## **SIEMENS**

Data sheet 3RT2024-2BE40



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 60 V DC, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0  $\,$ 

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	
power loss [W] for rated value of the current		
<ul> <li>at AC in hot operating state</li> </ul>	0.9 W	
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.3 W	
<ul> <li>without load current share typical</li> </ul>	5.9 W	
insulation voltage		
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V	
• of auxiliary circuit with degree of pollution 3 rated value	690 V	
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 protective separation between coil and main contacts according to EN 60947-1	400 V	
shock resistance at rectangular impulse		
• at DC	10g / 5 ms, 7,5g / 10 ms	
shock resistance with sine pulse		
• at DC	15g / 5 ms, 10g / 10 ms	
mechanical service life (operating cycles)		
of contactor typical	10 000 000	
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000	
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000	
reference code according to IEC 81346-2	Q	
Substance Prohibitance (Date)	10/01/2009	
Ambient conditions		
installation altitude at height above sea level maximum	2 000 m	
ambient temperature		
during operation	-25 +60 °C	
during storage	-55 +80 °C	
relative humidity minimum	10 %	
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %	
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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated</li> </ul>	40 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	40 A
value	05.4
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	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 A
— at 500 V rated value	12 A
	9 A
— at 690 V rated value	
at AC-4 at 400 V rated value     at AC-5 aug to 600 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
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	11.3 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>	7.6 A
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm <sup>2</sup>
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 110 V rated value  — at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1	05.4
— 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
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	

— at 24 V rated value	20 A	
— at 60 V rated value	5 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	
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>		
— 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	
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>		
— 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-2 at 400 V rated value	5.5 kW	
• 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	
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	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 withstand current in cold operating state up to		
40 °C		
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	210 A; Use minimum cross-section acc. to AC-1 rated value	
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	210 A; Use minimum cross-section acc. to AC-1 rated value	
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	170 A; Use minimum cross-section acc. to AC-1 rated value	
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	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 DC	1 500 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	DC
control supply voltage at DC	
• rated value	60 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	5.9 W
holding power of magnet coil at DC	5.9 W
closing delay	
• at DC	50 170 ms
opening delay	
• at DC	15 18 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	1
contact	
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     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	11 A
at 600 V rated value	11 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	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 / P600
Short-circuit protection	
design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	

<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)	
with type of assignment 2 required	gG: 25A (690V,100kA), aW: 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 position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface	
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715	
side-by-side mounting	Yes	
height	102 mm	
width	45 mm	
depth	107 mm	
required spacing		
with side-by-side mounting	40	
— forwards	10 mm	
— upwards	10 mm	
— downwards	10 mm	
— at the side	0 mm	
• for grounded parts	10	
— forwards	10 mm	
— upwards	10 mm	
— at the side — downwards	6 mm 10 mm	
for live parts	10 111111	
for live parts	10 mm	
— norwards	10 mm	
— downwards	10 mm	
— at the side	6 mm	
Connections/ Terminals	O IIIIII	
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 magnet coil	Spring-type terminals	
type of connectable conductor cross-sections for main contacts	Opining type terminals	
• solid	2x (1 10 mm²)	
solid or stranded	2x (1 10 mm²)	
finely stranded with core end processing	2x (1 6 mm²)	
finely stranded without core end processing	2x (1 6 mm²)	
connectable conductor cross-section for main contacts		
• solid	1 10 mm²	
stranded	1 10 mm²	
finely stranded with core end processing	1 6 mm²	
finely stranded without core end processing	1 6 mm²	
connectable conductor cross-section for auxiliary contacts		
solid or stranded	0.5 2.5 mm²	
• finely stranded with core end processing	0.5 1.5 mm²	
finely stranded without core end processing	0.5 2.5 mm²	
type of connectable conductor cross-sections		
for auxiliary contacts		
— solid or stranded	2x (0.5 2.5 mm²)	
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²)	
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm²)	
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 14)	
AWG number as coded connectable conductor cross		
section	40.0	
• for main contacts	18 8	
for auxiliary contacts	20 14	
Safety related data		
product function		
mirror contact according to IEC 60947-4-1	Yes	
B10 value with high demand rate according to SN 31920	450 000	

proportion of dangerous failures		
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %	
<ul> <li>with high demand rate according to SN 31920</li> </ul>	73 %	
failure rate [FIT] with low demand rate according to SN 31920	100 FIT	
T1 value for proof test interval or service life according to IEC 61508	20 a	
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	
suitability for use		
<ul> <li>safety-related switching OFF</li> </ul>	Yes	
3 -	**	

Certificates/ approvals

## **General Product Approval**



Confirmation





<u>KC</u>



EMC Function Safety/S chinery	Safety of Ma- Declaration of Conformity	Test Certificates
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Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

## Marine / Shipping













Marine / Shipping other Railway Dangerous Good Environment



Confirmation



Vibration and Shock

Transport Information

Environmental Confirmations

## Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RT2024-2BE40

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2024-2BE40}$ 

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

 $\underline{\text{https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2BE40}}$ 

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

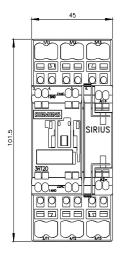
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2024-2BE40\&lang=en}}$ 

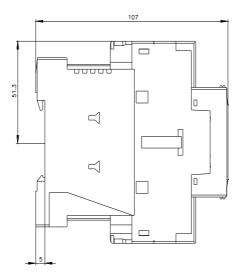
Characteristic: Tripping characteristics, I²t, Let-through current

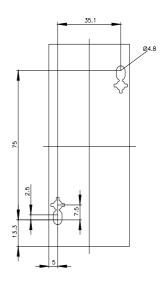
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2BE40/char

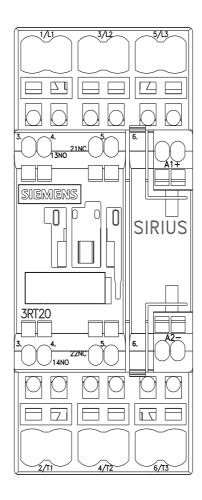
Further characteristics (e.g. electrical endurance, switching frequency)

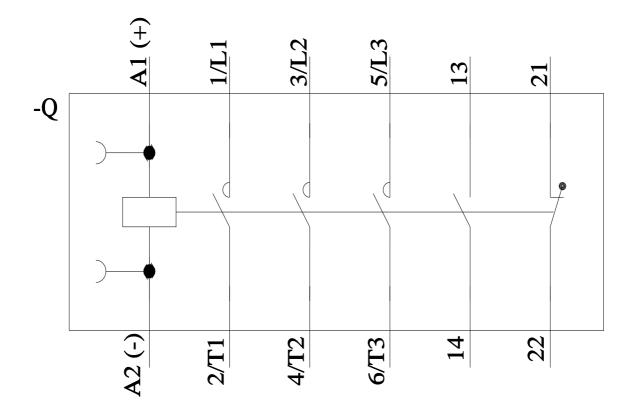
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-2BE40&objecttype=14&gridview=view1











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