SIEMENS

Data sheet 3RH2140-1AM20



Contactor relay, 4 NO, 208 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 (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	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	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	AC	
control supply voltage at AC		
 at 50 Hz rated value 	208 V	
 at 60 Hz rated value 	208 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	0 00 III0
• at AC	4 15 ms
arcing time	10 15 ms
Auxiliary circuit	10 111 10 1110
number of NO contacts for auxiliary contacts	4
instantaneous contact	4
identification number and letter for switching	40 E
elements	
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 at 440 V rated value	1 A 0.3 A
 at 440 V rated value at 600 V rated value 	0.15 A
operational current with 2 current paths in series at	0.15 A
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 Operating frequency at DC-12 maximum.	1.8 A 1 000 1/h
operating frequency at DC-12 maximum operational current at 1 current path at DC-13	1 000 1/11
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 E i v ratou valuo	

• 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	C characteristic: 6 A; 0.4 kA
protection of the auxiliary circuit up to 230 V	4 faulty quitables non-400 million (47.)/ 4 ma)
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	A600 / O600
contact rating of auxiliary contacts according to UL Short-circuit protection	A600 / Q600
	f 14.0.40A
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	10 111111
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
	0 111111
Connections/ Terminals	
type of electrical connection for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• for auxiliary contacts	2v /0 F
— 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)
at AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12
Safety related data product function positively driven operation according to	Yes
IEC 60947-5-1	4 000 000 W// 0 0
B10 value with high demand rate according to SN 31920	1 000 000; With 0.3 x le
proportion of dangerous failures	40.04
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920	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



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





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

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping

other

Railway



Confirmation



Vibration and Shock

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=3RH2140-1AM20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2140-1AM20

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

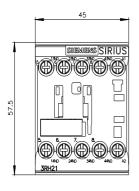
https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1AM20

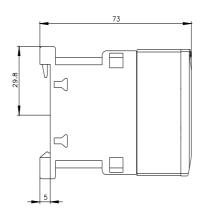
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax de.aspx?mlfb=3RH2140-1AM20&lang=en

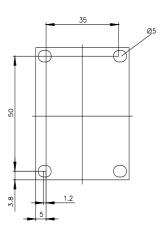
Characteristic: Tripping characteristics, I2t, Let-through current

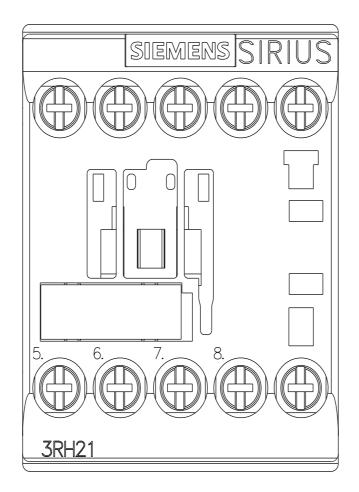
https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1AM20/char

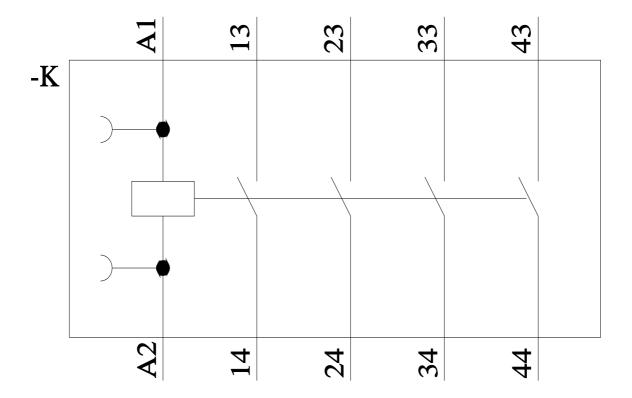
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-1AM20&objecttype=14&gridview=view1











last modified: 11/21/2022 🖸