SIEMENS

Data sheet

3RU2146-4HB0



Overload relay 36...50 A Thermal For motor protection Size S3, Class 10 Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset

product brand name SIRIUS product designation thermal overload relay product type designation 3RU2 General technical data size of overload relay size of overload relay S3 size of contactor can be combined company-specific S3 power loss (W) for related value of the current at AC in hot operating state 5.1 W • per pole 5.1 W insultation voltage with degree of pollution 3 at AC rated value 1000 V surge voltage resistance rated value 8 kV maximum permissible voltage for protective separation 440 V • in networks with grounded star point between auxiliary and auxiliary circuit 440 V • in networks with grounded star point between main and auxiliary circuit 440 V • in networks with grounded star point between main and auxiliary circuit 440 V • an networks with grounded star point between main and auxiliary circuit 440 V • an networks with approunded star point between auxiliary 440 V • an networks with approunded star point between main and auxiliary circuit 530/td> shock resistance according to IEC 61346-2 F Substance Prohibitance (Date) 03/01/2017		
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 in networks with ungrounded star point between auxiliary and auxiliary circuit in networks with grounded star point between auxiliary and auxiliary circuit in networks with ungrounded star point between main and auxiliary circuit in networks with grounded star point between main and auxiliary circuit in networks with grounded star point between main and auxiliary circuit in networks with grounded star point between main and auxiliary circuit shock resistance according to IEC 60068-2-27 8g / 11 ms reference code according to IEC 81346-2 F Substance Prohibitance (Date) 03/01/2017 SVHC substance name Lead - 7439-92-1 Weight 0.544 kg Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature during operation 40 +70 °C during storage -55 +80 °C during transport -55 +80 °C temperature compensation 40 +60 °C relative humidity during operation 10 95 % 	surge voltage resistance rated value	8 kV
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Substance Prohibitance (Date) 03/01/2017 SVHC substance name Lead - 7439-92-1 Weight 0.544 kg Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -40 +70 °C • during operation -40 +70 °C • during storage -55 +80 °C • during transport -55 +80 °C relative humidity during operation -40 +60 °C	shock resistance according to IEC 60068-2-27	8g / 11 ms
SVHC substance name Lead - 7439-92-1 Weight 0.544 kg Ambient conditions 2000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -40 +70 °C • during operation -40 +70 °C • during storage -55 +80 °C • during transport -55 +80 °C relative humidity during operation -40 +60 °C temperature compensation 10 95 %	reference code according to IEC 81346-2	F
Weight 0.544 kg Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature 2 000 m o during operation -40 +70 °C o during storage -55 +80 °C o during transport -55 +80 °C temperature compensation -40 +60 °C relative humidity during operation 10 95 %	Substance Prohibitance (Date)	03/01/2017
Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -40 +70 °C • during operation -40 +70 °C • during storage -55 +80 °C • during transport -55 +80 °C temperature compensation -40 +60 °C relative humidity during operation 10 95 %	SVHC substance name	Lead - 7439-92-1
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• during operation -40 +70 °C • during storage -55 +80 °C • during transport -55 +80 °C • temperature compensation -40 +60 °C relative humidity during operation 10 95 %	installation altitude at height above sea level maximum	2 000 m
• during storage -55 +80 °C • during transport -55 +80 °C temperature compensation -40 +60 °C relative humidity during operation 10 95 %	ambient temperature	
• during transport -55 +80 °C temperature compensation -40 +60 °C relative humidity during operation 10 95 %	during operation	-40 +70 °C
temperature compensation -40 +60 °C relative humidity during operation 10 95 %	during storage	-55 +80 °C
relative humidity during operation 10 95 %	during transport	-55 +80 °C
	temperature compensation	-40 +60 °C
Main circuit	relative humidity during operation	10 95 %
	Main circuit	
number of poles for main current circuit 3	number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release36 50 A		36 50 A
operating voltage	operating voltage	
rated value 1 000 V	rated value	1 000 V
• at AC-3e rated value maximum 1 000 V	 at AC-3e rated value maximum 	1 000 V
operating frequency rated value 50 60 Hz	operating frequency rated value	50 60 Hz
operational current rated value 50 A	operational current rated value	50 A

an arational surrout at AC 2s at 400 V rated value	50.4
operational current at AC-3e at 400 V rated value	50 A
operating power	
• at AC-3	
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
• at AC-3e	
— at 400 V rated value	22 kW
— at 500 V rated value	30 kW
— at 690 V rated value	45 kW
Auxiliary circuit	
design of the auxiliary switch	integrated
number of NC contacts for auxiliary contacts	1
note	for contactor disconnection
number of NO contacts for auxiliary contacts	1
• note	for message "Tripped"
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
• at 24 V	3 A
● at 110 V	3 A
● at 120 V	3 A
● at 125 V	3 A
• at 230 V	2 A
• at 400 V	1 A
• at 690 V	0.75 A
operational current of auxiliary contacts at DC-13	
• at 24 V	2 A
• at 60 V	0.3 A
• at 110 V	0.22 A
• at 125 V	0.22 A
• at 220 V	0.11 A
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required	6A (SCC less than equal to 0.5 kA; U less than equal to 260V)
contact rating of auxiliary contacts according to UL	B600 / R300
Protective and monitoring functions	
trip class	CLASS 10
design of the overload release	thermal
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	40 A
• at 600 V rated value	41 A
Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	
- with type of coordination 1 required	690 V: gG: 160 A; 1000 V: a.M. / g.B.: 125 A
- with type of assignment 2 required	690 V: gG: 125 A; 1000 V: a.M. / g.B.: 125 A
 for short-circuit protection of the auxiliary switch required 	fuse gG: 6 A, quick: 10 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	Contactor mounting
height	105 mm
width	70 mm
depth	125 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	No
type of electrical connection	
for main current circuit	screw-type terminals
 for auxiliary and control circuit 	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom

	onductor cross-sectior	าร			
 for main contacts 	3				
— solid			2x (2.5 16 mm²)		
- stranded			2x (6 16 mm²), 2x (10 50 mm²), 1x (10 70 mm²)		
— solid or stra	anded		2x (2,5 50 mm²), 1x (10 70 mm²)		
— finely strand	ded with core end proces	ssing	2x (2.5 35 mm ²), 1x (2.5 50 mm ²)		
 for AWG cables 	for main contacts		2x (10 1/0), 1x (10 2/0)		
type of connectable c	onductor cross-sectior	าร			
 for auxiliary containing 	acts				
— solid or stra			2x (0.5 1.5 mm²), 2x (0.7	75 2.5 mm²)	
— finely stranded with core end processing		2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
for AWG cables for auxiliary contacts		2x (20 16), 2x (18 14)			
tightening torque					
for main contacts for ring cable lug		4.5 6 N·m			
outer diameter of the usable ring cable lug maximum		19 m			
tightening torque					
 for main contacts with screw-type terminals 		4.5 6 N·m			
	acts with screw-type tern	ninals	0.8 1.2 N·m		
design of screwdriver			Hexagonal socket		
size of the screwdrive	•		4 mm hexagon socket		
-	of the connection screw	V	140		
for main contacts			M8		
	nd control contacts		M3		
IEC 61508					
 for proof test inte 61508 	erval or service life accore	ding to IEC	20 a		
Electrical Safety					
	the front according to	IEC 60529	IP20		
-	he front according to IE		finger-safe, for vertical cor	tact from the front	
Display			iniger care, for vortical cor		
display version for swite	ching status		Slide switch		
Approvals Certificates	J				
General Product App	roval				
IK	((Confirmatio		ŝ	r M F
	CE		(\mathbf{m})	(ŸL)	FHI
CA			\smile	\sim	
	EG-Konf.		CCC	UL UL	
_	EG-Konf.		ccc	02	
_	EG-Konf.		ccc	UL UL	
For use in hazardous		Test Certificat		Marine / Shipping	
For use in hazardous			es		
For use in hazardous		Special Test Ce	es ertific- <u>Type Test Certific</u>	-	
For use in hazardous			es	-	
For use in hazardous		Special Test Ce	es ertific- <u>Type Test Certific</u>	-	
IECEx		Special Test Ce	es ertific- <u>Type Test Certific</u>	-	
IECEx		Special Test Ce	es ertific- <u>Type Test Certific</u>	-	B U RE AU VERITAS
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IECEX		Special Test Ce	es ertific- <u>Type Test Certific</u>	-	other
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IECEx Marine / Shipping	Iocations	Special Test Ce	es ertific- <u>Type Test Certific</u>	-	other
IECEx Marine / Shipping	Iocations	Special Test Ce	es ertific- <u>Type Test Certific</u>	-	other
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IECEx Marine / Shipping IÉCEX Marine / Shipping IECEX Marine / Shipping IECEX Marine / Shipping	Iocations	Special Test Ce ate	es ertific- Type Test Certific ates/Test Report	-	other
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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=3RU2146-4HB0

nups.//mail.industry.siemens.com/mail/en/Catalog/product?milb=3R02146-

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4HB0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4HB0

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4HB0&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

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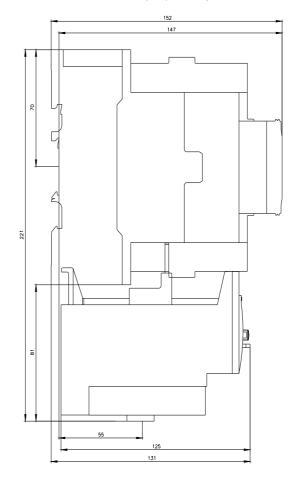
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6/T3

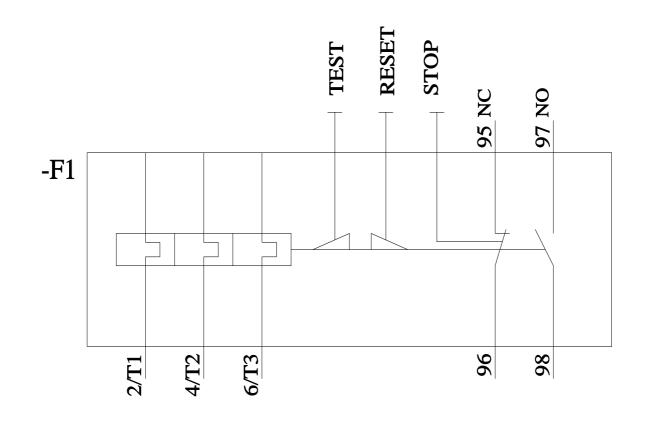
https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4HB0/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4HB0&objecttype=14&gridview=view1



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