SIEMENS

## Product data sheet 3RA6120-2EB34

SIRIUS, COMPACT STARTER,
DIRECT STARTER 400 V, 24 V AC/DC,
50 ... 60 HZ, 8 ... 32 A, IP20,
CONNECTION MAIN CIRCUIT: SPRING-LOADED TERMINAL,
CONNECTION AUXILIARY CIRCUIT: PLUGGABLE, WITHOUT TERMINALS

| General technical data: | | |
|---|---|---|
| **Product brand name** | | SIRIUS |
| **product designation** | | compact starter |
| **Design of the product** | | direct starter |
| **Trip class** | | CLASS 10 and 20 adjustable |
| **Product function** | | |
| • control circuit interface to parallel wiring | | Yes |
| • bus-communication | | No |
| • short circuit protection | | Yes |
| • control circuit interface with IO link | | No |
| **Type of assignement** | | continous operation according to IEC 60947-6-2 |
| **Protection class IP** | | IP20 |
| **Degree of pollution** | | 3 |
| **Built in orientation / recommended** | | vertical, on horizontal standard mounting rail |
| **Installation altitude / at a height over sea level** | | |
| • maximum | m | 2,000 |
| **Ambient temperature** | | |
| • during storage | °C | -55 … 80 |
| • during operating | °C | -20 … 60 |
| • during transport | °C | -55 … 80 |
| **Relative humidity** | | |
| • during operating phase | % | 10 … 90 |
| **Resistance against shock** | | a=60 m/s2 (6g) with 10 ms per 3 shocks in all axes |
| **Resistance against vibration** | | f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s²; 10 cycles |
| **Impulse voltage resistance / rated value** | V | 6,000 |
| **Field-bound parasitic coupling** | | |
| • according to IEC 61000-4-3 | | 10 V/m |
| **Insulation voltage / rated value** | V | 690 |

| | | |
|---|---|---|
| **Conductor-bound parasitic coupling conductor-earth SURGE** | | |
| • according to IEC 61000-4-5 | | 4 kV main contacts, 2 kV auxiliary contacts |
| **Conductor-bound parasitic coupling conductor-conductor SURGE** | | |
| • according to IEC 61000-4-5 | | 2 kV main contacts, 1 kV auxiliary contacts |
| **Conductor-bound parasitic coupling BURST** | | |
| • according to IEC 61000-4-4 | | 4 kV main contacts, 2 kV auxiliary contacts |
| **Maximum permissible voltage for safe disconnection** | | |
| • between main circuit and auxiliary circuit | V | 400 |
| • between control and auxiliary circuit | V | 300 |
| • between auxiliary circuit and auxiliary circuit | V | 250 |
| **Item designation** | | |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 | | Q |
| • according to DIN EN 61346-2 | | Q |

## Main circuit:

| | | |
|---|---|---|
| **Operating voltage / at AC-3 / rated value** | | |
| • maximum | V | 690 |
| **Number of poles / for main current circuit** | | 3 |
| **Adjustable response current** | | |
| • of the current-dependent overload release | A | 8 … 32 |
| **Formula for making capacity limit current** | | 12 x Ie |
| **Formula for interruption capacity limit current** | | 10 x Ie |
| **Emitted mechanical power / for 4-pole three-phase motor** | | |
| • at 400 V / rated value | kW | 15 |
| • at 500 V / rated value | kW | 11 |
| • at 690 V / rated value | kW | 11 |
| **Service power / at AC-3 / at 400 V / rated value** | kW | 15 |
| **Frequency of operation / at AC-41 / according to IEC 60947-6-2 / maximum** | 1/h | 750 |
| **Frequency of operation / at AC-43 / according to IEC 60947-6-2 / maximum** | 1/h | 250 |
| **Off-load operating frequency** | 1/h | 3,600 |
| **Mechanical operating cycles as operating time** | | |
| • of the main contacts / typical | | 10,000,000 |
| • of the auxiliary contacts / typical | | 10,000,000 |
| • of the signal contacts / typical | | 10,000,000 |

## Control circuit:

| | | |
|---|---|---|
| **type of voltage** | | AC |
| **Control supply voltage / 1** | | |

| | | |
|---|---|---|
| • for DC | | |
| • rated value | V | 24 |
| • at 50 Hz / for AC | | |
| • rated value | V | 24 |
| • at 60 Hz / for AC | | |
| • rated value | V | 24 |
| **Holding power** | | |
| • for AC / maximum | W | 3.5 |
| • for DC / maximum | W | 3.1 |
| **Switch-off delay time** | ms | 50 |
| **Start-up delay time** | ms | 70 |

| **Auxiliary circuit:** | | |
|---|---|---|
| **Product extension** | | |
| • auxiliary switch | | Yes |
| **Number of NC contacts** | | |
| • for auxiliary contacts | | 1 |
| **Number of NO contacts** | | |
| • for auxiliary contacts | | 1 |
| • of the non-delayed short-circuit release / for alarm contact | | 1 |
| **Number of changeover contacts / of the current-dependent overload release / for alarm contact** | | 1 |
| **Operating current / of the auxiliary contacts / at AC-12** | | |
| • maximum | A | 10 |
| **Electrical switching cycle as operating time / of the auxiliary contacts** | | |
| • at AC-15 / at 6 A / at 230 V / typical | | 500,000 |
| • at DC-13 / at 6 A / at 24 V / typical | | 100,000 |
| **Electrical switching cycle as operating time / of the signal contacts** | | |
| • at AC-15 / at 6 A / at 230 V / typical | | 500,000 |
| • at DC-13 / at 6 A / at 24 V / typical | | 100,000 |

| **Short-circuit:** | | |
|---|---|---|
| **Design of the fuse link / for short-circuit protection of the auxiliary switch** | | |
| • required | | fuse gL/gG: 10 A |

| **Installation/mounting/dimensions:** | | |
|---|---|---|
| **Type of mounting** | | screw and snap-on mounting |
| **Width** | mm | 45 |
| **Height** | mm | 191 |

| | | |
|---|---|---|
| **Depth** | mm | 165 |
| **Built in orientation** | | any |

## Connections:

| | | |
|---|---|---|
| **Product function** | | |
| • removable terminal for main circuit | | Yes |
| • removable terminal for auxiliary and control circuit | | Yes |
| **Design of the electrical connection** | | |
| • for main current circuit | | spring-loaded terminals |
| • for auxiliary and control current circuit | | plug-in without terminals |
| **Type of the connectable conductor cross-section** | | |
| • for main contacts | | |
| • solid | | 2x (2.5 ... 6 mm²), 1x 10 mm² |
| • finely stranded | | |
| • with conductor end processing | | 2x (2.5 ... 6 mm²) |
| • without conductor final cutting | | 2x (2.5 ... 6 mm²) |
| • for auxiliary contacts | | |
| • solid | | 2x (0.25 ... 1.5 mm²) |
| • finely stranded | | |
| • with conductor end processing | | 2x (0.25 ... 1.5 mm²) |
| • without conductor final cutting | | 2x (0.25 ... 1.5 mm²) |
| • for AWG conductors | | |
| • for main contacts | | 2x (14 ... 10), 1x 8 |
| • for auxiliary contacts | | 2x (24 ... 16) |

## Certificates/approvals:

| | |
|---|---|
| **Verification of suitability** | IEC / EN 60947-6-2 |

| **General Product Approval** | | | | **Functional Safety / Safety of Machinery** | **Test Certificates** |
|---|---|---|---|---|---|
| CQC | CSA | ROSTEST | UL | other | Manufacturer |

| **Shipping Approval** | | | | **other** | |
|---|---|---|---|---|---|
| BUREAU VERITAS | DNV | PRS | RINA | Manufacturer | other |

## UL/CSA ratings:

| | | |
|---|---|---|
| **yielded mechanical performance (hp) / for three-phase squirrel cage motors** | | |
| • at 200/208 V / rated value | hp | 7.5 |

| | | |
|---|---|---|
| • at 220/230 V / rated value | hp | 10 |
| • at 460/480 V / rated value | hp | 20 |
| **Operating current (FLA) / for three-phase squirrel cage motors** | | |
| • at 480 V / rated value | A | 32 |
| **Contact rating designation / for 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 |

## Reliability figures:

| | | |
|---|---|---|
| **B10 value** | | 3,000,000 |
| **Proportion of dangerous failures** | % | 50 |
| **Proportion of dangerous failures / with low demand rate / according to SN 31920** | % | 40 |
| **Protection against electrical shock** | | finger-safe |
| **Failure rate (FIT value) / with low demand rate / according to SN 31920** | FIT | 100 |

## Further information:

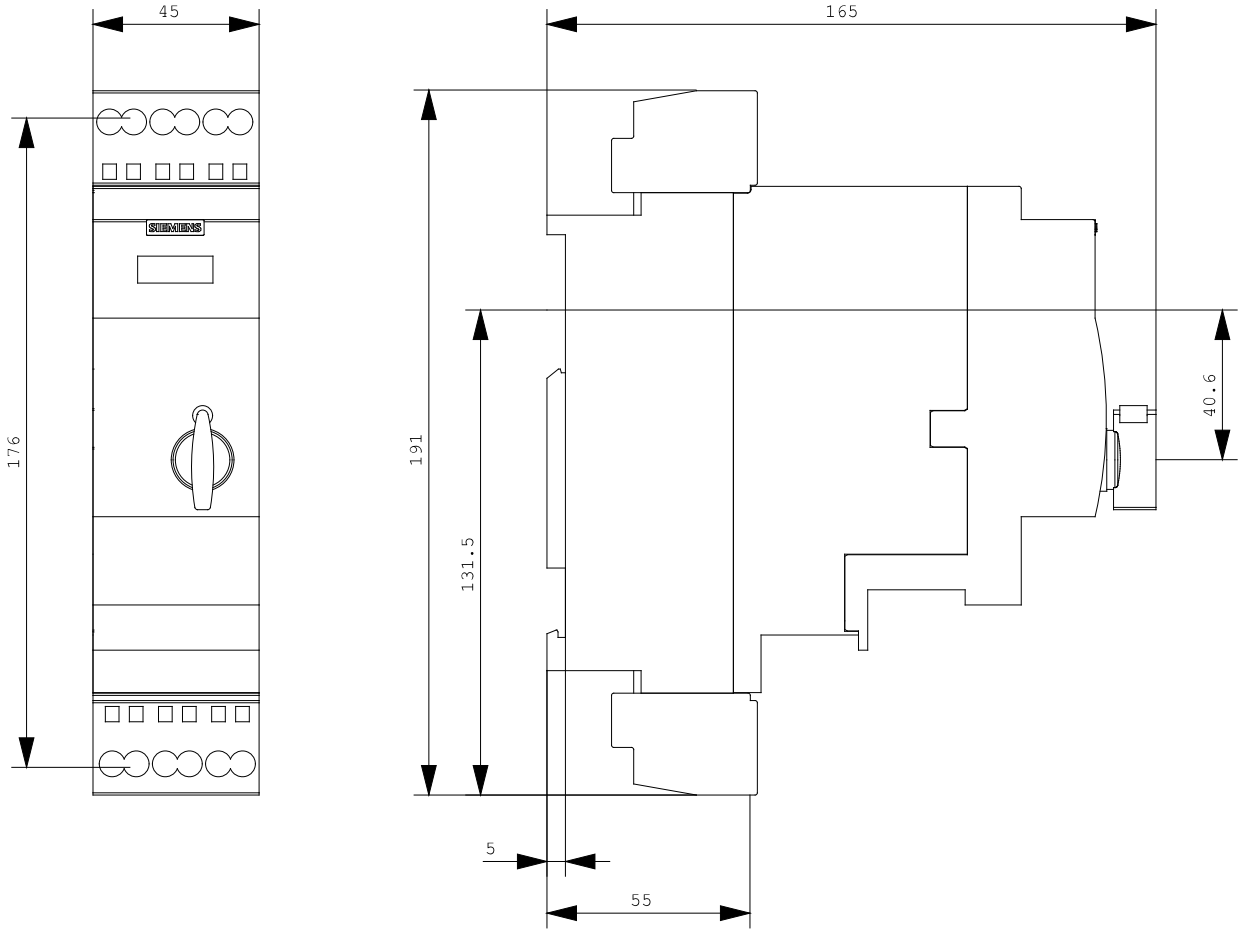
**Information- and Downloadcenter (Catalogs, Brochures,…)**
http://www.siemens.com/industrial-controls/catalogs

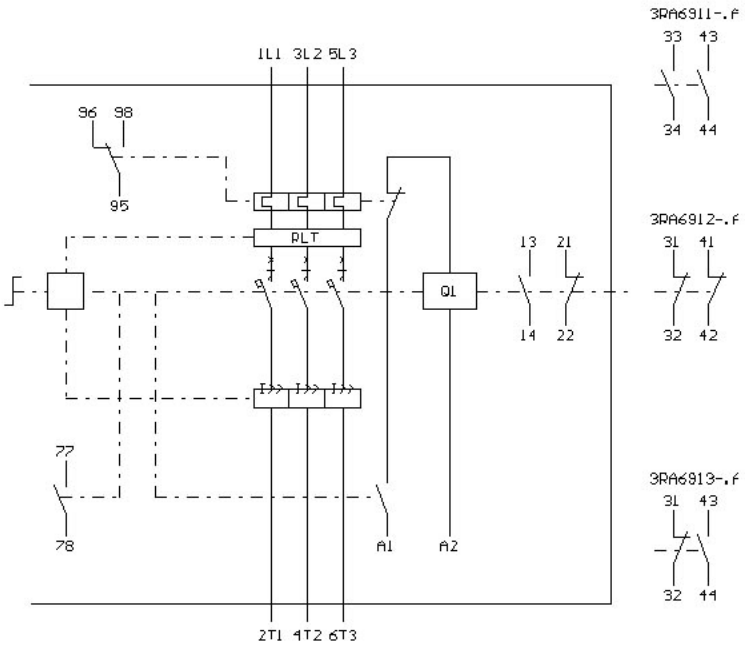
**Industry Mall (Online ordering system)**
http://www.siemens.com/industrial-controls/mall

**Cax online generator:**
http://www.siemens.com/cax

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
http://support.automation.siemens.com/WW/view/en/3RA6120-2EB34/all

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA6120-2EB34







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