SIEMENS

Data sheet 3RH2140-1BD40

Contactor relay, 4 NO, 42 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
power loss [W] for rated value of the current without load current share typical	4 W
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	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	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 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	133 kg
Global Warming Potential [CO2 eq] during manufacturing	1.3 kg
Global Warming Potential [CO2 eq] during operation	132 kg
Global Warming Potential [CO2 eq] after end of life	-0.227 kg
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	
●	42 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	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	1 A
operational current at 1 current path at DC-12	
● at 24 V rated value	10 A
● at 110 V rated value	3 A
● at 220 V rated value	1 A
● at 440 V rated value	0.3 A
● at 600 V rated value	0.15 A
operational current with 2 current paths in series at DC-12	
● at 24 V rated value	10 A
● at 60 V rated value	10 A
● at 110 V rated value	4 A
● at 220 V rated value	2 A
● at 440 V rated value	1.3 A
● at 600 V rated value	0.65 A
operational current with 3 current paths in series at DC-12	
● at 24 V rated value	10 A
● at 60 V rated value	10 A
● at 110 V rated value	10 A
● at 220 V rated value	3.6 A
● at 440 V rated value	2.5 A
● at 600 V rated value	1.8 A
operating frequency at DC-12 maximum	1 000 1/h
operational current at 1 current path at DC-13	
● at 24 V rated value	10 A
● at 110 V rated value	1 A
● at 220 V rated value	0.3 A
● at 440 V rated value	0.14 A
● at 600 V rated value	0.1 A
operational current with 2 current paths in series at DC-13	
● at 24 V rated value	10 A
● at 60 V rated value	3.5 A
● at 110 V rated value	1.3 A
● at 220 V rated value	0.9 A
● at 440 V rated value	0.2 A
● at 600 V rated value	0.1 A
operational current with 3 current paths in series at DC-13	
● at 24 V rated value	10 A
● at 60 V rated value	4.7 A

● at 110 V rated value	3 A
● at 220 V rated value	1.2 A
● at 440 V rated value	0.5 A
● at 600 V rated value	0.26 A
operating frequency at DC-13 maximum	1 000 1/h
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 6 A; 0.4 kA
contact reliability of auxiliary contacts	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	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 auxiliary and control circuit	screw-type terminals
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
Safety related data	
product function	
● positively driven operation according to IEC 60947-5-1	Yes
● suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
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; With 0.3 x Ie
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

General Product Approval	EMV	Functional Saftey	Test Certificates	
KC		Type Examination Certificate	Type Test Certificates/Test Report	Special Test Certificate

Marine / Shipping

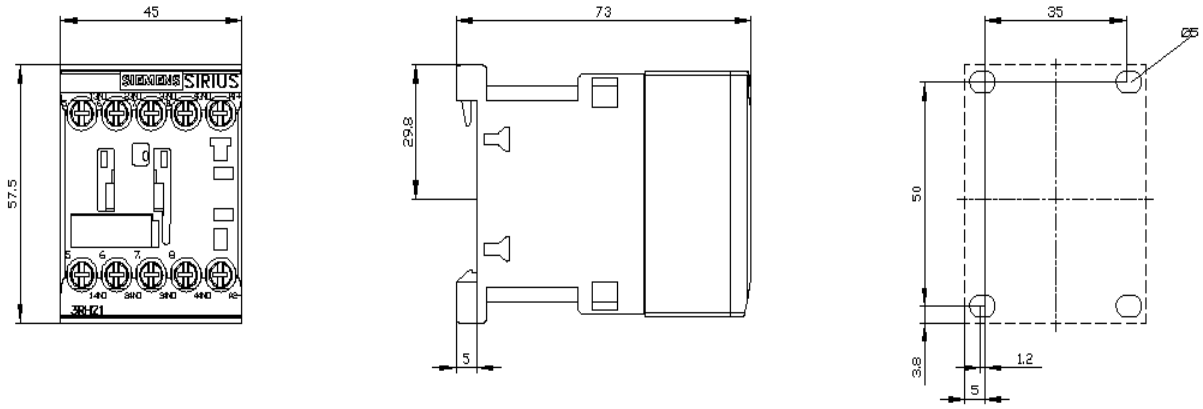
Marine / Shipping	other		Railway	Dangerous Good	Environment
	Miscellaneous	Confirmation	Special Test Certificate	Transport Information	

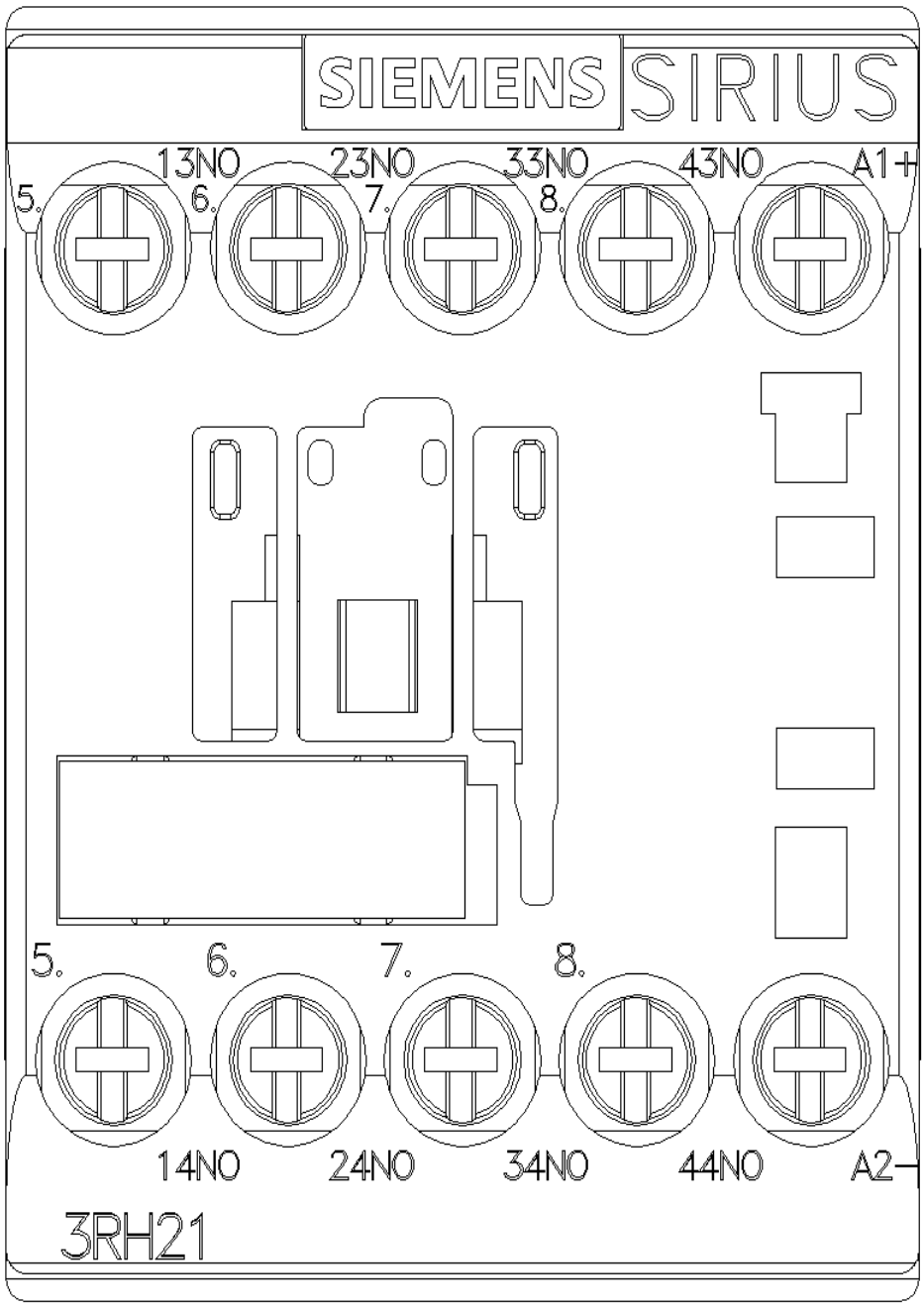
Environment

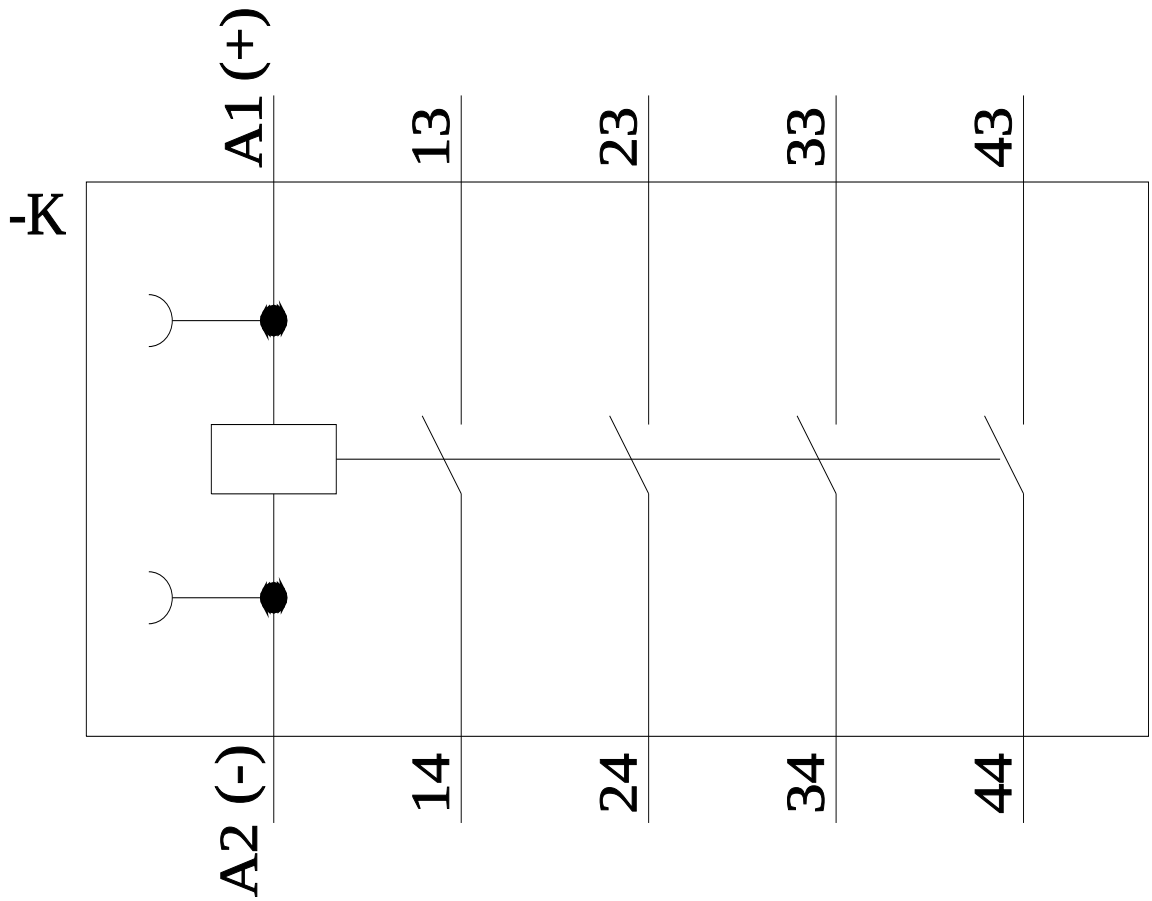
Environmental Confirmations

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=3RH2140-1BD40
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2140-1BD40
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1BD40
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2140-1BD40&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1BD40/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-1BD40&objecttype=14&gridview=view1







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