SIEMENS

## Product data sheet 3RT2025-1AK60


CONTACTOR, AC-3, 7.5KW/400V, 1NO+1NC,
AC110V 50HZ, 120V 60HZ 3-POLE,
SZ S0 SCREW TERMINAL

| General technical data: | | |
|---|---|---|
| **Product brand name** | | SIRIUS |
| **Product designation** | | 3RT2 contactor |
| **Size of the contactor** | | S0 |
| **Protection class IP / frontal/front side** | | IP20 |
| **Degree of pollution** | | 3 |
| **Installation altitude / at a height over sea level / maximum** | m | 2000 |
| **Ambient temperature** | | |
| • during storage | °C | -55 … 80 |
| • during the operating phase | °C | -25 … 60 |
| • during transport | °C | -55 … 80 |
| **Resistance against shock** | | 12.5g / 5 ms and 7.8g / 10 ms |
| **Impulse voltage resistance / rated value** | kV | 6 |
| **Insulation voltage / rated value** | V | 690 |
| **Resistive loss** | | |
| • per conductor / typical | W | 0.9 |
| **Apparent loss power / of the magnet coil / at AC / typical** | V·A | 8.5 |
| **Item designation** | | |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 | | K |

| | | |
|---|---|---|
| • according to DIN EN 61346-2 | | Q |
| **Mechanical operating cycles as operating time** | | |
| • of the contactor / typical | | 10000000 |
| • of the contactor with added auxiliary switch block / typical | | 10000000 |
| • of the contactor with added electronics-compatible auxiliary switch block / typical | | 10000000 |

## Main circuit:

| | | |
|---|---|---|
| **Number of poles / for main current circuit** | | 3 |
| **Number of NC contacts / for main contacts** | | 0 |
| **Number of NO contacts / for main contacts** | | 3 |
| **Operating voltage / at 3 AC / rated value** | | |
| • maximum | V | 690 |
| **Operating current / at AC-1 / at 400 V** | | |
| • at 40 °C ambient temperature / rated value | A | 40 |
| • at 60 °C ambient temperature / rated value | A | 35 |
| **Operating current** | | |
| • at AC-2 / at 400 V / rated value | A | 17 |
| • at AC-3 / at 400 V / rated value | A | 17 |
| • at AC-4 / at 400 V / rated value | A | 15.5 |
| • with 1 current path / at DC-1 | | |
| • at 24 V / rated value | A | 35 |
| • at 110 V / rated value | A | 4.5 |
| • with 2 current paths in series / at DC-1 | | |
| • at 24 V / rated value | A | 35 |
| • at 110 V / rated value | A | 35 |
| • with 3 current paths in series / at DC-1 | | |
| • at 24 V / rated value | A | 35 |
| • at 110 V / rated value | A | 35 |
| • with 1 current path / at DC-3 / at DC-5 | | |
| • at 24 V / rated value | A | 20 |
| • at 110 V / rated value | A | 2.5 |
| • with 2 current paths in series / at DC-3 / at DC-5 | | |
| • at 24 V / rated value | A | 35 |
| • at 110 V / rated value | A | 15 |
| • with 3 current paths in series / at DC-3 / at DC-5 | | |
| • at 24 V / rated value | A | 35 |
| • at 110 V / rated value | A | 35 |
| **Service power** | | |
| • at AC-2 / at 400 V / rated value | kW | 7.5 |

| | | |
|---|---|---|
| • at AC-3 | | |
| • at 400 V / rated value | kW | 7.5 |
| • at 500 V / rated value | kW | 10 |
| • at 690 V / rated value | kW | 11 |
| • at AC-4 / at 400 V / rated value | kW | 7.5 |
| **Operating reactive power / at AC-6b** | | |
| • at 230 V / rated value | var | 0 |
| • at 400 V / rated value | var | 0 |
| • at 690 V / rated value | var | 0 |
| **Off-load operating frequency** | 1/h | 5000 |
| **Switching frequency** | | |
| • at AC-1 / according to IEC 60947-6-2 / maximum | 1/h | 1000 |
| • at AC-2 / according to IEC 60947-6-2 / maximum | 1/h | 1000 |
| • at AC-3 / according to IEC 60947-6-2 / maximum | 1/h | 1000 |
| • at AC-4 / according to IEC 60947-6-2 / maximum | 1/h | 300 |

## Control circuit:

| | | |
|---|---|---|
| **Design of activation of the operating mechanism** | | conventional |
| **Type of voltage / of the controlled supply voltage** | | AC |
| **Control supply voltage frequency** | | |
| • 1 / rated value | Hz | 50 |
| • 2 / rated value | Hz | 60 |
| **Control supply voltage / 1** | | |
| • at 50 Hz / for AC | | |
| • rated value | V | 110 |
| • at 60 Hz / for AC | | |
| • rated value | V | 120 |
| **Operating range factor control supply voltage rated value / of the solenoid** | | |
| • at 50 Hz / for AC | | 0.8 … 1.1 |
| • at 60 Hz / for AC | | 0.85 … 1.1 |
| **Apparent pull-in power / of the solenoid / for AC** | V·A | 65 |
| **Apparent holding power / of the solenoid / for AC** | V·A | 8.5 |
| **Inductive power factor** | | |
| • with the pull-in power of the coil | | 0.82 |
| • with the pull-in power of the coil | | 0.25 |

## Auxiliary circuit:

| | | |
|---|---|---|
| **Product extension / auxiliary switch** | | Yes |
| **Contact reliability / of the auxiliary contacts** | | 1 faulty switching per 100 million (17 V, 1 mA) |
| **Number of NC contacts / for auxiliary contacts** | | |

| | | |
|---|---|---|
| • instantaneous switching | | 1 |
| • lagging switching | | 0 |
| **Number of NO contacts / for auxiliary contact** | | |
| • instantaneous switching | | 1 |
| • leading switching | | 0 |
| **Operating current / of the auxiliary contacts** | | |
| • at AC-12 / maximum | A | 10 |
| • at AC-15 | | |
| • at 230 V | A | 10 |
| • at 400 V | A | 3 |
| • at DC-12 | | |
| • at 48 V | A | 6 |
| • at 60 V | A | 6 |
| • at 110 V | A | 3 |
| • at 220 V | A | 1 |
| • at DC-13 | | |
| • at 24 V | A | 6 |
| • at 48 V | A | 2 |
| • at 60 V | A | 2 |
| • at 110 V | A | 1 |
| • at 220 V | A | 0.3 |

## Short-circuit:

| | | |
|---|---|---|
| **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 main circuit | | |
| • at type of coordination 1 / required | | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A |
| • at type of coordination 2 / required | | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25A |

## Installation/mounting/dimensions:

| | | |
|---|---|---|
| **Built in orientation** | | vertical |
| **Type of mounting** | | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022 |
| **Type of fixing/fixation / series installation** | | Yes |
| **Width** | mm | 45 |
| **Height** | mm | 85 |
| **Depth** | mm | 92 |
| **Distance, to be maintained, to the ranks assembly** | | |
| • forwards | mm | 0 |
| • backwards | mm | 0 |

| | | |
|---|---|---|
| • upwards | mm | 6 |
| • downwards | mm | 6 |
| • sidewards | mm | 0 |
| **Distance, to be maintained, to earthed part** | | |
| • forwards | mm | 6 |
| • backwards | mm | 0 |
| • upwards | mm | 6 |
| • downwards | mm | 6 |
| • sidewards | mm | 6 |
| **Distance, to be maintained, conductive elements** | | |
| • forwards | mm | 6 |
| • backwards | mm | 6 |
| • upwards | mm | 6 |
| • downwards | mm | 10 |
| • sidewards | mm | 6 |

## Connections:

| | | |
|---|---|---|
| **Design of the electrical connection** | | |
| • for main current circuit | | screw-type terminals |
| • for auxiliary and control current circuit | | screw-type terminals |
| **Type of the connectable conductor cross-section** | | |
| • for main contacts | | |
| • unifilar | | 2x (1 ... 2.5 mm2), 2x (2.5 ... 10 mm2) |
| • stranded wire | | 2x (1 ... 2.5 mm2), 2x (2.5 ... 10 mm2) |
| • stranded wire | | |
| • with conductor end processing | | 2x (1 ... 2.5 mm2), 2x (2.5 ... 6 mm2), 1x 10 mm2 |
| • at AWG-conductors / for main contacts | | 2x (16 ... 12), 2x (14 ... 8) |
| • for auxiliary contacts | | |
| • solid | | 2x (0.5 ... 1.5 mm2), 2x (0.75 ... 2.5 mm2) |
| • finely stranded | | |
| • with wire end processing | | 2x (0.5 ... 1.5 mm2), 2x (0.75 ... 2.5 mm2) |
| • for AWG conductors / for auxiliary contacts | | 2x (20 ... 16), 2x (18 ... 14) |

## Certificates/approvals:

| | | |
|---|---|---|
| **Verification of suitability** | | CE / UL / CSA / CCC |

## Safety:

| | | |
|---|---|---|
| **B10 value / with high demand rate** | | |
| • according to SN 31920 | | 1000000 |
| **T1 value / for proof test interval or service life** | | |
| • according to IEC 61508 | a | 20 |

| | | |
|---|---|---|
| **Proportion of dangerous failures** | | |
| • with low demand rate / according to SN 31920 | % | 40 |
| • with high demand rate / according to SN 31920 | % | 75 |
| **Failure rate (FIT value) / with low demand rate** | | |
| • according to SN 31920 | FIT | 100 |
| **Protection against electrical shock** | | finger-safe |

## Further information:

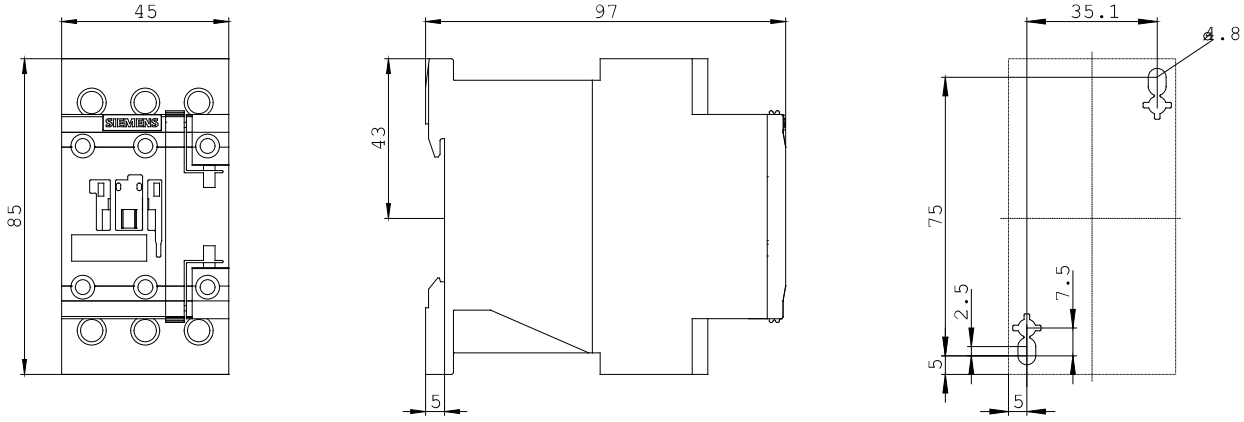
**Information- and Downloadcenter (Catalogs, Brochures,…)**
http://www.siemens.com/industrial-controls/catalogs

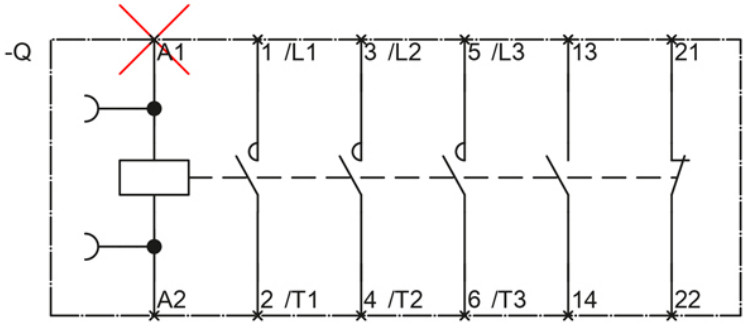
**Industry Mall (Online ordering system)**
http://www.siemens.com/industrial-controls/mall

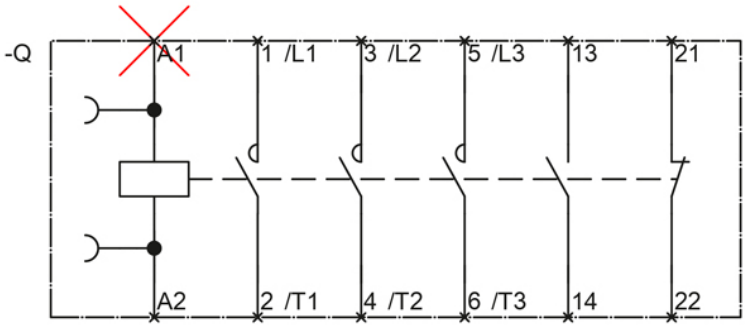
**CAx-Online-Generator**
http://www.siemens.com/cax

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
http://support.automation.siemens.com/WW/view/en/3RT2025-1AK60/all

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2025-1AK60



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