## 3RT2016-2XB41-0LA2

**Data sheet** 



traction contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24-34 V DC,  $0.7-1.25^*$  Us, electronic drive, with integrated varistor, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00

SIRIUS
Power contactor
With extended operating range
3RT2
S00
No
Yes
2.1 W
0.7 W
0.95 W
quadratic
690 V
690 V
6 kV
6 kV
400 V
6,7g / 5 ms, 4,2g / 10 ms
10,5g / 5 ms, 6,6g / 10 ms
30 000 000
Q
10/01/2009
Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7
2 000 m
-40 +70 °C
-55 +80 °C
10 %

number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
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	22 A
<ul> <li>at AC-1</li> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 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	7.7 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
• at AC-4 at 400 V rated value	8.5 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	4 mm²
at maximum Ith rated value	4 mm²
operational 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
operational current	
at 1 current path at DC-1	
— at 24 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— at 24 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 3 current paths in series at DC-1	
— at 24 V rated value	20 A
— at 110 V rated value	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	
— at 24 V rated value	20 A
— at 110 V rated value	0.1 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
	20 A
— at 24 V rated value	0.07.4
— at 110 V rated value	0.35 A
<ul><li>— at 110 V rated value</li><li>with 3 current paths in series at DC-3 at DC-5</li></ul>	
<ul> <li>at 110 V rated value</li> <li>with 3 current paths in series at DC-3 at DC-5</li> <li>at 24 V rated value</li> </ul>	20 A
<ul><li>— at 110 V rated value</li><li>with 3 current paths in series at DC-3 at DC-5</li></ul>	

— at 600 V rated value	0.2 A
operating power	
• 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	5.5 kW
• at AC-3e	
— 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	5.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
<ul> <li>at 400 V rated value</li> </ul>	2 kW
at 690 V rated value	2.5 kW
short-time withstand current in cold operating state up to 40 $^{\circ}\text{C}$	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	155 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	104 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	82 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	63 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	53 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 1/h
operating frequency	
<ul> <li>at AC-2 at AC-3e maximum</li> </ul>	750 1/h
<ul> <li>at AC-4 maximum</li> </ul>	250 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
<ul> <li>up to 40 °C according to IEC 60077 rated value</li> </ul>	22 A
<ul> <li>up to 70 °C according to IEC 60077 rated value</li> </ul>	18 A
Control circuit/ Control	
type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	
•	24 34 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.7
• full-scale value	1.25
design of the surge suppressor	with varistor
inrush current peak	2.3 A
duration of inrush current peak	50 μs
locked-rotor current mean value	0.18 A
locked-rotor current peak	0.18 A
duration of locked-rotor current	
duration of locked-lotor current	250 ms
holding current mean value	250 ms 40 mA
holding current mean value	40 mA
holding current mean value closing power of magnet coil at DC	40 mA 4 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC	40 mA 4 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay  • at DC	40 mA 4 W 0.95 W
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay  • at DC opening delay	40 mA 4 W 0.95 W 30 70 ms
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W 30 70 ms 25 45 ms
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W 30 70 ms 25 45 ms 10 15 ms
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W 30 70 ms 25 45 ms 10 15 ms
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W 30 70 ms 25 45 ms 10 15 ms Standard A1 - A2
holding current mean value closing power of magnet coil at DC holding power of magnet coil at DC closing delay	40 mA 4 W 0.95 W 30 70 ms 25 45 ms 10 15 ms Standard A1 - A2

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	1.4
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     at 48 V rated value	2 A
at 60 V rated value     at 60 V rated value	2 A
at 110 V rated value	1A
at 110 V rated value     at 125 V rated value	0.9 A
at 220 V rated value     at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	7.6 A
• at 600 V rated value	9 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp
<ul> <li>for 3-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	
product function short circuit protection	No
design of the fuse link	
for short-circuit protection of the main circuit	0.054 (000) (400) A) A4 004 (000) (400) A) D000 054 (445) (00) A)
— 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)
<ul> <li>for short-circuit protection of the auxiliary switch required</li> <li>Installation/ mounting/ dimensions</li> </ul>	gG: 10 A (500 V, 1 kA)
mounting position	+/-180° rotation possible on vertical mounting surface, can be tilted forward and
mounting position	backward by +/- 22.5° on vertical mounting surface, standing, on horizontal mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022
height	70 mm
width	45 mm
depth	73 mm
required spacing	
with side-by-side mounting	40
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
<ul><li>— at the side</li><li>• for grounded parts</li></ul>	0 mm
forwards	10 mm
— upwards	10 mm
— upwards — 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	spring-loaded terminals
<ul> <li>for auxiliary and control circuit</li> </ul>	spring-loaded terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Spring-type terminals
of magnet coil	Spring-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
<ul> <li>solid or stranded</li> </ul>	2x (0,5 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm²)
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul><li>— solid or stranded</li></ul>	2x (0,5 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 2.5 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	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
IEC 61508	
T1 value	
<ul> <li>for proof test interval or service life according to IEC 61508</li> </ul>	20 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
Communication/ Protocol	
product function bus communication	No
Approvals Certificates	
Conoral Product Approval	

## General Product Approval







Confirmation





**General Product Approval** 

EMV

**Functional Saftey** 

**Test Certificates** 

<u>KC</u>





Type Examination Certificate Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













Marine / Shipping

other

Railway

**Dangerous Good** 



Confirmation

Type Test Certificates/Test Report

Special Test Certificate **Transport Information** 

## 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=3RT2016-2XB41-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2XB41-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2XB41-0LA2

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

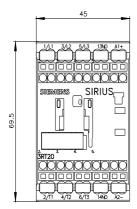
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2016-2XB41-0LA2&lang=en

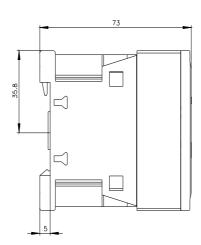
Characteristic: Tripping characteristics, I2t, Let-through current

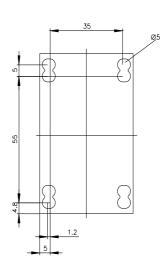
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2XB41-0LA2/cha

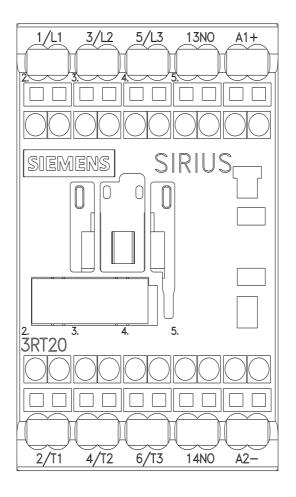
Further characteristics (e.g. electrical endurance, switching frequency)

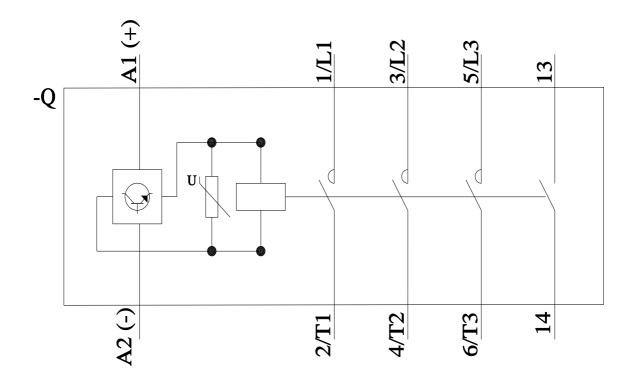
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2XB41-0LA2&objecttype=14&gridview=view1











last modified: 3/13/2024 🖸