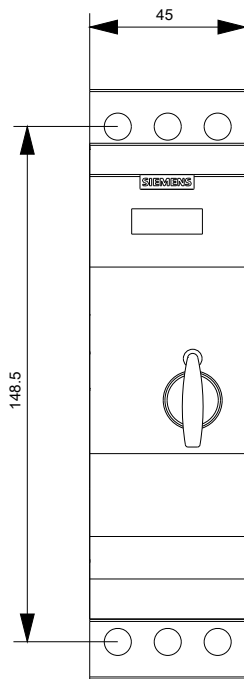
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6120-1BB34&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-1BB34/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6120-1BB34&objecttype=14&gridview=view1>





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