3RT2024-2DB44-3MA0

## **Data sheet**



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, with plugged-in varistor, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, size: S0, captive auxiliary switch

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	No
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
type of calculation of power loss depending on pole	quadratic
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	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	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)	
<ul> <li>of contactor typical</li> </ul>	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
SVHC substance name	Lead - 7439-92-1
Weight	0.694 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	95 %

maximum	
lain 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
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 value	40 A
<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
— at 690 V rated value	9 A
• at AC-4 at 400 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
— up to 500 V for current peak value n=20 rated value	11.3 A
— up to 690 V for current peak value n=20 rated value	9 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	7.6 A
— up to 400 V for current peak value n=30 rated value	7.6 A
— up to 500 V for current peak value n=30 rated value	7.6 A
— up to 690 V for current peak value n=30 rated value	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm²
operational current for approx. 200000 operating cycles at	
AC-4  • at 400 V rated value	5.5.A
	5.5 A
at 690 V rated value	5.5 A
operational current	
at 1 current path at DC-1     at 24 V roted value.	25 A
— 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	1A
— 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	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	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 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
• at 1 current path at DC-3 at DC-5	
— 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	J.J RVV
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
	5.5 kW
— at 500 V rated value	
— at 690 V rated value	7.5 kW
• at AC-3e	2 1/4/
— 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-	
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
up to 690 V for current peak value n=20 rated value	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  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  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  up to 690 V for current peak value n=30 rated value	9 kVA
	SAVA
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
limited to 5 s switching at zero current maximum	210 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 s switching at zero current maximum	170 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	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	24 V
operating range factor control supply voltage rated value of	
magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
design of the surge suppressor	with varistor
closing power of magnet coil at DC	5.9 W
holding power of magnet coil at DC	5.9 W
closing delay	FO 470
• at DC	50 170 ms
opening delay	45 40
• at DC	15 18 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	and the forest or an electrical state
design of the auxiliary switch	on the front, non-detachable
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 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	6 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	Alle
<ul><li> for single-phase AC motor</li><li>— at 110/120 V rated value</li></ul>	1 hp
<ul> <li>for single-phase AC motor</li> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul>	1 hp 2 hp
<ul> <li>for single-phase AC motor</li> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> <li>for 3-phase AC motor</li> </ul>	2 hp
<ul> <li>for single-phase AC motor</li> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> <li>for 3-phase AC motor</li> <li>— at 200/208 V rated value</li> </ul>	2 hp 3 hp
<ul> <li>for single-phase AC motor</li> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> <li>for 3-phase AC motor</li> </ul>	2 hp

10 hp
A600 / Q600
C characteristic: 10 A; 0.4 kA
gG: 63 A (690 V, 100 kA), aM: 32 A (690 V, 100 kA), BS88: 63 A (415 V, 80 kA)
gG: 25 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 25 A (415 V, 80 kA)
gG: 10 A (500 V, 1 kA)
+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
Yes
screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
102 mm
45 mm
154 mm
40
10 mm
10 mm
10 mm 0 mm
V IIIII
10 mm
10 mm
6 mm
10 mm
10 mm
10 mm
10 mm
6 mm
spring-loaded terminals
spring-loaded terminals
Spring-type terminals
Spring-type terminals
2x (1 10 mm²)
2x (1 10 mm²)
2x (1 6 mm²)
2x (1 6 mm²)
2x (18 8)
4 40 2222
1 10 mm <sup>2</sup>
1 10 mm <sup>2</sup>
1 6 mm <sup>2</sup>
1 6 mm²
0.5 2.5 mm²
0.5 1.5 mm <sup>2</sup>
0.5 1.5 mm²
2.0 mm
2x (0.5 2.5 mm²)
2x (0.5 1.5 mm²)

AWG number as coded connectable conductor cross section for main contacts  AWG number as coded connectable conductor cross section for auxiliary contacts  20 14  AWG number as coded connectable conductor cross section for auxiliary contacts  Safety related data  product function  • mirror contact according to IEC 60947-4-1  • positively driven operation according to IEC 60947-5-1  • suitable for safety function  • suitablify for use safety-related switching OFF  yes  service life maximum  20 a  test wear-related service life necessary  proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  1000 000  1ailure rate [FIT] with low demand rate according to SN 31920  1ailure rate [FIT] with low demand rate according to SN 31920  1ailure rate (FIT) with low demand rate according to SN 31920  1biso 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Type A  Electrical Safety  protection class IP on the front according to IEC 60529  finger-safe, for vertical contact from the front	<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 14)
section for auxiliary contacts  Safety related data  product function		18 8
product function		20 14
mirror contact according to IEC 60947-4-1     positively driven operation according to IEC 60947-5-1     suitable for safety function     ves 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     with high demand rate according to SN 31920     indicate the service if it is in the service	Safety related data	
positively driven operation according to IEC 60947-5-1     suitable for safety function     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     with high demand rate according to SN 31920     with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Fype A  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	product function	
suitable for safety function     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     • with high demand rate according to SN 31920     * with high demand rate according to SN 31920     B10 value with high demand rate according to SN 31920     failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1     overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Fype A  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
suitability for use safety-related switching OFF  service life maximum  20 a  test wear-related service life necessary  proportion of dangerous failures  • with low demand rate according to SN 31920 • with high demand rate according to SN 31920  1000 000  1000 000  1000 FIT  1000 13849  1000 1	<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
service life maximum  test wear-related service life necessary  proportion of dangerous failures  • with low demand rate according to SN 31920 • with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	suitable for safety function	Yes
test wear-related service life necessary  proportion of dangerous failures  • with low demand rate according to SN 31920 • with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	suitability for use safety-related switching OFF	Yes
proportion of dangerous failures  • with low demand rate according to SN 31920  • with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	service life maximum	20 a
with low demand rate according to SN 31920     with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	test wear-related service life necessary	Yes
with high demand rate according to SN 31920  B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  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	proportion of dangerous failures	
B10 value with high demand rate according to SN 31920  failure rate [FIT] with low demand rate according to SN 31920  ISO 13849  device type according to ISO 13849-1  overdimensioning according to ISO 13849-2 necessary  IEC 61508  safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  Tool 000 000  100 FIT  3  Yes  Type A	<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
failure rate [FIT] with low demand rate according to SN 31920  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	with high demand rate according to SN 31920	73 %
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	B10 value with high demand rate according to SN 31920	1 000 000
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		100 FIT
overdimensioning according to ISO 13849-2 necessary IEC 61508 safety device type according to IEC 61508-2 Electrical Safety protection class IP on the front according to IEC 60529 IP20	ISO 13849	
IEC 61508 safety device type according to IEC 61508-2 Electrical Safety protection class IP on the front according to IEC 60529 IP20	device type according to ISO 13849-1	3
safety device type according to IEC 61508-2  Electrical Safety  protection class IP on the front according to IEC 60529  IP20	overdimensioning according to ISO 13849-2 necessary	Yes
Electrical Safety protection class IP on the front according to IEC 60529 IP20	IEC 61508	
protection class IP on the front according to IEC 60529 IP20	safety device type according to IEC 61508-2	Type A
	Electrical Safety	
touch protection on the front according to IEC 60529 finger-safe, for vertical contact from the front	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
Further information	Further information	

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information for data generation and storage

https://support.industry.siemens.com/cs/ww/en/view/109995012

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=3RT2024-2DB44-3MA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-2DB44-3MA0

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

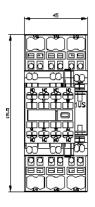
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2DB44

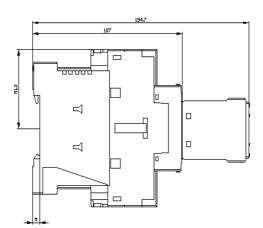
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2024-2DB44-3MA0&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2024-2DB44-3MA0&lang=en</a>

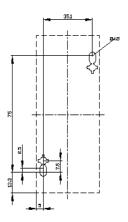
Characteristic: Tripping characteristics, I2t, Let-through current

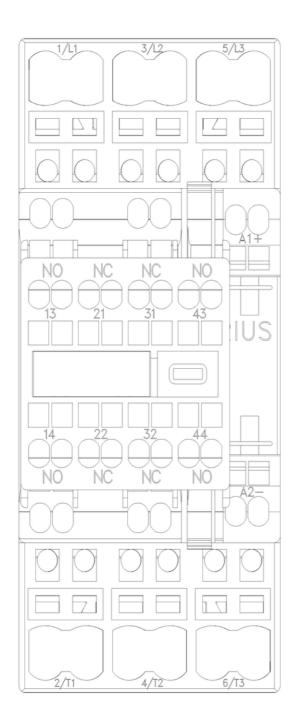
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2DB44-3MA0/char

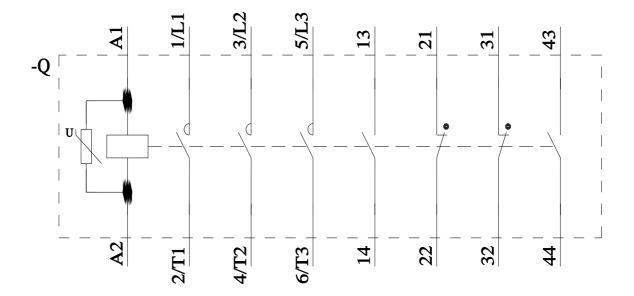
Further characteristics (e.g. electrical endurance, switching frequency)
<a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-2DB44-3MA0&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-2DB44-3MA0&objecttype=14&gridview=view1</a>











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