## **SIEMENS**

Data sheet 3RT2046-1AP00



power contactor, AC-3e/AC-3, 95 A, 45 kW / 400 V, 3-pole, 230 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S3
product extension	
<ul> <li>function module for communication</li> </ul>	No
<ul> <li>auxiliary switch</li> </ul>	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	19.8 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	6.6 W
<ul> <li>without load current share typical</li> </ul>	19 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	8 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	10.3g / 5 ms, 6,.g / 10 ms
shock resistance with sine pulse	
• at AC	16.3g / 5 ms, 10.g / 10 ms
mechanical service life (operating cycles)	
<ul> <li>of contactor typical</li> </ul>	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
ain circuit	

number of poles for main current circuit	3
number of poles for main current circuit number of NO contacts for main contacts	3
operating voltage	·
at AC-3 rated value maximum	1 000 V
at AC-3e rated value maximum	1 000 V
operational current	1 000 V
at AC-1 at 400 V at ambient temperature 40 °C	130 A
rated value	
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C</li> </ul>	130 A
rated value	
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	110 A
• at AC-3	
— at 400 V rated value	95 A
— at 500 V rated value	95 A
— at 690 V rated value	78 A
— at 1000 V rated value ● at AC-3e	30 A
— at 400 V rated value	95 A
— at 500 V rated value	95 A
— at 690 V rated value	78 A
— at 1000 V rated value	30 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	80 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	114 A
<ul><li>at AC-5b up to 400 V rated value</li><li>at AC-6a</li></ul>	95 A
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	84.4 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	84.4 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	84.4 A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> <li>at AC-6a</li> </ul>	58 A
up to 230 V for current peak value n=30 rated value	56.3 A
— up to 400 V for current peak value n=30 rated value	56.3 A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	56.3 A
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	56.3 A
minimum cross-section in main circuit at maximum AC-1 rated value	50 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	42 A
at 690 V rated value	30 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	100 A
— at 60 V rated value	60 A
— at 110 V rated value	9 A
— at 220 V rated value	2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.4 A
with 2 current paths in series at DC-1	
— at 24 V rated value	100 A
— at 60 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	10 A
— at 440 V rated value	1.8 A
— at 600 V rated value	1 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	

— at 24 V rated value	100 A
— at 60 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	80 A
— at 440 V rated value	4.5 A
— at 600 V rated value	2.6 A
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	40 A
— at 60 V rated value	6 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 A
— at 600 V rated value	0.06 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	100 A
— at 60 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.16 A
with 3 current paths in series at DC-3 at DC-5	400 A
— at 24 V rated value	100 A
— at 60 V rated value	100 A
— at 110 V rated value	100 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.35 A
<ul><li>operating power</li><li>at AC-2 at 400 V rated value</li></ul>	45 kW
• at AC-3	40 VVV
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	75 kW
— at 1000 V rated value	37 kW
• at AC-3e	OT ATT
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	75 kW
— at 1000 V rated value	37 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	22 kW
at 690 V rated value	27.4 kW
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	33 kVA
• up to 400 V for current peak value n=20 rated value	58 kVA
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	73 kVA
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	69 kVA
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	22.4 kVA
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	39 kVA
• up to 500 V for current peak value n=30 rated value	48.7 kVA
• up to 690 V for current peak value n=30 rated value	67.3 kVA
short-time withstand current in cold operating state up to 40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	1 725 A; Use minimum cross-section acc. to AC-1 rated value
limited to 5 s switching at zero current maximum	1 297 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 s switching at zero current maximum	946 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	610 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum  no lood quitching fraguency.	486 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	5 000 1/b
• at AC	5 000 1/h

operating frequency	
• at AC-1 maximum	900 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	850 1/h
• at AC-3e maximum	850 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	40
type of voltage of the control supply voltage	AC
control supply voltage at AC  • at 50 Hz rated value	230 V
operating range factor control supply voltage rated	230 V
value of magnet coil at AC  • at 50 Hz	0.8 1.1
● at 50 □Z apparent pick-up power of magnet coil at AC	0.8 1.1
• at 50 Hz	296 VA
inductive power factor with closing power of the coil	200 771
• at 50 Hz	0.61
apparent holding power of magnet coil at AC	
• at 50 Hz	19 VA
inductive power factor with the holding power of the coil	
● at 50 Hz	0.38
closing delay	
• at AC	13 50 ms
opening delay	
• at AC	10 21 ms
arcing time	10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	6 A
<ul> <li>at 400 V rated value</li> </ul>	3 A
<ul> <li>at 500 V rated value</li> </ul>	2 A
<ul> <li>at 690 V rated value</li> </ul>	1 A
operational current at DC-12	
at 24 V rated value	10 A
at 48 V rated value	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
<ul> <li>at 125 V rated value</li> <li>at 220 V rated value</li> </ul>	2 A 1 A
at 220 V rated value     at 600 V rated value	0.15 A
operational current at DC-13	0.1071
• at 24 V rated value	10 A
at 48 V rated value	2 A
at 60 V rated value	2 A
<ul> <li>at 110 V rated value</li> </ul>	1 A
<ul> <li>at 125 V rated value</li> </ul>	0.9 A
<ul><li>at 220 V rated value</li></ul>	0.3 A
<ul><li>at 600 V rated value</li></ul>	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	96 A
at 600 V rated value	77 A
yielded mechanical performance [hp]	
for single-phase AC motor     at 110/120 V reted value.	10 hp
— at 110/120 V rated value	10 hp
<ul> <li>at 230 V rated value</li> </ul>	20 hp

• International Processing  - at 200280 V rised value - at 200280 V rised value - at 4200280 V rised value - at 4200280 V rised value - at 4578,600 V rised value - at 575,600 V rised value - at 575,600 V rised value - at 575,600 V rised value - with type of assignment 2 required - side by-side mounting - steeling method - side by-side mounting - with side by-side mounting - commended parts - upwards - upwards - upwards - otherwise - of rownes - upwards - otherwise - of rownes - upwards - otherwise - of ownwards - otherwise - ownwards - otherwise - of ownwards - otherwise - of ownwards - otherwise - ownwards - ownwards - otherwise - ownwards - ownwards - otherwise - ownwards		
at 220/230 V rated value at 470/240 V rated value at 575/600 V rated value at 575/600 V rated value	<ul> <li>for 3-phase AC motor</li> </ul>	
at 460/480 V rated value at 575/600 V rated value contact rating of auxillary contacts according to UL  Stort clicrotic protection design of the fuse link  for short-circuit protection of the main circuit with type of assignment 2 required  with type of assignment 2 required with type of assignment 2 required for short-circuit protection of the auxillary switch required with type of assignment 2 required for short-circuit protection of the auxillary switch required with type of assignment 2 required for short-circuit protection of the auxillary switch required for short-circuit protection of the auxillary switch required slide-by-side mounting forwards slide-by-side mounting forwards commands comman		·
— at 57560 V related value contact saccording to UL Short-circuit protection design of the fuse link  — for short-circuit protection of the main circuit  — with type of coordination 1 required  — for short-circuit protection of the suciliary switch  required  — with type of assignment 2 required  — for short-circuit protection of the suciliary switch  required  — with type of sessignment 2 required  — for short-circuit protection of the suciliary switch  required  — for short-circuit protection of the suciliary switch  required  — substancial mounting idimensions   mounting position  — substancial s	<ul> <li>— at 220/230 V rated value</li> </ul>	·
contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link  • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required — with type of assignment 2 required — with type of assignment 2 required — for short-circuit protection of the auxiliary switch required  required  Institution mounting/dimensions  mounting position  fastening method  fastening method  fastening method  fastening method  fastening method  fastening method  forward and backward by +/-22.5° on vertical mounting surface: can be tilted forward and backward by +/-22.5° on vertical mounting surface: soriew and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715  ### Auxiliary Contacts  ### Auxiliary Contacts ### Auxiliary Contacts ### Auxiliary Contacts ### Auxiliary Contacts ### Auxiliary Contacts ### Auxiliary Contacts ### Auxiliary Contacts ### Contactor for auxiliary cont	<ul> <li>— at 460/480 V rated value</li> </ul>	·
design of the fuse link  - for short-circuit protection of the main circuit  - with type of coordination 1 required  - with type of assignment 2 required  - or short-circuit protection of the auxiliary switch  - or short-circuit protection of the auxiliary contacts  - or inequal switch  - or or short-circuit protection  - or or short-circuit protection or short protection		·
design of the fuse link  • for short-circuit protection of the main circuit — with type of assignment 2 required  • with type of assignment 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch • for grounded paris • for grounded paris • for grounded paris • for wards • for grounded paris • for live parts • forwards • for live parts • forwards • for live parts • forwards • for auxiliary and confool circuit • for auxiliary and	contact rating of auxiliary contacts according to UL	A600 / P600
Installation from the main circuit — with type of coordination 1 required   — with type of assignment 2 required   Installation from the first protection of the auxiliary switch   • for short-circuit   • for short-circuit   • for short-circuit   • for switch s	Short-circuit protection	
- with type of coordination 1 required     - with type of assignment 2 required     - with type of assignment 2 required     - for short-circuit protection of the auxiliary switch required     - with type of assignment 2 required     - with side system of the auxiliary switch required     - with side system of the auxiliary switch required     - with side-by-side mounting of the auxiliary switch depth assignment of the auxiliary switch width of the side-by-side mounting wife assignment of the side-by-side mounting wife assignment of the side-by-side mounting wife assignment of the side-by-side mounting     - with side-by-side mounting with side-by-side mounting surface screw-type terminals     - with side-by-side mounting with side-by-side mounting surface screw-type terminals     - with side-by-side mounting with side-by-side mounting surface screw-type terminals     - with side-by-side mounting with side-by-side mount	design of the fuse link	
- with type of assignment 2 required  • for short-circuit protection of the auxiliary switch • for short-circuit protection of the auxiliary contacts • solid • for short-circuit protection of the auxiliary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for mail contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • sol	<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
- with type of assignment 2 required   for short-circuit protection of the auxiliary switch required spacing   fastening method	<ul> <li>— with type of coordination 1 required</li> </ul>	
• for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  • side-by-side mounting  • side-by-side mounting  • with side-by-side mounting  • for wards  — upwards  — upwards  — downwards  — at the side  • for grounded parts  — forwards  — at the side  • for wards  — ownwards  • for live parts  — forwards  — ownwards  • for live parts  — forwards  — of main current circuit  • of a comectable Treminals   type of electrical connection  • for main current circuit  • of a connectable conductor cross-section for main contacts  • solid  • stranded  • inely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid  • stranded  • finely stranded with core end processing  • mely stranded with core end processing  • for auxiliary and dwith core end processing  • for auxiliary contacts  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or stranded  • finely stranded with core end processing  • solid or	— with type of assignment 2 required	gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A
mounting position fastening method  side-by-side mounting height width depth - forwards - forwards - downwards - downwards - downwards - at the side - downwards - at the side - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - downwards - downwards - the side - downwards - the side - downwards - downwards - the side - downwards - to man - the side - downwards - the side - downwards - to man - the side - finely stranded with core end processing connectable conductor cross-section for main contacts - solid - sinely stranded with core end processing connectable conductor cross-section for auxiliary contacts - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stran		
mounting position fastening method  side-by-side mounting height width depth - forwards - forwards - downwards - downwards - downwards - at the side - downwards - at the side - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - at the side - downwards - downwards - downwards - downwards - downwards - the side - downwards - the side - downwards - downwards - the side - downwards - to man - the side - downwards - the side - downwards - to man - the side - finely stranded with core end processing connectable conductor cross-section for main contacts - solid - sinely stranded with core end processing connectable conductor cross-section for auxiliary contacts - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - solid or stran	Installation/ mounting/ dimensions	
forward and backward by 4- 22.5" on vertical mounting surface 60716  side-by-side mounting height 70 mm depth 152 mm  • with side-by-side mounting  • for mark side  • for wards  • for auxiliary contacts  • for auxiliary and control cross-sections for main contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for main contacts  • solid  • stranded • finely stranded with core end processing  connectable conductor cross-section for auxillary contacts  • solid or stranded • finely stranded with core end processing  connectable conductor cross-sections  • for auxillary contacts  • for auxillary co		+/-180° rotation possible on vertical mounting surface; can be tilted
* side-by-side mounting height		forward and backward by +/- 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail according to DIN EN
height width depth 70 mm depth 70 mm 152 mm	• side-by-side mounting	
with depth required spacing  • with side-by-side mounting  — forwards		
depth required spacing  • with side-by-side mounting  — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — upwards — the side • for grounded parts — forwards — upwards — upwards — upwards — upwards — the side • for man upwards — downwards • for live parts — for live parts — forwards — upwards — upwards — the side — downwards • for live parts — forwards — upwards — upwards — the side — to mm — the side — to main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for main contacts • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing  at AWG cables for auxiliary contacts  AWG numbra as coded connectable conductor cross		
required spacing  with side-by-side mounting — forwards — upwards — downwards — at the side — for grounded parts — for grounded parts — forwards — upwards — upwards — upwards — upwards — the side — downwards — 10 mm — downwards — 10 mm — downwards — 10 mm — downwards — for live parts — forwards — upwards — upwards — upwards — 10 mm — downwards — 10 mm — downwards — upwards — 10 mm — downwards — 10 mm — served perminals   **Connections/Torminals**  **Type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for main contacts • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross   **Counter the manual processing **Counter the processing of the pr		
• with side-by-side mounting  forwards upwards downwards at the side for grounded parts forwards upwards upwards upwards at the side downwards at the side downwards at the side for live parts forwards for live parts forwards upwards upwards upwards upwards downwards for auxiliary and control circuit for auxiliary and control circuit for auxiliary and control circuit finely stranded with core end processing solid conductor cross-section for main contacts solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing solid	·	
- upwards		
- downwards - at the side 0 mm  • for grounded parts - forwards - upwards - at the side 0 mm  • for live parts - forwards 10 mm • for live parts - forwards - upwards 10 mm • for live parts - forwards - upwards 10 mm  • for live parts - forwards 10 mm - downwards - at the side 10 mm  Connections/ Terminals  type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for auxillary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxillary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing at AWG ables for auxiliary contacts - solid or stranded - finely stranded with core end processing at AWG ables for auxiliary contacts - solid or stranded - finely stranded with core end processing - at AWG ables for auxiliary contacts - solid or stranded - finely stranded to conductor cross-sections - solid or stranded - finely stranded to conductor cross-sections - solid or stranded - finely stranded to conductor cross-sections - solid or stranded - finely stranded to conductor cross-sections	— forwards	20 mm
- at the side  • for grounded parts  - forwards  - upwards  - at the side  - downwards  • for live parts  - forwards  - upwards  - forwards  - forwards  - forwards  - forwards  - forwards  - forwards  - downwards  - downwards  - downwards  - upwards  -	— upwards	10 mm
• for grounded parts  — forwards — upwards — at the side — downwards — for live parts — forwards — upwards — upwards — for wards — upwards — upwards — downwards — upwards — downwards — at the side — 10 mm  Connections/ Torminals   type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-section for main contacts • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • f	— downwards	10 mm
- forwards	— at the side	0 mm
- upwards - at the side - downwards - for live parts - forwards - upwards - downwards - downwards - downwards - downwards - downwards - at the side - downwards - do	<ul> <li>for grounded parts</li> </ul>	
- at the side	— forwards	20 mm
- downwards  • for live parts  - forwards  - upwards  - downwards  - at the side  Connections/ Terminals  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  • of magnet coil  type of connectable conductor cross-section for main contacts  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid or stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid or stranded  • finely stranded with core end processing  type of connectable conductor cross-sections  • for auxiliary contacts  - solid or stranded  - finely stranded with core end processing  • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross   10 mm  10 mm  5 crew-type terminals  Screw-type terminals  2x (2.5 35 mm²), 1x (2.5 50 mm²)  2x (2.5 35 mm²), 1x (2.5 50 mm²)  2x (2.5 35 mm²), 1x (2.5 50 mm²)  2x (2.5 50 mm²  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)  2x (20 16), 2x (18 14)	— upwards	10 mm
• for live parts  — forwards — upwards — downwards — at the side  Connections/ Terminals  type of electrical connection • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts  • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts  • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross  20 mm 10 mm  50 mm 50 mm 50 mm 50 mm 50 mm 50 mm 50 mm 60	— at the side	10 mm
- forwards - upwards - downwards - at the side  Connections/ Terminals  type of electrical connection		10 mm
- upwards - downwards - at the side  Connections/ Terminals  type of electrical connection  • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary connectable conductor cross-section for auxiliary connectable conductor cross-section for auxiliary connectable conductor cross-sections • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross		
- downwards - at the side  Connections/ Terminals  type of electrical connection	— forwards	
Type of electrical connection  • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections for main contacts • finely stranded with core end processing connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections	·	
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type of electrical connection  • for main current circuit  • for auxiliary and control circuit  • at contactor for auxiliary contacts  • of magnet coil  type of connectable conductor cross-sections for main contacts  • finely stranded with core end processing  connectable conductor cross-section for main contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid or stranded  • finely stranded with core end processing  type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded  — finely stranded with core end processing  type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded  — finely stranded with core end processing  • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross		10 mm
<ul> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>type of connectable conductor cross-sections for main contacts</li> <li>finely stranded with core end processing</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for main contacts</li> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>a solid or stranded</li> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>a solid or stranded</li> <li>for auxiliary contacts</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG cables for auxiliary contacts</li> <li>AWG number as coded connectable conductor cross</li> </ul>		
<ul> <li>for auxiliary and control circuit</li> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>type of connectable conductor cross-sections for main contacts</li> <li>finely stranded with core end processing</li> <li>a solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for main contacts</li> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for auxiliary</li> <li>finely stranded with core end processing</li> <li>for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG number as coded connectable conductor cross</li> </ul>	· ·	
<ul> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>type of connectable conductor cross-sections for main contacts</li> <li>finely stranded with core end processing</li> <li>a solid</li> <li>stranded</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for main contacts</li> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>solid or stranded</li> <li>for auxiliary contacts</li> <li>molid or stranded</li> <li>finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG number as coded connectable conductor cross</li> </ul> Screw-type terminals <ul> <li>Screw-type terminals</li> <li>Screw-type terminals</li> </ul> Screw-type terminals <ul> <li>x (2.5 35 mm²), 1x (2.5 50 mm²)</li> <li>2.5 16 mm²</li> <li>2.5 16 mm²</li> <li>2.5 50 mm²</li> </ul> 0.5 2.5 mm² <ul> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14)</li> </ul>		**
of magnet coil type of connectable conductor cross-sections for main contacts         • finely stranded with core end processing connectable conductor cross-section for main contacts         • solid             • stranded             • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts             • solid or stranded             • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts             • solid or stranded             • finely stranded with core end processing type of connectable conductor cross-sections             • for auxiliary contacts             • solid or stranded             • finely stranded with core end processing             • for auxiliary contacts             • solid or stranded             • finely stranded with core end processing             • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross		
type of connectable conductor cross-sections for main contacts  • finely stranded with core end processing  connectable conductor cross-section for main contacts  • solid  • stranded  • finely stranded with core end processing  connectable conductor cross-section for auxiliary contacts  • solid or stranded  • finely stranded with core end processing  type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded — finely stranded with core end processing  • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross-sections of the finely stranded with core end processing  2x (2.5 35 mm²), 1x (2.5 50 mm²)  2x (2.5 35 mm²), 1x (2.5 50 mm²)  2x (2.5 16 mm²  2x (2.5 16 mm²  2x (2.5 50 mm²  2x (2.5 50 mm²  2x (2.5 50 mm²  2x (2.5 50 mm²)  2x (2.5 50 mm²  2x (2.5 50 mm²  2x (2.5 50 mm²)  2x (2.5 50 mm²  2x (2.5 50 mm²)  2x (2.5 50 mm²)  2x (2.5 50 mm²  2x (2.5 50 mm²)	•	
<ul> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>solid or stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>for auxiliary contacts</li> <li>for auxiliary contacts</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>for auxiliary contacts</li> <li>finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG number as coded connectable conductor cross</li> </ul>		Screw-type terminals
connectable conductor cross-section for main contacts  • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts  - solid or stranded - finely stranded with core end processing • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross  2.5 16 mm² 2.5 2.5 mm²  0.5 2.5 mm²  0.5 2.5 mm²  2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)	contacts	2v (2.5 35 mm²) 1v (2.5 50 mm²)
<ul> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>connectable conductor cross-section for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG number as coded connectable conductor cross</li> </ul> <ul> <li>2.5 16 mm²</li> <li>6 70 mm²</li> <li>2.5 50 mm²</li> <li>0.5 2.5 mm²</li> <li>0.5 2.5 mm²</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14)</li> </ul> <ul> <li>AWG number as coded connectable conductor cross</li> </ul>	connectable conductor cross-section for main	ZA (Z.J JJ IIIII ), IA (Z.J JU IIIIII)
<ul> <li>finely stranded with core end processing connectable conductor cross-section for auxiliary contacts</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>solid or stranded</li> <li>for auxiliary contacts</li> <li>finely stranded with core end processing</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>at AWG cables for auxiliary contacts</li> <li>at AWG number as coded connectable conductor cross</li> </ul>		2.5 16 mm²
connectable conductor cross-section for auxiliary contacts  • solid or stranded • finely stranded with core end processing  type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross  • solid or stranded 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)		
connectable conductor cross-section for auxiliary contacts  • solid or stranded • finely stranded with core end processing  type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross  • solid or stranded 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)	<ul> <li>finely stranded with core end processing</li> </ul>	2.5 50 mm²
<ul> <li>finely stranded with core end processing</li> <li>type of connectable conductor cross-sections</li> <li>for auxiliary contacts</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>— at AWG cables for auxiliary contacts</li> <li>AWG number as coded connectable conductor cross</li> </ul> <ul> <li>0.5 2.5 mm²</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14)</li> </ul>	connectable conductor cross-section for auxiliary	
type of connectable conductor cross-sections  • for auxiliary contacts  — solid or stranded  — finely stranded with core end processing  • at AWG cables for auxiliary contacts  AWG number as coded connectable conductor cross	<ul> <li>solid or stranded</li> </ul>	
<ul> <li>for auxiliary contacts         <ul> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>at AWG cables for auxiliary contacts</li> </ul> </li> <li>AWG number as coded connectable conductor cross</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14)</li> </ul>		0.5 2.5 mm <sup>2</sup>
<ul> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG cables for auxiliary contacts</li> <li>AWG number as coded connectable conductor cross</li> <li>2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)</li> <li>2x (20 16), 2x (18 14)</li> </ul>		
<ul> <li>— finely stranded with core end processing</li> <li>■ at AWG cables for auxiliary contacts</li> <li>AWG number as coded connectable conductor cross</li> </ul> 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14)	-	
• at AWG cables for auxiliary contacts 2x (20 16), 2x (18 14)  AWG number as coded connectable conductor cross		
AWG number as coded connectable conductor cross		
		2x (20 16), 2x (18 14)

• for main contacts 10 ... 2 • for auxiliary contacts 20 ... 14

Safety related data

product function

• mirror contact according to IEC 60947-4-1

• positively driven operation according to IEC 60947-

B10 value with high demand rate according to SN 31920 proportion of dangerous failures

• with low demand rate according to SN 31920 • with high demand rate according to SN 31920 73 %

failure rate [FIT] with low demand rate according to SN

T1 value for proof test interval or service life according to IEC 61508

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529 suitability for use

• safety-related switching OFF

· safety-related switching on

Yes

No

1 000 000

40 %

100 FIT

20 a

IP20

finger-safe, for vertical contact from the front

Yes Yes

Certificates/ approvals

## **General Product Approval**





Confirmation



<u>KC</u>



**Functional EMC** Safety/Safety of **Test Certificates Declaration of Conformity** Machinery



**Type Examination Certificate** 





Type Test Certificates/Test Report

Special Test Certificate

## Marine / Shipping













other Railway **Dangerous Good** 

Confirmation Vibration and Shock **Transport Informa**tion

## Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT2046-1AP00

Cax online generator

**SIEMENS KALA** 

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2046-1AP00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2046-1AP00

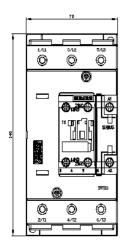
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2046-1AP00&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2046-1AP00&lang=en</a>

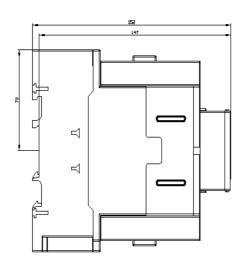
Characteristic: Tripping characteristics, I2t, Let-through current

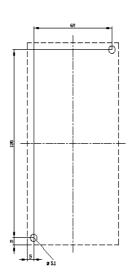
https://support.industry.siemens.com/cs/ww/en/ps/3RT2046-1AP00/char

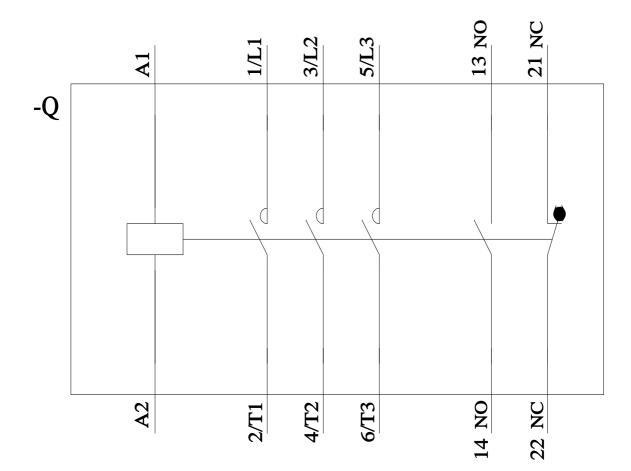
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2046-1AP00&objecttype=14&gridview=view1









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