## **SIEMENS**

Data sheet 3RU2116-1HB0

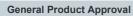


Overload relay 5.5...8.0 A Thermal For motor protection Size S00, Class 10 Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset

product brand name	SIRIUS
product designation	thermal overload relay
product type designation	3RU2
General technical data	
size of overload relay	S00
size of contactor can be combined company-specific	S00
power loss [W] for rated value of the current at AC in hot operating state	6.6 W
• per pole	2.2 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>	440 V
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	440 V
<ul> <li>in networks with ungrounded star point between main and auxiliary circuit</li> </ul>	440 V
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	440 V
shock resistance according to IEC 60068-2-27	8g / 11 ms
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.159 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-40 +70 °C
<ul> <li>during storage</li> </ul>	-55 +80 °C
during transport	-55 +80 °C
temperature compensation	-40 +60 °C
relative humidity during operation	10 95 %
Environmental footprint	
Global Warming Potential [CO2 eq] total	39.9 kg
Global Warming Potential [CO2 eq] during manufacturing	0.921 kg
global warming potential [CO2 eq] during sales	0.039 kg
Global Warming Potential [CO2 eq] during operation	39 kg
Global Warming Potential [CO2 eq] after end of life	-0.015 kg
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-	5.5 8 A

Particle Value		
erated value   each value   e	dependent overload release	
e. at AC-3er tated value maximum   690 V   90		
	rated value	690 V
	at AC-3e rated value maximum	690 V
Operating power	operating frequency rated value	50 60 Hz
and AC-3	operational current rated value	8 A
	operational current at AC-3e at 400 V rated value	8 A
- at 800 V rated value	operating power	
	• at AC-3	
at 800 V rated value	— at 400 V rated value	3 kW
	— at 500 V rated value	4 kW
	— at 690 V rated value	5.5 kW
	• at AC-3e	
Auxiliary circuit	— at 400 V rated value	3 kW
Auxiliary circuit  design of the auxillary switch number of NC contacts for auxillary contacts * note note note note note note note note	— at 500 V rated value	4 kW
Auxiliary circuit  design of the auxillary switch number of NC contacts for auxillary contacts * note note note note note note note note	— at 690 V rated value	5.5 kW
design of the auxiliary switch   integrated   number of NC contacts for auxiliary contacts   1		
number of NC contacts for auxiliary contacts		integrated
number of NO contacts for auxiliary contacts		
number of NO contacts for auxiliary contacts   for message Tripped*	-	
• note   for message "Tripped"   number of CO contacts for auxiliary contacts   0		
number of CO contacts for auxillary contacts operational current of auxillary contacts at AC-15  at 24 V at 110 V 3 A at 120 V 3 A at 230 V at 240 V 2 A at 400 V 0 A operational current of auxillary contacts at DC-13  at 24 V at 600 V 0 A at 600 V 0 A at 120 V A at 120 V A at 600 V A A A A A A A A A A A A A A A A A A A	· · · · · · · · · · · · · · · · · · ·	
Operational current of auxiliary contacts at AC-15		•
at 24 V   at 110 V   3 A   at 110 V   3 A   at 1120 V   3 A   at 1125 V   3 A   at 125 V   3 A   at 1230 V   2 A   at 1230 V   2 A   at 1240 V   at 900 V   0.75 A   at 125 V   3 A   at 125 V   4 A   at 900 V   0.75 A   at 120 V   0.22 A   at 110 V   0.22 A   at 110 V   0.22 A   at 125 V   0.2	•	
• at 110 V   3 A	•	3 A
• at 120 V   3 A		
• at 125 ∨		
at 230 V   at 400 V   1 A   A   A   A   A   A   A   A   A		
1 A   0.75		
■ at 690 V   0.75 A		
at 24 V at 60 V at 110 V at 125 V at 125 V at 22 A at 125 V at 22 V contact rating of auxiliary contacts according to UL contact rating of auxiliary according to UL contact rating of auxiliary according to UL contact rating of auxiliary according to UL contact rating 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 any fastening method height for mm width depth 76 mm control circuit videt component removable terminal for auxiliary and control circuit vipe of electrical connection of or main current circuit of or auxiliary and control circuit screw-type terminals		
at 24 V at 60 V at 110 V at 110 V 22 A at 125 V at 220 V 0.11 A  contact rating of auxiliary contacts according to UL B600 / R300  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 at 600 V rated value b 6 A at 600 V rated value b 7 or short-circuit protection  design of the fuse link for short-circuit protection of the auxiliary switch required mounting position fastening method Contactor mounting height for mounting the fuse link for short-circuit protection of the auxiliary switch required fuse gG: 6 A, quick: 10 A  any fastening method Contactor mounting height for mm width for mm width for mm control circuit for experiments  product component removable terminal for auxiliary and control circuit e for main current circuit e for auxiliary and control circuit e screw-type terminals		0.75 A
• at 60 V • at 110 V • at 110 V • at 125 V • at 125 V • at 220 V 0.11 A  contact rating of auxiliary contacts according to UL  B600 / R300  Protective and monitoring functions  trip class  CLASS 10  design of the overload release  thermal  JUL/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  for short-circuit protection  depth  76 mm  width 45 mm  depth  Connections/ Terminals  product component removable terminal for auxiliary and control circuit • for auxiliary and control circuit • for main current circuit • for auxiliary and control circuit	•	
• at 110 V • at 125 V • at 125 V • at 220 V 0.11 A  contact rating of auxiliary contacts according to UL 8600 / R300  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 • 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 Contactor mounting height vidth 45 mm  depth Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit  screw-type terminals  • for auxiliary and control circuit • for auxiliary and control circuit • for auxiliary and control circuit		
• at 125 V • at 220 V 0.11 A  contact rating of auxiliary contacts according to UL B600 / R300  Protective and monitoring functions  trip class	• at 60 V	
e at 220 V contact rating of auxiliary contacts according to UL B600 / R300  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		
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 45 mm  depth Connections/ Terminals  product component removable terminal for auxiliary and control circuit  of or auxiliary and control circuit screw-type terminals  for auxiliary and control circuit screw-type terminals  screw-type terminals	● at 125 V	0.22 A
trip class CLASS 10  design of the overload release thermal  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor	• at 220 V	0.11 A
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 • for short-circuit protection  design of the fuse link • for an auxiliary switch required for auxiliary and control circuit  type of electrical connection  • for auxiliary and control circuit  type of electrical connection  • for auxiliary and control circuit • for auxiliary and control circuit  • for auxiliary and control circuit	<u> </u>	B600 / R300
design of the overload release  ULI-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 Contactor mounting width depth 76 mm  Width 45 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection • for main current circuit • for auxiliary and control circuit  • for auxiliary and control circuit  • for auxiliary and control circuit  screw-type terminals	Protective and monitoring functions	
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value • at 600 V rated value 8 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  width 45 mm  depth Connections/ Terminals  Product component removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit  • for auxiliary and control circuit • for auxiliary and control circuit  • for auxiliary and control circuit  • for auxiliary and control circuit  • screw-type terminals	trip class	CLASS 10
full-load current (FLA) for 3-phase AC motor	design of the overload release	thermal
at 480 V rated value at 600 V rated value  besign of the fuse link a for short-circuit protection  design of the fuse link a 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 76 mm width 45 mm depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection at 600 V rated value at 8 A  8 A  8 A  8 A  8 A  8 A  8 A  8 A	UL/CSA ratings	
at 600 V rated value  Short-circuit protection  design of the fuse link     of r 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 76 mm  width 45 mm  depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection     of or main current circuit     of or auxiliary and control circuit  screw-type terminals  screw-type terminals	full-load current (FLA) for 3-phase AC motor	
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 76 mm  width 45 mm  depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit • for auxiliary and control circuit  • for auxiliary and control circuit  • for auxiliary and control circuit screw-type terminals	• at 480 V rated value	8 A
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 76 mm  width 45 mm  depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit • for auxiliary and control circuit  • for auxiliary and control circuit  screw-type terminals	• at 600 V rated value	8 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     76 mm  width     45 mm  depth     70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection     • for main current circuit     • for auxiliary and control circuit      • for auxiliary and control circuit     screw-type terminals	Short-circuit protection	
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     76 mm  width     45 mm  depth     70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection     • for main current circuit     • for auxiliary and control circuit      • for auxiliary and control circuit     screw-type terminals	design of the fuse link	
mounting position any fastening method Contactor mounting height 76 mm width 45 mm depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit type of electrical connection  • for main current circuit • for auxiliary and control circuit  • for auxiliary and control circuit  screw-type terminals		fuse gG: 6 A, quick: 10 A
mounting position fastening method Contactor mounting height 76 mm width 45 mm depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection • for main current circuit • for auxiliary and control circuit  screw-type terminals • for auxiliary and control circuit  screw-type terminals	Installation/ mounting/ dimensions	
fastening method  height  76 mm  45 mm  depth  70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  screw-type terminals  • for auxiliary and control circuit  screw-type terminals		anv
height 76 mm  width 45 mm  depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit • for auxiliary and control circuit  screw-type terminals • for auxiliary and control circuit  screw-type terminals	•	
width 45 mm  depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit • for auxiliary and control circuit  screw-type terminals • for auxiliary and control circuit  screw-type terminals		·
depth 70 mm  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  screw-type terminals  • corew-type terminals	-	
product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  screw-type terminals  • crew-type terminals		
product component removable terminal for auxiliary and control circuit  type of electrical connection  • for main current circuit • for auxiliary and control circuit  screw-type terminals • control circuit  screw-type terminals	·	TV IIIII
control circuit  type of electrical connection  • for main current circuit  • for auxiliary and control circuit  screw-type terminals  screw-type terminals		No
<ul> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> <li>screw-type terminals</li> <li>screw-type terminals</li> </ul>		
• for auxiliary and control circuit screw-type terminals	type of electrical connection	
	for main current circuit	screw-type terminals
	<ul> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals
		Top and bottom

circuit	
type of connectable conductor cross-sections	
• for main contacts	
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 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 main contacts</li> </ul>	2x (20 16), 2x (18 14), 2x 12
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>	0.8 1.2 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	
for main contacts	M3
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3
Safety related data	
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
MTTF with high demand rate	2 280 a
IEC 61508	
T1 value	
<ul> <li>for proof test interval or service life according to IEC 61508</li> </ul>	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	









Confirmation





For use in hazardous locations

**Test Certificates** 

Marine / Shipping





Special Test Certificate

Type Test Certificates/Test Report





Marine / Shipping









Miscellaneous

other

other Railwa

Environment

Confirmation

Special Test Certificate



Environmental Confirmations

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=3RU2116-1HB0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1HB0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1HB0

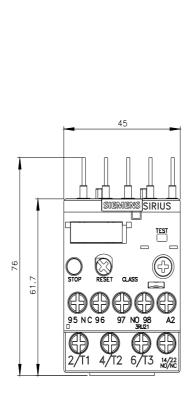
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

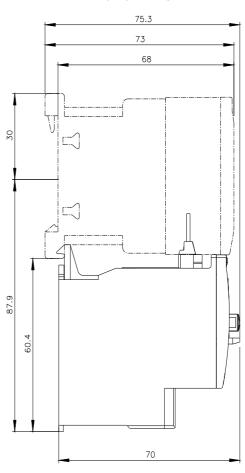
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RU2116-1HB0&lang=en

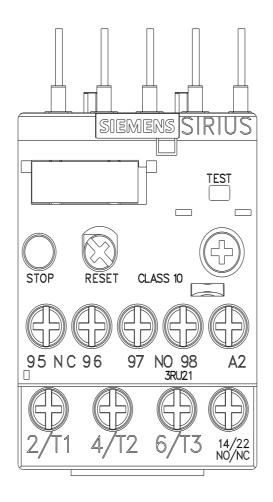
Characteristic: Tripping characteristics, I²t, Let-through current

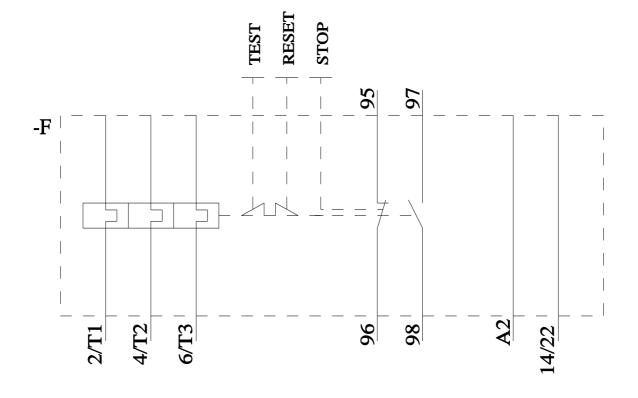
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1HB0/char

Further characteristics (e.g. electrical endurance, switching frequency)
<a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1HB0&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1HB0&objecttype=14&gridview=view1</a>









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