## **SIEMENS**

Data sheet 3RU2136-4GB0



Overload relay 36...45 A Thermal For motor protection Size S2, 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	S2
size of contactor can be combined company-specific	S2
power loss [W] for rated value of the current at AC in hot operating state	15.6 W
• per pole	5.2 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul> <li>in networks with ungrounded star point between auxiliary and auxiliary circuit</li> </ul>	415 V
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	415 V
<ul> <li>in networks with ungrounded star point between main and auxiliary circuit</li> </ul>	690 V
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	690 V
shock resistance according to IEC 60068-2-27	8g / 11 ms
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	10/15/2014
SVHC substance name	Lead - 7439-92-1
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-40 +70 °C
during storage	-55 +80 °C
during transport	-55 +80 °C
temperature compensation	-40 +60 °C
relative humidity during operation	10 95 %
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current- dependent overload release	36 45 A
operating voltage	
rated value	690 V
at AC-3e rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	45 A
operational current at AC-3e at 400 V rated value	45 A

operating power		
	operating power	
at 500 V rated value at 600 V rated value at	• at AC-3	
■ at AC-3e     ■ at 400 V rated value     ■ at 500 V rated value     ■ at 600 V rated value	— at 400 V rated value	22 kW
• at AC-3e     — at 400 V rated value     — at 500 V rated value     — at 400 V at 50 v rated value     — at 120 V     — at 120 V     — at 200 V     — at 1210 V     — at 500 V     — at 120 V     — at 300 V     — at 1410 V     — at 500 V     — at 500 V     — at 200 V     — at 400 V     — at 200 V     — at 400 V     — at 500 V     — a	— at 500 V rated value	30 kW
	— at 690 V rated value	37 kW
- at 500 V rated value	• at AC-3e	
Auxiliary circuit design of the auxiliary switch   Integrated	— at 400 V rated value	22 kW
Auxiliary circuit  design of the auxiliary switch	— at 500 V rated value	30 kW
design of the auxiliary switch number of NC contacts for auxiliary contacts	— at 690 V rated value	37 kW
number of NC contacts for auxillary contacts	Auxiliary circuit	
number of NO contacts for auxiliary contacts	design of the auxiliary switch	integrated
number of NO contacts for auxiliary contacts  • note  • note  number of CO contacts for auxiliary contacts  • at 24 V 3  • at 110 V 3 A  • at 110 V 3 A  • at 120 V 3 A  • at 25 V 2 A  • at 400 V 1A  • at 600 V  • at 24 V 2 A  • at 400 V 1A  • at 24 V 2 A  • at 300 V 0  • at 24 V 2 A  • at 400 V 1A  • at 25 V 0  • at 400 V 0  • at 150 V 0  • at 25 V 0  • at 24 V 1A  • at 25 V 0  • at 26 V 1A  • at 27 V 1A  • at 28 V 1A  • at 29 V 1A  • at 29 V 1A  • at 20 V 1A	number of NC contacts for auxiliary contacts	1
note     number of CO contacts for auxiliary contacts     operational current of auxiliary contacts at AC-15     at 24 V     at 110 V     3 A     at 1120 V     3 A     at 125 V     at 230 V     at 125 V     at 690 V     operational current of auxiliary contacts at DC-13     at 1690 V     operational current of auxiliary contacts at DC-13     at 160 V     at 160 V     at 175	• note	for contactor disconnection
number of CO contacts for auxillary contacts at AC-15 e at 24 V e at 110 V e at 120 V e at 125 V e at 230 V e at 120 V e at 680 V e at 120 V e at 680 V e at 680 V e at 680 V e at 110 V e at 680 V e at 680 V e at 680 V e at 680 V e at 110 V e at 680 V e at 110 V e at 680 V e at 680 V e at 125 V e at 220 V e at 125 V e at 220 V e at 220 V e at 125 V e at 220 V e	number of NO contacts for auxiliary contacts	1
operational current of auxiliary contacts at AC-15  at 24 V  at 110 V  at 120 V  at 120 V  at 120 V  at 120 V  at 400 V  at 400 V  at 680 V  operational current of auxiliary contacts at DC-13  at 24 V  at 680 V  at 100 V  at 110 V  at 110 V  at 110 V  at 120 V  at 110 V  at 110 V  at 120 V  besign of the ministure circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL  protective and monitoring functions  trip class  design of the overload release  thermal  ULCSA ratings  full-load current (FLA) for 3-phase AC motor  at 480 V rated value  at 480 V rated value  45 A  Short-circuit protection  design of the fuse link  for short-circuit protection the auxiliary switch required fuse for short-circuit protection any fastening method  heating of the fuse link  for short-circuit protection of the auxiliary switch required fuse fination any fastening method  height  90 mm  width  55 mm  Connections/ Torminals  product component removable terminal for auxiliary and control circuit  type of electrical connection	• note	for message "Tripped"
at 124 V   at 110 V   3 A	number of CO contacts for auxiliary contacts	0
at 110 V at 120 V at 125 V at 125 V at 230 V at 230 V bat 400 V at 400 V operational current of auxiliary contacts at DC-13 at 24 V at 600 V at 110 V at 110 V at 125 V at 125 V at 120 V at 110 V at 110 V at 120 V besign of the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL besign of the overload release  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 450 V rated value at 600 V rated	operational current of auxiliary contacts at AC-15	
at 120 V at 125 V at 230 V at 230 V at 400 V 1 A at 690 V 0,75 A  operational current of auxiliary contacts at DC-13 at 124 V at 60 V at 110 V 0,22 A at 110 V 0,22 A at 125 V 0,11 A  design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL Protective and monitoring functions trip class design of the overload release tul-CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 800 V rated value 45 A Short-circuit protection design of the fuse link for short-circuit protection of the auxiliary switch required fuse liable for the fuse link for short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A Installation/ mounting/ dimensions mounting position mounting position fastening method height vidth 55 mm depth Connections/ Torminals product component removable terminal for auxiliary and control circuit type of electrical connection	•	3 A
at 120 V at 125 V at 230 V at 230 V at 400 V 1 A at 690 V 0,75 A  operational current of auxiliary contacts at DC-13 at 124 V at 60 V at 110 V 0,22 A at 110 V 0,22 A at 125 V 0,11 A  design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL Protective and monitoring functions trip class design of the overload release tul-CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 800 V rated value 45 A Short-circuit protection design of the fuse link for short-circuit protection of the auxiliary switch required fuse liable for the fuse link for short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A Installation/ mounting/ dimensions mounting position mounting position fastening method height vidth 55 mm depth Connections/ Torminals product component removable terminal for auxiliary and control circuit type of electrical connection		
at 125 V at 2A at 24 O at 400 V at 690 V 0.75 A  operational current of auxiliary contacts at DC-13  at 24 V 2 A at 60 V at 110 V 0.22 A at 110 V 0.22 A at 125 V 0.22 A beliq for the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL CSA ratings  UL/CSA ratings  UL/CSA ratings  UL/CSA ratings  UL/CSA ratings  UL/CSA ratings  Short-circuit protection of the auxiliary switch required at 480 V rated value 45 A at 600 V rated value 45 A short-circuit protection of the auxiliary switch required  Usesign of the fuse link for short-circuit protection of the auxiliary switch required fastening method Contact mounting/ dimensions  mounting position fastening method Contactor mounting height 90 mm width 65 mm depth Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection		
at 230 V at 4800 V beta 1500 V coperational current of auxiliary contacts at DC-13  at 24 V at 690 V coperational current of auxiliary contacts at DC-13  at 24 V at 160 V cot 22 A at 110 V cot 22 A at 1125 V cot 22 A at 125 V cot 22 A at 125 V cot 22 A cot 20 V cot 22 A cot 22 A cot 20 V c		
at 400 V at 890 V operational current of auxiliary contacts at DC-13 at 24 V at 60 V other states of the sum		
at 690 V operational current of auxiliary contacts at DC-13  at 24 V at 60 V other for short-circuit protection of the auxiliary contacts according to UL  rotective and monitoring functions  trip class design of the overload release thermal  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value		
operational current of auxiliary contacts at DC-13  • at 24 V • at 60 V • at 110 V • at 125 V • at 125 V • at 220 V • at		
at 24 V at 60 V at 110 V at 1110 V at 125 V at 1220 V beta 1220 V design of the ministure circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL  Protective and monitoring functions  trip class class CLASS 10 design of the overload release UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value beta 600 V rated value at 600 V rated value at 600 V rated value contact in protection  design of the fuse link fuse gG: 6 A, quick: 10 A  Installation/ mounting/ dimensions  mounting position any fastening method Contactor mounting height beta 65 mm depth Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection		0.73 A
at 110 V at 110 V at 125 V at 220 V design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL  Protective and monitoring functions trip class design of the overload release UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value 45 A short-circuit protection  design of the fuse link of or short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A Installation/ mounting/ dimensions mounting position fastening method height q90 mm width depth Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection	•	2 ^
at 110 V at 125 V at 125 V at 220 V at		
at 125 V at 220 V at		
at 220 V design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required contact rating of auxiliary contacts according to UL  B600 / R300  Protective and monitoring functions trip class design of the overload release UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value 45 A Short-circuit protection  design of the fuse link of or short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A  Installation/ mounting/ dimensions mounting position fastening method height width 55 mm  Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection		
design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required  contact rating of auxiliary contacts according to UL  Protective and monitoring functions  trip class  design of the overload release  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value • at 600 V rated value • for short-circuit protection  design of the fuse link • for short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A  Installation/ mounting/ dimensions  mounting position fastening method height  vidth depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection		
of the auxiliary switch required  contact rating of auxiliary contacts according to UL  Protective and monitoring functions  trip class  CLASS 10  design of the overload release  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  45 A  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A  Installation/ mounting/ dimensions  mounting position  fastening method  Contactor mounting  height  90 mm  width  55 mm  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		
trip class	of the auxiliary switch required	bA (SCC less than equal to 0.5 kA; 0 less than equal to 260V)
trip class  design of the overload release  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  • at 600 V rated value  design of the fuse link • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  width  for any  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		B600 / R300
design of the overload release  ULI/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value  • at 600 V rated value  * for short-circuit protection  design of the fuse link • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position  fastening method  height  90 mm  width  55 mm  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection	Protective and monitoring functions	
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value 45 A  Short-circuit protection  design of the fuse link • 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 90 mm  width depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection	trip class	CLASS 10
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value 45 A  Short-circuit protection  design of the fuse link • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position any fastening method Contactor mounting height 90 mm width 55 mm depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection		thermal
at 480 V rated value at 600 V rated value 45 A  Short-circuit protection  design of the fuse link  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position any fastening method Contactor mounting height 90 mm width 55 mm depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection	UL/CSA ratings	
at 600 V rated value  Short-circuit protection  design of the fuse link     of or short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position     fastening method     Contactor mounting height     90 mm width     55 mm depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection  45 A  45 A  45 A  45 A  45 A  45 A  A  A  A  A  A  A  A  A  A  A  A  A	full-load current (FLA) for 3-phase AC motor	
Short-circuit protection  design of the fuse link  • 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 90 mm width 55 mm depth 55 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection	at 480 V rated value	45 A
design of the fuse link	<ul> <li>at 600 V rated value</li> </ul>	45 A
● for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions  mounting position	Short-circuit protection	
Installation/ mounting/ dimensions mounting position fastening method Contactor mounting height 90 mm width 55 mm depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection	design of the fuse link	
mounting position fastening method Contactor mounting height 90 mm width 55 mm depth 105 mm  Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection	• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A, quick: 10 A
mounting position fastening method Contactor mounting height 90 mm width 55 mm depth 105 mm  Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection	Installation/ mounting/ dimensions	
fastening method  height  90 mm  width  55 mm  depth  105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		any
height 90 mm  width 55 mm  depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		•
width 55 mm  depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		
depth 105 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		
Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection		
product component removable terminal for auxiliary and control circuit  type of electrical connection		
type of electrical connection	product component removable terminal for auxiliary and	No
• 101 main current circuit screw-type terminals		access to the control of the control
for qualitary and control piperit		
• for auxiliary and control circuit screw-type terminals	· · · · · · · · · · · · · · · · · · ·	**
arrangement of electrical connectors for main current circuit		lop and bottom
type of connectable conductor cross-sections	type of connectable conductor cross-sections	
• for main contacts		
— solid or stranded 2x (1 35 mm²), 1x (1 50 mm²)	for main contacts	
— finely stranded with core end processing 2x (1 25 mm²), 1x (1 35 mm²)		2x (1 35 mm²), 1x (1 50 mm²)

<ul> <li>for AWG cables for main contacts</li> </ul>	2x (18 2), 1x (18 1)
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul><li>— solid or stranded</li></ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14)
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	3 4.5 N·m
<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
design of screwdriver shaft	Diameter 5 6 mm
size of the screwdriver tip	Pozidriv PZ 2
design of the thread of the connection screw	
<ul> <li>for main contacts</li> </ul>	M6
of the auxiliary and control contacts	M3
IEC 61508	
T1 value	
for proof test interval or service life according to IEC 61508	20 a
Electrical Safety	
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
Display	
display version for switching status	Slide switch
Approvals Certificates	
General Product Approval	







Confirmation





For use in hazardous locations Test Certificates Marine / Shipping







Miscellaneous

Type Test Certificates/Test Report

Special Test Certificate



## Marine / Shipping













other Railway Environment

<u>Confirmation</u> <u>Special Test Certificate</u>



Environmental Confirmations

## urther 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=3RU2136-4GB0

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RU2136-4GB0}$ 

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

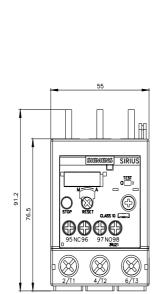
https://support.industry.siemens.com/cs/ww/en/ps/3RU2136-4GB0

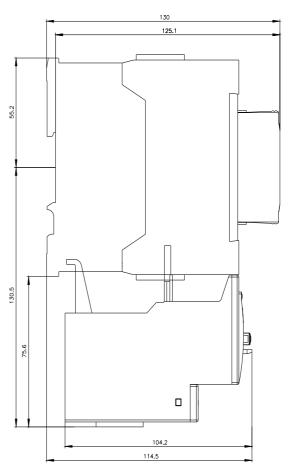
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax">http://www.automation.siemens.com/bilddb/cax</a> de.aspx?mlfb=3RU2136-4GB0&lang=en

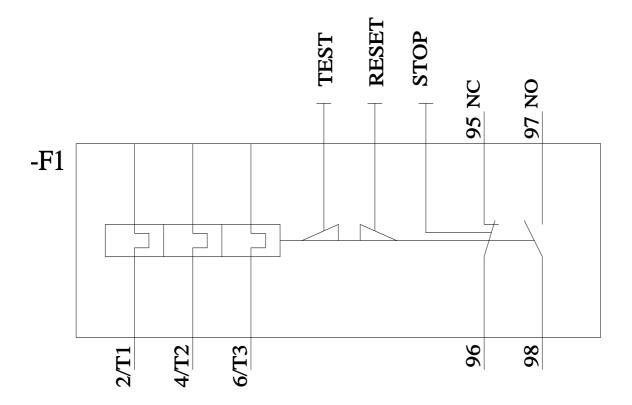
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RU2136-4GB0/c

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2136-4GB0&objecttype=14&gridview=view1







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