3RT2015-1BB41-1AA0

Data sheet



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NO, screw terminal, size: S00, upright mounting position

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 	0.6 W
 at AC in hot operating state per pole 	0.2 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	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 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	0.299 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 	18 A
— up to 690 V at ambient temperature 40 °C rated value	18 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	16 A
• at AC-3	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-3e	
— at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
at AC-4 at 400 V rated valueat AC-5a up to 690 V rated value	6.5 A 15.8 A
at AC-5a up to 400 V rated value at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	0.0 A
— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
— up to 500 V for current peak value n=20 rated value	3.8 A
up to 690 V for current peak value n=20 rated value	3.6 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
 up to 500 V for current peak value n=30 rated value 	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	2.6 A
• at 690 V rated value	1.8 A
operational current	
at 1 current path at DC-1 — at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	1.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.42 A
— at 600 V rated value	0.42 A
with 2 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	8.4 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A

with 3 current paths in series at DC-1			
— at 24 V rated value	15 A		
— at 60 V rated value	15 A		
— at 110 V rated value	15 A		
— at 220 V rated value	15 A		
— at 440 V rated value	0.9 A		
— at 600 V rated value	0.7 A		
 at 1 current path at DC-3 at DC-5 			
— at 24 V rated value	15 A		
— at 60 V rated value	0.35 A		
 with 2 current paths in series at DC-3 at DC-5 			
— at 24 V rated value	15 A		
— at 60 V rated value	3.5 A		
— at 110 V rated value	0.25 A		
 with 3 current paths in series at DC-3 at DC-5 			
— at 24 V rated value	15 A		
— at 60 V rated value	15 A		
— at 110 V rated value	15 A		
— at 220 V rated value	1.2 A		
— at 440 V rated value	0.14 A		
— at 600 V rated value	0.14 A		
operating power			
at AC-2 at 400 V rated value	3 kW		
• at AC-3			
— at 230 V rated value	1.5 kW		
— at 400 V rated value	3 kW		
— at 500 V rated value	3 kW		
— at 690 V rated value	4 kW		
• at AC-3e	TAVV		
— at 230 V rated value	1.5 kW		
— at 400 V rated value	3 kW		
	3 kW		
— at 500 V rated value	4 kW		
— at 690 V rated value	4 KVV		
operating power for approx. 200000 operating cycles at AC-			
• at 400 V rated value	1.15 kW		
• at 690 V rated value	1.15 kW		
operating apparent power at AC-6a			
• up to 230 V for current peak value n=20 rated value	1.5 kVA		
 up to 400 V for current peak value n=20 rated value 	2.7 kVA		
• up to 500 V for current peak value n=20 rated value	3.3 kVA		
 up to 690 V for current peak value n=20 rated value 	4.3 kVA		
operating apparent power at AC-6a			
• up to 230 V for current peak value n=30 rated value	1 kVA		
up to 400 V for current peak value n=30 rated value	1.8 kVA		
up to 500 V for current peak value n=30 rated value	2.2 kVA		
up to 690 V for current peak value n=30 rated value	2.9 kVA		
short-time withstand current in cold operating state up to 40 °C			
limited to 1 s switching at zero current maximum	120 A; Use minimum cross-section acc. to AC-1 rated value		
Iimited to 5 s switching at zero current maximum	86 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 10 s switching at zero current maximum 	67 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 30 s switching at zero current maximum 	52 A; Use minimum cross-section acc. to AC-1 rated value		
Iimited to 60 s switching at zero current maximum	43 A; Use minimum cross-section acc. to AC-1 rated value		
no-load switching frequency			
• 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			
■ at AC-3€ Haxilluff	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	24 V
operating range factor control supply voltage rated value of	24 V
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	1
contact	
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	1A
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	4.8 A
• at 600 V rated value	6.1 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.75 hp
• for 3-phase AC motor	
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	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: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
man type of accignment 2 required	30. 20. (410 v, 100 v), ain. 10. (000 v, 100 v), 2000. 20. (410 v, 00 v)

• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)	
Installation/ mounting/ dimensions		
mounting position	standing, on horizontal mounting surface	
fastening method side-by-side mounting	Yes	
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 607	
height	58 mm	
width	45 mm	
depth	73 mm	
required spacing		
with side-by-side mounting		
— forwards	10 mm	
— upwards	10 mm	
— downwards	10 mm	
— at the side	0 mm	
 for grounded parts 		
— 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	
— 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 (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²	
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²	
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)	
for AWG cables for main contacts	2x (20 16), 2x (18 14), 2x 12	
connectable conductor cross-section for main contacts		
• solid	0.5 4 mm²	
• stranded	0.5 4 mm²	
finely stranded with core end processing	0.5 2.5 mm ²	
connectable conductor cross-section for auxiliary contacts		
 solid or stranded 	0.5 4 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), 2x 4 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), 2x 12	
AWG number as coded connectable conductor cross section		
for main contacts	20 12	
for auxiliary contacts	20 12	
Safety related data		
product function		
 mirror contact according to IEC 60947-4-1 	Yes; with 3RH29	
 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	
	-

General Product Approval







Confirmation



<u>KC</u>

General	Product	Ap-
proval		

EMV

Test Certificates

Marine / Shipping





Special Test Certificate

Type Test Certificates/Test Report

Miscellaneous



Marine / Shipping













other	Railway	Dangerous goods	Environment

Miscellaneous

Confirmation

Special Test Certificate

Transport Information



Environmental Confirmations

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=3RT2015-1BB41-1AA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1BB41-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1BB41-1AA0

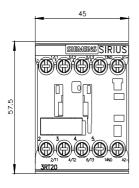
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

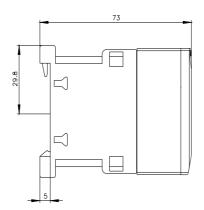
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1BB41-1AA0&lang=en

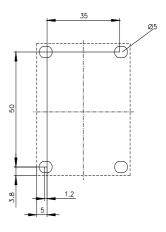
Characteristic: Tripping characteristics, I²t, Let-through current

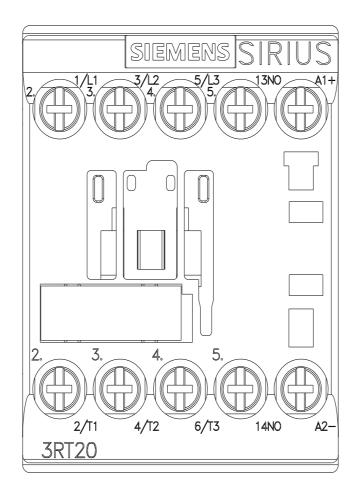
https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1BB41-1AA0/char

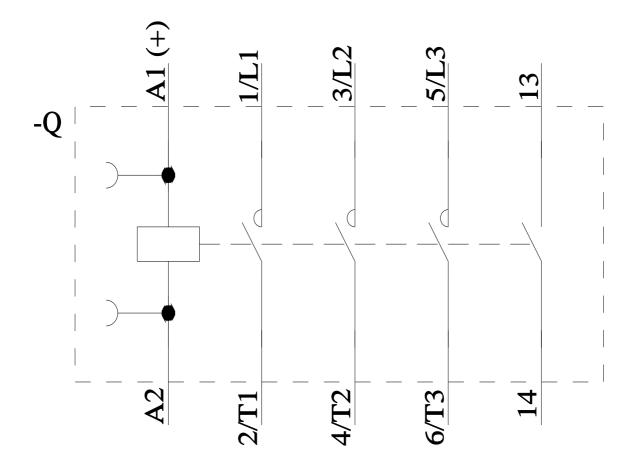
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2015-1BB41-1AA0&objecttype=14&gridview=view1











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