SIEMENS

Data sheet 3RH2131-2BM40



Contactor relay, 3 NO + 1 NC, 220 V DC, Size S00, Spring-type terminal

product designation product type designation General technical data size of contactor product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value degree of pollution surge voltage resistance rated value shock resistance at rectangular impulse a to DC shock resistance with sine pulse a to DC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized aviliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation during storage relative humidity minimum relative h	product brand name	SIRIUS
product type designation General technical data size of contactor product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value degree of pollution surge voltage resistance rated value shock resistance at rectangular impulse at DC shock resistance with sine pulse at DC mechanical service life (operating cycles) of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block t	•	Auxiliary contactor
size of contactor product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value degree of pollution surge voltage resistance rated value shock resistance at rectangular impulse • at DC at DC shock resistance with sine pulse • at DC of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambilent temperature • during operation • during storage relative humidity minimum relative humidity at 155 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at Control circuit' Control type of voltage at DC • rated value operating range factor control supply voltage control supply voltage rated • initial value 0.8		
product extension auxiliary switch insulation voltage with degree of pollution 3 at AC rated value degree of pollution 3 surge voltage resistance rated value 50 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 shock resistance with sine pulse at DC 15g / 5 ms, 8g / 10 ms shock resistance with sine pulse at DC 15g / 5 ms, 8g / 10 ms shock resistance with sine pulse 5000 000 shock resistance with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical reference code according to IEC 81346-2 K Substance Prohibitance (Dato) 10//01/2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation 25 +60 °C 25 +60 °C 25 +80 °C 2	General technical data	
insulation voltage with degree of pollution surge voltage resistance rated value shock resistance at rectangular impulse • at DC shock resistance with sine pulse • at DC shock resistance with sine puls	size of contactor	S00
value degree of pollution surge voltage resistance rated value shock resistance at rectangular impulse • at DC • at DC mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block fypical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum • during operation • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC • at DC • ortrol circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value • initial value • initial value • initial value 0.8	product extension auxiliary switch	Yes
surge voltage resistance rated value shock resistance at rectangular impulse • at DC shock resistance with sine pulse • at DC mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during operation • during storage relative humidity minimum relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC or rated value • rated value operating range factor control supply voltage control supply voltage at DC • rated value • initial value 0.8		690 V
shock resistance at rectangular impulse at DC shock resistance with sine pulse at DC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 K Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of uring operation of uring storage relative humidity minimum relative humidity minimum relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency at AC at DC of the control supply voltage control supply voltage at DC orated value operating range factor control supply voltage rated value of magnet coil at DC onitial value 0.8	degree of pollution	3
at DC shock resistance with sine pulse at DC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency of at AC a	surge voltage resistance rated value	6 kV
shock resistance with sine pulse at DC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 K Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oluring operation during storage relative humidity minimum relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency at AC at DC orated value read value operating range factor control supply voltage rated value of magnet coil at DC initial value o.8	shock resistance at rectangular impulse	
at DC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 K Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring operation olduring operation olduring storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency old AC old AC old O00 1/h old O00 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC old rade value operating range factor control supply voltage rated value of magnet coil at DC old initial value 0.8	• at DC	10g / 5 ms, 5g / 10 ms
mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typi	shock resistance with sine pulse	
of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation ouring storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency at AC	• at DC	15g / 5 ms, 8g / 10 ms
of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation oduring storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency at AC at DC ontrol circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value of the contactor with added auxiliary switch block 10 000 000 10 000 000 10 000 000 10 000 00	mechanical service life (operating cycles)	
auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 K Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature oturing 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 Main circuit no-load switching frequency at AC 10 000 1/h at DC 10 000 1/h cat DC 220 V operating range factor control supply voltage rated value of magnet coil at DC initial value 0.8	 of contactor typical 	30 000 000
reference code according to IEC 81346-2 K Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 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 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 control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 0.8		5 000 000
Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 10/01/2009 2 000 m 2 000 m	· · · · · · · · · · · · · · · · · · ·	10 000 000
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 0.8	reference code according to IEC 81346-2	K
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 2 000 m 2 000 m	Substance Prohibitance (Date)	10/01/2009
ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value o during operation -25 +60 °C -55 +80 °C 10 % 95 % 95 % 10 000 1/h 10 000 1/h Coccording to IEC 60068-2-30 10 000 1/h 10 000 1/h Coccording to IEC 60068-2-30 10 000 1/h Coccording to IEC 60068-2-30 10 000 1/h 10 000 1/h Coccording to IEC 60068-2-30 10 000 1/h	Ambient conditions	
 during operation during storage 55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 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 control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value 0.8	installation altitude at height above sea level maximum	2 000 m
 during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency at AC at DC 10 000 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value 0.8	ambient temperature	
relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 10 % 95 % 95 % 10 000 1/h 10 000 1/h DC Control circuit/ Control 220 V 0.8	 during operation 	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit no-load switching frequency • at AC • at DC 10 000 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 0.8	during storage	-55 +80 °C
maximum Main circuit no-load switching frequency	relative humidity minimum	10 %
no-load switching frequency • at AC • at DC 10 000 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value 0.8		95 %
 at AC at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC	Main circuit	
 at AC at DC Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC	no-load switching frequency	
type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • initial value DC 220 V 0.8		10 000 1/h
type of voltage of the control supply voltage control supply voltage at DC • rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value operating value operating range factor control supply voltage rated value of magnet coil at DC operating value 0.8	• at DC	10 000 1/h
control supply voltage at DC	Control circuit/ Control	
control supply voltage at DC	type of voltage of the control supply voltage	DC
 rated value operating range factor control supply voltage rated value of magnet coil at DC initial value 220 ∨ 0.8 		
value of magnet coil at DC ● initial value 0.8	rated value	220 V
	• initial value	0.8
• full-scale value 1.1	• 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	4 VV
• at DC	30 100 ms
opening delay	30 100 ms
• at DC	7 13 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	40.4
• 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 at 600 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 at 60 V rated value	10 A
at 60 V rated valueat 110 V rated value	10 A 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	0.00 A
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 at 600 V rated value	0.14 A
 at 600 V rated value operational current with 2 current paths in series at DC-13 	0.1 A
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

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

contact reliability of auxiliary contacts

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	70 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	spring-loaded terminals
type of connectable conductor cross-sections	
 for auxiliary contacts 	
— solid or stranded	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)
at AWG cables for auxiliary contacts	2x (20 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 le

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

T1 value for proof test interval or service life according to

IEC 61508 protection class IP on the front according to IEC

touch protection on the front according to IEC 60529

1 000 000; With 0.3 x le

40 % 73 %

100 FIT

20 a

IP20

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

Railway

Dangerous Good

Environment



Confirmation



Vibration and Shock

<u>Transport Information</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=3RH2131-2BM40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-2BM40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2BM40

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

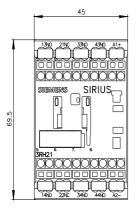
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2131-2BM40&lang=en

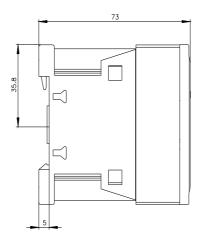
Characteristic: Tripping characteristics, I2t, Let-through current

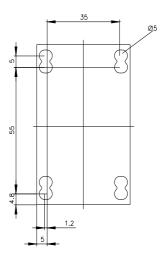
https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2BM40/char

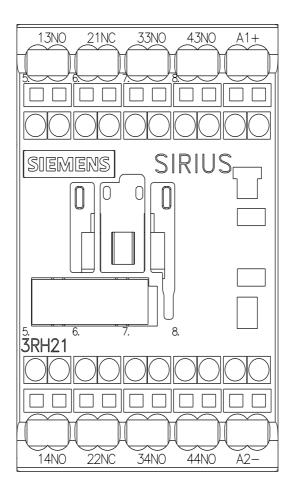
Further characteristics (e.g. electrical endurance, switching frequency)

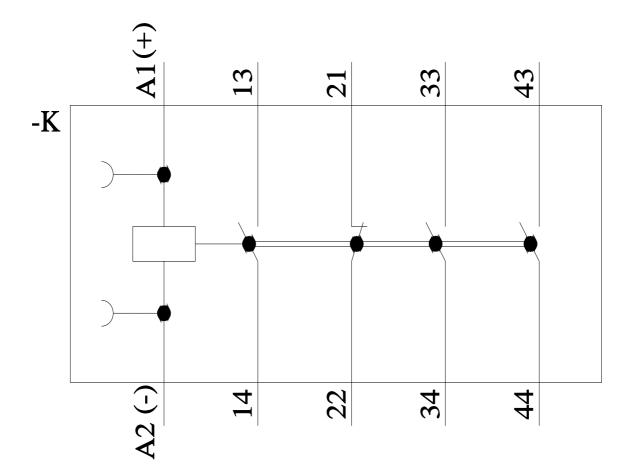
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-2BM40&objecttype=14&gridview=view1











last modified: 11/21/2022 🖸