

Contactor relay for railway, 3 NO, 110 V DC, 0.7 ... 1.25* US, with integrated varistor, 3-pole, integrated, Size S00, Spring-type terminal



Product brand name	SIRIUS
Product designation	Auxiliary contactor
Product type designation	3RH2
General technical data	
Size of contactor	S00
Product extension	
• Auxiliary switch	No
Insulation voltage	
• with degree of pollution 3 rated value	690 V
Degree of pollution	3
Surge voltage resistance rated value	6 kV
Protection class IP	
• on the front	IP20
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
Mechanical service life (switching cycles)	
• of contactor typical	30 000 000

<ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical 	5 000 000
<ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical 	10 000 000
Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-40 ... +70 °C
<ul style="list-style-type: none"> • during storage 	-55 ... +80 °C

Main circuit

No-load switching frequency	
<ul style="list-style-type: none"> • at AC 	10 000 1/h
<ul style="list-style-type: none"> • at DC 	10 000 1/h

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	110 V
Operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value 	0.7
<ul style="list-style-type: none"> • Full-scale value 	1.25
Design of the surge suppressor	with varistor
Closing power of magnet coil at DC	13 W
Holding power of magnet coil at DC	4 W
Closing delay	
<ul style="list-style-type: none"> • at DC 	30 ... 100 ms
Opening delay	
<ul style="list-style-type: none"> • at DC 	7 ... 13 ms
Arcing time	10 ... 15 ms

Auxiliary circuit

Number of NO contacts for auxiliary contacts	3
<ul style="list-style-type: none"> • instantaneous contact 	3
Identification number and letter for switching elements	30
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value 	10 A
<ul style="list-style-type: none"> • at 400 V rated value 	3 A

<ul style="list-style-type: none"> • at 500 V rated value • at 690 V rated value 	2 A 1 A
Operating current at 1 current path at DC-12 <ul style="list-style-type: none"> • 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 	10 A 3 A 1 A 0.3 A 0.15 A
Operating current with 2 current paths in series at DC-12 <ul style="list-style-type: none"> • 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 	10 A 10 A 4 A 2 A 1.3 A 0.65 A
Operating current with 3 current paths in series at DC-12 <ul style="list-style-type: none"> • 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 	10 A 10 A 10 A 3.6 A 2.5 A 1.8 A
Operating frequency at DC-12 maximum	1 000 1/h
Operating current at 1 current path at DC-13 <ul style="list-style-type: none"> • 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 	10 A 1 A 0.3 A 0.14 A 0.1 A
Operating current with 2 current paths in series at DC-13 <ul style="list-style-type: none"> • 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 	10 A 3.5 A 1.3 A 0.9 A 0.2 A 0.1 A
Operating current with 3 current paths in series at DC-13 <ul style="list-style-type: none"> • at 24 V rated value 	10 A

<ul style="list-style-type: none"> • 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 	<p>4.7 A</p> <p>3 A</p> <p>1.2 A</p> <p>0.5 A</p> <p>0.26 A</p>
Operating frequency at DC-13 maximum	1 000 1/h
Design of the miniature circuit breaker	C characteristic: 6 A; 0.4 kA
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary circuit up to 230 V 	
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
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Short-circuit protection

Design of the fuse link	fuse gL/gG: 10 A
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	

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
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail
Height	70 mm
Width	45 mm
Depth	116 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	
<ul style="list-style-type: none"> — forwards 	
<ul style="list-style-type: none"> — upwards 	
<ul style="list-style-type: none"> — downwards 	
<ul style="list-style-type: none"> — at the side 	
<ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards 	
<ul style="list-style-type: none"> — forwards 	
<ul style="list-style-type: none"> — upwards 	
<ul style="list-style-type: none"> — at the side 	
<ul style="list-style-type: none"> — downwards 	
<ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side 	
<ul style="list-style-type: none"> — forwards 	
<ul style="list-style-type: none"> — upwards 	
<ul style="list-style-type: none"> — downwards 	
<ul style="list-style-type: none"> — at the side 	

Connections/ Terminals

Type of electrical connection	
<ul style="list-style-type: none"> • for auxiliary and control current circuit 	spring-loaded terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for auxiliary contacts 	2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12)

Safety related data

B10 value	
<ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 	1 000 000; With 0.3 x I _e
Proportion of dangerous failures	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 	40 % 73 %
Failure rate [FIT]	
<ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 	100 FIT
Product function	
<ul style="list-style-type: none"> • positively driven operation acc. to IEC 60947-5-1 	Yes
T1 value for proof test interval or service life acc. to IEC 61508	20 y

Certificates/ approvals

General Product Approval	EMC
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[KC](#)



Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Type Examination Certificate](#)



[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping



other	Railway
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[Confirmation](#)



[Vibration and Shock](#)

[Special Test Certificate](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RH2131-2LF40-0LA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RH2131-2LF40-0LA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2LF40-0LA0>

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

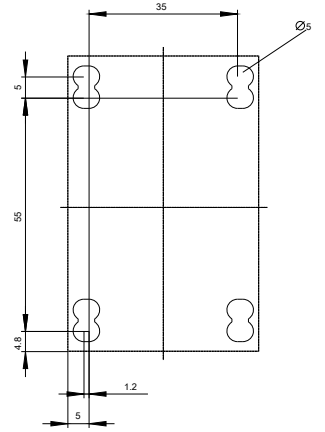
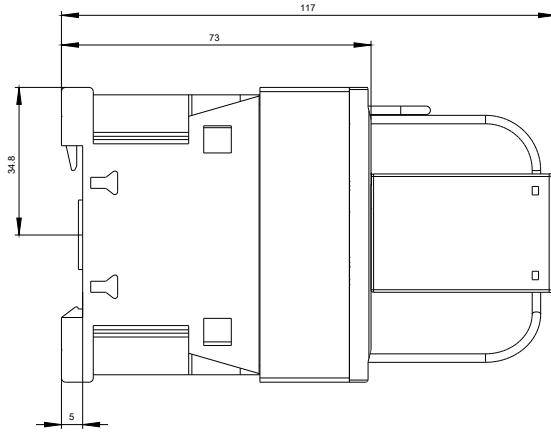
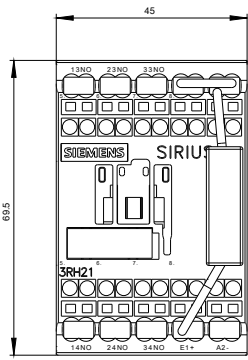
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RH2131-2LF40-0LA0&lang=en

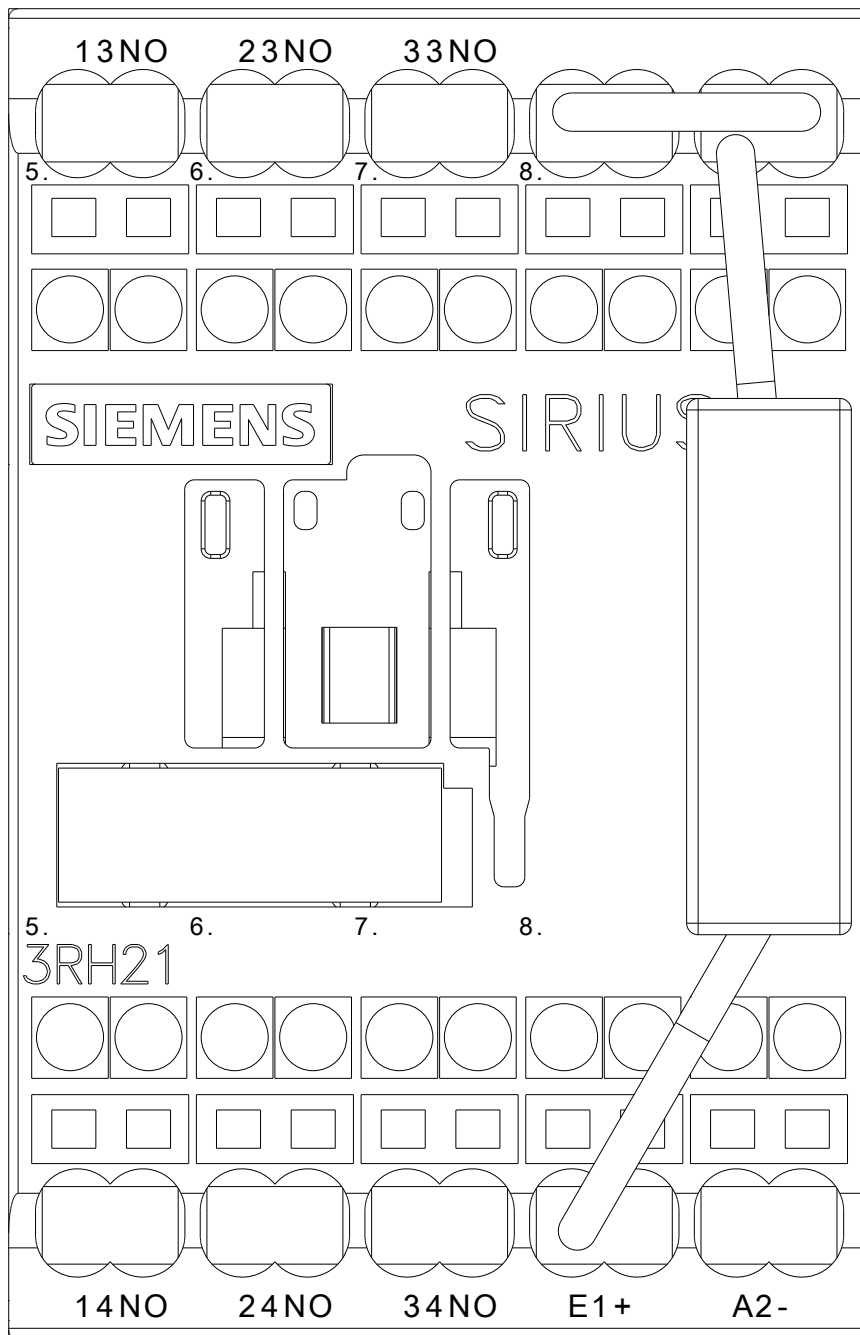
Characteristic: Tripping characteristics, I²t, Let-through current

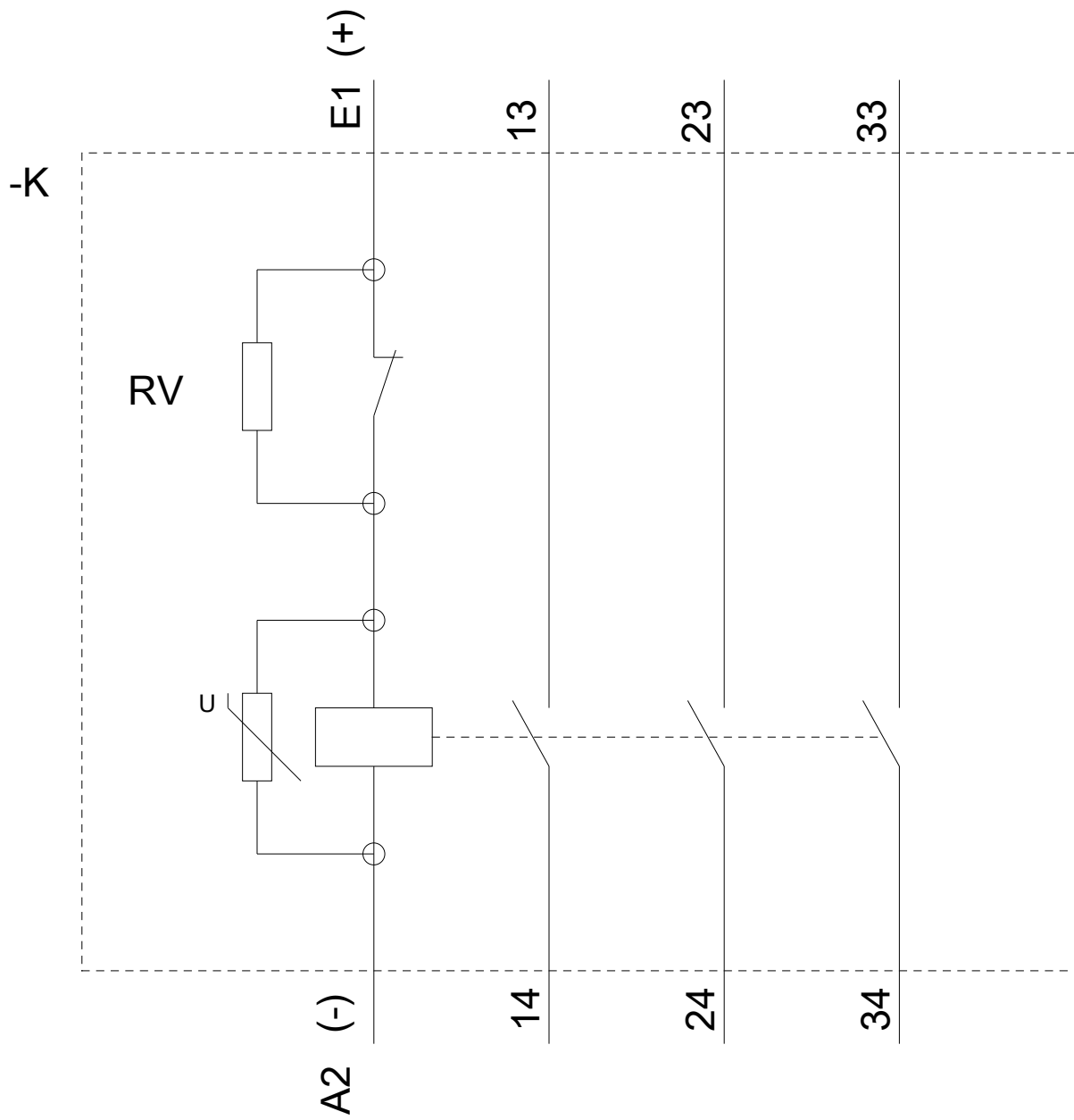
<https://support.industry.siemens.com/cs/ww/en/ps/3RH2131-2LF40-0LA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RH2131-2LF40-0LA0&objecttype=14&gridview=view1>







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