SIEMENS

Data sheet 3RH2122-2AV00



contactor relay, 2 NO + 2 NC, 400 V AC, 50/60 Hz, spring-loaded terminal, frame size $\rm S00$

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	1.43 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 AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 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
Weight	0.252 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 maximum	95 %
Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	49.2 kg
global warming potential [CO2 eq] during manufacturing	1.15 kg
global warming potential [CO2 eq] during operation	48.2 kg
global warming potential [CO2 eq] after end of life	-0.139 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	AC
control supply voltage at AC	
at 50 Hz rated value	400 V
at 60 Hz rated value	400 V
control supply voltage frequency	50 Hz
• 1 rated value	50 Hz
• 2 rated value	60 Hz
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	37 VA
inductive power factor with closing power of the coil	0.8
apparent holding power of magnet coil at AC	5.7 VA
inductive power factor with the holding power of the coil	0.25
closing delay	
• at AC	8 33 ms
opening delay	
• at AC	4 15 ms
arcing time	10 15 ms
Auxiliary circuit	10 10 III0
	2
number of NC contacts for auxiliary contacts	2
instantaneous contact number of NO contacts for auxiliary contacts	2
-	
instantaneous contact identification number and letter for quitabling elements	22 5
identification number and letter for switching elements	22 E
operational current at AC-12 maximum	10 A
operational current at AC-15	40.4
• 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	• • • • • • • • • • • • • • • • • • • •
operational current with 2 current paths in series at DC-13	

* at 22 V related value 10 A 13 A 11 O V railed value 13 A 13 A 14 O V railed value 13 A 13 A 14 O V railed value 13 A 14 O V railed value 13 A 14 O V railed value 14 O V railed value 14 O V railed value 15 O V railed value 16 O V railed value 17 O V railed value 18 O V		
** alt 10 V rated value	 at 24 V rated value 	10 A
• all 220 V rated value	 at 60 V rated value 	3.5 A
• at 460 V rated value	 at 110 V rated value 	1.3 A
a 16 00 V rated value	 at 220 V rated value 	0.9 A
a al 24 V rated value 4.7 A 4.7	• at 440 V rated value	0.2 A
10 A 2.4 × Irabid value 10 A 3.7 A 4.7 A 4	at 600 V rated value	0.1 A
10 A 2.4 × Irabid value 10 A 3.7 A 4.7 A 4	operational current with 3 current paths in series at DC-13	
• alt 10 V rated value	·	10 A
• al 110 V rated value		
• al 220 V rated value		
• al 440 Y rated value operating frequency at DC-13 maximum contact reliability of auxiliary contacts UCSA Aratings Contact rating of auxiliary contacts Contact rating of auxiliary contacts according to UL Short circuit protection of the auxiliary circuit breaker for short-circuit protection of the auxiliary circuit pot 230 V Installation muniting differentions mounting position ### AFB0* rotation possible on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting surface; can be titled forward and backward by +½ 2.25 °c on vertical mounting s		
• at 600 V rated value 0.26 A 1 000 f/s		
Operating frequency at DC-13 maximum 1 000 1/h 1 duity switching per 100 million (17 V.1 mA) 1 duity switching per 100		
USUESA ratings contact rating of auxiliary contacts according to UL A600 / Q600 Short-circuit protection design of the miniature circuit breaker for short-circuit protection of the auxiliary corticuit protection C characteristic: 10 A, 0.4 kA of the auxiliary circuit protection 4 × 180° rotation possible on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 4 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting surface; can be tilled forward and backward by 9 + 22.5° on vertical mounting policis 50 to 9 mining 9 to 9 t		
Stortect rating of auxiliary contacts according to U. A600 / C600		1 faulty switching per 100 million (17 V, 1 mA)
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V Installation/ mounting position statistical from mounting position fastening method height 70 mm width 45 mm depth 73 mm width 45 mm depth 73 mm required spacing • with side-by-side mounting — opwards — at the side — of orgrounded parts — of	UL/CSA ratings	
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of the auxiliary circuit up to 230 V Installation mounting of dimensions mounting position +/-180* rotation possible on vertical mounting surface; can be titled forward and backward by +/-2.25* on vertical mounting surface; can be titled forward and backward by +/-2.25* on vertical mounting surface; can be titled forward and backward by +/-2.25* on vertical mounting surface; can be titled forward and backward by +/-2.25* on vertical mounting surface. fastening method screw and snap-on mounting onto 35 mm DIN rail height 70 mm width side-by-side mounting 73 mm - forwards 10 mm - forwards 10 mm - downwards 10 mm - forwards 10 mm - at the side 6 mm - downwards 10 mm - downwards 20 mm - at the side 6 mm Connectable conductor for auxiliary and control circuit spring-loaded terminals type of electrical connection for auxiliary and control circuit <td>Short-circuit protection</td> <td></td>	Short-circuit protection	
Mounting position		C characteristic: 10 A; 0.4 kA
backward by 4+ 22.5° on vertical mounting surface screw and snap-on mounting onto 35 mm DIN rail height 70 mm width 45 mm depth 73 mm required spacing • with side-by-side mounting — forwards 10 mm — upwards 10 mm — of orwards 10 mm — of the side 6 mm — of mm — of the side 6 mm — of mm — of the side 10 mm — of orwards 10 mm — of the side 6 mm Connections/ Terminals type of electrical connection for auxiliary and control circuit 10 mm — of or auxiliary contacts 2x (0,5 4 mm²) — finely stranded with core end processing 2x (0,5 2,5 mm²) — finely stranded without core end processing 2x (0,5 2,5 mm²) — finely stranded without core end processing 2x (0,5 2,5 mm²) — for AVG cables for auxiliary contacts 2x (20 2,5 mm²) — for AVG cables for auxiliary contacts 2x (20 2,5 mm²) — of orwards 10 mm — opositively driven operation according to IEC 60947-5-1 40 yes suitability for use safety-related switching OFF 40 yes service life maximum 20 a with low demand rate according to SN 31920 40 yes with high demand rate according to SN 31920 40 yes with high demand rate according to SN 31920 40 yes with high demand rate according to SN 31920 40 yes with high demand rate according to SN 31920 40 yes	Installation/ mounting/ dimensions	
hoight 70 mm width 45 mm depth 73 mm required spacing ************************************	mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
width 45 mm depth 73 mm required spacing ************************************	fastening method	screw and snap-on mounting onto 35 mm DIN rail
required spacing • with side-by-side mounting - forwards - upwards - downwards - at the side - for grounded parts - forwards - lo mm • for grounded parts - lownwards - upwards - 10 mm - of mwards - upwards - 10 mm - at the side - downwards - 10 mm - at the side - downwards - 10 mm - at the side - downwards - to live parts - forwards - for live parts - forwards - upwards - 10 mm - at the side - downwards - 10 mm - to live parts - forwards - upwards - 10 mm - downwards - upwards - downwards - upwards - downwards - or live parts - for auxiliary and control circuit - type of connectable conductor cross-sections - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for AWG cables for auxiliary contacts - for for WG cables for auxiliary contacts - for for WG cables for auxiliary contacts - solid or stranded - finely stranded with core end processing - for for WG cables for auxiliary contacts - solid or stranded - finely stranded without core end processing - for for WG cables for auxiliary contacts - solid or stranded - finely stranded with core end processing - for for WG cables for auxiliary contacts - solid or stranded - finely stranded without core end processing - solid positive transported to the core end processing - for for wG cables for auxiliary contacts - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing - solid positive transported to the core end processing	height	70 mm
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- upwards 10 mm 10	· -	10 mm
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type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing — for AWG cables for auxiliary contacts 2x (0.5 4 mm²) — finely stranded without core end processing — for AWG cables for auxiliary contacts 2x (20 12) Safety related data product function • positively driven operation according to IEC 60947-5-1 • suitable for safety function yes suitability for use safety-related switching OFF yes service life maximum 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 73 %	— downwards	10 mm
type of electrical connection for auxiliary and control circuit type of connectable conductor cross-sections of or auxiliary contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing — finely stranded without core end processing of or AWG cables for auxiliary contacts 2x (0.5 2.5 mm²) 2x (0.5 2.5 mm²) 2x (20 12) Safety related data product function of positively driven operation according to IEC 60947-5-1 of suitable for safety function Yes suitability for use safety-related switching OFF yes service life maximum 20 a proportion of dangerous failures of with low demand rate according to SN 31920 of with high demand rate according to SN 31920 of with high demand rate according to SN 31920 of with low demand rate according to SN 31920 of with high demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920 of with low demand rate according to SN 31920	— at the side	6 mm
type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing — finely stranded without core end processing 2x (0.5 2.5 mm²) — finely stranded without core end processing 9	Connections/ Terminals	
type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing 2x (0.5 2.5 mm²) — finely stranded without core end processing 2x (0.5 2.5 mm²) • for AWG cables for auxiliary contacts 2x (20 12) Safety related data product function • 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 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 • with high demand rate according to SN 31920 73 %	type of electrical connection for auxiliary and control circuit	spring-loaded terminals
• for auxiliary contacts — solid or stranded — finely stranded with core end processing — finely stranded without core end processing • for AWG cables for auxiliary contacts 2x (0.5 2.5 mm²) 2x (20 12) Safety related data product function • 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 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 73 %	type of connectable conductor cross-sections	
- solid or stranded - finely stranded with core end processing - finely stranded without core end processing - finely stranded with core end processing - finely stranded - finely stranded with core end processing - finely stranded - finely stranded - finely stranded with core end processing - finely stranded - finely s	for auxiliary contacts	
- finely stranded with core end processing - finely stranded without core end processing 2x (0.5 2.5 mm²) 2x (20 12) Safety related data product function - 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 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 - 73 %	•	2x (0,5 4 mm²)
— finely stranded without core end processing • for AWG cables for auxiliary contacts 2x (0.5 2.5 mm²) 2x (20 12) Safety related data product function • 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 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 73 %		
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suitability for use safety-related switching OFF Service life maximum proportion of dangerous failures with low demand rate according to SN 31920 with high demand rate according to SN 31920 73 %		
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proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 73 %		
 with low demand rate according to SN 31920 with high demand rate according to SN 31920 73 % 		20 a
• with high demand rate according to SN 31920 73 %		
ů ů		
B10 value with high demand rate according to SN 31920 1 000 000; With 0.3 x le		
	B10 value with high demand rate according to SN 31920	1 000 000; With 0.3 x le

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









<u>KC</u>



EMV Functional Saftey Test Certificates Marine / Shipping



Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certific-





Marine / Shipping other











Miscellaneous

other Railway **Environment**

Confirmation

Special Test Certific-<u>ate</u>



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=3RH2122-2AV00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2122-2AV00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-2AV00

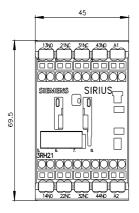
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

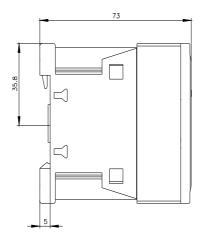
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2122-2AV00&lang=en

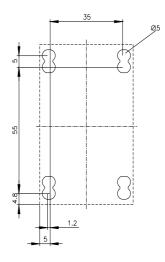
Characteristic: Tripping characteristics, I2t, Let-through current

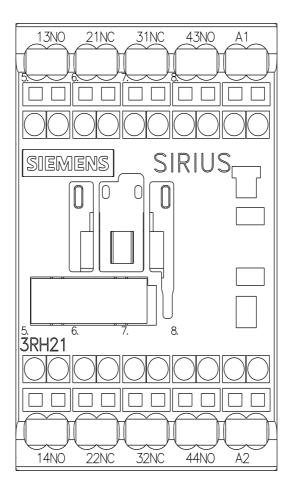
https://support.industry.siemens.com/cs/ww/en/ps/3RH2122-2AV00/char

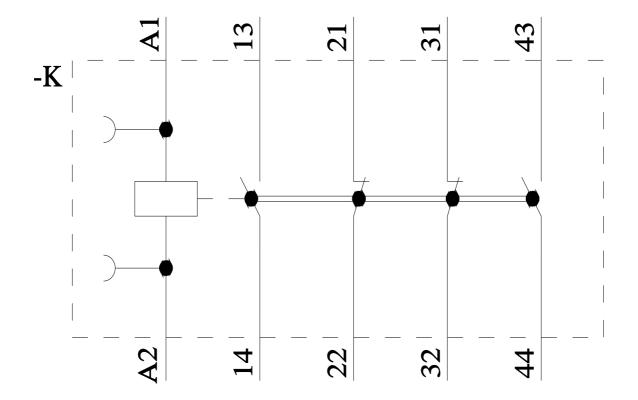
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2122-2AV00&objecttype=14&gridview=view1











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