SIEMENS

Data sheet 3RT2028-1AC20-0JA0



Power contactor, AC-3 38 A, 18.5 kW / 400 V 1 NO + 1 NC, 24 V AC 50/60 Hz, 3-pole Size S0, screw terminals

| product brand name | SIRIUS |
|---|----------------------------|
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S0 |
| product extension | |
| function module for communication | No |
| auxiliary switch | Yes |
| power loss [W] for rated value of the current | |
| at AC in hot operating state | 9.6 W |
| at AC in hot operating state per pole | 3.2 W |
| without load current share typical | 10.5 W |
| insulation voltage | |
| of main circuit with degree of pollution 3 rated value | 690 V |
| of auxiliary circuit with degree of pollution 3 rated value | 690 V |
| surge voltage resistance | |
| of main circuit rated value | 6 kV |
| of auxiliary circuit rated value | 6 kV |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 400 V |
| shock resistance at rectangular impulse | |
| • at AC | 8,3g / 5 ms, 5,3g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 13,5g / 5 ms, 8,3g / 10 ms |
| mechanical service life (switching cycles) | |
| of contactor typical | 10 000 000 |
| of the contactor with added electronically optimized auxiliary switch block typical | 5 000 000 |
| of the contactor with added auxiliary switch block typical | 10 000 000 |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 10/01/2009 |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| during operation | -25 +50 °C |
| during storage | -55 +80 °C |
| relative humidity minimum | 10 % |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 % |

| number of poles for main current circuit | 3 |
|---|--------|
| number of NO contacts for main contacts | 3 |
| operating voltage | |
| at AC-3 rated value maximum | 690 V |
| at AC-3e rated value maximum | 690 V |
| operational current | |
| at AC-1 at 400 V at ambient temperature 40 °C | 50 A |
| rated value | 007. |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C | 50 A |
| rated value | |
| — up to 690 V at ambient temperature 60 °C | 42 A |
| rated value | |
| • at AC-3 | |
| — at 400 V rated value | 38 A |
| — at 500 V rated value | 32 A |
| — at 690 V rated value | 21 A |
| • at AC-3e | |
| — at 400 V rated value | 38 A |
| — at 500 V rated value | 32 A |
| — at 690 V rated value | 21 A |
| at AC-4 at 400 V rated value | 22 A |
| at AC-5a up to 690 V rated value | 44 A |
| at AC-5b up to 400 V rated value | 31.5 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated | 30.8 A |
| value | |
| up to 400 V for current peak value n=20 rated | 30.8 A |
| value | |
| up to 500 V for current peak value n=20 rated | 30.8 A |
| value | |
| up to 690 V for current peak value n=20 rated value | 21 A |
| • at AC-6a | |
| | 20.5.4 |
| up to 230 V for current peak value n=30 rated value | 20.5 A |
| — up to 400 V for current peak value n=30 rated | 20.5 A |
| value | |
| — up to 500 V for current peak value n=30 rated | 21.4 A |
| value | |
| up to 690 V for current peak value n=30 rated | 21 A |
| value | |
| minimum cross-section in main circuit at maximum AC-1 | 10 mm² |
| rated value | |
| operational current for approx. 200000 operating cycles at AC-4 | |
| at 400 V rated value | 12 A |
| at 690 V rated value at 690 V rated value | 12 A |
| operational current | 1271 |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 24 V rated value — at 110 V rated value | 4.5 A |
| | |
| — at 220 V rated value | 1 A |
| — at 440 V rated value | 0.4 A |
| — at 600 V rated value | 0.25 A |
| with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 5 A |
| — at 440 V rated value | 1 A |
| — at 600 V rated value | 0.8 A |
| with 3 current paths in series at DC-1 | |

| — at 24 V rated value | 35 A |
|---|---|
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 35 A |
| — at 440 V rated value | 2.9 A |
| — at 600 V rated value | 1.4 A |
| at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 2.5 A |
| — at 220 V rated value | 1 A |
| — at 440 V rated value | 0.09 A |
| — at 600 V rated value | 0.06 A |
| with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 35 A |
| — at 110 V rated value | 15 A |
| — at 220 V rated value | 3 A |
| — at 440 V rated value | 0.27 A |
| — at 600 V rated value | 0.16 A |
| with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 10 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.6 A |
| operating power | |
| • at AC-2 at 400 V rated value | 18.5 kW |
| • at AC-3 | |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 18.5 kW |
| — at 500 V rated value | 18.5 kW |
| — at 690 V rated value | 18.5 kW |
| • at AC-3e | |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 18.5 kW |
| — at 500 V rated value | 18.5 kW |
| — at 690 V rated value | 18.5 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 6 kW |
| • at 690 V rated value | 10.3 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | 12.2 kVA |
| • up to 400 V for current peak value n=20 rated value | 21.3 kVA |
| • up to 500 V for current peak value n=20 rated value | 26.6 kVA |
| • up to 690 V for current peak value n=20 rated value | 25 kVA |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | 8.1 kVA |
| • up to 400 V for current peak value n=30 rated value | 14.2 kVA |
| • up to 500 V for current peak value n=30 rated value | 18.5 kVA |
| • up to 690 V for current peak value n=30 rated value | 25 kVA |
| short-time withstand current in cold operating state | |
| up to 40 °C | |
| limited to 1 s switching at zero current maximum | 593 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 5 s switching at zero current maximum | 395 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 10 s switching at zero current maximum | 260 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 30 s switching at zero current maximum | 186 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 60 s switching at zero current maximum | 152 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| • at AC | 5 000 1/h |
| operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 750 1/h |
| | |

| - at AC 2 magazine una | 750.4% |
|--|---|
| • at AC-3 maximum | 750 1/h |
| at AC-3e maximum at AC-4 maximum | 750 1/h 250 1/h |
| | 250 1/11 |
| Control circuit/ Control | A.O. |
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | 24.1/ |
| at 50 Hz rated value at 60 Hz rated value | 24 V 24 V |
| operating range factor control supply voltage rated | 24 V |
| value of magnet coil at AC | |
| ● at 50 Hz | 0.8 1.1 |
| ● at 60 Hz | 0.85 1.1 |
| apparent pick-up power of magnet coil at AC | |
| ● at 50 Hz | 81 VA |
| • at 60 Hz | 79 VA |
| inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.72 |
| • at 60 Hz | 0.74 |
| apparent holding power of magnet coil at AC | 40.5.1/4 |
| • at 50 Hz | 10.5 VA |
| at 60 Hz inductive power factor with the holding power of the | 8.5 VA |
| coil | |
| ● at 50 Hz | 0.25 |
| ● at 60 Hz | 0.28 |
| closing delay | |
| • at AC | 8 40 ms |
| opening delay | |
| • at AC | 4 16 ms |
| arcing time | 10 10 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| | |
| Auxiliary circuit | 4 |
| number of NC contacts for auxiliary contacts instantaneous contact | 1 |
| number of NC contacts for auxiliary contacts | 1 |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts | |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact | 1 |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value | 1 10 A 10 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value | 1 10 A 10 A 3 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value | 1 10 A 10 A 3 A 2 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value | 1 10 A 10 A 3 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 | 1 10 A 10 A 3 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value | 1 10 A 10 A 3 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value | 1 10 A 10 A 3 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value • at 110 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 220 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 2 A 1 A 0.15 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 7 A 7 A 7 A 7 A 7 A 7 A 7 A 7 A 7 A 7 |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 240 V rated value • at 600 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 400 V rated value • at 200 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 10 A 2 A 1 A 10 A 2 A 2 A 1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 125 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 600 V rated value • at 148 V rated value • at 148 V rated value • at 149 V rated value • at 140 V rated value • at 150 V rated value • at 150 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 125 V rated value • at 110 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 20 V rated value • at 20 V rated value • at 20 V rated value • at 110 V rated value • at 125 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A |
| number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 600 V rated value • at 600 V rated value • at 24 V rated value • at 25 V rated value • at 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 20 V rated value | 1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A |

| * al 600 V rated value 27 A | a at 490 V rotad value | 24 A |
|--|--|--|
| yielded mechanical performance (hp) • for single-phase AC motor — at 110/120 Y rated value — at 200/230 Y rated value — at 200/230 Y rated value — at 200/230 Y rated value — at 400/480 Y rated value — at 400/480 Y rated value — at 400/480 Y rated value — at 575/500 Y rated value — with yee of coordination 1 required — with yee of coordination 1 required — with yee of assignment 2 required space of short-circuit protection of the auxiliary switch required * for short-circuit protection of the auxiliary switch general coll * side-by-side mounting * side-by-side mounting * with 360-by-side mounting * with 360-by-side mounting * of mounting surface * ownwards — upwards — ownwards — ow | at 480 V rated value | 34 A |
| • for single-phase AC motor — at 110/120 V rated value — at 220/230 V rated value — at 220/230 V rated value — at 220/230 V rated value — at 420/480 V rated value — 25 hp — at 575/800 V rated value — 25 hp — at 575/800 V rated value — 25 hp — at 575/800 V rated value — 25 hp — at 575/800 V rated value — 25 hp — at 575/800 V rated value — 25 hp — at 575/800 V rated value — or short-circuit protection design of the fuse link — with type of coordination 1 required — with type of assignment 2 required — with type of assignment 2 required — with type of assignment 2 required — or short-circuit protection of the main circuit — with type of assignment 2 required — or short-circuit protection of the auxiliary switch required — for short-circuit protection of the auxiliary switch required — side-by-side mounting — forwards — side-by-side mounting — forwards — upwards — other side — odwnwards — other side — downwards — 10 mm — to required space — for for grounded parts — forwards — to main current circuit — of or | | 21 A |
| al 10/120 V rated value | | |
| at 230 V related value • for 3-phase AC motor at 200/208 V rated value at 200/208 V rated value at 200/208 V rated value at 420/408 V rated value at 575/600 V rated value with type of continuits of the main circuit with type of coordination 1 required with type of assignment 2 required with type of assignment 2 required at basignment 2 required at 575/600 V rated value side-by-side mounting forwards upwards at the side downwards upwards to forgrounded parts to revards | 5 . | 2 hm |
| • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 480/480 V rated value — at 480/480 V rated value — at 575/000 V rated value — 25 hp 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 — solide—by-side mounting — with type of assignment 2 required — solide — solide—by-side mounting — with side-by-side mountin | | · |
| at 200/208 V rated value | | 5 пр |
| at 220/230 V rated value | • | 40.1 |
| | | |
| | | · |
| contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link | | · |
| Short-circuit protection Gosign of the fuse link | | · |
| 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 equired — for short-circuit protection of the auxiliary switch • for short-circuit protection of the auxiliary switch equired • for short-circuit protection of the auxiliary switch • for main current circuit • for wards • for main current circuit • for auxiliary and control circuit • for main current circuit • for main curren | | A600 / P600 |
| • 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 • 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 Installation/ mounting/ dimensions mounting position #/-180" rotation possible on vertical mounting surface; can be tilted forward and backward by 4/- 22.5" on vertical mounting surface screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 • side-by-side mounting • side-by-side mounting — forwards — downwards — downwards — at the side — downwards — at the side — downwards — downwards — forwards — the side — downwards — for main current circuit • at contactor for auxiliary contacts • solid — solid — solid — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts Connectable conductor cross-sections • for main contacts connectable conductor cross-section for main | Short-circuit protection | |
| 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 for | design of the fuse link | |
| - with type of assignment 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position fastening method • side-by-side mounting • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting • with side-by-side mounting • or ownwards — upwards — at the side — downwards — of or grounded parts — forwards — at the side — downwards — of or grounded parts — forwards — at the side — downwards — the parts — forwards — the parts — forwards — the parts — forwards — to mm — at the side — downwards — downwards — to mm — at the side — downwards — to mm — at the side — downwards — to mm — at the side — for in incorrect circuit • for ir current circuit • for auxiliary and control circuit • serew-type terminals • of main current circuit • for rawillary and control circuit • of or auxiliary and control circuit • of or main current circuit • for or auxiliary and control circuit • of main current circuit • for or main current circuit • for for main | for short-circuit protection of the main circuit | |
| • for short-circuit protection of the auxiliary switch required Instalation/ mounting/ dimensions mounting position fastening method • side-by-side mounting • height width depth required spacing • with side-by-side mounting — forwards — upwards — at the side — downwards — at the side — downwards — to five parts — forwards — upwards — to five parts — forwards — to five parts — forwards — upwards — the side — downwards — the side — downwards — the side — downwards — to five parts — forwards — to five parts — forwards — upwards — to mm • for incompanies — forwards — the side — downwards — to mm • for incompanies — forwards — to five parts — forwards — the side — downwards — to mm — the side — downwards — to mm — the side — for main current circuit • for auxillary and control circuit • at contactor for auxillary contacts • of magnet coil — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main • at AWG cables for main contacts connectable conductor cross-section for main • at AWG cables for main contacts connectable conductor cross-section for main • at AWG cables for main contacts connectable conductor cross-section for main • at AWG cables for main contacts connectable conductor cross-section for main | — with type of coordination 1 required | |
| required mounting position mounting position #/-180* rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5* on vertical mounting surface; screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 #/ | — with type of assignment 2 required | |
| mounting position #/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by */- 22.5° on vertical mounting surface screw and and backward by */- 22.5° on vertical mounting surface screw and an ana-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 **side-by-side mounting** **height** **height** **height** **height** **separate **side-by-side mounting** **newards **10 mm** **height** | | gG: 10 A (500 V, 1 kA) |
| mounting position #/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by */- 22.5° on vertical mounting surface screw and and backward by */- 22.5° on vertical mounting surface screw and an ana-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 **side-by-side mounting** **height** **height** **height** **height** **separate **side-by-side mounting** **newards **10 mm** **height** | Installation/ mounting/ dimensions | |
| screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 vestide mounting | mounting position | |
| height 85 mm width 45 mm depth 97 mm required spacing • with side-by-side mounting — forwards — upwards — at the side — downwards — upwards — 10 mm — of orwards — upwards — forwards — 10 mm — of orwards — 10 mm — of orwards — 10 mm — of orwards — of or inverting of or inverting of or inverting of or main current circuit — at the side — of ormain current circuit — at the side — of ormain current circuit — at the side — of ormain current circuit — of or magnet coil type of electrical connectable conductor cross-sections — solid — solid or stranded — finely stranded with core end processing — at AWG cables for main contacts connectable conductor cross-section for main at AWG cables for main contacts — solid — solid or stranded — at AWG cables for main contacts connectable conductor cross-section for main at AWG cables for main contacts — solid — solid cables for main contacts — solid cables for main conta | fastening method | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| Neight width | • side-by-side mounting | |
| width 45 mm depth 97 mm required spacing 97 mm • with side-by-side mounting 10 mm — forwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm • for live parts 10 mm — forwards 10 mm — upwards 10 mm — downwards 10 mm — for main current circuit screw-type terminals type of electrical connection screw-type terminals • for main current circuit screw-type terminals • of magnet coil Screw-type terminals type of connectable conductor cross-sections • for main contacts — solid 2x (1 2.5 mm²), 2x (2.5 10 mm²) — solid or stranded 2 | | 85 mm |
| required spacing | | 45 mm |
| required spacing with side-by-side mounting - forwards - upwards - downwards - at the side for grounded parts - forwards - upwards - upwards - at the side - downwards - at the side - downwards - upwards - at the side - downwards 10 mm - at the side - downwards 10 mm for live parts - for wards - upwards - downwards 10 mm for live parts - for auther side - downwards - at the side - downwards - at the side - 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 - solid - solid - solid or stranded - finely stranded with core end processing at AWG cables for main contacts connectable conductor cross-section for main at Norman Auxiliary and control circuit 2x (1 2.5 mm²), 2x (2.5 10 mm²) | | 97 mm |
| with side-by-side mounting — forwards — upwards — downwards — at the side of or grounded parts — forwards — upwards — 10 mm of or grounded parts — forwards — upwards — at the side — downwards — 10 mm of or live parts — forwards — upwards — torwards — 10 mm of or live parts — forwards — upwards — upwards — 10 mm of or live parts — forwards — upwards — upwards — 10 mm — upwards — at the side — formain current circuit of main current circuit of or auxiliary and control circuit of or auxiliary and control circuit of or main current circuit of or main contacts — solid — solid or stranded — finely stranded with core end processing of name table conductor cross-section for main at AWG cables for main contacts connectable conductor cross-section for main to the main contacts 10 mm 20 mm 10 mm 20 mm 20 mm 20 crew-type terminals 20 | • | |
| - forwards | | |
| - downwards - at the side of or grounded parts - forwards - upwards - at the side 10 mm - at the side - downwards 10 mm - at the side - downwards 10 mm of or live parts - forwards 10 mm of or live parts - forwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 6 mm Connections/ Terminals type of electrical connection of ramin current circuit of rauxillary and control circuit at contactor for auxillary contacts of magnet coil type of connectable conductor cross-sections of main contacts - solid - solid or stranded - finely stranded with core end processing other was a strangle of main contacts - at AWG cables for main contacts connectable conductor cross-section for main | | 10 mm |
| - downwards - at the side of or grounded parts - forwards - upwards - at the side - downwards - at the side - downwards - forwards - forwards - forwards - forwards - forwards - forwards - upwards - downwards - downwards - at the side - downwards - at the side - forwards - upwards - formards - formaric current circuit - for auxiliary and control circuit - for auxiliary and control circuit - for main current circuit - for magnet coil type of connectable conductor cross-sections - for main contacts - solid - solid or stranded - finely stranded with core end processing - at AWG cables for main contacts - the side - formain contacts - at Canada and the side of main contacts - formain contacts - finely stranded with core end processing - at AWG cables for main contacts - at AWG cables for main contacts - connectable conductor cross-section for main | — upwards | 10 mm |
| for grounded parts forwards upwards at the side downwards for live parts for wards upwards upwards upwards downwards to mm downwards at the side mm connections/ Terminals type of electrical connection for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil screw-type terminals of main contacts of magnet coil screw-type terminals connectable conductor cross-sections for main contacts a contactor for auxiliary contacts screw-type terminals connectable conductor cross-sections for main contacts a contactor for auxiliary contacts connectable conductor cross-sections for main contacts a contactor for auxiliary contacts connectable for main contacts at AWG cables for main contacts at AWG cables for main contacts connectable conductor cross-section for main | · | 10 mm |
| for grounded parts forwards upwards at the side downwards for live parts for wards upwards upwards upwards downwards to mm downwards at the side mm connections/ Terminals type of electrical connection for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil screw-type terminals of main contacts of magnet coil screw-type terminals connectable conductor cross-sections for main contacts a contactor for auxiliary contacts screw-type terminals connectable conductor cross-sections for main contacts a contactor for auxiliary contacts connectable conductor cross-sections for main contacts a contactor for auxiliary contacts connectable for main contacts at AWG cables for main contacts at AWG cables for main contacts connectable conductor cross-section for main | — at the side | 0 mm |
| forwards 10 mm upwards 10 mm at the side 6 mm downwards 10 mm • for live parts forwards 10 mm upwards 10 mm downwards 10 mm upwards 10 mm upwards 10 mm downwards 10 mm at the side 6 mm Connections/ Terminals type of electrical connection • for main current circuit screw-type terminals • for auxiliary and control circuit screw-type terminals • at contactor for auxiliary contacts Screw-type terminals • of magnet coil Screw-type terminals type of connectable conductor cross-sections • for main contacts solid 2x (1 2.5 mm²), 2x (2.5 10 mm²) finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² • at AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main | | |
| - upwards - at the side - downwards 10 mm • for live parts - forwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - at the side 6 mm 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 - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main at the side 6 mm connectable conductor cross-sections screw-type terminals screw-type terminals screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) connectable conductor cross-section for main | | 10 mm |
| - at the side - downwards - downwards • for live parts - forwards - upwards - upwards - downwards - at the side - 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 - solid - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts - and the side 10 mm - domm - | | |
| - downwards • for live parts - forwards - upwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts Connectable conductor cross-section for main 10 mm 10 crew-type terminals 10 crew-type terminals 2crew-type terminals 2c | · | |
| for live parts forwards 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 solid solid or stranded finely stranded with core end processing at AWG cables for main contacts connectable conductor cross-section for main 10 mm 10 mm 2 crew-type terminals screw-type terminals screw-type terminals Screw-type terminals 2 x (1 2.5 mm²), 2x (2.5 10 mm²) 2 x (1 2.5 mm²), 2x (2.5 10 mm²) 2 x (1 2.5 mm²), 2x (2.5 10 mm²) 2 x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2 x (16 12), 2x (14 8) | | |
| - forwards - 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 - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts - connectable conductor cross-section for main | | 1V 11811 |
| - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts - downwards - form main contacts - 10 mm - 6 mm - 7 crew-type terminals - Screw-type terminals - Screw-type terminals - Screw-type terminals - Screw-type terminals - 2x (1 2.5 mm²), 2x (2.5 10 mm²) - 2x (1 2.5 mm²), 2x (2.5 10 mm²) - 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² - 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² - 2x (1 2.5 mm²), 2x (14 8) - 2x (16 12), 2x (14 8) | · | 10 mm |
| 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 solid solid or stranded finely stranded with core end processing • at AWG cables for main contacts at the side form for | | |
| — 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 — solid — solid or stranded — solid or stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main 6 mm 6 mm 6 mm Screw-type terminals Screw-type terminals Screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (1 | • | |
| type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • for main contectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts type of electrical connectable conductor cross-sections 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² | | |
| 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 — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main screw-type terminals Screw-type terminals Screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² | | O IIIIII |
| for main current circuit for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil Screw-type terminals for main contacts for main contacts a solid a solid or stranded finely stranded with core end processing at AWG cables for main contacts at AWG cables for main contacts connectable conductor cross-section for main screw-type terminals Screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (1 2.5 mm²) 2x (1 2.5 mm²)<td></td><td></td> | | |
| for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil Screw-type terminals for main contacts solid solid or stranded finely stranded with core end processing at AWG cables for main contacts at AWG cables for main contacts connectable conductor cross-section for main screw-type terminals Screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (1 2.5 mm²) 2x (1 2.5 mm²) 2x | | |
| ◆ at contactor for auxiliary contacts ♦ of magnet coil Screw-type terminals Screw-type terminals Screw-type terminals Screw-type terminals ★ for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing ♦ at AWG cables for main contacts ★ at AWG conductor cross-section for main Screw-type terminals 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) | | • |
| ◆ of magnet coil Screw-type terminals type of connectable conductor cross-sections ◆ for main contacts — solid — solid or stranded — finely stranded with core end processing ◆ at AWG cables for main contacts 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (14 8) | - | |
| type of connectable conductor cross-sections | - | |
| for main contacts — solid — solid or stranded — finely stranded with core end processing ● at AWG cables for main contacts 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (1 2.5 mm²) 2x (1 2. | | Screw-type terminals |
| — solid 2x (1 2.5 mm²), 2x (2.5 10 mm²) — solid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) — finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² • at AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main | | |
| — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) connectable conductor cross-section for main | • for main contacts | |
| — finely stranded with core end processing • at AWG cables for main contacts 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) connectable conductor cross-section for main | — solid | 2x (1 2.5 mm²), 2x (2.5 10 mm²) |
| • at AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main | — solid or stranded | 2x (1 2.5 mm²), 2x (2.5 10 mm²) |
| connectable conductor cross-section for main | finely stranded with core end processing | 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² |
| | at AWG cables for main contacts | 2x (16 12), 2x (14 8) |
| Contacto | connectable conductor cross-section for main contacts | |
| • solid 1 10 mm ² | • solid | 1 10 mm² |

| stranded | 1 10 mm² |
|--|---|
| finely stranded with core end processing | 1 10 mm² |
| connectable conductor cross-section for auxiliary contacts | |
| solid or stranded | 0.5 2.5 mm² |
| finely stranded with core end processing | 0.5 2.5 mm² |
| type of connectable conductor cross-sections | |
| for auxiliary contacts | |
| solid or stranded | 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) |
| finely stranded with core end processing | 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) |
| at AWG cables for auxiliary contacts | 2x (20 16), 2x (18 14) |
| AWG number as coded connectable conductor cross section | |
| for main contacts | 16 8 |
| for auxiliary contacts | 20 14 |
| Safety related data | |
| product function | |
| mirror contact according to IEC 60947-4-1 | Yes |
| B10 value with high demand rate according to SN 31920 | 450 000 |
| proportion of dangerous failures | |
| with low demand rate according to SN 31920 | 40 % |
| with high demand rate according to SN 31920 | 73 % |
| failure rate [FIT] with low demand rate according to SN 31920 | 100 FIT |
| T1 value for proof test interval or service life according to IEC 61508 | 20 y |
| | |
| protection class IP on the front according to IEC 60529 | IP20 |
| | IP20 finger-safe, for vertical contact from the front |
| 60529 | |
| 60529 touch protection on the front according to IEC 60529 | |
| touch protection on the front according to IEC 60529 suitability for use | finger-safe, for vertical contact from the front |

Certificates/ approvais





Confirmation





<u>KC</u>



Functional
Safety/Safety of Declaration of Conformity
Machinery

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













other



Further informatior

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=3RT2028-1AC20-0JA0

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2028-1AC20-0JA0}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AC20-0JA0

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

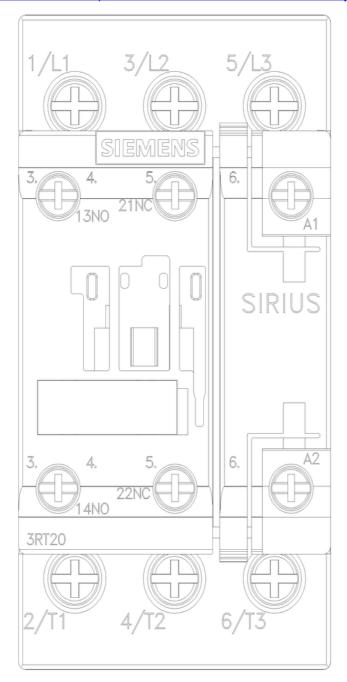
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-1AC20-0JA0&lang=en

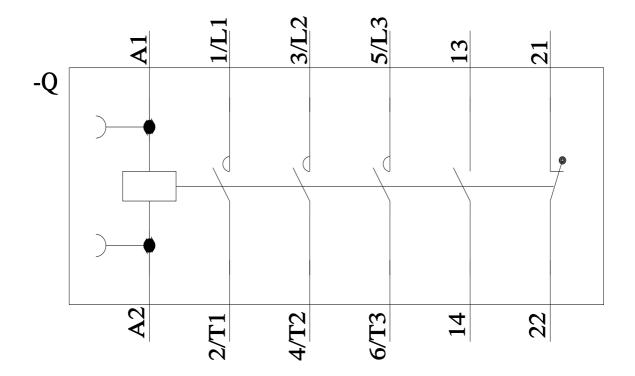
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AC20-0JA0/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1AC20-0JA0&objecttype=14&gridview=view1





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