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	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 acc. to IEC 81346-2	K		
Substance Prohibitance (Date)	01.10.2009 00:00:00		
Ambient conditions			
installation altitude at height above sea level maximum	2 000 m		
 ambient temperature during operation 	-25 +60 °C		
ambient temperature during storage	-55 +80 °C		
Main circuit			
no-load switching frequency			
• at AC	10 000 1/h		
- of DC			
● at DC	10 000 1/h		
Control circuit/ Control	10 000 1/h		
	10 000 1/h AC		
Control circuit/ Control			
Control circuit/ Control type of voltage of the control supply voltage			
type of voltage of the control supply voltage control supply voltage at AC	AC		
type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value	AC 208 V		
control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value	AC 208 V		

operating range factor control supply voltage rated value of magnet coil at AC 0.8		
apparent pick-up power of magnet coil at AC inductive power factor with closing power of the coil apparent holding power of magnet coil at AC inductive power factor with the holding power of the coil apparent holding power of magnet coil at AC inductive power factor with the holding power of the coil closing delay	value of magnet coil at AC	
apparent plck-up power of magnet coll at AC 10 10 10 10 10 10 10 1	● at 50 Hz	0.8 1.1
Inductive power factor with closing power of the coil apparent holding power of magnet coil at AC coils inductive power factor with the holding power of the coil coils inductive power factor with the holding power of the coil coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with the holding power of the coils coils inductive power factor with a coils	• at 60 Hz	0.85 1.1
apparent holding power of magnet coll at AC 0.25	apparent pick-up power of magnet coil at AC	37 V·A
Inductive power factor with the holding power of the coil	inductive power factor with closing power of the coil	0.8
Coloring delay	apparent holding power of magnet coil at AC	5.7 V·A
e at AC		0.25
opening delay	closing delay	
Auxiliary circuit	• at AC	8 33 ms
Auxiliary circuit	opening delay	
Auxiliary circuit	• at AC	
Number of NO contacts for auxiliary contacts 4 • instantaneous contact 4 • instantaneous current at AC-12 maximum 10 • instantaneous current at AC-15 3 • instantaneous current at AC-16 3 • instantaneous current at AC-18 3 • instantaneous current at AC-19 3 • instan	arcing time	10 15 ms
inistantaneous contact dentification number and letter for switching elements	Auxiliary circuit	
Identification number and letter for switching elements	number of NO contacts for auxiliary contacts	4
Operational current at AC-12 maximum 10 A 10	instantaneous contact	4
0		40 E
at 230 V rated value	operational current at AC-12 maximum	10 A
at 400 V rated value at 500 V rated value at 690 V rated value at 690 V rated value operational current at 1 current path at DC-12 at 24 V rated value at 110 V rated value at 220 V rated value at 600 V rated value at 220 V rated value at 220 V rated value at 220 V rated value at 600 V rated		
	at 230 V rated value	10 A
• at 690 V rated value 10 A 10	• at 400 V rated value	3 A
Operational current at 1 current path at DC-12 • at 24 V rated value	at 500 V rated value	2 A
at 24 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 440 V rated value at 600 V rated value at 100 V rated value at 100 V rated value at 100 V rated value at 220 V rated value at 440 V rated value at 240 V rated value at 600 V rated value at 440 V rated value at 600 V rated value at 440 V rated value at 600 V rated value at 220 V rated value at 600 V rated value at 220 V rated value at 220 V rated value at 220 V rated value at 600 V rated value	at 690 V rated value	1 A
at 110 V rated value at 420 V rated value at 600 V rated value at 220 V rated value at 600 V rated value at 110 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 460 V rated value at 440 V rated value at 4500 V rated value at 460 V rated value at 460 V rated value at 440 V rated value at 600 V rated value at 110 V rated value at 600 V rated value at 220 V rated value at 220 V rated value at 400 V rated value at 400 V rated value at 400 V rated value at 600 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 220 V rated value at 440 V rated value at 650 V rated	operational current at 1 current path at DC-12	
at 220 V rated value at 440 V rated value at 600 V rated value operational current with 2 current paths in series at DC-12 at 24 V rated value at 110 V rated value at 110 V rated value at 440 V rated value at 440 V rated value at 600 V rated value at 140 V rated value at 440 V rated value at 600 V rated value at 220 V rated value at 220 V rated value at 220 V rated value at 100 A at 220 V rated value at 440 V rated value at 600 V rated value at 220 V vated value at 220 V vated value at 440 V rated value at 600 V rated value	at 24 V rated value	10 A
	 at 110 V rated value 	3 A
• at 600 V rated value operational current with 2 current paths in series at DC-12 • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value • at 440 V rated value • at 60 V rated value • at 440 V rated value • at 460 V rated value • at 460 V rated value • at 4600 V rated value • at 600 V rated value • at 440 V rated value • at 600 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value	 at 220 V rated value 	1 A
operational current with 2 current paths in series at DC-12 • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value • at 220 V rated value • at 60 V rated value • at 220 V rated value • at 220 V rated value • at 110 V rated value • at 110 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 35 A	 at 440 V rated value 	0.3 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 0.65 A operational current with 3 current paths in series at DC-12 0.65 A operational current with 3 current paths in series at DC-12 10 A • at 24 V rated value 10 A • at 60 V rated value 10 A • at 110 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 1 A • at 220 V rated value 0.3 A • at 440 V rated value 0.3 A • at 440 V rated value 0.1 A • at 600 V rated value 0.1 A • at 24 V rated value 0.1 A	at 600 V rated value	0.15 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 440 V rated value at 600 V rated value o.65 A operational current with 3 current paths in series at DC-12 at 24 V rated value at 60 V rated value at 110 V rated value at 110 V rated value at 220 V rated value at 220 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 20 V rated value at 40 V rated value at 60 V rated value at 60 V rated value at 24 V rated value at 60 V rated value 3.5 A 		
 at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value operational current with 3 current paths in series at DC-12 at 24 V rated value at 60 V rated value at 110 V rated value at 210 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 440 V rated value at 450 V rated value at 400 V rated value at 400 V rated value at 250 V rated value at 200 V rated value at 200 V rated value at 24 V rated value at 440 V rated value at 440 V rated value at 400 V rated value at 600 V rated value at 24 V rated value	 at 24 V rated value 	10 A
 at 220 V rated value at 440 V rated value at 600 V rated value 0.65 A Operational current with 3 current paths in series at DC-12 at 24 V rated value at 60 V rated value at 110 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 440 V rated value at 240 V rated value at 24 V rated value at 600 V rated value at 24 V rated val	 at 60 V rated value 	10 A
 at 440 V rated value at 600 V rated value 0.65 A operational current with 3 current paths in series at DC-12 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 24 V rated value at 24 V rated value at 24 V rated value at 220 V rated value at 24 V rated value at 440 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 24 V rated value 3.5 A 	 at 110 V rated value 	4 A
• at 600 V rated value operational current with 3 current paths in series at DC-12 • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value • at 600 V rated value • at 440 V rated value • at 600 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 110 V rated value • at 440 V rated value • at 600 V rated value • 3.5 A	at 220 V rated value	2 A
operational current with 3 current paths in series at DC-12 • at 24 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value • at 24 V rated value • at 24 V rated value • at 24 V rated value • at 220 V rated value • at 300 V rated value • at 440 V rated value • at 440 V rated value • at 24 V rated value • at 440 V rated value • at 440 V rated value • at 440 V rated value • at 600 V rated value • at 60 V rated value • 3.5 A	 at 440 V rated value 	1.3 A
DC-12	at 600 V rated value	0.65 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 600 V rated value 1.8 A operating frequency at DC-12 maximum operational current at 1 current path at DC-13 at 24 V rated value at 110 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 24 V rated value at 60 V rated value 		
 at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value 1.8 A operating frequency at DC-12 maximum operational current at 1 current path at DC-13 at 24 V rated value at 110 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 600 V rated value at 600 V rated value at 24 V rated value at 60 V rated value at 60 V rated value at 60 V rated value 	at 24 V rated value	10 A
 at 220 V rated value at 440 V rated value at 600 V rated value 1.8 A operating frequency at DC-12 maximum operational current at 1 current path at DC-13 at 24 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value oat 600 V rated value oat 24 V rated value oat 600 V rated value oat 3 A oat 600 V rated value oat 24 V rated value 	 at 60 V rated value 	10 A
 at 440 V rated value 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 at 110 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 600 V rated value on 1 A Operational current with 2 current paths in series at DC-13 at 24 V rated value at 25 A 	at 110 V rated value	10 A
 at 600 V rated value operating frequency at DC-12 maximum 1 000 1/h operational current at 1 current path at DC-13 at 24 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value operational current with 2 current paths in series at DC-13 at 24 V rated value at 24 V rated value at 26 V rated value at 27 V rated value at 28 V rated value at 29 V rated value at 20 V rated value at 24 V rated value at 24 V rated value at 60 V rated value at 60 V rated value 3.5 A 	 at 220 V rated value 	3.6 A
operating frequency at DC-12 maximum operational current at 1 current path at DC-13 • at 24 V rated value • at 110 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value operational current with 2 current paths in series at DC-13 • at 24 V rated value • at 60 V rated value 10 A operational current with 2 current paths in series at DC-13 • at 24 V rated value 10 A 3.5 A	• at 440 V rated value	2.5 A
operational current at 1 current path at DC-13 • at 24 V rated value • at 110 V rated value • at 220 V rated value • at 440 V rated value • at 600 V rated value • at 600 V rated value • at 24 V rated value • at 60 V rated value • 3.5 A	at 600 V rated value	1.8 A
 at 24 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value operational current with 2 current paths in series at DC-13 at 24 V rated value at 60 V rated value at 60 V rated value 3.5 A 	operating frequency at DC-12 maximum	1 000 1/h
 at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value operational current with 2 current paths in series at DC-13 at 24 V rated value at 60 V rated value 3.5 A 		
at 220 V rated value at 440 V rated value at 600 V rated value operational current with 2 current paths in series at DC-13 at 24 V rated value at 60 V rated value at 60 V rated value 3.5 A	at 24 V rated value	
at 440 V rated value at 600 V rated value On 1 A operational current with 2 current paths in series at DC-13 at 24 V rated value at 60 V rated value 3.5 A		
at 600 V rated value operational current with 2 current paths in series at DC-13 at 24 V rated value at 60 V rated value at 60 V rated value 3.5 A		
operational current with 2 current paths in series at DC-13 • at 24 V rated value • at 60 V rated value 3.5 A		
DC-13 ● at 24 V rated value 10 A ● at 60 V rated value 3.5 A		0.1 A
• at 60 V rated value 3.5 A		
	 at 24 V rated value 	10 A
at 110 V rated value 1.3 A	 at 60 V rated value 	3.5 A
11071		1 2 A
• at 220 V rated value 0.9 A	at 110 V rated value	1.5 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	40.0
• 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
factoning method	forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail 57.5 mm
height	
width	45 mm
depth	73 mm
required spacing	
with side-by-side mounting forwards	10 mm
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	40
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	40
— 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	0 (0 5 4 5 2) 0 (0 5 5 2 5 2)
— 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	
B10 value with high demand rate acc. to SN 31920	1 000 000; With 0.3 x le
proportion of dangerous failures	40.07
with low demand rate acc. to SN 31920	40 %
• with high demand rate acc. to SN 31920	73 %
failure rate [FIT] with low demand rate acc. to SN 31920 product function positively driven operation acc. to IEC	100 FIT Yes
60947-5-1 T1 value for proof test interval or service life acc. to	20 y
IEC 61508	,

protection class IP on the front acc. to IEC 60529

IP20

touch protection on the front acc. to IEC 60529

finger-safe, for vertical contact from the front

Certificates/ approvals

General Product Approval















Declaration of Conformity

Test Certificates

Marine / Shipping

Miscellaneous



Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping











Confirmation

other

other



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=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

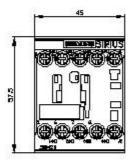
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

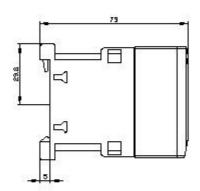
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2140-1AM20&lang=en

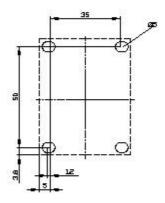
Characteristic: Tripping characteristics, I2t, Let-through current

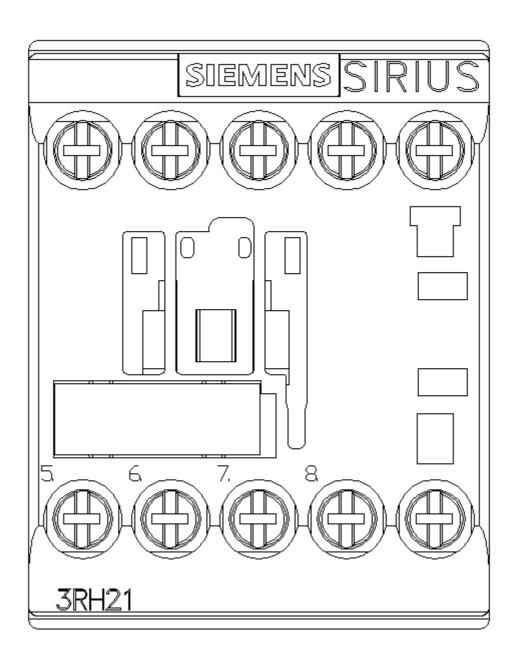
https://support.industry.siemens.com/cs/ww/en/ps/3RH2140-1AM20/char

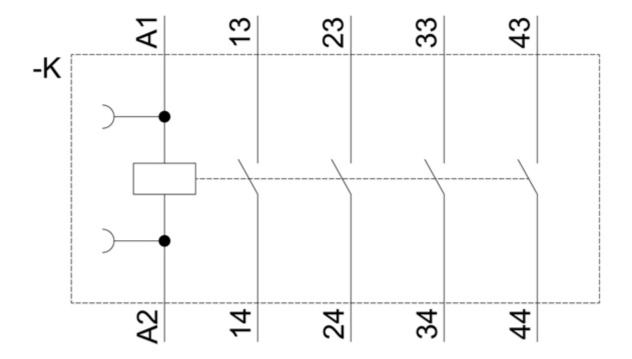
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2140-1AM20&objecttype=14&gridview=view1











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