SIEMENS

Data sheet 3RH2131-1AF00



Contactor relay, 3 NO + 1 NC, 110 V AC, 50 / 60 Hz, 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 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 (switching 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 %	
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	110 V	
• at 60 Hz rated value	110 V	
control supply voltage frequency		

• 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	
number of NC contacts for auxiliary contacts	1
instantaneous contact	1
number of NO contacts for auxiliary contacts	3
instantaneous contact	3
identification number and letter for switching elements	31 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	40.4
• at 24 V rated value	10 A
at 60 V rated value at 110 V rated value	10 A
at 110 V rated value at 220 V rated value	4 A
at 220 V rated value at 440 V rated value	2 A
at 600 V rated value	1.3 A 0.65 A
at 600 V rated value operational current with 3 current paths in series at DC-12	0.00 A
• at 24 V rated value	10 A
at 60 V rated value	10 A
at 100 V rated value 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 10 V rated value at 120 V rated value at 20 V rated value at 21 V rated value at 21 V rated value at 220 V rated v	100 1/4 1/4 1/4	0.5.4
and 220 V rated value and 600 V rated value control tractional current with 3 current paths in series at 0.2 A 0.1 A 0.1 A 0.2 A 0.1 A 0.2 A 0.1 A 0.2 A 0.1 A 0.3 C V rated value 0.4 A 0.6 C V rated value 0.5 A 0.6 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.6 A 0.7 C V rated value 0.6 A 0.7 C V rated value 0.7 A 0.8 C V rated value 0.8 A 0.9 C V rated value 0.1 C V rated value 0.2 A 0.3 C V rated value 0.4 A 0.5 A 0.6 A 0.7 C V rated value 0.5 A 0.7 C V rated value 0.8 A 0.9 C V rated value 0.9 A 0.0 V rated value 0.0 C V rated value 0.0 C V rated value 0.0 A 0.0 V rated value 0.0 C V rated va	at 60 V rated value	3.5 A
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poperational current with 3 current paths in series at DC-13 • at 24 V rated value • at 80 V rated value • at 110 V rated value • at 122 V rated value • at 150		
• at 24 V frated value • at 60 V frated value • at 60 V frated value • at 61 V frated value • at 62 V rated value • at 440 V rated value • operating frequency at DC-13 maximum		0.1 A
at 100 V rated value at 110 V rated value at 220 V rated value 1.2 A at 440 V rated value 2.3 A at 440 V rated value 2.5 A 3.6 A 3.7 A 3.7 A 3.8 A 3.8 A 3.9 A 3.0 A 3.		
at 110 V rated value at 220 V rated value at 440 V rated value 0.5 A 2.6 A 2.6 A 2.6 A 2.6 A 3.6 O V rated value 0.5 A 2.6 A 3.7 A 4.6 O V rated value 0.5 A 2.6 A 2.7 A 3.7 A 4.7 A 4.8 O V rated value 5. O V rated value 6. O V rated value 7. O V rated value rated rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rate according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 31920 8. With big demand rates according to SN 319	at 24 V rated value	10 A
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at 440 V rated value operating frequency at DC-13 maximum design of the miniature circuit breaker for short-circuit protection of the auxiliary contacts ULCSA ratings contact rating of auxiliary contacts ULCSA ratings contact rating of auxiliary contacts ULCSA ratings contact rating of auxiliary contacts occording to UL Short-circuit protection design of the use link for short-circuit protection of the auxiliary switch required Installation froumuting / dimensions mounting position 4-160" rotation possible on vertical mounting surface; can be tilted forward and backward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and sarpon mounting onto 35 mm standard mounting rail forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical mounting surface and believed forward and sackward by 4-2.25" on vertical	• at 110 V rated value	3 A
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- forwards - upwards - downwards - at the side Connections/ Terminals 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 • at AWG cables for auxiliary contacts 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) • at AWG cables for auxiliary contacts 2x (20 16), 2x (18 14), 2x 12 Safety related data B10 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to T1 value for proof test interval or service life according to 10 mm 10 mm 10 mm 10 mm 20 mm 10 mm 20 mm 20 value terminals 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (20 16), 2x (18 14), 2x 12 Safety related data B10 value with high demand rate according to SN 31920 • with low demand rate according to SN 31920 • with low demand rate according to SN 31920 1000 FIT 11 value for proof test interval or service life according to 20 y	— downwards	10 mm
- upwards - downwards - at the side Connections/ Terminals 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 • at AWG cables for auxiliary contacts B10 value with high demand rate according to SN 31920 • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 10 mm 10 mm 10 mm 6 mm 2x (co.s	• for live parts	
- downwards - at the side Connections/ Terminals 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 • at AWG cables for auxiliary contacts B10 value with high demand rate according to SN 31920 • with low demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to Connections/6 mm 8 of mm 6 mm 6 mm 2 crew-type terminals 5 crew-type terminals 6 crew-type termi	— forwards	10 mm
- at the side Connections/ Terminals 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 • at AWG cables for auxiliary contacts B10 value with high demand rate according to SN 31920 • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to O mm connectable connectable conductor screw-type terminals screw-type terminals 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm² 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14), 2x 12 Safety related data 1 000 000; With 0.3 x le proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 T1 value for proof test interval or service life according to 20 y	— upwards	10 mm
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 • at AWG cables for auxiliary contacts B10 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 20 y		
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 — solid or stranded — finely stranded with core end processing — at AWG cables for auxiliary contacts B10 value with high demand rate according to SN 31920 — with low demand rate according to SN 31920 — with high demand rate according to SN 31920 — with high demand rate according to SN 31920 Failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (20 16), 2x (18 14), 2x 12 1 000 000; With 0.3 x le 40 % 1 000 000; With 0.3 x le 1 000 000; With 0.3 x le 		
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 with low demand rate according to SN 31920 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 20 y 		1 000 000, Willi 0.3 x le
 with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 20 y 		40 %
failure rate [FIT] with low demand rate according to SN 31920 T1 value for proof test interval or service life according to 20 y		
T1 value for proof test interval or service life according to 20 y	failure rate [FIT] with low demand rate according to SN	
	T1 value for proof test interval or service life according to	20 y

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



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination
Certificate





Special Test Certificate Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping

other



Confirmation



Further information

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=3RH2131-1AF00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-1AF00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1AF00

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

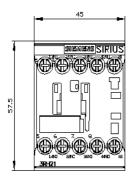
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2131-1AF00&lang=en

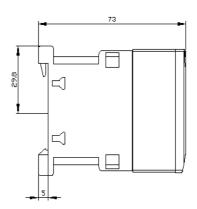
Characteristic: Tripping characteristics, I²t, Let-through current

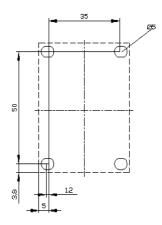
 $\underline{\text{https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-1AF00/char}}$

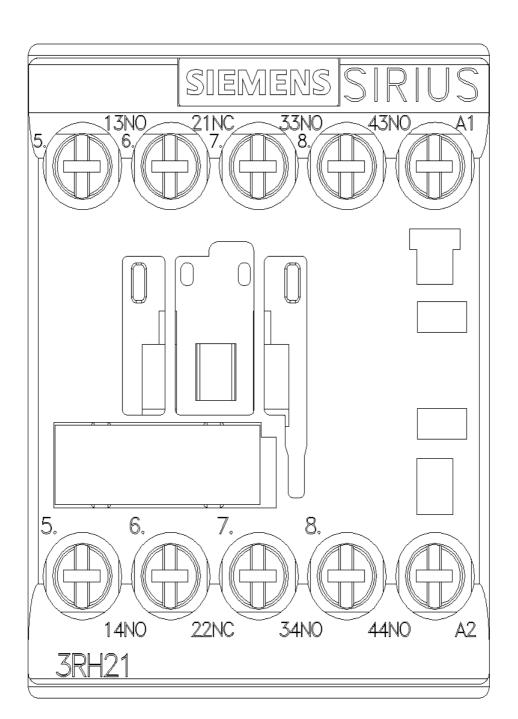
Further characteristics (e.g. electrical endurance, switching frequency)

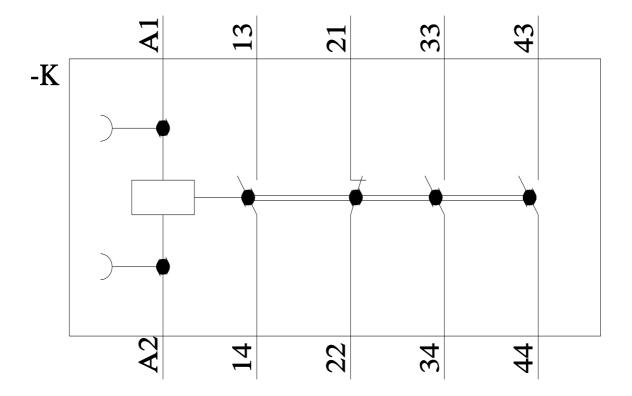
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-1AF00&objecttype=14&gridview=view1











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