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## Data sheet 3RT1045-3AK60

Power contactor, AC-3 80 A, 37 kW / 400 V 110 V AC, 50 Hz / 120 V, 60 Hz 3-pole, Size S3 Spring-type terminal !!! Phased-out product !!! Successor is SIRIUS 3RT2 Preferred successor type is >>3RT2038-3AK60<<

| | |
|---|---|
| **Product brand name** | SIRIUS |
| **Product designation** | power contactor |

| General technical data | |
|---|---|
| **Size of contactor** | S3 |
| **Insulation voltage** | |
| • rated value | 1 000 V |
| **Degree of pollution** | 3 |
| **Surge voltage resistance rated value** | 6 kV |
| **maximum permissible voltage for safe isolation** | |
| • between coil and main contacts acc. to EN 60947-1 | 690 V |
| **Protection class IP** | |
| • on the front | IP20; IP20 on the front with cover / box terminal |
| • of the terminal | IP00 |
| **Shock resistance at rectangular impulse** | |
| • at AC | 6,8g / 5 ms, 4g / 10 ms |
| **Shock resistance with sine pulse** | |
| • at AC | 10,6g / 5 ms, 6,2g / 10 ms |
| **Mechanical service life (switching cycles)** | |


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| | |
|---|---|
| • of contactor typical | 10 000 000 |
| • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| • of the contactor with added auxiliary switch block typical | 10 000 000 |
| **Reference code acc. to DIN EN 81346-2** | Q |

## Ambient conditions

| | |
|---|---|
| **Installation altitude at height above sea level** | |
| • maximum | 2 000 m |
| **Ambient temperature** | |
| • during operation | -25 ... +60 °C |
| • during storage | -55 ... +80 °C |

## Main circuit

| | |
|---|---|
| **Number of poles for main current circuit** | 3 |
| **Number of NO contacts for main contacts** | 3 |
| **Number of NC contacts for main contacts** | 0 |
| **Operating current** | |
| • at AC-1 at 400 V | |
| — at ambient temperature 40 °C rated value | 120 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 120 A |
| — up to 690 V at ambient temperature 60 °C rated value | 100 A |
| — up to 1000 V at ambient temperature 40 °C rated value | 60 A |
| — up to 1000 V at ambient temperature 60 °C rated value | 50 A |
| • at AC-3 | |
| — at 400 V rated value | 80 A |
| — at 690 V rated value | 58 A |
| — at 1000 V rated value | 30 A |
| • at AC-4 at 400 V rated value | 66 A |
| **Connectable conductor cross-section in main circuit at AC-1** | |
| • at 60 °C minimum permissible | 35 mm² |
| • at 40 °C minimum permissible | 50 mm² |
| **Operating current for approx. 200000 operating cycles at AC-4** | |
| • at 400 V rated value | 34 A |
| • at 690 V rated value | 22 A |
| **Operating current** | |


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| | |
|---|---|
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 9 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 100 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 100 A |
| **Operating current** | |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 40 A |
| — at 110 V rated value | 2.5 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 100 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 100 A |
| **Operating power** | |
| • at AC-1 | |
| — at 230 V at 60 °C rated value | 38 kW |
| — at 400 V rated value | 66 kW |
| — at 690 V rated value | 114 kW |
| — at 690 V at 60 °C rated value | 114 kW |
| — at 1000 V at 60 °C rated value | 82 W |
| • at AC-2 at 400 V rated value | 37 kW |
| • at AC-3 | |
| — at 230 V rated value | 22 kW |
| — at 400 V rated value | 37 kW |
| — at 500 V rated value | 45 kW |
| — at 690 V rated value | 55 kW |
| — at 1000 V rated value | 37 W |
| **Operating power for approx. 200000 operating cycles at AC-4** | |
| • at 400 V rated value | 17.9 kW |
| • at 690 V rated value | 21.1 kW |
| **Thermal short-time current limited to 10 s** | 760 A |
| **No-load switching frequency** | |
| • at AC | 5 000 1/h |
| **Operating frequency** | |
| • at AC-1 maximum | 900 1/h |


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| | |
|---|---|
| • at AC-2 maximum | 400 1/h |
| • at AC-3 maximum | 1 000 1/h |
| • at AC-4 maximum | 300 1/h |

| Control circuit/ Control | |
|---|---|
| **Type of voltage of the control supply voltage** | AC |
| **Control supply voltage at AC** | |
| • at 50 Hz rated value | 110 V |
| • at 60 Hz rated value | 120 V |
| **Control supply voltage frequency** | |
| • **1 rated value** | 50 Hz |
| • **2 rated value** | 60 Hz |
| **Operating range factor control supply voltage rated value of magnet coil at AC** | |
| • at 50 Hz | 0.8 ... 1.1 |
| • at 60 Hz | 0.8 ... 1.1 |
| **Apparent pick-up power of magnet coil at AC** | 300 V·A |
| **Inductive power factor with closing power of the coil** | 0.52 |
| **Apparent holding power of magnet coil at AC** | 21 V·A |
| **Inductive power factor with the holding power of the coil** | 0.29 |
| **Closing delay** | |
| • at AC | 17 ... 90 ms |
| **Opening delay** | |
| • at AC | 10 ... 25 ms |
| **Arcing time** | 10 ... 15 ms |

| Auxiliary circuit | |
|---|---|
| **Number of NC contacts for auxiliary contacts** | |
| • instantaneous contact | 0 |
| **Number of NO contacts for auxiliary contacts** | |
| • instantaneous contact | 0 |
| Operating current at AC-12 maximum | 10 A |
| **Operating current at AC-15** | |
| • at 230 V rated value | 6 A |
| • at 400 V rated value | 3 A |
| **Operating current at DC-12** | |
| • at 60 V rated value | 6 A |
| • at 110 V rated value | 3 A |
| • at 220 V rated value | 1 A |
| **Operating current at DC-13** | |
| • at 24 V rated value | 10 A |
| • at 60 V rated value | 2 A |
| • at 110 V rated value | 1 A |


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| | |
|---|---|
| • at 220 V rated value | 0.3 A |
| **Contact reliability of auxiliary contacts** | 1 faulty switching per 100 million (17 V, 1 mA) |

## UL/CSA ratings

| | |
|---|---|
| **Contact rating of auxiliary contacts according to UL** | A600 / Q600 |

## Short-circuit protection

| | |
|---|---|
| **Design of the fuse link** | |
| • for short-circuit protection of the main circuit | |
| — with type of coordination 1 required | fuse gL/gG: 250 A |
| — with type of assignment 2 required | fuse gL/gG: 160 A |
| • for short-circuit protection of the auxiliary switch required | fuse gL/gG: 10 A |

## Installation/ mounting/ dimensions

| | |
|---|---|
| **Mounting type** | screw and snap-on mounting onto 35 mm and 75 mm standard mounting rail |
| • Side-by-side mounting | Yes |
| **Height** | 146 mm |
| **Width** | 70 mm |
| **Depth** | 139 mm |
| **Required spacing** | |
| • for grounded parts | |
| — at the side | 6 mm |

## Connections/ Terminals

| | |
|---|---|
| **Type of electrical connection** | |
| • for main current circuit | screw-type terminals |
| • for auxiliary and control current circuit | spring-loaded terminals |
| **Type of connectable conductor cross-sections** | |
| • for main contacts | |
| — solid | 2x (2.5 ... 16 mm²) |
| — stranded | 2x (10 ... 50 mm²) |
| — single or multi-stranded | 2x (2,5 ... 16 mm²) |
| — finely stranded with core end processing | 2x (2.5 ... 35 mm²) |
| — finely stranded without core end processing | 2x (10 ... 35 mm²) |
| • at AWG conductors for main contacts | 2x (10 ... 1/0) |
| **Type of connectable conductor cross-sections** | |
| • for auxiliary contacts | |
| — solid | 2x (0.25 ... 2.5 mm²) |
| — finely stranded with core end processing | 2x (0.25 ... 1.5 mm²) |
| — finely stranded without core end processing | 2x (0.25 ... 2.5 mm²) |
| • at AWG conductors for auxiliary contacts | 2x (24 ... 14) |


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## Certificates/ approvals

| General Product Approval | | | | EMC | Functional Safety/Safety of Machinery |
|---|---|---|---|---|---|
| CCC | CSA | UL | EAC | RCM | Type Examination Certificate |

| Declaration of Conformity | | Test Certificates | | Marine / Shipping | |
|---|---|---|---|---|---|
| EG-Konf. | Miscellaneous | Special Test Certificate | Type Test Certificates/Test Report | ABS | LRS |

| Marine / Shipping | | other | | Railway |
|---|---|---|---|---|
| RINA | RMRS | Confirmation | Miscellaneous | Special Test Certificate |

## 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=3RT1045-3AK60

**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1045-3AK60

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RT1045-3AK60

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1045-3AK60&lang=en

**Characteristic: Tripping characteristics, I²t, Let-through current**
https://support.industry.siemens.com/cs/ww/en/ps/3RT1045-3AK60/char

**Further characteristics (e.g. electrical endurance, switching frequency)**
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1045-3AK60&objecttype=14&gridview=view1


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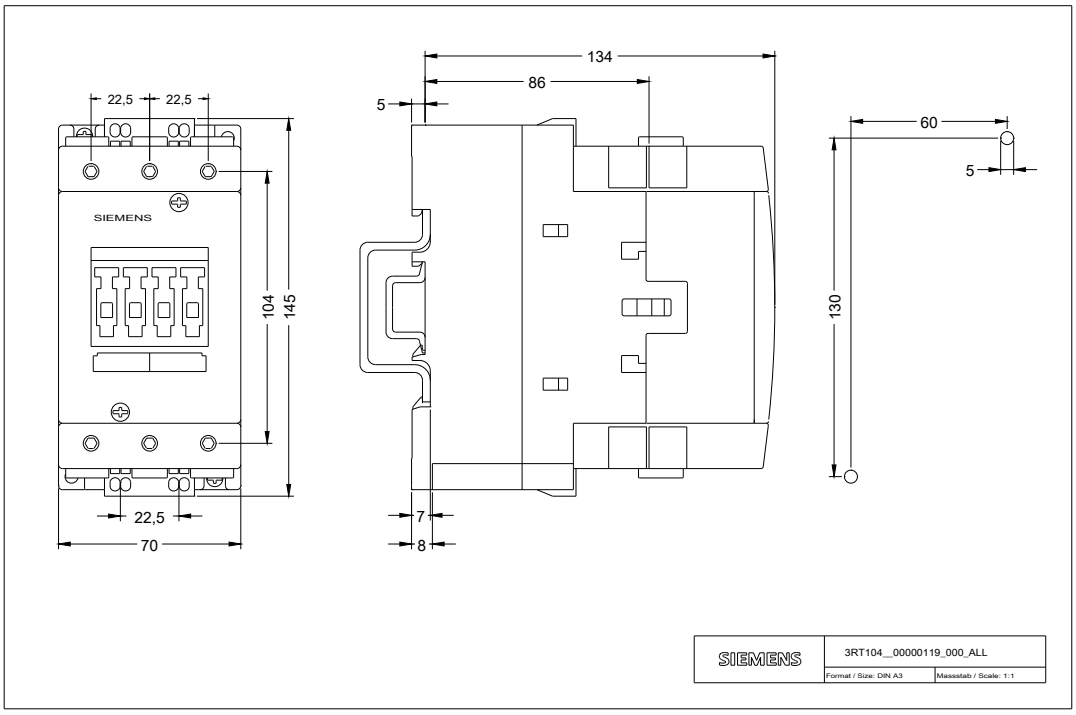



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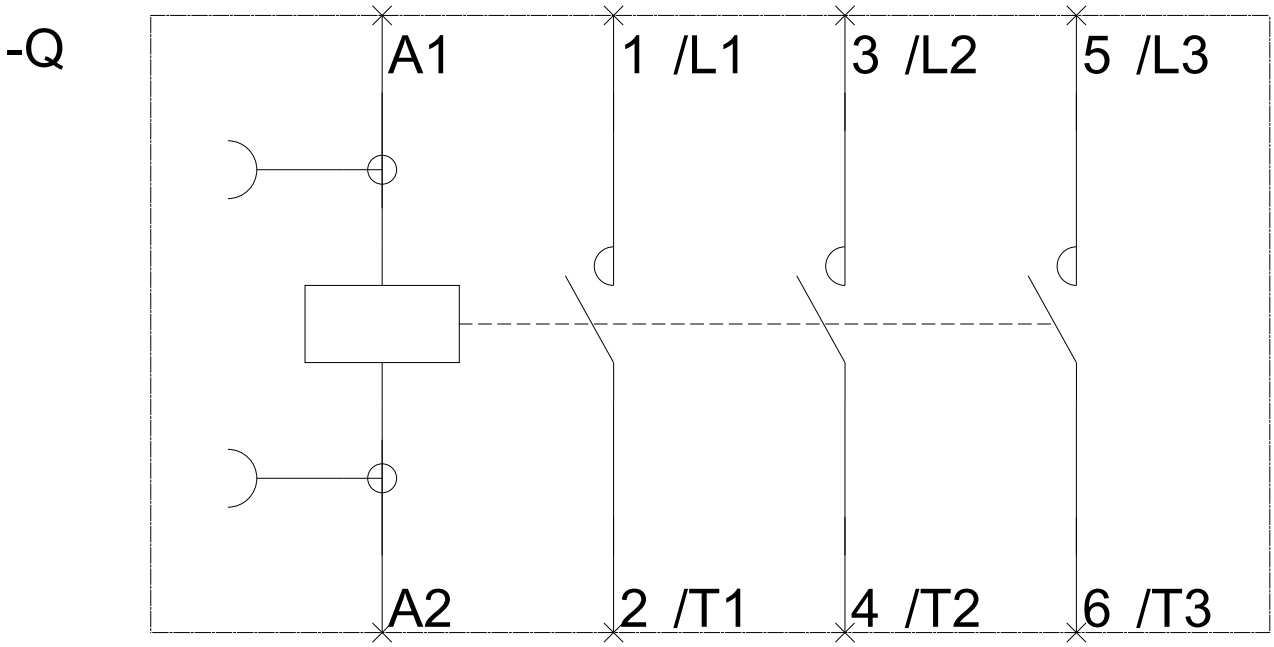


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