SIEMENS

Data sheet

3RT2017-2BG41



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 125 V DC, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00

1973 - 1990 - 1954	
product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
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 	1.5 W
 at AC in hot operating state per pole 	0.5 W
 without load current share typical 	4 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 DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
 of contactor typical 	30 000 000
 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	0.31 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	153 kg
global warming potential [CO2 eq] during manufacturing	1.42 kg
global warming potential [CO2 eq] during operation	152 kg
global warming potential [CO2 eq] after end of life	-0.305 kg
Main circuit	
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 rated value at AC-1 	22 A
up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
- at 690 V rated value	6.7 A
 at AC-4 at 400 V rated value at AC 5a up to 690 V rated value 	8.5 A 19.4 A
 at AC-5a up to 690 V rated value 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 	7.2 A
— up to 400 V for current peak value n=20 rated value	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
● at AC-6a	
— up to 230 V for current peak value n=30 rated value	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
— up to 500 V for current peak value n=30 rated value	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm ²
operational current for approx. 200000 operating cycles at AC-4	4.1.0
 at 400 V rated value at 690 V rated value 	4.1 A 3.3 A
operational current	
• at 1 current path at DC-1	
- at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A

with 2 surrant action in carias at DC 4	
with 3 current paths in series at DC-1 — at 24 V rated value	20 A
— at 60 V rated value	20 A 20 A
— at 110 V rated value	20 A 20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
at 1 current path at DC-3 at DC-5	20 A
— at 24 V rated value	20 A
— at 60 V rated value — at 110 V rated value	0.5 A
	0.15 A
with 2 current paths in series at DC-3 at DC-5 at 24 V reted value	20 A
— at 24 V rated value	5 A
— at 60 V rated value	
— at 110 V rated value	0.35 A
with 3 current paths in series at DC-3 at DC-5	20 A
— at 24 V rated value	20 A
— at 60 V rated value	20 A 20 A
— at 110 V rated value	20 A 1.5 A
— at 220 V rated value	
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
• at AC-2 at 400 V rated value	5.5 kW
• at AC-3	0.0 KVV
 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 600 V rated value	5.5 kW
• at AC-3e	5.5 KVV
- at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 600 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	0.0 KW
4	
• at 400 V rated value	2 kW
• at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	2.8 kVA
 up to 400 V for current peak value n=20 rated value 	4.9 kVA
 up to 500 V for current peak value n=20 rated value 	6.2 kVA
 up to 690 V for current peak value n=20 rated value 	8 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 kVA
 up to 400 V for current peak value n=30 rated value 	3.3 kVA
 up to 500 V for current peak value n=30 rated value 	4.1 kVA
 up to 690 V for current peak value n=30 rated value 	5.7 kVA
short-time withstand current in cold operating state up to 40 °C	
Imited to 1 s switching at zero current maximum	200 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 5 s switching at zero current maximum	123 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 10 s switching at zero current maximum	96 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 30 s switching at zero current maximum	74 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 60 s switching at zero current maximum	61 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	40.000 4 <i>/</i> b
at DC	10 000 1/h
 operating frequency at AC-1 maximum 	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h

• at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	125 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.8
full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	10 A
• at 400 V rated value	3 A
 at 500 V rated value 	2 A
at 690 V rated value	1 A
operational current at DC-12	
 at 24 V rated value 	10 A
 at 48 V rated value 	6 A
 at 60 V rated value 	6 A
 at 110 V rated value 	3 A
at 125 V rated value	2 A
 at 220 V rated value 	1 A
at 600 V rated value	0.15 A
operational current at DC-13	
• at 24 V rated value	10 A
at 48 V rated value	2 A
 at 60 V rated value 	2 A
at 110 V rated value	1 A
• at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	11 A
at 600 V rated value	11 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
- at 200/208 V rated value	3 hp
- at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
- at 575/600 V rated value	10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	

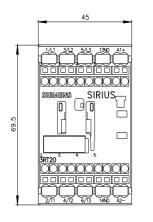
	 for short-circuit protection of the main circuit 	
• er inde-incut protection of the availagy solids hequined gc: 10.4 (S00 V, 1 Ak) Interflational mounting officients Vex Instanting officients A 100 'rodatiop possible on vertical mounting authors can be blind forward and extended the investical mounting of the blind forward and depth • required spacing • with adds-by-side mounting • with adds 70 rm • equind spacing • with adds 10 rm - upwards 10 rm - dorwards 10 rm - upwards 10 rm - of rowards 10 rm - of rowards	 — with type of coordination 1 required 	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
Installation mounting contents +140° rotation possible on vertical mounting surface: can be tilted forward and backward by viz 225 on vertical mounting surface. Isseming method screw and snap on mounting onto 35 mm DNN rail according to DNN EN 80715. Neight 70 mm required spacing	— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
Installation mounting contents +140° rotation possible on vertical mounting surface: can be tilted forward and backward by viz 225 on vertical mounting surface. Isseming method screw and snap on mounting onto 35 mm DNN rail according to DNN EN 80715. Neight 70 mm required spacing	 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
Section Deckward by s ² .22 for vertical mounting surface Isstering method screw and snapo mounting onlo 25 mm DIN roll according to DIN EN 60715. Ineight 70 mm Ineight 70	· · · ·	
Backward by -i-2.87 ion vertical mounting surface Isstering method screw and range-on mounting onto 26 mm DIN rul according to DIN EN 60715 Height 70 mm required spacing 7 mm - forwards 10 mm - depth 70 mm </td <td></td> <td>+/-180° rotation possible on vertical mounting surface; can be tilted forward and</td>		+/-180° rotation possible on vertical mounting surface; can be tilted forward and
festening method screw and snap-on mounting onto 35 mm DIN reil according to DIN EN 60715 Metynt 70 mm Width 46 mm depth 73 mm required spacing - • with side-by-side mounting - - downwards 10 mm - arche side 80 mm Connectable conductor crose-sections for main cornel crout		
heigh 70 mm width 45 mm depth 73 mm required spacing 73 mm required spacing 70 mm - forwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 50 mm - downwards 10 mm - downwards 50 mm - downwards 50 mm - downwards 50 mm - downwards 50 mm - downwards 20 mm <td>fastening method side-by-side mounting</td> <td>Yes</td>	fastening method side-by-side mounting	Yes
wide depth45 mmdepth73 mmrequired spacing73 mm• with side-by-side mouning70 mm- forwards10 mm- upwards10 mm- upwards10 mm- downwards0 mm- downwards0 mm- downwards0 mm- forwards10 mm- downwards10 mm- downards10 mm- downards10 mm- downards10 mm- downards20 mm- for main contact20 mm- sold contact for audiagy contacts	fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
depth 73 mm required spacing • with side-by-side mounting forwards 10 mm upwards 10 mm downwards 10 mm upwards 10 mm upwards 10 mm upwards 10 mm downwards	height	70 mm
required spacing Imm • with side-by-side mounting Imm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - at the side 0 mm - forwards 10 mm - upwards 10 mm - at the side 0 mm - at the side 0 mm - downwards 10 mm - at the side 6 mm Commetion spring-loaded terminals yspring-loaded terminals spring-loaded terminals of magnet coll	width	45 mm
• with side-bysite mountingImage: method is a single side side side side side side side sid	depth	73 mm
- rowards10 mm- upwards00 mm- upwards00 mm- at the side00 mm- at the side10 mm- powards10 mm- upwards00 mm- upwards00 mm- upwards10 mm- downwards10 mm- downwards10 mm- downwards10 mm- downwards10 mm- downwards10 mm- upwards10 mm- downwards10 mm- downwards10 mm- downwards10 mm- downwards0 mm- downwards10 mm- downwards20 mm- downards20 mm- downards20 m	required spacing	
	 with side-by-side mounting 	
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	 for grounded parts 	
	— forwards	10 mm
downwards10 mm•- forwards10 mm upwards10 mm upwards10 mm downwards0 mm downwards0 mm downwards6 mm downwardsspring-loaded terminals• for main current circuitspring-loaded terminals• for auxiliary and control circuitspring-loaded terminals• of main current circuitspring-loaded terminals• of main current circuitspring-loaded terminals• of main controlsSpring-lype terminals• of main controlsSpring-lype terminals• of main controlsSpring-lype terminals• of main controls2x (0 5 4 mm ²) solid2x (0 5 4 mm ²) solid or stranded2x (0 5 25 mm ²)• for AWG cables for main contracts2x (0 25 mm ²)• for AWG cables for main contracts0 5 25 mm ² • solid or stranded0 5 25 mm ² • finely stranded without core end processing0 5 25 mm ² • finely stranded without core end processing0 5 25 mm ² • finely stranded without core end processing0 5 25 mm ² • finely stranded without core end processing0 5 25 mm ² • for auxiliary contacts2 (0 5 25 mm ²)• for auxiliary contacts2 (0 5 25 mm ²)• for auxiliary contacts2 (0 5 25 mm ²)• for auxiliary contacts2 (0 5 25 mm ²)• for auxiliary contacts2 (0 5 25 mm ²)• for auxiliary contacts2 (0 5 .	— upwards	10 mm
• for live parts·- forwards10 mm- upwards10 mm- downwards10 mm- downwards0 mm- at the side6 mmConnections/ Terminals• for main current circuitspring-loaded terminals• for auxiliary and control circuitspring-loaded terminals• at contactor for auxiliary contactsSpring-lype terminals• of magnet colSpring-lype terminals• of main contactsSpring-lype terminals• for main contacts2x (0.5 4 mm²)- solid or stranded2x (0.5 25 mm²)- mely stranded with core end processing2x (0.5 25 mm²)• for AWG cables for main contacts2x (2.0 12)Connectable conductor cross-section for main contacts• for AWG cables for main contacts0.5 4 mm²• for dawid with core end processing2x (2.0 25 mm²)• for AWG cables for main contacts0.5 4 mm²• for auxiliary contacts0.5 4 mm²• finely stranded with core end processing0.5 25 mm²• for auxiliary contacts2x (0.5 4 mm²)• for auxiliary contacts	— at the side	6 mm
	— downwards	10 mm
	 for live parts 	
	— forwards	10 mm
	— upwards	10 mm
Connections/ Terminals type of electrical connection • for main current circuit spring-loaded terminals • for auxiliary and control circuit spring-loaded terminals • at contactor for auxiliary contacts Spring-type terminals • of main contracts Spring-type terminals • for main contacts Spring-type terminals - solid 2x (0.5 4 mm ²) - solid or stranded 2x (0.5 4 mm ²) - finely stranded with core end processing 2x (0.5 2.5 mm ²) - finely stranded with core end processing 2x (0.5 4 mm ²) - finely stranded with core end processing 2x (0.5 4 mm ²) • for AWG cables for main contacts 2x (20 12) connectable conductor cross-section for main contacts 0.5 4 mm ² • solid 0.5 4 mm ² • finely stranded with core end processing 0.5 2.5 mm ² connectable conductor cross-section for auxiliary contacts 0.5 2.5 mm ² • finely stranded with core end processing 0.5 2.5 mm ² off auxiliary contacts 0.5 2.5 mm ² • finely stranded with core end processing 0.5 2.5 mm ²	— downwards	10 mm
type of electrical connection spring-loaded terminals • for main current circuit spring-loaded terminals • of auxiliary and control circuit spring-loaded terminals • of magnet coll Spring-type terminals type of connectable conductor cross-sections • of main contacts Spring-type terminals - solid 2x (0.5 4 mm²) - solid or stranded 2x (0.5 2.5 mm²) - finely stranded without core end processing 2x (0.5 2.5 mm²) - finely stranded without core end processing 2x (0.5 2.5 mm²) • or AWC cables for main contacts 2x (2 12) connectable conductor cross-section for main contacts 0.5 4 mm² • solid 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded without core end processing 0.5 2.5 mm²	— at the side	6 mm
type of electrical connection spring-loaded terminals • for main current circuit spring-loaded terminals • of auxiliary and control circuit spring-loaded terminals • of magnet coll Spring-type terminals type of connectable conductor cross-sections • of main contacts Spring-type terminals - solid 2x (0.5 4 mm²) - solid or stranded 2x (0.5 2.5 mm²) - finely stranded without core end processing 2x (0.5 2.5 mm²) - finely stranded without core end processing 2x (0.5 2.5 mm²) • or AWC cables for main contacts 2x (2 12) connectable conductor cross-section for main contacts 0.5 4 mm² • solid 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded without core end processing 0.5 2.5 mm²	Connections/ Terminals	
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• for auxiliary contacts 20 12		
Safety related data	· · · · · · · · · · · · · · · · · · ·	20 12

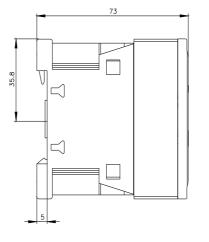
product function					
 mirror contact ac 	cording to IEC 60947-4-1		Yes; with 3RH29		
 positively driven 	operation according to IEC	C 60947-5-1	No		
 suitable for safety 	/ function		Yes		
suitability for use safety	-related switching OFF		Yes		
service life maximum			20 a		
test wear-related servi	ice life necessary		Yes		
proportion of dangero					
	rate according to SN 319		40 %		
	d rate according to SN 319		73 %		
	emand rate according to		1 000 000		
failure rate [FIT] with I 31920	ow demand rate accord	ing to SN	100 FIT		
ISO 13849					
device type according	to ISO 13849-1		3		
overdimensioning acc	ording to ISO 13849-2 n	ecessary	Yes		
EC 61508					
safety device type acc	ording to IEC 61508-2		Туре А		
Electrical Safety					
protection class IP on	the front according to I	EC 60529	IP20		
touch protection on th	e front according to IEC	60529	finger-safe, for vertic	al contact from the front	t
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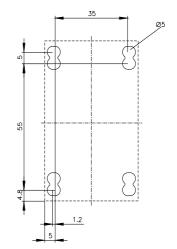
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2BG41

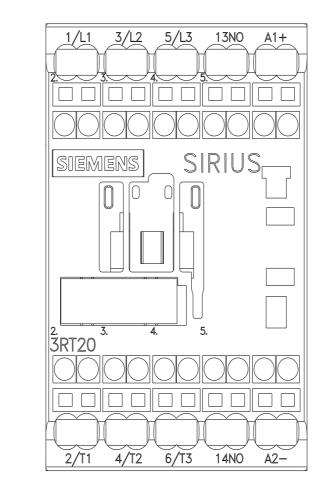
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

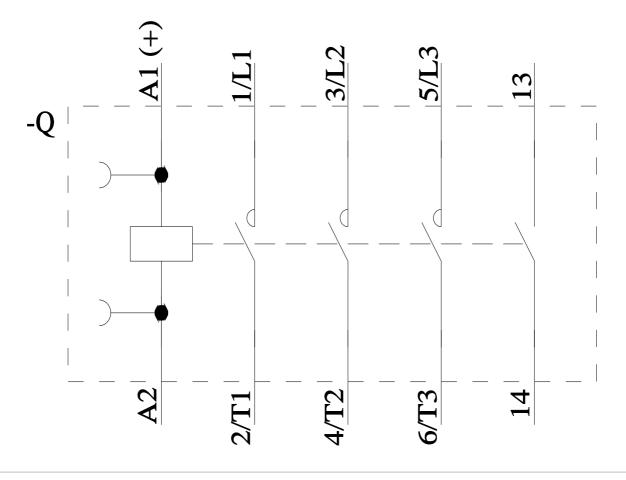
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2BG41&lang=en Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2BG41/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2BG41&objecttype=14&gridview=view1











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