

Contactor relay, latched, 4 NO, 220 V DC, Size S00, screw terminal

product brand name	SIRIUS
product designation	Auxiliary contactor
product type designation	3RH2

General technical data

size of contactor	S00
product extension auxiliary switch	Yes
insulation voltage with degree of pollution 3 at AC rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 kV
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 8g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical	5 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	5 000 000
reference code according to IEC 81346-2	K
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

no-load switching frequency	
• at AC	10 000 1/h
• at DC	10 000 1/h

Control circuit/ Control

type of voltage of the control supply voltage	DC
control supply voltage at DC	
• rated value	220 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

Auxiliary circuit

number of NO contacts for auxiliary contacts	4
• instantaneous contact	4
identification number and letter for switching elements	40 E

operational current at AC-12 maximum

operational current at AC-15

- at 230 V rated value
- at 400 V rated value
- at 500 V rated value
- at 690 V rated value

operational current at 1 current path at DC-12

- at 24 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operational current with 2 current paths in series at DC-12

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operational current with 3 current paths in series at DC-12

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operating frequency at DC-12 maximum

operational current at 1 current path at DC-13

- at 24 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operational current with 2 current paths in series at DC-13

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operational current with 3 current paths in series at DC-13

- at 24 V rated value
- at 60 V rated value
- at 110 V rated value
- at 220 V rated value
- at 440 V rated value
- at 600 V rated value

operating frequency at DC-13 maximum

design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V

contact reliability of auxiliary contacts

10 A

10 A
3 A
2 A
1 A

10 A
3 A
1 A
0.3 A
0.15 A

10 A
10 A
4 A
2 A
1.3 A
0.65 A

10 A
10 A
10 A
3.6 A
2.5 A
1.8 A
1 000 1/h

10 A
1 A
0.3 A
0.14 A
0.1 A

10 A
3.5 A
1.3 A
0.9 A
0.2 A
0.1 A

10 A
4.7 A
3 A
1.2 A
0.5 A
0.26 A
1 000 1/h

C characteristic: 6 A; 0.4 kA

1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings

contact rating of auxiliary contacts according to UL

A600 / Q600

Short-circuit protection

design of the fuse link for short-circuit protection of the auxiliary switch required

fuse gL/gG: 10 A

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

height	57.5 mm
width	90 mm
depth	73 mm
required spacing	
• with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — at the side — downwards • for live parts — forwards — upwards — downwards — at the side	10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 6 mm 10 mm 10 mm 10 mm 10 mm 6 mm

Connections/ Terminals

type of electrical connection for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• for auxiliary contacts — solid or stranded — finely stranded with core end processing • at AWG cables for auxiliary contacts	2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), 2x 4 mm ² 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 2x 12

Safety related data

product function positively driven operation according to IEC 60947-5-1	Yes
B10 value with high demand rate according to SN 31920	1 000 000; With 0.3 x I _e
proportion of dangerous failures	
• with low demand rate according to SN 31920 • with high demand rate according to SN 31920	40 % 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

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
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[Type Examination Certificate](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



Marine / Shipping	other	Railway	Dangerous Good
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[Confirmation](#)



[Vibration and Shock](#)

[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=3RH2440-1BM40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2440-1BM40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2440-1BM40>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2440-1BM40&lang=en

Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2440-1BM40/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2440-1BM40&objecttype=14&gridview=view1>

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