# **SIEMENS**

Data sheet 3RT2023-1AL20

power contactor, AC-3 9 A, 4 kW / 400 V 1 NO + 1 NC, 230 V AC 50 / 60 Hz, 3-pole Size S0, screw terminal



Product brand name	SIRIUS
Product designation	Power contactor
Product type designation	3RT2

General technical data	
Size of contactor	S0
Product extension	
<ul> <li>function module for communication</li> </ul>	No
Auxiliary switch	Yes
Surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation	
<ul> <li>between coil and main contacts acc. to EN</li> </ul>	400 V
60947-1	
Protection class IP	
• on the front	IP20
• of the terminal	IP20
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 (switching cycles)	
of contactor typical	10 000 000
of the contactor with added electronics-	5 000 000
compatible auxiliary switch block typical	
<ul> <li>of the contactor with added auxiliary switch</li> </ul>	10 000 000
block typical	
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	К
Reference code acc. to DIN EN 81346-2	Q
	ų.
Ambient conditions	
Installation altitude at height above sea level	0.000
• maximum	2 000 m
Ambient temperature	05
during operation	-25 +60 °C
during storage	-55 +80 °C
Main circuit	
Number of poles for main current circuit	3
Number of NO contacts for main contacts	3
Operating voltage	
<ul><li>at AC-3 rated value maximum</li></ul>	690 V
Operating current	
● at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	40 A
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	40 A
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	35 A
• at AC-2 at 400 V rated value	9 A
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-4 at 400 V rated value	8.5 A
• at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	7.4 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	11.4 A

<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	11.4 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	9.1 A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	9 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	7.6 A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	7.6 A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	6.1 A
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	6.1 A
Minimum cross-section in main circuit	
• at maximum AC-1 rated value	10 mm <sup>2</sup>
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	4.1 A
• at 690 V rated value	3.3 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	35 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
<ul><li>with 2 current paths in series at DC-1</li></ul>	
— 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
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— 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
Operating current	
• 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-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW
— at 690 V at 60 °C rated value	40 kW
• at AC-2 at 400 V rated value	4 kW
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 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 kW
• at 690 V rated value	2.5 kW
Thermal short-time current limited to 10 s	80 A
Power loss [W] at AC-3 at 400 V for rated value of	0.4 W
the operating current per conductor	
No-load switching frequency	5 000 1/b
• at AC	5 000 1/h
Operating frequency	1 000 1/h
• at AC-1 maximum	
• at AC-2 maximum	1 000 1/h

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

Control circuit/ Control	
Type of voltage of the control supply voltage	AC
Control supply voltage at AC	
• at 50 Hz rated value	230 V
• at 60 Hz rated value	230 V
Operating range factor control supply voltage rated	
value of magnet coil at AC	0.8 1.1
• at 50 Hz	0.85 1.1
• at 60 Hz	0.85 1.1
Apparent pick-up power of magnet coil at AC	C0.\/ A
• at 50 Hz	68 V·A
• at 60 Hz	67 V·A
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	
● at 50 Hz	7.9 V·A
● at 60 Hz	6.5 V·A
Inductive power factor with the holding power of the	
coil	
● at 50 Hz	0.25
• at 60 Hz	0.28
Closing delay	
• at AC	9 38 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	
Number of NC contacts for auxiliary contacts	
• instantaneous contact	1
Number of NO contacts for auxiliary contacts	
• instantaneous contact	1
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	10 A
• at 400 V rated value	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A

Operating current at DC-12

Contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
● at 600 V rated value	0.1 A
• at 220 V rated value	0.3 A
• at 125 V rated value	0.9 A
• at 110 V rated value	1 A
• at 60 V rated value	2 A
• at 48 V rated value	2 A
• at 24 V rated value	10 A
Operating current at DC-13	
• at 600 V rated value	0.15 A
• at 220 V rated value	1 A
• at 125 V rated value	2 A
• at 110 V rated value	3 A
• at 60 V rated value	6 A
• at 48 V rated value	6 A
• at 24 V rated value	10 A

UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
● at 480 V rated value	7.6 A
• at 600 V rated value	9 A
Yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	1 hp
— at 230 V rated value	1 hp
<ul> <li>for three-phase AC motor</li> </ul>	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600

#### Short-circuit protection

### Design of the fuse link

- for short-circuit protection of the main circuit
  - with type of coordination 1 required

gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A

(415V,80kA)

— with type of assignment 2 required gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A

(415V,80kA)

• for short-circuit protection of the auxiliary switch

required

gG: 10 A (500 V, 1 kA)

### Installation/ mounting/ dimensions

Mounting type screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715  • Side-by-side mounting  Yes  Height Width Se mm  Popth Popt	Mounting position	+/-180° rotation possible on vertical mounting surface; can be
surface  Mounting type  screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715  Yes  Height 85 mm  Witch 45 mm  Depth 97 mm  Required spacing  with side-by-side mounting  forwards 10 mm  downwards 10 mm  downwards 10 mm  forgrounded parts  forgrounded parts  forwards 10 mm  at the side 6 mm  downwards 10 mm  at the side 6 mm  forlive parts  for live parts  downwards 10 mm  storwards 10 mm  for live parts  for lowards 10 mm  for live parts  for main current circuit screw-type terminals  storew-type terminals  Type of electrical connection  for main current circuit screw-type terminals  at contactor for auxiliary contacts Screw-type terminals  for magnet coil  Type of connectable connectors  for main contacts  screw-type terminals  Type of connectable connectors  for main contacts  screw-type terminals  Type of connectable conductor cross-sections  for main contacts  screw-type terminals  Type of connectable conductor cross-sections  for main contacts  screw-type terminals  Type of connectable conductor cross-sections  for main contacts  screw-type terminals  Type of connectable conductor cross-section for main contacts  solid  solid  110 mm²  stranded	Woulding position	
Side-by-side mounting Yes Height Width 45 mm  Depth 97 mm  Required spacing  • with side-by-side mounting — forwards — upwards — upwards — at the side • for grounded parts — forwards — upwards — at the side • formands — towards — 10 mm  • for grounded parts — forwards — upwards — 10 mm  • for grounded parts — forwards — 10 mm  • for live parts — forwards — 10 mm  • for live parts — forwards — 10 mm  • for live parts — forwards — 10 mm  • for ive parts — forwards — upwards — 10 mm  • for ive parts — forwards — 10 mm  • for ive parts — forwards — upwards — at the side • for main current circuit sorew-type terminals  Type of electrical connection • for auxiliary and control current circuit • for auxiliary and control current circuit • for auxiliary and control current circuit • for main current		
Height	Mounting type	
Note	Side-by-side mounting	Yes
Required spacing  • with side-by-side mounting  — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — upwards — upwards — 10 mm  • for grounded parts — forwards — upwards — 10 mm  • for live parts — downwards — 10 mm • for live parts — forwards — upwards — 10 mm  • for live parts — forwards — 10 mm  • for live parts — forwards — 10 mm  • for mive parts — forwards — 10 mm  • for mive parts — ownwards — 10 mm  • for main current circuit • for auxiliary and control current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts • of magnet coil  Type of connectable conductor cross-sections • for main contacts — solid — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts  • solid • stranded  • stranded  • stranded  1 10 mm²  1 10 mm²  1 10 mm²  1 10 mm²	Height	85 mm
with side-by-side mounting	Width	45 mm
with side-by-side mounting     — forwards     — upwards     — downwards     — at the side     — forwards     — forwards     — forwards     — at the side     — forwards     — upwards     — upwards     — upwards     — upwards     — upwards     — at the side     — downwards     — downwards     — downwards     — forive parts     — forwards     — upwards     — at the side     — downwards     — at the side     — for main current circuit     — for main current circuit     • for main current circuit     • for auxiliary and control current circuit     • of magnet coil  Type of connectable conductor cross-sections     • of magnet coil  Type of connectable conductor cross-sections     • for main curtacts     — solid     — single or multi-stranded     — finely stranded with core end processing     • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid     • solid     • stranded  • stranded  1 10 mm²	Depth	97 mm
forwards	Required spacing	
upwards	<ul> <li>with side-by-side mounting</li> </ul>	
- downwards - at the side  • for grounded parts  - forwards - upwards - at the side  • for main current circuit • at contactor for auxiliary contacts • of magnet coil  Type of connectable conductor cross-section for main contacts  • for ley stranded • the side • for main • for auxiliary and downtor coress-section for main contacts • solid • at AWG conductor cross-section for main contacts • solid • stranded • for main • for main current circuit  - at contactor for auxiliary contacts - solid - single or multi-stranded - finely stranded with core end processing • solid • stranded  • stranded  • for main • for main • for main • for main contacts - solid - stranded • for main •	— forwards	10 mm
- at the side  • for grounded parts  - forwards  - upwards  - at the side  - downwards  • for live parts  - forwards  - upwards  • for live parts  - forwards  - upwards  - forwards  - upwards  - downwards  10 mm  - at the side  - downwards  10 mm  - at the side  - downwards  - upwards  - downwards  - at the side  - for main current circuit  • for main current circuit  • for auxiliary and control current circuit  • at contactor for auxiliary contacts  • of magnet coil  Type of connectable conductor cross-sections  • for main contacts  - solid  - single or multi-stranded  - finely stranded with core end processing  • at AWG conductors for main contacts  • solid  - stranded  • stranded  • stranded  • tranded  • tranded  1 10 mm²  • stranded  • stranded  • tranded  • tranded  • tranded	— upwards	10 mm
• for grounded parts     — forwards     — upwards     — upwards     — at the side     — downwards     • for live parts     — forwards     — upwards     — forwards     — forwards     — forwards     — upwards     — downwards     — upwards     — downwards     — downwards     — at the side     — downwards     — at the side  Connections/ Terminals  Type of electrical connection     • for main current circuit     • for auxiliary and control current circuit     • at contactor for auxiliary contacts     • of magnet coil  Type of connectable conductor cross-sections     • for main contacts     — solid     — single or multi-stranded     — finely stranded with core end processing     • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid     • stranded  1 10 mm²	— downwards	10 mm
forwards upwards upwards at the side downwards downwards for live parts forwards forwards upwards downwards downwards downwards downwards downwards at the side downwards at the side formals  Type of electrical connection for main current circuit for auxiliary and control current circuit at contactor for auxiliary contacts at contactor for auxiliary contacts for main current circuit solid single or multi-stranded finely stranded with core end processing at AVG conductors for main contacts  solid at AVG conductors for main contacts  solid at AVG conductors for main contacts solid at AVG conductors for main contacts solid stranded finely stranded finely stranded with core end processing at AVG conductors for main contacts solid stranded finely stranded with core end processing at AVG conductors for main contacts solid stranded finely s	— at the side	0 mm
- upwards	• for grounded parts	
- at the side 6 mm - downwards 10 mm  • for live parts - forwards 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 • at contactor for auxiliary and control current circuit screw-type terminals • of magnet coil Screw-type terminals  Type of connectable conductor cross-sections • for main cuntacts - solid - single or multi-stranded - finely stranded with core end processing • at AWG conductors for main contacts  • solid - solid - solid - solid - tinely stranded with core end processing • at AWG conductor cross-section for main contacts - solid - solid - solid - solid - tinely stranded with core end processing • at AWG conductors for main contacts - solid	— forwards	10 mm
downwards  • for live parts  forwards  upwards  upwards  downwards  at the side  Connections/ Terminals  Type of electrical connection  • for main current circuit  • for auxiliary and control current circuit  • at contactor for auxiliary contacts  • of magnet coil  Screw-type terminals  Type of connectable conductor cross-sections  • for main cuntents  • for main contacts  solid  single or multi-stranded  finely stranded with core end processing  • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid  • stranded  1 10 mm²	— upwards	10 mm
for live parts         — forwards         — upwards         — downwards         — at the side  Connections/ Terminals  Type of electrical connection         • for main current circuit         • for auxiliary and control current circuit         • at contactor for auxiliary contacts         • of magnet coil         Screw-type terminals          • for main contacts         • at connectable conductor cross-sections         • for main contacts         • at contactor for auxiliary contacts         • at contactor for auxiliary contacts         • of magnet coil         Screw-type terminals  Type of connectable conductor cross-sections         • for main contacts         — solid         — single or multi-stranded         — finely stranded with core end processing         • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid         • solid         • stranded         • stranded         • stranded         • stranded         • stranded         • stranded	— at the side	6 mm
- forwards - 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 - single or multi-stranded - finely stranded with core end processing • at AWG conductors for main contacts  • solid - solid - solid - timely stranded with core end processing • at AWG conductor cross-section for main contacts  • solid - solid - solid - timely stranded with core end processing • at AWG conductor cross-section for main contacts  • solid • stranded  1 10 mm²  1 10 mm²  1 10 mm²  1 10 mm²	— downwards	10 mm
- upwards	• for live parts	
- downwards - at the side  Connections/ Terminals  Type of electrical connection  • for main current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts • of magnet coil  Cype of connectable conductor cross-sections • for main contacts - solid - single or multi-stranded - finely stranded with core end processing • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid  1 10 mm²	— forwards	10 mm
— at the side  Connections/ Terminals  Type of electrical connection  • for main current circuit • for auxiliary and control current circuit • at contactor for auxiliary contacts • of magnet coil  Type of connectable conductor cross-sections • for main contacts — solid — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts  Connectable conductor cross-section for main contacts  • solid • stranded  1 10 mm²  1 10 mm²  2 stranded  6 mm  7 min contacts  1 10 mm²  1 10 mm²  1 10 mm²	— upwards	10 mm
Type of electrical connection  • for main current circuit  • for auxiliary and control current circuit  • at contactor for auxiliary contacts  • of magnet coil  Type of connectable conductor cross-sections  • for main contacts  — solid  — single or multi-stranded — finely stranded with core end processing  • at AWG conductors 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 (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²  1x (16 12), 2x (14 8)  Connectable conductor cross-section for main contacts  • solid • stranded  1x 10 mm²	— downwards	10 mm
Type of electrical connection  • for main current circuit  • for auxiliary and control current circuit  • at contactor for auxiliary contacts  • of magnet coil  Type of connectable conductor cross-sections  • for main contacts  — solid  — single or multi-stranded  — finely stranded with core end processing  • at AWG conductors for main contacts  — solid  • at AWG conductor cross-section for main contacts  • solid  • stranded  1 10 mm²  1 10 mm²  1 10 mm²	— at the side	6 mm
<ul> <li>for main current circuit</li> <li>for auxiliary and control current circuit</li> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>Screw-type terminals</li> <li>for main contacts</li> <li>for main contacts</li> <li>a solid</li> <li>m single or multi-stranded</li> <li>m finely stranded with core end processing</li> <li>at AWG conductors for main contacts</li> <li>at AWG conductors for main contacts</li> <li>at AWG conductor cross-section for main contacts</li> <li>solid</li> <li>solid</li> <li>stranded</li> <li>1 10 mm²</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>	Connections/ Terminals	
<ul> <li>for auxiliary and control current circuit</li> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>Screw-type terminals</li> <li>Screw-type terminals</li> <li>Type of connectable conductor cross-sections</li> <li>for main contacts</li> <li>solid</li> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> <li>at AWG conductors for main contacts</li> <li>at AWG conductor cross-section for main contacts</li> <li>solid</li> <li>solid</li> <li>1 10 mm²</li> <li>stranded</li> <li>stranded</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>	••	
<ul> <li>at contactor for auxiliary contacts</li> <li>of magnet coil</li> <li>Screw-type terminals</li> <li>Type of connectable conductor cross-sections</li> <li>for main contacts</li> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> <li>Onnectable conductor cross-section for main contacts</li> <li>Screw-type terminals</li> <li>2x (1 2.5 mm²), 2x (2.5 10 mm²)</li> <li>2x (1 2.5 mm²), 2x (2.5 10 mm²)</li> <li>2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²</li> <li>2x (16 12), 2x (14 8)</li> </ul> Connectable conductor cross-section for main contacts <ul> <li>solid</li> <li>stranded</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>		
<ul> <li>of magnet coil</li> <li>Screw-type terminals</li> <li>Type of connectable conductor cross-sections</li> <li>for main contacts</li> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> <li>Onnectable conductor cross-section for main contacts</li> <li>• solid</li> <li>• stranded</li> <li>1 10 mm²</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>	<ul> <li>for auxiliary and control current circuit</li> </ul>	
Type of connectable conductor cross-sections  • for main contacts  — solid  — single or multi-stranded  — finely stranded with core end processing  • at AWG conductors for main contacts  • solid  • stranded  • stranded  • stranded  • stranded  • 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 contacts  • solid  • stranded  1 10 mm²  1 10 mm²		**
<ul> <li>for main contacts  — solid  — single or multi-stranded  — finely stranded with core end processing  • at AWG conductors for main contacts  • solid  • stranded  • stranded  • 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 (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  • stranded  1 10 mm²  1 10 mm²</li></ul>		Screw-type terminals
<ul> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> <li>• solid</li> <li>• solid</li> <li>• stranded</li> <li>2x (1 2.5 mm²), 2x (2.5 10 mm²)</li> <li>2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²</li> <li>2x (16 12), 2x (14 8)</li> </ul> Connectable conductor cross-section for main contacts <ul> <li>1 10 mm²</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>	Type of connectable conductor cross-sections	
<ul> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> <li>• solid</li> <li>• stranded</li> <li>2x (1 2,5 mm²), 2x (2,5 10 mm²)</li> <li>2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²</li> <li>2x (16 12), 2x (14 8)</li> </ul>	• for main contacts	
<ul> <li>— finely stranded with core end processing         <ul> <li>at AWG conductors for main contacts</li> </ul> </li> <li>Connectable conductor cross-section for main contacts         <ul> <li>solid</li> <li>stranded</li> </ul> </li> <li>2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         <ul> <li>2x (16 12), 2x (14 8)</li> </ul> </li> <li>1 10 mm²         <ul> <li>1 10 mm²</li> </ul> </li> <li>1 10 mm²</li> </ul>	— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
<ul> <li>at AWG conductors for main contacts</li> <li>2x (16 12), 2x (14 8)</li> </ul> Connectable conductor cross-section for main contacts <ul> <li>solid</li> <li>stranded</li> <li>1 10 mm²</li> <li>1 10 mm²</li> </ul>	<ul><li>— single or multi-stranded</li></ul>	2x (1 2,5 mm²), 2x (2,5 10 mm²)
Connectable conductor cross-section for main contacts  • solid • stranded  1 10 mm²  1 10 mm²	<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
contacts         ● solid       1 10 mm²         ● stranded       1 10 mm²	• at AWG conductors for main contacts	2x (16 12), 2x (14 8)
• stranded 1 10 mm²	Connectable conductor cross-section for main contacts	
	• solid	1 10 mm²
• finely stranded with core end processing 1 10 mm²	• stranded	1 10 mm²
	• finely stranded with core end processing	1 10 mm²

Connectable conductor cross-section for auxiliary contacts	
• single or multi-stranded	0.5 2.5 mm²
• finely stranded with core end processing	0.5 2.5 mm²
Type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>single or multi-stranded</li> </ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	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	
B10 value	
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	1 000 000
Proportion of dangerous failures	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	73 %
Failure rate [FIT]	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	100 FIT
Product function	
<ul> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes
T1 value for proof test interval or service life acc. to	20 y
IEC 61508	
Protection against electrical shock	finger-safe

## Certificates/ approvals

### **General Product Approval**







KC





**EMC** 

Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Ship- ping
Type Examination Certificate	Miscellaneous  EG-Konf.	Type Test Certificates/Test Report Special Test Certificate	ABS

### Marine / Shipping





LRS









#### other

Confirmation



#### Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2023-1AL20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-1AL20

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1AL20

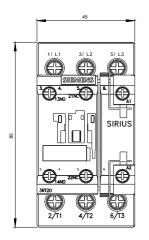
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2023-1AL20&lang=en

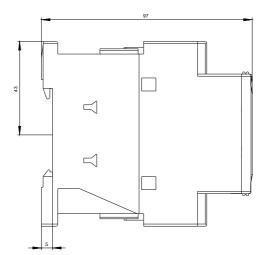
Characteristic: Tripping characteristics, I2t, Let-through current

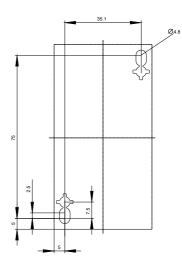
https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1AL20/char

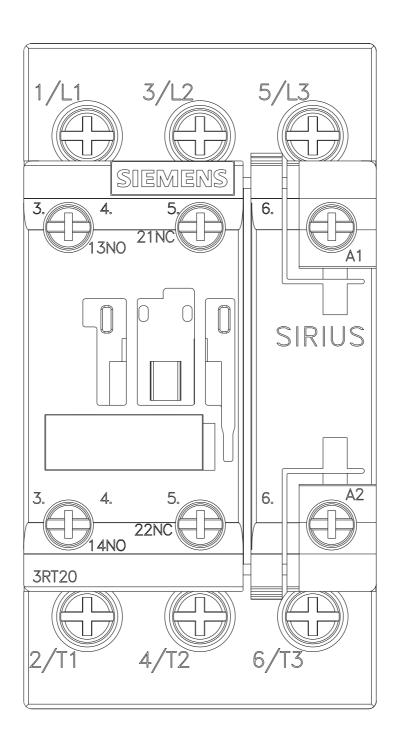
Further characteristics (e.g. electrical endurance, switching frequency)

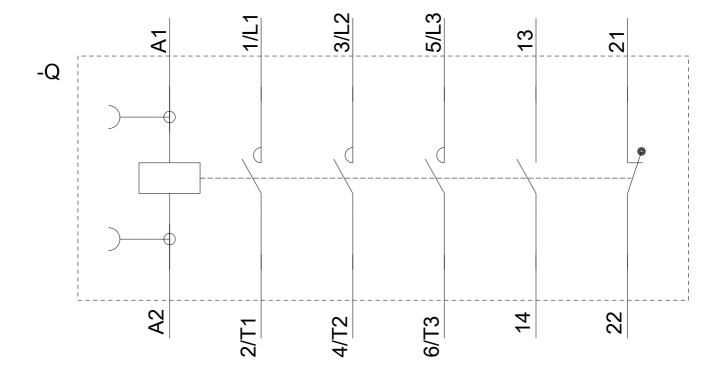
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-1AL20&objecttype=14&gridview=view1











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