SIEMENS

Data sheet 3RT2024-1AK60



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

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 	0.9 W
 at AC in hot operating state per pole 	0.3 W
without load current share typical	2 W
type of calculation of power loss depending on pole	quadratic
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 protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7,5g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,8g / 5 ms, 7,4g / 10 ms
mechanical service life (operating 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
Weight	0.407 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	74.2 kg
global warming potential [CO2 eq] during manufacturing	1.9 kg
global warming potential [CO2 eq] during operation	72.4 kg
global warming potential [CO2 eq] after end of life	-0.117 kg
Asin circuit	o. Tri Ng
number of poles for main current circuit	3
number of NO contacts for main contacts	3
	3
operating voltage	600 \
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	40.4
 at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 	40 A
— up to 690 V at ambient temperature 40 °C rated value	40 A
up to 690 V at ambient temperature 60 °C rated value	35 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
at AC-3e at 400 V rated value.	12 /
— at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
at AC-4 at 400 V rated value	12.5 A
at AC-5a up to 690 V rated value	35.2 A
at AC-5b up to 400 V rated value	9.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	11.4 A
— up to 400 V for current peak value n=20 rated value	11.4 A
— up to 500 V for current peak value n=20 rated value	11.3 A
— up to 690 V for current peak value n=20 rated valueat AC-6a	9 A
— up to 230 V for current peak value n=30 rated value	7.6 A
— up to 400 V for current peak value n=30 rated value	7.6 A
— up to 500 V for current peak value n=30 rated value	7.6 A
— up to 690 V for current peak value n=30 rated value	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	5.5 A
at 690 V rated value	5.5 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— 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 60 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

with 3 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 60 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	Let A
— at 24 V rated value	20 A
— at 60 V rated value	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 60 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 60 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-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	2.6 kW
• at 690 V rated value	4.6 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	4.5 kVA
• up to 400 V for current peak value n=20 rated value	7.8 kVA
• up to 500 V for current peak value n=20 rated value	9.8 kVA
• up to 690 V for current peak value n=20 rated value	10.7 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	3 kVA
• up to 400 V for current peak value n=30 rated value	5.2 kVA
• up to 500 V for current peak value n=30 rated value	6.5 kVA
• up to 690 V for current peak value n=30 rated value	9 kVA
short-time with stand current in cold operating state up to 40 $^{\circ}\text{C}$	
 limited to 1 s switching at zero current maximum 	210 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	210 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	170 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	126 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	105 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	1 000 1/h
• at AC-3 maximum	1 000 1/h
• at AC-3e maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	110 V
at 60 Hz rated value	120 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.8 1.1
	0.8 1.1
apparent pick-up power of magnet coil at AC • at 50 Hz	68 VA
• at 60 Hz	67 VA
	07 VA
inductive power factor with closing power of the coil at 50 Hz	0.72
• at 60 Hz	0.72
apparent holding power of magnet coil at AC	U.1 T
at 50 Hz	7.9 VA
• at 60 Hz	6.5 VA
	0.5 VA
inductive power factor with the holding power of the coil	0.25
• at 50 Hz • at 60 Hz	0.25
	0.20
closing delay • at AC	8 40 ms
opening delay	0 40 IIIS
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Otanuaru A1 - A2
number of NC contacts for auxiliary contacts instantaneous	1
contact	
number of NO contacts for auxiliary contacts instantaneous	1
contact	40.4
operational current at AC-12 maximum	10 A
operational current at AC-15	40 A
at 230 V rated value	10 A
at 400 V rated value at 500 V rated value	3 A 2 A
at 500 V rated value at 600 V rated value	1 A
at 690 V rated value operational current at DC-12	10
operational current at DC-12	
at 24 V rated value	10 Δ
at 48 V rated value at 48 V rated value	10 A
• at 48 V rated value	6 A
at 48 V rated valueat 60 V rated value	6 A 6 A
at 48 V rated valueat 60 V rated valueat 110 V rated value	6 A 6 A 3 A
 at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value 	6 A 6 A 3 A 2 A
 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 	6 A 6 A 3 A 2 A 1 A
 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 	6 A 6 A 3 A 2 A
 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 operational current at DC-13	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 at 24 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 at 24 V rated value at 48 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 115 V rated value at 125 V rated value at 125 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A
 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 operational current at DC-13 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 125 V rated value at 220 V rated value 	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
 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 operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 1125 V rated value 	6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A

# # # # # # # # # #	UL/CSA ratings	
14 A 140 Viraled value		
validad mechanical performance (hg)		11 A
For large-phase AC motor - at 110/120 Y rated value - at 230 Y rated value - at 220/230 V rated value - at 375/800 V rated value - at 575/800 V rated valu	at 600 V rated value	11 A
For large-phase AC motor - at 110/120 Y rated value - at 230 Y rated value - at 220/230 V rated value - at 375/800 V rated value - at 575/800 V rated valu		
at 1101/20 V rated value at 230 V rated value 2 hp • for 3 rybase AC motor 2 hp at 200205 V rated value 3 hp at 200205 V rated value 3 hp at 200205 V rated value 3 hp at 400480 V rated value 10 hp contact rating of auxiliary contacts according to UL A0000 / F8000 Short-steriout protection of the value of the auxiliary swaller for short circuit protection of the auxiliary contacts according to UL A0000 / F8000 Short-steriout protection of the unit protection of the auxiliary contact protection of auxiliary contact protection of auxiliary contact protection of auxiliary contacts protection of a		
- dt 230 V ralacd value	9 .	1 hp
• (or 3-phase AC motor) — at 2002030 V rated value — at 2002030 V rated value — at 400480 V rated value — at 400480 V rated value — at 575600 V rated value Septiment of the ministure crost breaker for short-circuit protection of the ministure crost breaker for short-circuit protection of the ministure crost up to 200 V design of the fuse link — for short-circuit protection of the auxiliary switch required — with type of coordination 1 required — sor short-circuit protection of the auxiliary switch required - for short-circuit protection of the auxiliary switch required - sor short-circuit protection of the auxiliary switch required - sor short-circuit protection of the auxiliary switch required - sor short-circuit protection of the auxiliary switch required - sor short-circuit protection of the auxiliary switch required - sor short-circuit protection of the auxiliary switch required specification mounting surface. Sesteming method side by-side mounting — years and shap-on mounting onto 35 mm DIN rail according to DIN EN 80715 - sor short-circuit sort short		·
at 220/230 Y rated value	• for 3-phase AC motor	·
at 220/230 V rated value	·	3 hp
at 490,480 V reled value	— at 220/230 V rated value	·
AB00 / PB00	— at 460/480 V rated value	7.5 hp
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 250 V design of the fuse link - with type of coordination 1 required - with type of ordination 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 - 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 - fastening method side-by-side mounting - fastening method side-by-side mounting - fastening method side-by-side mounting - forwards - with side-by-side mounting - forwards - with side-by-side mounting - forwards - upwards - upwards - upwards - of man contacts - forwards - of man contacts - forwards - of man contacts - of man contacts - of man contacts - of man contacts - solid - solid or stranded - for grounded parts - for man contacts - of man contacts - of man contacts - of man contacts - of man contacts - solid - of man contacts - solid or stranded - for parts stranded - for parts contacts - solid or stranded - for parts contacts - solid - connectable conductor cross-section for main contacts - solid - solid or stranded - for parts stranded with core end processing - or MAWG cables for main contacts - solid - solid or stranded - for parts contacts - solid - solid or stranded - for parts contacts - solid - solid or stranded - for parts contacts - solid - solid or stranded - for parts contacts - solid - connectable conductor cross-section for main contacts - solid	— at 575/600 V rated value	·
design of the ministure circuit breaker for short-circuit protection of the auxiliary drout up to 230 V 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 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 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 fastening method side-by-side mounting • stream of the spide of the	contact rating of auxiliary contacts according to UL	A600 / P600
of the auxillary circuit up to 230 V design of the five link • for short-circuit protection of the main circuit - with type of coordination 1 required gG: 53A (690V,100kA), aht: 32A (690V,100kA), BS88: 63A (415V,80kA) - with type of coordination 1 required gG: 25A (690V,100kA), aht: 20A (690V,100kA), BS88: 25A (415V,80kA) - with type of assignment 2 required gG: 10 A (500 V, 1 kA) Installation / mounting dimensions +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting surface; can be tilted forward and backward by +/-22.5° on vertical mounting su	Short-circuit protection	
design of the fuse link	design of the miniature circuit breaker for short-circuit protection	C characteristic: 10 A; 0.4 kA
• for short-circuit protection of the main circuit — with type of coordination 1 required with type of coordination 2 required • for short-circuit protection of the auxiliary awitch required • for short-circuit protection of the auxiliary awitch required installation/mounting/dimensions mounting position fastening method side-by-side mounting fastening method side-by-side mounting fastening method side-by-side mounting fastening method fastening	of the auxiliary circuit up to 230 V	
— with type of assignment 2 required 9G: 63A (890V,100KA), al. 32A (690V,100KA), BS88: 63A (415V,80KA) 9G: 25A (690V,100KA), al. 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 12A (690V,100KA), al. 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 12A (690V,100KA), al. 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 12A (690V,100KA), al. 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 12A (690V,100KA), al. 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 12A (690V,100KA), BS88: 25A (415V,80KA) 26C: 10A (690V,100KA), BS88: 25A (415V,80KA) 26C: 10A (690V,100KA), BS88: 25A (415V,80KA) 26C: 10A (690V,100KA) 26C: 10A (690V,10KA) 26C: 10A (690V,10KA) 26C: 10A (690V,10KA) 26C: 10A (690V,10KA) 26C: 10A (690V,100KA) 26C: 10A (690V,10KA) 26C: 10A (690V,10KA) 26C: 10A (690V,10KA) 26	design of the fuse link	
— with type of assignment 2 required 9G: 25A (890V,100KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA) 20A (690 V, 10KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 9G: 10A (890 V, 10KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 26C (890 V,100KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 26C (890 V,100KA), aM: 20A (690V,100KA), BS88: 25A (415V,80KA) 26C (890 V,100KA), aM: 20A (690V,100KA), aM: 20A (690V,10KA), aM: 20A (690V,100KA), aM: 20A (690V,100KA), aM: 20A (690V,10KA), aM: 20A (690V,100KA), aM: 20A (690V,10KA), aM: 20A (690V,10KA), aM: 20A (690V,10KA), aM: 20A (690V,10K	 for short-circuit protection of the main circuit 	
• for short-circuit protection of the auxiliary switch required installation mounting position	— with type of coordination 1 required	
mounting position ### #### ###########################		
## ## ## ## ## ## ## ## ## ## ## ## ##	<u> </u>	gG: 10 A (500 V, 1 kA)
fastening method side-by-side mounting fastening method sorew and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width depth 97 mm required spacing • with side-by-side mounting — forwards — upwards — upwards — of orgrounded parts — at the side — downwards — at the side — downwards — 10 mm — at the side — downwards — 10 mm — of ownwards — 10 mm — of orgrounded parts — forwards — 10 mm — of main current circuit — at the side — of ormain current circuit — at the side — of ormain current circuit — of main current circuit — of ormain current circuit — of or auxiliary and control circuit — of an auxiliary and control circuit — of magnet coil type of connectable conductor cross-sections — finely stranded with core end processing — for AVIG cables for main contacts — solid — for in wind — solid or frame, 2x (1 2.5 mm²), 2x (2.5 16 mm²), 1x 10 mm² — finely stranded with core end processing — for AVIG cables for main contacts — solid — solid or stranded — finely stranded with core end processing — for AVIG cables for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing — for AVIG cables for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing — for AVIG cables for main contacts — solid — solid or stranded — solid or stranded — solid or stranded — finely stranded with core end processing — for AVIG cables for main contacts — solid — solid or stranded — solid	Installation/ mounting/ dimensions	
fastening method Yes fastening method serew and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height 85 mm width 45 mm depth 97 mm required spacing • with side-by-side mounting - Onwards - In owards 10 mm - Upwards 10 mm - downwards 10 mm - for grounded parts - Onwards - upwards 10 mm - at the side 6 mm - downwards 10 mm - for wards 10 mm - forwards 10 mm - forwards 10 mm - downwards 5 mm - for main current circuit screw-type terminals - for main current circuit screw-type terminals • for main current circuit screw-type terminals • for main contacts screw-type terminals <	mounting position	
Assening method Screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715	fastening method side-by-side mounting	· ·
height 85 mm width 45 mm depth 97 mm required spacing • with side-by-side mounting - forwards 10 mm - upwards 10 mm - downwards 0 mm - for grounded parts 10 mm - upwards 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm - for live parts 10 mm - for live parts 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 6 mm Connections/ Terminals 5 mm type of electrical connection 5 mm • for main current circuit screw-type terminals • for auxiliary and control circuit screw-type terminals • for magnet coil screw-type terminals • for main contacts screw-type terminals • for main contacts 2x (1 2.5 mm²), 2x (2.5 10 mm²) • for main contacts 2x (·	
width 45 mm depth 97 mm required spacing Product of spacing e with side-by-side mounting 10 mm — forwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts 10 mm — forwards 10 mm — at the side 6 mm — downwards 10 mm — for live parts 10 mm — for wards 10 mm — upwards 10 mm — downwards 10 mm — downwards 10 mm — downwards 10 mm — at the side 6 mm Connections! Feminals 10 mm — at the side 6 mm Connection! Feminals 5 crew-type terminals • for main current circuit 5 crew-type terminals • for main current circuit 5 crew-type terminals • for main cultactor or auxillary contacts 5 crew-type terminals • of magnet coil 2x (1 2.5 mm²), 2x (2.5 10 mm²) • for main contacts	<u> </u>	
depth		
required spacing		
 with side-by-side mounting forwards upwards domm downwards 10 mm at the side o mm for grounded parts forwards upwards 10 mm upwards 10 mm at the side 6 mm downwards 10 mm for live parts forwards upwards 10 mm ot rive parts downwards 10 mm downwards 10 mm downwards 10 mm at the side 6 mm Connections/ Terminals type of electrical connection for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil 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) xc (2.5 10 mm²) xc (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² for AWG cables for main contacts e for AWG cables for main contacts e solid 1 10 mm² 	<u> </u>	
forwards		
- upwards - downwards - at the side • for grounded parts - forwards - upwards - upwards - at the side - forwards - at the side - downwards - at the side - downwards - at the side - downwards • for live parts - forwards - upwards - forwards - upwards - upwards - downwards - downwards - at the side - downwards - at the side - formain current circuit - for main current circuit - for main current circuit - for auxiliary and control circuit - of magnet coil type of connectable conductor cross-sections - for main contacts - solid - solid or stranded - solid or stranded - finely stranded with core end processing - for AWG cables for main contacts - solid - for AWG cables for main contacts - solid - solid or main contacts - solid - for AWG cables for main contacts - solid - solid or main contacts - solid - for AWG cables for main contacts - solid - solid or main contacts - solid - for AWG cables for main contacts - solid - formain contacts - solid		10 mm
- downwards - at the side		10 mm
• for grounded parts — forwards — upwards — at the side — downwards — 10 mm • for live parts — forwards — 10 mm • for live parts — forwards — upwards — 10 mm — to mm — to many t	•	10 mm
- forwards 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm • for live parts - forwards 10 mm - upwards 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 screw-type terminals • for auxiliary and control 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) - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² • for AWG cables for main contacts • solid 1 10 mm²	— at the side	
- forwards 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm • for live parts - forwards 10 mm - upwards 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 screw-type terminals • for auxiliary and control 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) - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² • for AWG cables for main contacts • solid 1 10 mm²	for grounded parts	
- at the side		10 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 • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main current • for main current • for main current • at contactor for auxiliary contacts • of magnet coil Connectable conductor cross-sections • for main contacts - solid - solid 0 2x (1 2.5 mm²), 2x (2.5 10 mm²) - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts • solid connectable conductor cross-section for main contacts • solid 1 10 mm²	— upwards	10 mm
 for live parts — forwards — upwards — downwards — at the side	— at the side	6 mm
forwards	— downwards	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 - solid - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts • solid connectable conductor cross-section for main contacts • solid 1 10 mm²	• for live parts	
	•	10 mm
— at the side 6 mm Connections/ Terminals type of electrical connection	— upwards	10 mm
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 • for AWG cables for main contacts • solid connectable conductor cross-section for main contacts • solid 1 10 mm²	— downwards	10 mm
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 • for AWG cables for main contacts • solid connectable conductor cross-section for main contacts - type of connectable conductor cross-sections 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 - type of connectable conductor cross-section for main contacts • solid	— at the side	6 mm
 for main current circuit for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil Screw-type terminals of magnet coil type of connectable conductor cross-sections for main contacts solid 2x (1 2.5 mm²), 2x (2.5 10 mm²) - solid or stranded - finely stranded with core end processing for AWG cables for main contacts of or AWG cables for main contacts solid 1 10 mm² 	Connections/ Terminals	
 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 for AWG cables for main contacts solid 1 10 mm² Connectable conductor cross-section for main contacts 1 10 mm² 1 screw-type terminals Screw-type terminals Sc	type of electrical connection	
 at contactor for auxiliary contacts of magnet coil Screw-type terminals type of connectable conductor cross-sections for main contacts — solid — solid or stranded — solid or stranded with core end processing for AWG cables for main contacts for AWG cables for main contacts solid 1 10 mm² 	for main current circuit	screw-type terminals
 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 for 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 for AWG cables for main contacts solid 1 10 mm² 2x (1 2.5 mm²) 2x (14 8) 1 10 mm² 1 10 mm² 1 10 mm² 1 10 mm² 1 10 mm² 1 10 mm² 	 for auxiliary and control circuit 	screw-type terminals
type of connectable conductor cross-sections	 at contactor for auxiliary contacts 	Screw-type terminals
 for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts • solid — solid or stranded — 1 = 1 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2 =	of magnet coil	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 • for AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main contacts • solid 1 10 mm²	type of connectable conductor cross-sections	
 — solid or stranded — finely stranded with core end processing ● for AWG cables for main contacts ● solid 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) 	• for main contacts	
 — finely stranded with core end processing ♦ for AWG cables for main contacts Ex (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) Connectable conductor cross-section for main contacts ♦ solid 1 10 mm² 	— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
◆ for AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main contacts ◆ solid 1 10 mm²	— solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)
connectable conductor cross-section for main contacts • solid 1 10 mm²	 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
• solid 1 10 mm²	 for AWG cables for main contacts 	2x (16 12), 2x (14 8)
	connectable conductor cross-section for main contacts	
• stranded 1 10 mm²	• 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 mm ²
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)
 for 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
 positively driven operation according to IEC 60947-5-1 	No
 suitable for safety function 	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	
Ganaral Broduct Approval	

General Product Approval







Confirmation



<u>KC</u>

General Product Approval

EMV

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping









Miscellaneous

other

Confirmation

other Railway Environment



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=3RT2024-1AK60

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-1AK60

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-1AK60

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

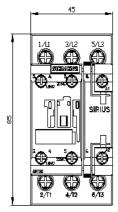
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2024-1AK60&lang=en

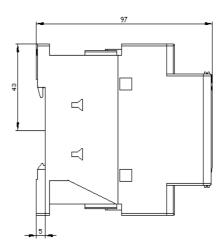
Characteristic: Tripping characteristics, I²t, Let-through current

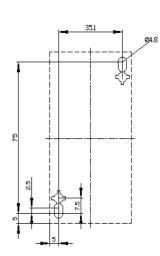
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-1AK60/char

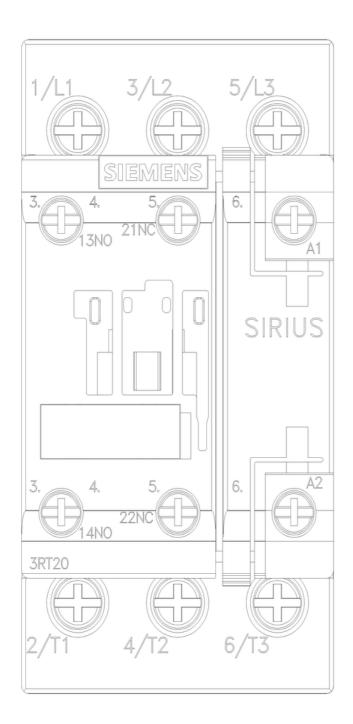
Further characteristics (e.g. electrical endurance, switching frequency)

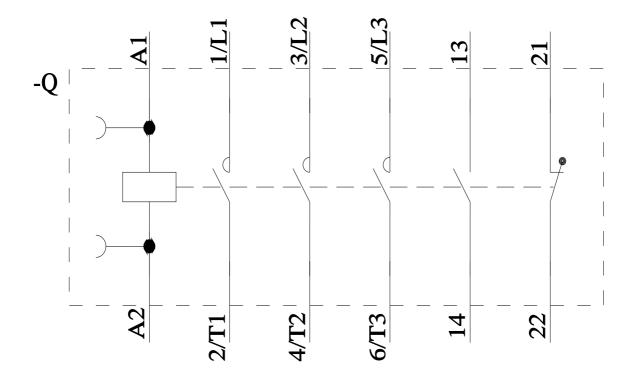
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-1AK60&objecttype=14&gridview=view1











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